

Stage 1-2 Archaeological Assessment 7702 Chippawa Creek Road, Niagara Falls

Part of Lot 208, Geographic Township of Stamford, Historical County of Welland,
Regional Municipality of Niagara

Submitted to:

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and

Ministry of Heritage, Sport, Tourism and Culture Industries

Submitted by:



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ORIGINAL REPORT

October 26, 2021

Executive Summary

Detritus Consulting Ltd. ('Detritus') was retained by Mr. Rob Atalick of Nickel Developments Ltd. ('the Proponent') to conduct a Stage 1-2 archaeological assessment on part of Lot 208, Geographic Township of Stamford, Historical County of Welland, Regional Municipality of Niagara, Ontario. This investigation was conducted in advance of the proposed development of a serenity temple at 7702 Chippewa Creek Road. The property at 7702 Chippewa Creek Road is an irregularly shaped parcel measuring 12.84 hectares (Figure 1; 'ha') while the portion to be assessed ('Study Area') is a parcel of 2.81ha located at the eastern end of the property (Figure 3). The entire Study Area was subject to assessment.

This investigation 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* (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 the conditions of this legislation, a Stage 1-2 assessment of the Study Area was conducted during the pre-approval phase of the proposed development under archaeological consulting license P017 issued to Mr. Garth Grimes 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 2011 *Standards and Guidelines for Consultant Archaeologists* ('Standards and Guidelines'; Government of Ontario 2011).

At the time of the assessment, the Study Area comprised areas of wood, thicket, meadow and manicured lawn. In addition, the property contained a barn with associated driveway. The Stage 1 background research indicated that portions of the Study Area exhibited high potential for the identification and recovery of archaeological resources. Therefore, a Stage 2 assessment was recommended for the areas of wood, thicket, meadow and manicured lawn.

The barn and associated driveway were deemed previously disturbed. On inspection of the property, the wooded banks of the Welland River were deemed to have a severe slope (one greater than 20°). These areas were not subject to assessment.

The Stage 2 field assessment was conducted on July 14 and 15, 2021. This investigation consisted of a typical test pit survey conducted at five-metre (5m) intervals of those portions of the site not deemed previously disturbed or severe slope. This investigation resulted in the identification and documentation of one multi-component (pre-contact Aboriginal and Euro-Canadian historical) site registered as Location 1 (AgGs-435) and five pre-contact Aboriginal sites registered as Location 2 (AgGs-436), Location 3 (AgGs-437), Location 4 (AgGs-438), Location 5 (AgGs-439) and Location 6 (AgGs-440) (see Tile 3 of the Supplementary Documentation).

Based on the results of the Stage 2 investigation, Location 1 (AgGs-435) has been interpreted as a multi-component site with a mid-to-late 19th century Euro-Canadian historical component and a pre-contact Aboriginal component that may be associated with the Middle Archaic period. Given the presence of at least 5 pre-contact Aboriginal artifacts in an area 10m by 10m, **Location 1 (AgGs-435) meets the criteria for a Stage 3 Site Specific Assessment as per Section 2.2, Guideline 2 of the Standards and Guidelines (Government of Ontario 2011) and retains CHVI. A Stage 3 archaeological assessment is recommended for Location 1 (AgGs-435).**

Based on the results of the Stage 2 investigation, Location 2 (AgGs-436) has been interpreted as a medium sized activity area occupied by Aboriginal peoples during the pre-contact period. Given the presence of at least 5 non-diagnostic pre-contact in a 10m-by-10m survey area **Location 2 (AgGs-436) meets the criteria for a Stage 3 Site Specific Assessment as per Section 2.2, Standard 1c of the Standards and Guidelines (Government of Ontario 2011) and retains CHVI. A Stage 3 archaeological assessment is recommended for Location 2 (AgGs-436).**

Based on the results of the Stage 2 investigation, Location 3 (AgGs-437) has been interpreted as a small activity area occupied by Aboriginal peoples during the pre-contact period. Given the presence of at least 5 non-diagnostic pre-contact in a 10m-by-10m survey area **Location 3 (AgGs-437) meets the criteria for a Stage 3 Site Specific Assessment as per Section 2.2, Standard 1c of the *Standards and Guidelines* (Government of Ontario 2011) and retains CHVI. A Stage 3 archaeological assessment is recommended for Location 3 (AgGs-437).**

Based on the results of the Stage 2 investigation, Location 4 (AgGs-438) has been interpreted as a medium sized activity area occupied by Aboriginal peoples during the pre-contact period. Given the presence of at least 5 non-diagnostic pre-contact in a 10m-by-10m survey area **Location 4 (AgGs-438) meets the criteria for a Stage 3 Site Specific Assessment as per Section 2.2, Standard 1c of the *Standards and Guidelines* (Government of Ontario 2011) and retains CHVI. A Stage 3 archaeological assessment is recommended for Location 4 (AgGs-438).**

Based on the results of the Stage 2 investigation, Location 5 (AgGs-439) has been interpreted as a medium sized activity area occupied by Aboriginal peoples during the pre-contact period. Given the presence of at least 5 non-diagnostic pre-contact in a 10m-by-10m survey area **Location 5 (AgGs-439) meets the criteria for a Stage 3 Site Specific Assessment as per Section 2.2, Standard 1c of the *Standards and Guidelines* (Government of Ontario 2011) and retains CHVI. A Stage 3 archaeological assessment is recommended for Location 5 (AgGs-439).**

Based on the results of the Stage 2 investigation, Location 6 (AgGs-440) has been interpreted as a medium sized activity area occupied by Aboriginal peoples during the pre-contact period. Given the presence of at least 5 non-diagnostic pre-contact in a 10m-by-10m survey area **Location 6 (AgGs-440) meets the criteria for a Stage 3 Site Specific Assessment as per Section 2.2, Standard 1c of the *Standards and Guidelines* (Government of Ontario 2011) and retains CHVI. A Stage 3 archaeological assessment is recommended for Location 6 (AgGs-440).**

The Stage 3 assessments of Location 1 (AgGs-435), Location 2 (AgGs-436), Location 3 (AgGs-437), Location 4 (AgGs-438), Location 5 (AgGs-439) and Location 6 (AgGs-440) will be conducted according to Section 3.2.2 of the *Standards and Guidelines* (Government of Ontario 2011). Given that it is not yet evident that the level of CHVI at Location 1 (AgGs-435), Location 2 (AgGs-436), Location 3 (AgGs-437), Location 4 (AgGs-438), Location 5 (AgGs-439) will result in recommendations to proceed to Stage 4, the Stage 3 assessment of all of all six sites will consist of the hand excavation of 1m square test units every 5m in systematic levels and into the first 5cm of subsoil, as per Table 3.1, Standard 1 of the *Standards and Guidelines* (Government of Ontario 2011). Additional 1m test units, amounting to 20% of the grid total, will be placed in areas of interest within the site extent as per Table 3.1, Standard 2 of the *Standards and Guidelines* (Government of Ontario 2011). All excavated soil will be screened through a six-millimetre mesh; all recovered artifacts will be recorded by their corresponding grid unit designation and collected for laboratory analysis. If a subsurface cultural feature is encountered, the plan of the exposed feature will be recorded and geotextile fabric will be placed over the unit before backfilling the unit. If it becomes apparent during stage 3 assessment that any of these archaeological sites should require stage 4 mitigation, the interval of stage 3 testing can switch to 10m with an additional 40% of the grid total as infill squares in areas of interest as per Section 3.2.3, Table 3.1 of the *Standards and Guidelines* (Government of Ontario 2011).

These recommendations apply to the portion of the development property to be subject to construction and developmental activities, and which was included within the current Study Area. **If, in the future, any remaining portions of the property that were not included in the Study Area will be impacted by development, then a Stage 1 archaeological assessment is required**, conducted according to Section 1.1 of the *Standards and Guidelines* (Government of Ontario 2011). This investigation will assess the development area's potential for

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the recovery of archaeological resources and will provide specific direction for the protection, management and/or recovery of these resources, as per Sections 1.3 and 1.4 of the *Standards and Guidelines* (Government of Ontario 2011).

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

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- Mr. John Ariens of IBI Group

1.0 Project Context

1.1 Development Context

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The purpose of a Stage 1 Background Study is to compile all available information about the known and potential archaeological heritage resources within the Study Area and to provide specific direction for the protection, management and/or recovery of these resources. In compliance with the *Standards and Guidelines* (Government of Ontario 2011), the objectives of the following Stage 1 assessment were as follows:

- To provide information about the Study Area's geography, history, previous archaeological fieldwork and current land conditions;
- to evaluate in detail, the Study Area's archaeological potential which will support recommendations for Stage 2 survey for all or parts of the property; and
- to recommend appropriate strategies for Stage 2 survey.

To meet these objectives Detritus archaeologists employed the following research strategies:

- A review of relevant archaeological, historic and environmental literature pertaining to the Study Area;
- a review of the land use history, including pertinent historic maps; and
- an examination of the Ontario Archaeological Sites Database ('ASDB') to determine the presence of known archaeological sites in and around the Study Area.

