Stage 1-2 Archaeological Assessment
Whistle Bare Campground
1898 Whistle Bare Road

Part of Lot 28, Concession 12,
Geographic Township of North Dumfries,
Historical Waterloo County now Region of Waterloo

Submitted to:
GSP Group Inc.
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and the

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

Submitted by:

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ORIGINAL REPORT

January 30, 2020

Executive Summary

Detritus Consulting Ltd. ('Detritus') was retained by Ms. Sarah Code of GSP Group Inc. ('the Proponent') to conduct a Stage 1-2 archaeological assessment on part of Lot 28, Concession 12, Geographic Township of North Dumfries, historical Waterloo County now in the Region of Waterloo, Ontario (Figure 1). This investigation was conducted in advance of the proposed Whistle Bare Campground development at 1898 Whistle Bare Road, in North Dumfries. The assessment property ('Study Area') is a rectangular parcel measuring 38.2 hectares, located on the north side of Whistle Bare Road, to the west of Whistle Bare Golf Club. The entire property 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 P389 issued to Dr. Walter McCall by the Ministry of Heritage, Sport, Tourism and Culture Industries ('MHSTCI') and adheres to the archaeological license report requirements under subsection 65 (1) of the *Ontario Heritage Act* (Government of Ontario 1990b) and the MHSTCI's *Standards and Guidelines for Consultant Archaeologists* ('*Standards and Guidelines*'; Government of Ontario 2011).

At the time of the assessment, the southern half of the Study Area comprised two large agricultural fields surrounding a one-storey house; a two-storey house with an attached garage; landscaped gardens, a patio and stone walkway; three sheds; a garage; a silo; a gravel walkway; and two gravel laneways, all of which was surrounded by grass and trees. The northern half of the Study Area was occupied by the existing Whistle Bare Campground, which comprised grass and treed areas throughout, as well as various trailers, small sheds, gravel laneways and parking areas, and three structures. Furthermore, various ponds and drainage ditches were also visible in the northern half of the Study Area, which were a result of aggregate extraction on the property during the construction of Highway 401 (personal communication with the Proponent). Additionally, a Hydro One Corridor transects the Study Area from the southeast corner, running northwest to the northern portion of the agricultural field where it crosses over to the neighbouring property to the west.

The Stage 1 background research indicated that 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 the agricultural fields, manicured lawns, and treed areas.

The Stage 2 field assessment was conducted between June 4 and September 11, 2019. This investigation consisted of a typical test pit survey of the manicured lawn and treed areas and a typical pedestrian survey of the agricultural field; both surveys were conducted at five-metre (5m) intervals. Additionally, the treed area in the central eastern portion of the Study Area was judgementally test pitted to confirm disturbance from aggregate extraction and wet areas.

This investigation resulted in the identification and documentation of three pre-contact Aboriginal archaeological sites and four pre-contact Aboriginal archaeological findspots; Location 1 (AiHc-500); Location 2 (AiHc-501); Location 3; Findspot 1; Findspot 2; Findspot 3 (AiHc-502); and Findspot 4 (see Tile 3 of the Supplementary Documentation). Additionally, a single Euro-Canadian site was also recovered, Location 4 (AiHc-503).

The Stage 2 assessment of Location 1 (AiHc-500) resulted in the documentation of 38 pieces of pre-contact Aboriginal chipping detritus, 2 bifacial tools, and 1 unifacial tool; scattered across an area of approximately 56m north-south by 22m east-west, in the north central portion of the western agricultural field within the Study Area. Morphological analysis of the chipping detritus suggests that late stages of lithic reduction occurred at the site a propensity towards formal tool preparation, and maintenance, as supported by the presence of two bifacially worked tools and one unifacially worked tool. Given the results of the Stage 2 assessment, Location 1 (AiHc-500)

has been interpreted as a small activity area of unknown function, occupied by unspecified Aboriginal people during the pre-contact period, and characterised by late stages of lithic reduction. Location 1 (AiHc-500) fulfills the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1a of the *Standards and Guidelines* (Government of Ontario 2011). To further evaluate the site's CHVI, **a Stage 3 archaeological assessment is recommended for Location 1 (AiHc-500).**

The Stage 2 assessment of Location 2 (AiHc-501) resulted in the documentation of nine pieces of pre-contact Aboriginal chipping detritus, one projectile point and one core; scattered across an area of approximately 50m north-south by 44m east-west, in the northeastern corner of the western agricultural field within the Study Area. Morphological analysis of the chipping detritus suggests that late stages of lithic reduction occurred at the site a propensity towards formal tool preparation, and maintenance, as supported by the presence of a projectile point. Given the results of the Stage 2 assessment, Location 2 (AiHc-501) has been interpreted as a small activity area of unknown function, occupied by unspecified Aboriginal people during the pre-contact period, and characterised by late stages of lithic reduction. Location 2 (AiHc-501) does not fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines* (Government of Ontario 2011). The CHVI of Location 2 (AiHc-501) has been sufficiently documented. Therefore, **no further archaeological assessment is recommended for Location 2 (AiHc-501)**.

The Stage 2 assessment of Location 3 resulted in the documentation of five pieces of Onondaga chert chipping detritus scattered across an area of approximately 16m north-south by 40m east-west, in the northern half of the eastern agricultural field. Morphological analysis of the chipping detritus suggests that late stages of lithic reduction occurred at the site. Given the small sample size at Location 3, however, it is difficult to draw any useful conclusions regarding site activities or function. Given the results of the Stage 2 assessment, Location 3 has been interpreted as a small activity area of unknown function, occupied by unspecified Aboriginal people during the pre-contact period, and characterised by late stages of lithic reduction. Location 3 does not fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines* (Government of Ontario 2011). The CHVI of Location 3 has been sufficiently documented. Therefore, **no further archaeological assessment is recommended for Location 3**.

The Stage 2 assessment of Location 4 (AiHc-503) resulted in the documentation 59 Euro-Canadian artifacts from 15 test pits, measuring 17m east-west by 16m north-south in the lawn area adjacent Whistle Bare Road, to the south and south east of the one-storey house at 1898 Whistle Bare Road, approximately 260m to the southeast of Findspot 1. Over 50% of the Stage 2 assemblage were ceramics (50.85%; n=30), which date from the late 19th to 20th century. Also recovered was a wire nail, a predominance of clear bottle class fragments and a cartridge casing, which also supports the late 19th to 20 century occupation date.

The remainder of the assemblage comprised cut nails, window glass shards, red brick fragments, a bone button, a white clay pipe bowl fragment, which corresponds to a middle to late 19th century date of occupation. Based on the results of the Stage 2 investigation, Location 4 (AiHc-503) has been interpreted as small middle to late 19th century domestic assemblage, which may extend into the 20th century. According to the background research, Location 4 (AiHc-503) was located on a Lot 28, Concession 12, in North Dumfries Township, which has no landowner listed (Figure 2; Walker & Miles 1877). It is possible that these artifacts represent a late 19th century domestic deposit associated with an occupation of post 1877.

Based on the results of the Stage 2 investigation, Location 4 (AiHc-503) has been interpreted as a small predominantly middle to late 19th century domestic scatter, with a small number of artifacts dating to the 20th century. Given the presence of at least 20 artifacts that date the period of use to before 1900, **Location 4 (AiHc-503) 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.**

The Stage 2 assessment of Findspot 1 resulted in the documentation of a single utilized flake manufactured from Onondaga chert; identified along the centre of the western agricultural field

within the Study Area. The Stage 2 assessment of Findspot 2 resulted in the documentation of two pieces of chipping detritus manufactured from Onondaga chert; identified in the western agricultural field, west of the Hydro Tower. The Stage 2 assessment of Findspot 3 (AiHc-502) resulted in the documentation of a single Fossil Hill chert projectile point; along the northern edge of the eastern agricultural field. The Stage 2 assessment of Findspot 4 resulted in the documentation of two pieces of Onondaga chert chipping detritus; in the northeast corner of the eastern agricultural field. Despite an intensified pedestrian survey of all agricultural lands within 20 m of the findspots, no other archaeological materials were identified. Given the isolated nature of the artifacts, the CHVI of Findspots 1, 2, 3 (AiHc-502), and 4 are judged to be sufficiently documented. Findspots 1, 2, 3 (AiHc-502), and 4 do not fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines* (Government of Ontario 2011). The CHVI of Findspots 1, 2, 3 (AiHc-502), and 4 have been sufficiently documented. Therefore, **no further archaeological assessment is recommended for Findspots 1, 2, 3 (AiHc-502), and 4**.

