

# Stage 1 Archaeological Assessment of the Law Crushed Stone Quarry Extension, Part of Lots 6 and 7, Concession 2, Geographic Township of Wainfleet, Welland County, Township of Wainfleet, Regional Municipality of Niagara

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## Original Report

Prepared for:

**Waterford Sand & Gravel Limited**

70 Ewart Avenue

Brantford, Ontario, N3T 5M1

(519) 752-1300

Archaeological Licence: P449 (Bhardwaj)

PIF P449-0630-2022

Archaeological Services Inc. File: 22PL-099

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## Executive Summary

Archaeological Services Inc. was contracted by Waterford Sand & Gravel Limited to undertake a Stage 1 Archaeological Assessment of the Law Crushed Stone Quarry Extension, Part of Lots 6 and 7, Concession 2, in the former Geographic Township of Wainfleet, Welland County, now in the Township of Wainfleet, Regional Municipality of Niagara. The proposed licence boundary (subject property) is approximately 72.11 hectares. The purpose of this assessment is to provide a consolidated documented incorporating two previous Stage 1 and 2 Archaeological Assessments completed on the property in order to proceed with licensing in accordance with the *Aggregate Resources Act*.

The Stage 1 background research indicated there was a very high likelihood of encountering Indigenous and Euro-Canadian archaeological resources on the subject property.

The entire subject property has been subject to Stage 1 and 2 Archaeological Assessments. As a result of this work, 61 archaeological sites were documented within the limits of the subject property. Of these, 39 sites have been recommended for Stage 3 Archaeological Assessment.

Stage 3 Archaeological Assessment of sites AfGt-289 and AfGt-290 has since been completed, and both sites have been cleared of further archaeological concern. Thus, 37 sites require Stage 3 Archaeological Assessment.

Given the complex nature of the archaeological resources documented on the subject property, Waterford Sand & Gravel Limited plan to clear the following sites by Stage 3 and/or Stage 4 mitigation over a series of six phases as extraction activities approach their vicinities: AfGt-323 (Phase 1a); AfGt-255 (Phase 1b); AfGt-270, AfGt-272, AfGt-283, AfGt-324 (Phase 2); and AfGt-19, AfGt-276, AfGt-277, AfGt-282 (Phase 3). Additionally, sites AfGt-278 and AfGt-266, located adjacent to the proposed limit of extraction, are also to be cleared by Stage 3 and/or Stage 4 mitigation; site AfGt-278 is in the location of a proposed berm and site AfGt-266 is in the location of a proposed access road.



Waterford Sand and Gravel Limited propose to provide long-term avoidance and protection of the remaining 24 sites: AfGt-294, AfGt-261, AfGt-262, AfGt-281, AfGt-293, AfGt-284, AfGt-242, AfGt-239, AfGt-23, AfGt-245, AfGt-248, AfGt-241, AfGt-256, AfGt-257, AfGt-259, AfGt-22, AfGt-321, AfGt-322, AfGt-317, AfGt-327, AfGt-328, AfGt-326, AfGt-263, AfGt-264 and AfGt-274. The avoidance areas that are being defined include a 20-metre protection buffer. The associated 50-metre monitoring buffers will be addressed during the planned archaeological work of the above referenced six phases.



## Project Personnel

- **Senior Project Manager:** David Robertson, MA (P372), Partner, Director, Planning Assessment Division
- **Project Manager:** Jennifer Ley, Hons. BA, Lead Archaeologist, Manager, Planning Assessment Division
- **Project Director:** Robb Bharwaj, MA (P449), Associate Archaeologist, Project Manager, Planning Assessment Division
- **Project Administrator:** Lauren Vince, Hons. BA (R1235), Associate Archaeologist, Project Manager, Planning Assessment Division
- **Archival Research:** Colin McFarquhar, PhD, Project Historian; Brian Narhi, MA, Historian, Planning Assessment Division
- **Report Preparation:** Nicole Gavin, MA (P1288), Associate Archaeologist, Project Manager, Mitigation Division; Jennifer Ley
- **Graphics:** Robin Latour, MPhil, PDip, Associate Archaeologist, Geomatics Specialist, Operations Division
- **Report Reviewers:** David Robertson; Sara Cherubin, MSc (P223), Senior Archaeologist, Manager, Indigenous Sites, Mitigation Division





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## 1.0 Project Context

Archaeological Services Inc. was contracted by Waterford Sand & Gravel Limited to undertake a Stage 1 Archaeological Assessment of the Law Crushed Stone Quarry Extension, Part of Lots 6 and 7, Concession 2, in the former Geographic Township of Wainfleet, Welland County, now in the Township of Wainfleet, Regional Municipality of Niagara (Figure 1). The proposed licence boundary (subject property) is approximately 72.11 hectares.

### 1.1 Development Context

This assessment was conducted under the senior project management of David Robertson (P372), the project management of Jennifer Ley (R376), and under the project direction of Robb Bhardwaj (P449) under the Ministry of Heritage, Sport, Tourism and Culture Industries (hereafter “the Ministry”) PIF P449-0630-2022. The purpose of this assessment is to provide a consolidated documented incorporating previous archaeological assessments completed on the subject property, in order to proceed with licensing for the expansion of the existing Law Crushed Stone Quarry, in accordance with the *Aggregate Resources Act* (Ministry of Natural Resources and Forestry, 1990).

All work was completed in accordance with the *Ontario Heritage Act* (Ministry of Citizenship and Culture [now the Ministry], 1990) and the *Standards and Guidelines for Consultant Archaeologists* (hereafter “the Standards”) (Ministry of Tourism and Culture (now the Ministry), 2011).

Permission to access the subject property and to carry out all activities for the completion of this assessment was granted by the proponent on April 6, 2022.

Two previous Stage 1 and 2 Archaeological Assessments have taken place on the subject property. The first (hereafter “Property A”), contracted in 2017, included approximately 76.54 hectares under PIF P449-0165-2017 (Archaeological Services Inc., 2022). The second (hereafter “Property B”), contracted in 2020 after additional lands were acquired by the proponent, included approximately 9.84 hectares under PIF P449-0460-2020 (Archaeological Services Inc., 2021a).



Since the completion of these two Stage 1 and 2 projects, subsequent Stage 3 Archaeological Assessments have taken place on two sites, AfGt-289 and AfGt-290, under PIFs P223-0314-2021 and P223-0317-2021 (Archaeological Services Inc., 2021b). Relevant background information pertinent to this assessment has been excerpted and/or expanded upon from the previous assessments.

## **1.2 Historical Context**

The purpose of this section is to describe the past and present land use and settlement history, and any other relevant historical information gathered through the Stage 1 background research. First, a summary is presented of the current understanding of the Indigenous land use of the subject property. This is followed by a review of historical Euro-Canadian settlement trends.

Historically, the subject property is located within the south half of Lots 6 and 7, Concession 2, in the former Geographic Township of Wainfleet, County of Welland. The property is currently situated between Graybiel Road and Biederman Road, north of Highway 3 in the Township of Wainfleet. The subject property consists of agricultural fields, wooded and scrub lands, and former residential lots. The property lies south of the Wainfleet Bog.

### **1.2.1 Pre-Contact Settlement**

The following includes a general summary of the pre-contact Indigenous settlement of the subject property and vicinity. Southern Ontario has a cultural history that begins approximately 13,500 years ago and continues to the present. As there tends to be less widespread awareness of the depth of this pre-contact settlement history, or general knowledge of the societies that inhabited Ontario prior to the onset of Euro-Canadian settlement, a brief review of the prehistory of the area is necessary in order to provide an understanding of the various natural and cultural forces that have operated to create the archaeological sites that are found today (Table 1).



**Table 1: Pre-contact Indigenous Temporal Culture Periods in Southern Ontario**

Period	Description
Paleo >11,500 – 9,500 BCE	<ul style="list-style-type: none"> <li>• First human occupation of Ontario</li> <li>• Astronomers/ Artists/ Hunters/ Gatherers/ Foragers</li> <li>• Language Unknown</li> <li>• Small occupations</li> <li>• Non-stratified populations</li> </ul>
Archaic 9,500 – 1,000 BCE	<ul style="list-style-type: none"> <li>• Astronomers/ Artists/ Hunters/ Gatherers/ Foragers</li> <li>• Small occupations</li> <li>• Non-stratified populations</li> <li>• Mortuary ceremonialism</li> <li>• Extensive trade networks for raw materials and finished objects</li> </ul>
Early Woodland 1,000 – 200 BCE	<ul style="list-style-type: none"> <li>• Astronomers/ Artists/ Hunters/ Gatherers/ Foragers</li> <li>• General trend in spring/summer congregation and fall/winter dispersal</li> <li>• Small and large occupations</li> <li>• First evidence of community identity</li> <li>• Mortuary ceremonialism</li> <li>• Extensive trade networks for raw materials and finished objects</li> </ul>



