



ARCHAEOLOGY | HERITAGE | OUTREACH | CONSERVATION

DRAFT

**Stage 1 Archaeological Assessment
Southeast Landfill Expansion
City of Niagara Falls
Regional Municipality of Niagara
Lots 29, 32, 48, 50, 51, 65 and 66
Geographic Township of Stamford
Former Welland County, Ontario**

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PIF #P1106-0069-2025
ARA File #2022-0501

27/02/2025

Original Report

EXECUTIVE SUMMARY

Under a contract awarded in February 2023, Archaeological Research Associates Ltd. (ARA) carried out a Stage 1 archaeological assessment as an existing conditions report for the Walker South Landfill Phase 2 Environmental Assessment in the City of Niagara Falls, Regional Municipality of Niagara, Ontario in accordance with the *Environmental Assessment Act*. The proposed South Landfill Phase 2 project would see Walker Industries expand landfilling operations to their Southeast Quarry, east of Taylor Road, to maintain the current annual fill capacity rate of 1.1 million tonnes over the next 20 years. 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 (desktop evaluation) was conducted in February 2025 under PIF #P1106-0069-2024. The investigation encompassed the entire Site Study Area (SSA). A property inspection did not occur; accordingly, no permissions were required for property access. At the time of assessment, the SSA consisted primarily of the existing quarry along with overgrown agricultural lands in the northeast, a wetland in the east and overgrown agricultural lands around a residential home in the south.

The Stage 1 assessment determined that the SSA comprises a mixture of areas of archaeological potential and areas of no archaeological potential. It is recommended that all areas of archaeological potential that could be impacted by the project be subject to a Stage 2 property assessment in accordance with Section 2.1 of the 2011 *S&Gs*.

As no property inspection was completed, no areas of the SSA can be fully exempt from further archaeological work in accordance with Section 1.4 of the 2011 *S&Gs*. Areas of no archaeological potential, such as the existing quarry, will need to be confirmed to be disturbed by visual inspection and photo-documentation during any subsequent Stage 2 property survey.

The grassed, wooded and overgrown areas and other areas where ploughing is not viable 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.

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.

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ABBREVIATIONS

ARA – Archaeological Research Associates Ltd.
ASI – Archaeological Services Inc.
MCM – Ministry of Citizenship and Multiculturalism
PIF – Project Information Form
S&Gs – Standards and Guidelines for Consultant Archaeologists

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ENGAGED GROUPS

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1.0 PROJECT CONTEXT

1.1 Development Context

Under a contract awarded in February 2023, Archaeological Research Associates Ltd. (ARA) carried out a Stage 1 archaeological assessment as an existing conditions report for the Walker South Landfill Phase 2 Environmental Assessment in the City of Niagara Falls, Regional Municipality of Niagara, Ontario in accordance with the *Environmental Assessment Act*. The proposed South Landfill Phase 2 project would see Walker Industries expand landfilling operations to their Southeast Quarry, east of Taylor Road, to maintain the current annual fill capacity rate of 1.1 million tonnes over the next 20 years. This report documents the background research and potential modelling involved in the investigation and presents conclusions and recommendations pertaining to archaeological concerns.

The Site Study Area (SSA) consists of an irregular area covering 72.87 ha (180.06 ac) (Map 1). This parcel is generally bounded by Mountain Road in the north, wetland and wooded area in the east and south and Taylor Road (previously Beechwood Road) in the west. In legal terms, the SSA falls on part of Lots 29, 32, 48, 50, 51, 65 and 66 in the City of Niagara Falls, Regional Municipality of Niagara, Geographic Township of Stamford, Former Welland County, Ontario. The Crown obtained these lands from the Mississaugas as part of a larger purchase in 1784, but there were uncertainties relating to the description of the area involved in the surrender. The extent of the ceded territory was clarified during the Between the Lakes Purchase (Treaty 3) of 1792.

The Stage 1 assessment (desktop evaluation) was conducted in February 2025 under PIF #P1106-0069-2024. The investigation encompassed the entire SSA. A property inspection did not occur; accordingly, no permissions were required for property access. As set out in Section 1.0 of the 2011 *Standards and Guidelines for Consultant Archaeologists (S&Gs)*, the investigation was carried out to achieve the following objectives:

- Provide information about geography, history and current land conditions;
- Determine whether any previous archaeological fieldwork has been completed;
- Evaluate in detail the SSA's archaeological potential; and
- Recommend appropriate strategies for a Stage 2 assessment, if necessary.

The Ministry of Citizenship and Multiculturalism (MCM) 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 historic 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 SSA 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 SSA's past and present land uses. Multiple previous

archaeological reports containing relevant background information were identified during the research component of this study. These reports are summarized in Section 1.3.3, and the references (including title, author and PIF number) appear in Section 6.0.

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 comprises 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 points
Late Palaeo	8400–7500 BC	Holcombe, Hi-Lo and Lanceolate biface traditions; Continuing mobility; Campsite/Way-Station sites; Smaller territories are utilized; Non-fluted points
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	AD 900–1600	Area occupied by Algonquian-speaking Anishinaabeg and Iroquoian-speaking peoples such as the Pre-Contact Neutral; Early focus on the latter linguistic group identified Glen Meyer, Uren, Middleport and later traditions and tended to emphasize a linear ‘Iroquoian’ developmental sequence; There was likely a close interaction sphere between the two groups, which may have resulted in shared material culture traditions; Pre-Contact Neutral associated with large villages; Some up to 5 ha with 2,500 people; Extensive croplands; Also hamlets, cabins, camps and cemeteries; 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 17th 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; Powell and Coffman 1956; Lajeunesse 1960; Ellis and Ferris 1990; Surtees 1994; Hammerburg 2008; AO 2022; NFI 2015)

Historical Event	Timeframe	Characteristics
Early Exploration	Early 17 th 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 th 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 th 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 th 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 and provided a 6.4 km wide strip of land along the Niagara River for settlement
Loyalist Influx	Late 18 th century	United Empire Loyalist influx during and 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
County Development	Early to mid-19 th century	Became part of Lincoln County’s ‘Second Riding’ in 1792; Became part of the Niagara District in 1798; Lincoln County reduced in size in 1816 with the formation of Wentworth County to the west; Welland Canal was a major feature, conceived by W.H. Merritt and opened in 1829; Lincoln County reduced in size again in 1845 with the formation of Welland County to the south; Independent after the abolition of the district system in 1849

Historical Event	Timeframe	Characteristics
Township Formation	Late 18 th to early 19 th century	The Township of Stamford was first allotted to approximately 12 families, and the earliest settlers included the Cooks and the Durhams from New Jersey in 1776; Philip George Bender and his family became the first settlers near Niagara Falls in 1782; Other members of Col. John Butler’s Rangers and United Empire Loyalists arrived in 1784; The township was formerly called Mount Dorchester or Township No. 2, as it was the second township surveyed after Niagara; Philip Frey conducted the township survey in 1787, and Simcoe renamed it ‘Stamford’
Township Development	Mid-19 th to early 20 th century	By the mid-19 th century, Stamford had a population of 2,636 comprising a mixture of Canadians, English, Irish, Scottish and Americans; Approximately 8,923 ha taken up in the township by 1846, 4,574 ha of which were under cultivation; Three grist mills in operation at that time; Traversed by the Great Western Railway (1853), the Erie & Ontario Railway (1854), the Great Western Railway’s Canada Air Line (1873); the Canada Southern Railway’s Montrose Branch (1883) and the St. Catharines & Niagara Central Railway (1887); Principal communities at Stamford, Clifton and Drummondville

1.2.2 Past and Present Land Use

1.2.2.1 Overview

During Pre-Contact and Early Contact times, the vicinity of the SSA would have comprised a mixture of coniferous trees, deciduous trees and open areas. Indigenous communities actively utilized the land and its resources well into Post-Contact times, and they would have managed the landscape to varying degrees (e.g., establishing clearings for campsites, plant cultivation, etc.). During the late 18th and early 19th centuries, Euro-Canadian settlers arrived in the area and began to clear the forests for agricultural and settlement purposes. The SSA is not near a historical community but is adjacent to present-day Taylor/Beechwood Road and Mountain Road, which are both historical thoroughfares. The land use at the time of assessment can be classified as infrastructural (quarry), formerly agricultural (overgrown fields) and residential (residence and driveway).

1.2.2.2 Mapping and Imagery Analysis

In order to gain a general understanding of the SSA’s past land uses, four historical settlement maps, one geological map and one aerial image were examined during the research component of the study. Specifically, the following resources were consulted:

- *Stamford Patent Plan* (No Date) (AO 2015);
- *Tremaine’s Map of the Counties of Lincoln and Welland, Canada West* (1862) (OHCMP 2019);
- *Illustrated Historical Atlas of the Counties of Lincoln and Welland, Ont.* (1876) (MU 2001);
- Topographic maps from 1908 and 1938 (OCUL 2025); and
- Aerial images from 1954, 1971, 1995, 2006, 2009 and 2017 (BU 2025; UofT 2025; GE 2025a; GE 2025b).

The limits of the SSA are shown on georeferenced versions of the consulted historical resources in Map 2-Map 11. A summary of the identified historical occupants appears in Table 3.

Table 3: Occupation History

Lot	Patent Plan (No Date)	1864	1877
29	Adam Hutt	Richard Woodruff	No Occupant Listed
32	Robert Campbell	William B. Hendershot	W. Richardson
48	John Mitlar	David Ord	D. Munroe
50	John Mitlar	Jacob Seburn (East)	Mr. Seburn (East)
51	Stephen Seburn	Thomas Grinville	T. Grenville
65	Frederick Lampman	Jacob Seburn (West)	J. Garner (Northwest)
			M. Brady (Southwest)
66	George Hoover	George Hoover	George Hoover

The *Stamford* 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. It indicates the original patentees for each lot in the SSA (Map 2). This plan indicates that Ten Mile Creek traverses the SSA.