The purpose of a Stage 2 Property Assessment was to provide an overview of any archaeological resources within the Study Area; to determine whether any of the resources might be archaeological sites with cultural heritage value or interest ('CHVI'); and to provide specific direction for the protection, management and/or recovery of these resources. In compliance with the *Standards and Guidelines* (Government of Ontario 2011), the objectives of the Stage 2 assessment were as follows:

- To document all archaeological resources within the Study Area;
- to determine whether the Study Area contains archaeological resources requiring further assessment; and
- to recommend appropriate Stage 3 assessment strategies for archaeological sites identified.

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 Indigenous Resources

The earliest recorded history of Haldimand County began in 1626, when French Recollet Father Daillon travelled the entire length of the Grand River and documented 28 Neutral villages in the area (Harper 1950; White 1978). In Haldimand County, a dozen possible Neutral sites were identified along the Lower Grand River in the general location of a possible Neutral community known as the Antouaronon (White 1978; cf. Poulton *et al.* 1996). In 1647, the Seneca attacked one eastern group of the Neutral (White 1978); by 1653, the Neutral had been assimilated by the Five Nations (Jamieson 1992; Noble 1978). The Five Nations relinquished the Niagara Peninsula and northern Lake Ontario area before 1700.

The late 17th and early 18th centuries represent a turning point in the evolution of the post-contact Indigenous occupation of southern Ontario. It was at this time that various Iroquoian-speaking communities began migrating into southern Ontario from New York State, followed by the arrival of Algonkian-speaking groups from northern Ontario (Konrad 1981; Schmalz 1991). This period also marks the arrival of the Mississaugas into southern Ontario and, in particular, the watersheds of the Lower Great Lakes.

The oral traditions of the Mississaugas, as told by Chief Robert Paudash and recorded in 1904, 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 between the two groups and, at the end of the 17th century, the Mississaugas settled permanently in southern Ontario, including within the Niagara Peninsula (Praxis Research Associates n.d.). Around this same time, members of the Three Fires Confederacy (Chippewa, Ottawa, and Potawatomi) began immigrating from Ohio and Michigan into southwestern Ontario (Feest and Feest 1978).

In 1722, the Five Nations adopted the Tuscarora in New York becoming the Six Nations (Pendergast 1995). Sir Frederick Haldimand, Governor of Québec, made preparations to grant a large plot of land in south-central Ontario to those Six Nations who remained loyal to the Crown during the American War of Independence (Weaver 1978). More specifically, Haldimand arranged for the purchase of the Haldimand Tract in south-central Ontario from the Mississaugas. The Haldimand Tract, also known as 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 member nation of the Six Nations, as well as other allies, relocated to the Haldimand Tract with Joseph Brant (Tanner 1987; Weaver 1978).

The study area first entered the record as a result of Treaty No. 3, which...

...was made with the Mississa[ug]a Indians 7th December, 1792, though purchased as early as 1784. This purchase in 1784 was to procure for that part of the Six Nation Indians coming into Canada a permanent abode. The area included in this Treaty is, 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 1943:17-18

Despite the encroachment of European settlers on previously established Indigenous 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 2009:114). 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 Resources

The Study Area is located within the Geographic Township of Stamford, Historical County of Welland, Ontario (Figure 2). The history of this area began on July 24, 1788, when 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 2009). Further change came in December 1791 when the former Province of Québec was rearranged into Upper Canada and Lower Canada under the *Constitutional Act*. Colonel John Graves Simcoe was appointed as Lieutenant-Governor of Upper Canada. He initiated several initiatives to populate the province including the establishment of shoreline communities with effective transportation links between them (Coyne 1895).

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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 and 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, comprising Lincoln County, Haldimand County and other lands (Archives of Ontario 2012-15). 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, of which Stamford Township was a part.

Stamford Township, being on the frontier with the United States, was a common end point for the United Empire Loyalist families that moved to Upper Canada following the Revolutionary War, making it one of the earliest settled of the townships of what is now Ontario. It also saw considerable action during the War of 1812.

Lot 208 of Stamford Township was granted by the Crown to John Steinhoff on 16 Sep 1798 (along with Lot 207). Following John Steinhoff's death in 1832, his widow retained the land until his children reached the age of 21. The executors of the will sold Lot 208 to Joseph Ramsden in 1832 and the same day the lands were sold to Andrew Ostrander Jr. Lot 208 was inherited by his wife, Agnes Ostrander in 1852. The registry records become obscure after this but by 1876 the *Illustrated Historical Atlas of the Counties of Lincoln and Welland* (H.R Page 1876; '*Historical Atlas*') Lot 208 is given as owned by W.H Bell. The map includes a small, round dot in the east end of the Study Area. It is unclear whether this was intended to represent a very small building, or was merely a printing error. No typical farmhouse shape otherwise appears on the map within the Study Area.

Neighbouring lots show a variety of structures, many likely farmsteads, but also a post office and a school house. These, along with the roads and nearby villages of Drummondville, Clifton and Stamford, attest to the degree to which Stamford Township was populated by 1876.

It should be recognised, however, that although significant and detailed landowner information is available on the current *Historical Atlas*, 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 and Head 1984).

1.3 Archaeological Context

1.3.1 Property Description and Physical Setting

At the time of the assessment, the Study Area comprised areas of wood, thicket, meadow, manicured lawn, along with a barn with associated driveway. In addition, the shoreline along the Welland River was deemed to be severe slope (>20°). 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 mid-19th century. Much of the region today continues to be used for agricultural purposes.

The Study Area is located within Haldimand Clay Plain physiographic region (Chapman and Putnam 1984). During pre-contact and early contact times, this area comprised a mixture of deciduous trees and open areas. In the early 19th century, Euro-Canadian settlers began to clear the forests for agricultural purposes, which have been ongoing in the vicinity of the four sites for over 100 years.

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 and Presant 1989). 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 and Putnam 1984:156

Huffman and Dumanski add that the soil within the region is suitable for corn and soy beans in rotation with cereal grains as well as alfalfa and clover (Huffman and Dumanski 1986).

The closest sources of potable water are the Welland River, which lies immediately south of the Study Area, and an unnamed creek that flows into the Welland River along the eastern edge of the Study Area.

1.3.2 Pre-contact Indigenous Land Use

This portion of southwestern Ontario was 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 1 provides a general outline of the cultural chronology of Stamford Township, based on Ellis and Ferris (1990).

Table 1: Cultural Chronology for Stamford 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

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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 archaeological resources, the registered archaeological site records kept by the MHSTCI were consulted. In Ontario, information concerning archaeological sites stored in the ASDB (Government of Ontario n.d.) is maintained by the MHSTCI. This database contains archaeological sites 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 13kilometres (km) 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 under review is within Borden Block AfGw.

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, 33 archaeological sites have been registered within a 1km radius of the Study Area (Table 2). Of the 33 sites, 18 are pre-contact Aboriginal sites, 3 are post-contact Euro-Canadian historical sites, 3 are multi-component sites, seven are archaic pre-contact Indigenous sites, while the remaining 9 sites have no time period, or cultural affinity recorded in the ADSB.

Table 2: Registered Archaeological Sites within 1km of the Study Area

Borden Number	Site Name	Time Period	Affinity	Site Type
AgGs-51	Thompsons Creek	Paleo-Indian, Late, Woodland, Early	Aboriginal	hunting
AgGs-395		Post-Contact	Euro-Canadian	Unknown

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AgGs-303		Archaic, Late	Aboriginal	findspot
AgGs-302		Archaic, Early	Aboriginal	findspot
AgGs-301		Archaic, Late	Aboriginal	findspot
AgGs-300		Archaic, Middle	Aboriginal	findspot
AgGs-299				
AgGs-298		Archaic, Early	Aboriginal	camp / campsite
AgGs-296		Pre-Contact	Aboriginal	camp / campsite
AgGs-295		Woodland, Late	Aboriginal	findspot
AgGs-294				
AgGs-293	P23			
AgGs-292		Woodland, Late	Aboriginal	findspot
AgGs-288		Archaic, Early	Aboriginal	Unknown, scatter
AgGs-284				
AgGs-283		Other		Other findspot
AgGs-282		Archaic, Early	Aboriginal	scatter
AgGs-281		Other		Other findspot
AgGs-280		Post-Contact	Euro-Canadian	homestead
AgGs-28	MIA 8482			
AgGs-279		Woodland, Early	Aboriginal	findspot
AgGs-278		Other		Other findspot
AgGs-27	MIA 8481	Archaic, Late	Aboriginal	Other camp/campsite
AgGs-238	Welland Drain	Pre-Contact	Aboriginal	Other camp/campsite
AgGs-237		Post-Contact	Euro-Canadian	Unknown
AgGs-236	Cabeiroi Camp 2	Pre-Contact	Aboriginal	Other camp/campsite, scatter
AgGs-235	Cabeiroi Camp I	Pre-Contact	Aboriginal	Unknown
AgGs-233	Alexander Simpson	Post-Contact, Pre-Contact	Aboriginal, Euro-Canadian	homestead
AgGs-232	Welland River Camp	Pre-Contact	Aboriginal	Other camp/campsite

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AgGs-231	John Steinhoff	Post-Contact, Pre-Contact	Aboriginal, Euro-Canadian	homestead
AgGs-20	MIA 8474	Archaic, Late	Aboriginal	Other camp/campsite
AgGs-14	Marian White 991	Archaic, Late	Aboriginal	Other camp/campsite
AgGS-277		Other		Other findspot

To the best of Detritus' knowledge, no other assessments have been conducted, and no sites are registered, within 50m of the Study Area.

