

**Stage 1 Archaeological Assessment  
Lake Erie Industrial Park Wastewater Treatment System  
Municipal Class Environmental Assessment Addendum  
Haldimand County  
Part of Lots 23–24, Concession 1  
Geographic Township of Woodhouse  
Former Norfolk County, Ontario**

Prepared for  
**Haldimand County**  
53 Thorburn Street South  
Cayuga, ON N0A 1E0  
Tel: (905) 318-5932

Licensed under  
**P.J. Racher**  
MHSTCI Licence #P007  
PIF #P007-1271-2021  
ARA File #2021-0497

**28/01/2022**

**Original Report**

## EXECUTIVE SUMMARY

Under a contract awarded in September 2021, Archaeological Research Associates Ltd. carried out a Stage 1 assessment of lands with the potential to be impacted by the proposed Lake Erie Industrial Park Wastewater Treatment System (LEIP WWTS) in Haldimand County, Ontario. A Schedule 'C' Municipal Class Environment Assessment (EA) was completed in 2011, which was undertaken to identify alternative solutions that will provide wastewater treatment and servicing capacity for the LEIP, Stelco LEIP and surrounding settlements. The recommended solution is based on the development of a new WWTP facility that has the flexibility for future expansion should it be warranted (AECOM 2011). The assessment was carried out in support of a Municipal Class EA Addendum in accordance with the *Environmental Assessment Act*. This report documents the background research and potential modelling involved in the investigation and presents conclusions and recommendations pertaining to archaeological concerns.

The Stage 1 assessment was conducted in November 2021 under Project Information Form #P007-1271-2021. The investigation encompassed the entirety of the preferred site for the LEIP WWTP (Site B). The associated 150 m buffer and possible outfall corridor were not assessed as they are beyond the proposed area of impact. Legal permission to enter and conduct all necessary fieldwork activities within the assessed lands was granted by the property owner. At the time of assessment, the study area comprised structures and lagoons associated with an existing industrial wastewater treatment facility, parts of several agricultural fields and a variety of overgrown and wooded areas.

The Stage 1 assessment determined that the study area comprises a mixture of areas of archaeological potential, areas of no archaeological potential and previously assessed lands of further concern. A tributary of Centre Creek was also noted in the east-central part of the study area. It is recommended that all identified areas of archaeological potential be subject to a Stage 2 property assessment in accordance with Section 2.1 of the 2011 *Standards and Guidelines for Consultant Archaeologists (S&Gs)*. If any in-water work is planned within the documented watercourse, the Criteria for Evaluating Marine Archaeological Potential checklist should be consulted. The 150 m buffer and possible outfall corridor were not assessed and may require further assessment if development is contemplated in the future.

A total of 18 sites were identified within the previously assessed lands of further concern, 8 of which were found to be of further cultural heritage value or interest (CHVI). These include Location 103 (AeHa-90), Location 105 (AeHa-138), Location 108 (AeHa-91), Location 110 (AeHa-93), Location 112 (AeHa-94), Location 116 (AeHa-96), Location 121 (AeHa-98) and Location 124 (AeHa-99). The associated report recommends that each site be subject to Stage 3 assessment involving the mapping of any surface finds and the hand excavation of a series of one-metre test units, and further archival research was also required for Location 121. Based on this information, it is recommended that each site be subject to a Stage 3 site-specific assessment in accordance with the requirements set out in Section 3.2, Section 3.2.2 and Section 3.2.3 of the 2011 *S&Gs*. Controlled surface pick-ups are required in advance of test unit excavation, and detailed documentary research must also be carried out for Location 121.

One other previously identified site of further CHVI falls beyond the southern edge of the study area: Location 120 (AeHa-97). The site and its 20 m protective buffer do not traverse the subject lands; accordingly, Location 120 does not represent an archaeological concern for the project. This site may require further assessment if development is contemplated in the future.

## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY</b>	<b>I</b>
<b>ABBREVIATIONS</b>	<b>V</b>
<b>PERSONNEL</b>	<b>V</b>
<b>ENGAGED GROUPS</b>	<b>V</b>
<b>1.0 PROJECT CONTEXT</b>	<b>1</b>
1.1 Development Context	1
1.2 Historical Context	2
1.2.1 Settlement History	2
1.2.1.1 Pre-Contact	2
1.2.1.2 Post-Contact	3
1.2.2 Past and Present Land Use	4
1.2.2.1 Overview	4
1.2.2.2 Mapping and Imagery Analysis	4
1.3 Archaeological Context	5
1.3.1 Condition of the Property	5
1.3.2 Registered or Known Archaeological Sites	6
1.3.3 Previous Archaeological Work	8
1.3.3.1 Nanticoke New Build (Stage 1)	8
1.3.3.2 Nanticoke New Build (Stage 2)	8
<b>2.0 STAGE 1 BACKGROUND STUDY</b>	<b>10</b>
2.1 Background	10
2.2 Field Methods (Property Inspection)	10
2.3 Analysis and Conclusions	11
<b>3.0 RECOMMENDATIONS</b>	<b>13</b>
<b>4.0 ADVICE ON COMPLIANCE WITH LEGISLATION</b>	<b>15</b>
<b>5.0 IMAGES</b>	<b>16</b>
<b>6.0 MAPS</b>	<b>19</b>
<b>7.0 BIBLIOGRAPHY AND SOURCES</b>	<b>28</b>

## LIST OF IMAGES

Image 1: Disturbed Lands	16
Image 2: Centre Creek	16
Image 3: Area of Potential	16
Image 4: Area of Potential	16
Image 5: Area of Potential	17
Image 6: Area of Potential	17
Image 7: Area of Potential	17
Image 8: Area of Potential	17
Image 9: Area of Potential	17
Image 10: Area of Potential	17
Image 11: Area of Potential	18
Image 12: Area of Potential	18
Image 13: Area of Potential	18
Image 14: Area of Potential	18

## LIST OF MAPS

Map 1: Location of the Study Area	19
Map 2: <i>Woodhouse Township</i> Patent Plan (No Date)	20
Map 3: <i>Map of the County of Norfolk, Canada West</i> (1856)	21
Map 4: <i>Illustrated Historical Atlas of the County of Norfolk, Ont.</i> (1877)	22
Map 5: Topographic Map (1909)	23
Map 6: Aerial Image (1954)	24
Map 7: Aerial Image (1964)	25
Map 8: Features of Potential	26
Map 9: Potential Modelling and Recommendations	27

## LIST OF TABLES

Table 1: Pre-Contact Settlement History	2
Table 2: Post-Contact Settlement History	3
Table 4: Soil Types	6
Table 5: Registered or Known Archaeological Sites	7
Table 6: Summary of Stage 2 Results	9

## ABBREVIATIONS

ARA – Archaeological Research Associates Ltd.  
CIF – Contract Information Form  
EA – Environmental Assessment  
LEIP – Lake Erie Industrial Park  
MHSTCI – Ministry of Heritage, Sport, Tourism and Culture Industries  
PIF – Project Information Form  
S&Gs – Standards and Guidelines for Consultant Archaeologists  
WWTS – Wastewater Treatment System

## PERSONNEL

*Project Director:* P.J. Racher (#P007)  
*Operations Manager:* C.E. Gohm (#R187)  
*Project Archaeologist:* M. McCready (#P490)  
*Field Director:* S. Clarke (#446)  
*Cartographers:* A. Bailey (#R1069), K. Brightwell (#R341)  
*Researcher:* S. Clarke (#R446)  
*Report Writer:* C.J. Gohm

## ENGAGED GROUPS

Department of Consultation & Accommodation  
Mississaugas of the Credit First Nation  
*Contacts:* A. Blake, M. DeVries, A. LaForme  
*Field Representative:* None

Haudenosaunee Development Institute  
Haudenosaunee Confederacy Chiefs Council  
*Contact:* W. Hill  
*Field Representative:* K. Hill

Six Nations Lands & Resources Office  
Six Nations of the Grand River Elected Council  
*Contacts:* T. Hill-Montour, D. LaForme  
*Field Representative:* J. Van Every

## 1.0 PROJECT CONTEXT

### 1.1 Development Context

Under a contract awarded in September 2021, Archaeological Research Associates Ltd. (ARA) carried out a Stage 1 assessment of lands with the potential to be impacted by the Lake Erie Industrial Park Wastewater Treatment System (LEIP WWTS) in Haldimand County, Ontario. A Municipal Class Environment Assessment (EA) was completed in 2011, which was undertaken to identify alternative solutions that will provide wastewater treatment and servicing capacity for the LEIP, Stelco LEIP and surrounding settlements. The recommended solution is based on the development of a new WWTP facility that has the flexibility for future expansion should it be warranted (AECOM 2011). The assessment was carried out in support of a Municipal Class EA Addendum in accordance with the *Environmental Assessment Act*. This report documents the background research and potential modelling involved in the investigation and presents conclusions and recommendations pertaining to archaeological concerns.

The study area consists of a rectilinear parcel of land with an area of 39.62 ha (Map 1). This parcel is generally bounded by agricultural and graded lands to the north, the remainder of Stelco's Lake Erie Works to the east, New Lakeshore Road to the south and agricultural lands to the west. In legal terms, the study area falls on part of Lots 23–24, Concession 1 in the Geographic Township of Woodhouse, former Norfolk County. The Crown obtained these lands from the Mississaugas as part of a much larger purchase in 1784, but there were uncertainties relating to the area involved. The extent of the cession was clarified during the Between the Lakes Purchase (Treaty 3) of 1792.

The Stage 1 assessment was conducted in November 2021 under Project Information Form (PIF) #P007-1271-2021. The investigation encompassed the entirety of the preferred site for the LEIP WWTP (Site B). The associated 150 m buffer and possible outfall corridor were not assessed as they are beyond the proposed area of impact. Legal permission to enter and conduct all necessary fieldwork activities within the assessed lands was granted by the property owner. In compliance with the objectives set out in Section 1.0 of the 2011 *Standards and Guidelines for Consultant Archaeologists (S&Gs)*, this investigation was carried out in order to:

- Provide information concerning the geography, history and current land condition of the study area;
- Determine the presence of known archaeological sites in the study area;
- Present strategies to mitigate project impacts to such sites, if they are located;
- Evaluate in detail the archaeological potential of the study area; and
- Recommend appropriate strategies for Stage 2 archaeological assessment, if some or all of the study area has archaeological potential.

The Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) is asked to review the results and recommendations presented herein and enter the report into the Ontario Public Register of Archaeological Reports. A Record of Indigenous Engagement is included in the project report package in accordance with the requirements set out in Section 7.6.2 of the 2011 *S&Gs*.

## 1.2 Historical Context

After a century of archaeological work in southern Ontario, scholarly understanding of the historical usage of the area has become very well-developed. With occupation beginning in the Palaeo period approximately 11,000 years ago, the greater vicinity of the study area comprises a complex chronology of Indigenous and Euro-Canadian histories. Section 1.2.1 summarizes the region's settlement history, whereas Section 1.2.2 documents the study area's past and present land uses. Two previous archaeological reports containing relevant background information were obtained during the research component of the study. These reports are summarized in Section 1.3.3, and the references (including title, author and PIF number) appear in Section 7.0.

### 1.2.1 Settlement History

#### 1.2.1.1 Pre-Contact

The Pre-Contact history of the region is lengthy and rich, and a variety of Indigenous groups inhabited the landscape. Archaeologists generally divide this vibrant history into three main periods: Palaeo, Archaic and Woodland. Each of these periods comprise a range of discrete sub-periods characterized by identifiable trends in material culture and settlement patterns, which are used to interpret past lifeways. The principal characteristics of these sub-periods are summarized in Table 1.

**Table 1: Pre-Contact Settlement History**  
(Wright 1972; Ellis and Ferris 1990; Warrick 2000; Munson and Jamieson 2013)

Sub-Period	Timeframe	Characteristics
Early Palaeo	9000–8400 BC	Gainey, Barnes and Crowfield traditions; Small bands; Mobile hunters and gatherers; Utilization of seasonal resources and large territories; Fluted projectiles
Late Palaeo	8400–7500 BC	Holcombe, Hi-Lo and Lanceolate biface traditions; Continuing mobility; Campsite/Way-Station sites; Smaller territories are utilized; Non-fluted projectiles
Early Archaic	7500–6000 BC	Side-notched, Corner-notched (Nettling, Thebes) and Bifurcate traditions; Growing diversity of stone tool types; Heavy woodworking tools appear (e.g., ground stone axes and chisels)
Middle Archaic	6000–2500 BC	Stemmed (Kirk, Stanly/Neville), Brewerton side- and corner-notched traditions; Reliance on local resources; Populations increasing; More ritual activities; Fully ground and polished tools; Net-sinkers common; Earliest copper tools
Late Archaic	2500–900 BC	Narrow Point (Lamoka), Broad Point (Genesee) and Small Point (Crawford Knoll) traditions; Less mobility; Use of fish-weirs; True cemeteries appear; Stone pipes emerge; Long-distance trade (marine shells and galena)
Early Woodland	900–400 BC	Meadowood tradition; Crude cord-roughened ceramics emerge; Meadowood cache blades and side-notched points; Bands of up to 35 people
Middle Woodland	400 BC–AD 600	Saugeen tradition; Stamped ceramics appear; Saugeen projectile points; Cobble spall scrapers; Seasonal settlements and resource utilization; Post holes, hearths, middens, cemeteries and rectangular structures identified
Middle/Late Woodland Transition	AD 600–900	Princess Point tradition; Cord roughening, impressed lines and punctate designs on pottery; Adoption of maize horticulture at the western end of Lake Ontario; Oval houses and 'incipient' longhouses; First palisades; Villages with 75 people
Late Woodland (Early)	AD 900–1300	Glen Meyer tradition; Settled village-life based on agriculture; Small villages (0.4 ha) with 75–200 people and 4–5 longhouses; Semi-permanent settlements
Late Woodland (Middle)	AD 1300–1400	Uren and Middleport traditions; Classic longhouses emerge; Larger villages (1.2 ha) with up to 600 people; More permanent settlements (30 years)



Sub-Period	Timeframe	Characteristics
Late Woodland (Late)	AD 1400–1600	Pre-Contact Neutral tradition; Larger villages (1.7 ha); Examples up to 5 ha with 2,500 people; Extensive croplands; Also, hamlets, cabins, camps and cemeteries; Potential tribal units; Fur trade begins ca. 1580; European trade goods appear

Although Iroquoian-speaking populations tended to leave a much more obvious mark on the archaeological record and are therefore emphasized in the Late Woodland entries above, it must be understood that Algonquian-speaking populations also represented a significant presence in southern Ontario. Due to the sustainability of their lifeways, archaeological evidence directly associated with the Anishinaabeg remains elusive, particularly when compared to sites associated with the more sedentary agriculturalists. Many artifact scatters in southern Ontario were likely camps, chipping stations or processing areas associated with the more mobile Anishinaabeg, utilized during their travels along the local drainage basins while making use of seasonal resources. This part of southern Ontario represents the ancestral territory of various Indigenous groups, each with their own land use and settlement pattern tendencies.

### 1.2.1.2 Post-Contact

The arrival of European explorers and traders at the beginning of the 17<sup>th</sup> century triggered widespread shifts in Indigenous lifeways and set the stage for the ensuing Euro-Canadian settlement process. Documentation for this period is abundant, ranging from the first sketches of Upper Canada and the written accounts of early explorers to detailed township maps and lengthy histories. The Post-Contact period can be effectively discussed in terms of major historical events, and the principal characteristics associated with these events are summarized in Table 2.

**Table 2: Post-Contact Settlement History**

(Smith 1846; Coyne 1895; Lajeunesse 1960; Phelps 1972; Ellis and Ferris 1990; Surtees 1994; AO 2015)

Historical Event	Timeframe	Characteristics
Early Exploration	Early 17 <sup>th</sup> century	Brûlé explores southern Ontario in 1610/11; Champlain travels through in 1613 and 1615/1616, making contact with a number of Indigenous groups (including the Algonquin, Huron-Wendat and other First Nations); European trade goods become increasingly common and begin to put pressure on traditional industries
Increased Contact and Conflict	Mid- to late 17 <sup>th</sup> century	Conflicts between various First Nations during the Beaver Wars result in numerous population shifts; European explorers continue to document the area, and many Indigenous groups trade directly with the French and English; ‘The Great Peace of Montreal’ treaty established between roughly 39 different First Nations and New France in 1701
Fur Trade Development	Early to mid-18 <sup>th</sup> century	Growth and spread of the fur trade; Peace between the French and English with the Treaty of Utrecht in 1713; Ethnogenesis of the Métis; Hostilities between French and British lead to the Seven Years’ War in 1754; French surrender in 1760
British Control	Mid- to late 18 <sup>th</sup> century	<i>Royal Proclamation</i> of 1763 recognizes the title of the First Nations to the land; Numerous treaties subsequently arranged by the Crown; First land cession under the new protocols is the Seneca surrender of the west side of the Niagara River in 1764; The Niagara Purchase (Treaty 381) in 1781 included this area
Loyalist Influx	Late 18 <sup>th</sup> century	United Empire Loyalist influx after the American Revolutionary War (1775–1783); British develop interior communication routes and acquire additional lands; Between the Lakes Purchase completed with the Mississaugas in 1784 and confirmed in 1792 (Treaty 3); <i>Constitutional Act</i> of 1791 creates Upper and Lower Canada

Historical Event	Timeframe	Characteristics
County Development	Late 18 <sup>th</sup> to early 19 <sup>th</sup> century	Became part of Norfolk County in 1792; Traversed parts of both the Western and Home Districts; Became part of the London District in 1798; Townships of Walpole and Rainham transferred to Haldimand County in 1826; Part of the Talbot District in 1837; Walpole and Rainham temporary returned in 1845; Independent after the abolition of the district system in 1849
Township Formation	Early 19 <sup>th</sup> century	Woodhouse laid out with six concessions, a gore bordering on Charlotteville and a broken front bordering on Long Point Bay; The front parts were the first to be settled; Early settlers included S. Ryerse, A. Culver, P. Walker, D. McQueen and R. Nichol; Settlement of the remaining lands was slow until good roads were established; Hamilton & Port Dover Plank Road completed in 1843
Township Development	Mid-19 <sup>th</sup> to early 20 <sup>th</sup> century	Population of Woodhouse reached 1,694 by 1841 (mainly Canadians and Americans); 11,423 ha taken up by 1846, with 4,141 ha under cultivation; 11 saw mills and 3 grist mills in operation at that time; Traversed by the Port Dover & Lake Huron Railway (1875), Hamilton & North Western Railway (1879), South Norfolk Railway (1889) and Lake Erie & Northern Railway (1916); Principal communities at Port Dover, Port Ryerse and Simcoe

## 1.2.2 Past and Present Land Use

### 1.2.2.1 Overview

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. Indigenous communities would have managed the landscape to some degree. During the late 18<sup>th</sup> and early 19<sup>th</sup> centuries, Euro-Canadian settlers arrived in the area and began to clear the forests for agricultural and settlement purposes. The study area was located between the historical communities of Port Dover in the west and Nanticoke in the east. The land use at the time of assessment can be classified as a mixture of agricultural, industrial and undeveloped green space.

### 1.2.2.2 Mapping and Imagery Analysis

In order to gain a general understanding of the study area's past land uses, one patent plan, two historical settlement maps, one topographic map and two aerial images were examined during the research component of the study. Specifically, the following resources were consulted:

- The *Woodhouse Township Patent Plan* (No Date) (AO 2015);
- The *Map of the County of Norfolk, Canada West* (1856) (OHCMP 2019)
- The *Illustrated Historical Atlas of the County of Norfolk, Ont.* (1877) (MU 2001);
- A topographic map from 1909 (OCUL 2021); and
- Aerial images from 1954 and 1964 (MAC 2021; U of T 2021).

The limits of the study area are shown on georeferenced versions of the consulted historical resources in Map 2–Map 7.

The *Woodhouse Township Patent Plan* (No Date) was initiated on a copy of an original survey plan and updated with patent information until the records were transferred to the Archives of Ontario. This plan identifies King's College (the forerunner of the University of Toronto) and D.W. Smith as the patentees for Lots 23 and 24, Concession 1, respectively (Map 2). The original course of

Centre Creek is illustrated within the eastern part of the study area, and the townline between the Townships of Woodhouse and Walpole appears further to the east. No structures appear in the vicinity of the study area, but patent plans typically lacked such details.