Tremaine's Map of the Counties of Lincoln and Welland, Canada West (1862) depicts Ten Mile Creek traversing Lot 51 in the southern portion of the SSA (Map 3). The historically surveyed thoroughfares of present-day Taylor/Beechwood Road to the west, present-day Mountain Road to the north and Garner Road to the east are also present. No structures are depicted in the vicinity of the SSA. This publication only included information for its subscribers, however, so the absence of structures on the other properties is a full indication that the subject lands were vacant or otherwise unimproved.

The *Illustrated Historical Atlas of the Counties of Lincoln and Welland, Ont.* (1876) indicates two farmsteads are present on Lots 32 and 48 within the SSA and one additional farmstead is depicted to the west of the SSA on Lot 51 along present-day Taylor Road. The other lots either have no farmsteads illustrated, or associated farmsteads are not within the vicinity of the SSA. Ten Mile Creek remains traversing Lot 51 in the south portion of the SSA.

The topographic map from 1908 depicts the SSA as within cleared lands. The surrounding landscape appears well-settled with various wooden (black) structures and a single red (brick) structure fronting nearby roadways (Map 5). Six structures are present within or near the SSA, three of which correlate with the structures indicated on the 1876 map. The course of Ten Mile Creek in 1908 differs from the earlier historic maps as a result of mapping inaccuracies, as the 1938 map indicates a route closer to previous illustrations (Map 5). The topographic map from 1938 indicates the SSA is still within primarily cleared land, though there is a noticeable increase in wooded areas. The surrounding landscape is even more settled with several new wooden structures present within the SSA.

The aerial imagery from 1954 depicts the SSA as entirely agricultural with the original quarry established far to the northwest (Map 6). Between 1971 and 1996, the quarry has been expanded, reaching present-day Taylor/Beechwood Road Road (Map 7–Map 8). By 2006, the initial stages of the quarry expansion into the SSA had begun in the northwest, with significant expansion by 2009, reaching its present-day limits by 2017 (Map 6Map 9–Map 11).

1.3 Archaeological Context

The Stage 1 assessment (desktop evaluation) was conducted in February 2025 under PIF #P1106-0069-2024. The limits of the SSA were confirmed using aerial imagery showing physical features in relation to the subject lands.

The archaeological context of any given SSA 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 SSA 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 (MNR 2025).

In terms of local physiography, the subject lands fall within the Niagara Escarpment in the north and the Haldimand Clay Plain in the south. The Niagara Escarpment extends from the Niagara River to the northern tip of the Bruce Peninsula and continues through the Manitoulin Islands. This area is characterized by vertical cliffs along the brow, carved slopes below and flaking landscapes of glacial origin. Although highly visible within the Niagara Peninsula and along Georgian Bay, the slopes are mantled by morainic deposits in the intervening area and long stretches of the escarpment are hidden. Between Queenston and Ancaster, the escarpment is a simple topographic break separating the two levels of the Niagara Peninsula (Chapman and Putnam 1984:114–122).

The Haldimand Clay Plain consists of a series of parallel clay belts deposited during the time of glacial Lake Warren. This region occupies all of the Niagara Peninsula above the escarpment, and covers an area of roughly 3,500 sq. km. Although it was all once submerged, the till is not entirely buried by the stratified clay and comes to the surface on the low morainic ridges in the north (Chapman and Putnam 1984:156–157). According to the Ontario Soil Survey, the SSA consists of Beverly, Peel and Alluvial soils. The characteristics of the soil types are summarized in Table 4 (OAC 1935; Kingston and Presant 1989; Map 12).

Table 4: Soil Types

Soil Code	Soil Type	Parent Materials	Drainage
BVY	Beverly silty clay	Mainly lacustrine silty clay	Imperfect
ALU	Alluvium	Variable floodplain deposits on an active floodplain	Variable
PE	Peel silty clay	40 to 100 cm lacustrine silty clay over clay loam till	Imperfect

The subject lands fall within the Ten Mile Creek watershed, which is under the jurisdiction of the Niagara Peninsula Conservation Authority (NPCA 2025). Specifically, the SSA is traversed by the and was historically traversed by Ten Mile Creek and the Ten Mile Creek Wetland Complex before it was redirected in the 1990s prior to the construction of the current quarry. At the time of assessment, the SSA consisted primarily of the existing quarry along with overgrown agricultural lands in the northeast, a wetland in the east and overgrown agricultural lands around a residential home in the south.

1.3.2 Registered or Known Archaeological Sites

The Ontario Archaeological Sites Database (OASD) 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 SSA. The available search facility returned 43 registered and 16 unregistered sites located within at least a 1 km radius (the facility returns sites in a rectangular area, rather than a radius, potentially resulting in results beyond the specified distance). The sites are summarized in Table 5.

Table 5: Registered Archaeological Sites within 1 km

Borden No.	Site Name / Identifier	Time Period	Affinity	Site Type	Distance from SSA
AgGs-66	Walker Brothers 1	Pre-Contact	Indigenous	Findspot	Within
AgGs-68	Walker Brothers 3	Pre-Contact	Indigenous	Findspot	Within
AgGs-69	Walker Brothers 4	Woodland, Early	Indigenous	Findspot	Within
AgGs-73	Walker Brothers 8	Pre-Contact	Indigenous	Findspot	Within
AgGs-74	Walker Brothers 9	Pre-Contact	Indigenous	Findspot	Within
AgGs-76	Walker Brothers 10	Post-Contact	Euro-Canadian	Findspot, Homestead	Within
AgGs-77	Walker Brothers 11	Post-Contact	Euro-Canadian	Homestead	Within
AgGs-78	Walker Brothers 12	Post-Contact	Euro-Canadian	Unknown	Within
Unregistered	H1 (Licence #88-17)	Post-Contact	Euro-Canadian	Findspot	Within
Unregistered	H12 (Licence #88-17)	Post-Contact	Euro-Canadian	Findspot	Within
Unregistered	H13 (Licence #88-17)	Post-Contact	Euro-Canadian	Findspot	Within
Unregistered	H2 (Licence #88-17)	Post-Contact	Euro-Canadian	Scatter	Within
Unregistered	H3 (Licence #88-17)	Post-Contact	Euro-Canadian	Scatter	Within
Unregistered	H7 (Licence #88-17)	Post-Contact	Euro-Canadian	Scatter	Within
Unregistered	P6 (Licence #88-17)	Pre-Contact	Indigenous	Findspot	Within
AgGs-67	Walker Brothers 2	Pre-Contact	Indigenous	Findspot	50 m–300 m
AgGs-70	Walker Brothers 5	Woodland, Late	Indigenous	Findspot	50 m–300 m
AgGs-71	Walker Brothers 6	Pre-Contact	Indigenous	Other, Camp/Campsite	50 m–300 m
AgGs-72	Walker Brothers 7	Archaic, Middle	Indigenous		50 m–300 m
AgGt-111	Huson	Archaic, Early	Indigenous	Other, Camp/Campsite	50 m–300 m
Unregistered	H11 (Licence #88-17)	Post-Contact	Euro-Canadian	Findspot	50 m–300 m
Unregistered	H15 (Licence #88-17)	Post-Contact	Euro-Canadian	Findspot	50 m–300 m
Unregistered	H4 (Licence #88-17)	Post-Contact	Euro-Canadian	Findspot	50 m–300 m
Unregistered	H5 (Licence #88-17)	Post-Contact	Euro-Canadian	Findspot	50 m–300 m
Unregistered	P6 (Licence #88-17)	Pre-Contact	Indigenous	Findspot	50 m–300 m
AgGt-65	Walker Brothers 13	Pre-Contact	Indigenous	Findspot	300 m–1 km
AgGt-66	Walker Brothers 14	Post-Contact	Euro-Canadian	Unknown	300 m–1 km
AgGt-67	Walker Brothers 15	Pre-Contact	Indigenous	Findspot	300 m–1 km
AgGs-65	-	Pre-Contact	Indigenous	Findspot	300 m–1 km
AgGt-112	-	Archaic	Indigenous	Other, Camp/Campsite, Scatter	300 m–1 km

Borden No.	Site Name / Identifier	Time Period	Affinity	Site Type	Distance from SSA
AgGs-250	Find 3	Pre-Contact	Indigenous	Unknown	300 m–1 km
AgGs-276	Yerba	Paleo, Late	Unspecified	Scatter	300 m–1 km
Unregistered	P11 (Licence #88-17)	Pre-Contact	Indigenous	Findspot	300 m–1 km
Unregistered	H8 (Licence #88-17)	Post-Contact	Euro-Canadian	Scatter	300 m–1 km
Unregistered	P3 (Licence #88-17)	Pre-Contact	Indigenous	Findspot	300 m–1 km
Unregistered	P1 (CIF #2001-025-016)	Pre-Contact	Indigenous	Findspot	300 m–1 km
AgGt-46	-	Unspecified	Unspecified	Unspecified	> 1 km
AgGt-47	-	Unspecified	Unspecified	Unspecified	> 1 km
AgGt-48	-	Unspecified	Unspecified	Unspecified	> 1 km
AgGt-73	-	Pre-Contact	Indigenous	Findspot	> 1 km
AgGt-74	-	Archaic, Middle	Indigenous	Findspot	> 1 km
AgGt-75	-	Pre-Contact	Indigenous	Findspot	> 1 km
AgGt-76	-	Woodland, Late	Indigenous, Iroquoian	Findspot	> 1 km
AgGt-77	-	Pre-Contact	Indigenous	Findspot	> 1 km
AgGt-243	Henry 1	Pre-Contact	Indigenous	Scatter	> 1 km
AgGt-244	Henry 2	Archaic, Middle	Indigenous	Findspot	> 1 km
AgGt-245	Fuller Site	Post-Contact	Euro-Canadian	Homestead	> 1 km
AgGt-246	Bouk Site	Post-Contact	Euro-Canadian	Unknown, Farmstead	> 1 km
AgGt-247	Patterson Site	Post-Contact	Euro-Canadian	Farmstead	> 1 km
AgGt-248	Kenny O'Leary Site	Post-Contact	Unspecified	Unknown	> 1 km
AgGs-57	John Johnson Homestead	Post-Contact	Euro-Canadian	Homestead	> 1 km
AgGs-58	Mount Carmel 2	Pre-Contact	Indigenous	Findspot	> 1 km
AgGs-59	Mount Carmel 3	Pre-Contact	Indigenous	Findspot	> 1 km
AgGs-60	Mount Carmel 4	Pre-Contact	Indigenous	Findspot	> 1 km
AgGs-61	Mount Carmel 5	Pre-Contact	Indigenous	Findspot	> 1 km
AgGs-62	Mount Carmel 6	Archaic, Middle	Indigenous	Findspot	> 1 km
AgGs-63	-	Pre-Contact	Indigenous	Unknown	> 1 km
AgGs-64	-	Pre-Contact	Indigenous	Scatter	> 1 km
AgGs-249	Find 1	Woodland, Early	Indigenous	Unknown	> 1 km

A total of fifteen of these previously identified registered and unregistered sites are located within the SSA, and ten of them fall within 300 m. As relevant archaeological resources that could impact fieldwork strategy decisions and recommendations, sites identified by archaeological assessments within the SSA or adjacent lands will be discussed in Section 1.3.3. The remaining sites are further than 300 m and represent more distant archaeological resources.