1.3.4 Archaeological Potential

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. Detritus applied archaeological potential criteria commonly used by the MHSTCI (Government of Ontario 2011) to determine areas of archaeological potential within the Study Area. 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 sites locations and types to varying degrees. The MHSTCI (Government of Ontario 2011) categorizes water sources 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, the closest sources of potable water is the Welland River, which lies immediately south of the Study Area, and an unnamed creek that flows into the Welland River along the eastern edge of the Study Area.

Soil texture is also an important determinant of past settlement, usually in combination with other factors such as topography. The Study Area is situated within the Haldimand Clay Plain physiographic region. As was discussed earlier, the soils within this region are suitable for pre-contact and post contact Indigenous agriculture. Furthermore, given the 18 pre-contact Aboriginal sites and 3 multi-component sites located within 1km of the Study Area and the potential for pre-contact Indigenous, post-contact Indigenous material culture within the Study Area is deemed 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 *Historical Atlas* demonstrates the extent to which Stamford Township had been settled by 18796(H.R. Page 1876; Figure 2). Landowners are listed for a large majority of the lots within the township, many of which had been subdivided multiple times into smaller parcels to

accommodate an increasing population throughout the late 19th century. Much of the established road system and agricultural systems throughout the township is still visible today. Structures and orchards are prevalent throughout the township, almost all of which front early roads. Given these findings, along with the presence of 3 Euro-Canadian and 3 multi-component sites within 1km, and the Euro-Canadian archaeological potential of the Study Area 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 of the Study Area identified a potential disturbance area within the Study Area: a barn with associated driveway. As per Section 2.1.8, Standard 1 of the *Standards and Guidelines* (Government of Ontario 2011), it is recommended that these areas be subject to a Stage 2 property inspection, conducted according to Section 1.2 of the *Standards and Guidelines* (Government of Ontario 2011), to confirm and document the disturbed areas.

2.0 Field Methods

The Stage 2 archaeological assessment was conducted on July 14 and 15, 2021, under archaeological consulting license PO17 issued to Mr. Garth Grimes by the MHSTCI. The limits of the Study Area were bound by the Welland River to the south, an unnamed creek to the east, and the Chippewa Creek Road to the north. The west boundary was determined using UTM coordinates provided by the Proponent.

Assessment conditions were excellent and at no time were the field, weather, or lighting conditions detrimental to the recovery of archaeological material. Table 3 provides a summary of the weather and field conditions during the field survey. Photos 1 to 16 illustrate the assessment conditions throughout the Study Area at the time of the survey. Figure 4 provides an illustration of the Stage 2 assessment methods, as well as photograph locations and directions.

Table 3: Field and Weather Conditions

Date	Activity	Weather	Field Conditions
July 14, 2021	test pit survey	clear high of 27°C	soil dry and screened easily
July 15, 2021	test pit survey	clear high of 29°C	soil dry and screened easily

At the time of the assessment the Study Area comprised areas of wood, thicket, meadow, and manicured lawn, along with a barn and associated driveway. The river bank along the Welland River was deemed to be severe slope (>20°).

The wood, thicket, meadow and manicured lawn areas accounted for 82.57% of the Study Area and were subject to a typical test pit survey at 5m intervals, conducted in accordance with Section 2.1.2 of the *Standards and Guidelines* (Government of Ontario 2011; Photos 1 to 16). Test pits were excavated within 1m of built structures or until they showed evidence of recent ground disturbance, as per Standard 4 of this section. All test pits were no less than 30 centimetres (cm) in diameter and were excavated 5cm into sterile subsoil. The soils were then examined for stratigraphy, cultural features, or evidence of fill. A single soil layer was observed.

All soil from the test pits was screened through six-millimetre (mm) hardware cloth to facilitate the recovery of small artifacts and then used to backfill the pit. When archaeological resources were encountered, the test pit excavation was continued on the survey grid, as per Section 2.1.3, Standard 1 of the *Standards and Guidelines* (Government of Ontario 2011).

In accordance with Section 2.1, Standard 4 and Section 5, Standard 2b of the *Standards and Guidelines* (Government of Ontario 2011), coordinates were recorded for all test pits where archaeological resources were recovered, in addition to two fixed reference landmarks using a Garmin eTrex 20 GPS unit with a minimum accuracy 1-2.5m (North American Datum 1983 ('NAD83') and Universal Transverse Mercator ('UTM') Zone 17N). All artifacts were recorded according to their associated test pit, and were retained for laboratory analysis.

The investigation described above resulted in the identification of one multi-component (pre-contact Aboriginal and Euro-Canadian historical) registered as Location 1 (AgGs-435); and five pre-contact Aboriginal sites, registered as Location 2 (AgGs-436), Location 3 (AgGs-437), Location 4 (AgGs-438), Location 5 (AgGs-439) and Location 6 (AgGs-440).

Location 1 (AgGs-435) was identified in the western end of the Study Area within which 13 test pits (findspots 23-35) produced archaeological material. These were a combination of 10 test pits on the 5m transect grid and 3 additional test pits at 2.5m intervals to test the intensity and physical extent of the site. These 13 test pits produced 48 artifacts in an area roughly 20m east-west by 40m north-south of which 32 were pre-contact Aboriginal artifacts and 16 were Euro-Canadian historical artifacts. No additional assessment methods were employed as sufficient resources were recovered to determine whether a Stage 3 assessment could be supported, using

Section 2.1.3, Standard 2, Option A of the Standards and Guidelines (Government of Ontario 2011).

At Location 2 (AgGs-436), located along the northern edge of the Study Area, 2 test pits (findspots 54 and 56) on the 5m grid produced archaeological material. Given that insufficient resources were recovered through the continued survey on the grid, the survey coverage was intensified to determine whether a Stage 3 assessment could be supported using Section 2.1.3, Standard 2, Option A of the *Standards and Guidelines* (Government of Ontario 2011). Additional test pits were excavated on the 2.5m grid surrounding the original positive test pits resulting in 1 additional positive test pit (findspot 55) and sufficient resources to support a recommendation to carry out a Stage 3 assessment. No additional assessment methods were employed. These 3 test pits produced 5 pre-contact Aboriginal artifacts in an area roughly 5m east-west by 5m north-south.

Location 3 (AgGs-437) was identified along the southern edge of the Study Area within which 21 test pits (findspots 36-53 and 65-67) produced archaeological material. These were a combination of 17 test pits on the 5m transect grid and 4 additional test pits at 2.5m intervals to test the intensity and physical extent of the site. These 21 test pits produced 46 pre-contact Aboriginal artifacts in an area roughly 70m east-west by 30m north-south. No additional assessment methods were employed as sufficient resources were recovered to determine whether a Stage 3 assessment could be supported, using Section 2.1.3, Standard 2, Option A of the *Standards and Guidelines* (Government of Ontario 2011).

Location 4 (AgGs-438) was identified along the northern edge of the Study Area within which 8 test pits (findspots 57-64) produced archaeological material. These were a combination of 6 test pits on the 5m transect grid and 2 additional test pits at a 2.5m interval to test the intensity and physical extent of the site. These 8 test pits produced 12 pre-contact Aboriginal artifacts in an area roughly 15m east-west by 15m north-south. No additional assessment methods were employed as sufficient resources were recovered to determine whether a Stage 3 assessment could be supported, using Section 2.1.3, Standard 2, Option A of the *Standards and Guidelines* (Government of Ontario 2011).

Location 5 (AgGs-439) was identified along the southern edge of the Study Area within which 13 test pits (findspots 17-22 and 68-74) produced archaeological material. These were a combination of 8 test pits on the 5m transect grid and 5 additional test pits at 2.5m intervals to test the intensity and physical extent of the site. These 13 test pits produced 20 pre-contact Aboriginal artifacts in an area roughly 45m east-west by 30m north-south. No additional assessment methods were employed as sufficient resources were recovered to determine whether a Stage 3 assessment could be supported, using Section 2.1.3, Standard 2, Option A of the *Standards and Guidelines* (Government of Ontario 2011).

Location 6 (AgGs-440) was identified in the western end of the Study Area within which 13 test pits (findspots 1-16) produced archaeological material. These were a combination of 11 test pits on the 5m transect grid and 2 additional test pits at 2.5m intervals to test the intensity and physical extent of the site. These 13 test pits produced 21 pre-contact Aboriginal artifacts in an area roughly 40m east-west by 50m north-south. No additional assessment methods were employed as sufficient resources were recovered to determine whether a Stage 3 assessment could be supported, using Section 2.1.3, Standard 2, Option A of the *Standards and Guidelines* (Government of Ontario 2011).

The remaining 17.43% of the Study Area consisted of areas that were identified as being previously disturbed (1.77%) or steeply sloping (grade greater than 20°; 15.66%). These areas were excluded from the Stage 2 test pit assessment as per Section 2.1, Standards 2ai and 2aiii of the *Standards and Guidelines* (Government of Ontario 2011) and were photo documented only.

