Stage 3 Archaeological Assessment
H1 (AgGt-296)
Vacant Lot, Quaker Road

Part of Lot 235,
Geographic Township of Thorold,
Historical County of Welland, now the City of Welland in the
Regional Municipality of Niagara, Ontario

Submitted to:
ePrime Construction Management
4999 Victoria Avenue
Niagara Falls, ON L2E 4C9

and

Ontario's Ministry of Heritage, Sport, Tourism and Culture Industries

Submitted by:

196 Westheights Drive, Kitchener, Ontario, N2N 1J9
Mobile/Office: 519-744-7018
E-mail: garth@golden.net
Web: www.detritusconsulting.ca

Licensee: Walter McCall
License Number: P389
PIF Number: P389-0612-2021
CP Number: 2022-124

ORIGINAL REPORT

November 18, 2022

Executive Summary

Detritus Consulting Ltd. ('Detritus') was retained by ePrime Construction Management ('the Proponent') to conduct a Stage 3 archaeological assessment at archaeological site H1 (AgGt-296) on part of Lot 235 within the Geographic Township of Thorold and historical County of Welland, now the City of Welland within the Regional Municipality of Niagara, Ontario (Figure 1). This investigation was conducted in advance of the construction of a proposed housing development on a vacant lot (the 'Study Area') located on the northern edge of the Town of Welland, to the east of Pelham Corners (Figure 6).

The assessment was triggered by the Provincial Policy Statement ('PPS') that is informed by the *Planning Act* (Government of Ontario, 1990a), which states that decisions affecting planning matters must be consistent with the policies outlined in the larger *Ontario Heritage Act* (Government of Ontario, 1990b). According to Section 2.6.2 of the PPS, "development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved." To meet this condition, a Stage 1-2 assessment was conducted as part of the Site Plan application under archaeological consulting license P389 issued to Dr. Walter McCall by the Ministry of Heritage, Sport, Tourism and Culture Industries ('MHSTCI') and adheres to the archaeological license report requirements under subsection 65 (1) of the *Ontario Heritage Act* (Government of Ontario, 1990b) and the MHSTCI's *Standards and Guidelines for Consultant Archaeologists* ('*Standards and Guidelines*'; Government of Ontario, 2011).

The Study Area was subject to a Stage 2 assessment conducted by Detritus in 2022 (P389-0582-2021) and one site, H1 (AgGt-296), was identified as a middle to late 19th century domestic refuse deposit. The Study Area is a rectangular property measuring approximately 7.1 hectares ('ha') and fronting the southern side of Quaker Road between the residential properties at 555 and 607 Quaker Road. At the time of assessment, most of the property comprised agricultural land bounded by narrow swathes of dense woodlot along its eastern and western sides (Figure 4). The eastern strip extends around the southeastern corner of the Study Area. The remainder of the southern end was occupied by manicured grass. No structures were present within the Study Area.

The Study Area was part of a much larger parcel that was subject to a previous Stage 1 assessment, conducted by Archaeological Services Inc. ('ASI') in 2018 (Archaeological Services Inc., 2018; PIF# P449-0207-2018). The Stage 1 investigation area measured 189ha and was generally bounded by Steve Bauer Trail to the west; various commercial and industrial lots fronting Niagara Street to the east; residential developments, agricultural land, and woodlot to the north; and the campus of Niagara College to the south (Figure 5). Based on the results of ASI's assessment, approximately 99% (187.4ha) of the Stage 1 assessment area exhibited archaeological potential. This potential extended across approximately 80% of the current Study Area, excluding much of the southeastern quadrant. ASI recommended that any future developments within the Study Area be preceded by a Stage 2 field assessment (Archaeological Services Inc., 2018).

The Stage 2 field assessment was conducted on May 9, 2022. The manicured grass and wooded areas were subject to a test pit survey at five-metre intervals. No archaeological material was encountered. The agricultural land was subject to a typical pedestrian survey conducted at five-metre intervals. This investigation resulted in the documentation of a single Euro-Canadian site, registered with the MHSTCI as H1 (AgGt-296). The Stage 2 assessment of H1 (AgGt-296) resulted in the documentation of 233 primarily Euro-Canadian artifacts spanning an area of 37 metres ('m') east to west by 28m north to south in the northeastern corner of the Study Area. A single pre-contact Aboriginal bifacial tool manufactured from Onondaga chert was also recovered. The Euro-Canadian artifacts included almost exclusively ceramics and household artifacts, which comprised 94.8% of the Stage 2 assemblage.

The ceramic assemblage was dominated by sherds of refined white earthenware ('RWE') (82.17%, n=129), most of which (n=114) were undecorated. The decorated pieces featured transfer printed designs in green (n=9), blue (n=4) and black (n=1). Whereas blue and black transfer printed designs were common throughout the 19th century from 1830 onwards, green was common between 1830 and 1845, and again after 1890. The remainder of the ceramic assemblage included

undecorated sherds of stoneware (n=17) and ironstone (n=11), suggestive of a late 19th century occupation. A late 19th century occupation is supported also by the household assemblage, which comprised almost exclusively glassware. Most of the glassware included bottle fragments (n=59), almost two thirds of which were clear and possibly machine manufactured in the late 19th or 20th century. Among the tinted bottle pieces are two bottle finishes, including an amethyst prescription finish and an aqua brandy finish. Both were common from the 1870s to the 1920s. Two pieces of milk glass and a mason jar fragment, also common during this same interval, rounded out the glassware. An unknown animal bone and a pig's tooth rounded out the household artifacts. The remainder of the Euro-Canadian assemblage includes five cut nails, three red brick fragments, two pieces of window glass measuring greater than 1.6 millimetres ('mm') in thickness, and a single Prosser button, all of which are indicative of a middle to late 19th century occupation.

Considering the available evidence, H1 (AgGt-296) was identified as a middle to late 19th century domestic refuse deposit associated with the occupation of G. A. Swayze, who occupied Lot 235 in 1876 according to *The Illustrated Historical Atlas of the Counties of Lincoln and Welland* (Page & Co. 1876). The single biface that was also recovered from H1 (AgGt-296) is not considered to represent a pre-contact occupation of the site. Rather, this isolated lithic artifact further documents the longstanding occupation of the region as a whole prior to the arrival of European settlers, as evidenced by the three sites producing pre-contact Aboriginal artifacts registered within one kilometre ('km') of the Study Area. Based on the results of the Stage 2 field assessment, and the documentation of at least 20 artifacts that date the period of use at the site to before 1900, H1 (AgGt-296) was recommended for Stage 3 assessment.

The Stage 3 assessment of H1 (AgGt-296) was conducted between August 11th and 23rd. This investigation resulted in the recovery of 1,124 Euro-Canadian artifacts from the hand excavation of 68 Stage 3 test units. Artifact yields ranged from 0 to 95. Overall, roughly half (n=33) of the test units contained the majority of the artifacts recovered. In other words, thirteen of the Stage 3 test units yielded above 30 artifacts, twenty yielded between 10 and 20 artifacts, and the remaining thirty-five units yielded less than 10 artifacts. One extra infill unit was placed above the findspot of the single biface recovered during the Stage 2 assessment, no artifacts were recovered from this Stage 3 test unit.

The Stage 3 assemblage included mostly ceramics (n=493), as well as structural (n=360) and household (n=256) artifacts. Most of the ceramics were undecorated (n=473). The decorated pieces comprised 20 RWE sherds featuring transfer printed designs in green (n=7), blue (n=5), brown (n=2), red (n=2), and black (n=1). Whereas blue and black transfer printed designs were common throughout the 19th century from 1830 onwards, green was common between 1830 and 1845, and again after 1890. The presence of brown and red suggest a period of use between 1830 and 1845 during which time all six colours were commonly used. A later 19th century occupation is supported by the presence of stoneware (n=43) and which replaced red earthenware after 1870. Several of the ware types also extend the date range of the assemblage into the latter 19th and early 20th centuries. These include 32 ironstone and 3 porcelain fragments. The presence of these utilitarian wares in the Stage 3 assemblage suggests that the occupation of H1 (AgGt-296) spanned at least the middle to late 19th century.

The structural artifacts recovered from the Stage 3 assessment of H1 (AgGt-296) comprised mostly brick (n=159) and window glass (n=156) as well as some cut nails (n=45). The brick fragments recovered were all orange or red and fragmentary. The majority of window glass fragments (n= 142) measured greater than 1.6 mm in thickness, suggestive of a post-1845 period occupation. Some 45 cut nail fragments were recovered. Cut nails were common from approximately 1830 to 1890 by which time they had been largely supplanted by wire nails The presence of red brick also support a middle to late 19th century occupation. The household artifacts from H1 (AgGt-296) were almost exclusively bottle glass fragments (n=255) in addition to one milk glass fragment. The majority of bottle glass fragments were clear and possibly manufactured in the late 19th or 20th century.

Analysis of the Stage 3 artifact assemblage confirms the Stage 2 identification of a late 19th century domestic refuse pit associated with the occupation the Swayze family, who, according to the Ontario Land Registry occupied Lot 235 from as early as 1873.

Given the period of occupation represented within the artifact assemblage, H1 (AgGt-296) does not fulfill the criteria for a Stage 4 archaeological investigation as per Section 3.4.2 Standard 1a of the *Standards and Guidelines* (Government of Ontario 2011) and does not retain further cultural heritage value or interest ('CHVI'). Therefore, H1 (AgGt-296) is not recommended for Stage 4 archaeological mitigation of impacts.

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

Table of Contents

List of Tables

List of Figures

Project Personnel

Project Manager:	Garth Grimes, P017
Field Director:	Michael Pitul, P462
Field Technician:	Maria Cecchini Courtney Nadon; Emily Marsh Justin "Wyatt" Boutilier Britanee Mason
Report Preparation:	Tina Ross
Mapping and GIS:	Tina Ross
Senior Review:	Garth Grimes, P017

Acknowledgments

Generous contributions by Stephanie Fisher of ePrime Construction Management made this report possible.

1.0 Project Context

1.1 Development Context

Detritus was retained the Proponent to conduct a Stage 3 archaeological assessment at archaeological site H1 (AgGt-296) on part of Lot 235 within the Geographic Township of Thorold and historical County of Welland, now the City of Welland within the Regional Municipality of Niagara, Ontario (Figure 1). This investigation was conducted in advance of the construction of a proposed housing development within the Study Area located on the northern edge of the Town of Welland, to the east of Pelham Corners (Figure 6).

The assessment was triggered by the Provincial Policy Statement ('PPS') that is informed by the *Planning Act* (Government of Ontario, 1990a), which states that decisions affecting planning matters must be consistent with the policies outlined in the larger *Ontario Heritage Act* (Government of Ontario, 1990b). According to Section 2.6.2 of the PPS, "development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved." To meet this condition, a Stage 1-2 assessment was conducted as part of the Site Plan application under archaeological consulting license P389 issued to Dr. Walter McCall by the Ministry of Heritage, Sport, Tourism and Culture Industries ('MHSTCI') and adheres to the archaeological license report requirements under subsection 65 (1) of the *Ontario Heritage Act* (Government of Ontario, 1990b) and the MHSTCI's *Standards and Guidelines for Consultant Archaeologists* ('*Standards and Guidelines*'; Government of Ontario, 2011).

The purpose of a Stage 3 Site Specific Assessment is to assess the cultural heritage value or interest ('CHVI') of a site through a controlled collection of material. This information is used to support a determination of whether the site has been sufficiently documented or if further measures are required to protect or document it fully. In compliance with the *Standards and Guidelines* (Government of Ontario, 2011), the objectives of the Stage 3 assessment at AhGx-795 are:

- To collect a representative sample of artifacts;
- to determine the extent of each archaeological site and the characteristics of the artifacts;
- to assess the CHVI of each archaeological site; and
- to determine the need for mitigation of development impacts and recommend appropriate strategies for mitigation and future conservation.

The licensee received permission from the Proponent to enter the land and conduct all required archaeological fieldwork activities, including the recovery of artifacts.

1.2 Historical Context

1.2.1 Post-Contact Aboriginal Resources

The earliest documented pre-European settlers arrived to the Niagara Peninsula from southwestern Ontario during the 14th century AD, at the peak of Iroquois culture. By 1400, the majority of the region was occupied by an Iroquoian speaking tribe referred to as the Attawandaran (aka the Atiquandaronk or Attouanderonks), who exploited the fertile land and abundant water sources throughout the region for fishing, hunting, and agriculture (Niagara Falls Info, 2022). This moniker was given to the community by the neighbouring Wendat as a slur against their unusual dialect. Those Attawandaran tribes who settled along the Niagara River were referred to as the Onguiaahra (later the Ongiara), which has been loosely translated as one of "the Straight," "the Throat," or "the Thunder of Waters" (Niagara-on-the-Lake, 2016; Niagara-on-the-Lake Realty, 2022). The Town of Niagara-on-the-Lake derives its name from the Onguiaahra village site on which it was founded. The name 'Neutral' was given to the Attawandaran by French explorers who began arriving in the 17th century. This new designation referred to the community's status as peacekeepers between the warring Huron and Iroquois tribes (Niagara Falls Info, 2022).

The earliest recorded European visit to the Niagara region was undertaken by Étienne Brûlé, an interpreter and guide for Samuel de Champlain. In June 1610, Brûlé requested permission to live among the Algonquin people and to learn their language and customs. In return, Champlain agreed to take on a young Huron named Savignon, to teach him the language and customs of the French. The purpose of this endeavour was to establish good relations with Aboriginal communities in advance of future military and colonial enterprises in the area. In 1615, Brûlé joined twelve Huron warriors on a mission to cross enemy territory and seek out the Andaste people, allies of the Huron, to ask for their assistance in an expedition being planned by Champlain (Heindereich, 1990). The mission was a success, but took much longer than anticipated. Brûlé returned with the Andaste two days too late to help Champlain and the Hurons, who had already been defeated by the Iroquois (Heindereich, 1990).

Throughout the middle of the 17th century, the Iroquois of the Five Nations sought to expand upon their territory and to monopolise the local fur trade as well as trade between the European markets and the tribes of the western Great Lakes. A series of bloody conflicts followed known as the Beaver Wars, or the French and Iroquois Wars, were contested between the Iroquois and the French with their Huron and other Algonquian speaking allies of the Great Lakes region. Many communities were destroyed during this protracted conflict including the Huron, Neutral, Erie, Susquehannock, and Shawnee leaving the Iroquois as the dominant group in the region. By 1653 after repeated attacks, the Niagara peninsula and most of Southern Ontario had been vacated. By 1667, all members of the Five Nations had signed a peace treaty with the French and allowed their missionaries to visit their villages (Heindereich, 1990).

Ten years later, hostilities between the French and the Iroquois resumed after the latter formed an alliance with the British through an agreement known as the Covenant Chain (Heindereich, 1990). In 1696, an aging Louis de Buade, Comte de Frontenac et de Palluau, the Governor General of New France, rallied the Algonquin forces and drove the Iroquois out of the territories north of Lake Erie, as well as those to the west of present-day Cleveland, Ohio. A second treaty was concluded between the French and the Iroquois in 1701, after which the Iroquois remained mostly neutral (Noble, 1978; Jameison, 1992).

Throughout the late 17th and early 18th centuries, various Iroquoian-speaking communities had been migrating into southern Ontario from New York State. In 1722, the Five Nations adopted the Tuscarora in New York becoming the Six Nations (Pendergast, 1995). This period also marks the arrival of the Mississaugas into Southern Ontario and, in particular, the watersheds of the lower Great Lakes (Konrad, 2003; Schmalz, 1991). The oral traditions of the Mississaugas, as told by Chief Robert Paudash suggest that the Mississaugas defeated the Mohawk nation, who retreated to their homeland south of Lake Ontario. Following this conflict, a peace treaty was negotiated and, at the end of the 17th century, the Mississaugas settled permanently in Southern Ontario (Praxis Research Associates, n.d.). Around this same time, members of the Three Fires Confederacy (the Chippewa, Ottawa, and Potawatomi) began immigrating from Ohio and Michigan into southwestern Ontario (Feest & Feest, 1978)

The Study Area first entered the Euro-Canadian historical record on December 7th, 1792 as part of Treaty No. 3, which included land acquired in the 'Between the Lakes Purchase' dating to May 22, 1784. According to the terms of the treaty, the Mississaugas ceded to the Crown approximately 3,000,000 acres of land between Lake Huron, Lake Erie, and Lake Ontario in return for trade goods valued at £1180.