1.3.3 Previous Archaeological Work

A review of available archaeological management plans and/or other archaeological potential mapping was undertaken to inform the assessment process. Specifically, the Regional Municipality of Niagara's *Archaeological Management Plan* was examined for information that could influence the choice of fieldwork techniques or recommendations (Niagara Region 2024). The associated mapping indicates that the southern section of the SSA has archaeological potential (Map 13).

Reports documenting assessments conducted within the SSA 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 SSA. The investigation determined that there are multiple available reports documenting previous archaeological fieldwork within the specified distance (Map 14). 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 Unlicensed Quarry Property, Phase 1 and 2 (Stage 1-4)

In 1988, ASI Heritage Inc (ASI) conducted the equivalent of Stage 1-2 assessments prior to the establishment of the present-day quarry within the SSA under Licence #88-17 (ASI 1988). The subject land comprised 12 agricultural fields, with each area assessed through pedestrian survey at 5-metre intervals or, where ploughing was not feasible, test pit survey at 5-metre intervals. The assessment of these fields resulted in the identification of 15 Euro-Canadian and 15 Indigenous sites. Three of the 30 sites were recommended for further work. Details on the sites are provided in Table 6.

Table 6: Walker Brothers Quarry Site Summary (Stage 1 and 2)

Site Name / Identifier	Affinity	Site Description	Recommendation
H1	Euro-Canadian	Small scatter of primarily 20 th century material	No further work
H2	Euro-Canadian	Diffuse scatter of 20 th century artifacts covering 2,000 m ²	No further work
H3	Euro-Canadian	20 th century artifacts and structural remains of a wood framed house present on a map from 1907	No further work
H4	Euro-Canadian	Post-1920 artifacts covering 30 m ²	No further work
H5	Euro-Canadian	Scatter of recently deposited modern material covering 16 m ²	No further work
H6/Walker Brothers 11 (AgGs-77)	Euro-Canadian	Two scatters of 20 th century artifacts situated around remains of a house, outbuilding and stable/barn.	No further work
H7	Euro-Canadian	Twelve fragments of 20 th century artifacts	No further work
H8	Euro-Canadian	Primarily 20 th century artifacts with several scattered mid-19 th century artifacts covering 4,000 m ²	No further work
H9/Walker Brothers 10 (AgGs-76)	Euro-Canadian	Scatter of early 19 th century artifacts covering 100 m ²	Stage 3 assessment
H10/Walker Brothers 14 (AgGt-66)	Euro-Canadian	Fifteen fragments of early to late 19 th century and 20 th century artifacts covering 100 m ²	No further work
H11	Euro-Canadian	House foundation (11 x 8 m) and associated 20 th century refuse (Snyder family home)	No further work
H12	Euro-Canadian	Eight fragments of 19 th century artifacts	No further work
H13	Euro-Canadian	Twenty-five fragments of 20 th century artifacts	No further work
H14/Walker Brothers 12 (AgGs-78)	Euro-Canadian	Small diffuse scatter of early to later 19 th century artifacts covering 1500 m ²	No further work
H15	Euro-Canadian	Two late 19 th century artifacts	No further work
P1/Walker Brothers 1 (AgGs-66)	Indigenous	Retouched side scraper	No further work
P2/Walker Brothers 15 (AgGt-67)	Indigenous	One biface fragment and two flakes of Onondaga Chert	No further work
P3	Indigenous	Two flakes of Onondaga Chert	No further work
P4	Indigenous	Large triangular-shaped flake of Onondaga Chert	No further work
P5/Walker Brothers 2 (AgGs-67)	Indigenous	Broken projectile point fragment	Further work
P6	Indigenous	Single flake of Onondaga Chert	No further work
P7/Walker Brothers 3 (AgGs-68)	Indigenous	Large biface of Ancaster Chert	No further work
P8/Walker Brothers 4	Indigenous	Broken Adena-like projectile point	No further work

Site Name / Identifier	Affinity	Site Description	Recommendation
(AgGs-69)			
P9/Walker Brothers 9 (AgGs-74)	Indigenous	Large fragment of a bifacial tool	No further work
P10/Walker Brothers 5 (AgGs-70)	Indigenous	Late Woodland triangular point fragment	No further work
P11	Indigenous	Large chunk of unworked Onondaga Chert	No further work
P12/Walker Brothers 13 (AgGt-65)	Indigenous	Single biface fragment	No further work
P13/Walker Brothers 6 (AgGs-71)	Indigenous	11 flakes of Onondaga Chert distributed over a 100 m ² area	Stage 3 assessment
Walker Brothers 7 P14 (AgGs-72)	Indigenous	Brewerton side-notched point of Bois Blanc Chert	No further work
Walker Brothers 8 P15 (AgGs-73)	Indigenous	Biface fragment, scraper and retouched flake of Onondaga Chert	No further work

In 1989, ASI conducted further archaeological assessments of sites P13 (AgGs-71) and H9 Cordelia Site (AgGs-76) and revisited P5 (AgGs-67) under Licence #89-130B conducting activities that are the equivalent of current Stage 2-4 assessments (ASI 1989). Twelve test units were excavated at P13 (AgGs-71) but the assessment did not identify any additional archaeological resources. H9 Cordelia Site (AgGs-76) was subject to mechanical topsoil removal, which resulted in the identification and excavation of five subsurface features which were either devoid of artifacts or comprised of refuse pits containing 19th-century Euro-Canadian artifacts. P5 (AgGs-67) was intensified with a pedestrian survey at 1 m intervals, but no further archaeological resources were identified. No further work was recommended for any of these three sites, and the subject property was considered clear of further archaeological concerns.

The assessed areas overlap the current SSA excluding the southern extent. Methodology and mapping of the assessment does not meet current provincial standards (i.e., unclear intensification methodology, no mapping of methodology), and the overlapping area remains of further archaeological concern. The current status of the sites within the SSA (Walker Brothers 1, 3, 4, 8-12) are unknown but have likely been heavily impacted by the operation of the quarry.

1.3.3.2 Mountain Road Realignment (Stage 1-4)

In 2001, ASI conducted a Stage 1-2 assessment for the proposed realignment of Mountain Road from Beechwood Road to Townline Road under CIF #2001-025-016 (ASI 2002). The corridor was assessed through pedestrian and test pit survey at intervals of 5 m. Two locations of archaeological materials were identified: the P1 and Huson (AgGt-111) sites. P1 comprised a single Indigenous lithic artifact. The Huson Site (AgGt-111) comprised 108 Indigenous lithics within eight test pits. During a subsequent Stage 3 assessment, 22 one-metre-square test units were excavated in the area of the positive test pits, and the precise provenience of almost all of the 6,693 Indigenous artifacts recovered was recorded. Measuring approximately 50 square metres, the Huson site (AgGt-111) was determined to represent a significant archaeological resource and recommended for either Stage 4 avoidance and protection or excavation prior to any disturbance within this portion of the right-of-way (ASI 2002).

In 2002, a Stage 4 mitigation of the Huson Site (AgGt-111) was conducted by ASI under CIF #2001-025-020 (ASI 2004). The Huson site comprised a small, dense and relatively undisturbed

concentration of Onondaga chert artifacts. A total of 9,407 artifacts (9,380 pieces of lithic debitage, 27 lithic tools, and one fish vertebra) were recovered from 60 excavation units. Most of this material was recovered during trowel excavation of the central part grid with the precise provenience of the artifacts recorded. Diagnostic tools recovered suggest the site dated to the Early Archaic period (ASI 2004). The Huson Site has been fully mitigated and no further work is required.

1.3.3.3 Walker Waste Disposal (Stage 1)

In 2005, ASI conducted a Stage 1 assessment under PIF #P057-138 as part of the Environmental Assessment for the expansion of the Walker Industries landfill facility into the South Quarry (ASI 2005a). The SSA comprised the extant quarry and its haul route, most of which were previously subjected to Stage 2 assessment prior to their development and disturbance (ASI 1988; ASI 1989; ASI 2002; ASI 2004). The assessment determined the entire SSA had been previously disturbed, and no further work was recommended.

1.3.3.4 Regional Road 70 Re-Alignment (Stage 1 and 2)

In November 2005, ASI conducted a Stage 1 assessment for the proposed re-alignment of Regional Road 70 (Taylor/Beechwood Road) between Regional Road 101 (Mountain Road) and the Canadian National Rail Tracks under PIF #P057-205 (ASI 2005b). The assessment determined that the SSA comprised a mix of areas of archaeological potential and areas of no archaeological potential. A Stage 2 assessment was recommended for areas with archaeological potential.

In 2006, ASI conducted a Stage 2 assessment under PIF #P057-252-2006 (ASI 2006). The assessment resulted in the identification of three locations of Indigenous archaeological material: P1, P2/Yerba Site (AgGs-276) and P3. A single Indigenous lithic was recovered from both P1 and P3. A total of nine Indigenous lithic artifacts covering a 55 x 14 m area were recovered from the Yerba Site (AgGs-276), including a Late Archaic Adder Orchard projectile point (ASI 2006). Due to the isolated and undiagnostic nature of findspots P1 and P3, these sites were not recommended for further work. The Yerba site (AgGs-276) was determined to require a Stage 3 assessment.