The Stage 3 archaeological assessments at Location 1 (AiHc-500) and Location 4 (AiHc-503) will be conducted according to the procedures outlined in the *Standards and Guidelines* (Government of Ontario 2011). Typically, a Stage 3 assessment begins with an intensive controlled surface pickup ('CSP') across the Stage 2 limits of the sites, conducted as per Section 3.2.1 of the *Standards and Guidelines* (Government of Ontario 2011). The Stage 2 pedestrian survey, however, consisted of an intensive surface collection across the entire site limits of Location 1 (AiHc-500) within the agricultural fields; all artifacts were mapped digitally and collected for laboratory analysis. Thus, the conditions for a Stage 3 CSP were met during the Stage 2 assessment. Additionally, Location 4 (AiHc-503) was recovered during a test pit survey therefore no CSP is required for the site.

Given that it is not yet evident that the level of CHVI at the sites will result in a recommendation to proceed to Stage 4 (see Section 4.8), the Stage 3 assessments of Location 1 (AiHc-500) and Location 4 (AiHc-503) will consist of the hand excavation of 1m square test units every 5m in systematic levels and into the first five centimetres 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 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.

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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Project Personnel

Project Manager:	Garth Grimes, P017
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Generous contributions by the following individuals and agencies made this report possible.

- Ms. Sarah Code of GSP Group Inc.

1.0 Project Context

1.1 Development Context

Detritus Consulting Ltd. ('Detritus') was retained by Ms. Sarah Code of GSP Group Inc. ('the Proponent') to conduct a Stage 1-2 archaeological assessment on part of Lot 28, Concession 12, Geographic Township of North Dumfries, Historical Waterloo County now in the Region of Waterloo, Ontario (Figure 1). This investigation was conducted in advance of a proposed Whistle Bare Campground development at 1898 Whistle Bare Road, in North Dumfries. The assessment property ('Study Area') is a rectangular parcel measuring 38.2 hectares (ha), located on the north side of Whistle Bare Road, to the west of Whistle Bare Golf Club.

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 P389 issued to Dr. Walter McCall by the Ministry of Heritage, Sport, Tourism and Culture Industries ('MHSTCI') and adheres to the archaeological license report requirements under subsection 65 (1) of the *Ontario Heritage Act* (Government of Ontario 1990b) and the MHSTCI's *Standards and Guidelines for Consultant Archaeologists* ('*Standards and Guidelines*'; Government of Ontario 2011).

The purpose of a Stage 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 Aboriginal Resources

The late seventeenth and early eighteenth centuries represent a watershed moment in the evolution of the post-contact Aboriginal occupation of Southern Ontario. At this time, 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 seventeenth 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 1978:778-79).

In 1722, the Five Nations adopted the Tuscarora in New York becoming the Six Nations (Pendergast 1995:107). 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. 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. 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: 77-78; Weaver 1978: 525).

The Study Area first enters the Euro-Canadian historical record as part of the Haldimand Tract which:

> *…is a parcel or tract of land given to the Six Nations Indians, by Governor Haldimand October 25th, 1784, …and conveyed by Grant the 14th of January, 1793. … This Grant was composed of the following Townships: Dunn, Sherbrooke, Moulton, Canborough, North and South Cayuga, Oneida and Seneca in Haldimand County; Tusc[aro]ra, Onondaga, Brantford and South Dumfries in Brant County; North Dumfries, Waterloo and Woolwich in Waterloo County; Pilkington and Nichol in Wellington County; and is described as a parcel or tract of land six miles on each side of the Ouse or Grand River from it's mouth toward its source, to be bounded by the tract of land deeded December the 7th, 1792 by the Mississa[u]ga Chiefs and people to the Crown. This part was set aside as a suitable retreat for the Six Nation Indians who had shewn attachment and Fidelity to the British Government during the troublous times 1759 to 1783 and was granted to the Chiefs, Warriors, Women and People of the Six Nations and their heirs forever.*
>
> Morris 1943:19-21

The size and nature of the pre-contact settlements and the subsequent spread and distribution of Aboriginal material culture in Southern Ontario began to shift with the establishment of European settlers in Southern Ontario. By 1834, it was accepted by the Crown that losses of portions of the Haldimand Tract to Euro-Canadian settlers were too numerous for all lands to be returned. Lands in the Lower Grand River area were surrendered by the Six Nations to the British Government in 1832, at which point most Six Nations people moved into Tuscarora Township in Brant County and a narrow portion of Oneida Township (Page & Co. 1879:8; Tanner 1987:127; Weaver 1978:526). Following the population decline and the surrender of most of their lands

along the Credit River, the Mississaugas were given 6000 acres of land on the Six Nations Reserve, establishing the Mississaugas of New Credit First Nation in 1847 (Smith 2002:119).

Despite the inevitable encroachment of European settlers on previously established Aboriginal territories, "written accounts of material life and livelihood, the correlation of historically recorded villages to their archaeological manifestations, and the similarities of those sites to more ancient sites have revealed an antiquity to documented cultural expressions that confirms a deep historical continuity to Iroquoian systems of ideology and thought" (Ferris 2009:114). 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 North Dumfries in the historical County of Waterloo, now in the Region of Waterloo, Ontario (Figure 2).

On July 24, 1788, Sir Guy Carleton, the Governor-General of British North America, divided the Province of Québec into the administrative districts of Hesse, Nassau, Mecklenburg and Lunenburg (Archives of Ontario 2009). Further change came in December 1791 when the 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 1895:33).

In July 1792, Simcoe divided Upper Canada into 19 counties, including Waterloo County, stretching from Essex in the west to Glengarry in the east. Later that year, the four districts originally established in 1788 were renamed as the Western, Home, Midland and Eastern Districts.

Official settlement of North Dumfries Township began in 1816, although Euro-Canadian settlers and squatters were present before the registered survey (Byerly 1935). Prior to this, the land represented an undeveloped parcel of land identified as Block One within the northern part of the Haldimand Tract. In 1795, under authority from the Six Nations' chiefs, Joseph Brant began to sell these parcels of undeveloped land, including Block One to Phillip Steadman (Moyer 1971). Steadman died shortly after taking possession of the land and it was transferred to his sister Mrs. Sparkman. In 1811, Mr. and Mrs. Sparkman conveyed the land to Mr. Thomas Clarke who then conveyed it to his cousin Mr. William Dickson in 1816. Dickson was a prominent Niagara merchant and land speculator. He established and named the township and initiated official survey for settlement (Figure 2).

The survey was led by Deputy Provincial Surveyor Adrian Marlett between October 1816 and May 1817 (Taylor 1970). It was completed according to the single front survey system with multiple modifications likely resulting from the challenging terrain and heavy bush encountered upon arrival (Dean 1969). The standard single front system divides the land into five lots containing 200-acre parcels surrounded by roads. The survey team accessed the land from East River Road beginning in Paris and ending in Galt (Taylor 1970).

Generally, settlement of the township was slow with the exception of the area between Galt and Branchton. A member of the original survey party from New York State, William Mackenzie, along with approximately seven others, returned to settle the area shortly after the survey was completed (Taylor 1970). At the end of 1817, there were 38 families living in Dumfries Township (Walker & Miles 1877). Subsequent municipal acts in 1849 and 1852 saw the township divided in two with the northern half renamed North Dumfries and amalgamated within the County of Waterloo. By this time Galt had already been established and was a thriving town (Waterloo Regional Museum 2018). By the 1880s, settlement within North Dumfries Township had been complete for more than a generation and the population was reported to be 3,283 (Ontario Agricultural Commission 1881).