The *Map of the County of Norfolk, Canada West* (1856) indicates that the study area traversed properties occupied by James Hodson (Hodgson) in the west and the Reverend Drayton in the east (Map 3). No structures appear within either property, although Centre Creek is shown. It should be noted that this map depicts very few private structures, so the absence of buildings is not necessarily an indication that the study area was unimproved. The *Illustrated Historical Atlas of the County of Norfolk, Ont.* (1877) identifies two subsequent occupants of the study area: Thomas Hodgson in the west and Hugh Moore in the east (Map 4). The Hodgson farmhouse and one of the Moore farmhouses are shown beyond the study area along Old Lakeshore Road, but a second Moore farmhouse appears within the south-central part of the study area. An orchard falls within the southeastern part of the study area, and a third Moore farmhouse appears to the northeast.

The topographic map from 1909 indicates that the study area primarily consisted of cleared lands west of the former township boundary road (Map 5). Centre Creek appears to have traversed the subject lands from northwest to southeast, although this is somewhat at odds with the earlier maps. No structures are shown within the study area, although several wooden (black) and brick/stone (red) houses occur nearby. The aerial image from 1954 demonstrates that the majority of the study area comprised agricultural lands, and a farmstead traverses the southeastern portion (Map 6). This farmstead could represent the true location of the wooden structure shown in the 1909 topographic map and also corresponds with the 1877 map. The aerial image from 1964 shows the extent of the farmstead and the alignments of both Old and New Lakeshore Road (Map 7).

### **1.3 Archaeological Context**

The Stage 1 assessment (property inspection) was conducted on November 5, 2021 under PIF #P007-1271-2021. ARA utilized an Apple iPhone 11 with a built-in GPS/GNSS receiver during the investigation (UTM17/NAD83). The limits of the study area were confirmed using project-specific GIS data translated into GPS points for reference in the field, in combination with georeferenced aerial imagery showing natural formations in relation to the subject lands.

The archaeological context of any given study area must be informed by 1) the condition of the property as found (Section 1.3.1), 2) a summary of registered or known archaeological sites located within a minimum 1 km radius (Section 1.3.2) and 3) descriptions of previous archaeological fieldwork carried out within the limits of, or immediately adjacent to the property (Section 1.3.3).

#### **1.3.1 Condition of the Property**

The study area lies within the deciduous forest region, which is the southernmost forest region in Ontario and is dominated by agricultural and urban areas. This region generally has the greatest diversity of tree and vegetation species, while at the same time having the lowest proportion of forest. It has most of the tree and shrub species found in the Great Lakes–St. Lawrence forest (e.g., white pine, red pine, hemlock, white cedar, yellow birch, sugar and red maples, basswood and red oak), and also contains black walnut, butternut, tulip, magnolia, black gum, many types of oaks, hickories, sassafras and red bud (MNRF 2021).

In terms of local physiography, the subject lands fall within the Haldimand Clay Plain. This region occupies all of the Niagara Peninsula above the escarpment and covers an area of roughly 3,500 km<sup>2</sup>. The plain itself consists of a series of parallel clay belts deposited during the time of proglacial Lake Warren. Although this area was once completely submerged, the till is not completely buried by stratified clay and it comes to the surface on low morainic ridges in the north (Chapman and Putnam 1984:156–159).

According to the Ontario Soil Survey, the study area consists of primarily of Smithville soils (SHV5 and SHV14), with areas of Haldimand soils (HIM15) in the northwest and Lincoln soils (LIC1 and LIC7) in the west and southwest. The characteristics of these soil types are summarized in Table 3 (Presant and Acton 1984:Map 10).

**Table 3: Soil Types**

Soil Type	Symbol	Parent Material (Dominant)	Parent Material (Subdominant)	Drainage (Dominant)	Drainage (Subdominant)
Haldimand	HIM15	15–40 cm sandy textures over lacustrine heavy clay	Mainly lacustrine heavy clay	Imperfect	Poor
Lincoln	LIC1	Mainly lacustrine heavy clay	N/A	Poor	N/A
Lincoln	LIC7	Mainly lacustrine heavy clay	15–40 cm sandy textures over lacustrine heavy clay	Poor	Imperfect
Smithville	SHV5	Mainly lacustrine heavy clay	Mainly lacustrine heavy clay	Moderately Well	Poor
Smithville	SHV14	15–40 cm sandy textures over lacustrine heavy clay	Mainly lacustrine heavy clay	Moderately Well	Poor

The subject lands fall within the Nanticoke Creek drainage basin, which is under the jurisdiction of the Long Point Region Conservation Authority (LPRCA 2021). Specifically, the study area is traversed by Centre Creek, a tributary of Lake Erie and the Stelco Creek Wetland Marsh and is located 125 m north of Lake Erie.

At the time of assessment, the study area comprised structures and lagoons associated with an existing industrial wastewater treatment facility, parts of several agricultural fields and a variety of overgrown and wooded areas. Soil conditions were ideal for the activities conducted. No unusual physical features were encountered that affected the results of the Stage 1 assessment.

### **1.3.2 Registered or Known Archaeological Sites**

The Ontario Archaeological Sites Database and the Ontario Public Register of Archaeological Reports were consulted to determine whether any registered or known archaeological resources occur within a 1 km radius of the study area. The available search facility returned 43 registered sites located within at least a 1 km radius (the facility returns sites in a rectangular area, rather than a radius, potentially resulting in returns beyond the specified distance). In terms of other known resources (e.g., Isolated Non-Diagnostic Find Spots, Leads or unreported deposits), 17 unregistered sites were identified within a 1 km radius. The sites are summarized in Table 4.

**Table 4: Registered or Known Archaeological Sites**

Borden No. / ID No.	Site Name / Identifier	Time Period	Affinity	Site Type	Distance from Study Area
AeHa-44	Nanticoke 24	Woodland, Middle	Indigenous	Scatter	> 1 km
AeHa-45	Nanticoke 25	Pre-Contact	Indigenous	Camp/campsite	> 1 km
AeHa-46	Nanticoke 28	Pre-Contact	Indigenous	Unspecified	> 1 km
AeHa-47	Nanticoke 30	Archaic, Middle	Indigenous	Camp/campsite	> 1 km
AeHa-48	Nanticoke 31	Archaic, Middle	Indigenous	Unknown	> 1 km
AeHa-49	Nanticoke 32	Pre-Contact	Indigenous	Findspot	> 1 km
AeHa-50	Nanticoke 33	Archaic, Middle	Indigenous	Findspot	> 1 km
AeHa-51	Nanticoke 34	Pre-Contact	Indigenous	Camp/campsite	> 1 km
AeHa-52	Nanticoke 35	Woodland, Early	Indigenous	Findspot	> 1 km
AeHa-53	Nanticoke 37	Archaic, Late	Indigenous	Scatter	> 1 km
AeHa-54	Nanticoke 39	Pre-Contact	Indigenous	Camp/campsite	> 1 km
AeHa-86	Nanticoke 97	Pre-Contact	Indigenous	Camp/campsite	> 1 km
AeHa-88	Nanticoke 101	Pre-Contact	Indigenous	Camp/campsite	> 1 km
AeHa-89	Nanticoke 102	Pre-Contact	Indigenous	Camp/campsite	> 1 km
AeHa-90	Nanticoke 103	Pre-Contact	Indigenous	Camp/campsite	Within
AeHa-91	Nanticoke 108	Pre-Contact	Indigenous	Camp/campsite	Within
AeHa-92	Nanticoke 109	Woodland, Early	Indigenous	Camp/campsite	Within
AeHa-93	Nanticoke 110	Pre-Contact	Indigenous	Camp/campsite	Within
AeHa-94	Nanticoke 112	Pre-Contact	Indigenous	Camp/campsite	Within
AeHa-95	Nanticoke 113	Palaeo, Late	Indigenous	Camp/campsite	> 1 km
AeHa-96	Nanticoke 116	Unspecified	Unspecified	Unspecified	Within
AeHa-97	Nanticoke 120	Pre-Contact	Indigenous	Camp/campsite	< 50 m
AeHa-98	Nanticoke 121	Post-Contact	Euro-Canadian	Homestead	Within
AeHa-99	Nanticoke 124	Pre-Contact	Indigenous	Camp/campsite	Within
AeHa-100	Nanticoke 126	Archaic, Late	Indigenous	Camp/campsite	300 m–1 km
AeHa-101	Nanticoke 129	Pre-Contact	Indigenous	Camp/campsite	> 1 km
AeHa-102	Nanticoke 131	Pre-Contact	Indigenous	Camp/campsite	300 m–1 km
AeHa-103	Nanticoke 132	Pre-Contact	Indigenous	Camp/campsite	300 m–1 km
AeHa-104	Nanticoke 134	Pre-Contact	Indigenous	Camp/campsite	> 1 km
AeHa-105	Nanticoke 136	Post-Contact	Euro-Canadian	Homestead	> 1 km
AeHa-106	Graham	Pre-Contact	Indigenous	Camp/campsite	300 m–1 km
AeHa-107	Nanticoke 139	Pre-Contact	Indigenous	Camp/campsite	300 m–1 km
AeHa-108	Nanticoke 140	Woodland, Early	Indigenous	Findspot	300 m–1 km
AeHa-109	Nanticoke 144	Archaic, Late	Indigenous	Camp/campsite	50 m–300 m
AeHa-110	Nanticoke 146	Archaic, Middle	Indigenous	Camp/campsite	300 m–1 km
AeHa-131	Nanticoke 207	Post-Contact, Pre-Contact	Indigenous, Euro-Canadian	Camp/campsite, homestead	> 1 km
AeHa-132	Nanticoke 208	Pre-Contact	Indigenous	Camp/campsite	> 1 km
AeHa-133	Nanticoke 212	Pre-Contact	Indigenous	Camp/campsite	> 1 km
AeHa-134	Nanticoke 213	Pre-Contact	Indigenous	Camp/campsite	> 1 km
AeHa-135	Nanticoke 214	Pre-Contact	Indigenous	Camp/campsite	> 1 km
AeHa-136	Nanticoke 215	Archaic, Middle	Indigenous	Camp/campsite	> 1 km
AeHa-137	Nanticoke 217	Woodland, Early	Indigenous	Camp/campsite	> 1 km
AeHa-138	Nanticoke 105	Archaic, Early	Indigenous	Findspot	Within
Unregistered	Location 104	Pre-Contact	Indigenous	Scatter	Within
Unregistered	Location 106	Pre-Contact	Indigenous	Findspot	Within
Unregistered	Location 107	Pre-Contact	Indigenous	Scatter	Within
Unregistered	Location 111	Pre-Contact	Indigenous	Scatter	< 50 m
Unregistered	Location 115	Pre-Contact	Indigenous	Findspot	Within
Unregistered	Location 117	Pre-Contact	Indigenous	Findspot	Within
Unregistered	Location 118	Pre-Contact	Indigenous	Scatter	Within