Period	Description
Middle Woodland 200 BCE – 700 CE Transitional Woodland 600 – 900 CE	<ul style="list-style-type: none"> <li>• Astronomers/ Artists/ Hunters/ Gatherers/ Foragers</li> <li>• A general trend in spring/summer congregation and fall/winter dispersal into large and small settlements</li> <li>• Kin-based political system</li> <li>• Increasingly elaborate mortuary ceremonialism</li> <li>• Incipient agriculture in some regions</li> <li>• Longer term settlement occupation and reuse</li> </ul>
Late Woodland (Early Iroquoian) 900 – 1,300 CE	<ul style="list-style-type: none"> <li>• Foraging with locally defined dependence on agriculture</li> <li>• Villages, specific and special purpose sites</li> <li>• Socio-political system strongly kinship based</li> </ul>
Late Woodland (Middle Iroquoian) 1,300 – 1,400 CE	<ul style="list-style-type: none"> <li>• Major shift to agricultural dependency</li> <li>• Villages, specific and special purpose sites</li> <li>• Development of socio-political complexity</li> </ul>
Late Woodland (Late Iroquoian) 1,400 – 1,650 CE	<ul style="list-style-type: none"> <li>• Complex agricultural society</li> <li>• Villages, specific and special purpose sites</li> <li>• Politically allied regional populations</li> </ul>

## 1.2.2 Post-Contact Settlement

### Between the Lakes Purchase, Treaty 3

The subject property is within Treaty 3, the “Between the Lakes Purchase.” Following the 1764 Niagara Peace Treaty and the follow-up treaties with Pontiac, the English colonial government considered the Mississaugas to be their allies since they had accepted the Covenant Chain. The English administrators followed the terms of the Royal Proclamation and ensured that no settlements were made in the hunting grounds that had been reserved for the Mississaugas’ use (Johnston, 1964; Lytwyn, 2005). In 1784, under the terms



of the “Between the Lakes Purchase” signed by Sir Frederick Haldimand and the Mississaugas, the Crown acquired over one million acres of land spanning westward in part from near modern-day Niagara-on-the-Lake along the south shore of Lake Ontario to modern-day Burlington (Aboriginal Affairs and Northern Development Canada, 2016).

## **Early Development of Wainfleet Township**

The first township survey was undertaken in 1791, and the first legal settlers occupied their land holdings the same year. The township is said to have been named after Wainfleet All Saints in Lincolnshire, England. Wainfleet Township is bounded on the north by the townships of Pelham and Gainsboro, on the east by Humberstone Township, on the west by the township of Moulton, and on the south by Lake Erie. In 1805, Boulton noted that Wainfleet was “particularly well suited for water” and “is a most delightful situation.” The settlement of a large part of the township was hindered due to the presence of a “large tamarack and cranberry swamp.” Initial settlement was by disbanded soldiers, mainly Butler’s Rangers, following the end of the American Revolutionary War. Early immigrants had to use the mill at Niagara Falls, which settlers in the southern part of the township could reach by water. By 1817, however, Wainfleet had 72 inhabited houses and a sawmill. The arrival of the Welland Canal in the 1830s enabled immigrants to settle in the previously unoccupied parts of the township and the line of the Welland Canal feeder was cut across the centre of the township. By the 1840s, the population comprised mainly Canadian, Irish, English and Dutch settlers. By 1850, the township had a population of 1,539 (Boulton, 1805:89; Smith, 1846:202; Wainfleet Township Centennial Committee, 1967; Armstrong, 1985:148; Rayburn, 1997:359; Page, 1876:17).

According to secondary sources, three Zavitz brothers were amongst the earliest settlers in Wainfleet Township. Between 1786 and 1815, Jacob Jr., Christian, and Henry acquired all or part of Lots 1 to 7, 12 and 15 in the first concession. These three brothers came to Canada from Pennsylvania after the American Revolution. Their grandfather, George Zavitz, had come to America from the Alsace region of France around 1730, likely to escape religious persecution (Wainfleet Historical Society, 1992:274).



## **Development of Lot 6, Concession 2, Wainfleet Township**

According to the Abstract Index to Deed Titles, the Crown Patent for Lot 6 was granted to Henry Zavitz in 1797. The patent was for all 200 acres.

In 1823, Henry Zavitz sold a 35-acre parcel at the north end of the south half of the lot to John Macklem. Macklem sold his 35 acres to Edward Plant in 1830, who in turn sold it to Jacob Biederman [variously spelled Peterman, Bederman, Bitterman, and Betterman in the documents] in 1834. Biederman then subdivided the parcel and sold the east 18 acres to Michael Reeb in 1844. In 1853, Jacob Biederman sold the remaining 17 acres to Auguste Maltzer in 1853 (Archives Ontario, no date [a]) No other transactions were noted for this parcel during the nineteenth century (Archives Ontario, no date [b]).

To confirm who settled on the property, other sources of information were consulted. The 1851 Census of Wainfleet Township is no longer extant and the earliest assessment roll dates to 1854. Five heads of households are listed for Lot 6 in the 1854 assessment, including that of Auguste Maltzer, who is listed as a 25-year-old farmer who occupied 17 acres in the northeast part of Lot 6 (Archives Ontario, no date [c]). The 1861 Census provides further information. In that year, Auguste Maltzer was a 33-year-old Prussian-born farmer of French origin who lived with his wife, three children, and 68-year-old Jacob Biederman in a one-storey log dwelling. The family possessed a total of 67 acres in Lots 6 and 9, of which 29 acres was devoted to crops, one to garden, and 37 left wild. The crops included wheat, barley, rye, peas, oats, Indian corn, potatoes, and hay, while they also owned cows, horses, sheep, and pigs (Archives Ontario, 1861).

The name of Auguste Maltzer could not be found in subsequent assessment rolls or censuses until the 1891 assessment listed him as a 62-year-old freeholder who possessed 17 acres in the west-central part of Lot 6 (Archives Ontario, no date [d]).





## Development of Lot 7, Concession 2, Wainfleet Township

According to the Abstract Index to Deed Titles, the Crown Patent for the south part of Lot 7 was granted to Benjamin Hardison in 1802. The patent was for 60 acres. Crown Patent for the southwest part of the lot (33 acres) was granted to James Logan in 1830. In 1835, James Logan bought the 60 acres in the south part. In 1848, James Logan et al. sold 128 acres in the south part of Lots 6 and 7 to John Reeb. John Reeb et al. sold 30 acres in the southwest part to Michael Reeb in 1848. John Reeb then sold 98 acres in the south part of Lots 6 and 7 to Andrew Reeb in 1848. Michael Reeb then sold 30 acres in the southwest part to Andrew Reeb in 1856 (Archives Ontario, no date [a]). No other transactions were noted for these parcels during the nineteenth century (Archives Ontario, no date [b]).

To confirm who settled on the property, other sources of information were consulted. The 1851 Census of Wainfleet Township is no longer extant and the earliest assessment roll dates to 1854. Two heads of household were listed for Lot 7 in the 1854 assessment. Andrew Reeb was a farmer who occupied 63.5 acres in the south part while Michael Reeb was a farmer who occupied 30 acres in the south part (Archives Ontario, no date [c]). The 1861 Census provided further information. In that year, Andrew Reeb was a 34-year-old Upper Canadian-born Lutheran farmer who lived with his wife, five children, and 69-year-old Margaret Reeb, in a one-and-a-half storey brick dwelling. The family possessed 129.5 acres in Lots 6 and 7 of which 82.5 acres were used for crops, four for pasture, three for gardens, and the remaining 40 left wild. The farm's crops included wheat, barley, oats, Indian corn, potatoes, and hay, while the livestock consisted of horses, sheep, and pigs (Archives Ontario, 1861).

Andrew Reeb continued to farm this property according to the 1871 census, and his family had grown to include nine children (Archives Ontario, 1871).

A total of four families were enumerated for Lots 6 and 7 in the 1901 census. It would appear that Charles Reeb had taken over as the principal farmer for the parcel of interest. Reeb was listed as a 29-year-old Ontario-born Anglican farmer of German origin who lived with his wife and child. The family farmed 146 acres in Lots 6 and 7 and owned a six-room house. Andrew Reeb was also listed as a



74-year-old French-born farmer of German origin who lived with his wife. No occupation was listed or acreage was recorded although they resided on Lots 6 and 7. They occupied a nine-room house (Archives Ontario, 1901).

### 1.2.3 Review of Historic Map Sources

The previous Stage 1 and 2 assessments included a review of historical mapping in order to determine the presence of settlement features within the subject property during the nineteenth century and early twentieth century that may represent potential historical archaeological sites.

Historical map sources are used to reconstruct/predict the location of former features within the modern landscape by cross-referencing points between the various sources and then georeferencing them in order to provide the most accurate determination of the location of any property from historic mapping sources. The results can be imprecise (or even contradictory) as various sources, such as the vagaries of map production, differences in scale or resolution, and distortions caused by the reproduction of the sources, introduce error into the process. The impacts of this error are dependent on the size of the feature in question, the constancy of reference points on mapping, the distances between them, and the consistency with which both are depicted on historical mapping.

In addition, not all settlement features were depicted systematically in the compilation of these historical map sources, given that they were financed by subscription, and subscribers were given preference with regards to the level of detail provided. Thus, not every feature of interest from the perspective of archaeological resource management would have been within the scope of these sources.