The limits of the Treaty 3 lands are documented as comprising,

> *Lincoln County excepting Niagara Township; Saltfleet, Binbrook, Barton, Glanford and Ancaster Townships, in Wentworth County; Brantford, Onondaga, Tusc[a]r[o]ra, Oakland and Burford Townships in Brant County; East and West Oxford, North and South Norwich, and Dereham Townships in Oxford County; North Dorchester Township in Middlesex County; South Dorchester, Malahide and Bayham Township in Elgin County; all Norfolk and Haldimand Counties; Pelham, Wainfleet, Thorold, Cumberland and Humberstone Townships in Welland County.*
>
> Morris, 1943, pp. 17-8

One of the stated objectives of the Between the Lakes Purchase was "to procure for that part of the Six Nation Indians coming into Canada a permanent abode" (Morris, 1943, p. 17). Shortly after the transaction had been finalised in May of 1784, Sir Frederick Haldimand, the Governor of Québec, made preparations to grant a portion of land to those Six Nations who remained loyal to the Crown during the American War of Independence. More specifically, Haldimand arranged for the purchase of approximately 550,000 acres of land adjacent to the Treaty 3 limits from the Mississaugas. This tract of land, referred to as either the Haldimand Tract or the 1795 Crown Grant to the Six Nations, was provided for in the Haldimand Proclamation of October 25th, 1784 and was intended to extend a distance of six miles on each side of the Grand River from mouth to source (Weaver, 1978). By the end of 1784, representatives from each constituent nation of the Six Nations, as well as other allies, relocated to the Haldimand Tract with Joseph Brant (Weaver, 1978; Tanner, 1987).

Throughout southern Ontario, the size and nature of the pre-contact settlements and the subsequent spread and distribution of Aboriginal material culture began to shift with the establishment of European settlers. By 1834 it was accepted by the Crown that losses of portions of the Haldimand Tract to Euro-Canadian settlers were too numerous for all lands to be returned. Lands in the Lower Grand River area were surrendered by the Six Nations to the British Government in 1832, at which point most Six Nations people moved into Tuscarora Township in Brant County and a narrow portion of Oneida Township (Page, 1879; Weaver, 1978; Tanner, 1987). Following a decline in population and the surrender of most of their lands along the Credit River, the Mississaugas were given 6000 acres of land on the Six Nations Reserve, establishing the Mississaugas of New Credit First Nation, now the Mississaugas of the Credit First Nation ('MCFN'), in 1847 (Smith, 2022).

Despite the encroachment of European settlers on previously established Aboriginal territories, "written accounts of material life and livelihood, the correlation of historically recorded villages to their archaeological manifestations, and the similarities of those sites to more ancient sites have revealed an antiquity to documented cultural expressions that confirms a deep historical continuity to Iroquoian systems of ideology and thought" (Ferris, 2009). As Ferris observes, despite the arrival of a competing culture, First Nations communities throughout Southern Ontario have left behind archaeologically significant resources that demonstrate continuity with their pre-contact predecessors, even if they have not been recorded extensively in historical Euro-Canadian documentation.

1.2.2 Euro-Canadian Land Use

The current Study Area is located on part of Lot 235 within the Geographic Township of Thorold and historical County of Welland, now the City of Welland within the Regional Municipality of Niagara, Ontario.

The history of the region began in 1763, when the Treaty of Paris brought an end to the Seven Years War, contested between the French and the British and their respective allies. Under the Royal Proclamation of that same year, the large stretch of land from Labrador in the east, moving southwest through the Saint Lawrence River Valley to the Great Lakes, and on to the confluence of the Ohio and Mississippi Rivers became the British Province of Québec (Niagara Historical Society and Museum, 2008).

On July 24, 1788, Sir Guy Carleton, the Governor-General of British North America, divided the Province of Québec into the administrative districts of Hesse, Nassau, Mecklenburg, and Lunenburg (Archives of Ontario, 2012-2015). Further change came in December 1791 when the former province was rearranged into Upper Canada and Lower Canada under the provisions of the Constitutional Act. Colonel John Graves Simcoe was appointed as Lieutenant-Governor of Upper Canada and he spearheaded several initiatives to populate the province including the establishment of shoreline communities with effective transportation links between them (Coyne, 1895).

In July 1792, Simcoe divided Upper Canada into 19 counties stretching from Essex in the west to Glengarry in the east. Each new county was named after a county in England or Scotland; the constituent townships were then given the names of the corresponding townships from each original British county (Powell & Coffman, 1956).

Later that year, the four districts originally established in 1788 were renamed the Western, Home, Midland, and Eastern Districts. As population levels in Upper Canada increased, smaller and more manageable administrative bodies were needed resulting in the establishment of many new counties and townships. As part of this realignment, the boundaries of the Home and Western Districts were shifted and the London and Niagara Districts were established. Under this new territorial arrangement, the Study Area became part of the Niagara District (Archives of Ontario, 2012-2015). In 1845, after years of increasing settlement that began after the War of 1812, the southern portion of Lincoln County was severed to form Welland County. The two counties would be amalgamated once again in 1970 to form the Regional Municipality of Niagara.

The *Tremaine's Map of the Counties of Lincoln and Welland, Canada West* (the '*Tremaine Map*'; Tremaine, 1862) demonstrates the extent to which Thorold Township had been settled by 1862 (Figure 2). Landowners are listed for every lot within the township, many of which had been subdivided multiple times into smaller parcels to accommodate an increasing population throughout the late 19th century. Structures are prevalent throughout the township, almost all of which front early roads. The Study Area occupies the northwestern quadrant of Lot 235. According to the Tremaine map, A. Killman occupied the entire lot. No structures are illustrated on the property.

According to the *Illustrated Historical Atlas of the Counties of Lincoln and Welland* ('*Historical Atlas*;' Page, 1876), by 1876, the western third of Lot 235 had been subdivided into two smaller parcels. G. A. Swayze owned the western third, which corresponds with the current Study Area and E. Sisler is identified as the owner of the rest of Lot 235 (Page, 1876). No structures or orchards are illustrated on the Swayze property. It should be recognized that historical county atlases were funded by subscriptions fees and were produced primarily to identify factories, offices, residences and landholdings of subscribers. Landowners who did not subscribe were not always listed on the maps (Caston, 1997). Moreover, associated structures were not necessarily depicted or placed accurately (Gentilcore & Head, 1984).

Looking farther afield, the Welland Canal and the Welland River can be observed to the east of the Study Area, and the communities of Port Robinson and Allanburgh to the northeast, linked by a branch of the Wellington Railroad.

1.2.3 Land Registry Record

H1 (AgGt-296) occupies the northwestern quadrant of Lot 235 within the Geographic Township of Thorold. As per Section 3.1, Standard 1d of the *Standards and Guidelines* (Government of Ontario, 2011), the Land Registry Records for this lot were consulted (Government of Ontario, 2022). The records for the transactions showing the relevant chain of title are shown in Table 1 below.

According to the available data, the Crown Patent for 100 acres of Lot 235 was granted to Honorable Robert Hamilton on December 15th, 1796. On January 14th, 1809, the Lot passed to William Dickinson and Thomas Clarke as executors of the estate. The property was sold to Robert Spencer on June 26th, 1820, from which point the Lot began to be divided, but it, as well as part of adjacent Lot 236, stayed in the Spencer family for the next several decades. Robert Spencer sold a portion of the lot to each of his sons, Thomas and Adam Spencer, on September 12th,1853. It is geographically unclear which portions of Lot 235 and 236 were granted to each son, but 93 acres was sold to Adam Spencer and 85 acres to Thomas Spencer. On April 4th, 1859, Adam Spencer sold his 93 acres to Adam Killman, who is shown as landowner of the entire Lot 235 on the 1867 *Tremaine Map*. On this same map, Thomas Spencer is shown as owner of a portion of the adjacent Lot 236. Based on this map, it appears that Killman acquired all 100 acres of Lot 235.

Adam Killman began dividing the lot in 1867 when he sold 65 acres to James Reilly on December 16th of that year. This eastern two-thirds of the Lot sits outside the Study Area and passed through several owners in relatively quick succession before coming to Edward Sisler on September 16th, 1873. The 1876 *Historical Atlas* shows E. Sisler as owner and depicts a structure and orchard along the central portion of the property.

Returning to the portion of Lot 235 containing the Study Area, apparently Thomas Spencer still retained right of sale to this parcel because he sold these 35 acres to William Swayze on September 23rd, 1873. On December 10th, 1879 William Swayze sold 85 acres of Lot 236 and 235 to George A.

Swayze. The 1876 *Historical Atlas* shows that G. A. Swayze owned the eastern one-third of Lot 235 as well as the Eastern half of Lot 236. The line of transfer is somewhat unclear as to exactly which portions of the Lots are transferred, but between the Land Registry and the historical maps, it is clear that the Spencer and Swayze families owned the majority of the Lot 235 throughout the majority of the 19th century and between fathers, sons, and brothers the land was divided variously amongst them, until 1881 when George A. Swayze sold all 85 acres on Lot 235 and 236 to James Emmet. Around the same time, 1878, John Kelly acquired all 65 acres from Edward Sisler in the portion of Lot 235 adjacent to the Study Area.

For the last two decades of the 19th century, the land ownership changes several times in quick succession and begins being divided further in 1885, 1888, 1890, 1896, 1898, and 1900. Much of the Land Registry is crossed out and often the quantity of land is illegible. Based on the artifact assemblage of H1 (AgGt-296), however, it would appear that the majority of the artifacts date to the period of occupation of the Spencer and Swayze families. During the end of the 19th century, it seems that the ownership of the property was in flux and thus it is not likely that a significant occupation took place on the property until much later. The property seems to have remained agricultural land, while the southern portion of the lot was divided multiple times until the late 1990s when it was developed into residential properties.

Table 1: Land Registry Data for Lot 235, Thorold Township

date	Type	Lot	Amount	Grantor	Grantee
Dec. 15, 1796	Patent	235	100 acres	Crown	Hon. Robert Hamilton
Jan. 14, 1809 to 1864	will	235	100 acres	Hon. Robert Hamilton	William Dickinson and Thomas Clarke Exs
June 26, 1820	B & S	235	100 acres	William Dickson and Thomas Clarke, Exs	Robert Spencer
Sept. 12, 1853	B & S	235 and 236	93 acres	Robert Spencer	Adam Spencer
Sept. 12, 1853	B & S	235 and 236	85 acres	Robert Spencer	Thomas Spencer
April 4, 1859	B & S	235 and 236	93 acres	Adam Spencer et ux	Adam Killman
Dec. 19, 1867	B & S	235	65 acres	Adam Killman	James Reilly
Sept.9 1870	B & S	235	65 acres	James Reilly et ux	Owen S.
Oct. 14 1871	B & S	235	65 acres	Owen S.	John Sider
Sept. 16 1873	B & S	235	65 acres	John Sider et ux	Edward Sisler
Sept. 23, 1873	B & S	235	35 acres	Thomas Spencer	William H. Swayze
Jan. 29, 1878	B & S	235	65 acres	Edward Sisler	John Kelly
Dec. 10, 1879	B & S	235 and 236	85 acres	William H. Swayze	George A. Swazye
Sept. 26, 1881	mort	235 and 236	85 acres	George A. Swazye	James O. Emmett
Sept. 9, 1882	B & S	235	65 acres	John Kelly	illegible

1.2.3 Recent Reports

The Study Area was part of a much larger parcel that was subject to a previous Stage 1 assessment, conducted ASI in 2018, PIF# P449-0207-2018 and documented in the following assessment report;

> *Stage 1 Archaeological Assessment of the Northwest Welland Secondary Plan, Part of Lots 174, 175, 176, 226, 227, 228, 233, 234, 235 and 236, Geographic Township of Thorold, Welland County, City of Welland, Regional Municipality of Niagara* (Archaeological Services Inc., 2018).

The results of this investigation will be discussed in greater detail below in Section 1.3.4.

H1 (AgGt-296) was discovered during a Stage 2 assessment of the Study Area, conducted by Detritus on May 9, 2022 (PIF# P389-0582-2021) and documented in the following assessment report;

> *Stage 2 archaeological assessment on Lot 235 within the Geographic Township of Thorold and historical County of Welland, now the City of Welland within the Regional Municipality of Niagara, Ontario* (Detritus, 2022)

The results of this investigation will be discussed in greater detail below in Section 1.3.4.

1.3 Archaeological Context

1.3.1 Property Description and Physical Setting

The Study Area was subject to a Stage 2 assessment conducted by Detritus in 2022 (P389-0582-2021) and one site, H1 (AgGt-296) was identified and identified as a middle to late 19th century domestic refuse deposit. The Study Area is a rectangular property measuring approximately 7.1ha and fronting the southern side of Quaker Road between the residential properties at 555 and 607 Quaker Road. At the time of assessment, most of the property comprised agricultural land bounded by narrow swathes of dense woodlot along its eastern and western sides (Figure 4). The eastern strip extends around the southeastern corner of the Study Area. The remainder of the southern end was occupied by manicured grass. No structures were present within the Study Area.

The majority of the region surrounding the Study Area has been subject to European-style agricultural practices for over 100 years, having been settled by Euro-Canadian farmers by the early 19th century. Much of the region today continues to be used for agricultural purposes and more recently residential developments.

The Study Area is located within the Haldimand Clay Plain. According to Chapman and Putnam...

> *...although it was all submerged in Lake Warren, the till is not all buried by stratified clay; it comes to the surface generally in low morainic ridges in the north. In fact, there is in that area a confused intermixture of stratified clay and till. The northern part has more relief than the southern part where the typically level lake plains occur.*
>
> Chapman & Putnam, 1984, p. 156

Haldimand clay is slowly permeable, imperfectly drained with medium to high water-holding capacities. Surface runoff is usually rapid, but water retention of the clayey soils can cause it to be droughty during dry periods (Kingston & Presant, 1989). The soil is suitable for corn and soybeans in rotation with cereal grains as well as alfalfa and clover (Huffman & Dumanski, 1986).

The Niagara Region as a whole is located within the Deciduous Forest Region of Canada, and contains tree species which are typical of the more northern Great Lakes-St. Lawrence Biotic zone, such as beech, sugar maple, white elm, basswood, white oak and butternut (MacDonald & Cooper, 1997). During pre-contact and early contact times, the land in the vicinity of the Study Area comprised a mixture of hardwood trees such as sugar maple, beech, oak and cherry. This pattern of forest cover is characteristic of areas of clay soil within the Maple-Hemlock Section of the Great Lakes-St. Lawrence Forest Province-Cool Temperate Division (McAndrews & Manville, 1987). In the early 19th, Euro-Canadian settlers began to clear the forests for agricultural purposes.

The closest source of potable water is a tributary of the Welland River roughly 350m to the north of H1 (AgGt-296). The Welland River itself is located approximately 2.8km to the east of the Study Area.

1.3.2 Pre-Contact Aboriginal Land Use

The Study Area is situated in a portion of Southwestern Ontario has been occupied by people as far back as 11,000 years ago as the glaciers retreated. For the majority of this time, people were practicing hunter gatherer lifestyles with a gradual move towards more extensive farming practices.

Table 2 provides a general outline of the cultural chronology of Thorold Township (Ellis & Ferris, 1990).