Between 2007 and 2008, ASI conducted a Stage 3 assessment of the Yerba site (AgGs-276) under PIF #P057-376-2007 and P264-006-2008 (ASI 2008a). It was subject to a controlled-surface pick up and the excavation of 43 one-metre-squared test units. All together, a total of 160 non-diagnostic Indigenous artifacts were recovered and no further work was recommended.

1.3.3.5 Mountain Rd between Taylor Rd and Kalar Rd (Stage 2)

In 2006, ASI conducted a Stage 2 assessment as part of the improvements to Mountain Road (RR 101) between Taylor Road (RR 70) and Kalar Road (RR 98) under PIF #P223-002-2008 (ASI 2008b). Areas of archaeological potential on the north and south sides of Mountain Road were subject to test pit survey at 5 m intervals. A single Indigenous lithic biface fragment of Selkirk chert was recovered and recorded as Site P1 (AgGs-323), but it was not recommended for further work.

2.0 STAGE 1 BACKGROUND STUDY

2.1 Background

With occupation beginning approximately 11,000 years ago, the greater vicinity of the SSA comprises a complex chronology of Pre-Contact and Post-Contact histories (Section 1.2). Artifacts associated with Palaeo, Archaic, Woodland and Early Contact traditions are well-attested in the Regional Municipality of Niagara, and Euro-Canadian archaeological sites dating to pre-1900 and post-1900 contexts are likewise common. The presence of 59 previously identified registered and unregistered archaeological sites in the surrounding area demonstrates the desirability of this locality for early settlement (Section 1.3.2). The investigation confirmed that fifteen of these sites extended into the SSA. Their current status is unknown but have been likely impacted by the quarry operations. Background research identified multiple areas of previous assessment within or abutting the SSA (Section 1.3.3).

The natural environment of the SSA would have been attractive to both Indigenous and Euro-Canadian populations as a result of proximity to Ten Mile Creek and its various tributaries and wetlands. The diverse local vegetation would have encouraged settlement throughout Ontario's lengthy history. Euro-Canadian populations would have been particularly drawn to Mountain Road, Taylor/Beechwood Road and Garner Road, all of which were historically surveyed thoroughfares.

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 historic maps (at the most detailed scale available) and the study of aerial images. 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)

The SSA was not subject to a property inspection, as the corpus of available imagery, topographic mapping and digital environmental data provided abundant information concerning current land conditions. This information was of a scale and detail that allowed for the accurate evaluation of the presence and character of features of potential, and no greater level of detail was needed to make appropriate Stage 2 recommendations. The results of ARA's archaeological potential modelling are discussed below.

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 numerous features of archaeological potential in the vicinity of the SSA (Map 15; SD Map 1). The closest and most relevant indicators of archaeological potential (i.e., those that would directly affect survey interval requirements) include 59 previously identified registered and unregistered archaeological sites (e.g., Walker Brothers 1-15 and Huson sites), one historical primary water source (Ten Mile Creek), one wetland complex (Shriners Creek Wetland Complex), one historical wetland complex (Ten Mile Creek Wetland Complex), three historic roadways (Taylor/Beechwood Road, Mountain Road and Garner Road) and three historic structure localities (19th-century farmsteads). Background research did not identify any features indicating that the SSA had potential for deeply buried archaeological resources.

The Regional Municipality of Niagara's *Archaeological Management Plan* indicates that the southern extent of the SSA has archaeological potential (Map 13). However, this modelling was not the result of a property-specific assessment and, therefore, does not fully account for land-use history and current conditions.

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 not recommended for further work also require no further assessment.

ARA's desktop evaluation, coupled with the analysis of historical sources and digital environmental data, resulted in the identification of areas of no archaeological potential within the remaining lands. Specifically, deep land alterations have resulted in the removal of archaeological potential from the previously quarried land within the SSA. These areas have clearly been impacted by past earth-moving/construction activities, resulting in the disturbance of the original soils. Additionally, portions of the wetlands in the southeast are likely permanently wet. Conditions of these lands will need to be confirmed during subsequent property assessments.

The remainder of the SSA in the south retains potential for Indigenous and Euro-Canadian archaeological materials or requires test pit survey to confirm that they have no archaeological potential. The areas of archaeological potential include grassed areas and overgrown/wooded areas.

Most of the SSA was previously assessed in the late 1980s, aside from the southern extent (ASI 1988; 1989). Methodology and mapping of the assessment does not meet current provincial standards (i.e., unclear intensification methodology, no mapping of methodology), and the overlapping area remains of further archaeological concern. Fifteen of the thirty sites identified are potentially located in the SSA. These were identified prior to current standards and their current status is unknown. Their status will need to be re-assessed and confirmed through visual inspection

if impacted by the quarry or, in areas not impacted, re-located and re-evaluated through current standards.

In summary, the Stage 1 assessment determined that the SSA comprises a mixture of areas of archaeological potential, areas of no archaeological potential and previously assessed lands of further archaeological concern. The potential modelling results are presented in Map 16. The SSA is depicted as a layer in these maps.

3.0 RECOMMENDATIONS

The Stage 1 assessment determined that the SSA comprises a mixture of areas of archaeological potential and areas of no archaeological potential. It is recommended that all areas of archaeological potential that could be impacted by the project be subject to a Stage 2 property assessment in accordance with Section 2.1 of the 2011 S&Gs.

As no property inspection was completed, no areas of the SSA can be fully exempt from further archaeological work in accordance with Section 1.4 of the 2011 S&Gs. Areas of no archaeological potential, such as the existing quarry, will need to be confirmed to be disturbed by visual inspection and photo-documentation during any subsequent Stage 2 property survey.

The grassed, wooded and overgrown areas and other areas where ploughing is not viable 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.

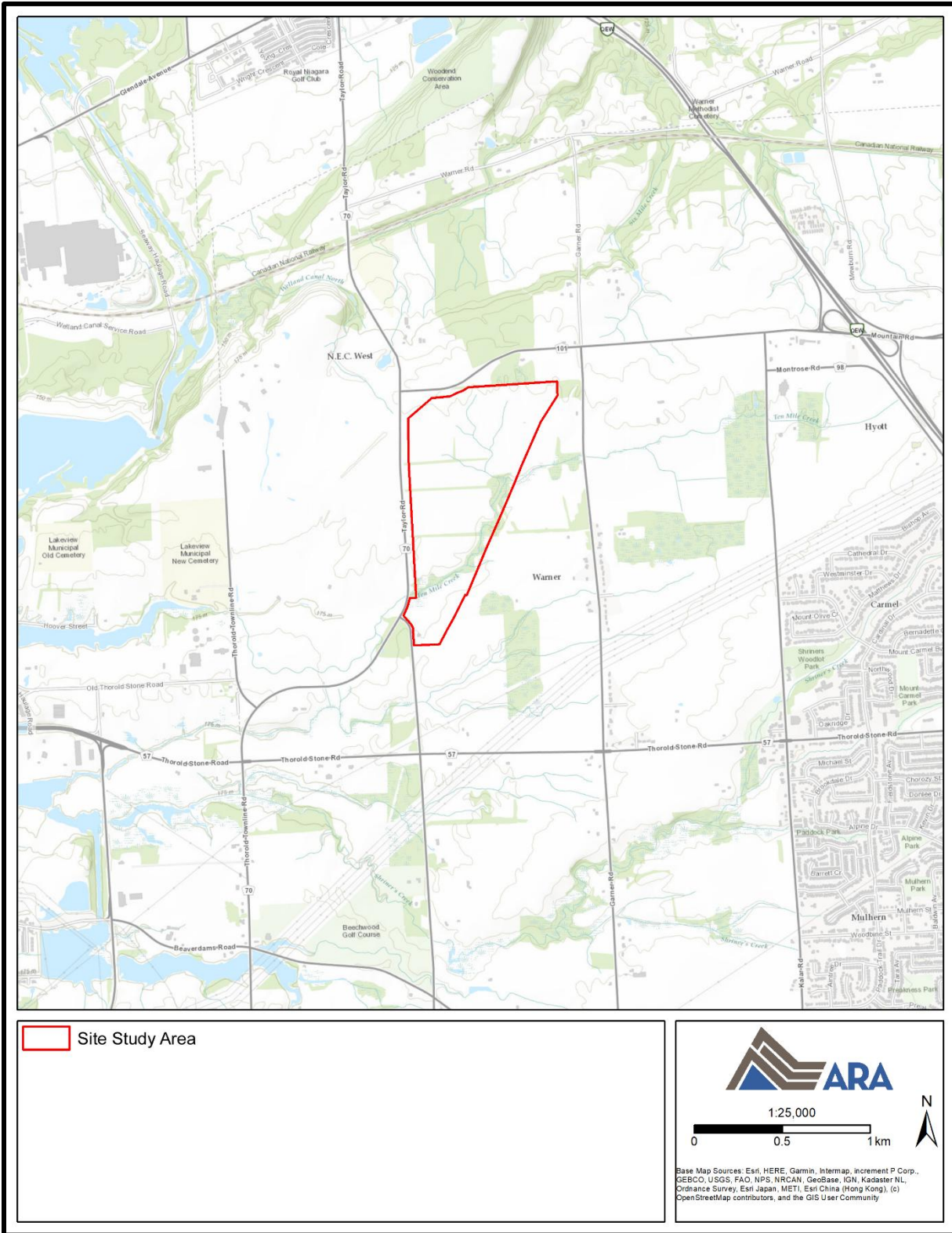
Each test pit must be excavated into at least the first 5 cm of subsoil, and the resultant pits must be examined for stratigraphy, potential features and/or evidence of fill. The soil from each test pit must be screened through mesh with an aperture of no greater than 6 mm and examined for archaeological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