3.0 Record of Finds

The Stage 2 archaeological assessment was conducted employing the methods described in Section 2.0. This investigation resulted in the documentation of six archaeological sites, registered as Location 1 (AgGs-435), Location 2 (AgGs-436), Location 3 (AgGs-437), Location 4 (AgGs-438), Location 5 (AgGs-439) and Location 6 (AgGs-440). Maps indicating the exact location of the site, as well as all UTM coordinates recorded during the Stage 2 assessment, are included in the Supplementary Documentation to this report. A description of the recovered artifacts is provided in Section 3.1 below; a sample of the artifacts is illustrated in Section 9.2. An inventory of the documentary record generated by fieldwork is provided in Table 4 below.

Table 4: Inventory of Document Record

Document Type	Current Location of Document Type	Additional Comments
1 Page of Field Notes	Detritus office	Stored digitally in project file
1 Map provided by the Proponent	Detritus office	Stored digitally in project file
1 Field Map	Detritus office	Stored digitally in project file
25 Digital Photographs	Detritus office	Stored digitally in project file

All of the material culture collected during the Stage 2 assessment 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 Her Majesty the Queen in right of the Province of Ontario or another suitable public institution acceptable to the MHSTCI and the Study Area's owners.

3.1 Pre-Contact Aboriginal Cultural Material

The Stage 2 assessment of the Study Area resulted in the documentation of 149 artifacts from 74 positive test pits, comprising 133 pre-contact Aboriginal artifacts and 16 Euro-Canadian historical artifacts.

The majority of the pre-contact Aboriginal artifacts (n=133) were pieces of Onondaga chert chipping detritus. In addition, a projectile point, drill, scraper and utilized flake were among the pre-contact Aboriginal artifacts and these were also made from Onondaga chert. Chert type identifications were accomplished visually using reference materials located online or in personal collections.

Onondaga chert is a dense non-porous rock that derives from the Middle Devonian age, with outcrops occurring along the north shore of Lake Erie between Long Point and the Niagara River. It typically occurs in nodules or irregular thin beds, and may appear light to dark grey, bluish grey, brown, or black; it can also be mottled with a dull to vitreous or waxy lustre. Onondaga chert is often found at archaeological sites in southern Ontario, and is commonly recognised as a high-quality raw material that was frequently used by pre-contact Indigenous people (Eley and von Bitter 1989).

Haldimand chert, also known as Bois Blanc chert, is a medium quality raw material that outcrops along the Bois Blanc formation between Kohler and Hagersville, as well as in Cayuga, Ontario. Dating to the Early Silurian, it derives from chalk-bearing limestone which give the material its characteristically white to light grey or buff colour and relatively low lustre (Eley and von Bitter 1989).

Selkirk chert is a moderate quality raw material that outcrops close to the embouchure of the Grand River along the north shore of Lake Erie. Its distribution as a secondary source material is similar to Onondaga chert, and it is frequently encountered as far west as the Chatham area (Eley and von Bitter 1989).

Furthermore, all pieces of chipping detritus were subject to morphological analysis following the classification scheme described by Lennox, Dodd and Murphy for the Wiacek Site (Lennox *et al.*

1986:79-81) and expanded upon by Fisher for the Adder Orchard site (Fisher 1997: 41-49). Flake types identified during the analysis of the chert flakes recovered during the current Stage 2 assessment of the Study Area include primary flakes, secondary flakes, and thinning flakes.

Primary and secondary flakes, along with cortical removal flakes, are a product of percussion flaking undertaken during the initial reduction phases of raw material into blanks, bifaces and preforms. These early-stage reduction flakes tend to exhibit minimal dorsal flake scarring, and are often characterized by the presence of cortex, or the original unflaked chert exterior, on their dorsal surfaces and proximal ends. For cortical removal flakes, over half of the dorsal surface comprises cortex; for primary flakes, less than half. Secondary flakes, meanwhile, may not contain any cortex. Thinning flakes are produced during the latter stages of lithic reduction, when blanks, bifaces, and preforms are shaped into projectile points and formal tools. They are the result of pressure flaking, where the maker uses a softer material such as antler, wood or bone to apply direct pressure onto a specific part of the tool. Pressure flaking generally produces smaller, thinner flakes than does percussion flaking. Thinning flakes also exhibit more flake scars on their dorsal surface than do primary or secondary flakes. Fragmentary flakes are flakes that may have some identifiable flake characteristic, but cannot be classified with certainty into a specific category.

3.2 Location 1 (AgGs-435)

The Stage 2 assessment of Location 1 (AgGs-435) resulted in the documentation of 32 pre-contact Aboriginal artifacts and 16 Euro-Canadian historical artifacts from 13 positive test pits (findspots 23-35) in an area approximately 20m east-west by 40m north-south. All of the pre-contact Aboriginal artifacts were manufactured from Onondaga chert. Location 1 (AgGs-435) was the only site documented in the Study Area that produced Euro-Canadian artifacts. The artifact summary for Location 1 (AgGs-435) is provided in table 5. The Euro-Canadian artifact summary for Location 1 (AgGs-435) is recorded in Table 6, the chipping detritus summary in Table 7, and the bifacial tool metrics in Table 8.

Table 5: Location 1 (AgGs-435) Artifact Summary

Artifact	Frequency	%
pre-contact Aboriginal	32	66.67
ceramics	12	25
structural	3	6.25
household	1	2.08
Total	48	100.00

3.2.1 Ceramics

The Stage 2 contained 9 ceramic sherds, including nine sherds of red earthenware, two of refined white earthenware ('RWE') and a single piece of ironstone ceramic sherds. All of the sherds were undecorated.

Table 6: Location 1 (AgGs-435) Ceramic Assemblage by Ware Type

Artifact	Frequency	%
red earthenware	9	75
RWE	2	16.64
ironstone	1	8.33
Total	12	100.00

Red Earthenware

Red earthenware (n=9) was the most frequent ceramic type but cannot be used to precisely date an archaeological assemblage since it was manufactured throughout the 19th century. It is a common type of coarse earthenware typically used for utilitarian purposes, rather than as table ware. Crock pots and other storage vessels were the most common forms made in this ware type.

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 (1980a:18), the white appearance of whiteware was caused by reducing the amount of cobalt added to the glaze and adding it instead to the paste. It was manufactured by many different recipes, however, and 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: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 gives a conservative date to any pearlware sherds not correctly identified).

Ironstone

Ironstone was a variety of RWE 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).

3.2.2 Structural Artifacts

Three structural artifacts were recovered from Location 1 (AgGs-435), comprising two cut nails and a shard of window glass. Nails originally were all handmade (wrought) and required skill, as well as a forge. This meant nails were relatively expensive and methods were sought to have them machine made. Cut nail manufacture begins in the late 1790s but only become readily available in Upper Canada by the 1830s. Cut nails revolutionize 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 (Adams, Kenyon and Doroszenko 1990, 103). Though wire nails begin to show up in the 1860s the lack of their presence on a site usually indicates a mid- to early nineteenth century occupation or origin.

Window glass can be temporally diagnostic in a limited manner. A combination of production methods, production costs and the British tax on glass combined to ensure that most window glass in the 18th and early 19th centuries was relatively thin. Studies of window glass in Britain (Dungworth 2011) and the United States (Weiland 2009) have shown that window glass increases in thickness gradually from less than 1mm in the 18th century to roughly 1.15mm prior to 1845. Following the repeal of the glass tax in Britain in 1845, coupled with contemporary improvements

in window glass manufacture, thickness increased more dramatically. The single shard of window glass recovered from Location 1 (AgGs-435) was 0.9mm thick, suggesting the assemblage came in part from a building constructed prior to 1845.

3.2.3 Household Artifacts

A single piece of clear bottle glass was the sole household-class artifact recovered from Location 1 (AgGs-435). Clear glass was most often used on medicine bottles. Up until 1880 this glass typically displays a slight amethyst tinge owing to the presence of manganese, and is referred to as sun-touched amethyst. The clarity of the shard suggests a late 19th or early 20th century origin.

3.2.4 Pre-Contact Aboriginal Artifacts

The pre-contact Aboriginal component of Location 1 (AgGs-435) comprises 29 pieces of chipping detritus, a point base, a utilized flake, and a fragment of a drill, all manufactured from Onondaga chert. Due to the size of the Stage 2 assemblage, all pieces of chipping detritus were subject to morphological analysis, presented in Table 8.

Table 7: Chipped Stone Debitage Analysis for Location 1 (AgGs-435)

Chert Type	Primary		Secondary		Thinning		Shatter		Fragment		Total Analyzed
	n	%	n	%	n	%	n	%	n	%	%
Onondaga	1	3.57	12	42.85	14	46.44	1	3.57	1	3.57	100

According to the morphological analysis presented above, the chert flakes recovered from AhGw-554 included material from all stages of the lithic reduction process.

Table 8: Location 1 (AgGs-435) Bifacial Tool Metrics

Ca t#	Artifact	Length (mm)	Width (mm)	Thickness (mm)	Hafting (mm)	Base (mm)	Neck (mm)
28	drill fragment	34.5	14.3	6.4	n/a	n/a	n/a
44	utilized flake	15.2	5.5	3.2	n/a	n/a	n/a
50	point base	15.7	30.9	7.4	9.8	24.4	19.5

Drill

The base and part of the shaft of a drill was recovered during the Stage 2 assessment of Location 1 (AgGs-435) (Plate 7). This artifact is not temporally diagnostic, as drills are manufactured throughout the pre-contact period and have no temporal morphology.