Table 2: Cultural Chronology for Thorold Township

Time Period	Cultural Period	Comments
9500–7000 BC	Paleo Indian	first human occupation hunters of caribou and other extinct Pleistocene game nomadic, small band society
7500–1000 BC	Archaic	ceremonial burials increasing trade network hunter gatherers
1000–400 BC	Early Woodland	large and small camps spring congregation/fall dispersal introduction of pottery
400 BC–AD 800	Middle Woodland	kinship based political system incipient horticulture long distance trade network
AD 800–1300	Early Iroquoian (Late Woodland)	limited agriculture developing hamlets and villages
AD 1300–1400	Middle Iroquoian (Late Woodland)	shift to agriculture complete increasing political complexity large, palisaded villages
AD 1400–1650	Late Iroquoian	regional warfare and political/tribal alliances destruction of Huron and Neutral

1.3.3 Previous Identified Archaeological Work

In order to compile an inventory of known archaeological resources in the vicinity of the Study Area, Detritus consulted the ASDB. The ASDB, which is maintained by the MHSTCI (Government of Ontario, n.d.), contains information concerning archaeological sites that have been registered according to the Borden system. Under the Borden system, Canada is divided into grid blocks based on latitude and longitude. A Borden Block is approximately 13km east to west and approximately 18.5km north to south. Each Borden Block is referenced by a four-letter designator and sites within a block are numbered sequentially as they are found. The Study Area lies within block AgGt.

Information concerning specific site locations is protected by provincial policy and is not fully subject to the *Freedom of Information and Protection of Privacy Act* (Government of Ontario, 1990c). The release of such information in the past has led to looting or various forms of illegally conducted site destruction. Confidentiality extends to all media capable of conveying location, including maps, drawings, or textual descriptions of a site location. The MHSTCI will provide information concerning site location to the party or an agent of the party holding title to a property, or to a licensed archaeologist with relevant cultural resource management interests.

According to the ASDB, four sites have been registered within a 1km radius of the Study Area (Table 3). Three of the four were pre-contact Aboriginal sites dating to the Early Archaic, Late Archaic and Early Woodland periods respectively. The other is a post-contact Euro-Canadian residential site.

Table 3: Registered Sites in the Vicinity of the Study Area

Borden #	Site Name	Time Period	Affinity	Site Type
AgGt-36	Quaker Park	Early Archaic	Aboriginal	camp/campsite
AgGt-44	Milburn	Late Archaic	Aboriginal	camp/campsite
AgGt-45		Early Woodland	Aboriginal	findspot
AgGt-269		Post-Contact	Euro-Canadian	residential

To the best of Detritus' knowledge, no sites, including those tabulated above, have been observed within 50m of the Study Area and no assessments have been conducted on lands adjacent to it.

1.3.4 Summary of Previous Investigations

As was noted above in Section 1.2.5, the Study Area was part of a much larger parcel that was subject to a previous Stage 1 assessment, conducted by ASI in 2018 (Archaeological Services Inc., 2018;

PIF# P449-0207-2018). The Stage 1 investigation area measured 189ha and was generally bounded by Steve Bauer Trail to the west; various commercial and industrial lots fronting Niagara Street to the east; residential developments, agricultural land, and woodlot to the north; and the campus of Niagara College to the south (Figure 5). Based on the results of ASI's assessment, approximately 99% (187.4ha) of the Stage 1 assessment area exhibited archaeological potential. This potential extended across approximately 80% of the current Study Area, excluding much of the southeastern quadrant. ASI recommended that any future developments within the Study Area be preceded by a Stage 2 field assessment (Archaeological Services Inc., 2018).

The Stage 2 field assessment was conducted on May 9, 2022. The manicured grass and wooded areas were subject to a test pit survey at five-metre intervals. No archaeological material was encountered. The agricultural land was subject to a typical pedestrian survey conducted at five-metre intervals. This investigation resulted in the documentation of a single Euro-Canadian site, registered with the MHSTCI as H1 (AgGt-296). The Stage 2 assessment of H1 (AgGt-296) resulted in the documentation of 233 primarily Euro-Canadian artifacts spanning an area of 37m east to west by 28m north to south in the northeastern corner of the Study Area. A single pre-contact Aboriginal bifacial tool manufactured from Onondaga chert was also recovered. The Euro-Canadian artifacts included almost exclusively ceramics and household artifacts, which comprised 94.8% of the Stage 2 assemblage.

The ceramic assemblage was dominated by sherds of RWE (82.17%, n=129), most of which (n=114) were undecorated. The decorated pieces featured transfer printed designs in green (n=9), blue (n=4) and black (n=1). Whereas blue and black transfer printed designs were common throughout the 19th century from 1830 onwards, green was common between 1830 and 1845, and again after 1890. The remainder of the ceramic assemblage included undecorated sherds of stoneware (n=17) and ironstone (n=11), suggestive of a late 19th century occupation. A late 19th century occupation is supported also by the household assemblage, which comprised almost exclusively glassware. Most of the glassware included bottle fragments (n=59), almost two thirds of which were clear and possibly machine manufactured in the late 19th or 20th century. Among the tinted bottle pieces are two bottle finishes, including an amethyst prescription finish and an aqua brandy finish. Both were common from the 1870s to the 1920s. Two pieces of milk glass and a mason jar fragment, also common during this same interval, rounded out the glassware. An unknown animal bone and a pig's tooth rounded out the household artifacts. The remainder of the Euro-Canadian assemblage includes five cut nails, three red brick fragments, two pieces of window glass measuring greater than 1.6mm in thickness, and a single Prosser button, all of which are indicative of a middle to late 19th century occupation.

Considering the available evidence, H1 (AgGt-296) has been identified as a middle to late 19th century domestic refuse deposit associated with the occupation of G. A. Swayze, who occupied Lot 235 in 1876 according to *The Illustrated Historical Atlas of the Counties of Lincoln and Welland* (Page & Co. 1876). The single biface that was also recovered from H1 (AgGt-296) is not considered to represent a pre-contact occupation of the site. Rather, this isolated lithic artifact further documents the longstanding occupation of the region as a whole prior to the arrival of European settlers, as evidenced by the three sites producing pre-contact Aboriginal artifacts registered within 1km of the Study Area. Based on the results of the Stage 2 field assessment, and the documentation of at least 20 artifacts that date the period of use at the site to before 1900, H1 (AgGt-296) was recommended for Stage 3 assessment.

It was recommended that the Stage 3 assessments of H1 (AgGt-296) be conducted according to Section 3.2 of the *Standards and Guidelines* (Government of Ontario 2011). Typically, a Stage 3 assessment for a site documented during a pedestrian survey begins with an intensive controlled surface pickup ('CSP') across the Stage 2 limits, conducted as per Section 3.2.1 of the *Standards and Guidelines* (Government of Ontario 2011). The Stage 2 pedestrian survey at H1 (AgGt-296), however, consisted of an intensive surface collection across the entire limits of the site; all artifacts were individually mapped and collected for laboratory analysis. Thus, the conditions for a Stage 3 CSP at H1 (AgGt-296) were met during the Stage 2 assessment. The Stage 3 assessment of the site will consist of test unit excavation only, conducted as per Section 3.2.2 of the *Standards and Guidelines* (Government of Ontario 2011).

1.3.5 Archaeological Potential

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. As was discussed earlier, ASI determined that most of the Study Area demonstrated archaeological potential (Archaeological Services Inc., 2018).

Detritus also applied archaeological potential criteria commonly used by the MHSTCI to determine areas of archaeological potential within the Study Area. According to Section 1.3.1 of the *Standards and Guidelines* (Government of Ontario, 2011), these variables include proximity to previously identified archaeological sites, distance to various types of water sources, soil texture and drainage, glacial geomorphology, elevated topography, and the general topographic variability of the area.

Distance to modern or ancient water sources is generally accepted as the most important determinant of past human settlement patterns and, when considered alone, may result in a determination of archaeological potential. However, any combination of two or more other criteria, such as well-drained soils or topographic variability, may also indicate archaeological potential. When evaluating distance to water it is important to distinguish between water and shoreline, as well as natural and artificial water sources, as these features affect site locations and types to varying degrees. As per Section 1.3.1 of the *Standards and Guidelines* (Government of Ontario, 2011), water sources may be categorized in the following manner:

- Primary water sources lakes, rivers, streams, creeks;
- secondary water sources intermittent streams and creeks, springs, marshes and swamps;
- past water sources, glacial lake shorelines, relic river or stream channels, cobble beaches, shorelines of drained lakes or marshes; and
- accessible or inaccessible shorelines high bluffs, swamp or marshy lake edges, sandbars stretching into marsh.

As was stated above, closest source of potable water is a tributary of the Welland River roughly 350m to the north of H1 (AgGt-296). The Welland River itself is located approximately 2.8km to the east of the Study Area.

Soil texture is also an important determinant of past settlement, usually in combination with other factors such as topography. H1 (AgGt-296) is situated within the Haldimand Clay Plain physiographic region. As aforementioned, the primary soils within the Study Area, meanwhile, have been documented as being suitable for pre-contact Aboriginal practices. Considering also the length of occupation of the area prior to the arrival of European settlers, as evidenced by the three pre-contact sites registered within 1km of the Study Area, the Aboriginal archaeological potential at H1 (AgGt-296) is judged to be moderate to high.

For Euro-Canadian sites, archaeological potential can be extended to areas of early Euro-Canadian settlement, including places of military or pioneer settlements; early transportation routes; and properties listed on the municipal register or designated under the *Ontario Heritage Act* (Government of Ontario, 1990b) or property that local histories or informants have identified with possible historical events.

The 1862 *Tremaine Map* of Thorold Township indicates A Killman as the owner of all of Lot 235, including the portion that corresponds to the Study Area (Figure 2). According to the *Historical Atlas* map (Page, 1876; Figure 3), by 1876 the Study Area was owned by G. A. Swayze. Considering also the proximity of the Welland Canal and the Welland River to the east of the Study Area, and the historical communities of Port Robinson and Allanburgh to the northeast linked by the Wellington Railroad, and the one post0contact Euro-Canadian site registered within 1km of the Study Area, the potential for post-contact Euro-Canadian archaeological resources at H1 (AgGt-296) is judged to be moderate to high.

Finally, despite the factors mentioned above, extensive land disturbance can eradicate archaeological potential within a Study Area, as per Section 1.3.2 of the *Standards and Guidelines* (Government of Ontario, 2011). Current aerial imagery identified no areas of potential disturbance within the Study Area. As a result, the entire Study Area has been determined to demonstrate pre-contact Aboriginal, post-contact Aboriginal, and Euro-Canadian archaeological potential.

2.0 Field Methods

The Stage 3 assessment of H1 (AgGt-296) was conducted between August 11th and August 23rd, 2022 under archaeological consulting license P462 issued to Mr. Michael Pitul by the MHSTCI. These investigations began with a review of all relevant reports of previous fieldwork on the property as per Section 3.2, Standard 1 of the *Standards and Guidelines* ((Government of Ontario, 2011).

During the Stage 3 field assessment H1 (AgGt-296), the weather was mostly sunny with daily high temperatures of 19 to 35˚C (Table 4). Lighting and soil conditions were suitable and visibility was excellent. At no time were field or weather conditions detrimental to the recovery of archaeological material, as outlined in Section 3.2, Standard 2 of the *Standards and Guidelines* (Government of Ontario, 2011). Photos 1 to 11 confirm the field and soil and weather conditions during the Stage 3 assessment, as per Section 7.9.1, Standard 1 and Section 7.9.6, Standard 1a of the *Standards and Guidelines* (Government of Ontario, 2011).

Table 4: Field and Weather Conditions

Date	Weather	Field Conditions
August 11, 2022	Sunny, 35˚C	soil dry and screens easily
August 15, 2022	Sunny, 30˚C	soil dry and screens easily
August 16, 2022	Overcast, 19˚C	soil dry and screens easily
August 17, 2022	Sunny, 25˚C	soil dry and screens easily
August 18, 2022	Sunny. 30˚C	soil dry and screens easily
August 19, 2022	Sunny, 30˚C	soil dry and screens easily
August 23, 2022	Sunny, 29˚C	soil dry and screens easily

Upon arrival at the site, H1 (AgGt-296) was relocated by means of survey flags that were still in the ground from the previous Stage 2 pedestrian survey assessment. Two permanent datum stakes were placed in the ground and a 5m-by-5m grid was established across the limits of the site using hand tapes, as per Section 3.2.2, Standard 2 of the *Standards and Guidelines* (Government of Ontario, 2011).

For archaeological sites documented through a pedestrian survey of open ploughed fields, a Stage 3 field investigation typically begins with a CSP, conducted according to Section 3.2.1 of the *Standards and Guidelines* (Government of Ontario, 2011). The purpose of a CSP is to gather information that will assist in documenting the characteristics and extent of the archaeological site. During the Stage 2 pedestrian survey, however, all of the surface artifacts from H1 (AgGt-296) were digitally mapped individually and collected for laboratory analysis. Thus, the conditions for a Stage 3 CSP were met during the Stage 2 assessment. Instead, the Stage 3 assessment of the site consisted of test unit excavation only, conducted as per Section 3.2.2 of the *Standards and Guidelines* (Government of Ontario, 2011). Photographs of the Stage 3 test unit excavation are provided in Section 9.1 of this report. Figure 6 illustrates the result of the Stage 3 assessment, along with photo locations and directions.

In total, the Stage 3 assessment at H1 (AgGt-296) involved the hand excavation of 68 1m test units (Figure 6), as per Section 3.2.2, Standards 1 and 3 of the *Standards and Guidelines* (Government of Ontario, 2011). The units were strategically positioned to test the nature and density of the subsurface artifact distribution at the site. Given that it was not evident that the level of CHVI at the site would result in a recommendation to proceed to Stage 4, the Stage 3 assessment initially consisted of the hand excavation of test units every 5m across the site limits, as per Section 3.2.3, Table 3.1, Standard 1 of the *Standards and Guidelines* (Government of Ontario, 2011). An additional 11 test units amounting to 20% of the original grid total were excavated in areas of interest within the site extent as per Section 3.2.3, Table 3.1, Standard 4 of the *Standards and Guidelines* (Government of Ontario 2011). The limits of the Stage 3 grid were determined by low artifact yields on all sides, in this case 20 artifacts or less. One extra infill unit was placed above the findspot of a single biface artifact recovered during the Stage 2 assessment.

The results of the hand excavation were then used to refine the limits of the site. All test units were excavated in systematic levels, into the first five centimetres ('cm') of subsoil as per Section 3.2.2,

Standards 4 and 5 of the *Standards and Guidelines* (Government of Ontario, 2011). Each of these test units contained a single stratigraphic layer, identified as dry sandy clay topsoil with clay subsoil. The test units at H1 (AgGt-296) ranged in depth from 17cm to 36cm; considering that 68 test units were excavated 5cm into subsoil, the topsoil at the site ranged in depth from 12cm to 30cm.

All excavated soil from the Stage 3 test units was screened through six-millimetre hardware cloth to facilitate the recovery of small artifacts, as per Section 3.2.2, Standard 7 of the *Standards and Guidelines* (Government of Ontario 2011). All artifacts recovered during the Stage 3 excavation were recorded and catalogued with reference to their corresponding site designation and test unit grid coordinates and were retained for laboratory analysis and description as per Section 3.2.3, Standard 8 of the *Standards and Guidelines* (Government of Ontario 2011). The subsoil surface of each excavated unit was shovel shined and examined for any evidence of subsurface cultural features.

3.0 Record of Finds

The Stage 3 assessment of H1 (AgGt-296) was conducted under PIF# P389-0612-2021 issued to Dr. Walter McCall by the MHSTCI. An inventory of the documentary record generated by the fieldwork is provided in Table 5 below.

Table 5: Inventory of Document Record

Document Type	Current Location	Additional Comments
2 Page of Field Notes	Detritus' office	Stored digitally in project file
1 Maps Provided by the Proponent	Detritus' office	Stored digitally in project file
1 Field Map	Detritus' office	Stored digitally in project file
12 Photographs	Detritus' office	Stored digitally in project file

All of the material culture collected during the Stage 3 archaeological field assessment of H1 (AgGt-296) survey is contained in one box and will be temporarily housed in the offices of Detritus until formal arrangements can be made for its transfer to His Majesty the King in right of the Province of Ontario or another suitable public institution acceptable to the MHSTCI.