The *Illustrated Historical Atlas of Waterloo and Wellington Counties, Ontario* ('*Historical Atlas*'), demonstrates the extent to which North Dumfries Township had been settled by 1877 (Walker & Miles 1877; Figure 2). An increasing population throughout the late 19th century is evident from the number of villages and small towns indicated, the town lots for the cities of Ayr and Galt (now Cambridge), as well as a branch of the Grand Trunk, the Credit Valley and Great Western Railways, which transect the township.

According to the *Historical Atlas* map of North Dumfries the northern half of Lot 28, Concession 12 lists no landowner and illustrates no structures or orchards. Located to the east of the Study Area, on Lots 23, 24, and 25 is the early community of Whistlebare. The early community of Galt is illustrated to the east of the Study Area. Additionally, the Credit Valley Railway the Grand Trunk Railway and the Great Western Railway are illustrated to the south and east of the Study area running through Galt.

Although significant and detailed landowner information is available on the current *Historical Atlas* map of North Dumfries Township (Walker & Miles 1877; Figure 2), it should be recognized that historical county atlases were funded by subscriptions fees and were produced primarily to identify factories, offices, residences and landholdings of subscribers. Landowners who did not subscribe were not always listed on the maps (Caston 1997). Moreover, associated structures were not necessarily depicted or placed accurately (Gentilcore and Head 1984).

1.3 Archaeological Context

1.3.1 Property Description and Physical Setting

The Study Area is a rectangular parcel measuring 38.2ha, located on the north side of Whistle Bare Road, to the west of Whistle Bare Golf Club. At the time of the assessment, the southern half of the Study Area comprised two large agricultural fields surrounding a one-storey house; a two-storey house with an attached garage; landscaped gardens, a patio and stone walkway; three sheds; a garage; a silo; a gravel walkway; and two gravel laneways, all of which was surrounded by grass and trees. The northern half of the Study Area was occupied by the existing Whistle Bare Campground, which comprised grass and treed areas throughout, as well as various trailers, small sheds, gravel laneways and parking areas, and three structures. Furthermore, various ponds and drainage ditches were also visible in the northern half of the Study Area, which were a result of aggregate extraction on the property during the construction of Highway 401 (personal communication with the Proponent). Additionally, a Hydro One Corridor transects the Study Area from the southeast corner, running northwest to the northern portion of the agricultural field where it crosses over to the neighbouring property to the west.

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 situated within the Guelph Drumlin Field. According to Chapman and Putnam,

> *…the Guelph drumlin field occupies an area of 320 square miles lying northwest, or in front of the Paris Morraine. Within this area, including parts of the Regional Municipalities of Hamilton-Wentworth, Waterloo, and Halton, and part of Wellington County, there are approximately 300 drumlins of all sizes. For the most part these hills are of the broad oval type with slopes less steep than those of the Peterborough drumlins.*
>
> Chapman and Putnam 1984:174-176

Drumlins can be formed of till (the unsorted debris of glaciers) or sand and gravel, soils varying from moderate to well drained and suitable to agriculture. Original forest cover probably consisted of a mix of pines and hardwoods, such as sugar maple, oak, beech and cherry. This pattern of forest cover is characteristic of areas of clay soil within the Maple - Hemlock Section of the Great Lakes - St. Lawrence Forest Province - Cool Temperate Division (McAndrews and Manville 1987:43).

The closest source of potable water is a tributary of Blair Creek, which is located in the northern half of the Study Area.

1.3.2 Pre-Contact Aboriginal 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 North Dumfries Township, based on Ellis and Ferris (1990).

Table 1: Cultural Chronology for North Dumfries Township

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

1.3.3 Previous Identified Archaeological Work

In order to compile an inventory of archaeological resources, the registered archaeological site records kept by the MTCS were consulted. In Ontario, information concerning archaeological sites stored in the ASDB (Government of Ontario n.d.) is maintained by the MTCS. 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 AiHc.

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, 16 archaeological sites have been registered within a 1km radius of the Study Area (Table 2). Of the 16 sites, 14 are pre-contact Aboriginal dating from the Early Paleo-Indian to the Late Woodland periods; and 2 are post-contact Euro-Canadian.

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

Borden Number	Site Name	Time Period	Affinity	Site Type
AiHc-127	Whistle Bare 1	Archaic, Late, Woodland, Early	Aboriginal	findspot
AiHc-128	Whistle Bare 2	Post-Contact	Euro-Canadian	blacksmith shop, homestead
AiHc-129	Whistle Bare 3	Woodland, Middle	Aboriginal	findspot
AiHc-130	Whistle Bare 4	Archaic, Middle	Aboriginal	findspot
AiHc-131	Whistle Bare 5	Paleo-Indian, Paleo-Indian, Early	Aboriginal	findspot
AiHc-132	Whistle Bare 6	Woodland, Middle	Aboriginal	findspot
AiHc-267	Rhona (P2)	Pre-Contact	Aboriginal	scatter
AiHc-276	-	Pre-Contact	Aboriginal	scatter
AiHc-334	-	Archaic, Late	Aboriginal	scatter
AiHc-335	-	Woodland, Late	Aboriginal	findspot
AiHc-365	Asparagus 1	Woodland, Early	Aboriginal	findspot
AiHc-366	Asparagus 2	Archaic, Middle	Aboriginal	findspot
AiHc-367	Asparagus 3	Pre-Contact	Aboriginal	findspot
AiHc-431	-	Post-Contact	Euro-Canadian	unknown
AiHc-432	-	Pre-Contact	Aboriginal	-
AiHc-474	Location 1	Woodland, Middle	Aboriginal	transient visit

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 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 discussed above, the closest source of potable water is a tributary of Blair Creek, which is located in the northern half 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 Guelph Drumlin Field Region. As was discussed earlier, the soils within this region are imperfectly drained, but suitable for pre-contact and post contact Aboriginal agricultural. Given this, the distance to potable water, the 14 pre-contact Aboriginal sites registered within 1km of the Study Area and the length of occupation of North Dumfries Township prior to the arrival of Euro-Canadian settlers, the pre-contact and post-contact Aboriginal archaeological potential of the Study Area is judged to be moderate to high.

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

The *Historical Atlas* (Walker & Miles 1877; Figure 2) map of North Dumfries Township has revealed that the Study Area is in close proximity to a number of historical roads, the early community of Galt as well as a branch of the Grand Trunk, the Credit Valley and Great Western Railways, which transect the township. Considering also the presence of two Euro-Canadian sites within 1km of the Study Area and the potential for post-contact Euro-Canadian archaeological resources is judged to be moderate to high.

Additionally, despite the factors mentioned above, extensive land disturbance can eradicate archaeological potential within a Study Area, as outlined in Section 1.3.2 of the *Standards and Guidelines* (Government of Ontario 2011). Current aerial imagery of the Study Area identified a number of potential disturbance areas in the south central and throughout the northern half of the Study Area in the form of two existing houses, a garage, three outbuildings, two sheds, and various gravel laneways (see Section 1.3.1 above). 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 current Stage 2 archaeological assessment was conducted between June 4 and September 11, 2019 under archaeological consulting license P389 issued to Dr. Walter McCall by the MTCS (P389-0446-2019). The limits of the Study Area were surveyed by the Proponent prior to assessment and the entire property was subject to assessment.

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 56 illustrate the assessment conditions throughout the Study Area at the time of the survey. Figure 3 provides an illustration of the Stage 2 assessment methods, as well as photograph locations and directions.