Borden No. / ID No.	Site Name / Identifier	Time Period	Affinity	Site Type	Distance from Study Area
Unregistered	Location 119	Pre-Contact	Indigenous	Scatter	< 50 m
Unregistered	Location 122	Pre-Contact, Post-Contact	Indigenous, Euro-Canadian	Scatter	Within
Unregistered	Location 123	Pre-Contact	Indigenous	Findspot	Within
Unregistered	Location 125	Pre-Contact	Indigenous	Scatter	Within
Unregistered	Location 130	Pre-Contact	Indigenous	Findspot	300 m–1 km
Unregistered	Location 141	Pre-Contact	Indigenous	Scatter	300 m–1 km
Unregistered	Location 142	Pre-Contact	Indigenous	Findspot	300 m–1 km
Unregistered	Location 143	Pre-Contact	Indigenous	Findspot	300 m–1 km
Unregistered	Location 145	Pre-Contact	Indigenous	Findspot	300 m–1 km
Unregistered	Location 219	Pre-Contact	Indigenous	Findspot	300 m–1 km

Eighteen of these previously identified sites are located within the study area, and three others fall within 50 m. As relevant archaeological resources that could impact fieldwork strategy decisions and recommendations, these sites are fully discussed in Section 1.3.3. One other site (AeHa-109) is located within 300 m of the study area and must also be considered as a relevant feature of archaeological potential. The remaining sites represent more distant archaeological resources.

### 1.3.3 Previous Archaeological Work

Reports documenting assessments conducted within the subject lands and assessments that resulted in the discovery of sites within adjacent lands were sought during the research component of the study. In order to ensure that all relevant past work was identified, an investigation was launched to identify reports involving assessments within 50 m of the study area. The investigation determined that there are two available reports documenting previous archaeological fieldwork within the specified distance. The relevant results and recommendations are summarized below as required by Section 7.5.8 Standards 4–5 of the 2011 *S&Gs*.

#### 1.3.3.1 Nanticoke New Build (Stage 1)

In October 2008, a Stage 1 assessment was carried out for a large parcel of land located west of Stelco's Lake Erie Works as part of the Nanticoke New Build project under Contract Information Form (CIF) #P001-492-2008 (AI 2008). The assessed area traverses the entire study area, save for two rectangular sections around the extant lagoons. The investigation determined that all of the lands had archaeological potential, and it was recommended that a Stage 2 assessment be conducted in advance of any soil impacts (AI 2008:23–24). The overlapping area of previous assessment has not been reproduced in the subject mapping due to its size.

#### 1.3.3.2 Nanticoke New Build (Stage 2)

The Stage 2 assessment for the Nanticoke New Build project was conducted in June and July 2009 under PIF #P001-518-2009 (Golder 2009). The assessed area encompassed multiple agricultural fields within the greater project lands, including those traversing the south-central and southeastern parts of the study area. The investigation of these southern fields resulted in the discovery of 21 locations of archaeological materials: Locations 103–112 and 115–125 (registered as 'Nanticoke' sites). The results and recommendations for these sites are summarized in Table 4.

**Table 5: Summary of Stage 2 Results**

Site Name / Identifier	Affinity	Date	Description	CHVI	Recommendation
Location 103 (AeHa-90)	Indigenous	Pre-Contact	15 x 10 m scatter of five lithic artifacts and one fire cracked rock observed (nothing retained)	Yes	Stage 3 assessment
Location 104	Indigenous	Pre-Contact	4 m linear scatter of three lithic artifacts (nothing retained)	No	No further work
Location 105 (AeHa-138)	Indigenous	Early Archaic	Isolated Nettling point	Yes	Stage 3 assessment
Location 106	Indigenous	Pre-Contact	Isolated lithic artifact (not retained)	No	No further work
Location 107	Indigenous	Pre-Contact	6 m linear scatter of three lithic artifacts (nothing retained)	No	No further work
Location 108 (AeHa-91)	Indigenous	Pre-Contact	40 x 20 m scatter of 19 lithic artifacts (nothing retained)	Yes	Stage 3 assessment
Location 109 (AeHa-92)	Indigenous	Early Woodland	3 m linear scatter of two lithic artifacts, including one Adena point	No	No further work
Location 110 (AeHa-93)	Indigenous	Pre-Contact	40 m linear scatter of 10 lithic artifacts (nothing retained)	Yes	Stage 3 assessment
Location 111	Indigenous	Pre-Contact	10 x 10 m scatter of four lithic artifacts (nothing retained)	No	No further work
Location 112 (AeHa-94)	Indigenous	Pre-Contact	50 x 40 m scatter of 143 lithic artifacts (nothing retained)	Yes	Stage 3 assessment
Location 115	Indigenous	Pre-Contact	Isolated lithic artifact (not retained)	No	No further work
Location 116 (AeHa-96)	Indigenous	Pre-Contact	20 x 15 m scatter of nine lithic artifacts (portion retained)	Yes	Stage 3 assessment
Location 117	Indigenous	Pre-Contact	Isolated lithic artifact (not retained)	No	No further work
Location 118	Indigenous	Pre-Contact	4 x 2 m scatter of three lithic artifacts (nothing retained)	No	No further work
Location 119	Indigenous	Pre-Contact	20 x 20 m scatter of three lithic artifacts (nothing retained)	No	No further work
Location 120 (AeHa-97)	Indigenous	Pre-Contact	10 x 10 m scatter of three lithic artifacts (portion retained)	Yes	Stage 3 assessment
Location 121 (AeHa-98)	Euro-Canadian	Mid-19 <sup>th</sup> century	40 x 40 m scatter of 132 artifacts	Yes	Stage 3 assessment
Location 122	Multi-component	Pre-Contact and 19 <sup>th</sup> century	30 x 30 m scatter of three lithic artifacts and one coin	No	No further work
Location 123	Indigenous	Pre-Contact	Isolated lithic artifact (not retained)	No	No further work
Location 124 (AeHa-99)	Indigenous	Pre-Contact	10 x 10 m scatter of four lithic artifacts (nothing retained)	Yes	Stage 3 assessment
Location 125	Indigenous	Pre-Contact	8 m linear scatter of two lithic artifacts (nothing retained)	No	No further work

Eighteen of these sites fall within or partially traverse the study area, including Locations 103–110, 112, 115–118 and 121–125 (SD Map 1). Locations 103, 105, 108, 110, 112, 116, 121 and 124 were each recommended for a Stage 3 site-specific assessment. The remaining three sites, Locations 111, 119 and 120, are located beyond the limits of the study area. Only Location 120 was recommended for a Stage 3 site-specific assessment (Golder 2009:135–147). The overlapping area of previous assessment is therefore of further archaeological concern. It should be noted that the 20 m protective buffer around Location 120 does not traverse the study area.

## **2.0 STAGE 1 BACKGROUND STUDY**

### **2.1 Background**

The Stage 1 assessment involved background research to document the geography, history, previous archaeological fieldwork and current land condition of the study area. This desktop examination included research from archival sources, archaeological publications and online databases. It also included the analysis of a variety of historical maps and aerial imagery. The results of the research conducted for the background study are summarized below.

With occupation beginning approximately 11,000 years ago, the greater vicinity of the study area comprises a complex chronology of Pre-Contact and Post-Contact histories (Section 1.2.1). Artifacts associated with Palaeo, Archaic, Woodland and Early Contact traditions are well-attested in Haldimand County, and Euro-Canadian archaeological sites dating to pre-1900 and post-1900 contexts are likewise common. The presence of 60 previously identified sites in the surrounding area demonstrates the desirability of this locality for early settlement (Section 1.3.2). The investigation confirmed that 18 of these sites fall within the subject lands. Background research identified two areas of previous assessment within the study area (Section 1.3.3).

The natural environment of the study area would have been attractive to both Indigenous and Euro-Canadian populations as a result of proximity to the nearby water sources. The areas of moderately well-drained soils would have been ideal for agriculture, and the diverse local vegetation would also have encouraged settlement throughout Ontario's lengthy history. Euro-Canadian populations would have been particularly drawn to Old Lakeshore Road and the former townline.

In summary, the background study included an up-to-date listing of sites from the Ontario Archaeological Sites Database (within at least a 1 km radius), the consideration of previous local archaeological fieldwork (within at least a 50 m radius), the analysis of historical maps (at the most detailed scale available) and the study of aerial imagery. ARA therefore confirms that the standards for background research set out in Section 1.1 of the 2011 *S&Gs* were met.

### **2.2 Field Methods (Property Inspection)**

In order to gain first-hand knowledge of the geography, topography and current condition of the study area, a property inspection was conducted on November 5, 2021. Environmental conditions were acceptable during the inspection, with overcast skies, moderate lighting and a temperature of 1 °C. ARA therefore confirms that fieldwork was carried out under weather and lighting conditions that met the requirements set out in Section 1.2 Standard 2 of the 2011 *S&Gs*.

The study area was subjected to random spot-checking in accordance with the requirements set out in Section 1.2 of the 2011 *S&Gs*. The inspection was carried out in a roughly clockwise manner beginning in the southwestern corner of the subject lands. The inspection confirmed that all surficial features of archaeological potential were present where they were previously identified and did not result in the identification of any additional features of archaeological potential not visible on mapping (e.g., relic water channels, patches of well-drained soils, etc.).



The inspection determined that parts of the study area were disturbed by past construction activities. Centre Creek was documented in the southeast. No natural features (e.g., permanently wet lands, sloped lands, overgrown vegetation, heavier soils than expected, etc.) or significant built features (e.g., heritage structures, landscapes, plaques, monuments, cemeteries, etc.) that would affect assessment strategies were identified.