3.1 Cultural Material

The Stage 3 assessment of H1 (AgGt-296) resulted in the documentation of 1,124 Euro-Canadian artifacts (Table 6).

Table 6: H1 (AgGt-296) Artifact Summary

Artifact	Frequency (n)	Percentage (%)
Ceramic	493	43.86
Structural	360	32.03
Household	256	22.78
Miscellaneous Metal	15	1.33
Total	1124	100

3.2 Euro-Canadian Artifacts

3.2.1 Ceramics (see Appendices 10.2.1 and 10.2.2)

Slightly less than half the artifact assemblage from H1 (AgGt-296) consisted of ceramic pieces (44%), most of which were identified as sherds of RWE. Stoneware and ironstone fragments are

the next most common, and red earthenware, porcelain, terracotta, and jetware are also present to lesser extents.

Table 7 provides a summary of the ceramic assemblage by ware type and Table 8 by surface decoration.

Table 7: Ceramic Assemblage by Ware Type

Artifact	Frequency (n)	Percentage (%)
RWE	399	80.93
stoneware	43	8.72
ironstone	32	6.49
red earthenware	12	2.43
porcelain	3	0.61
terracotta	3	0.61
jetware	1	0.20
Total	493	100.00

Table 8: Ceramic Assemblage by Decorative Style

Artifact	Freq.	%
RWE	379	76.88
stoneware	43	8.72
ironstone	32	6.49
RWE, transfer printed	20	4.06
red earthenware	12	2.43
porcelain	3	0.61
terracotta	3	0.61
jetware	1	0.20
Total	493	100

Most of the ceramic pieces within the Stage 3 assemblage were undecorated (n=473; 96%). The decorated pieces comprised 20 RWE sherds featuring transfer printed designs in green (n=7), blue (n=5), brown (n=2), red (n=2), and black (n=1). Whereas blue and black transfer printed designs were common throughout the 19th century from 1830 onwards, green was common between 1830 and 1845, and again after 1890. The presence of brown and red suggest a period of use between 1830 and 1845 during which time all six colours were commonly used.

A later 19th century occupation is supported by the presence of ironstone and stoneware, which replaced red earthenware after 1870. Several of the ware types also extend the date range of the assemblage into the latter 19th and early 20th centuries. These include the 32 ironstone pieces and the 3 porcelain fragments.

Twelve red earthenware sherds were recovered. Red earthenware cannot be used to precisely date an archaeological assemblage since these vessels were in use throughout the 19th century. Their frequency on sites began to decline slowly, however, from the 1850s onwards with the importation of stoneware from the United States. Stoneware vessels, meanwhile, were relatively infrequent in Southern Ontario until the mid-1800s, but were common throughout the remainder of the century and into the 20th century. The presence of these utilitarian wares in the Stage 3 assemblage suggests that the occupation of H1 (AgGt-296) spanned at least the middle to late 19th century.

Additionally, all of the ceramic pieces from H1 (AgGt-296) were examined in order to describe the function of the item from which the ceramic sherd originated. However, for those sherds that were too fragmentary for a functional assignment, an attempt was made to at least provide a formal description, such as to which portion of an item the sherd belonged. For example, what used to be a porcelain teacup but now found in an archaeological context could be classified in the artifact

catalogue in a descending order of specificity depending on preservation and artifact size: a teacup (function), a cup (function), a hollowware (form), or a rim fragment (form). Flatware was differentiated based on the absence of curvature in the ceramic cross-section of each sherd. The classifications used in the current investigation are based upon the system established by Matthew Beaudoin (Beaudoin, 2013, pp. 78-82). If Beaudoin's classifications could not be applied, then the broader definitions established by Barbara Voss were used (Voss, 2008, p. 209). Ultimately, if sherds were small enough that even a general functional or formal ware type could not be determined, then the sherd was simply classified as a rim fragment, a non-rim fragment, a base fragment, or indeterminate.

Among the specimens recovered from H1 (AgGt-296), 53 were identified as hollowware vessels including 30 stoneware fragments, 15 undecorated RWE fragments, 6 ironstone fragments and 2 miscellaneous terracotta fragments. The remaining ceramic pieces were too fragmentary to determine form or function. Table 9 provides a summary of the ceramic assemblage from H1 (AgGt-296) by form and Table 10, by function.

Table 9: Ceramic Assemblage by Form

Artifact	flat	hollow	unknown	Total
ironstone	3	6	23	32
jetware	–	–	1	1
porcelain	–	–	3	3
red earthenware	–	–	12	12
RWE	5	15	359	379
RWE, transfer printed	–	–	20	20
stoneware	1	30	12	43
terracotta	–	2	1	3
Total	9	53	431	493

Table 10: Ceramic Assemblage by Function

Artifact	unknown	Total
ironstone	32	32
jetware	1	1
porcelain	3	3
red earthenware	12	12
RWE	379	379
RWE, transfer printed	20	20
stoneware	43	43
terracotta	3	3
Total	493	493

3.2.2 Structural Artifacts (see Appendix 10.2.3)

In total, 360 structural artifacts were recovered during the Stage 3 assessment of H1 (AgGt-296), accounting for 32% of the artifact assemblage. Table 11 provides a summary of the structural artifacts from H1 (AgGt-296).

Table 11: H1 (AgGt-269) Structural Artifact Summary

Artifact	Frequency (n)	Percentage (%)
brick	159	44.17
window glass	156	43.33
cut nails	45	12.50
Total	360	100

The structural artifacts recovered from the Stage 3 assessment of H1 (AgGt-296) comprised mostly brick (n=159; 44%) and window glass (n=156; 43%) as well as some cut nails (n=45; 12.5%). The brick fragments recovered were all orange or red and fragmentary. The majority of window glass fragments (n= 142; 91%) measured greater than 1.6 mm in thickness, suggestive of a post-1845 period occupation. Some 45 cut nail fragments were recovered. Cut nails were common from approximately 1830 to 1890 by which time they had been largely supplanted by wire nails The presence of red brick also support a middle to late 19th century occupation.

3.2.3 Household (see Appendix 10.2.4)

Just over 20% of the artifacts recovered from the Stage 3 assessment of H1 (AgGt-296) were household artifacts (n=256). Table 12 provides a summary of the household artifacts from H1 (AgGt-296).

Table 12: Household Artifact Summary

Artifact	Frequency (n)	Percentage (%)
bottle glass	255	99.61
milk glass	1	0.39
Total	256	100

The household artifacts from H1 (AgGt-296) were almost exclusively bottle glass fragments (n=255) in addition to one milk glass fragment. The majority of bottle glass fragments were clear and possibly manufactured in the late 19th or 20th century. Other colours of bottle glass include brown (n=24), olive (n=9), green (n=8), and blue (n=1). One clear glass bottle fragment had a crown finish (Cat#238) and one other was embossed with "CANADA LIMITED" (Cat#53).

3.2.4 Miscellaneous Metal

A small percentage of the artifacts recovered during the Stage 3 assessment of H1 (AgGt-296) comprised miscellaneous metal fragments (n=15; 1.3%). Finds included 15 miscellaneous fragments, 1 metal washer, and 1 metal bolt, none of which were temporally diagnostic.

3.3 Artifact Catalogue

The complete catalogue of artifacts recovered during the Stage 3 assessment of H1 (AgGt-296) is provided in Appendix 10.1 below.

4.0 Analysis and Conclusions

Detritus was retained the Proponent to conduct a Stage 3 archaeological assessment at archaeological site H1 (AgGt-296) on part of Lot 235 within the Geographic Township of Thorold and historical County of Welland, now the City of Welland within the Regional Municipality of Niagara, Ontario (Figure 1). This investigation was conducted in advance of the construction of a proposed housing development within the Study Area located on the northern edge of the Town of Welland, to the east of Pelham Corners (Figure 6).

The Study Area was part of a much larger parcel that was subject to a previous Stage 1 assessment, conducted by Archaeological Services Inc. ('ASI') in 2018 (Archaeological Services Inc., 2018; PIF# P449-0207-2018). The Stage 1 investigation area measured 189ha and was generally bounded by Steve Bauer Trail to the west; various commercial and industrial lots fronting Niagara Street to the east; residential developments, agricultural land, and woodlot to the north; and the campus of Niagara College to the south (Figure 5). Based on the results of ASI's assessment, approximately 99% (187.4ha) of the Stage 1 assessment area exhibited archaeological potential. This potential extended across approximately 80% of the current Study Area, excluding much of the southeastern quadrant. ASI recommended that any future developments within the Study Area be preceded by a Stage 2 field assessment (Archaeological Services Inc., 2018).

The Stage 2 field assessment was conducted on May 9, 2022. The manicured grass and wooded areas were subject to a test pit survey at five-metre intervals. No archaeological material was encountered. The agricultural land was subject to a typical pedestrian survey conducted a 5m intervals. This investigation resulted in the documentation of a single Euro-Canadian site, registered with the MHSTCI as H1 (AgGt-296). The Stage 2 assessment of H1 (AgGt-296) resulted in the documentation of 233 primarily Euro-Canadian artifacts spanning an area of 37m east to west by 28m north to south in the northeastern corner of the Study Area. A single pre-contact Aboriginal bifacial tool manufactured from Onondaga chert was also recovered. The Euro-Canadian artifacts included almost exclusively ceramics and household artifacts, which comprised 94.8% of the Stage 2 assemblage.

The ceramic assemblage was dominated by sherds of RWE (82.17%, n=129), most of which (n=114) were undecorated. The decorated pieces featured transfer printed designs in green (n=9), blue (n=4) and black (n=1). Whereas blue and black transfer printed designs were common throughout the 19th century from 1830 onwards, green was common between 1830 and 1845, and again after 1890. The remainder of the ceramic assemblage included undecorated sherds of stoneware (n=17) and ironstone (n=11), suggestive of a late 19th century occupation. A late 19th century occupation is supported also by the household assemblage, which comprised almost exclusively glassware. Most of the glassware included bottle fragments (n=59), almost two thirds of which were clear and possibly machine manufactured in the late 19th or 20th century. Among the tinted bottle pieces are two bottle finishes, including an amethyst prescription finish and an aqua brandy finish. Both were common from the 1870s to the 1920s. Two pieces of milk glass and a mason jar fragment, also common during this same interval, rounded out the glassware. An unknown animal bone and a pig's tooth rounded out the household artifacts. The remainder of the Euro-Canadian assemblage includes five cut nails, three red brick fragments, two pieces of window glass measuring greater than 1.6mm in thickness, and a single Prosser button, all of which are indicative of a middle to late 19th century occupation.

Considering the available evidence, H1 (AgGt-296) was identified as a middle to late 19th century domestic refuse deposit associated with the occupation of G. A. Swayze, who occupied Lot 235 in 1876 according to *The Illustrated Historical Atlas of the Counties of Lincoln and Welland* (Page & Co. 1876). The single biface that was also recovered from H1 (AgGt-296) is not considered to represent a pre-contact occupation of the site. Rather, this isolated lithic artifact further documents the longstanding occupation of the region as a whole prior to the arrival of European settlers, as evidenced by the three sites producing pre-contact Aboriginal artifacts registered within one kilometre ('km') of the Study Area. Based on the results of the Stage 2 field assessment, and the documentation of at least 20 artifacts that date the period of use at the site to before 1900, H1 (AgGt-296) was recommended for Stage 3 assessment.

The Stage 3 assessment of H1 (AgGt-296) was conducted between August 11th and 23rd. This investigation resulted in the recovery of 1,124 Euro-Canadian artifacts from the hand excavation of 68 Stage 3 test units. Artifact yields ranged from 0 to 95. Overall, roughly half (n=33) of the test units contained the majority of the artifacts recovered. In other words, thirteen of the Stage 3 test units yielded above 30 artifacts, twenty yielded between 10 and 20 artifacts, and the remaining thirty-five units yielded less than 10 artifacts. One extra infill unit was placed above the findspot of the single biface recovered during the Stage 2 assessment, no artifacts were recovered from this Stage 3 test unit.

The Stage 3 assemblage included mostly ceramics (n=493), as well as structural (n=360) and household (n=256) artifacts. Most of the ceramic were undecorated (n=473). The decorated pieces comprised 20 RWE sherds featuring transfer printed designs in green (n=7), blue (n=5), brown (n=2), red (n=2), and black (n=1). Whereas blue and black transfer printed designs were common throughout the 19th century from 1830 onwards, green was common between 1830 and 1845, and again after 1890. The presence of brown and red suggest a period of use between 1830 and 1845 during which time all six colours were commonly used. A later 19th century occupation is supported by the presence of stoneware (n=43) and which replaced red earthenware after 1870. Several of the ware types also extend the date range of the assemblage into the latter 19th and early 20th centuries. These include 32 ironstone and 3 porcelain fragments. The presence of these utilitarian wares in the Stage 3 assemblage suggests that the occupation of H1 (AgGt-296) spanned at least the middle to late 19th century.

The structural artifacts recovered from the Stage 3 assessment of H1 (AgGt-296) comprised mostly brick (n=159) and window glass (n=156) as well as some cut nails (n=45). The brick fragments recovered were all orange or red and fragmentary. The majority of window glass fragments (n= 142) measured greater than 1.6 mm in thickness, suggestive of a post-1845 period occupation. Some 45 cut nail fragments were recovered. Cut nails were common from approximately 1830 to 1890 by which time they had been largely supplanted by wire nails The presence of red brick also support a middle to late 19th century occupation. The household artifacts from H1 (AgGt-296) were almost exclusively bottle glass fragments (n=255) in addition to one milk glass fragment. The majority of bottle glass fragments were clear and possibly manufactured in the late 19th or 20th century.

Analysis of the Stage 3 artifact assemblage confirms the Stage 2 identification of a late 19th century domestic refuse pit associated with the occupation the Swayze family, who, according to the Ontario Land Registry occupied Lot 235 from as early as 1873.

Given the period of occupation represented within the artifact assemblage, H1 (AgGt-296) does not fulfill the criteria for a Stage 4 archaeological investigation as per Section 3.4.2 Standard 1a of the *Standards and Guidelines* (Government of Ontario 2011) and does not retain further cultural heritage value or interest ('CHVI'). Therefore, H1 (AgGt-296) is not recommended for Stage 4 archaeological mitigation of impacts.

5.0 Recommendations

Given the period of occupation represented within the artifact assemblage, H1 (AgGt-296) does not fulfill the criteria for a Stage 4 archaeological investigation as per Section 3.4.2 Standard 1a of the *Standards and Guidelines* (Government of Ontario 2011) and does not retain further cultural heritage value or interest ('CHVI'). Therefore, H1 (AgGt-296) is not recommended for Stage 4 archaeological mitigation of impacts.

6.0 Advice on Compliance with Legislation

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 Ministry of Heritage, Sport, Tourism and Culture Industries, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

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

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

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

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 license.

7.0 Bibliography

Adams, N. (1994). *Field Manual for Avocational Archaeologists in Canada.* Ontario Archaeological Society Inc., Archaeological Stewardship Project.

Archaeological Services Inc. (2018). *Stage 1 Archaeological Assessment of the Northwest Welland Secondary Plan, Part of Lots 174, 175, 176, 226, 227, 228, 233, 234, 235 and 236, Geographic Township of Thorold, Welland County, City of Welland, Regional Municipality of Niagara.* Report on File with the MHSTCI.

Archives of Ontario. (2012-2015). *The Evolution of the District and County System, 1788-1899.* Retrieved January 24, 2022, from http://www.archives.gov.on.ca/en/maps/ontario-districts.aspx

Barker, D., & Halfpenny, P. (1990). *Unearthing Staffordshire: Towards a New Understanding of 18th Century Ceramics.* Stoke-on-Trent, England: City of Stoke-on-Trent Museum and Art Gallery.

Beaudoin, M. A. (2013). *De-essentializung the Past: Deconstructing Colonial Categories in 19th-Century Ontario.* University of Western Ontario: Unpublished Ph. D. thesis.

Caston, W. A. (1997). Evolution in the Mapping of Southern Ontario and Wellington County. *Wellington County History, 10*, 91-106.