Table 3: Field and Weather Conditions

Date	Field Director	Activity	Weather	Field Conditions
June 4, 2019	Mathew Gibson, R1160	test pit survey and photo documentation	sunny, 16˚C	soil was dry and screened easily
June 5, 2019	Mathew Gibson, R1160	test pit survey and photo documentation	sunny, 17˚C	soil was dry and screened easily
September 9, 2019	Jon Cousins, R296	pedestrian survey	partly cloudy, 20˚C	soil visibility >80%
September 10, 2019	Jon Cousins, R296	pedestrian survey	partly cloudy, 20˚C	soil visibility >80%
September 11, 2019	Jon Cousins, R296	test pit survey	sunny, 25˚C	soil was dry and screened easily

Approximately 35% of the Study Area comprised manicured lawn and treed areas that were inaccessible for ploughing. These areas were subject to a typical test pit survey at 5m intervals, or as close as possible given the various trailers and small sheds throughout the area. The test pit assessment was conducted in accordance with Section 2.1.2, and Guideline 1 of the *Standards and Guidelines* (Government of Ontario 2011; Photos 1 to 7, 9 to 15, 24 to 27, 29 to 33, 35 to 43, 45 to 49, and 52 to 56). 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 approximately 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. Furthermore, during the test pit survey gravel was visible on the grass surface of the raised treed area located to the north, west and southwest of the western most house on the property. This area was determined to be an artificial berm containing fill material comprising gravel pieces.

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). 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). Once sufficient resources had been produced to support a recommendation to carry out a Stage 3 assessment, no further assessment methods were employed.

A total of 15 positive test pits were documented in all, covering an area of 17m east-west by 16m north-south in the lawn area adjacent Whistle Bare Road, to the south and south east of the one-storey house at 1898 Whistle Bare Road. A total of 59 Euro-Canadian artifacts were recovered in all. 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 positive test pits in addition to a fixed reference landmark using a Garmin eTrex 10 GPS unit with a minimum accuracy 1-2.5m (North American Datum 1983 ('NAD83') and Universal Transverse Mercator ('UTM') Zone 17T). All artifacts were recorded according to their associated test pit, and were retained for laboratory analysis.

Approximately 25% of the Study Area comprised two agricultural fields that were accessible for ploughing. As per Section 2.1.1, Standards 2 and 3 of the *Standards and Guidelines* (Government of Ontario 2011; Photos 16 to 23), the agricultural land had been ploughed and allowed to weather prior to assessment. The ploughing was deep enough to provide total topsoil exposure, and provided a minimum of 80% surface visibility, as per Section 2.1.1, Standards 4 and 5 of the *Standards and Guidelines* (Government of Ontario 2011). The ploughed area was subject to a typical pedestrian survey at 5m intervals, conducted in accordance with Section 2.1.1, Standard 6 of the *Standards and Guidelines* (Government of Ontario 2011). During the pedestrian survey, when archaeological resources were recovered, survey intervals were intensified to 1m within a 20m radius of the find as per Section 2.1.1, Standard 7 of the *Standards and Guidelines* (Government of Ontario 2011). This approach was taken to establish whether or not the artifact was an isolated find or part of a larger artifact scatter.

The Stage 2 field investigation resulted in the documentation of three archaeological sites and four findspots; Location 1 (AiHc-500); Location 2 (AiHc-501); Location 3; Findspot 1; Findspot 2; Findspot 3 (AiHc-502); and Findspot 4. Two sites and one of the findspots were registered with the MHSTCI,), as per Section 7.12 of the *Standards and Guidelines* (Government of Ontario 2011). All of the artifacts encountered during the pedestrian survey were digitally mapped, recorded according to their specific Location or Findspot designation, and collected for laboratory analysis and description. A UTM reading was taken for each artifact, in addition to two fixed reference landmarks as per Section 2.1, Standard 4 of the *Standards and Guidelines* (Government of Ontario 2011). All coordinates were taken using a Garmin eTrex 10 GPS unit with a minimum accuracy 1-2.5m (North American Datum 1983 ('NAD83') and Universal Transverse Mercator ('UTM') Zone 17T).

Approximately 20% of the property consisted of steeply sloping wetland or was disturbed by gravel extraction (Photos 44, 47, 50, and 51). These areas were judgementally test pitted to confirm disturbance in accordance with Standard 2 of Section 2.1.8 of the *Standards and Guidelines* (Government of Ontario 2011).

Approximately 10% of the Study Area comprised three structures, two houses, two sheds, a garage, with various gravel laneways and parking areas throughout, which were evaluated as having no potential based on the identification of extensive and deep land alteration that has severely damaged the integrity of archaeological resources, as per Section 2.1, Standard 2b of the *Standards and Guidelines* (Government of Ontario 2011). These disturbed areas were mapped and photo documented only in accordance with Section 7.8.1, Standard 1b of the *Standards and Guidelines* (Government of Ontario 2011; Photos 1 to 8, 11, 13 to 15, 18, 26, 27, 29, 32, 33, 35, 36, 38, 39, 41, 42, 45, 48, 49).

Approximately 8% of the Study Area comprised various ponds and drainage ditches, which were evaluated as having no potential based on the Stage 2 identification of physical features of no or low archaeological potential, as per Section 2.1, Standard 2a of the *Standards and Guidelines* (Government of Ontario 2011). These permanently wet areas were mapped and photo documented only (Photos 34, 46, 52, 53, and 55) in accordance with Section 7.8.1, Standard 1b of the *Standards and Guidelines* (Government of Ontario 2011).

The remaining 2% of the Study Area comprised a steeply sloping grass area and a steeply sloping treed area, which were evaluated as having no potential based on the Stage 2 identification of physical features of no or low archaeological potential, as per Section 2.1, Standard 2a of the *Standards and Guidelines* (Government of Ontario 2011). These steeply sloping areas were mapped and photo documented only (Photos 28 to 30) in accordance with Section 7.8.1, Standard 1b of the *Standards and Guidelines* (Government of Ontario 2011).

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 three pre-contact Aboriginal archaeological sites and four pre-contact Aboriginal findspots; Location 1 (AiHc-500); Location 2 (AiHc-501); Location 3; Findspot 1; Findspot 2; Findspot 3 (AiHc-502); and Findspot 4. Additionally, a single Euro-Canadian sites was also recovered, Location 4 (AiHc-503). Maps indicating the exact location of the sites and findspots, 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 to Section 3.9 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
4 Page of Field Notes	Detritus office	Stored digitally in project file
1 Map provided by the Proponent	Detritus office	Stored digitally in project file
5 Field Maps	Detritus office	Stored digitally in project file
203 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 Cultural Material

Four sites and four findspots were recovered during the Stage 2 assessment; Location 1 (AiHc-500); Location 2 (AiHc-501); Location 3; Location 4 (AiHc-503); Findspot 1; Findspot 2; Findspot 3 (AiHc-502); and Findspot 4. All of which produced pre-contact Aboriginal artifacts with the exception of Location 4 (AiHc-503), which produced Euro-Canadian artifacts.

3.1.1 Pre-Contact Aboriginal Artifacts

The majority of the pre-contact Aboriginal artifacts recovered during the Stage 2 assessment were manufactured from Onondaga chert. Additionally, four flakes were manufactured from Fossil Hill chert. Chert type identifications were accomplished visually using reference materials located online or in personal collections.

Onondaga formation chert is from the Middle Devonian age, with outcrops occurring along the north shore of Lake Erie between Long Point and the Niagara River (Eley and von Bitter 1989). Primary outcrops have also been reported along the banks of the Grand River (Ellis and Ferris. 1990). It is a high-quality raw material frequently utilized by pre-contact people and often found at archaeological sites in southern Ontario. Onondaga chert occurs in nodules or irregular thin beds. It is a dense non-porous rock that may be light to dark grey, bluish grey, brown or black and can be mottled with a dull to vitreous or waxy lustre (Eley and von Bitter 1989).

Fossil Hill Chert is a relatively high-quality Middle Silurian material that outcrops in the southern Georgian Bay area and can be found in glacial deposits near the chert outcrops. Even though Fossil Hill Chert seldom appears in till in the southwestern part of the province it was used extensively in fluted point industries during the Early Paleo-Indian Period (Eley and von Bitter 1989).