### **2.3 Analysis and Conclusions**

In addition to relevant historical sources and the results of past archaeological assessments, the archaeological potential of a property can be assessed using its soils, hydrology and landforms as considerations. Section 1.3.1 of the 2011 *S&Gs* recognizes the following features or characteristics as indicators of archaeological potential: previously identified sites, water sources (past and present), elevated topography, pockets of well-drained sandy soil, distinctive land formations, resource areas, areas of Euro-Canadian settlement, early transportation routes, listed or designated properties, historic landmarks or sites, and areas that local histories or informants have identified with possible sites, events, activities or occupations.

The Stage 1 assessment resulted in the identification of several features of archaeological potential in the vicinity of the study area (Map 8; SD Map 2). The closest and most relevant indicators of archaeological potential (i.e., those that would directly affect survey interval requirements) include multiple previously identified sites (e.g., AeHa-90, AeHa-91, AeHa-93, etc.), three primary water sources (Centre Creek, a tributary of Lake Erie and Lake Erie), multiple secondary water sources (parts of the Stelco Creek Wetland Marsh), two historical roadways (Old Lakeshore Road and the former townline) and multiple historical structure localities (late 19<sup>th</sup>- and early 20<sup>th</sup>-century houses). Background research did not identify any features indicating that the study area has potential for deeply buried archaeological resources.

Although proximity to a feature of archaeological potential is a significant factor in the potential modelling process, current land conditions must also be considered. Section 1.3.2 of the 2011 *S&Gs* emphasizes that 1) quarrying, 2) major landscaping involving grading below topsoil, 3) building footprints and 4) sewage/infrastructure development can result in the removal of archaeological potential, and Section 2.1 states that 1) permanently wet areas, 2) exposed bedrock and 3) steep slopes (> 20°) in areas unlikely to contain pictographs or petroglyphs can also be evaluated as having no or low archaeological potential. Areas previously assessed and not recommended for further work also require no further assessment.

Eighteen known locations of archaeological materials fall within or partially traverse the study area: Locations 103–110, 112, 115–118 and 121–125. Of these sites, only Locations 103, 105, 108, 110, 112, 116, 121 and 124 were recommended for further assessment. Background research did not identify any previously assessed areas of no further concern within the study area, as the surveyed fields contain sites of CHVI and no recommendation for partial clearance was made.

ARA's visual inspection, coupled with the analysis of historical sources and digital environmental data, resulted in the identification of multiple areas of no archaeological potential. Specifically, deep land alterations have resulted in the removal of archaeological potential from the extant lagoons and structures in the northern part of the study area (Image 1). These areas have clearly been impacted by past earth-moving/construction activities, resulting in the disturbance of the

original soils to a significant depth and severe damage to the integrity of any archaeological resources. Centre Creek in the southeast was also documented (Image 2).

The remainder of the study area has potential for Indigenous and Euro-Canadian archaeological materials or requires test pit survey to confirm disturbance. The areas of archaeological potential include agricultural fields in the west and northwest (Image 3–Image 6) and a variety of overgrown and wooded areas (Image 7–Image 10). It seems likely that the lands immediately adjacent to the lagoons have been disturbed by past construction activities, but the extent of disturbance could not be verified based on the inspection alone (Image 11). Similarly, lands around the tributary in the southwest could not be confirmed as permanently wet, and instead may only be seasonally wet (Image 12). Accordingly, these lands have been categorized as areas of archaeological potential and must be empirically tested to confirm that they have no archaeological potential.

In summary, the Stage 1 assessment determined that the study area comprises a mixture of areas of archaeological potential, areas of no archaeological potential and previously assessed lands of further concern. The potential modelling results are presented in Map 9. The study area limits are depicted as a layer in this map.

### 3.0 RECOMMENDATIONS

The Stage 1 assessment determined that the study area comprises a mixture of areas of archaeological potential, areas of no archaeological potential and previously assessed lands of further concern. A tributary of Centre Creek was also noted in the east-central part of the study area. It is recommended that all identified areas of archaeological potential be subject to a Stage 2 property assessment in accordance with Section 2.1 of the 2011 *S&Gs*. If any in-water work is planned within the documented watercourse, the Criteria for Evaluating Marine Archaeological Potential checklist should be consulted. The 150 m buffer and possible outfall corridor were not assessed and may require further assessment if development is contemplated in the future.

The agricultural fields must be assessed using the pedestrian survey method at an interval of 5 m. All ground surfaces must be recently ploughed (typically within the month prior to assessment), weathered by one heavy rainfall or several light rains, and provide at least 80% visibility. If archaeological materials are encountered, the transect interval must be decreased to at least 1 m and a close inspection of the ground must be conducted over a minimum of a 20 m radius around the find. This interval must be continued until the full extent of the scatter has been defined.

The overgrown and wooded areas must be assessed using the test pit survey method. A survey interval of 5 m will be required due to the proximity of the lands to the identified features of archaeological potential. Given the likelihood that the lands around the lagoons were previously impacted, a combination of visual inspection and test pit survey should be utilized to confirm the extent of disturbance in accordance with Section 2.1.8 of the 2011 *S&Gs*. This will allow for the empirical evaluation of the integrity of the soils and the depth of any impacts. Judgemental test pit survey should similarly be carried out to confirm the extents of the possible permanently wet area in the southwestern part of the study area. If these areas are determined to have archaeological potential, then a test pit survey interval of 5 m must be maintained.

Each test pit must be excavated into at least the first 5 cm of subsoil, and the resultant pits must be examined for stratigraphy, potential features and/or evidence of fill. The soil from each test pit must be screened through mesh with an aperture of no greater than 6 mm and examined for archaeological materials. If archaeological materials are encountered, all positive test pits must be documented, and intensification may be required.

A total of 18 sites were identified within the previously assessed lands of further concern, 8 of which were found to be of further CHVI (SD Map 3). These include Location 103 (AeHa-90), Location 105 (AeHa-138), Location 108 (AeHa-91), Location 110 (AeHa-93), Location 112 (AeHa-94), Location 116 (AeHa-96), Location 121 (AeHa-98) and Location 124 (AeHa-99). The associated report recommends that each site be subject to Stage 3 assessment involving the mapping of any surface finds and the hand excavation of a series of one-metre test units, with further archival research for Location 121. Based on this information, it is recommended that each site be subject to a Stage 3 site-specific assessment in accordance with the requirements set out in Section 3.2, Section 3.2.2 and Section 3.2.3 of the 2011 *S&Gs*. Controlled surface pick-ups are required in advance of test unit excavation, and detailed documentary research must also be carried out for Location 121.

An appropriate assessment method for each site would comprise test unit excavation using the strategy set out in Table 3.1, Numbers 1 and 2 of the 2011 *S&Gs*. This would involve the excavation of grid test units at a 5 m interval across the site extent and additional test units amounting to at least 20% of the grid unit total in areas of interest. All test units must be excavated stratigraphically into at least the first 5 cm of subsoil, and all soils must be screened through mesh with an aperture of no greater than 6 mm. As an Early Archaic site in heavy soils, the entire contents of at least 10% of the total number of units at Location 105 must be screened through mesh with an aperture of no greater than 3 mm. If a potential cultural feature is uncovered, the exposed plan of the feature must be recorded, and geotextile fabric must be placed over the unit floor prior to backfilling. Section 3.2.2 Guideline 3 of the 2011 *S&Gs* states that exposed cultural features may be excavated during a Stage 3 assessment if the information is required to inform a recommendation for or against Stage 4 mitigation of development impacts.

One other previously identified site of further CHVI falls beyond the southern edge of the study area: Location 120 (AeHa-97). The site and its 20 m protective buffer do not traverse the subject lands; accordingly, Location 120 does not represent an archaeological concern for the project. This site may require further assessment if development is contemplated in the future.

## 4.0 ADVICE ON COMPLIANCE WITH LEGISLATION

Section 7.5.9 of the 2011 *S&Gs* requires that the following information be provided for the benefit of the proponent and approval authority in the land use planning and development process:

- This report is submitted to the Minister of Heritage, Sport, Tourism and Culture Industries 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 MHSTCI, 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*.
- Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.
- The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 requires that any person discovering human remains must notify the police or coroner and the Registrar at the Ministry of Government and Consumer Services.