Chapman, L. J., & Putnam, D. F. (1984). *The Physiography of Southern Ontario. Ontario Geological Survey. Special Volume 2* (3rd Edition ed.). Ontario Ministry of Natural Resources.

Coyne, J. H. (1895). *The Country of Neutrals (As Far as Comprised in the County of Elfin): From Champlain to Talbot.* St. Thomas: The St. Thomas Print.

Detritus. (2022). *Stage 2 Archaeological Assessment on Lot 235 within the Geographic Township of Thorold and Historical County of Welland, now the City of Welland within the Regional Municipality of Niagara, Ontario.* Report on file with the MHSTCI.

Ellis, C. J., & Ferris, N. (1990). *The Archaeology of Southern Ontario to A.D. 1650.* (Vol. 5). Occasional Publication of the London Chapter, Ontario Archaeology Society Inc.

Feest, C. F., & Feest, J. E. (1978). The Ottawa. In B. G. Trigger (Ed.), *Handbook of North American Indians. Vol. 15 Northeast* (pp. 772-786). Smithsonian Institute.

Ferris, N. (2009). *The Archaeology of Native-Lived Colonialism: Challenging History in the Great Lakes.* University of Arizona.

Gentilcore, L. R., & Head, G. (1984). *Ontario's History in Maps.* Toronto: University of Toronto Press.

Government of Ontario. (1990a). Retrieved 01 24, 2022, from Ontario Planning Act, R.S.O. 1990, CHAPTER P. 13. Last Amendment: 2021, c. 25, Sched. 24: https://www.ontario.ca/laws/statute/90p13

Government of Ontario. (1990b). Retrieved 01 24, 2022, from Ontario Heritage Act, R.S.O. 1990, CHAPTER O.18. Last amendment: 2021, c. 4, Sched. 6, s. 74: https://www.ontario.ca/laws/statute/90o18

Government of Ontario. (1990c). Retrieved 01 24, 2022, from Freedom of Information and Protection of Privacy Act, R.S.O. 1990, CHAPTER F.31. Last amendment: 2021, c. 4, Sched. 11, s. 11: https://www.ontario.ca/laws/statute/90f31.

Government of Ontario. (2011). *Standards and Guidelines for Consultant Archaeologists.* Toronto: MHSTCI.

Government of Ontario. (2022). *Ontario Land Registry Access.* Retrieved November 2022, from https://www.onland.ca/ui/

Government of Ontario. (n.d.). *Archaeological Sites Database Files.* MHSTCI.

Heindereich, C. (1990). History of the St. Lawrence–Great lakes Area to 1650. In C. J. Ellis, & N. Ferris (Ed.), *The Archaeology of Southern Ontario, Occasional papers of the London Chapter. 5*, pp. 475–92. OAS.

Huffman, E., & Dumanski, J. (1986). *Agricultural Land Use Systems in the Regional Municipality of Niagara.* Ottawa: Land Resource Research Institute.

Jameison, S. M. (1992). Regional Interaction and Ontario Iroquois Evolution. *Canadian Journal of Archaeology, 16*, 70–88.

Jervis, W. P. (1911). *A Pottery Primer.* The O'Gorman Publishing Company.

Kenyon, I. (1980). 19th Century Notes. *KEWA, 80*(2).

Kingston, M. S., & Presant, E. W. (1989). *The Soils of the Regional Municipality of Niagara.* Report no. 60, Ontario Ministry of Agriculture, Ontario Institute of Pedology.

Konrad, V. (2003). An Iroquois Frontier: the North Shore of Lake Ontario During the Late Seventeenth Century. *Journal of Historical Geography, 7*(2), 129-144.

Lamb, L. N. (2003). *Historical Archaeology of the Indian Key (8M015) Warehouse: An Analysis of Nineteenth-Century Ceramics.* University of South Florida.

Lindsey, B. (2021). *Historic Glass Bottle Identification adn Information Website.* Retrieved 03 21, 2022, from http://www.sha.org/bottle/index.htm.

MacDonald, R., & Cooper, M. S. (1997). Environmental Context. In R. F. Williamson, & R. I. MacDonald (Ed.), *The Shadow of the Bridge—The Archaeology of the Peace Bridge Site (AfGr-9), 1994–1996 Investigations. Occasional Pubblications. 1.* Toronto: Archaeological Services, Inc.

Majewski, T., & O'Brien, M. J. (1987). The Use and Misuse of Nineteeth-Century English and American Ceramics in Archaeological Analysis. In M. Schiffer (Ed.), *Advances in Archaeological Method and Theory. 11*, pp. 98-209. Academic Press.

McAndrews, J. H., & Manville, G. C. (1987). Descriptions of Ecological Regions. In R. C. Harris (Ed.), *Historical Atlas of Canada from the Beginning to 1800.* Toronto: University of Toronto Press.

Miller, G. L. (1980a). *Ceramics - The ACO Guide to 19th C. Sites. .* Ontario Ministry of Culture and Recreation, Historical Planning and Research Branch.

Miller, G. L. (1980b). Classification and Economic Scaling of 19th Century Ceramics. *Historical Archaeology, 14*, 1-40.

Morris, J. L. (1943). *Indians of Ontario (1964 reprint).* Department of Lands and Forests, Government of Ontario.

Niagara Falls Info. (2022). *Native American Settlement in Niagara.* Retrieved August 2022, from https://www.niagarafallsinfo.com/niagara-falls-history/niagara-falls-municipal-history/the-chronicles-of-settlement-in-niagara/native-american-settlement-in-niagara/

Niagara Historical Society and Museum. (2008). *Our Glory, A Brief History of Niagara-on-the-Lake.* Niagara-on-the-Lake: Niagara Historical Society and Museum.

Niagara-on-the-Lake. (2016). *Queen-Picton Streets Heritage Conservation District Expansion Study (Second Draft).*

Niagara-on-the-Lake Realty. (2022). *History of Niagara On the Lake.* Retrieved August 2022, from https://notlrealty.com/history-of-niagara-on-the-lake/

Noble, W. (1978). The Neutral Indians. In Essays in Northeastern Anthrolopology in Memory of Marian E. White, Occasional Publications. In W. Englebrecht, & G. Donald (Ed.), *Northeastern Anthropology 5* (pp. 152-64). Rindge, NH: Depatment of Anthropology, Franklin Pierce College.

Page, H. R. (1876). *The Illustrated Historical Atlas of the Counties of Lincoln and Welland.* Toronto: H. R. Page & co.

Page, H. R. (1879). *The Illustrated Historical Atlas of the County of Haldimand, Ontario.* Toronto: H. R. Page & Co.

Pendergast, J. (1995). The Identity of Jacques Cartier's Stadaconans and Hochelagans: The Huron-Iroquois Option. In A. Bekerman, & G. Warrick (Ed.), *Origins of the People of the Longhouse: Proceedings of the 21st Annual Symposium of the Ontario Archaeological Society* (pp. 106-118). Ontario Archaeological Society.

Powell, J. R., & Coffman, F. (1956). *Lincoln County, 1856–1956.* St. Catharines: Lincoln County Council.

Praxis Research Associates. (n.d.). *The History of the Mississaugas of the New Credit First Nation.* Lands, Research, and Membership: Mississaugas of the New Credit First Nation.

Schmalz, P. S. (1991). *The Ojibwa of Southern Ontario.* Toronto: University of Toronto Press.

Shaw, S. (1829). *History of the Staffordshire Potteries and the Rise and Progress of the Manufacture of Pottery and Porcelain; with Reference to Genuine Specimens and Notices of Eminent Potters.* Reprinted 1968 by Beatrice C. Weinstock, Great Neck.

Smith, D. (2022). Their Century and a Half on the Credit: The Mississaugas. In F. Dieterman (Ed.), *Mississauga: The First 10,000 Years* (pp. 107-122). Easted Books.

Tanner, H. (Ed.). (1987). *Atlas of Great Lakes Indian History.* University of Oklahoma Press.

Tharp, L. (n.d.). *The Origins of Ironstone.* Retrieved 03 21, 2021, from Stoke on Trent: Resources on the North Stafforshire Pottery Industry: : http://www.thepotteries.org/features/ironstone.htm

The Potteries.org. (2003). *Ironstone.* Retrieved 03 21, 2022, from Stoke on Trent: Resources on the North Stafforshire Pottery Industry: http://www.thepotteries.org/types/ironstone.htm

Tremaine, G. M. (1862). *Tremaine's Map of the Counties of Lincoln and Welland, Canada West .* Toronto: Geo. R. & G.M. Tremaine.

Voss, B. L. (2008). *The Archaeology of Ethnogenesis: Race and Sexuality in Colonial San Francisco.* Berkeley: University of California.

Weaver, S. (1978). Six Nations of the Grand River, Ontario. *Handbook of North American Indians. Vol. 15 Northeast* (pp. 525-536). Smithsonian Institute Press.