Furthermore, all pieces of chipping detritus were subject to morphological analysis following the classification scheme described by Lennox *et al*. (1986:79-81) and expanded upon by Fisher (1997: 41-49). Flake types identified during the morphological analysis of the chipping detritus assemblages include secondary, thinning, and micro. Cortical removal, primary and secondary flakes are produced during the initial reduction phases of raw material blanks and tend to exhibit minimal dorsal flake scarring. These flakes are also characterized by the presence of cortex, or original unflaked area, on their dorsal surfaces and proximal ends. For cortical removal flakes,

cortex makes up over half of the dorsal surface. For primary flakes, cortex makes up less than half of the dorsal surface, while secondary flakes may not contain any. Thinning flakes are produced during the latter stages of reduction when raw material blanks are shaped into preforms and formal tools. They are the result of precise flake removal through pressure flaking, where the maker applies direct pressure onto a specific part of the tool in order to facilitate flake removal. 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.

3.1.1 Euro-Canadian Artifacts

Ceramic Form and Function

All ceramic sherds were examined in order to describe the function of the item from which the ceramic sherd originated. However, for those sherds that were too fragmentary for a functional assignment, an attempt was made to at least provide a formal description, such as to which portion of an item the sherd belonged. For example, what used to be a porcelain teacup but now found in an archaeological context could be classified archaeologically in the artifact catalogue in a descending order of specificity depending on preservation and artifact size: a teacup (function), a cup (function), a hollowware (form), or a rim fragment (form). Flatware was differentiated based on the absence of curvature in the ceramic cross-section of each sherd. The classification system used here is based upon Beaudoin (2013:78-82). If Beaudoin's classifications could not be applied, then the broader definitions of Voss (2008:209) were used. Ultimately, if sherds were small enough that even a general functional or formal ware type could not be determined, then the sherd was simply classified as a rim fragment, a non-rim fragment, a base fragment, or indeterminate.

3.2 Location 1 (AiHc-500)

The Stage 2 assessment of Location 1 (AiHc-500) resulted in the documentation of 38 pieces of pre-contact Aboriginal chipping detritus, 2 bifacial tools, and 1 unifacial tool; scattered across an area of approximately 56m north-south by 22m east-west, in the north central portion of the western agricultural field within the Study Area (Table 5).

Table 5: Location 1 (AiHc-500) Artifact Summary

Artifact	Freq.	%
chipping detritus	35	92.11
biface	2	5.26
unifacial tool	1	2.63
Total	**38**	**100**

3.2.1 Chipping Detritus

Due to the size of the Stage 2 assemblage, all pieces of chipping detritus were subject to morphological analysis (Table 6).

Table 6: Chipped Stone Debitage Analysis for Location 1 (AiHc-500)

Chert Type	Secondary		Thinning		Micro		Total Analyzed	
	n	%	n	%	n	%	n	%
Onondaga	3	8.57	26	74.29	3	8.57	32	91.43
Fossil Hill	0	0.00	3	8.57	0	0.00	3	8.57
Total	**3**	**8.57**	**29**	**82.86**	**3**	**8.57**	**35**	**100.00**

According to the morphological analysis presented above, thinning flakes were encountered most often at Location 1 (AiHc-500), accounting for over 80% of the assemblage (82.86%; n=29).

Secondary and micro flakes were also represented, albeit in much smaller amounts. The variety of flake types encountered at Location 1 (AiHc-500) suggests that late stages of lithic reduction occurred at the site. The higher percentage of thinning flakes may suggest a propensity towards formal tool preparation, and maintenance. The presence of two bifacially worked tools and one unifacially worked tool within the artifact assemblage supports this conclusion.

3.2.2 Biface

Bifaces are the most common form of pre-contact Aboriginal lithic tool and could be made into a variety of tools with different functions. Due to their long span of production, bifacially worked tools cannot be used to determine the cultural affiliation or period of the occupation of a site.

Two bifacially worked tools were recovered from Location 1 (AiHc-500); both manufactured from Onondaga chert. The first biface is a possible broken point measuring 49.07mm long by 23.14mm wide by 7.46mm thick (Cat# 5). The second biface is a large tip, possibly from a projectile point. It measures 33.03mm long by 33.31mm wide by 11.10mm thick (Cat#29).

3.2.3 Uniface

Unifaces is a stone tool that shows evidence of flaking on one side only. This artifact is not temporally diagnostic, beyond the fact that it dates to the pre-contact Aboriginal period. A single unifacially worked tool was recovered from Location 1 (AiHc-500). It is manufactured on Onondaga chert and measures 39.11mm long by 25.45mm wide by 6.85mm thick.

3.2.4 Artifact Catalogue

Table 7: Location 1 (AiHc-500) Stage 2 Artifact Catalogue

Cat #	Context	Artifact	Freq.	Morphology	Chert Type	Comments
1	Surface Find 11	chipping detritus	2	thinning	Onondaga	
2	Surface Find 11	chipping detritus	1	micro	Onondaga	
3	Surface Find 12	chipping detritus	1	thinning	Onondaga	
4	Surface Find 13	chipping detritus	2	thinning	Onondaga	
5	Surface Find 13	biface	1		Onondaga	Bifacial tool (possibly broken point); L = 49.07 mm, W = 23.14 mm, TH = 7.46 mm
6	Surface Find 14	chipping detritus	1	thinning	Onondaga	
7	Surface Find 17	chipping detritus	1	secondary	Onondaga	
8	Surface Find 20	chipping detritus	4	thinning	Onondaga	
9	Surface Find 21	chipping detritus	1	secondary	Onondaga	
10	Surface Find 21	chipping detritus	1	thinning	Fossil Hill	
11	Surface Find 22	chipping detritus	1	thinning	Onondaga	
12	Surface Find 23	chipping detritus	1	thinning	Onondaga	
13	Surface Find 24	chipping detritus	1	micro	Onondaga	
14	Surface Find 25	chipping detritus	1	thinning	Onondaga	
15	Surface Find 26	chipping detritus	1	thinning	Onondaga	
16	Surface Find 27	chipping detritus	1	thinning	Onondaga	
17	Surface Find 28	chipping detritus	1	thinning	Fossil Hill	
18	Surface Find 29	chipping detritus	1	thinning	Fossil Hill	
19	Surface Find 29	chipping detritus	3	thinning	Onondaga	
20	Surface Find 30	chipping detritus	2	thinning	Onondaga	

Cat #	Context	Artifact	Freq.	Morphology	Chert Type	Comments
21	Surface Find 31	chipping detritus	1	secondary	Onondaga	
22	Surface Find 32	chipping detritus	2	thinning	Onondaga	
23	Surface Find 33	unifacial tool	1		Onondaga	L = 39.11 mm, W = 25.45 mm, TH = 6.85 mm; retouched to form scraper.
24	Surface Find 34	chipping detritus	1	thinning	Onondaga	
25	Surface Find 35	chipping detritus	1	thinning	Onondaga	
26	Surface Find 36	chipping detritus	1	thinning	Onondaga	
27	Surface Find 37	chipping detritus	1	micro	Onondaga	
28	Surface Find 38	chipping detritus	1	thinning	Onondaga	
29	Surface Find 39	biface	1		Onondaga	L = 33.03 mm, W = 33.31 mm, TH = 11.10 mm; large tip, base missing. Possibly a projectile point fragment.

3.3 Location 2 (AiHc-501)

The Stage 2 assessment of Location 2 (AiHc-501) resulted in the documentation of nine pieces of pre-contact Aboriginal chipping detritus, one projectile point and one core; scattered across an area of approximately 50m north-south by 44m east-west, in the northeastern corner of the western agricultural field within the Study Area (Table 8).

Table 8: Location 2 (AiHc-501) Artifact Summary

Artifact	Freq.	%
chipping detritus	9	81.82
core	1	9.09
projectile point	1	9.09
Total	**11**	**100.00**

3.3.1 Chipping Detritus

Due to the size of the Stage 2 assemblage, all pieces of chipping detritus were subject to morphological analysis (Table 9).