To condense a cumbersome description, the southern part of Lot 7 will be referred to as Lot 7, and the southern parts of Lot 6, divided into thirds, will each be referred to as Lot 6-north, Lot 6-centre, or Lot 6-south.

The 1862 *Tremaine Map of the Counties of Lincoln and Welland* (Tremaine, 1862) indicates Lot 7 as well as Lot 6-south under the ownership of Andrew Rebb (Figure 2). Lot 6-centre is owned by Mrs. Zavitz, and Lot 6-north is owned by A. Manzer (Maltzer). Historically important transportation routes border the



east side of Lot 6, the west side of Lot 7, and south ends of both lots. These roads correspond respectively to present-day Biederman Road, Graybiel Road, and Highway 3.

The 1876 *Illustrated Historical Atlas of the Counties of Lincoln and Welland* (Page, 1876) indicates that A. Reeb remained in possession of his Lot 7 and Lot 6-south parcels. His homestead and orchard are depicted along the eastern edge of the Lot 7, set back approximately 250 metres from present-day Highway 3 (Figure 3). Lot 6-centre, owned by T. Zavitz, includes a homestead fronting on present-day Biederman Road, near the middle of the parcel. Lot 6-north has been divided into two parcels with a lane from Biederman Road providing access to both. G. Peterman owns the parcel nearest to the road and his homestead is fronting on the west side of the road, just south of the lane. The interior parcel is owned by A. Molzar (Maltzer), and his homestead is situated at the west end of the lane, outside of the subject property.

The early topographic map series clearly shows features such as roads, structures, streams, wetlands, and woodlots. The 1907 *NTS Welland Sheet* (Figure 4) indicates a similar road system as the nineteenth century maps with one additional north-south road extending northward from Highway 3, following the division between Lots 6 and 7. Two structures are indicated to the immediate west of this road, a wood frame structure in the north and a brick structure in the south. In Lot 6-north, a third wood frame structure fronts on Biederman Road. A wide east-west band of woods spans the centre of the subject property, and the Wainfleet Bog is clearly depicted to the north and west. The locations of the features on this mapping appear approximate in comparison to earlier and subsequent mapping.

### 1.2.4 Review Aerial Imagery

In order to further assess the previous land use, available aerial and satellite imagery of the subject property was reviewed (Brock University, 2011; Google Earth, 2022). On the very clear 1934 aerial image, the subject property appears as a patchwork of cultivated fields (Figure 5). In the south-central portion of the property, the area around the former Reeb farmstead is uncultivated, as is a small pasture or orchard to the southwest of the homestead and a narrow band of vegetation extending northeastward.



The 1934 aerial image also clearly shows structures present at the time. The former Reeb farmstead straddles the boundary between Lots 6 and 7 with a long lane providing access from Highway 3. In Lot 6-centre, a small cluster of structures is visible in the southeastern corner of the parcel, but these structures appear to be south of the former Zavitz homestead. In Lot 6-north, a small cluster of structures fronting on Biederman Road may correspond to the former farmstead of G. Peterman.

By 2006, the aerial imagery shows that a number of the former fields are covered by trees and vegetation (Figure 6). There are also visible changes in the structures that are present on the subject property. The Reeb farmstead on the Lot 6-7 boundary has been removed and is now covered with vegetation. In the southeastern corner of Lot 6-south, a residence has been constructed and then removed (Figures 6-7). In Lot 6-centre, the 1934 house persists, and another residence has been added to the west. Also in Lot 6-centre, a small cluster of structures has been added in the vicinity of the former Zavitz homestead, and the area surrounding the cluster is covered by vegetation; all of these structures have since been removed (Figure 7). In Lot 6-north, a house at the northeast corner on the road persists (Figures 6-7).

## 1.3 Archaeological Context

This section provides background research pertaining to previous archaeological fieldwork conducted within and in the vicinity of the subject property, its environment characteristics (including drainage, soils, surficial geology, topography, etc.), and current land use and field conditions.

### 1.3.1 Registered Archaeological Sites

In order that an inventory of archaeological resources could be compiled for the subject property, three sources of information were consulted: the site record forms for registered sites housed at the Ministry; published and unpublished documentary sources; and the files of Archaeological Services Inc.

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database which is maintained by the Ministry. This database contains archaeological sites registered within the Borden system. The Borden system was first proposed by Dr. Charles E. Borden and is based on a



block of latitude and longitude. Each Borden block measures approximately 13 kilometres east-west by 18.5 kilometres north-south. Each Borden block is referenced by a four-letter designator, and sites within a block are numbered sequentially as they are found. The subject property under review is located within the AfGt Borden block.

During the initial Stage 1 and 2 assessment of Property A, eight pre-contact archaeological sites had been registered within a one-kilometre radius of the subject property (Archaeological Services Inc. 2018). These sites included: AfGt-17, AfGt-19, AfGt-22, AfGt-23, AfGt-71, AfGt-103, AfGt-104 and AfGt-105. As the surrounding area is largely rural, few systematic archaeological assessments had been conducted, and most of the known sites were identified during research surveys. At the time of the previous assessment, three of these sites, AfGt-19, AfGt-22 and AfGt-23, were previously registered within the property limits. AfGt-19 was described as a large quarry workshop, and the other two, AfGt-22 and AfGt-23, were described as smaller lithic sites. AfGt-23 was further identified as “probably Archaic”, but no cultural/temporal affiliation was offered for the other two sites. Each of these sites is described detail below.

Since the completion of the two previous Stage 1 and 2 assessments, a total of 70 archaeological sites are now registered within a one-kilometre radius of the subject property. A total of 61 sites are now registered within the property limits, including sites AfGt-19, AfGt-22 and AfGt-23 which were re-found and/or amalgamated with sites documented in their immediate vicinity (e.g., within 10 metres). A summary of all sites is displayed in Appendix A.

### **1.3.2 Previous Assessments and Research**

No systematic archaeological assessments were known within 50 metres of the subject property. The nearest was a Stage 1 Archaeological Assessment conducted under PIF P057-639-2010 as part of the Wainfleet Water and Wastewater Servicing Class Environmental Assessment. The large Stage 1 study area extended from Highway 3 to the lakeshore (Archaeological Services Inc., 2010). However, subsequent Stage 2 Archaeological Assessment was confined to the margins of roadways distant from the subject property in 2012 (Archaeological Services Inc., 2012).



During the spring, summer, and fall of 1977, Christopher Ellis undertook an archaeological survey and testing project in the Niagara Peninsula (1979). The first phase of the survey was conducted in the immediate vicinity of the Wainfleet Bog and the Welland River and its tributaries north of the bog. It resulted in the documentation of 67 archaeological sites. The presence of numerous sites was not unexpected as easily accessible sources of Onondaga chert can be found along the Lake Erie shoreline, and Indigenous populations would have been attracted to this region to exploit this lithic resource.

During his survey of cultivated fields within the subject property, Ellis identified three pre-contact lithic sites associated with a “knoll” extending to the eastern boundary of a field. Small artifact collections were recovered from each of the three sites.

The largest of the three sites is AfGt-19 (Highway 3 No. 2, 1-8-2), a lithic workshop of undetermined cultural affiliation with abundant debitage that includes cores and large flakes with cortex and potlidding. Ellis indicates the scatter is located at approximately 186 metres above sea level, situated on the northern slope of a large sandy knoll, with a 15 metres wide unploughed strip extending across the centre of the scatter. Based on the site setting as described on the original Borden form, the site may be located approximately 110 metres further to the southeast than the site location mapped in the Ontario Archaeological Sites Database.

Site AfGt-22 (Highway 3 No. 1, 1-8-1) is situated on the knoll at an elevation of approximately 185 metres above sea level. The lithic scatter measured 10 metres north-south, but the east-west extent is unknown since the site is situated at the eastern edge of a field. Based on the site setting as described on the original Borden form, the site may be approximately 40 metres further to the south-southeast than the site location mapped in the Ontario Archaeological Sites Database.

Site AfGt-23 (Highway 3 No. 3, 1-8-3) is located on the southern slope of the knoll at approximately 189 metres above sea level. The lithic scatter measured 20 metres in diameter and is said to probably be Archaic.





## **Stage 1 and 2 Archaeological Assessment, Property A, P449-0165-2017**

Archaeological Services Inc. was contracted by Waterford Sand and Gravel Ltd. to complete a Stage 1 and 2 Archaeological Assessment of the Law Crushed Stone Quarry Extension, part of Lots 6 and 7, Concession 2, Geographic Township of Wainfleet, Welland County, now in the Township of Wainfleet, Regional Municipality of Niagara (Archaeological Services Inc., 2022). The assessment of the 76.54-hectare Property A was undertaken in 2017 by means of a pedestrian survey at one and five metre intervals and a test pit survey at five and 10 metre intervals. This assessment resulted in the identification of 24 Indigenous findspots, 47 Indigenous sites, two multi-component Indigenous and Euro-Canadian sites, and two Euro-Canadian sites. Property A extends beyond the current subject property.