8.0 Maps

Figure 1: Study Area Location

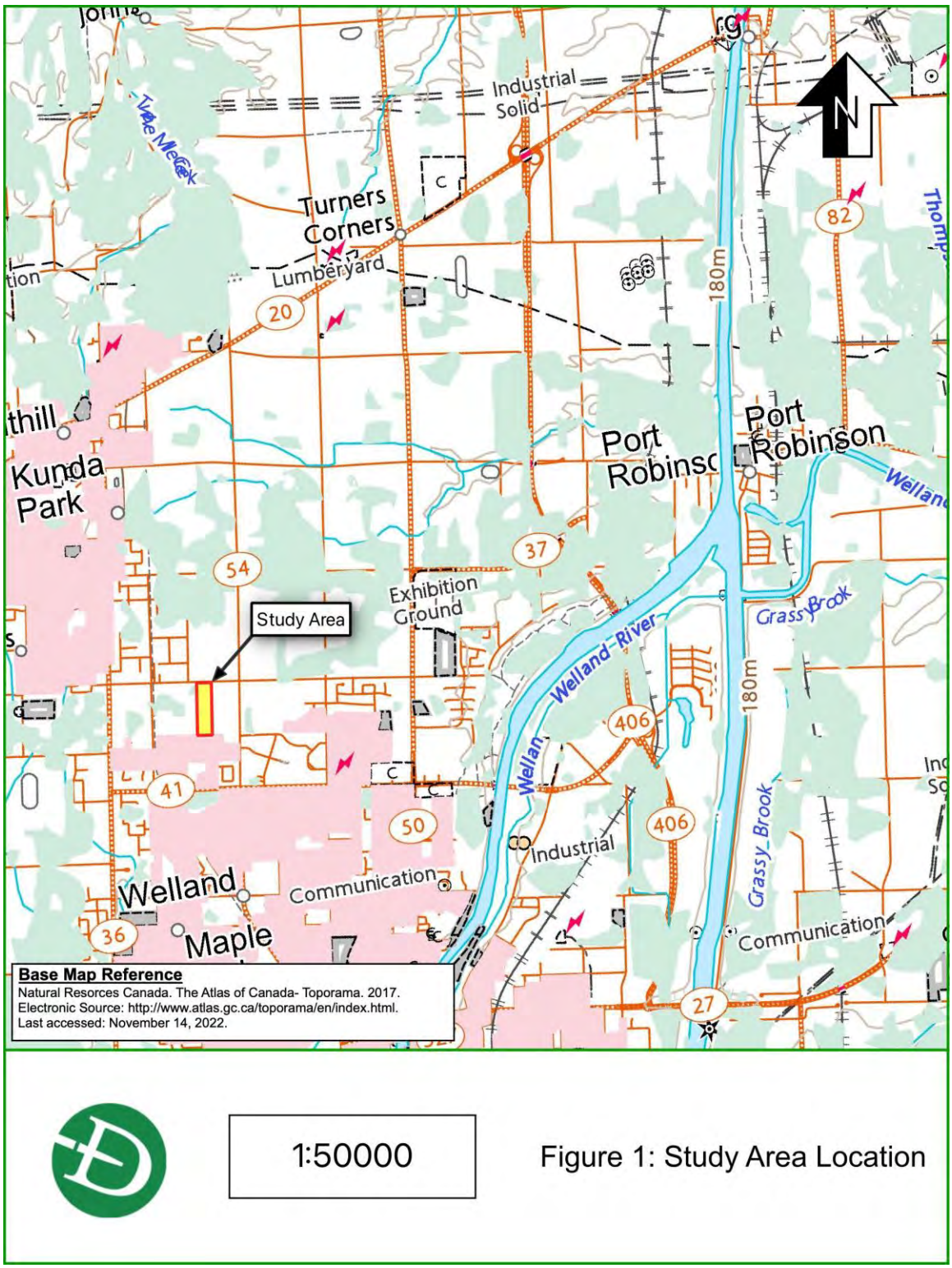


Figure 2: Historic Map Showing Study Area Location

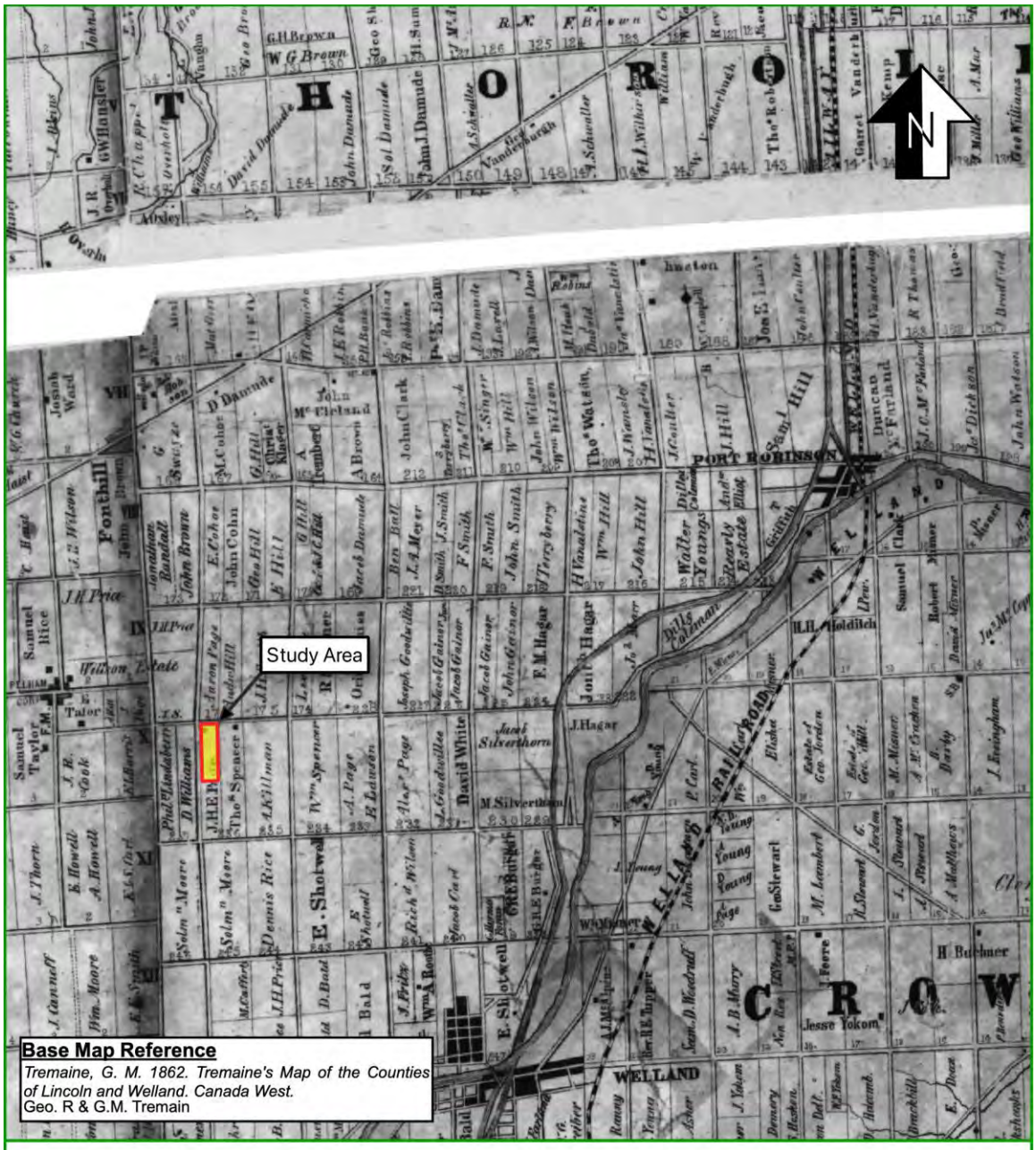
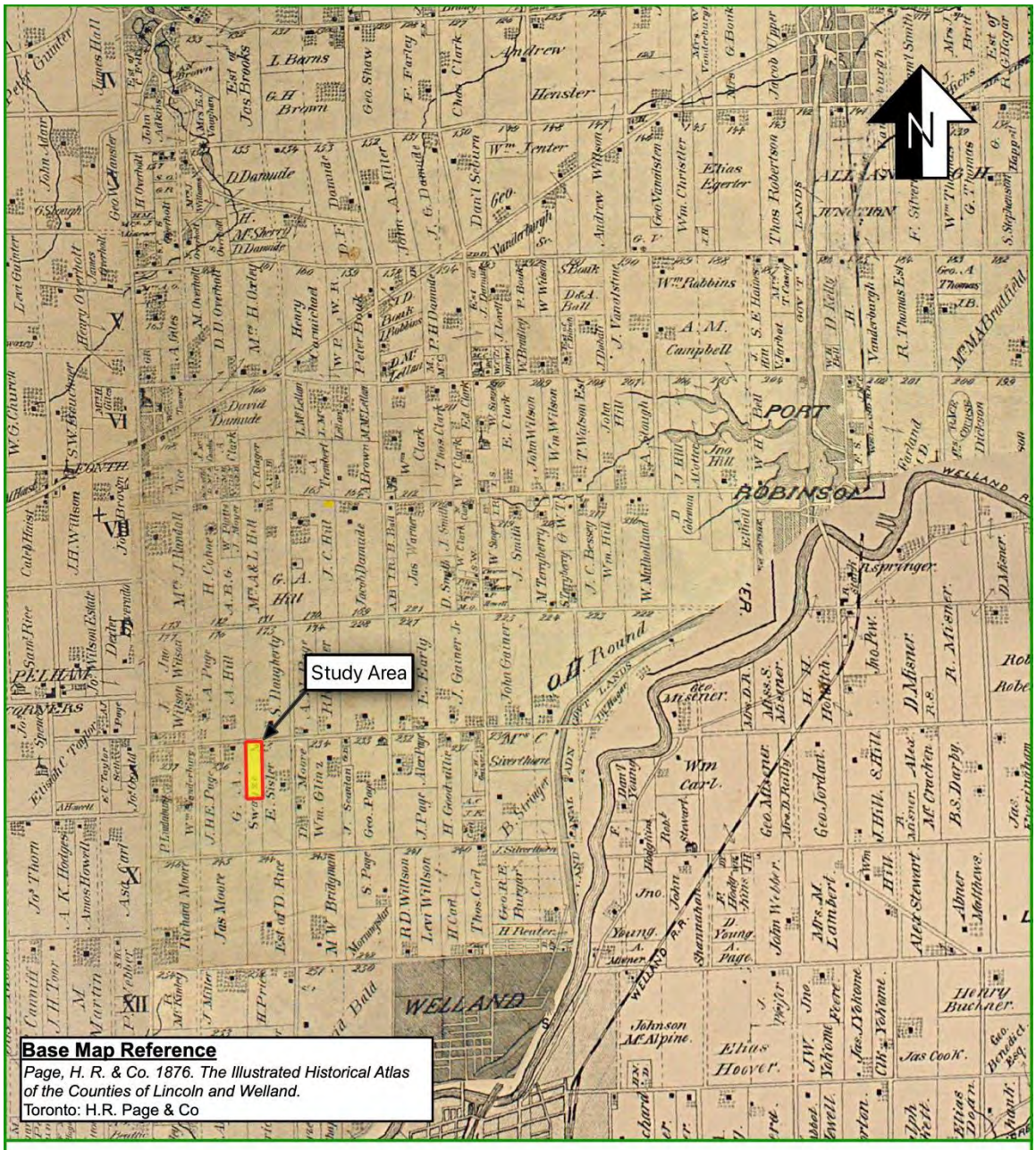


Figure 2: Portion of Tremaine's 1862 Map of the Counties of Linclon and Welland

Figure 3: Additional Historic Map Showing Study Area Location



Not to Scale

Figure 3: Portion of H. R. Page & Co. 1876 Historical Atlas of Lincoln and Welland Counties