4.0 ADVICE ON COMPLIANCE WITH LEGISLATION

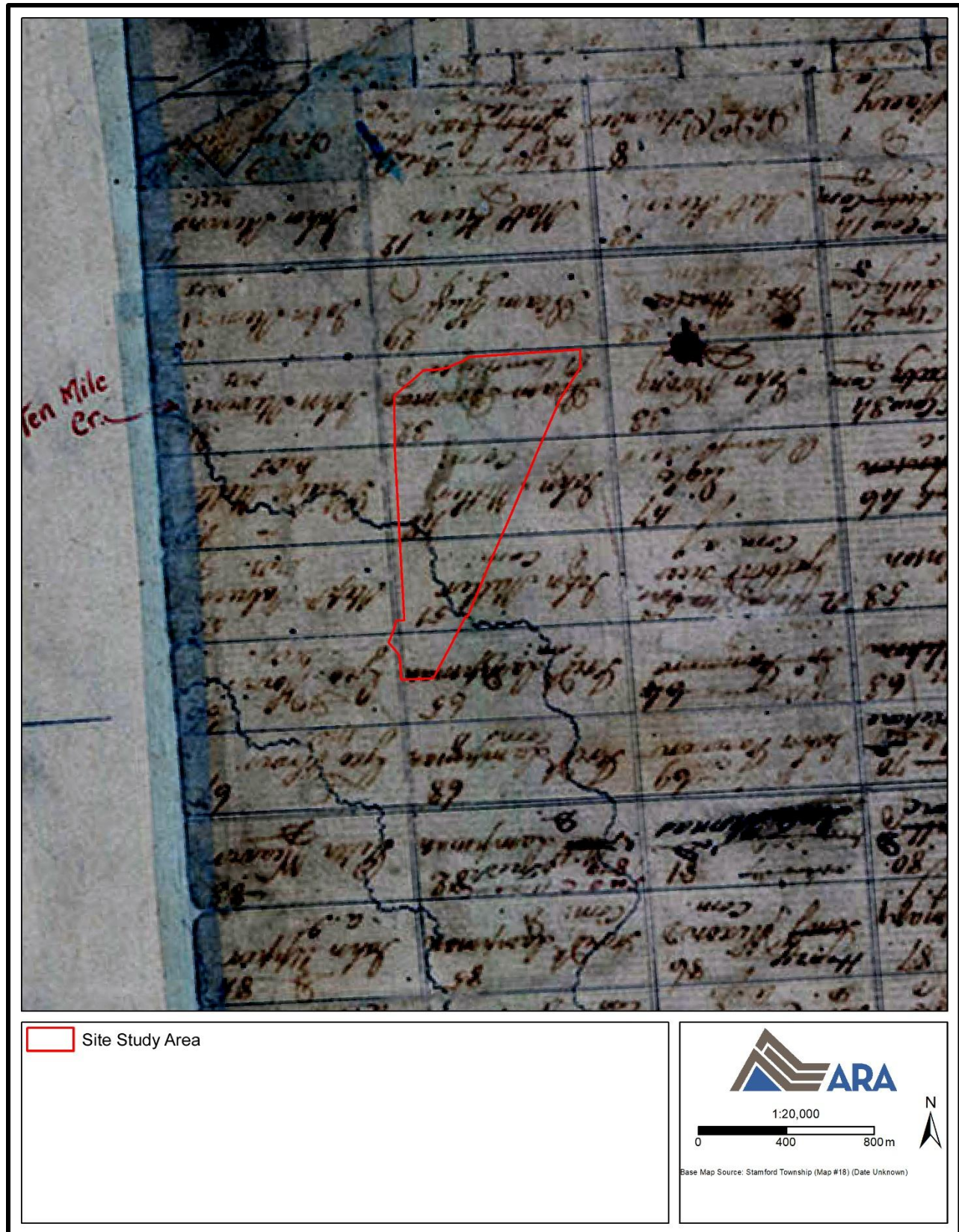
Section 7.5.9 of the 2011 *S&Gs* requires that the following information be provided for the benefit of the proponent and approval authority in the land use planning and development process:

- This report is submitted to the Minister of Citizenship and Multiculturalism 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 MCM, 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 *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 Public and Business Service Delivery.

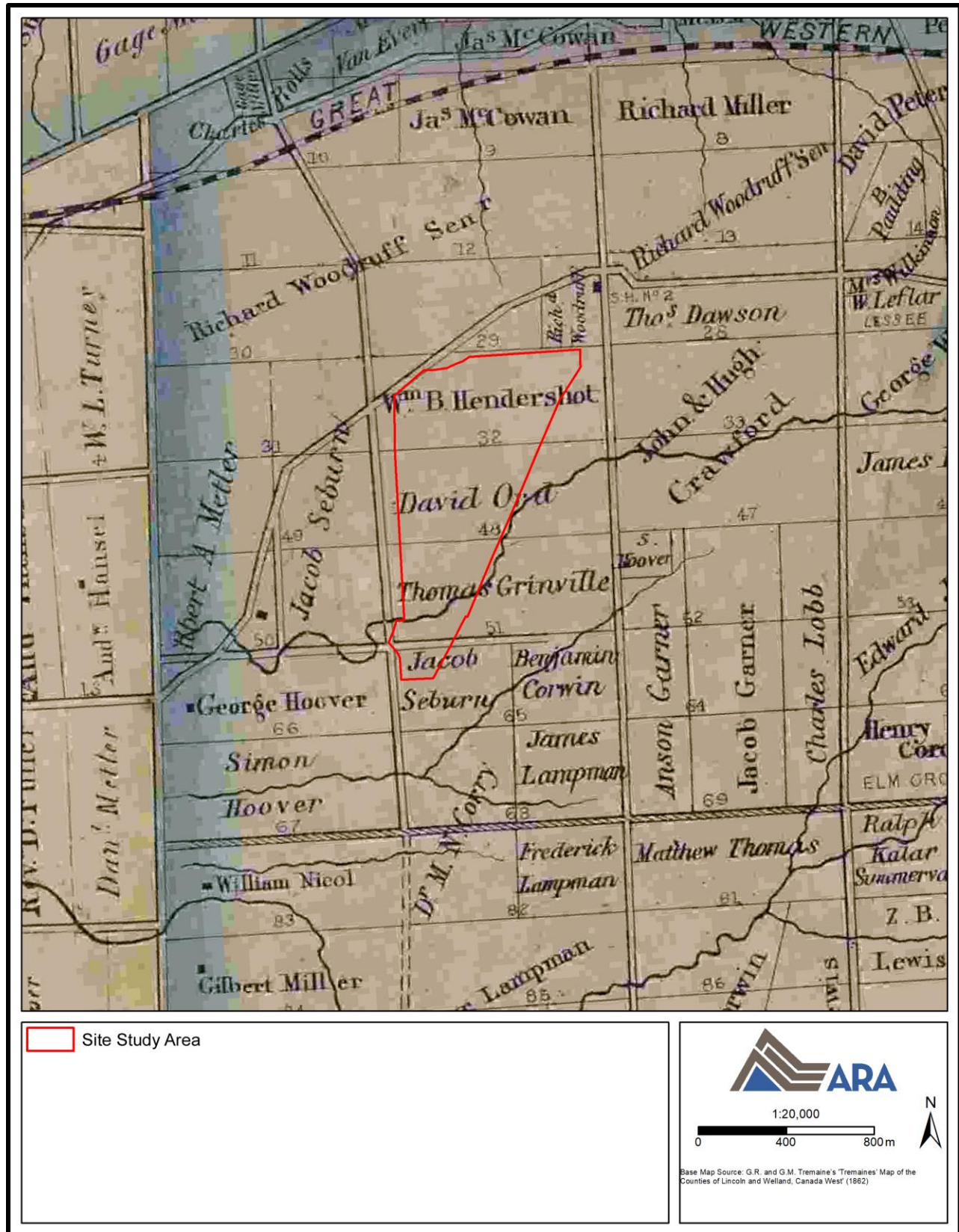
5.0 MAPS



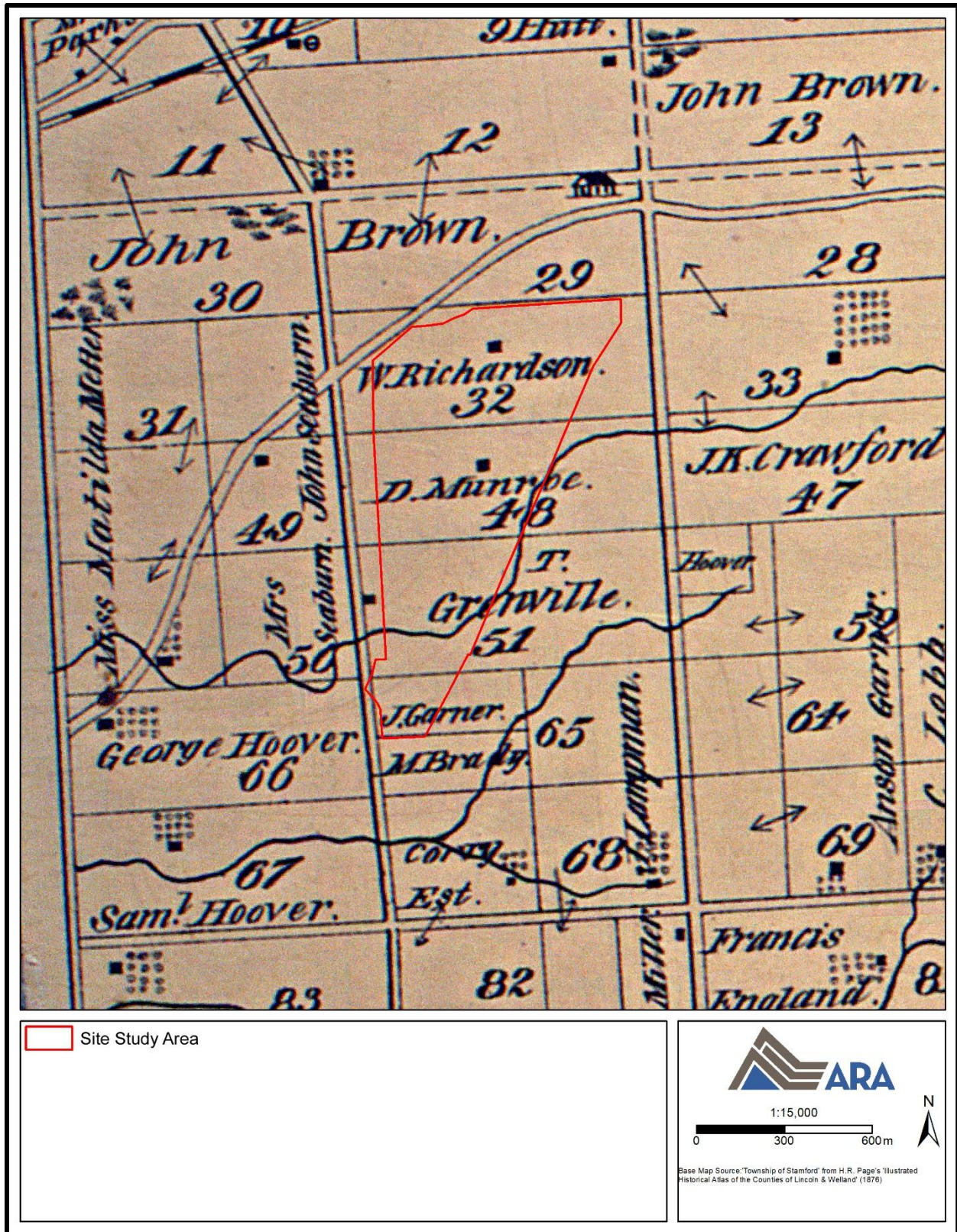
Map 1: Location of the Site Study Area
(Produced under licence using ArcGIS® software by Esri, © Esri)