Sites AfGt-19, AfGt-22 and AfGt-23, previously identified by C. Ellis (1979) as pre-contact Indigenous sites, were compared to the field results to determine whether any of the sites could be attributed to any particular sites identified during the course of this assessment. AfGt-19 was an 80 metre by 80 metre lithic scatter, which was approximately eight metres distant from AfGt-258. On account of being within 10 metres of AfGt-19, AfGt-258 was amalgamated with the registered site and retains AfGt-19 as the Borden designation. AfGt-23 was a 20 metre by 20 metre lithic scatter, which was immediately adjacent to AfGt-240. Due to its close proximity, AfGt-240 was amalgamated with the registered site and retains AfGt-23 as the Borden designation. The location information (latitude and longitude) provided in the site record form for AfGt-22 did not correspond with any of the finds.

Of the sites found, Stage 3 Archaeological Assessment was recommended for 34 of them: Indigenous diagnostic sites AfGt-23, AfGt-255, AfGt-264, AfGt-266, AfGt-272, AfGt-274, AfGt-276, AfGt-277, AfGt-281, AfGt-285 and AfGt-290; Indigenous non-diagnostic sites AfGt-19, AfGt-239, AfGt-241, AfGt-242, AfGt-245, AfGt-248, AfGt-256, AfGt-257, AfGt-259, AfGt-261, AfGt-262, AfGt-263, AfGt-270, AfGt-278, AfGt-282, AfGt-283, AfGt-284, AfGt-287 and AfGt-289; multi-component sites Benjamin Hardison (AfGt-286) and Logan-Rebb 1 (AfGt-294); and Euro-Canadian sites Logan-Rebb 2 (AfGt-293) and Henry Zavitz (AfGt-295).



## **Stage 1 and 2 Archaeological Assessment, Property B, P449-0460-2020**

Archaeological Services Inc. was contracted by Waterford Sand and Gravel Ltd. to complete a Stage 1 and 2 Archaeological Assessment of the Law Crushed Stone Quarry Extension, part of Lot 6, Concession 2, Geographic Township of Wainfleet, Welland County, now in the Township of Wainfleet, Regional Municipality of Niagara (Archaeological Services Inc., 2021a). The assessment of the 9.84-hectare additional parcel was undertaken in 2020-2021 by means of a pedestrian survey at one-metre intervals and test pit survey at five-metre intervals. During the assessment an additional 13 archaeological sites and nine isolated finds were identified.

AfGt-22 was previously identified by C. Ellis (1979) as a pre-contact Indigenous site and was compared to the field results to determine whether it could be attributed to any particular site identified during the course of this assessment. AfGt-22 was a 10 metre by 10 metre lithic scatter location within the western limits of the documented P1/P3 location. On this basis, the newly documented material was combined with the registered site.

Of the sites found, Stage 3 Archaeological Assessment was recommended for nine Indigenous sites: AfGt-22, AfGt-317, AfGt-321, AfGt-322, AfGt-323, AfGt-324, AfGt-326, AfGt-327, and AfGt-328.

## **Stage 3 Archaeological Assessment, P223-0314-2021 and P223-0317-2021**

Archaeological Services Inc. was contracted by Waterford Sand and Gravel Ltd. to complete a Stage 3 Archaeological Assessment of AfGt-289 and AfGt-290, Law Crushed Stone Quarry Extension, part of Lot 6, Concession 2, Geographic Township of Wainfleet, Welland County, now in the Township of Wainfleet, Regional Municipality of Niagara (Archaeological Services Inc., 2021b). The Stage 3 assessments of AfGt-289 and AfGt-290 were conducted in the summer of 2021 and consisted of a controlled surface pick-up and test unit excavation.





A total of 18 test units were excavated across an area measuring 24 metres north-south by 16 metres east-west at AfGt-289. Eight units were positive for cultural material and resulted in the recovery of 19 non-diagnostic Indigenous lithic artifacts, including one non-diagnostic biface.

A total of 12 test units were excavated across an area measuring 26 metres north-south by 15 metres east-west at AfGt-290. Five test units were positive for cultural material and resulted in the recovery of 19 non-diagnostic Indigenous lithic artifacts. Based upon the recovery of a projectile point in the Stage 2 assessment of AfGt-290, this site was identified as a Middle Archaic site (6,000–2,500 BCE).

Due to their ephemeral nature and low artifact density, sites AfGt-289 and AfGt-290 did not meet the requirements of the Standards for further archaeological assessment and it was recommended that they be cleared of further archaeological concern.

### **1.3.3 Physiography**

The subject property is located within the Haldimand Clay Plain physiographic region of southern Ontario. Extending from the Niagara Escarpment to Lake Erie, the clay plain was submerged in glacial Lake Warren around 12,500 before present. Characteristics typically include heavy lacustrine clay soils and poor drainage on level terrain (Chapman and Putnam, 1984:156-158).

In the Lake Erie basin, a progression of lake levels has resulted in a series of beach and off-shore deposits. The non-glacial waters of early Lake Erie were initiated around 12,400 before present (Calkin and Feenstra, 1985: 163) but lake levels have ranged around the modern values due to the offsetting influences of an isostatic rebound rate of approximately six centimetres per century (Calkin and Feenstra, 1985), erosion of the Niagara River outlet, and varying inflow from the Huron basin (Pengelly et al., 1997).

The subject property is situated at the interface of several landforms within the Haldimand Clay Plain region. A band of typical clay plain extends in a north-easterly direction across the property, and here poorly drained 15-40 centimetre deep loamy Welland soils overlie heavy lacustrine clay. To the northwest of this band, 20-50 centimetres of imperfectly drained Franktown soil



of variable texture overlies bedrock. Along the northern property boundary in the general vicinity of a beach ridge, there is a narrow band of irregular and moderately sloped terrain where 10-20 centimetres of rapidly drained Farmington soil of variable texture overlies bedrock. This sloped strip comprises the southern margin of the Wainfleet Bog, a large area of peaty deposits.

To the south of the clay band is a narrow band of irregularly and gently sloped terrain where 10-20 centimetres of rapidly drained Farmington soils of variable texture overlie bedrock. In the southeastern portion of the property, the depth of the topsoil over the bedrock increases modestly to 20-50 centimetres. The topsoil in this area is imperfectly drained Franktown soils of variable texture and the terrain is almost level (Chapman and Putnam, 1984:21, 156-159; Kingston and Presant, 1989).

Drainage on the subject property is complex, and Niagara Peninsula Conservation Authority mapping was utilized to identify drainages (Niagara Peninsula Conservation Authority, 2018). Most of the property is within the Biederman Drain portion of the Central Welland River watershed. The southwestern corner of the property is in the Mill Race Creek subwatershed of the Big Forks Creek watershed. The southeastern corner is in the Eagle Marsh Drain portion of the Lake Erie north shore watershed.

### **1.3.4 Existing Conditions**

The subject property is approximately 72.11 hectares and is situated in a rural agricultural setting. The property is bounded on the west by Graybiel Road, on the east by Biederman Road, on the south by Highway 3, and on the north by the Wainfleet Bog. Lands to the west and south include agricultural fields and small residential and institutional properties. To the north is wooded areas adjacent to the bog (Figure 7).

The subject property currently comprises a mix of active agricultural fields, woodlands, former farmsteads as well as existing residences with farming activities. The terrain in the subject property is level, descending in two steps from the south down towards the bog to the north. The first step is a northeast-southwest trending ridge in the south-central portion of the property. The vegetation-covered, gently sloped ridge includes a knoll at its western end. The



second step is along the northern edge of the property where a wooded, irregular slope occurs along the wooded margin of the bog.

### **1.3.5 Review of Pre-contact Archaeological Potential**

The Standards, Section 1.3.1 stipulates that undisturbed lands within 300 metres of primary water sources (lakes, rivers, streams, creeks, etc.), secondary water sources (intermittent streams and creeks, springs, marshes, swamps, etc.), ancient water sources (glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, cobble beaches, etc.), as well as accessible or inaccessible shorelines (high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh, etc.) are characteristics that indicate archaeological potential.

Potable water is the single most important resource necessary for any extended human occupation or settlement. Since water sources have remained relatively stable in south central Ontario after the Pleistocene era, proximity to water can be regarded as a useful index for the evaluation of archaeological site potential. Indeed, distance from water has been one of the most commonly used variables for predictive modelling of site location.

Several mapping sources were reviewed to determine the nearest source of water to the subject property. Although it is possible that surface drainage has been altered by the adjacent quarry operation, lands in the vicinity are generally poorly drained and are on the edge of the large Wainfleet Bog. A small stream 125 metres to the northwest of the property extends along the base of the slope at the edge of the bog.

Other geographic characteristics that can indicate archaeological potential include: elevated topography (eskers, drumlins, large knolls, plateaux), pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground, distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings. Resource areas, including food or medicinal plants (migratory routes, spawning areas, prairie) and scarce raw materials



(quartz, copper, ochre, or outcrops of chert) are also considered characteristics that indicate archaeological potential.