Figure 4: Previous Archaeological Assessment

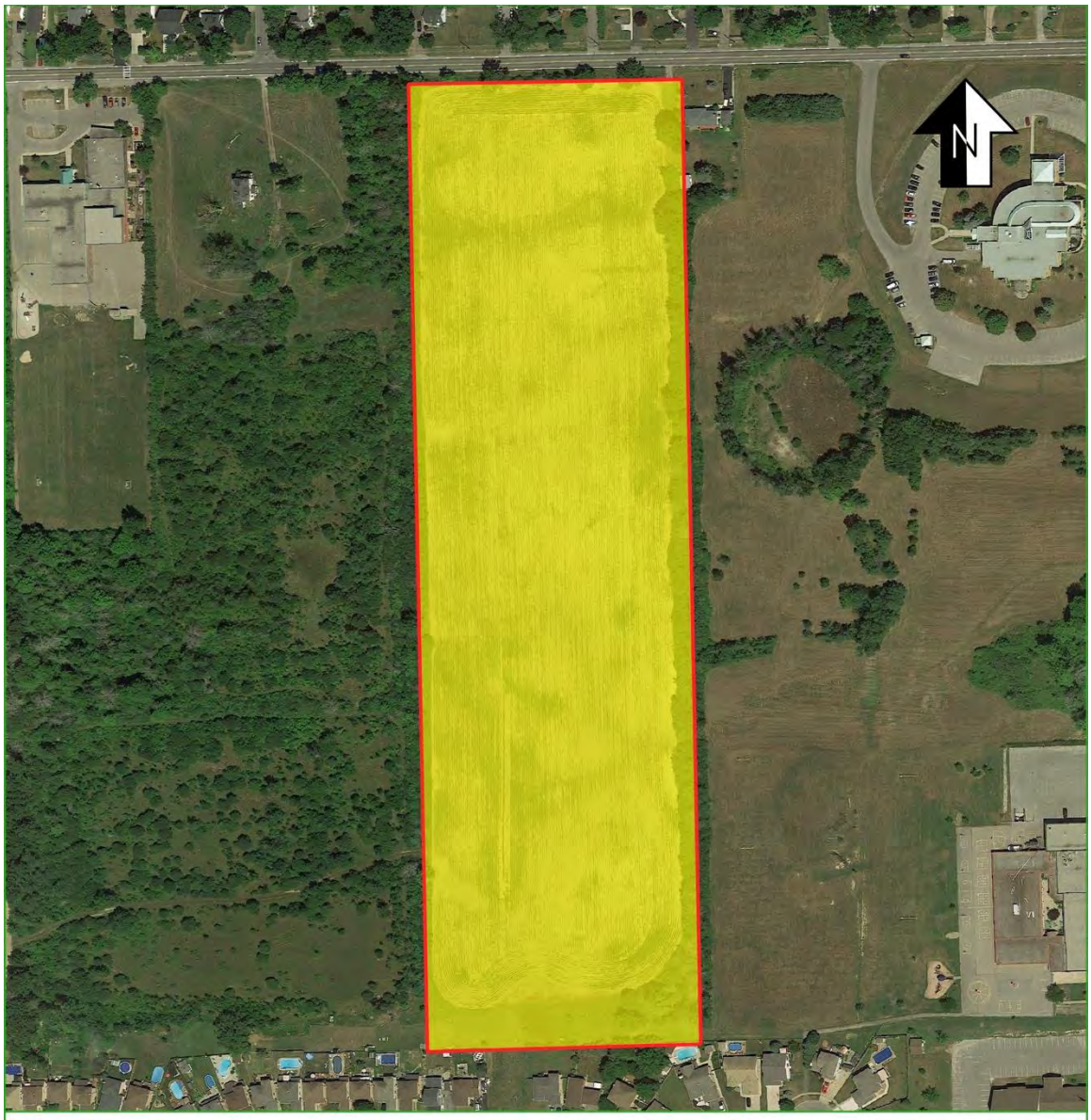


Figure 5: Archaeological Potential of Study Area

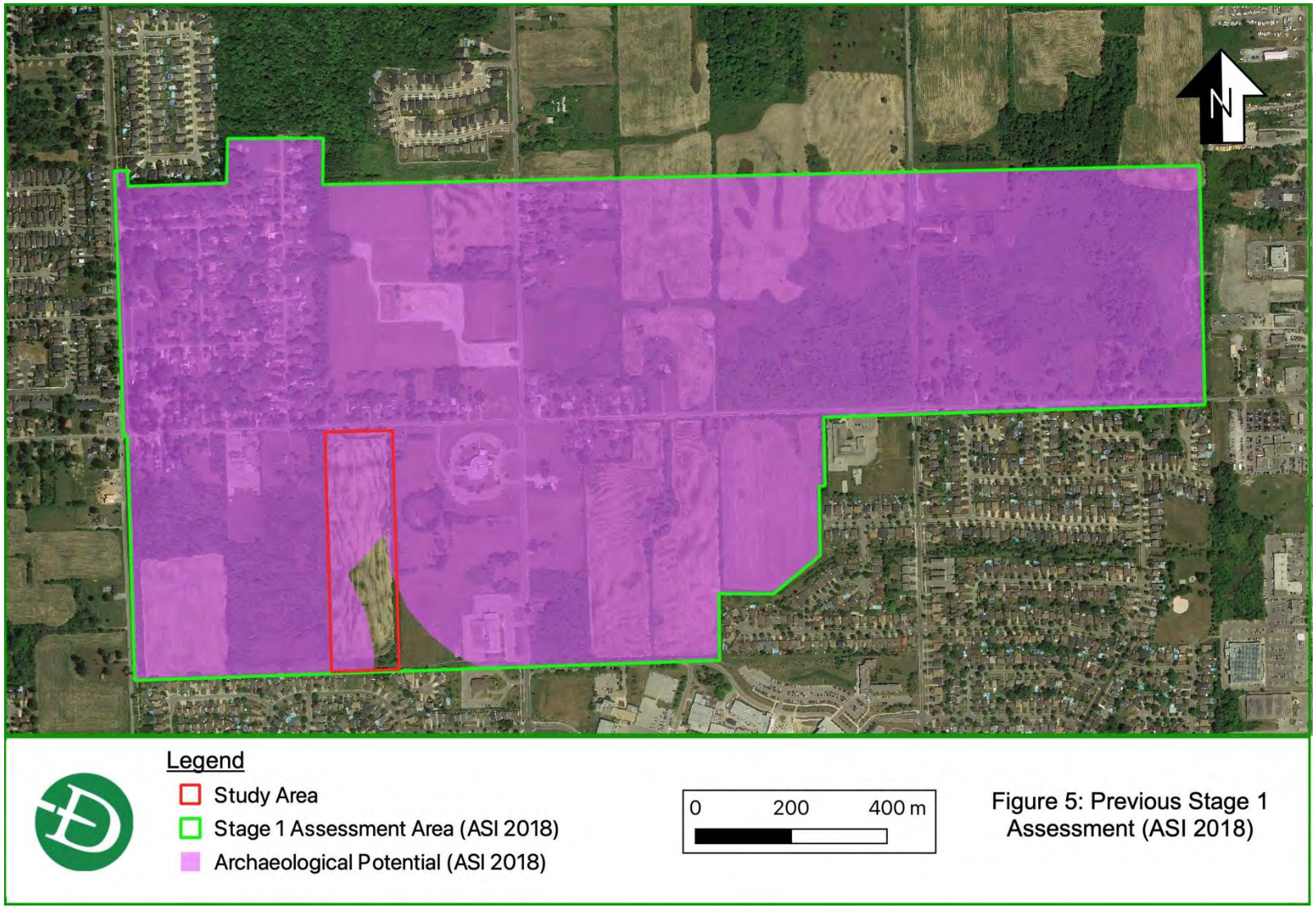


Figure 6: H1 (AgGt-296) Stage 3 Results

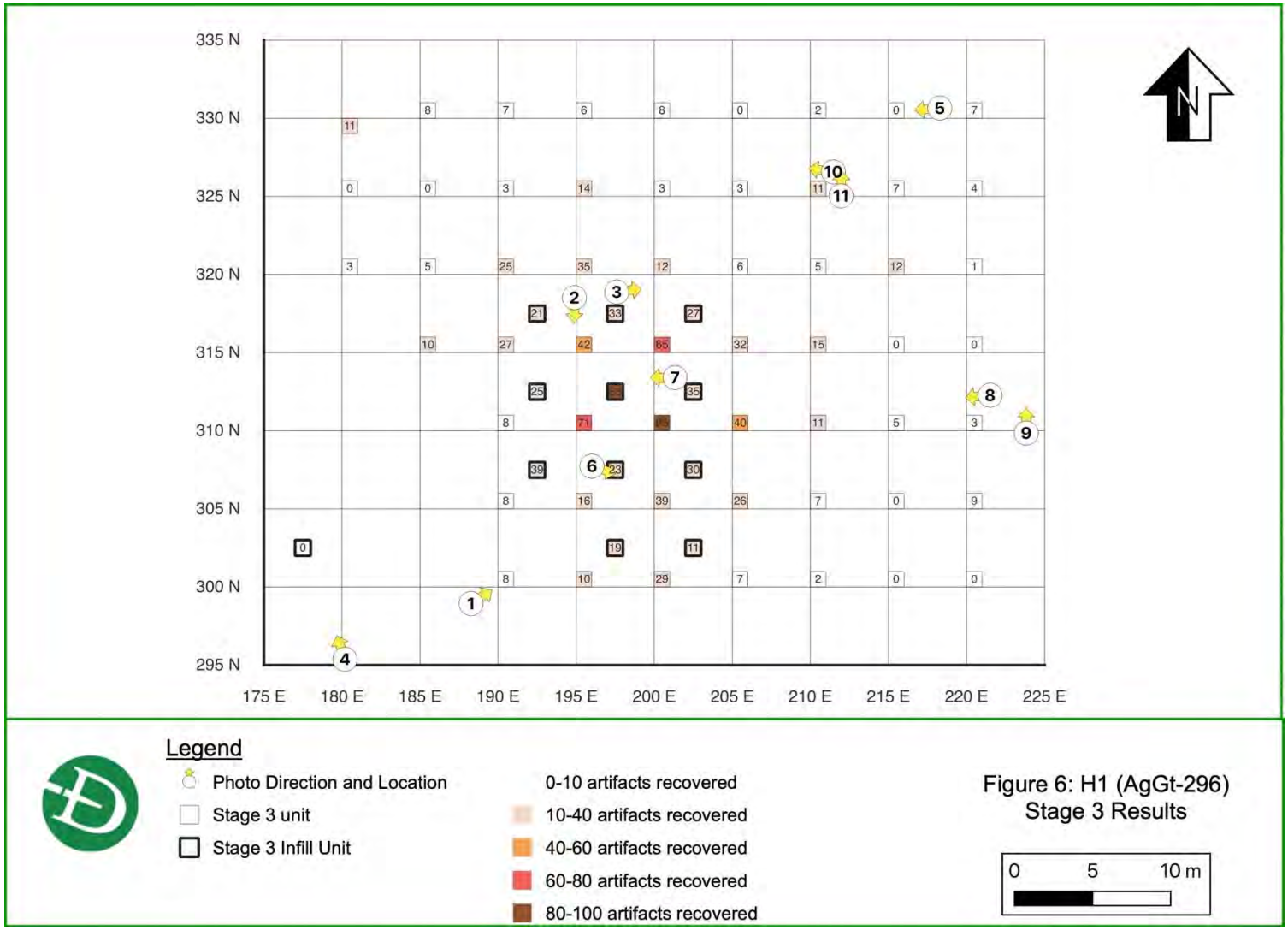
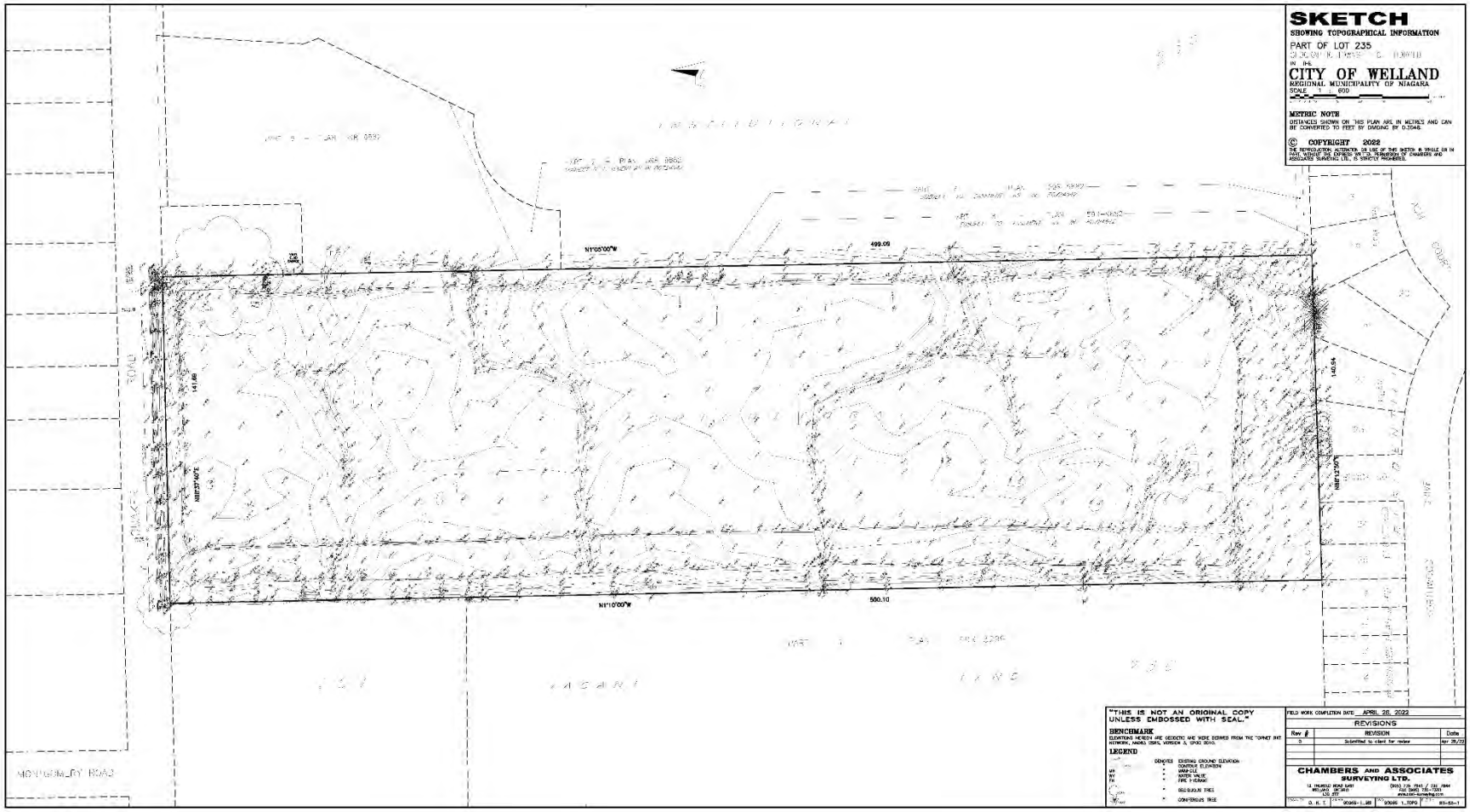


Figure 7: Development Plan



9.0 Images

9.1 Field Photos

Photo 1: Stage 3 Unit Excavation at H1 (AgGt-269), looking northeast

Photo 2: Stage 3 Unit Excavation at H1 (AgGt-269), looking south

Photo 3: Stage 3 Unit Excavation at H1 (AgGt-269), looking east

Photo 4: Stage 3 Unit Excavation at H1 (AgGt-269), looking northwest

Photo 5: Stage 3 Unit Excavation at H1 (AgGt-269), looking west

Photo 6: Stage 3 Unit Excavation at H1 (AgGt-269), looking east

Photo 7: West profile of Stage 3 excavation unit at H1 (AgGt-269), looking west

Photo 8: Stage 3 Unit Excavation at H1 (AgGt-269), looking west

Photo 9: North profile of Stage 3 excavation unit at H1 (AgGt-269), looking north

Photo 10: Stage 3 Unit Excavation at H1 (AgGt-269), looking west

Photo 11: Stage 3 Unit Excavation at H1 (AgGt-269), looking north

9.2 Artifact Photos

Plate 1: Sample of Euro-Canadian artifacts recovered from H1 (AgGt-296). Cat#s 70, 79, 81, 91, 107, 127, 161, and 255.

10.0 Appendix

10.1 Stage 3 Artifact Catalogue H1 (AgGt-296)

Cat#	Easting	Northing	Artifact	Freq.	Depth(m)	Ceramic Form	Ceramic Function	Colour
1	205	325	brick	4	0.3			orange
2	205	325	metal, miscellaneous	2	0.3			
3	205	325	bottle glass	1	0.3			brown
4	205	325	bottle glass	2	0.3			clear
5	205	325	window glass	4	0.3			> 1.6mm
6	215	325	cut nails	2	0.28			
7	215	325	bottle glass	2	0.28			clear
8	215	325	RWE	3	0.28	unknown	unknown	
9	195	325	brick	5	0.28			orange
10	195	325	cut nails	1	0.28			
11	195	325	bottle glass	1	0.28			clear
12	195	325	bottle glass	1	0.28			green
13	195	325	bottle glass	1	0.28			brown
14	195	325	window glass	3	0.28			> 1.6mm
15	195	325	stoneware	1	0.28	flat	unknown	tan glaze
16	195	325	ironstone	1	0.28	unknown	unknown	
17	210	325	brick	2	0.28			orange
18	210	325	stoneware	2	0.28	hollow	unknown	black glaze
19	210	325	window glass	3	0.28			> 1.6mm
20	185	315	bottle glass	5	0.3			clear
21	185	315	window glass	1	0.3			> 1.6mm
22	185	315	RWE	3	0.3	unknown	unknown	
23	185	315	brick	1	0.3			orange

Cat#	Easting	Northing	Artifact	Freq.	Depth(m)	Ceramic Form	Ceramic Function	Colour
24	200	325	brick	1	0.32			orange
25	200	325	window glass	4	0.32			> 1.6mm
26	215	310	RWE	2	0.2	flat	unknown	rim
27	215	310	ironstone	1	0.2	unknown	unknown	
28	215	310	bottle glass	1	0.2			clear
29	215	310	brick	1	0.2			orange
30	195	330	terracotta	1	0.24	hollow	unknown	light orange
31	195	330	metal, miscellaneous	1	0.24	unknown	unknown	
32	195	330	cut nails	1	0.24			
33	195	330	bottle glass	3	0.24			clear
34	195	300	brick	4	0.26			red
35	195	300	window glass	5	0.26			> 1.6mm
36	195	300	bottle glass	1	0.26			green
37	205	300	ironstone	1	0.2	hollow	unknown	
38	205	300	RWE	5	0.2	unknown	unknown	
39	205	300	bottle glass	1	0.2			clear
40	210	305	bottle glass	4	0.2			clear
41	210	305	brick	1	0.2			red
42	210	305	RWE	2	0.2	unknown	unknown	
43	190	305	stoneware	1	0.27	hollow	unknown	black glaze
44	190	305	brick	2	0.27			red
45	190	305	RWE	2	0.27	unknown	unknown	
46	190	305	window glass	3	0.27			> 1.6mm
47	190	315	RWE	7	0.15	unknown	unknown	
48	190	315	bottle glass	1	0.15			clear

Cat#	Easting	Northing	Artifact	Freq.	Depth(m)	Ceramic Form	Ceramic Function	Colour
49	190	315	window glass	10	0.15			> 1.6mm
50	190	315	brick	8	0.15			red
51	190	315	stoneware	1	0.15	unknown	unknown	tan glaze
52	185	330	metal, miscellaneous	1	0.3			
53	185	330	bottle glass	1	0.3			clear, says "canada limited"
54	185	330	bottle glass	2	0.3			brown
55	185	330	bottle glass	1	0.3			blue
56	185	330	window glass	2	0.3			> 1.6mm
57	185	330	terracotta	1	0.3	hollow	unknown	
58	185	330	RWE	1	0.3	unknown	unknown	
59	185	320	brick	1	0.27			orange
60	185	320	bottle glass	1	0.27			green
61	185	320	bottle glass	1	0.27			brown
62	185	320	stoneware	1	0.27	unknown	unknown	black glaze
63	185	320	RWE, transfer printed	1	0.27	unknown	unknown	blue
64	220	325	brick	1	0.26			red
65	220	325	bottle glass	1	0.26			clear
66	220	325	RWE	2	0.26	unknown	unknown	
67	190	325	brick	2	0.16			red
68	195	315	stoneware	1	0.26	unknown	unknown	black glaze
69	195	315	brick	7	0.26			red
70	195	315	stoneware	1	0.26	unknown	unknown	black and teal glaze, blue flowers outside
71	195	315	RWE	13	0.26	unknown	unknown	
72	195	315	bottle glass	3	0.26			clear

Cat#	Easting	Northing	Artifact	Freq.	Depth(m)	Ceramic Form	Ceramic Function	Colour
73	195	315	window glass	14	0.26			> 1.6mm
74	200	315	bottle glass	4	0.22			olive
75	200	315	bottle glass	2	0.22			brown
76	200	315	stoneware	6	0.22	unknown	unknown	black glaze
77	200	315	cut nails	10	0.22			
78	200	315	RWE	34	0.22	unknown	unknown	
79	200	315	RWE, transfer printed	1	0.22	unknown	unknown	brown
80	200	315	bottle glass	3	0.22			clear
81	200	315	RWE, transfer printed	1	0.22	unknown	unknown	blue
82	200	315	brick	5	0.22			red
83	192	312	brick	4	0.25			red
84	192	312	bottle glass	2	0.25			clear
85	192	312	bottle glass	1	0.25			brown
86	192	312	window glass	3	0.25			< 1.6mm
87	192	312	window glass	4	0.25			> 1.6mm
88	192	312	RWE	6	0.25	unknown	unknown	
89	192	312	ironstone	1	0.25	hollow	unknown	
90	192	312	RWE, transfer printed	1	0.25	unknown	unknown	green
91	192	312	RWE, transfer printed	1	0.25	unknown	unknown	blue
92	192	312	porcelain	1	0.25	unknown	unknown	
93	202	302	bottle glass	1	0.16			clear
94	202	302	bottle glass	1	0.16			brown
95	202	302	window glass	3	0.16			> 1.6mm
96	202	302	RWE	7	0.16	unknown	unknown	
97	192	317	ironstone	1	0.24	flat	unknown	rim

Cat#	Easting	Northing	Artifact	Freq.	Depth(m)	Ceramic Form	Ceramic Function	Colour
98	192	317	RWE	1	0.24	flat	unknown	rim
99	192	317	RWE	1	0.24	hollow	unknown	
100	192	317	RWE	4	0.24	unknown	unknown	
101	192	317	window glass	5	0.24			> 1.6mm
102	192	317	bottle glass	1	0.24			brown
103	192	317	brick	8	0.24			orange
104	202	317	RWE	1	0.3	unknown	unknown	rim
105	202	317	ironstone	2	0.3	unknown	unknown	
106	202	317	RWE	6	0.3	unknown	unknown	
107	202	317	stoneware	1	0.3	unknown	unknown	black glaze with burnt, painted outside
108	202	317	bottle glass	1	0.3			brown
109	202	317	bottle glass	10	0.3			clear
110	202	317	metal, miscellaneous	1	0.3			
111	202	317	brick	6	0.3			orange
112	192	307	metal, miscellaneous	2	0.28			
113	192	307	window glass	7	0.28			> 1.6mm
114	192	307	window glass	1	0.28			< 1.6mm
115	192	307	ironstone	1	0.28	unknown	unknown	
116	192	307	RWE	12	0.28	unknown	unknown	
117	202	307	stoneware	1	0.23	hollow	unknown	handle, black glaze
118	202	307	stoneware	1	0.23	hollow	unknown	black glaze
119	202	307	bottle glass	4	0.23			clear
120	202	307	RWE	4	0.23	hollow	unknown	
121	202	307	cut nails	2	0.23			

Cat#	Easting	Northing	Artifact	Freq.	Depth(m)	Ceramic Form	Ceramic Function	Colour
122	202	307	bottle glass	1	0.23			brown
123	202	307	brick	1	0.23			red
124	202	307	RWE	18	0.23	unknown	unknown	
125	197	307	cut nails	2	0.24			
126	197	307	bottle glass	16	0.24			clear
127	197	307	RWE	1	0.24	hollow	unknown	rim
128	197	307	RWE	16	0.24	unknown	unknown	
129	197	307	stoneware	1	0.24	hollow	unknown	black glaze
130	197	307	brick	2	0.24			red
131	202	312	bottle glass	2	0.27			brown
132	202	312	metal, washer	1	0.27			
133	202	312	RWE	23	0.27	unknown	unknown	
134	202	312	RWE	4	0.27	hollow	unknown	
135	202	312	stoneware	1	0.27	hollow	unknown	black glaze
136	202	312	RWE, transfer printed	1	0.27	unknown	unknown	brown
137	202	312	bottle glass	1	0.27			clear
138	202	312	cut nails	1	0.27			
139	202	312	brick	1	0.27			red
140	197	302	RWE	1	0.24	hollow	unknown	
141	197	302	bottle glass	11	0.24			clear
142	197	302	RWE	3	0.24	unknown	unknown	
143	197	302	stoneware	1	0.24	unknown	unknown	black glaze
144	197	302	brick	1	0.24			red
145	197	302	bottle glass	1	0.24			olive
146	197	312	brick	12	0.3			orange

Cat#	Easting	Northing	Artifact	Freq.	Depth(m)	Ceramic Form	Ceramic Function	Colour
147	197	312	cut nails	8	0.3			
148	197	312	metal, miscellaneous	1	0.3			
149	197	312	bottle glass	7	0.3			clear
150	197	312	bottle glass	1	0.3			olive
151	197	312	window glass	2	0.3			< 1.6mm
152	197	312	window glass	7	0.3			> 1.6mm
153	197	312	stoneware	2	0.3	hollow	unknown	black glaze
154	197	312	red earthenware	5	0.3	unknown	unknown	red with orange glaze
155	197	312	red earthenware	2	0.3	unknown	unknown	no glaze
156	197	312	ironstone	6	0.3	unknown	unknown	
157	197	312	ironstone	2	0.3	unknown	unknown	rim
158	197	312	RWE	1	0.3	flat	unknown	base
159	197	312	RWE	29	0.3	unknown	unknown	
160	197	312	RWE	1	0.3	unknown	unknown	rim
161	197	312	RWE, transfer printed	1	0.3	unknown	unknown	rim, red
162	215	320	brick	3	0.2			orange
163	215	320	cut nails	1	0.2			
164	215	320	bottle glass	1	0.2			clear
165	215	320	bottle glass	1	0.2			green
166	215	320	bottle glass	1	0.2			brown
167	215	320	window glass	3	0.2			> 1.6mm
168	215	320	RWE	1	0.2	unknown	unknown	
169	220	320	brick	1	0.26			
170	210	300	RWE	1	0.22	unknown	unknown	
171	210	300	ironstone	1	0.22	hollow	unknown	