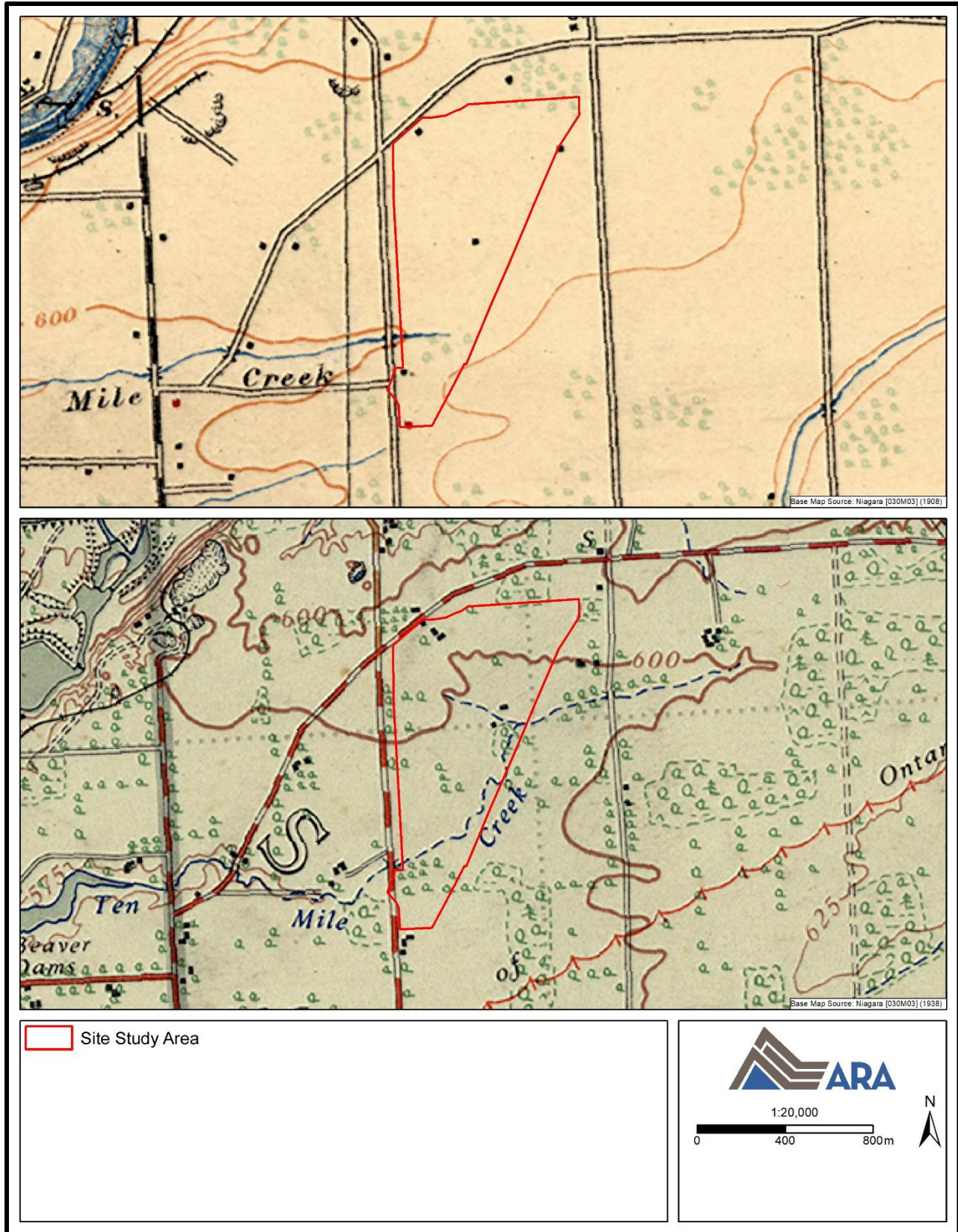
Map 2: Stamford Township Patent Plan (No Date)
(Produced under licence using ArcGIS® software by Esri, © Esri; AO)



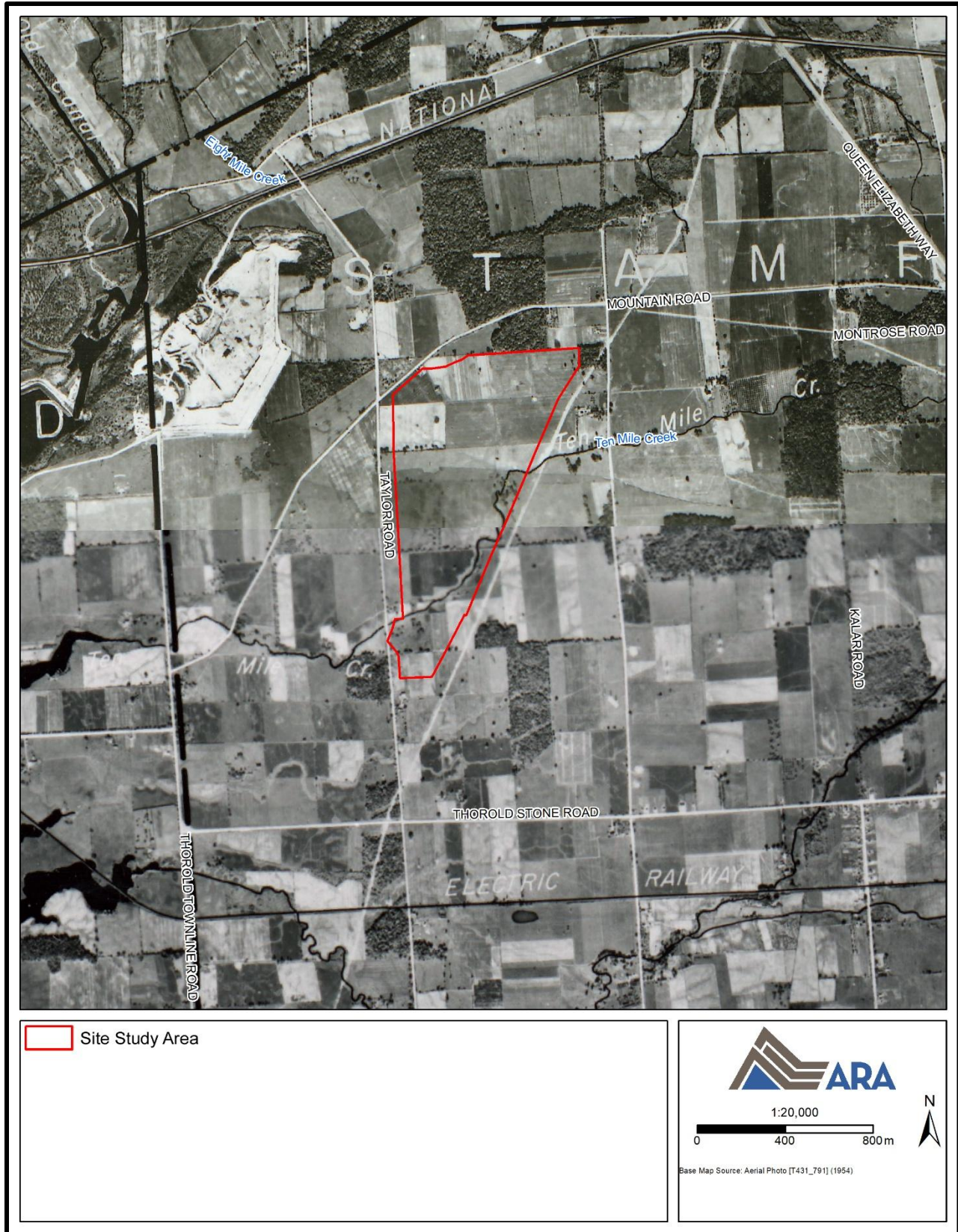
Map 3: Tremaine's Map of the Counties of Lincoln and Welland, Canada West (1862)
(Produced under licence using ArcGIS® software by Esri, © Esri; OHCMP 2019)