Table 9: Chipped Stone Debitage Analysis for Location 2 (AiHc-501)

Chert Type	Secondary		Thinning		Total Analyzed	
	n	%	n	%	n	%
Onondaga	6	66.67	3	33.33	9	100.00

According to the morphological analysis presented above, secondary flakes were encountered most often at Location 2 (AiHc-501), accounting for over 65% of the assemblage (66.67%; n=6). Additionally, thinning flakes were also represented (33.33%; n=3). The flake types encountered at Location 2 (AiHc-501) suggests that late stages of lithic reduction occurred at the site. The thinning flakes may suggest a propensity towards formal tool preparation, and maintenance. The presence of a projectile point within the artifact assemblage supports this conclusion.

3.3.2 Core

Cores are used as sources of raw material for tool and blank production. A single core, manufactured from Onondaga chert was recovered. The core featured multi-directional flaking.

3.3.3 Projectile Point

A single projectile point was recovered from Location 2 (AiHc-501). The point was unable to be classified, however, it is manufactured on Onondaga chert and measures 26.83mm long by 20.66mm wide by 3.88mm thick.

3.3.4 Artifact Catalogue

Table 10: Location 2 (AiHc-501) Stage 2 Artifact Catalogue

Cat#	Context	Artifact	Freq.	Morphology	Chert Type	Comments
1	Surface Find 01	projectile point	1		Onondaga	Unknown Type - L = 26.83 mm, W = 20.66 mm, TH = 3.88 mm; tip missing, very small side notches, large base.
2	Surface Find 02	chipping detritus	1	secondary	Onondaga	
3	Surface Find 03	chipping detritus	1	thinning	Onondaga	
4	Surface Find 04	chipping detritus	1	secondary	Onondaga	
5	Surface Find 05	chipping detritus	1	thinning	Onondaga	
6	Surface Find 06	chipping detritus	1	secondary	Onondaga	
7	Surface Find 07	chipping detritus	1	secondary	Onondaga	
8	Surface Find 08	chipping detritus	1	thinning	Onondaga	
9	Surface Find 09	core	1		Onondaga	
10	Surface Find 10	chipping detritus	1	secondary	Onondaga	
11	Surface Find 19	chipping detritus	1	secondary	Onondaga	

3.4 Location 3

The Stage 2 assessment of Location 3 resulted in the documentation of five pieces of Onondaga chert chipping detritus (Table 12). The site is scattered across an area of approximately 16m north-south by 40m east-west, in the northern half of the eastern agricultural field, approximately 25m to the southwest of Findspot 4. Due to the size of the Stage 2 assemblage, all pieces of chipping detritus were subject to morphological analysis (Table 11).

Table 11: Chipped Stone Debitage Analysis for Location 3

Chert Type	Secondary		Thinning		Total	
	n	%	n	%	n	%
Onondaga	1	20	4	80	5	100.00

According to the morphological analysis presented above, most of the chert specimens within the Stage 2 chipping detritus assemblage were thinning flakes. The remainder of the assemblage comprised a single secondary flake. The higher percentage of thinning flakes may suggest a propensity towards formal tool preparation, and maintenance. Given the small sample size at Location 3, however, it is difficult to draw any useful conclusions regarding site activities or function.

3.4.1 Location 3 Artifact Catalogue

Table 12: Location 3 Stage 2 Artifact Catalogue

Cat#	Context	Depth	Artifact	Frequency	Morphology	Chert Type
1	Surface Find 43	surface	chipping detritus	1	thinning	Onondaga
2	Surface Find 44	surface	chipping detritus	1	secondary	Onondaga
3	Surface Find 46	surface	chipping detritus	1	thinning	Onondaga
4	Surface Find 47	surface	chipping detritus	1	thinning	Onondaga
5	Surface Find 48	surface	chipping detritus	1	thinning	Onondaga

3.5 Location 4 (AiHc-503)

The Stage 2 assessment of Location 4 (AiHc-503) resulted in the recovery of 59 Euro-Canadian artifacts from 15 test pits, measuring 17m east-west by 16m north-south in the lawn area adjacent Whistle Bare Road, to the south and south east of the one-storey house at 1898 Whistle Bare Road, approximately 260m to the southeast of Findspot 1. The artifact assemblage includes, 30 ceramic pieces, 19 structural artifacts, 6 household artifacts, 3 personal items, and 1 piece of miscellaneous metal (Table 13). No subsurface features or fire cracked rock were observed.

Table 13: Location 4 (AiHc-503) Artifact Summary

Artifacts	Freq.	%
ceramics	30	50.85
structural	19	32.20
household	6	10.17
personal	3	5.08
miscellaneous metal	1	1.69
Total	**59**	**100.00**

3.6.1 Ceramics (see Appendix 10.1.1 and 10.1.2)

Just over 50% of the Stage 4 artifact assemblage comprised ceramic pieces (50.85%). Most of these were sherds of ironstone. The remainder of the ceramic assemblage comprised four sherds of red earthenware and one porcelain sherd. Table 14 provides a summary of the Stage 4 ceramic assemblage by ware type and Table 15, by surface decoration technique.

Table 14: Ceramic Assemblage by Ware Type (see Appendix 10.1.1)

Ceramics	Freq.	%
ironstone	25	83.33
red earthenware	4	13.33
porcelain	1	3.33
Total	**30**	**100.00**

Table 15: Ceramic Assemblage by Decorative Technique (see Appendix 10.1.2)

Ceramics	Freq.	%
ironstone	23	76.67
red earthenware	4	13.33
ironstone, banded	2	6.67
porcelain	1	3.33
Total	**30**	**100.00**

The predominance of ironstone within the ceramic assemblage as well as smaller amounts of red earthenware suggests a late 19th century occupation. Furthermore, the presence of porcelain

within an archaeological assemblage is generally indicative of a late 19th to 20th century occupation.

Two ironstone sherds within the Stage 4 assemblage featured banded designs in blue. Given the simplicity of the design and the monochromatic blue colour scheme used and these decorated ceramic fragments are indicative of a late 19th century occupation.

Ceramic Form and Function

In terms of form, 14 pieces were determined to be hollow, 2 pieces were determined to be flat, and 14 were unknown. In terms of function, a single fragment was determined to be from a plate. The remaining fragments were too fragmentary to determine function. Table 16 provides a summary of the ceramic assemblage by form.

Table 16: Ceramic Assemblage by Form

Ceramics	flat	hollow	unknown
ironstone	2	7	14
ironstone, banded		2	
porcelain		1	
red earthenware		4	
Total	**2**	**14**	**14**

3.6.2 Structural Artifacts (see Appendix 10.1.3)

Over 40% of the structural artifacts in the Stage 2 assemblage are nails (42.10%; n=8). The remainder of the assemblage comprised six window glass shards and five red brick pieces (Table 17).

Table 17: Structural Artifact Summary

Structural	Freq.	%
cut nail	7	36.84
window glass	6	31.58
brick	5	26.32
wire nail	1	5.26
Total	**19**	**100.00**

The predominance of cut nails in the Stage 2 assemblage suggests a middle to late 19th century occupation.

The six pieces of window glass were all ≥1.2mm indicating a date of post-1845 date of occupation, however, given that less than ten pieces were recovered it is difficult to say.

3.6.3 Household (see Appendix 10.1.4)

Four bottle glass fragments and two faunal remains were recovered. The bottle glass fragments are primarily clear with a single fragment being olive. Of the two faunal remains recovered one was a butchered long bone fragment with butcher marks, however the species was unable to be determined. The remaining fragment was an unknown mammalian fragment with no butcher or burn marks.

3.6.4 Personal (see Appendix 10.1.5)

Three personal items were recovered including, a bone button; a .22 caliber bullet cartridge casing; and a white clay pipe bowl fragment with a partial embossed design, possibly a letter.

3.6.5 Miscellaneous Metal

A single piece of miscellaneous metal was recovered, which is not temporally diagnostic.

3.6.6 Artifact Catalogue

See Table 18 below of the complete artifact catalogue from the Stage 2 assessment at Location 4 (AiHc-503).