Utilized Flake

Utilized flakes (**Error! Reference source not found.**) are fragments of chipping detritus that show evidence of use, but are non-diagnostic.

Point

The base of a projectile point (Plate 9) was recovered from Location 1 (AgGs-435). This point base shows side-notching and tangs on a straight base. These characteristics are typical of the Brewerton side-notch point, a Middle Archaic period point common in Southern Ontario from circa 3000 – 2500 BC.

3.2.5 Artifact Catalogue

The complete Stage 2 artifact assemblage from Location 1 (AgGs-435) is provided in Appendix 10.1 Stage 2 Artifact Catalogue.

3.3 Location 2 (AgGs-436)

The Stage 2 assessment of site Location 2 (AgGs-436) resulted in the documentation of 5 pieces of chipping detritus from findspots 54-56 covering an area approximately 3m east-west by 7m north-south. The artifacts were manufactured from both Onondaga and Selkirk cherts.

The results of the morphological analysis of the chert flakes recovered from Location 2 (AgGs-436) are detailed in Table 9.

Table 9: Chipping Detritus Analysis for Location 2 (AgGs-436)

Chert Type	Secondary		Thinning		Shatter		Fragment		Total Analyzed
	n	%	n	%	n	%	n	%	%
Onondaga	1	20	1	20	1	20	1	20	80
Selkirk	0	0	1	20	0	0	0	0	20

The variety of flake types suggests that middle and late-stage lithic reduction occurred at the site, though given the small sample size this conclusion is speculative.

3.3.1 Artifact Catalogue

The complete Stage 2 artifact assemblage from Location 2 (AgGs-436) is provided in Appendix 10.1 Stage 2 Artifact Catalogue.

3.4 Location 3 (AgGs-437)

The Stage 2 assessment of site Location 3 (AgGs-437) resulted in the documentation of 45 pieces of chipping detritus and a single end scraper from findspots 36-53 and 65-67 covering an area approximately 70m east-west by 30m north-south. The artifacts were manufactured from both Onondaga and Selkirk cherts.

The results of the morphological analysis of the chert flakes recovered from Location 3 (AgGs-437) are detailed in Table 10 and the bifacial metrics for the scraper in Table 11.

Table 10: Chipped Stone Debitage Analysis for Location 3 (AgGs-437)

Chert Type	Primary		Secondary		Thinning		Shatter		Fragment		Total Analyzed
	n	%	n	%	n	%	n	%	n	%	%
Onondaga	1	2.22	25	55.55	11	24.44	5	11.11	2	4.44	97.78
Selkirk	0	0	0	0	1	2.22	0	0	0	0	2.22

According to the morphological analysis presented above, the chert flakes recovered from AgGs-437 included material from all stages of the lithic reduction process.

Table 11: Location 3 (AgGs-437) Bifacial Tool Metrics

Ca t#	Artifact	Length (mm)	Width (mm)	Thickness (mm)
59	end scraper	40.6	28.1	8.3

Scraper

The scraper recovered from Location 3 (AgGs-437) is an end scraper type, with a prominent raised end intended to use with a pushing motion (Plate 10). Scrapers are considered to be temporally non-diagnostic, other than being produced by pre-contact Aboriginal peoples.

3.4.1 Artifact Catalogue

The complete Stage 2 artifact assemblage from Location 3 (AgGs-437) is provided in Appendix 10.1 Stage 2 Artifact Catalogue.

3.5 Location 4 (AgGs-438)

The Stage 2 assessment of site Location 4 (AgGs-438) resulted in the documentation of 12 pieces of chipping detritus from findspots 57-64 covering an area approximately 15m east-west by 15m north-south. All of the recovered artifacts were manufactured from Onondaga chert.

The results of the morphological analysis of the chert flakes recovered from Location 4 (AgGs-438) are detailed in Table 12.

Table 12: Chipping Detritus Analysis for Location 4 (AgGs-438)

Chert Type	Primary		Secondary		Tool thinning		Total Analyzed	
	n	%	n	%	n	%	%	
Onondaga	1	8.33	4	33.33	7	58.34	100	

The variety of flake types suggests that middle and late-stage lithic reduction occurred at the site, though given the small sample size this conclusion is speculative.

3.5.1 Artifact Catalogue

The complete Stage 2 artifact assemblage from Location 4 (AgGs-438) is provided in Appendix 10.1 Stage 2 Artifact Catalogue.

3.6 Location 5 (AgGs-439)

The Stage 2 assessment of site Location 5 (AgGs-439) resulted in the documentation of 20 pieces of chipping detritus from findspots 17-22 and 68-74 covering an area approximately 45m east-west by 30m north-south. The artifacts were manufactured from Haldimand, Onondaga and Selkirk cherts.

The results of the morphological analysis of the chert flakes recovered from Location 5 (AgGs-439) are detailed in Table 13.

Table 13: Chipped Stone Debitage Analysis for Location 5 (AgGs-439)

Chert Type	Secondary		Thinning		Shatter		Fragment		Total Analyzed	
	n	%	n	%	n	%	n	%	%	
Haldimand	2	10	4	20	2	10	1	5	45	
Onondaga	10	50	0	0	0	0	0	0	50	
Selkirk	0	0	0	0	1	5	0	0	5	

The variety of flake types suggests that middle and late-stage lithic reduction occurred at the site, though given the small sample size this conclusion is speculative.

3.6.1 Artifact Catalogue

The complete Stage 2 artifact assemblage from Location 5 (AgGs-439) is provided in Appendix 10.1 Stage 2 Artifact Catalogue.

3.7 Location 6 (AgGs-440)

The Stage 2 assessment of site Location 6 (AgGs-440) resulted in the documentation of 21 pieces of chipping detritus from findspots 1-16 covering an area approximately 40m east-west by 50m north-south. The artifacts were manufactured from Haldimand and Onondaga cherts.

The results of the morphological analysis of the chert flakes recovered from Location 6 (AgGs-440) are detailed in Table 14.

Table 14: Chipped Stone Debitage Analysis for Location 6 (AgGs-440)

Chert Type	Secondary		Thinning		Fragment		Total Analyzed
	n	%	n	%	n	%	%
Haldimand	1	4.76	0	0	0	0	4.76
Onondaga	16	76.19	3	14.28	1	4.76	95.24

The variety of flake types suggests that middle and late-stage lithic reduction occurred at the site.

3.6.1 Artifact Catalogue

The complete Stage 2 artifact assemblage from Location 6 (AgGs-440) is provided in Appendix 10.1 Stage 2 Artifact Catalogue.

4.0 Analysis and Conclusions

Detritus was retained by the Proponent to conduct a Stage 1-2 archaeological assessment on part of Lot 208, Geographic Township of Stamford, Historical County of Welland, Regional Municipality of Niagara, Ontario. This investigation was conducted in advance of a proposed temple development at 7702 Chippewa Creek Road. The property at 7702 Chippewa Creek Road is an irregularly shaped parcel measuring 12.84ha (Figure 1) while the Study Area is a parcel of 2.81ha located at the eastern end of the property (Figure 3). The entire Study Area was subject to assessment.

The limits of the Study Area were bound by the Welland River to the south, an unnamed creek to the east, and the Chippewa Creek Road to the north. The west boundary was determined using UTM coordinates provided by the Proponent.

At the time of the assessment the Study Area comprised areas of wood, thicket, meadow, and manicured lawn, along with a barn and associated driveway. The river bank along the Welland River was deemed to be severe slope ($>20^\circ$). The Stage 1 background research indicated that the wood, thicket, meadow and manicured lawn portions of the Study Area exhibited moderate to high potential for the identification and recovery of archaeological resources. Therefore, a Stage 2 assessment was recommended for these areas.

The Stage 2 field assessment was conducted on July 14 and 15, 2021. This investigation consisted of a typical test pit survey conducted at five-metre (5m) intervals of those portions of the site not deemed previously disturbed or severe slope. This investigation resulted in the identification and documentation of one multi-component (pre-contact Aboriginal and Euro-Canadian historical) site registered as Location 1 (AgGs-435) and five pre-contact Aboriginal sites registered as Location 2 (AgGs-436), Location 3 (AgGs-437), Location 4 (AgGs-438), Location 5 (AgGs-439) and Location 6 (AgGs-440) (see Tile 3 of the Supplementary Documentation).

Location 1 (AgGs-435) was identified in the western end of the Study Area within which 13 test pits produced 48 artifacts in an area roughly 20m east-west by 40m north-south of which 32 were pre-contact Aboriginal artifacts and 16 were Euro-Canadian historical artifacts.

Location 2 (AgGs-436) was identified along the northern edge of the Study Area within which 3 test pits produced 5 pre-contact Aboriginal artifacts in an area roughly 5m east-west by 5m north-south.

Location 3 (AgGs-437) was identified along the southern edge of the Study Area within which 21 test pits produced 46 pre-contact Aboriginal artifacts in an area roughly 70m east-west by 30m north-south.

Location 4 (AgGs-438) was identified along the northern edge of the Study Area within which 8 test pits produced 12 pre-contact Aboriginal artifacts in an area roughly 15m east-west by 15m north-south.