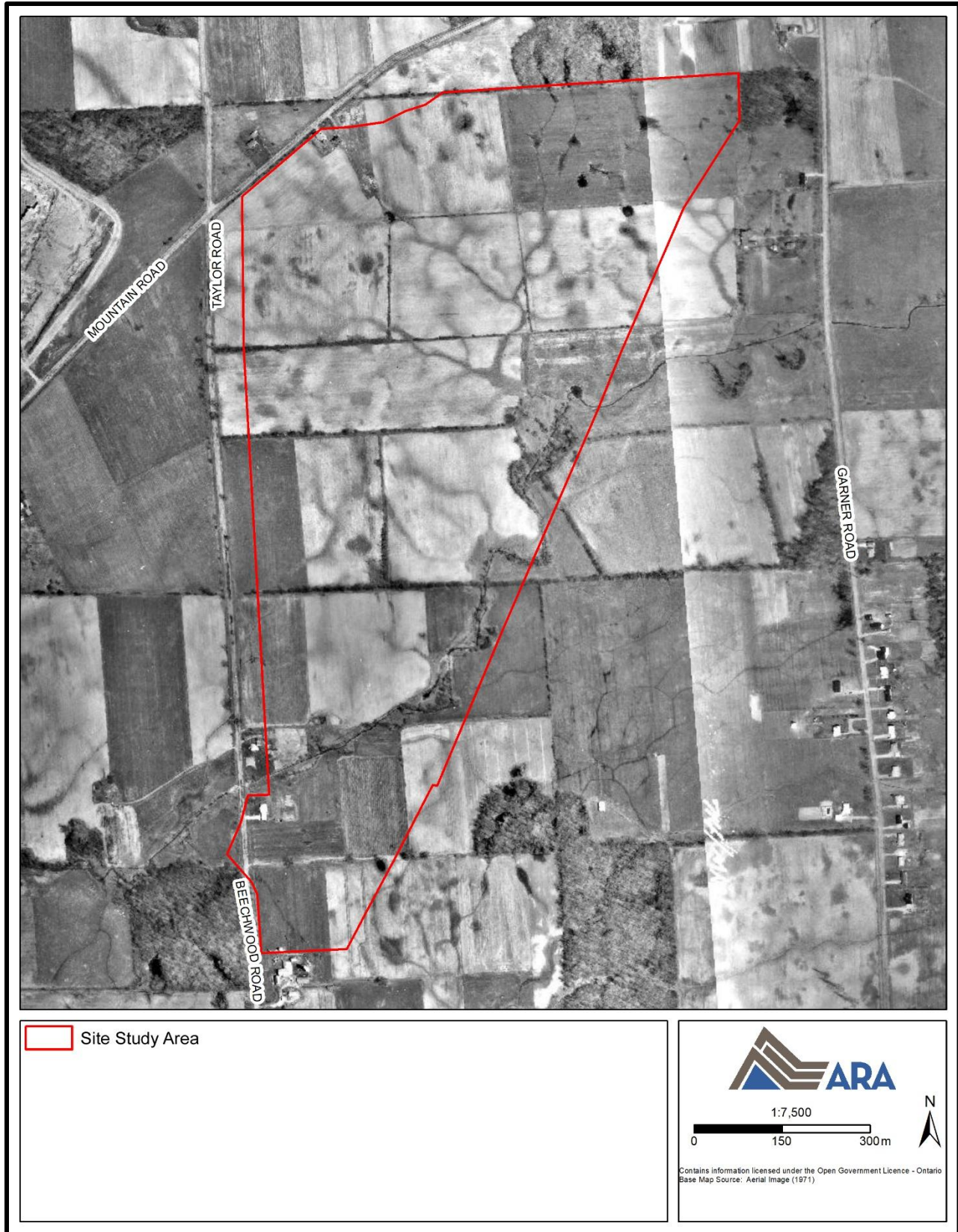
Map 4: Township of Stamford from H.R. Page's Illustrated Historical Atlas of the Counties of Lincoln and Welland, Ont (1876)
(Produced under licence using ArcGIS® software by Esri, © Esri; MU 2001)



Map 5: Topographic Maps (1908 and 1938)
(Produced under licence using ArcGIS® software by Esri, © Esri; OCUL 2025)



Map 6: Aerial Image (1954)
(Produced under licence using ArcGIS® software by Esri, © Esri; U of T 2025)



Map 7: Aerial Image (1971)
(Produced under licence using ArcGIS® software by Esri, © Esri; BU 2025)



Map 8: Aerial Image (1995)
(Produced under licence using ArcGIS® software by Esri, © Esri; BU 2025)

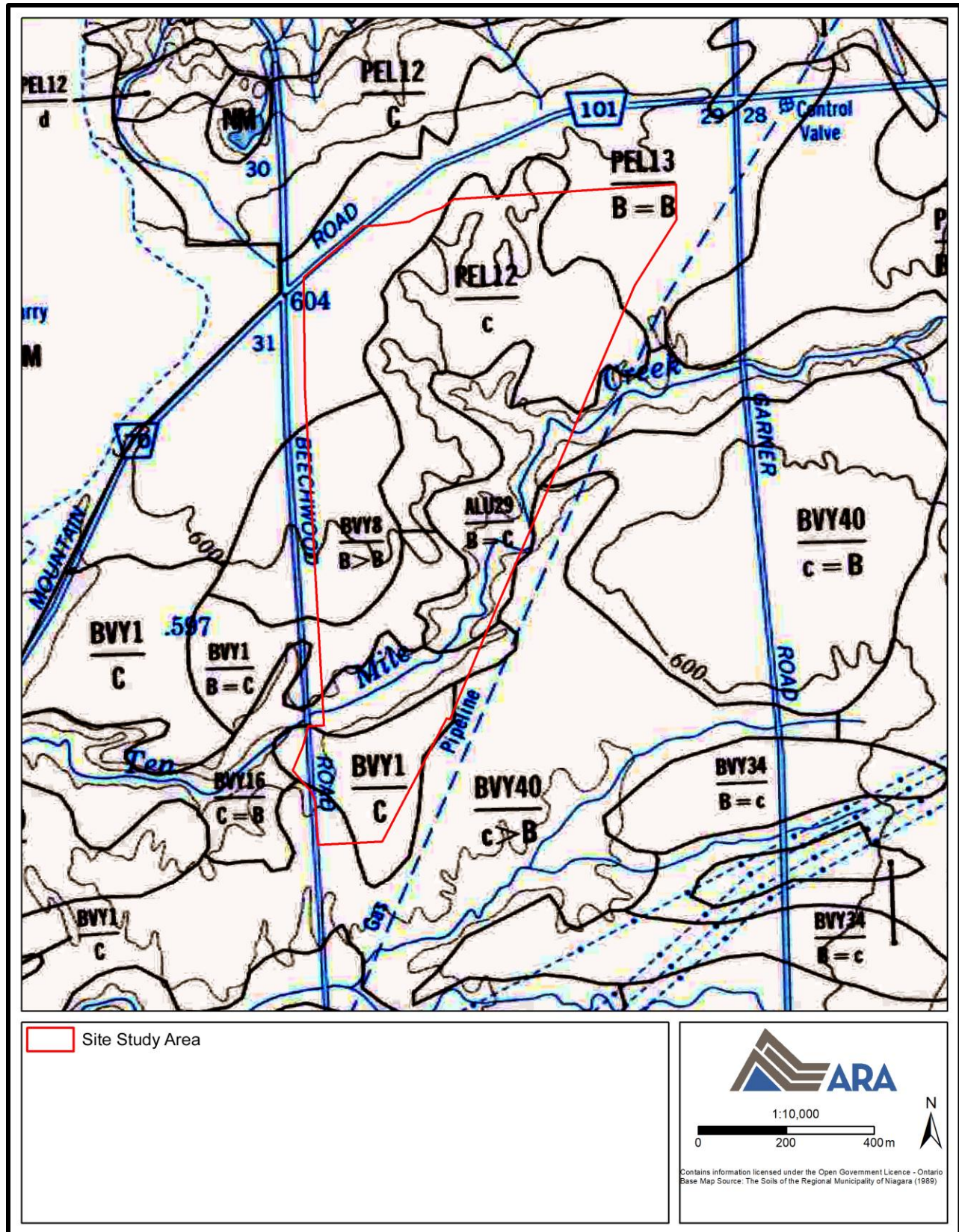


Map 9: Aerial Image (2006)
(Produced under licence using ArcGIS® software by Esri, © Esri; BU 2025)