Table 18: Location 4 (AiHc-503)

Cat #	Context	Artifact	Freq.	Depth	Ceramic Form	Ceramic Function	Colour	Notes
1	Test pit 1	ironstone	4		unknown	unknown		
2	Test pit 1	window glass	1					≥ 1.2mm
3	Test pit 1	red earthenware	1		hollow	unknown		Unglazed
4	Test pit 2	bottle glass	1				clear	
5	Test pit 3	ironstone, banded	1		hollow	unknown	blue	
6	Test pit 3	bottle glass	1				clear	Surface burning
7	Test pit 3	ironstone	3		unknown	unknown		
8	Test pit 4	red earthenware	1		hollow	unknown		Glazed
9	Test pit 4	ironstone	1		flat	plate		
10	Test pit 4	ironstone	1		unknown	unknown		
11	Test pit 5	brick	2				red	
12	Test pit 5	window glass	3					≥ 1.2mm
13	Test pit 6	faunal remains, mammalian	1					unknown
14	Test pit 6	ironstone	2		hollow	unknown		
15	Test pit 6	cut nail	1					
16	Test pit 6	ironstone	1		flat	unknown		
17	Test pit 7	red earthenware	1		hollow	unknown		Unglazed
18	Test pit 7	ironstone	2		unknown	unknown		
19	Test pit 7	brick	1				red	
20	Test pit 8	brick	1				red	
21	Test pit 8	bottle glass	1				olive	
22	Test pit 8	cut nail	1					
23	Test pit 9	ironstone, banded	1		hollow	unknown	blue	
24	Test pit 9	cut nail	1					
25	Test pit 9	ironstone	1		unknown	unknown		
26	Test pit 9	white clay pipe bowl	1					fragment; unknown design, possible letter, X or Y.
27	Test pit 9	window glass	1					≥ 1.2mm
28	Test pit 10	cut nail	1					
29	Test pit 10	ironstone	1		hollow	unknown		
30	Test pit 11	porcelain	1		hollow	unknown		
31	Test pit 11	ironstone	2		unknown	unknown		
32	Test pit 11	red earthenware	1		hollow	unknown		Glazed

Cat #	Context	Artifact	Freq.	Depth	Ceramic Form	Ceramic Function	Colour	Notes
33	Test pit 11	wire nail	1					
34	Test pit 12	cartridge casing	1					.22 calibre; cuprous
35	Test pit 12	cut nail	1					
36	Test pit 12	miscellaneous metal	1					
37	Test pit 12	ironstone	1		unknown	unknown		
38	Test pit 13	ironstone	3		hollow	unknown		
39	Test pit 13	cut nail	2					
40	Test pit 13	brick	1				red	
41	Test pit 13	bottle glass	1				clear	
42	Test pit 14	faunal remains, mammalian	1					butchered longbone fragment; unknown species
43	Test pit 15	button	1					bone
44	Test pit 15	ironstone	1		hollow	unknown		
45	Test pit 15	window glass	1					≥ 1.2mm

3.6 Findspot 1

The Stage 2 assessment of Findspot 1 resulted in the documentation of a single utilized flake manufactured from Onondaga chert (Table 19). Findspot 1 was identified along the centre of the western agricultural field within the Study Area, approximately 134m to the southwest of Location 1 (AiHc-500). Given the isolated nature of this artifact it is difficult to draw any useful conclusions regarding site function.

3.5.1 Findspot 1 Stage 2 Artifact Catalogue

Table 19: Findspot 1 Artifact Catalogue

Cat#	Context	Artifact	Frequency	Chert Type
1	Surface Find 18	utilized flake	1	Onondaga

3.7 Findspot 2

The Stage 2 assessment of Findspot 2 resulted in the documentation of two pieces of Onondaga chert chipping detritus (Table 20). Findspot 2 was identified in the western agricultural field, west of the Hydro Tower, approximately 40m to the west of Location 1 (AiHc-500). Morphological analysis identified the specimens as thinning flakes. Given the isolated nature of these artifacts, it is difficult to draw any useful conclusions regarding site function.

3.6.1 Findspot 2 Artifact Catalogue

Table 20: Findspot 2 Stage 2 Artifact Catalogue

Cat#	Context	Artifact	Frequency	Morphology	Chert Type
1	Surface Find 15	chipping detritus	1	thinning	Onondaga
2	Surface Find 16	chipping detritus	1	thinning	Onondaga

3.8 Findspot 3 (AiHc-502)

The Stage 2 assessment of Findspot 3 (AiHc-502) resulted in the documentation of a single Fossil Hill chert projectile point (Table 21). Findspot 3 (AiHc-502) was identified along the northern edge of the eastern agricultural field, approximately 87m to the northeast of Location 2 (AiHc-501). Given the isolated nature of these artifacts, it is difficult to draw any useful conclusions regarding site function.

3.7.1 Findspot 3 (AiHc-502) Artifact Catalogue

Table 21: Findspot 3 (AiHc-502) Stage 2 Artifact Catalogue

Cat#	Context	Artifact	Frequency	Chert Type
1	Surface find 40	projectile point	1	Fossil Hill

3.9 Findspot 4

The Stage 2 assessment of Findspot 4 resulted in the documentation of two pieces of Onondaga chert chipping detritus (Table 22). Findspot 4 was identified in the northeast corner of the eastern agricultural field, approximately 33m to the southeast of Findspot 3 (AiHc-502). Given the isolated nature of these artifacts, it is difficult to draw any useful conclusions regarding site function.

3.8.1 Findspot 4 Artifact Catalogue

Table 22: Findspot 4 Stage 2 Artifact Catalogue

Cat#	Context	Depth	Artifact	Frequency	Morphology	Chert Type
1	Surface Find 41	surface	chipping detritus	1	thinning	Onondaga
2	Surface Find 42	surface	chipping detritus	1	thinning	Onondaga

4.0 Analysis and Conclusions

Detritus was retained by the Proponent to conduct a Stage 1-2 archaeological assessment on part of Lot 28, Concession 12, Geographic Township of North Dumfries, historical Waterloo County now in the Region of Waterloo, Ontario. This investigation was conducted in advance of a proposed Whistle Bare Campground development at 1898 Whistle Bare Road, in North Dumfries. The Study Area is a rectangular parcel measuring 38.2ha, located on the north side of Whistle Bare Road, to the west of Whistle Bare Golf Club. The entire property was subject to assessment.

At the time of the assessment, the southern half of the Study Area comprised two large agricultural fields surrounding a one-storey house; a two-storey house with an attached garage; landscaped gardens, a patio and stone walkway; three sheds; a garage; a silo; a gravel walkway; and two gravel laneways, all of which was surrounded by grass and trees. The northern half of the Study Area was occupied by the existing Whistle Bare Campground, which comprised grass and treed areas throughout, as well as various trailers, small sheds, gravel laneways and parking areas, and three structures. Furthermore, various ponds and drainage ditches were also visible in the northern half of the Study Area, which were a result of aggregate extraction on the property during the construction of Highway 401 (personal communication with the Proponent). Additionally, a Hydro One Corridor transects the Study Area from the southeast corner, running northwest to the northern portion of the agricultural field where it crosses over to the neighbouring property to the west.

The Stage 1 background research indicated that 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 the agricultural fields, manicured lawns, and treed areas.

The Stage 2 field assessment resulted in the identification and documentation of three pre-contact Aboriginal archaeological sites and four pre-contact Aboriginal findspots; Location 1 (AiHc-500); Location 2 (AiHc-501); Location 3; Findspot 1; Findspot 2; Findspot 3 (AiHc-502); and Findspot 4. Additionally, a single Euro-Canadian site was also documented, Location 4 (AiHc-503).

4.1 Location 1 (AiHc-500)

The Stage 2 assessment of Location 1 (AiHc-500) resulted in the documentation of 38 pieces of pre-contact Aboriginal chipping detritus, 2 bifacial tools, and 1 unifacial tool; scattered across an area of approximately 56m north-south by 22m east-west, in the north central portion of the western agricultural field within the Study Area.