Cat#	Easting	Northing	Artifact	Freq.	Depth(m)	Ceramic Form	Ceramic Function	Colour
172	220	330	brick	2	0.21			orange
173	220	330	bottle glass	4	0.21			clear
174	220	330	window glass	1	0.21			< 1.6mm
175	205	315	cut nails	2	0.2			
176	205	315	brick	8	0.2			orange
177	205	315	bottle glass	1	0.2			clear
178	205	315	window glass	3	0.2			< 1.6mm
179	205	315	window glass	6	0.2			> 1.6mm
180	205	315	stoneware	1	0.2	hollow	unknown	black glaze
181	205	315	RWE	10	0.2	unknown	unknown	
182	180	320	RWE	1	0.19	unknown	unknown	
183	180	320	bottle glass	1	0.19			clear
184	180	320	brick	1	0.19			red
185	200	305	stoneware	2	0.24	hollow	unknown	tan glaze
186	200	305	stoneware	1	0.24	hollow	unknown	black glaze
187	200	305	brick	1	0.24			red
188	200	305	RWE	3	0.24	hollow	unknown	
189	200	305	RWE	11	0.24	unknown	unknown	
190	200	305	RWE, transfer printed	1	0.24	unknown	unknown	green
191	200	305	window glass	9	0.24			> 1.6mm
192	200	305	bottle glass	1	0.24			olive
193	200	305	bottle glass	9	0.24			clear
194	200	300	bottle glass	15	0.34			clear
195	200	300	RWE	9	0.34	unknown	unknown	
196	200	300	RWE, transfer printed	2	0.34	unknown	unknown	blue

Cat#	Easting	Northing	Artifact	Freq.	Depth(m)	Ceramic Form	Ceramic Function	Colour
197	200	300	RWE, transfer printed	1	0.34	unknown	unknown	green
198	200	300	brick	3	0.34			red
199	205	320	stoneware	1	0.21	hollow	unknown	black glaze
200	205	320	RWE	2	0.21	unknown	unknown	
201	205	320	brick	3	0.21			red
202	200	330	bottle glass	2	0.28			clear
203	200	330	bottle glass	2	0.28			green
204	200	330	bottle glass	3	0.28			brown
205	200	330	RWE	1	0.28	unknown	unknown	
206	205	305	bottle glass	14	0.28			clear
207	205	305	RWE	12	0.28	unknown	unknown	
208	205	305	brick	1	0.28			red
209	205	305	red earthenware	1	0.28	unknown	unknown	red glaze
210	190	310	RWE	1	0.17	flat	unknown	
211	190	310	brick	3	0.17			orange
212	190	310	bottle glass	3	0.17			clear
213	190	310	terracotta	1	0.17	unknown	unknown	
214	210	310	ironstone	3	0.2	unknown	unknown	
215	210	310	RWE	1	0.2	unknown	unknown	
216	210	310	RWE, transfer printed	1	0.2	unknown	unknown	green
217	210	310	bottle glass	6	0.2			clear
218	190	330	bottle glass	2	0.27			brown
219	190	330	bottle glass	1	0.27			clear
220	190	330	brick	3	0.27			orange
221	190	330	metal, miscellaneous	1	0.27			

Cat#	Easting	Northing	Artifact	Freq.	Depth(m)	Ceramic Form	Ceramic Function	Colour
222	210	330	metal, miscellaneous	1	0.27			
223	210	330	bottle glass	1	0.27			clear
224	197	317	bottle glass	5	0.31			clear
225	197	317	RWE, transfer printed	1	0.31	unknown	unknown	green, rim
226	197	317	RWE, transfer printed	1	0.31	unknown	unknown	
227	197	317	brick	4	0.31			orange
228	197	317	ironstone	2	0.31	flat	unknown	rim
229	197	317	ironstone	4	0.31	unknown	unknown	
230	197	317	RWE	1	0.31	unknown	unknown	brown
231	197	317	stoneware	1	0.31	hollow	unknown	black glaze
232	197	317	RWE	14	0.31	unknown	unknown	
233	195	320	brick	11	0.22			orange
234	195	320	bottle glass	1	0.22			brown
235	195	320	bottle glass	3	0.22			clear
236	195	320	window glass	10	0.22			> 1.6mm
237	195	320	RWE	10	0.22	unknown	unknown	
238	210	320	bottle glass	1	0.28			clear, crown finish
239	210	320	window glass	1	0.28			> 1.6mm
240	210	320	window glass	2	0.28			< 1.6mm
241	210	320	stoneware	1	0.28	hollow	unknown	black glaze
242	205	310	metal, miscellaneous	1	0.22			
243	205	310	cut nails	3	0.22			
244	205	310	brick	7	0.22			orange
245	205	310	bottle glass	3	0.22			clear
246	205	310	bottle glass	1	0.22			brown

Cat#	Easting	Northing	Artifact	Freq.	Depth(m)	Ceramic Form	Ceramic Function	Colour
247	205	310	window glass	4	0.22			> 1.6mm
248	205	310	window glass	2	0.22			< 1.6mm
249	205	310	stoneware	2	0.22	hollow	unknown	black glaze
250	205	310	stoneware	1	0.22	hollow	unknown	black and tan glaze
251	205	310	RWE	1	0.22	unknown	unknown	rim
252	205	310	RWE	11	0.22	unknown	unknown	
253	205	310	ironstone	2	0.22	unknown	unknown	
254	205	310	RWE, transfer printed	2	0.22	unknown	unknown	blue
255	205	310	RWE, transfer printed	1	0.22	unknown	unknown	black
256	220	310	red earthenware	1	0.2	unknown	unknown	red glaze
257	220	310	bottle glass	1	0.2			green
258	220	310	brick	1	0.2			red
259	210	315	metal, bolt	1	0.23			
260	210	315	stoneware	1	0.23	hollow	unknown	black glaze
261	210	315	bottle glass	7	0.23			clear
262	210	315	brick	3	0.23			red
263	210	315	RWE	3	0.23	unknown	unknown	
264	195	305	RWE	1	0.23	unknown	unknown	
265	195	305	milk glass	1	0.23			
266	195	305	bottle glass	1	0.23			olive
267	195	305	brick	1	0.23			red
268	195	305	bottle glass	12	0.23			clear
269	195	310	bottle glass	28	0.25			clear
270	195	310	RWE	24	0.25	unknown	unknown	
271	195	310	stoneware	2	0.25	hollow	unknown	tan glaze

Cat#	Easting	Northing	Artifact	Freq.	Depth(m)	Ceramic Form	Ceramic Function	Colour
272	195	310	bottle glass	1	0.25			brown
273	195	310	stoneware	1	0.25	hollow	unknown	black glaze
274	195	310	RWE, transfer printed	1	0.25	unknown	unknown	green
275	195	310	cut nails	4	0.25			
276	195	310	brick	10	0.25			red
277	190	320	RWE	2	0.18	unknown	unknown	
278	190	320	brick	7	0.18			orange
279	190	320	window glass	14	0.18			> 1.6mm
280	190	320	bottle glass	1	0.18			green
281	190	320	bottle glass	1	0.18			brown
282	200	320	brick	5	0.28			orange
283	200	320	ironstone	1	0.28	unknown	unknown	
284	200	320	stoneware	1	0.28	hollow	unknown	black glaze
285	200	320	RWE	4	0.28	unknown	unknown	
286	200	320	bottle glass	1	0.28			clear
287	180	229	cut nails	3	0.32			
288	180	229	bottle glass	5	0.32			clear
289	180	229	jetware	1	0.32	unknown	unknown	
290	180	229	red earthenware	2	0.32	unknown	unknown	
291	200	310	metal, miscellaneous	2	0.36			
292	200	310	cut nails	5	0.36			
293	200	310	brick	1	0.36			red
294	200	310	bottle glass	10	0.36			clear
295	200	310	bottle glass	1	0.36			olive
296	200	310	window glass	20	0.36			> 1.6mm

Cat#	Easting	Northing	Artifact	Freq.	Depth(m)	Ceramic Form	Ceramic Function	Colour
297	200	310	ironstone	3	0.36	hollow	unknown	
298	200	310	RWE	9	0.36	unknown	unknown	rim
299	200	310	RWE	1	0.36	hollow	unknown	
300	200	310	RWE	32	0.36	unknown	unknown	
301	200	310	RWE, transfer printed	1	0.36	unknown	unknown	red
302	200	310	RWE, transfer printed	1	0.36	unknown	unknown	green
303	200	310	porcelain	2	0.36	unknown	unknown	
304	200	310	red earthenware	1	0.36	unknown	unknown	
305	200	310	stoneware	1	0.36	hollow	unknown	black glaze
306	200	310	stoneware	1	0.36	hollow	unknown	black glaze interior, blue glaze with bands exterior
307	200	310	stoneware	2	0.36	hollow	unknown	black and tan glaze
308	200	310	stoneware	1	0.36	hollow	unknown	black glaze with flower petal design
309	200	310	stoneware	1	0.36	hollow	unknown	tan glaze

10.2 Euro Canadian Artifact Descriptions

10.2.1 Ceramic Ware Types

RWE

In the 1820s, the blue-tinted pearlware glaze gave way to a whiter variety that some archaeologists have taken to calling whiteware; like pearlware, however, this term was not used by manufacturers. According to Miller, the white appearance of whiteware was caused by reducing the amount of cobalt added to the glaze and adding it instead to the paste (Miller, 1980a). Because whiteware was manufactured by many different recipes it can be difficult to distinguish from other ceramics in the period, including sherds of pearlware, especially when examining small sherds. As Miller suggests,

> *...if an assemblage of ceramics from the first half of the 19th Century is placed before six archaeologists and they are asked for counts of creamware, pearlware, whiteware, and stone china wares, the results will probably be six different enumerations*
>
> Miller, 1980a, p. 2

Accordingly, the term RWE is used in this report to identify whiteware sherds as well as any sherds that are too small to distinguish between whiteware, pearlware or ironstone, noting that this approach gives a conservative date to any pearlware sherds not correctly identified.

Stoneware

Stoneware vessels are made from a heavy, non-porous paste and, although naturally impermeable, they were usually glazed with a grey or brown slip. Early 19th century varieties were manufactured in England, Germany and the United States and featured a salt glaze. Stoneware vessels were relatively infrequent in Southern Ontario until the mid-1800s; by 1850, at least two potteries in Ontario (Brantford and Toronto) were producing stoneware. Because they were large and durable, stoneware vessels were typically utilitarian, functioning as food storage containers, beer jugs and tankards, butter crocks, and cream jars. By 1870, stoneware utilitarian vessels had almost completed earlier red and yellow varieties in Ontario (Lamb, 2003).

Ironstone

Ironstone is a variety of RWE that was designed by the Turner family in the late 1700s (Tharp, n.d.). Like its contemporaries, it featured a white surface, but with a bluish tint. Furthermore, ironstone vessels were usually thicker than earlier whiteware varieties with a dense, heavy paste. The impetus behind their development was a desire among Staffordshire potters to find a cheap alternative to imported porcelain. By 1813 James Mason had reworked and patented 'ironstone China.' The patent lasted only fourteen years; by that time a variety of Staffordshire potteries were producing a similar product. Nevertheless, the Mason's brand name had become associated with all of the various stone China ceramics that were in production. Ironstone began to be imported from England to Canada during the 1840s and came to dominate the ceramic trade during the middle part of the century (The Potteries.org, 2003). In terms of appearance, ironstone vessels were commonly left plain with infrequent applied surface decoration, although moulded designs were common (Adams, 1994).

Red Earthenware

Red and yellow earthenware are utilitarian wares that are manufactured from a more porous and course paste than that used for more refined RWE varieties. Earthenware vessels were also fired at a lower temperature. The presence of earthenware cannot be used to date an archaeological assemblage since they were in use throughout the entirety of the 19th century. Their frequency on sites began to decline slowly, however, from the 1850s onwards with the importation of stoneware from the United States, and then dramatically after 1890 when they were replaced by glass jars (Miller, 1980b, p. 9). Earthenware vessels were also less expensive than other, more refined tablewares. As a result, an abundance of earthenware pieces relative to other ware types, especially on a late 19th century site, may indicate lower economic status.

Porcelain

Porcelain is a variety of RWE that was first manufactured in China in the 16th century. Porcelain wares are produced using very high firing temperatures resulting in a partial vitrification of the paste. Vessel bodies tend to be translucent and can be very thin. Because of its prohibitive cost, porcelain is rare on 19th century sites in Ontario, but became relatively common by the 20th century as less expensive production techniques were developed in England, Germany and Holland (Kenyon, 1980).

Throughout the 19th century, potters in Staffordshire, England, sought to replicate Chinese porcelain resulting in the creation of many variations of RWE including creamware, pearlware, whiteware, and ironstone. English porcelain, also known as 'bone China' or 'English soft-paste porcelain', was the most common variety of porcelain represented in Euro-Canadian sites throughout the 19th century. It was a vitreous ceramic with high silicon oxide content, although not as high as Chinese porcelain, that maintained glass-like sharpness on breakage (Majewski & O'Brien, 1987). Given its cost, its presence of porcelain in large numbers on Euro-Canadian sites in Southern Ontario usually indicates a higher economic status.

Jet Ware

This black or dark grey pottery was a later copy of Jackfield ware pottery, which was popular in the late 18th century. Jet Ware was a less expensive version and is frequently mistaken for Jackfield-type ware. Jet Ware began to be manufactured in the 1860s and became popular partly as a result of Queen Victoria's habit of wearing only black following the death of her husband Prince Albert in 1861. It was mostly commonly used in the manufacture of teapots that date to the period 1875-1910 (Barker & Halfpenny, 1990).

10.2.2 Ceramic Decorative Styles

Transfer Printing

The technique of transferring a pattern from an engraved metal plate to the surface of a ceramic vessel is thought to have developed in the middle of the 18th century (Jervis, 1911); it became more widely used among Staffordshire potteries in the 1790s (Shaw, 1829). In Southern Ontario, transfer printing was popular through the first half of the 19th century before simpler techniques or no decoration whatsoever became popular. It underwent a revival after 1870 until the end of the Century (Majewski & O'Brien, 1987). Blue was the dominant colour available for printed ceramics before 1830, although blue transfer printed designs remained popular on various ware types throughout the 19th century. Brown, black and green transfer printed wares were popular between 1830 and 1870. Green transfer printing experienced a revival after 1890 (Adams, 1994).

10.2.3 Structural Artifacts

Nails

Originally all nails were hand made and required skill, as well as a forge to manufacture. As a result, early nails were relatively expensive and methods were sought to have them machine made. Whereas machine cut, or square nail manufacture began in the late 1790s, cut nails only become readily available in Upper Canada by the 1830s. Cut nails revolutionized house framing and were common for a long period, from approximately 1830 to 1890 by which time they had been largely supplanted by wire nails. Wire drawn nails are identical to the type of nails used today, with their round heads and wire shafts (Adams, 1994).

Window Glass

Window glass can be temporally diagnostic in a limited manner, but only if at least ten specimens are available. In the 1840s, window glass thickness changed dramatically, in large part due to the lifting of the English import tax on window glass in 1845. This tariff taxed glass by weight and encouraged manufacturers to produce thinner panes. Most window glass manufactured before 1845 tended to be thinner, measuring less than 1.6mm; later window glass was thicker. Because window glass thickness varied even within a single pane an assemblage of at least ten specimens is required to provide an adequate sample (Kenyon, 1980).

10.2.4 Household Artifacts

Bottle Glass

Bottle glass fragments are generally not diagnostic and are often simply categorized according to colour. Clear, or colourless glass was uncommon prior to the 1870s. Until 1880, clear glass bottles often displayed an aqua tinge that resulted from the iron additives used to de-colourise it. Clear or colourless glass came into much more widespread use after the development of automatic bottle manufacturing machines in the early 20th century (Lindsey, 2021).

Milk glass, meanwhile, was most commonly used for cosmetic containers, toiletry bottles or cream jars. The opaque white glass was very commonly used for such products dating from about 1870 through to the 20th century (Lindsey, 2021).