The most important feature of the local bedrock is the relative accessibility of its chert-bearing deposits. The Niagara Escarpment is the edge of a large bedrock bowl that is centred in Michigan. The Onondaga Formation provided one of the most widely used cherts for tool manufacture throughout regional prehistory. Commonly known as Onondaga chert, due to its presence in the Onondaga Formation, this material does not outcrop on the Onondaga Escarpment, except where exposed by modern stone quarrying. However significant and extensive outcrops occur along the north shore of Lake Erie from Fort Erie to Nanticoke (Parkins, 1977:86; Eley and von Bitter, 1989:28-29). In these locations, Onondaga chert would have been available in abundance to Indigenous peoples with large chert cobbles littering the local beaches as a result of wave action which fractures and reduces the tabular chert. During the Nipissing Rise from 5,500 to 3,800 before present, lake levels would have risen to about 180 metres above sea level, and it is notable that the elevation of the subject property is approximately 186 metres above sea level.

Based on the presence of registered archaeological sites, the proximity to a small stream and the Wainfleet Bog, and the proximity to chert outcrops in the general vicinity, there is the very high potential for the identification of Indigenous sites, depending on the degree of later developments or soil alterations.

### **1.3.6 Review of Historical Archaeological Potential**

The Standards, Section 1.3.1 stipulate those areas of early Euro-Canadian settlement (pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries, are considered to have archaeological potential. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks. Early historical transportation routes (trails, passes, roads, railways, portage routes), properties listed on a municipal register or designated under the Ontario Heritage Act or a federal, provincial, or municipal historic landmark or site, and properties that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations are also considered to have archaeological potential.



For the Euro-Canadian period, the majority of early nineteenth century farmsteads (i.e., those which are arguably the most potentially significant resources and whose locations are rarely recorded on nineteenth century maps) are likely to be captured by the basic proximity to the water model, since these occupations were subject to similar environmental constraints. An added factor, however, is the development of the network of concession roads and railroads through the course of the nineteenth century. These transportation routes frequently influenced the siting of farmsteads and businesses. Accordingly, undisturbed lands within 100 metres of an early historical transportation route are also considered to have potential for the presence of Euro-Canadian archaeological sites.

The Standards also defines buffers of 300 metres around registered historical sites or designated properties, areas of early historic settlement, and locations identified through local knowledge or informants. No such locations are known in the vicinity of the subject property.

Given the proximity to the historically important transportation corridors of present-day Highway 3, Graybiel Road and Biederman Road, and the presence of several early historical settlement features, there is a high potential of encountering nineteenth-century historical material within the subject property, depending on the degree of more recent land disturbances.

## 2.0 Field Methods

The entire subject property has been previously assessed under two separate Stage 1 and 2 Archaeological Assessment projects (Figure 8). As a result of this work, 61 archaeological sites were documented within the limits of the subject property (Archaeological Services Inc., 2022; 2021a). Stage 3 Archaeological Assessment of sites AfGt-289 and AfGt-290 has also since been completed (Archaeological Services Inc., 2021b).

## 3.0 Analysis and Conclusions

Archaeological Services Inc. was contracted by Waterford Sand & Gravel Limited to undertake a Stage 1 Archaeological Assessment of the Law Crushed Stone Quarry Extension, Part of Lots 6 and 7, Concession 2, in the former Geographic



Township of Wainfleet, Welland County, now in the Township of Wainfleet, Regional Municipality of Niagara. The subject property is approximately 72.11 hectares.

The Stage 1 background research indicated there was a very high likelihood of encountering Indigenous and Euro-Canadian archaeological resources on the subject property.

The entire subject property has been subject to Stage 1 and 2 Archaeological Assessments. As a result of this work, 61 archaeological sites were documented within the limits of the subject property (Supplementary Documentation Figures 1-7). Of these, 39 sites have been recommended for Stage 3 Archaeological Assessment.

Stage 3 Archaeological Assessment of sites AfGt-289 and AfGt-290 has since been completed, and both sites have been cleared of further archaeological concern. Thus, 37 sites require Stage 3 Archaeological Assessment.

Given the complex nature of the archaeological resources documented on the subject property, Waterford Sand & Gravel Limited plan to clear the following sites by Stage 3 and/or Stage 4 mitigation over a series of six phases as extraction activities approach their vicinities (Supplementary Documentation Figures 8-9): AfGt-323 (Phase 1a); AfGt-255 (Phase 1b); AfGt-270, AfGt-272, AfGt-283, AfGt-324 (Phase 2); and AfGt-19, AfGt-276, AfGt-277, AfGt-282 (Phase 3). Additionally, sites AfGt-278 and AfGt-266, located adjacent to the proposed limit of extraction, are also to be cleared by Stage 3 and/or Stage 4 mitigation; site AfGt-278 is in the location of a proposed berm and site AfGt-266 is in the location of a proposed access road.

Waterford Sand and Gravel Limited propose to provide long-term avoidance and protection of the remaining 24 sites (Supplementary Documentation Figure 8-9): AfGt-294, AfGt-261, AfGt-262, AfGt-281, AfGt-293, AfGt-284, AfGt-242, AfGt-239, AfGt-23, AfGt-245, AfGt-248, AfGt-241, AfGt-256, AfGt-257, AfGt-259, AfGt-22, AfGt-321, AfGt-322, AfGt-317, AfGt-327, AfGt-328, AfGt-326, AfGt-263, AfGt-264 and AfGt-274. The avoidance areas that are being defined include a 20-metre protection buffer. The associated 50-metre monitoring buffers will be addressed during the planned archaeological work of the above referenced six phases.



## 4.0 Recommendations

In light of these results, and in accordance with the Ministry of Heritage, Sport, Tourism and Culture Industries 2011 *Standards and Guidelines for Consultant Archaeologists*, the following recommendations are made:

1. Indigenous diagnostic sites AfGt-255, AfGt-266, AfGt-272, AfGt-276, AfGt-277 and Indigenous non-diagnostic sites AfGt-19, AfGt-270, AfGt-278, AfGt-282, AfGt-283, AfGt-323 and AfGt-324 are considered to be archaeological resources of cultural heritage value or interest for which it is not clear that Stage 4 mitigation will be required. As these sites cannot be avoided within the proposed limit of extraction, it is recommended that the sites be subject to a comprehensive Stage 3 Archaeological Assessment in order to more fully identify the character, extent and significance of the archaeological deposit, in accordance with the Standards.

The proponent plans to proceed with an application for a licence under the Aggregate Resources Act which will include the following archaeological sites: AfGt-255, AfGt-266, AfGt-272, AfGt-276, AfGt-277, AfGt-19, AfGt-270, AfGt-278, AfGt-282, AfGt-283, AfGt-323 and AfGt-324, that are to be subject to interim protection until extraction activities approach their vicinities. The interim avoidance and protection measures comprise the following:

- a) The protected areas of these archaeological sites, including the associated 20 metre protection buffers, must be shown on the Aggregate Resource Act site plan accompanying the licence application. These protected site areas correspond to those as shown on Figures 8 and 9 in the Supplementary Documentation to this report;
- b) A condition must be placed on the Aggregate Resources Act licence stating that archaeological sites AfGt-255, AfGt-266, AfGt-272, AfGt-276, AfGt-277, AfGt-19, AfGt-270, AfGt-278, AfGt-282, AfGt-283, AfGt-323 and AfGt-324 are present as shown on the Aggregate Resources Act site plan; that no extraction, alterations or soil disturbance may be carried out within the limits of the protected





area of the archaeological sites; that post and wire fencing will be erected along the limits of the 20-metre protection buffers under the direction of the licensed consultant archaeologist; and that archaeological monitoring is required within the further 50-metre construction monitoring buffers should extraction approach their vicinities;

- d) A letter is provided by the Aggregate Resources Act licensee stating that they are aware of the presence of the archaeological sites within the limits of the Aggregate Resources Act licence and that that they are aware of the restrictions on alteration of an archaeological site of further cultural heritage value or interest as per the condition on their Aggregate Resources Act licence and as per Section 48 of the Ontario Heritage Act.
- e) As extraction activities approach site vicinities, Stage 3 assessments should commence with the creation of a recording grid on a fixed datum, the position of which has been recorded using a GPS. Then, a controlled surface collection must be conducted to precisely define the nature and extent of the sites found within a ploughed context. This work will require that the site areas be re-ploughed and allowed to weather for a least one substantial rainfall prior to commencing this work. The location of each artifact should be mapped with the aid of a tape measure and transit, and a surface map produced of each site;
- f) A series of one-metre-square test units will then be excavated across the site areas at five-metre intervals within an established grid in order to determine the nature and extent of the cultural deposits. An additional 20% of the total number of units excavated on the grids will be strategically excavated at five-metre intervals throughout the sites, around units of high artifact counts or other significant areas of the sites. The test units should be excavated five centimetres into the sterile subsoil and soil fills screened through six-millimetre wire mesh to facilitate artifact recovery. The sterile subsoil should be troweled and all soil profiles examined for undisturbed cultural deposits; and