Location 5 (AgGs-439) was identified along the southern edge of the Study Area within which 13 test pits produced 20 pre-contact Aboriginal artifacts in an area roughly 45m east-west by 30m north-south.

Location 6 (AgGs-440) was identified in the western end of the Study Area within which 13 test pits produced 21 pre-contact Aboriginal artifacts in an area roughly 40m east-west by 50m north-south.

5.0 Recommendations

Based on the results of the Stage 2 investigation, Location 1 (AgGs-435) has been interpreted as a multi-component site with a mid-to-late 19th century Euro-Canadian historical component and a pre-contact Aboriginal component that may be associated with the Middle Archaic period. Given the presence of at least 5 pre-contact Aboriginal artifacts in an area 10m by 10m, **Location 1 (AgGs-435) meets the criteria for a Stage 3 Site Specific Assessment as per Section 2.2, Guideline 2 of the *Standards and Guidelines* (Government of Ontario 2011) and retains CHVI. A Stage 3 archaeological assessment is recommended for Location 1 (AgGs-435).**

Based on the results of the Stage 2 investigation, Location 2 (AgGs-436) has been interpreted as a medium sized activity area occupied by Aboriginal peoples during the pre-contact period. Given the presence of at least 5 non-diagnostic pre-contact in a 10m-by-10m survey area **Location 2 (AgGs-436) meets the criteria for a Stage 3 Site Specific Assessment as per Section 2.2, Standard 1c of the *Standards and Guidelines* (Government of Ontario 2011) and retains CHVI. A Stage 3 archaeological assessment is recommended for Location 2 (AgGs-436).**

Based on the results of the Stage 2 investigation, Location 3 (AgGs-437) has been interpreted as a small activity area occupied by Aboriginal peoples during the pre-contact period. Given the presence of at least 5 non-diagnostic pre-contact in a 10m-by-10m survey area **Location 3 (AgGs-437) meets the criteria for a Stage 3 Site Specific Assessment as per Section 2.2, Standard 1c of the *Standards and Guidelines* (Government of Ontario 2011) and retains CHVI. A Stage 3 archaeological assessment is recommended for Location 3 (AgGs-437).**

Based on the results of the Stage 2 investigation, Location 4 (AgGs-438) has been interpreted as a medium sized activity area occupied by Aboriginal peoples during the pre-contact period. Given the presence of at least 5 non-diagnostic pre-contact in a 10m-by-10m survey area **Location 4 (AgGs-438) meets the criteria for a Stage 3 Site Specific Assessment as per Section 2.2, Standard 1c of the *Standards and Guidelines* (Government of Ontario 2011) and retains CHVI. A Stage 3 archaeological assessment is recommended for Location 4 (AgGs-438).**

Based on the results of the Stage 2 investigation, Location 5 (AgGs-439) has been interpreted as a medium sized activity area occupied by Aboriginal peoples during the pre-contact period. Given the presence of at least 5 non-diagnostic pre-contact in a 10m-by-10m survey area **Location 5 (AgGs-439) meets the criteria for a Stage 3 Site Specific Assessment as per Section 2.2, Standard 1c of the *Standards and Guidelines* (Government of Ontario 2011) and retains CHVI. A Stage 3 archaeological assessment is recommended for Location 5 (AgGs-439).**

Based on the results of the Stage 2 investigation, Location 6 (AgGs-440) has been interpreted as a medium sized activity area occupied by Aboriginal peoples during the pre-contact period. Given the presence of at least 5 non-diagnostic pre-contact in a 10m-by-10m survey area **Location 6 (AgGs-440) meets the criteria for a Stage 3 Site Specific Assessment as per Section 2.2, Standard 1c of the *Standards and Guidelines* (Government of Ontario 2011) and retains CHVI. A Stage 3 archaeological assessment is recommended for Location 6 (AgGs-440).**

The Stage 3 assessments of Location 1 (AgGs-435), Location 2 (AgGs-436), Location 3 (AgGs-437), Location 4 (AgGs-438), Location 5 (AgGs-439) and Location 6 (AgGs-440) will be conducted according to Section 3.2.2 of the *Standards and Guidelines* (Government of Ontario 2011). Given that it is not yet evident that the level of CHVI at Location 1 (AgGs-435), Location 2 (AgGs-436), Location 3 (AgGs-437), Location 4 (AgGs-438), Location 5 (AgGs-439) will result in recommendations to proceed to Stage 4, the Stage 3 assessment of all of all six sites will consist of the hand excavation of 1m square test units every 5m in systematic levels and into the first 5cm of subsoil, as per Table 3.1, Standard 1 of the *Standards and Guidelines* (Government of Ontario

2011). Additional 1m test units, amounting to 20% of the grid total, will be placed in areas of interest within the site extent as per Table 3.1, Standard 2 of the *Standards and Guidelines* (Government of Ontario 2011). All excavated soil will be screened through a six-millimetre mesh; all recovered artifacts will be recorded by their corresponding grid unit designation and collected for laboratory analysis. If a subsurface cultural feature is encountered, the plan of the exposed feature will be recorded and geotextile fabric will be placed over the unit before backfilling the unit. If it becomes apparent during stage 3 assessment that any of these archaeological sites should require stage 4 mitigation, the interval of stage 3 testing can switch to 10m with an additional 40% of the grid total as infill squares in areas of interest as per Section 3.2.3, Table 3.1 of the *Standards and Guidelines* (Government of Ontario 2011).

These recommendations apply to the portion of the development property to be subject to construction and developmental activities, and which was included within the current Study Area. **If, in the future, any remaining portions of the property that were not included in the Study Area will be impacted by development, then a Stage 1 archaeological assessment is required**, conducted according to Section 1.1 of the *Standards and Guidelines* (Government of Ontario 2011). This investigation will assess the development area's potential for the recovery of archaeological resources and will provide specific direction for the protection, management and/or recovery of these resources, as per Sections 1.3 and 1.4 of the *Standards and Guidelines* (Government of Ontario 2011).

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.