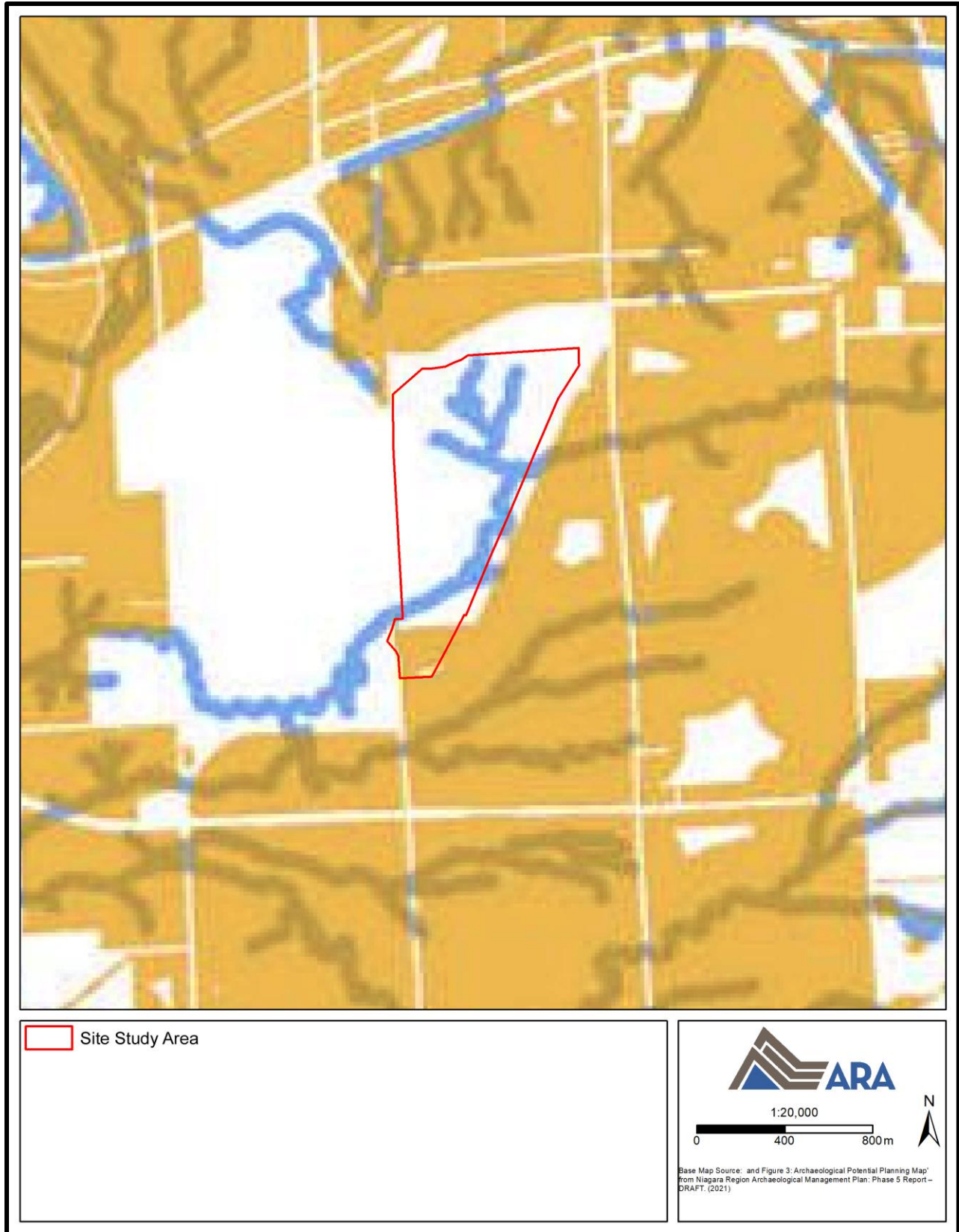


Map 11: Aerial Image (2017)
(Produced under licence using ArcGIS® software by Esri, © Esri; GE 2025b)

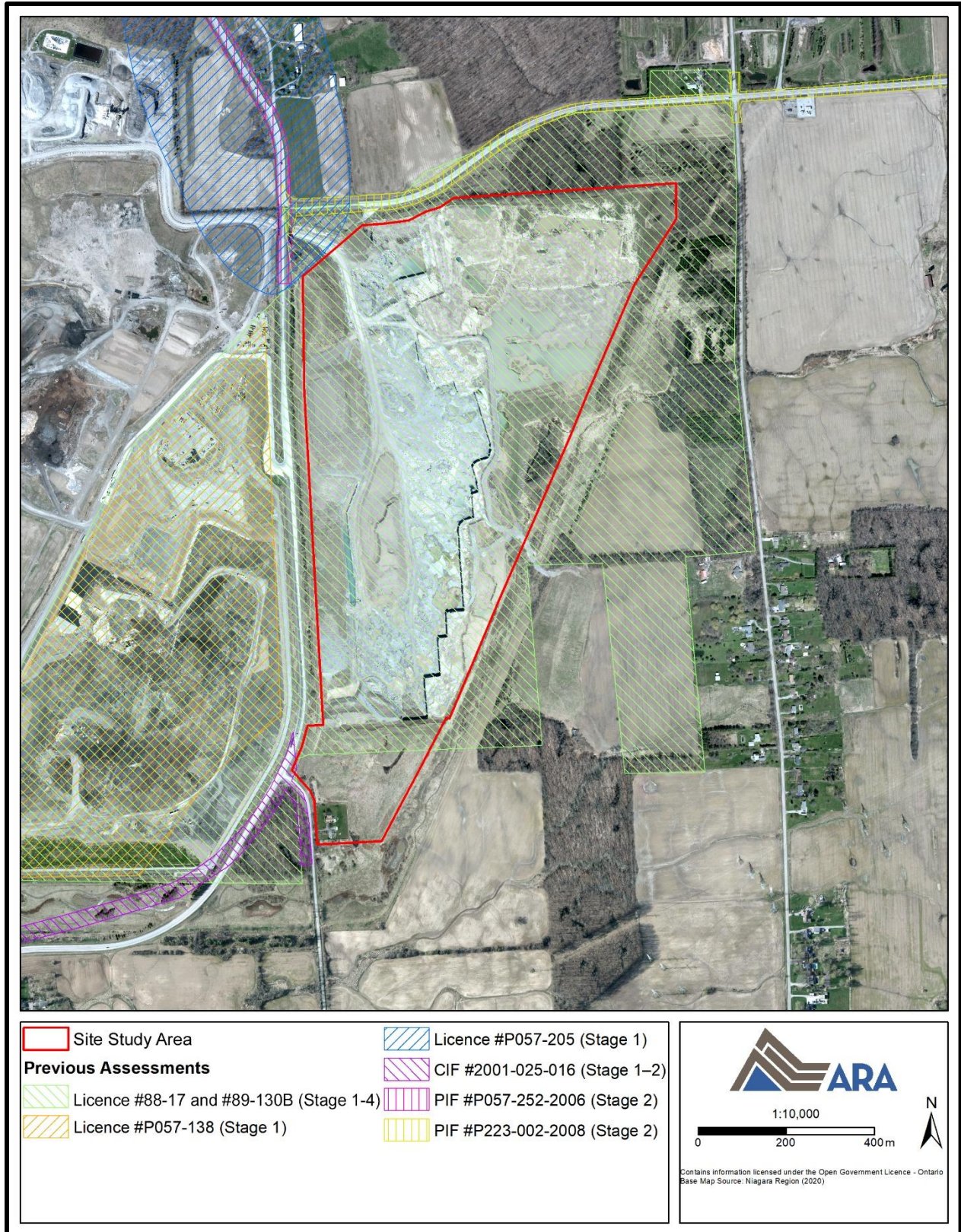


Map 12: Soil Map (1989)

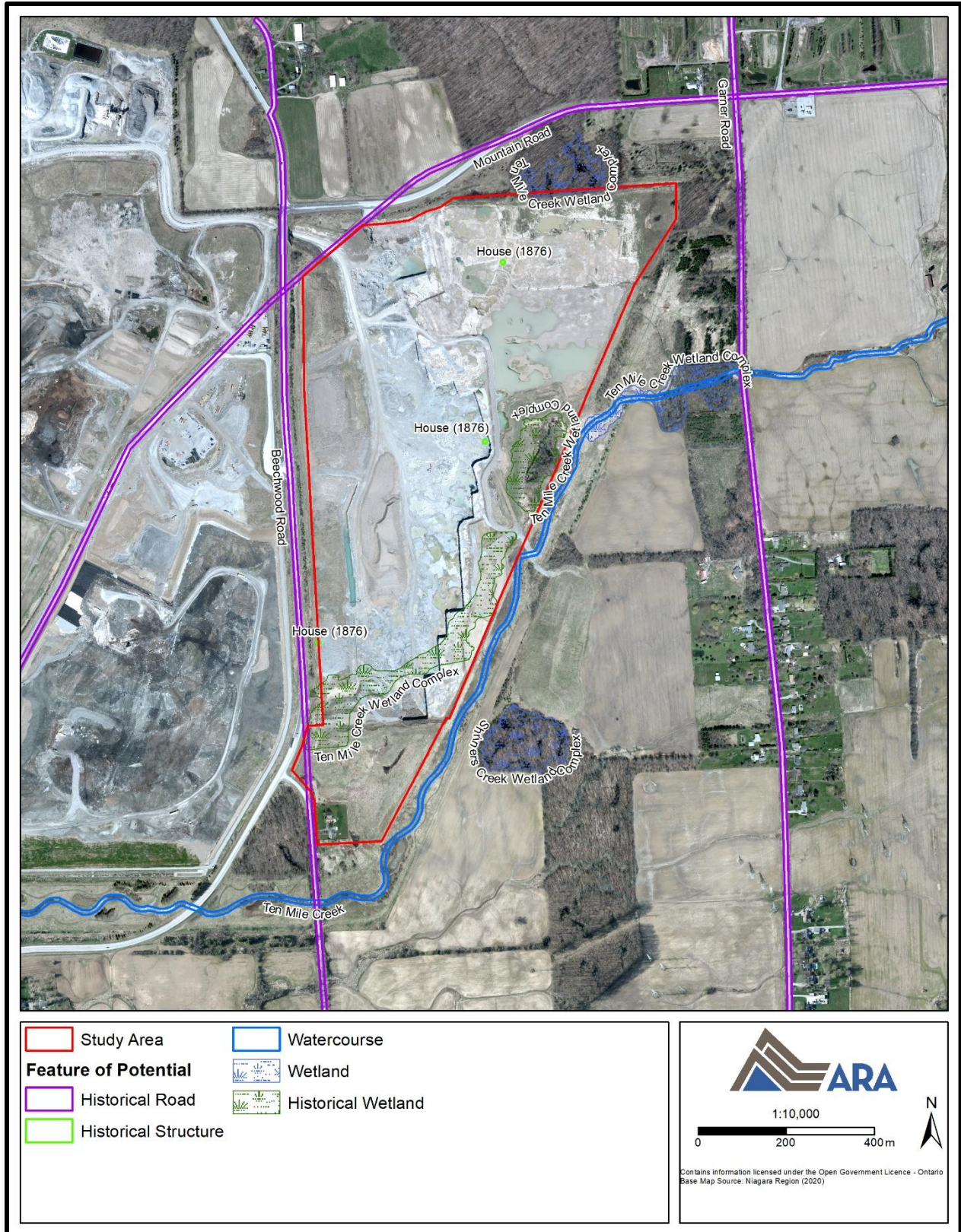
(Produced under licence using ArcGIS® software by Esri, © Esri; Kingston, M.S. and E.W. Present)



Map 13: Regional Municipality of Niagara's Archaeological Management Plan
(Produced under licence using ArcGIS® software by Esri, © Esri; Niagara Region 2025)



Map 14: Previous Assessments
 (Produced under licence using ArcGIS® software y Esri, © Esri)





Map 16: Stage 1 Assessment Results Map
(Produced under licence using ArcGIS® software by Esri, © Esri)

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