- g) The results of the Stage 3 assessment will be used to evaluate the significance of each site and to develop a series of recommendations concerning any further mitigative options that may be necessary.
2. The proponent will proceed with an application for a licence under the Aggregate Resources Act which will includes the following archaeological sites: AfGt-294, AfGt-261, AfGt-262, AfGt-281, AfGt-293, AfGt-284, AfGt-242, AfGt-239, AfGt-23, AfGt-245, AfGt-248, AfGt-241, AfGt-256, AfGt-257, AfGt-259, AfGt-22, AfGt-321, AfGt-322, AfGt-317, AfGt-327, AfGt-328, AfGt-326, AfGt-263, AfGt-264 and AfGt-274, that are to remain protected within the licensed limits. The long-term avoidance and protection measures comprise the following:
- a) The protected areas of these archaeological sites, including the associated 20 metre protection buffers, must be shown on the Aggregate Resource Act site plan accompanying the licence application. These protected site areas correspond to those as shown on Figures 8 and 9 in the Supplementary Documentation to this report;
  - b) A condition must be placed on the Aggregate Resources Act licence stating that archaeological sites AfGt-294, AfGt-261, AfGt-262, AfGt-281, AfGt-293, AfGt-284, AfGt-242, AfGt-239, AfGt-23, AfGt-245, AfGt-248, AfGt-241, AfGt-256, AfGt-257, AfGt-259, AfGt-22, AfGt-321, AfGt-322, AfGt-317, AfGt-327, AfGt-328, AfGt-326, AfGt-263, AfGt-264 and AfGt-274 are present as shown on the Aggregate Resources Act site plan; that no extraction, alterations or soil disturbance may be carried out within the limits of the protected area of the archaeological sites; that post and wire fencing will be erected along the limits of the 20-metre protection buffers under the direction of the licensed consultant archaeologist; that monitoring is required within the further 50-metre construction monitoring buffers; and, that if the archaeological sites are still present when the Aggregate Resources Act licence is surrendered that a restrictive covenant will be placed on title to continue the protection of the archaeological site;



- c) A letter is provided by the Aggregate Resources Act licensee stating that they are aware of the presence of the archaeological site within the limits of the Aggregate Resources Act licence and that that they are aware of the restrictions on alteration of an archaeological site of further cultural heritage value or interest as per the condition on their Aggregate Resources Act licence and as per Section 48 of the Ontario Heritage Act.
- 3. During any further archaeological assessments on the subject property, meaningful engagement with Indigenous communities should be conducted, as outlined in Section 35 of the *Standards and Guidelines for Consultant Archaeologists* and the *Engaging Aboriginal Communities in Archaeology Technical Bulletin*.

**NOTWITHSTANDING** the results and recommendations presented in this study, ASI notes that no archaeological assessment, no matter how thorough or carefully completed, can necessarily predict, account for, or identify every form of isolated or deeply buried archaeological deposit. In the event that archaeological remains are found during subsequent construction activities, the consultant archaeologist, approval authority, and the Cultural Programs Unit of the Ministry of Heritage, Sport, Tourism and Culture Industries must be immediately notified.

The above recommendations are subject to Ministry approval and it is an offence to alter any archaeological site without Ministry of Heritage, Sport, Tourism and Culture Industries concurrence. No grading or other activities that may result in the destruction or disturbance of any archaeological sites are permitted until notice of Ministry of Heritage, Sport, Tourism and Culture Industries approval has been received.



## 5.0 Advice on Compliance with Legislation

ASI advises compliance with the following legislation:

- This report is submitted to the Ministry of Heritage, Sport, Tourism and Culture Industries as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, RSO 2005, 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 field work and report recommendations ensure the conservation, preservation and protection 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 regards 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 field work 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 sec. 48 (1) of the Ontario Heritage Act.
- The Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33, requires that any person discovering or having knowledge of a burial site shall immediately notify the police or coroner. It is recommended that the



Registrar of Cemeteries at the Ministry of Consumer Services is also immediately notified.

- Archaeological sites recommended for further archaeological field work or protection remain subject to Section 48(1) of the Ontario Heritage Act and may not be altered, nor may artifacts be removed from them, except by a person holding an archaeological license.

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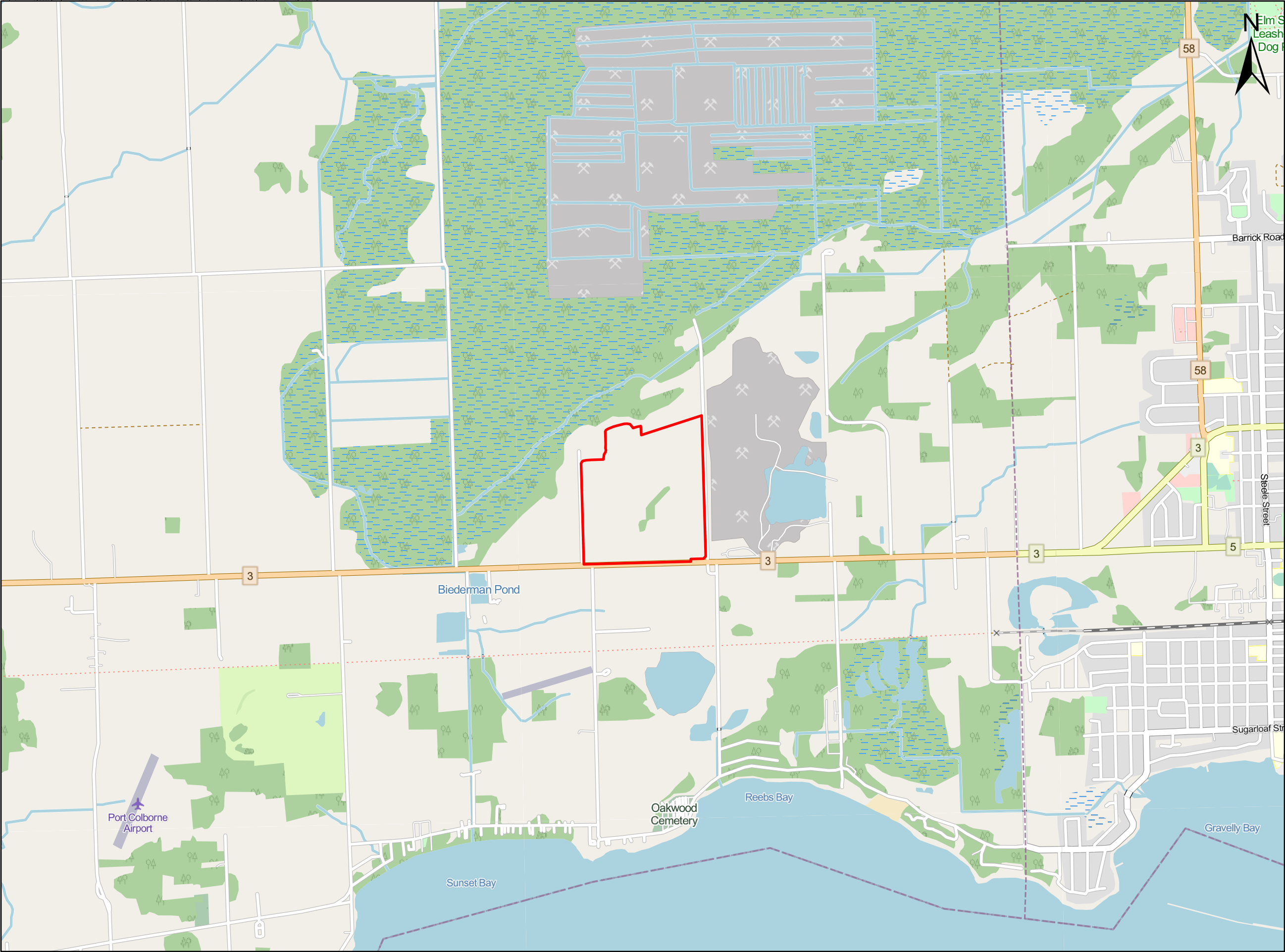




## 7.0 Maps

See following pages for detailed assessment mapping and figures





**SUBJECT PROPERTY**

Sources: Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri

Projection: NAD 1983 UTM Zone 17N

Scale: 1:25,000

Page Size: 11 x 17

0 1  
Kilometres

ASI Project No: 22PL-099  
Date: 5/17/2022 11:48 AM

Drawn By: jfernandez  
File: 22PL099\_Fig1

**ASI** Providing Archaeological & Cultural Heritage Services  
528 Bathurst Street Toronto, ONTARIO M5S 2P9  
T 416-966-1069 F 416-966-9723 asiheritage.ca

Figure 1: Location of Subject Property





Figure 2: Subject Property located on the 1862 Tremaine Map of the Counties of Lincoln and Welland