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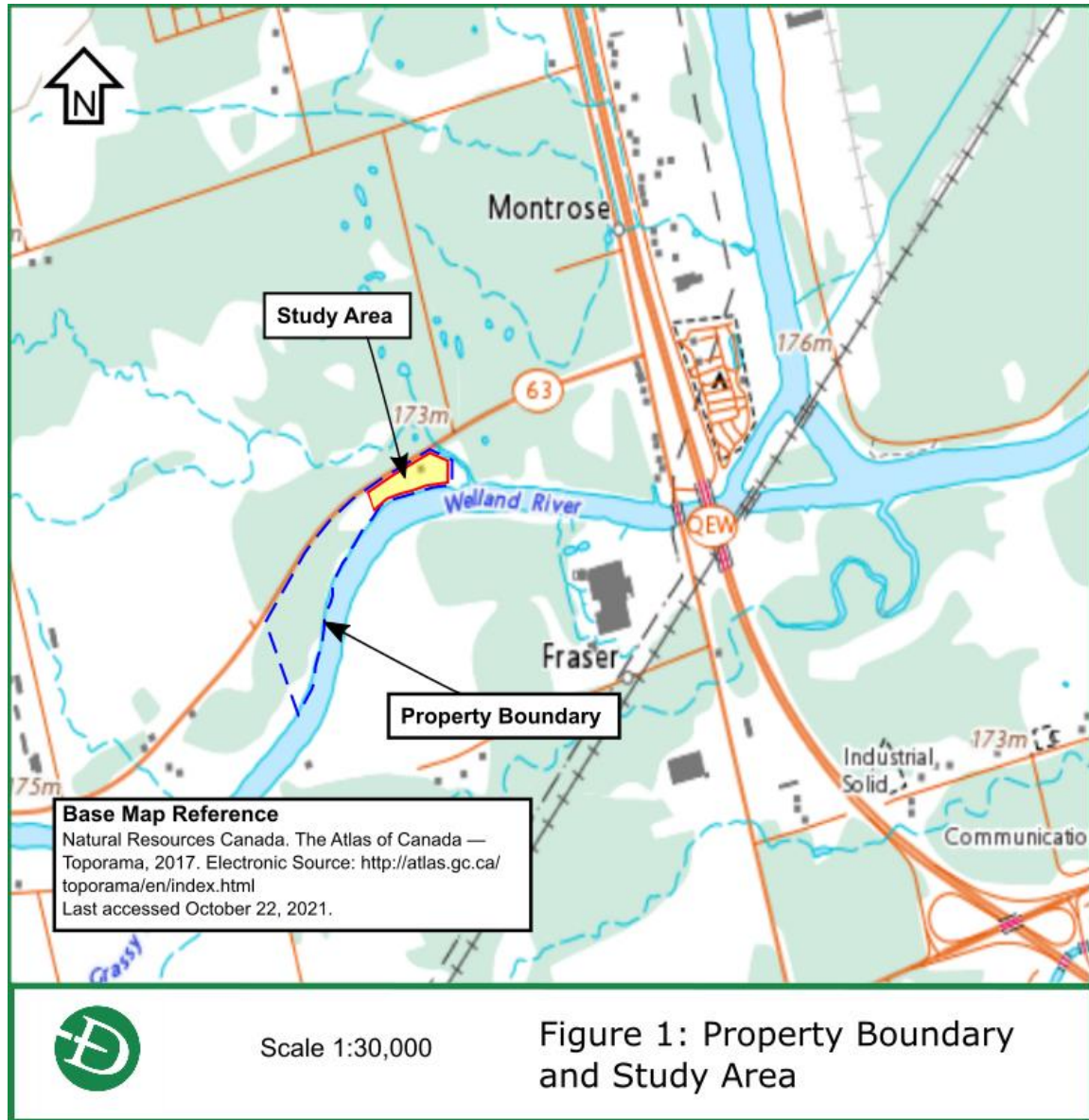
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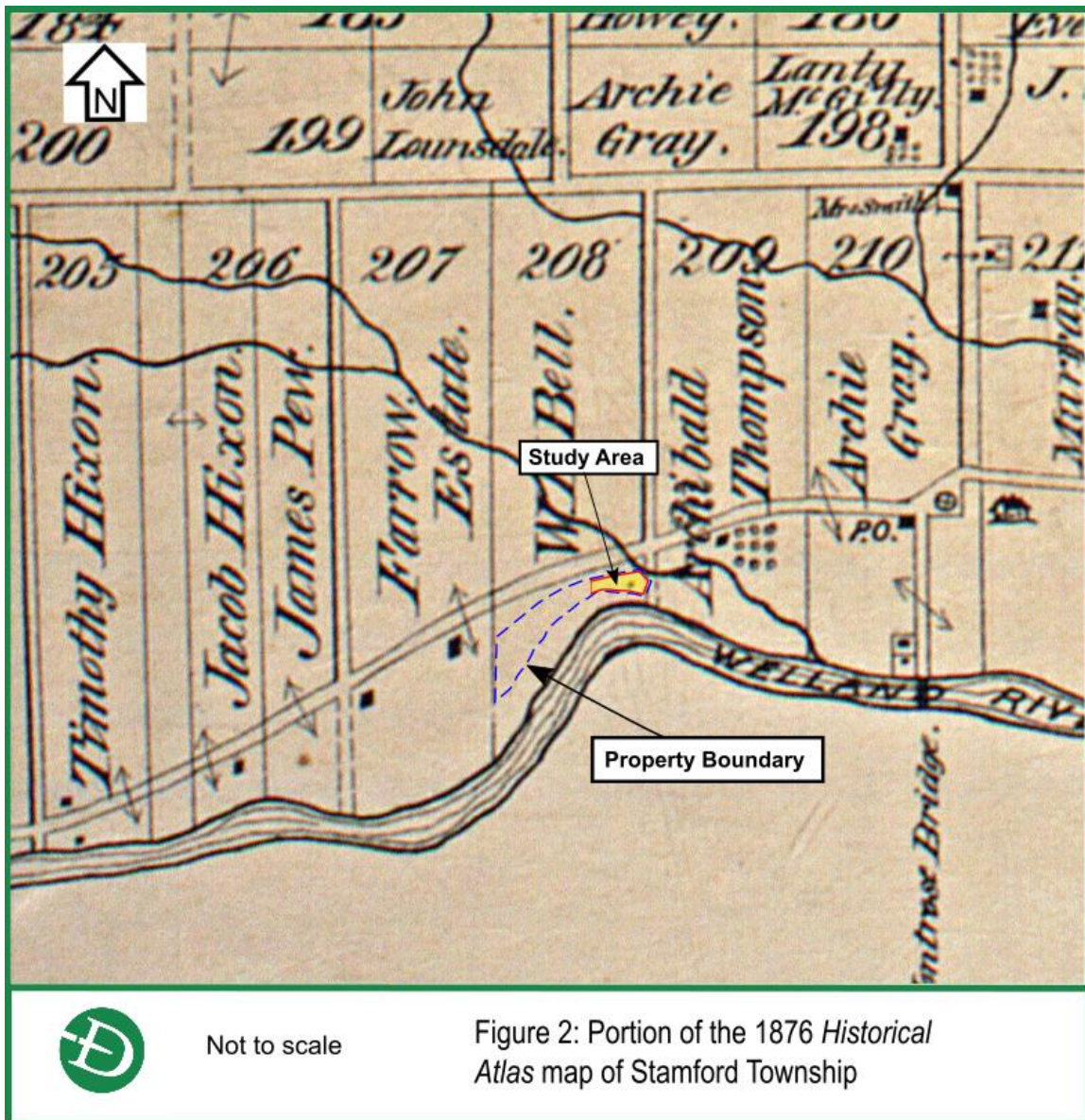
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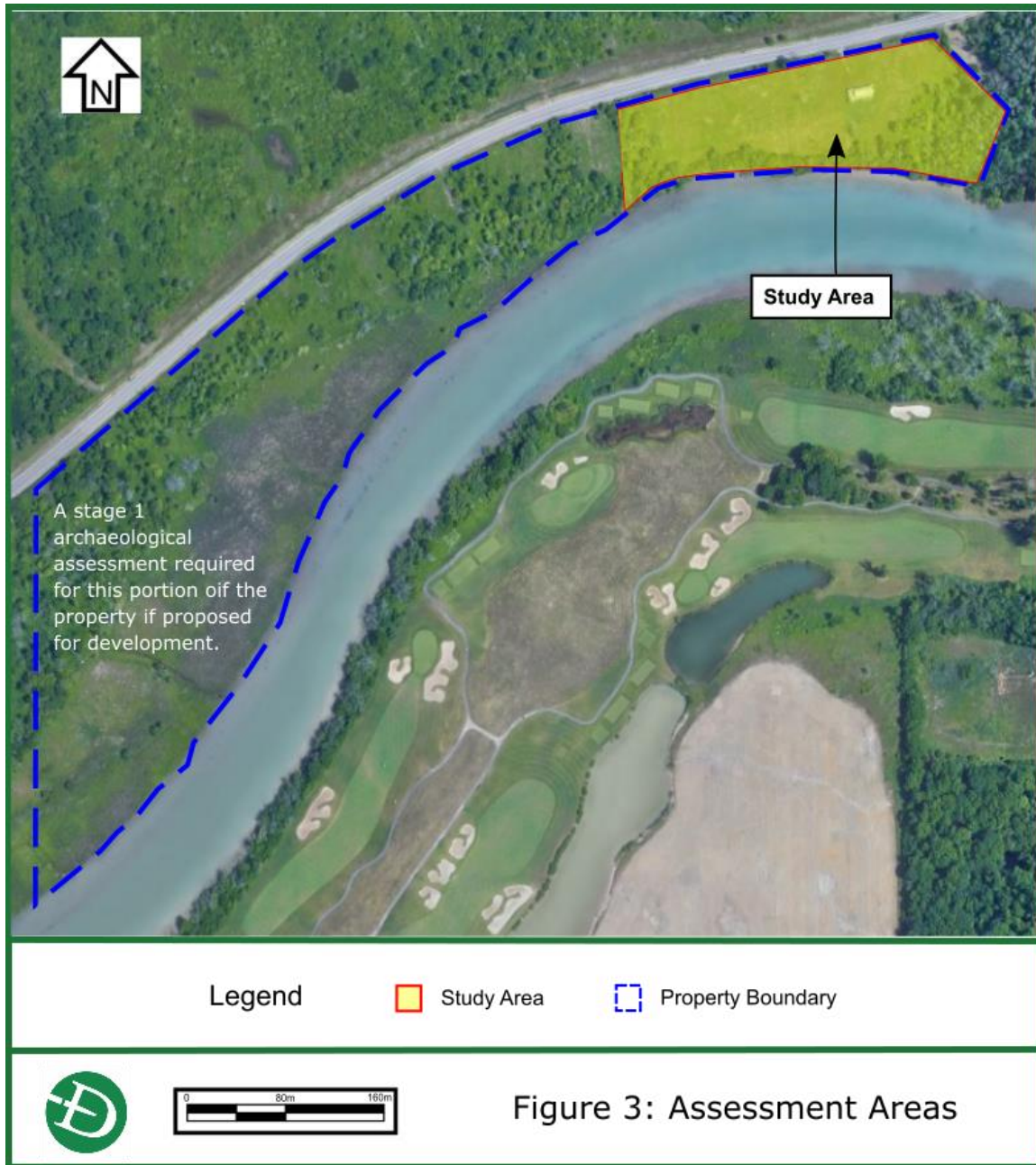
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8.0 Maps









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Figure 5. Development Proposal Concept



9.0 Images

9.1 Photos

Photo 1: Driveway, barn and manicured lawn, looking south southeast



Photo 2: Barn and manicured lawn with test pit survey at 5m interval, looking south



Photo 3: Barn and meadow with test pit survey at 5m interval, looking southwest



Photo 4: Woods and meadow with test pit survey at 5m interval, looking southeast



Photo 5: Wood interior, looking west



Photo 6: Looking west along severe slope bank of Welland River



Photo 7: Meadow and thicket with test pit survey at 5m interval, looking southwest



Photo 8: Meadow wood and thicket with test pit survey at 5m interval, looking northeast



Photo 9: Thicket, meadow and manicured grass, looking west



Photo 10: Severe slope bank of Welland River looking northeast



Photo 11: Thicket, woods and meadow, looking north



Photo 12: Thicket, woods and meadow, looking east



Photo 13: Meadow with test pit survey at 5m intervals, looking south southwest



Photo 14: Sample test pit



Photo 15: Sample Test Pit



Photo 16: Sample Test Pit



9.2 Artifact Photos

Plate 1: Onondaga chert from Location 1 (AgGs-435): cat#s clockwise from left: 32, 33, 35, 39 and 42