## 5.0 IMAGES



**Image 1: Disturbed Lands**  
(November 5, 2021; Facing Southeast)



**Image 2: Centre Creek**  
(November 5, 2021; Facing Southwest)



**Image 3: Area of Potential**  
(November 5, 2021; Facing North)



**Image 4: Area of Potential**  
(November 5, 2021; Facing North)



**Image 5: Area of Potential**  
(November 5, 2021; Facing Southeast)



**Image 6: Area of Potential**  
(November 5, 2021; Facing Northwest)



**Image 7: Area of Potential**  
(November 5, 2021; Facing South)



**Image 8: Area of Potential**  
(May 12, 2021; Facing Southwest)



**Image 9: Area of Potential**  
(November 5, 2021; Facing Southeast)



**Image 10: Area of Potential**  
(November 5, 2021; Facing South)



**Image 11: Area of Potential**  
(November 5, 2021; Facing East)



**Image 12: Area of Potential**  
(November 5, 2021; Facing Northwest)



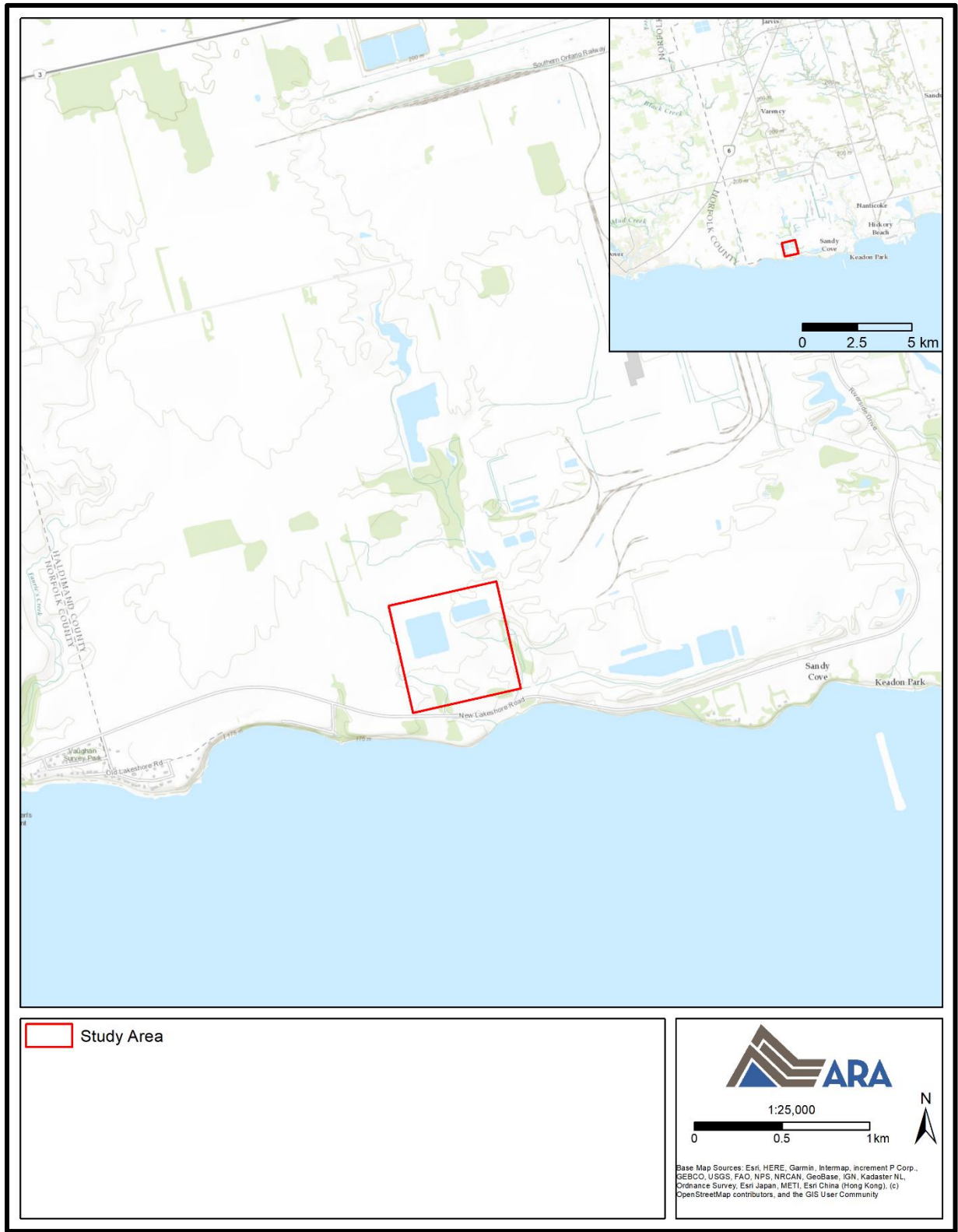
**Image 13: Area of Potential**  
(November 5, 2021; Facing South)



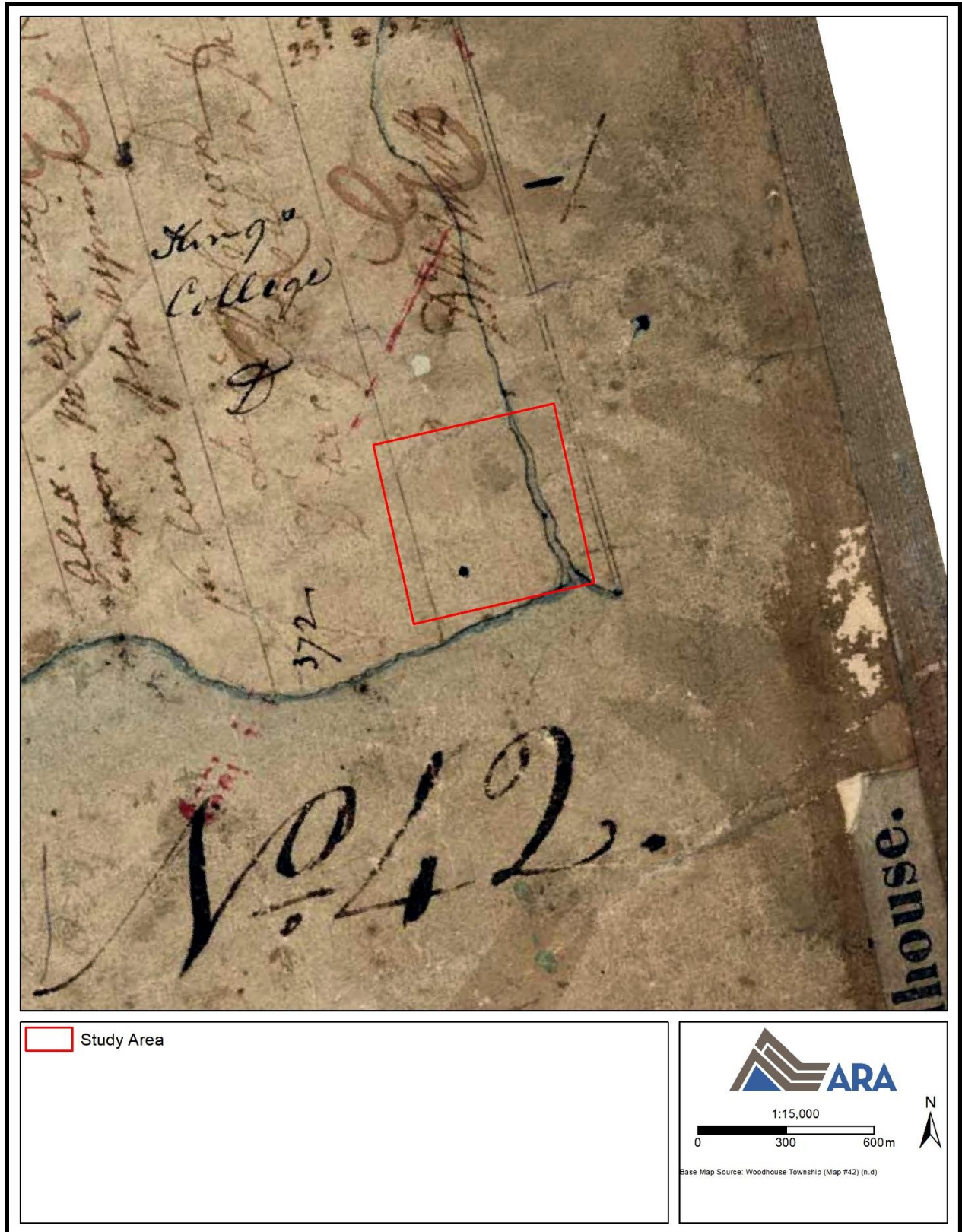
**Image 14: Area of Potential**  
(November 5, 2021; Facing North)