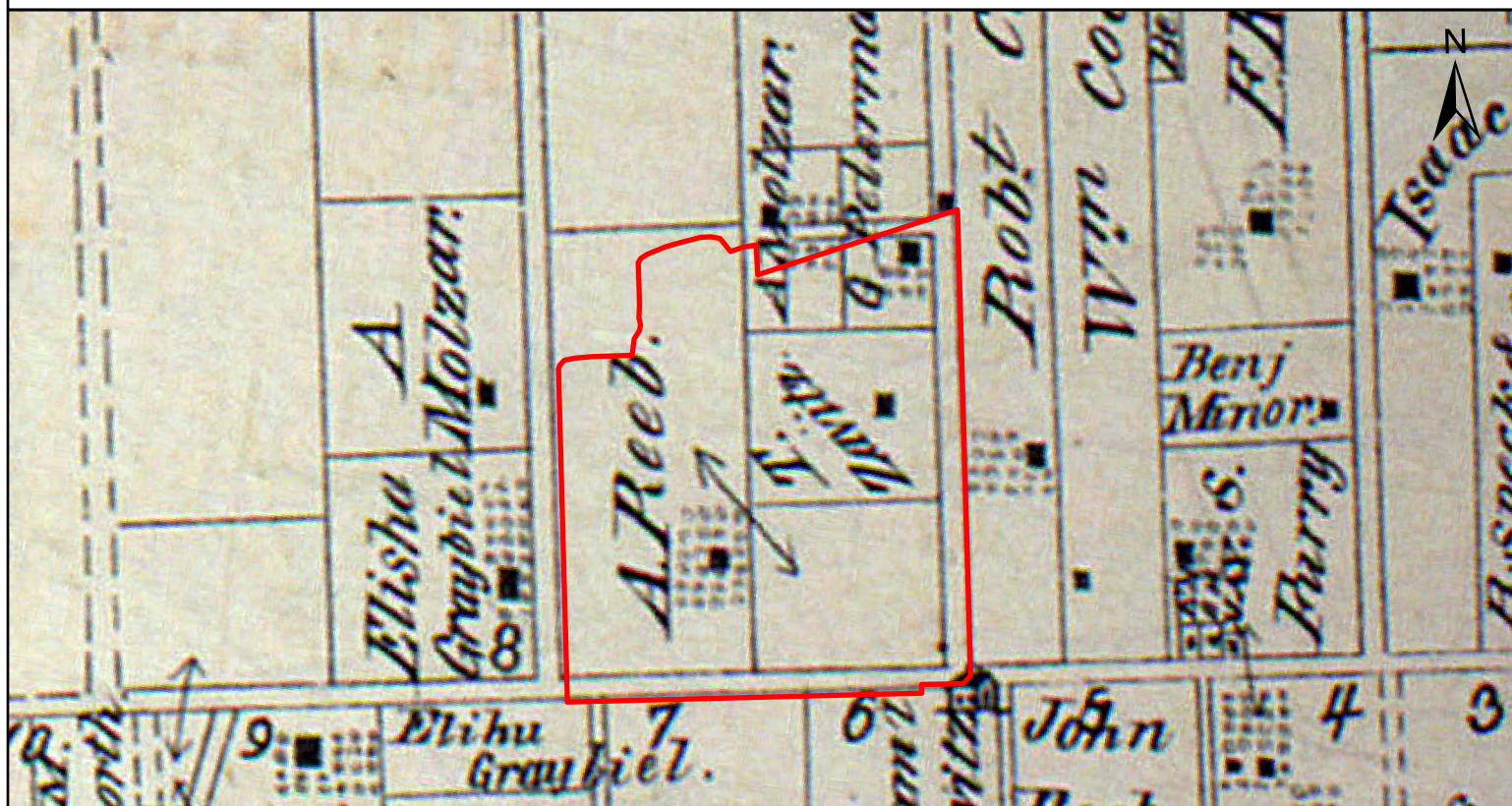


Figure 3: Subject Property located on the 1876 Illustrated Historical Atlas of the Counties of Lincoln and Welland

	 SUBJECT PROPERTY	Sources: Tremaine's Map of Lincoln and Welland, G. C. Tremaine, 1856-1862; Illust. Hist. Atlas, Lincoln and Welland Counties, 1875-1881  Projection: NAD 1983 UTM Zone 17N Scale: 1:15,000 Page Size: 8.5 x 11	 0 500 Metres  ASI Project No.: 22PL-099 Drawn By: jfernandez Date: 5/17/2022 File: 22PL099_Fig2_3
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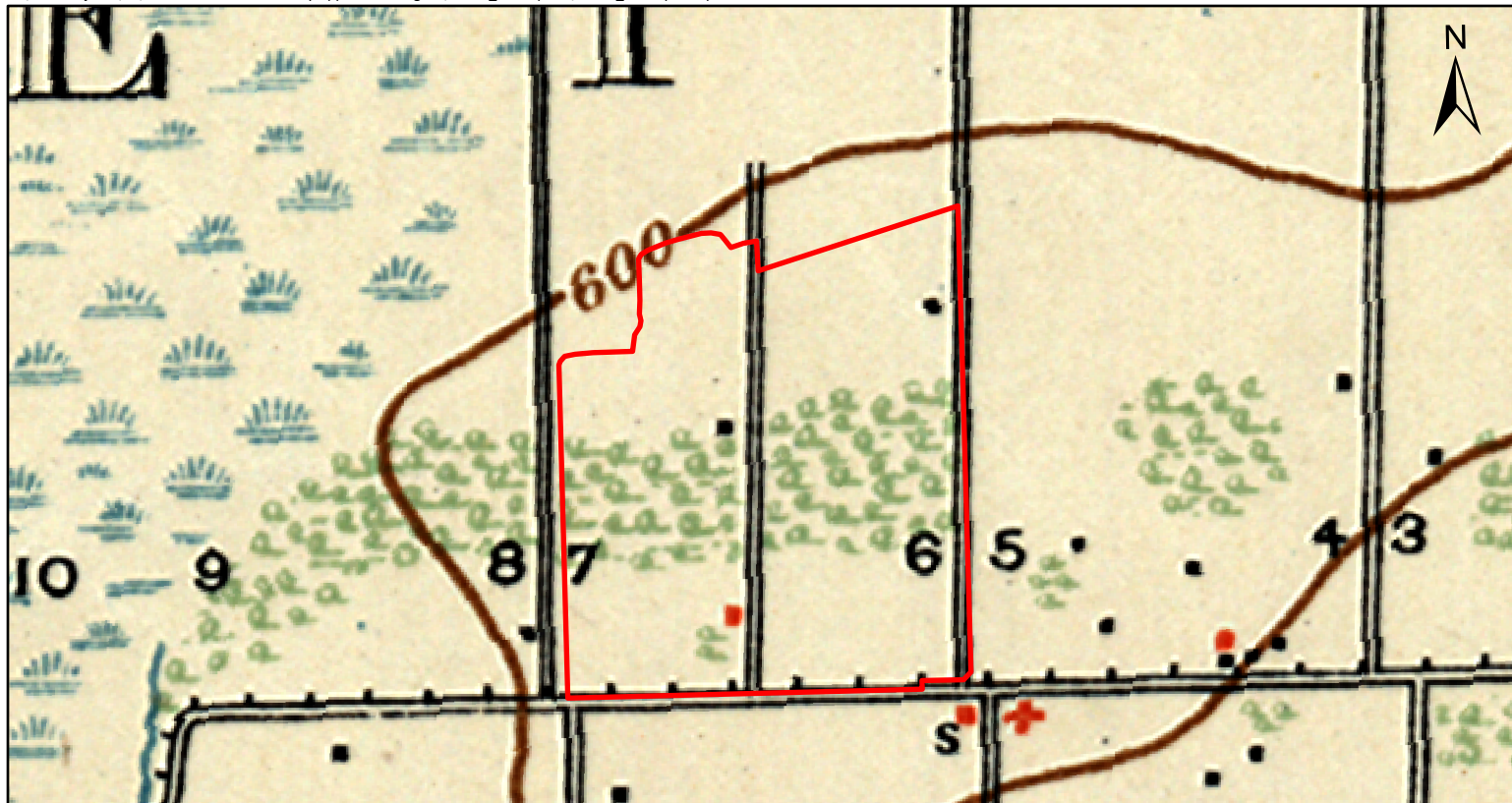