Plate 2: All chert from Location 2 (AgGs-436): Selkirk flake is bottom right, all others Onondaga



Plate 3: Onondaga chert from Location 3 (AgGs-437): cat#s 69-72



Plate 4: Onondaga chert from Location 4 (AgGs-438): cat# 93 at left, cat#94 three at right



Plate 5: Chert from Location 5 (AgGs-439):
Selkirk chert at left, cat# 19; three
Haldimand flakes, upper right, cat#s 109-
110; three Onondaga lower right, cat#s
107-108



Plate 6: Chert from Location 6 (AgGs-440):
Haldimand chert at left, cat# 7; three
Onondaga at right, cat#s 1 and 2



Plate 7: Cat #28 drill fragment



Plate 8: Cat #44 Utilized flake



Plate 9: Cat #50, point base



Plate 10: Cat #59 End scraper



Plate 11: Cat #30 Refined white earthenware



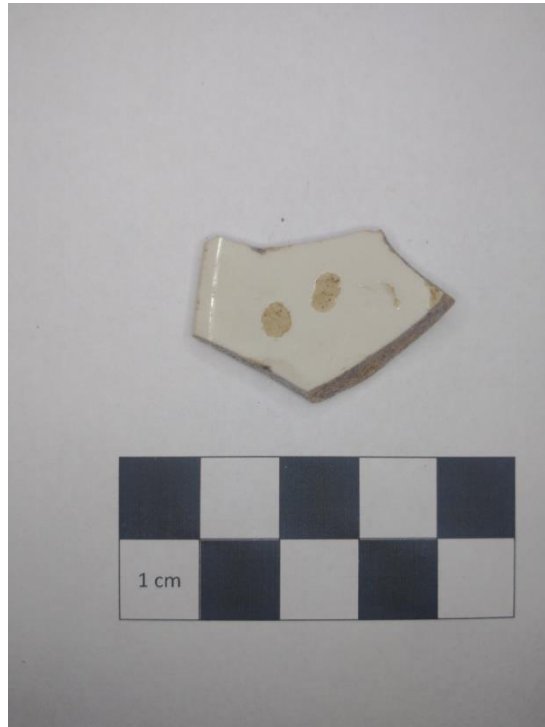
Plate 12: Cat# 35 clear bottle glass; #36 red earthenware; #37 window glass Utilized flake



Plate 9: Cat #38, Cut nails



Plate 6: Cat #48 Ironstone



10.0 Appendix

10.1 Stage 2 Artifact Catalogue

Cat. #	Findspot	Artifact	No.	Test pit depth	Chert type	Form	Function	Notes
1	FS01	secondary	2	19	Onondaga			
2	FS01	secondary	1	19	Onondaga			potlids observed
3	FS02	tool thinning	1	19	Onondaga			
4	FS03	secondary	1	22	Onondaga			
5	FS04	secondary	1	24	Onondaga			
6	FS05	secondary	1	28	Onondaga			potlids observed
7	FS06	secondary	1	19	Haldimand			
8	FS07	secondary	1	25	Onondaga			
9	FS08	secondary	2	22	Onondaga			
10	FS08	tool thinning	1	22	Onondaga			
11	FS09	tool thinning	1	24	Onondaga			
12	FS10	secondary	1	24	Onondaga			
13	FS11	secondary	1	20	Onondaga			
14	FS12	secondary	1	20	Onondaga			potlids observed
15	FS13	fragment	1	20	Onondaga			potlids observed
16	FS14	secondary	1	20	Onondaga			
17	FS15	secondary	2	20	Onondaga			
18	FS16	secondary	1	20	Onondaga			
19	FS17	shatter	1	20	Selkirk			
20	FS18	secondary	1	20	Onondaga			
21	FS19	tool thinning	1	20	Onondaga			
22	FS20	secondary	1	20	Onondaga			
23	FS20	fragment	1	20	Onondaga			
24	FS21	secondary	1	27	Onondaga			
25	FS22	secondary	2	28	Onondaga			
26	FS23	secondary	3	34	Onondaga			
27	FS23	tool thinning	3	34	Onondaga			
28	FS23	drill	1	34	Onondaga			proximal drill fragment
29	FS24	tool thinning	1	32	Onondaga			
30	FS24	RWE	1	32		hollow	indeterminate	
31	FS25	tool thinning	2	32	Onondaga			
32	FS26	secondary	1	30	Onondaga			
33	FS26	secondary	1	30	Onondaga			potlids observed
34	FS26	tool thinning	1	30	Onondaga			
35	FS26	clear bottle glass	1	30				
36	FS26	red earthenware	3	30		hollow	indeterminate	unglazed
37	FS26	window glass	1	30				<1.6mm; 0.99 mm thick
38	FS27	cut nail	2	30				
39	FS27	tool thinning	1	30	Onondaga			
40	FS27	secondary	1	30	Onondaga			

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Cat. #	Findspot	Artifact	No.	Test pit depth	Chert type	Form	Function	Notes
41	FS27	fragment	1	30	Onondaga			
42	FS28	secondary	1	29	Onondaga			
43	FS29	secondary	1	40	Onondaga			
44	FS29	utilized flake	1	40	Onondaga			one retouched edge with minor use-wear
45	FS30	primary	1	35	Onondaga			possibly shatter
46	FS30	tool thinning	1	35	Onondaga			
47	FS30	shatter	1	35	Onondaga			
48	FS30	ironstone	1	35		hollow	indeterminate	
49	FS31	tool thinning	2	35	Onondaga			
50	FS31	point	1	35	Onondaga			corner-notched projectile point base fragment, possibly a Brewerton side-notch type.
51	FS32	secondary	2	22	Onondaga			
52	FS33	RWE	1	22		indeterminate	indeterminate	
53	FS33	red earthenware	6	22		hollow	indeterminate	glazed
54	FS33	tool thinning	2	22	Onondaga			
55	FS34	secondary	1	22	Onondaga			
56	FS34	tool thinning	1	22	Onondaga			
57	FS35	secondary	1	22	Onondaga			
58	FS36	secondary	4	20	Onondaga			
59	FS37	scraper	1	20	Onondaga			end scraper
60	FS38	tool thinning	1	27	Onondaga			
61	FS39	secondary	1	27	Onondaga			
62	FS40	fragment	1	27	Onondaga			
63	FS41	secondary	2	27	Onondaga			
64	FS42	secondary	3	28	Onondaga			
65	FS43	secondary	1	28	Onondaga			
66	FS44	tool thinning	1	28	Onondaga			
67	FS45	tool thinning	1	31	Onondaga			
68	FS46	tool thinning	1	31	Onondaga			
69	FS47	tool thinning	1	31	Onondaga			
70	FS47	shatter	1	31	Onondaga			
71	FS47	secondary	1	31	Onondaga			potlids observed
72	FS47	secondary	1	31	Onondaga			
73	FS48	secondary	1	31	Onondaga			
74	FS49	shatter	1	31	Onondaga			
75	FS49	primary	1	31	Onondaga			
76	FS50	secondary	1	31	Onondaga			
77	FS50	shatter	1	31	Onondaga			
78	FS51	secondary	1	27	Onondaga			
79	FS52	tool thinning	3	27	Onondaga			

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Cat. #	Findspot	Artifact	No.	Test pit depth	Chert type	Form	Function	Notes
80	FS52	secondary	2	27	Onondaga			
81	FS52	fragment	1	27	Onondaga			
82	FS53	secondary	1	27	Onondaga			
83	FS53	tool thinning	1	27	Onondaga			
84	FS53	shatter	1	27	Onondaga			
85	FS54	fragment	1	27	Onondaga			
86	FS55	tool thinning	1	27	Onondaga			
87	FS56	tool thinning	1	25	Selkirk			
88	FS56	secondary	2	25	Onondaga			
89	FS56	shatter	1	25	Onondaga			
90	FS57	tool thinning	1	25	Onondaga			
91	FS57	secondary	1	25	Onondaga			
92	FS58	tool thinning	1	25	Onondaga			
93	FS59	secondary	1	25	Onondaga			
94	FS60	tool thinning	3	25	Onondaga			potlids observed
95	FS61	secondary	1	25	Onondaga			
96	FS62	secondary	1	22	Onondaga			
97	FS63	tool thinning	1	24	Onondaga			
98	FS64	primary	1	24	Onondaga			
99	FS64	tool thinning	1	24	Onondaga			
100	FS65	secondary	1	25	Onondaga			
101	FS66	secondary	2	27	Onondaga			
102	FS67	secondary	1	27	Onondaga			
103	FS68	secondary	1	27	Onondaga			potlids observed
104	FS69	secondary	1	23	Onondaga			
105	FS70	secondary	3	23	Onondaga			
106	FS71	secondary	1	24	Haldimand			
107	FS72	tool thinning	2	24	Onondaga			
108	FS72	secondary	1	24	Onondaga			
109	FS72	shatter	2	24	Haldimand			
110	FS72	secondary	1	24	Haldimand			
111	FS73	tool thinning	1	26	Onondaga			
112	FS74	secondary	1	26	Onondaga			