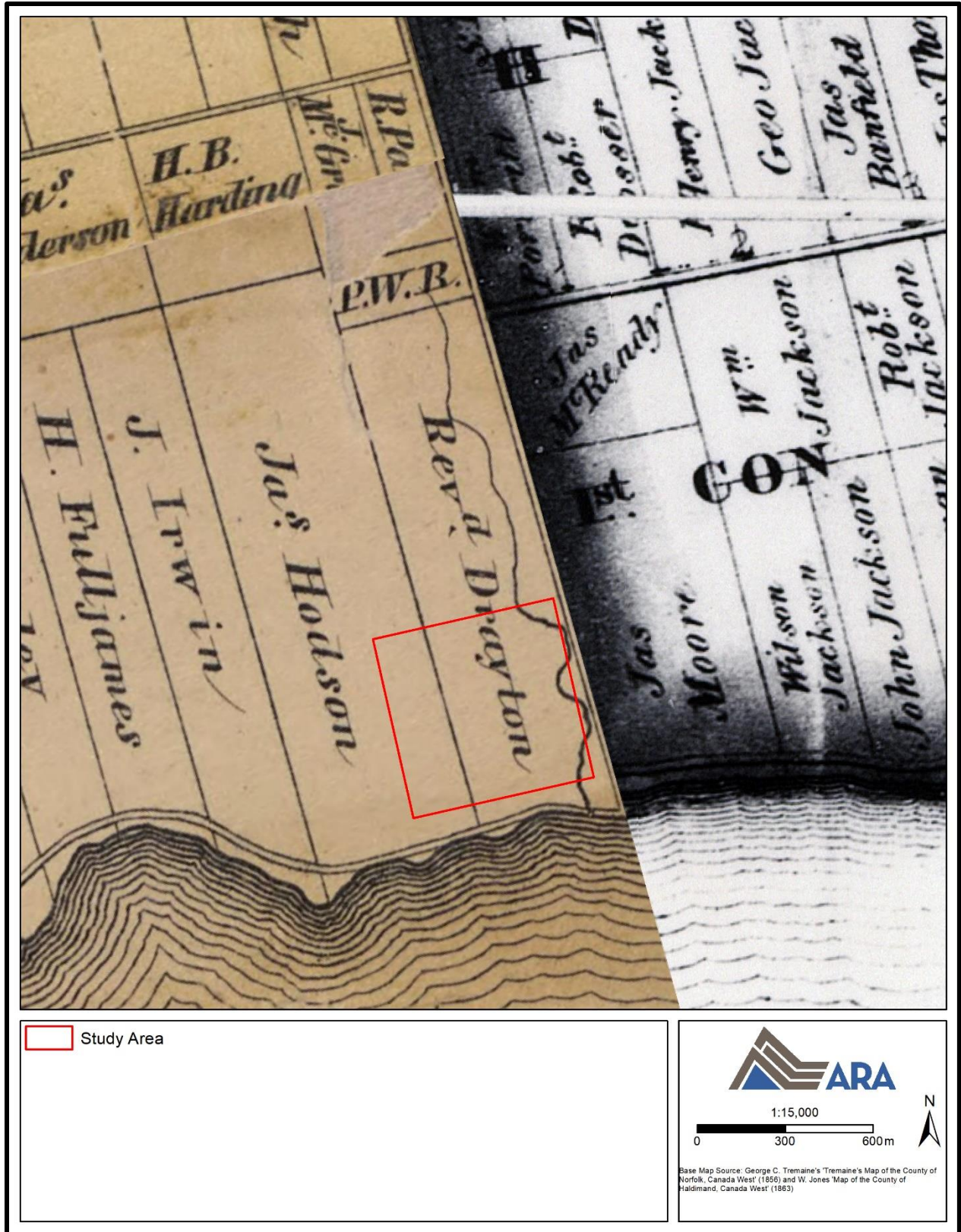
## 6.0 MAPS



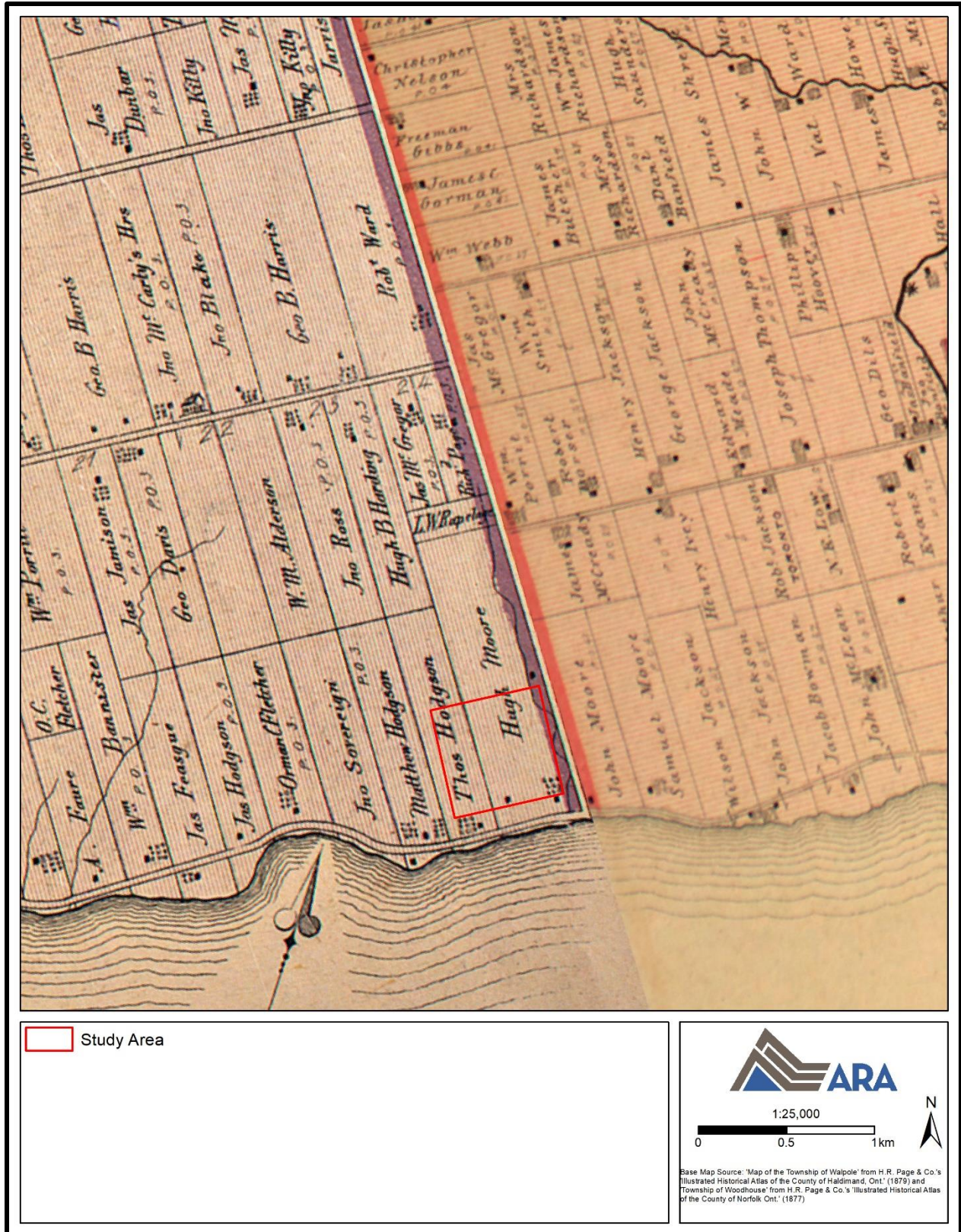
**Map 1: Location of the Study Area**  
(Produced under licence using ArcGIS® software by Esri, © Esri)



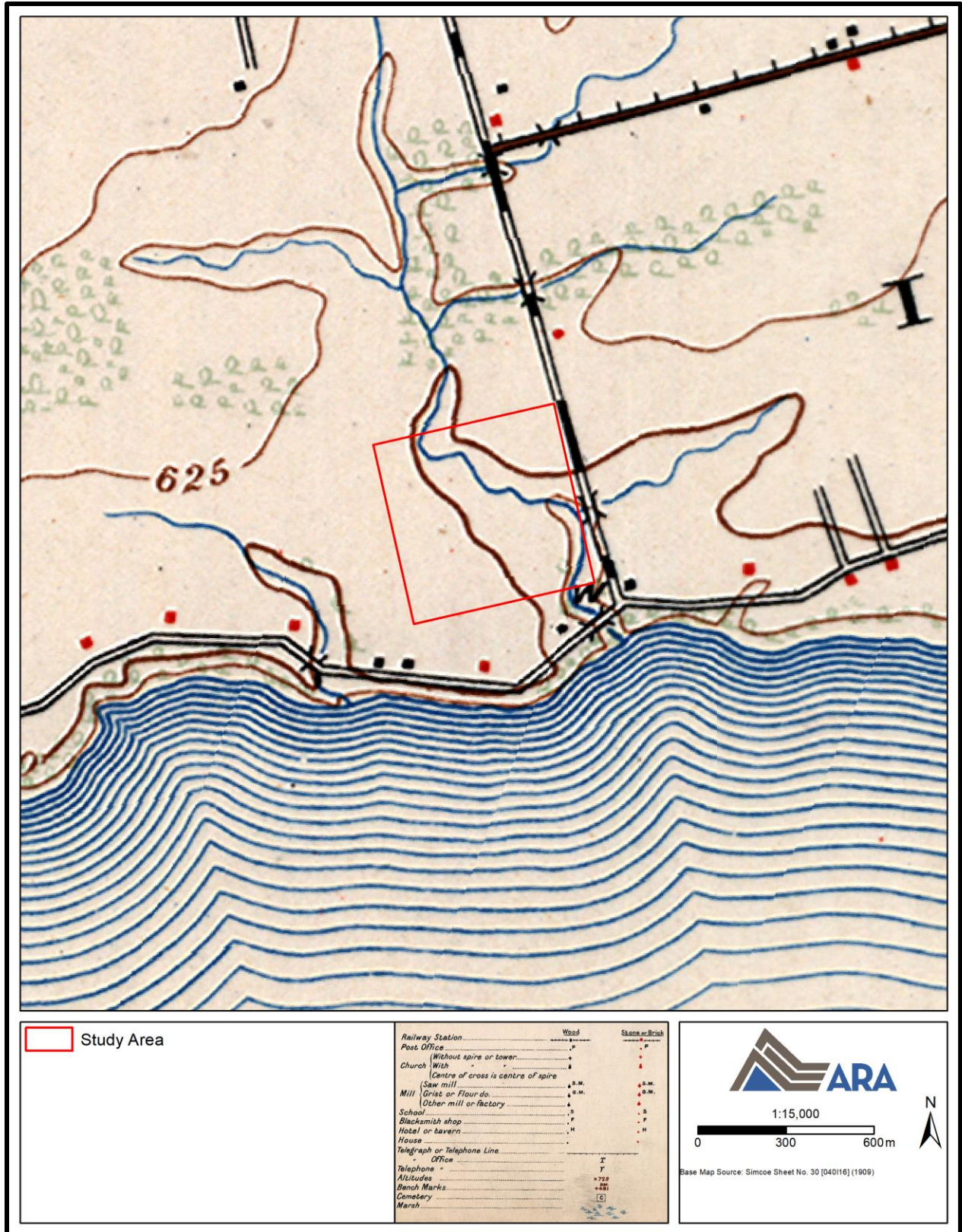
**Map 2: Woodhouse Township Patent Plan (No Date)**  
(Produced under licence using ArcGIS® software by Esri, © Esri; AO 2015)



**Map 3: Map of the County of Norfolk, Canada West (1856)**  
(Produced under licence using ArcGIS® software by Esri, © Esri; OHCMP 2019)



**Map 4: Illustrated Historical Atlas of the County of Norfolk, Ont. (1877)**  
(Produced under licence using ArcGIS® software by Esri, © Esri; MU 2001)



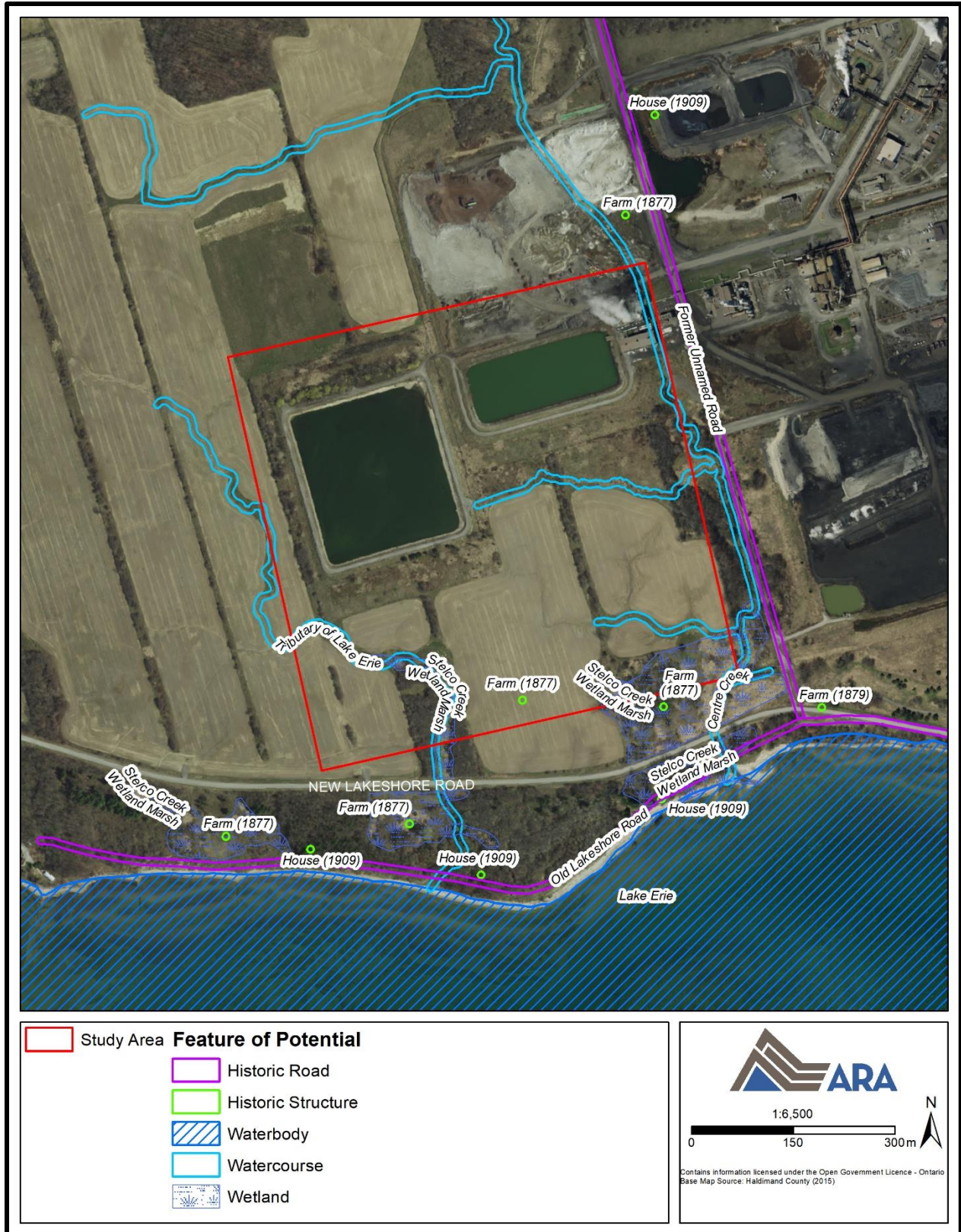
**Map 5: Topographic Map (1909)**  
 (Produced under licence using ArcGIS® software by Esri, © Esri; OCUL 2021)