Figure 4: Subject Property located on the 1907 NTS Welland Sheet



Figure 5: Subject Property located on 1934 aerial imagery

	<div style="border: 2px solid red; width: 50px; height: 15px; display: inline-block; margin-right: 5px;"></div> SUBJECT PROPERTY	<p>Sources: Department of Militia and Defence, 1907 (Sheet Welland); Brock U. Map, Data &amp; GIS Library (2017)</p> <p>Projection: NAD 1983 UTM Zone 17N Scale: 1:15,000 Page Size: 8.5 x 11</p>	<div style="text-align: center;"> <p>0 500</p>  <p>Metres</p> </div> <p>ASI Project No.: 22PL-099   Drawn By: jfernandez Date: 5/17/2022   File: 22PL099_Fig4-5</p>
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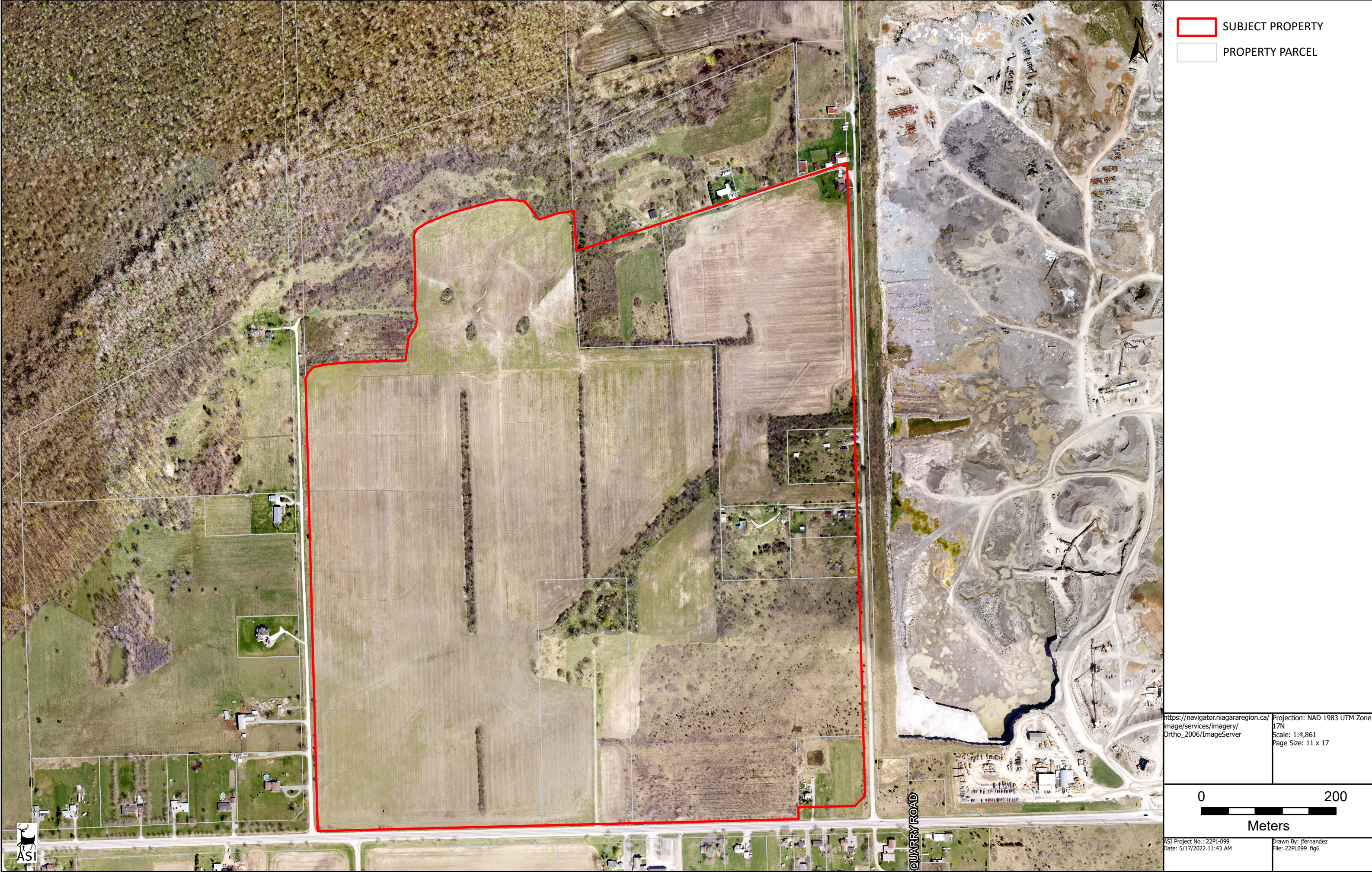





Figure 6: Conditions of the Subject Property in 2006





 SUBJECT PROPERTY  
 PROPERTY PARCEL

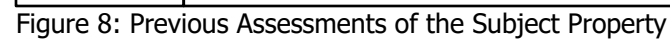
Maxar, Microsoft  
Projection: NAD 1983 UTM Zone 17N  
Scale: 1:5,000  
Page Size: 11 x 17

0 250  
  
Meters

ASI Project No.: 22PL-099  
Date: 5/17/2022 11:43 AM  
Drawn By: jfernandez  
File: 22PL099\_fig7\_Ex\_Con

Figure 7: Existing conditions of the Subject Property







## 8.0 Appendix

A total of 70 archaeological sites have been registered within one kilometre of the subject property.

Borden Number	Site Name	Temporal/Cultural Affiliation	Site Type	Researcher
AfGt-17	Rathfon Point 1	Undetermined Pre-Contact	Scatter	Ellis, 1977 (1979)
AfGt-19	Highway 3 No. 2 (1-8-2)	Undetermined Pre-Contact	Workshop	Ellis, 1977 (1979); ASI, 2018
AfGt-22	Highway 3 No. 1 (1-8-1)	Late Archaic, Late Woodland	Scatter	Ellis, 1977 (1979); ASI, 2020
AfGt-23	Highway 3 No. 3 (1-8-3)	Probably Archaic	n/a	Ellis, 1977 (1979); ASI, 2018
AfGt-71	Biederman	Late Archaic	Campsite	Molnar, 1986
AfGt-103		Archaic	Quarry, Workshop	YNAS, 2004



Borden Number	Site Name	Temporal/Cultural Affiliation	Site Type	Researcher
AfGt-104		Archaic	Quarry, Workshop	YNAS, 2004
AfGt-105		Archaic	Quarry, Workshop	YNAS, 2004
AfGt-239		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-241		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-242		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-243		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-244		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-245		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-247		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-248		Undetermined Pre-Contact	Scatter	ASI, 2022

Borden Number	Site Name	Temporal/Cultural Affiliation	Site Type	Researcher
AfGt-249		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-250		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-255		Middle/Late Woodland	Scatter	ASI, 2022
AfGt-256		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-257		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-259		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-260		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-261		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-262		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-263		Undetermined Pre-Contact	Scatter	ASI, 2022

Borden Number	Site Name	Temporal/Cultural Affiliation	Site Type	Researcher
AfGt-264		Middle Archaic	Scatter	ASI, 2022
AfGt-265		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-266		Middle Archaic	Scatter	ASI, 2022
AfGt-267		Middle/Late Woodland	Isolated	ASI, 2022
AfGt-268		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-269		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-270		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-271		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-272		Middle/Late Woodland	Scatter	ASI, 2022
AfGt-273		Middle/Late Woodland	Isolated	ASI, 2022

Borden Number	Site Name	Temporal/Cultural Affiliation	Site Type	Researcher
AfGt-274		Middle Archaic	Scatter	ASI, 2022
AfGt-275		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-276		Middle Archaic, Late Woodland	Scatter	ASI, 2022
AfGt-277		Late Woodland	Scatter	ASI, 2022
AfGt-278		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-279		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-280		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-281		Middle Archaic	Scatter	ASI, 2022
AfGt-282		Undetermined Pre-Contact	Scatter	ASI, 2022

Borden Number	Site Name	Temporal/Cultural Affiliation	Site Type	Researcher
AfGt-283		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-284		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-285		Middle Archaic	Isolated	ASI, 2022
AfGt-286	Benjamin Hardison	Euro-Canadian/Undetermined Pre-contact	Homestead/Lithic Scatter	ASI, 2022
AfGt-287		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-288		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-289		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-290		Middle Archaic	Scatter	ASI, 2022
AfGt-291		Undetermined Pre-Contact	Scatter	ASI, 2022

Borden Number	Site Name	Temporal/Cultural Affiliation	Site Type	Researcher
AfGt-292		Undetermined Pre-Contact	Scatter	ASI, 2022
AfGt-293	Logan-Rebb 2	Euro-Canadian	Homestead	ASI, 2022
AfGt-294	Logan-Rebb 1	Euro-Canadian/Undetermined Pre-contact	Homestead/Lithic Scatter	ASI, 2022
AfGt-295	Henry Zavitz	Euro-Canadian	Homestead	ASI, 2022
AfGt-317		Late Woodland	Scatter	ASI, 2021a
AfGt-318		Undetermined Pre-contact	Scatter	ASI, 2021a
AfGt-319		Undetermined Pre-contact	Scatter	ASI, 2021a
AfGt-320		Undetermined Pre-contact	Scatter	ASI, 2021a
AfGt-321		Undetermined Pre-contact	Scatter	ASI, 2021a

Borden Number	Site Name	Temporal/Cultural Affiliation	Site Type	Researcher
AfGt-322		Undetermined Pre-contact	Scatter	ASI, 2021a
AfGt-323		Undetermined Pre-contact	Scatter	ASI, 2021a
AfGt-324		Undetermined Pre-contact	Scatter	ASI, 2021a
AfGt-325		Undetermined Pre-contact	Scatter	ASI, 2021a
AfGt-326		Undetermined Pre-contact	Scatter	ASI, 2021a
AfGt-327		Undetermined Pre-contact	Scatter	ASI, 2021a
AfGt-328		Undetermined Pre-contact	Scatter	ASI, 2021a

ASI = Archaeological Services Inc., YNAS = York North Archaeological Services