**Map 6: Aerial Image (1954)**  
(Produced under licence using ArcGIS® software by Esri, © Esri; U of T 2021)

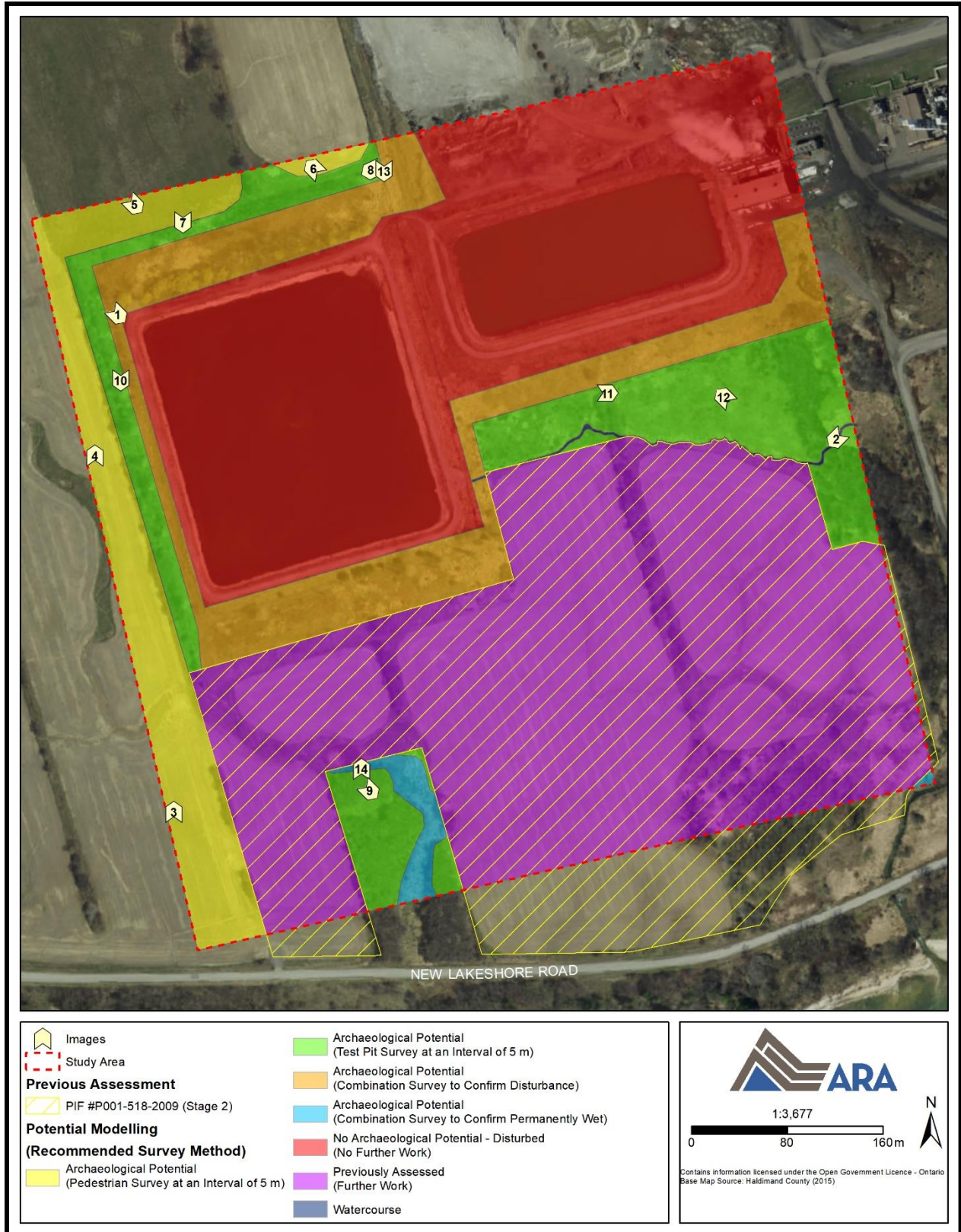


**Map 7: Aerial Image (1964)**  
(Produced under licence using ArcGIS® software by Esri, © Esri; MAC 2021)



**Map 8: Features of Potential**  
 (Produced under licence using ArcGIS® software by Esri, © Esri)





## 7.0 BIBLIOGRAPHY AND SOURCES

AECOM Canada Ltd. (AECOM)

2011 *Haldimand County, Lake Erie Industrial Park Wastewater Treatment System, Municipal Class Environmental Assessment, Environmental Study Report*. Vol. 1. AECOM.

Archaeologix Inc. (AI)

2008 *Archaeological Assessment (Stage 1), Nanticoke New Build Project, Lots 21 to 24, Concessions 1 & 2, Geographic Township of Woodhouse, Nanticoke, Haldimand County, Ontario*. CIF #P001-492-2008. AI.

Archives of Ontario (AO)

2015 *Archives of Ontario: Accessing our Collections*. Accessed online at: [http://www.archives.gov.on.ca/en/access/our\\_collection.aspx](http://www.archives.gov.on.ca/en/access/our_collection.aspx).

Chapman, L.J. and D.F. Putnam

1984 *The Physiography of Southern Ontario, 3rd Edition*. Toronto: Ontario Geological Survey, Special Volume 2.

Coyne, J. H.

1895 *The Country of the Neutrals (As Far as Comprised in the County of Elgin): From Champlain to Talbot*. St. Thomas: Times Print.

Ellis, C.J. and N. Ferris (eds.)

1990 *The Archaeology of Southern Ontario to A.D. 1650*. Occasional Publication of the London Chapter, OAS Number 5. London: Ontario Archaeological Society Inc.

Golder Associates (Golder)

2009 *Stage 2 Archaeological Assessment, Nanticoke New Build, Lots 21 to 24, Concessions 1 and 2, Geographic Township of Woodhouse, Nanticoke, Haldimand County, Ontario*. PIF #P001-518-2009. Golder.

Lajeunesse, E.J.

1960 *The Windsor Border Region: Canada's Southernmost Frontier*. Toronto: The Champlain Society.

Long Point Region Conservation Authority (LPRCA)

2021 *Watershed Report Card*. Accessed online at: <https://lprca.on.ca/forestry-stewardship/watershed-report-card/>.

McGill University (MU)

2001 *The Canadian County Atlas Digital Project*. Accessed online at: <http://digital.library.mcgill.ca/countyatlas/default.htm>.

McMaster University (MAC)

2021 *Historic Hamilton Portal*. Accessed online at: <http://perec.mcmaster.ca/maps/apindex/>.

Ministry of Natural Resources and Forestry (MNRF)

2021 *Forest Regions*. Accessed online at: <https://www.ontario.ca/page/forest-regions>.

Munson, M.K. and S.M. Jamieson (eds.)

2013 *Before Ontario: The Archaeology of a Province*. Kingston: McGill-Queen's University Press.

Ontario Council of University Libraries (OCUL)

2021 *Historical Topographic Map Digitization Project*. Access online at: <https://ocul.on.ca/topomaps/>.

Ontario Historical County Maps Project (OHCMP)

2019 *Ontario Historical County Maps Project*. Accessed online at: <http://maps.library.utoronto.ca/hgis/countymaps/maps.html>.

Phelps, E. (ed.)

1972 *Illustrated Historical Atlas of the Counties of Haldimand and Norfolk*. Reprint of 1877 and 1879 Editions. Toronto: H.R. Page & Co.

Presant, E.W. and C.J. Acton

1984 *The Soils of the Regional Municipality of Haldimand-Norfolk*. Report No. 57 of the Ontario Soil Survey. Guelph: Research Branch, Canada Dept. of Agriculture.

Smith, W.H.

1846 *Smith's Canadian Gazetteer: Comprising Statistical and General Information Respecting all Parts of the Upper Province, or Canada West*. Toronto: H. & W. Rowsell.

Surtees, R.J.

1994 Land Cessions, 1763–1830. In *Aboriginal Ontario: Historical Perspectives on the First Nations*, edited by E.S. Rogers and D.B. Smith, pp. 92–121. Toronto: Dundurn Press.

University of Toronto (U of T)

2021 *Map & Data Library*. Accessed online at: <https://mdl.library.utoronto.ca/>.

Warrick, G.

2000 The Precontact Iroquoian Occupation of Southern Ontario. *Journal of World Prehistory* 14(4):415–456.

Wright, J.V.

1972 *Ontario Prehistory: An Eleven-Thousand-Year Archaeological Outline*. Archaeological Survey of Canada, National Museum of Man. Ottawa: National Museums of Canada.