Morphological analysis of the chipping detritus suggests that late stages of lithic reduction occurred at the site a propensity towards formal tool preparation, and maintenance, as supported by the presence of two bifacially worked tools and one unifacially worked tool.

Given the results of the Stage 2 assessment, Location 1 (AiHc-500) has been interpreted as a small activity area of unknown function, occupied by unspecified Aboriginal people during the pre-contact period, and characterised by late stages of lithic reduction.

4.2 Location 2 (AiHc-501)

The Stage 2 assessment of Location 2 (AiHc-501) resulted in the documentation of nine pieces of pre-contact Aboriginal chipping detritus, one projectile point and one core; scattered across an area of approximately 50m north-south by 44m east-west, in the northeastern corner of the western agricultural field within the Study Area.

Morphological analysis of the chipping detritus suggests that late stages of lithic reduction occurred at the site a propensity towards formal tool preparation, and maintenance, as supported by the presence of a projectile point.

Given the results of the Stage 2 assessment, Location 2 (AiHc-501) has been interpreted as a small activity area of unknown function, occupied by unspecified Aboriginal people during the pre-contact period, and characterised by late stages of lithic reduction.

4.3 Location 3

The Stage 2 assessment of Location 3 resulted in the documentation of five pieces of Onondaga chert chipping detritus scattered across an area of approximately 16m north-south by 40m east-west, in the northern half of the eastern agricultural field.

Morphological analysis of the chipping detritus suggests that late stages of lithic reduction occurred at the site. Given the small sample size at Location 3, however, it is difficult to draw any useful conclusions regarding site activities or function.

Given the results of the Stage 2 assessment, Location 3 has been interpreted as a small activity area of unknown function, occupied by unspecified Aboriginal people during the pre-contact period, and characterised by late stages of lithic reduction.

4.4 Location 4 (AiHc-503)

The Stage 2 assessment of Location 4 (AiHc-503) resulted in the documentation 59 Euro-Canadian artifacts from 15 test pits, measuring 17m east-west by 16m north-south in the lawn area adjacent Whistle Bare Road, to the south and south east of the one-storey house at 1898 Whistle Bare Road, approximately 260m to the southeast of Findspot 1. Over 50% of the Stage 2 assemblage were ceramics (50.85%; n=30), which date from the late 19th to 20th century. Also recovered was a wire nail, a predominance of clear bottle class fragments and a cartridge casing, which also supports the late 19th to 20 century occupation date.

The remainder of the assemblage comprised cut nails, window glass shards, red brick fragments, a bone button, a white clay pipe bowl fragment, which corresponds to a middle to late 19th century date of occupation. Based on the results of the Stage 2 investigation, Location 4 (AiHc-503) has been interpreted as small middle to late 19th century domestic assemblage, which may extend into the 20th century.

According to the background research presented above, Location 4 (AiHc-503) was located on a Lot 28, Concession 12, in North Dumfries Township, which has no landowner listed (Figure 2; Walker & Miles 1877). It is possible that these artifacts represent a late 19th century domestic deposit associated with an occupation of post 1877. However, it should be recognized that historical county atlases were funded by subscriptions fees and were produced primarily to identify factories, offices, residences and landholdings of subscribers. Landowners who did not subscribe were not always listed on the maps (Caston 1997).

4.5 Findspot 1

The Stage 2 assessment of Findspot 1 resulted in the documentation of a single utilized flake manufactured from Onondaga chert; identified along the centre of the western agricultural field within the Study Area.

Despite an intensified pedestrian survey of all agricultural lands within 20 m of the findspot, no other archaeological materials were identified. Given the isolated nature of the artifact, the CHVI of Findspot 1 is judged to be sufficiently documented.

4.6 Findspot 2

The Stage 2 assessment of Findspot 2 resulted in the documentation of two pieces of chipping detritus manufactured from Onondaga chert; identified in the western agricultural field, west of the Hydro Tower.

Despite an intensified pedestrian survey of all agricultural lands within 20 m of the surface finds, no other archaeological materials were identified. Given the isolated nature of the artifacts, the CHVI of Findspot 2 is judged to be sufficiently documented.

4.7 Findspot 3 (AiHc-502)

The Stage 2 assessment of Findspot 3 (AiHc-502) resulted in the documentation of a single Fossil Hill chert projectile point; along the northern edge of the eastern agricultural field.

Despite an intensified pedestrian survey of all agricultural lands within 20 m of the findspot, no other archaeological materials were identified. Given the isolated nature of the artifact, the CHVI of Findspot 3 (AiHc-502) is judged to be sufficiently documented.

4.8 Findspot 4

The Stage 2 assessment of Findspot 4 resulted in the documentation of two pieces of Onondaga chert chipping detritus; in the northeast corner of the eastern agricultural field.

Despite an intensified pedestrian survey of all agricultural lands within 20 m of the surface finds, no other archaeological materials were identified. Given the isolated nature of the artifacts, the CHVI of Findspot 4 is judged to be sufficiently documented.

4.9 Preliminary Indication of Sites Possibly Requiring Stage 4 Archaeological Mitigation

Based on the results of the Stage 2 assessment presented above, Location 1 (AiHc-500) and Location 4 (AiHc-503) were determined to retain CHVI and are recommended for Stage 3 archaeological assessment (see below). A preliminary indication of whether the sites could be eventually recommended for Stage 4 archaeological mitigation is required under Section 7.8.3, Standard 2c of the *Standards and Guidelines* (Government of Ontario 2011). No firm recommendation for, or against, Stage 4 Mitigation of Developmental Impacts will be made until the forthcoming Stage 3 archaeological assessment has been conducted. Given that Location 1 (AiHc-500) comprised a lithic scatter and Location 4 (AiHc-503) comprises a small middle to late 19th to 20th century site, the sites meets the minimum requirements for Stage 3 assessments. It is not yet clear whether a Stage 4 mitigation will be recommended for the sites.

5.0 Recommendations

5.1 Location 1 (AiHc-500)

Location 1 (AiHc-500) fulfills the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1a of the *Standards and Guidelines* (Government of Ontario 2011). To further evaluate the site's CHVI, **a Stage 3 archaeological assessment is recommended for Location 1 (AiHc-500).**

The Stage 3 archaeological assessment will be conducted according to the procedures outlined in the *Standards and Guidelines* (Government of Ontario 2011). Typically, a Stage 3 assessment begins with an intensive controlled surface pickup ('CSP') across the Stage 2 limits of the sites, conducted as per Section 3.2.1 of the *Standards and Guidelines* (Government of Ontario 2011). The Stage 2 pedestrian survey, however, consisted of an intensive surface collection across the entire site limits within the agricultural fields; all artifacts were mapped digitally and collected for laboratory analysis. Thus, the conditions for a Stage 3 CSP were met during the Stage 2 assessment.

Given that it is not yet evident that the level of CHVI at the site will result in a recommendation to proceed to Stage 4 (see Section 4.8), the Stage 3 assessment of Location 1 (AiHc-500) 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 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.

5.2 Location 2 (AiHc-501)

Location 2 (AiHc-501) does not fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines* (Government of Ontario 2011). The CHVI of Location 2 (AiHc-501) has been sufficiently documented. Therefore, **no further archaeological assessment is recommended for Location 2 (AiHc-501)**.

5.3 Location 3

Location 3 does not fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines* (Government of Ontario 2011). The CHVI of Location 3 has been sufficiently documented. Therefore, **no further archaeological assessment is recommended for Location 3**.

5.4 Location 4 (AiHc-503)

Based on the results of the Stage 2 investigation, Location 4 (AiHc-503) has been interpreted as a small predominantly middle to late 19th century domestic scatter, with a small number of artifacts dating to the 20th century. Given the presence of at least 20 artifacts that date the period of use to before 1900, **Location 4 (AiHc-503) 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.**

5.4 Findspots 1, 2, 3 (AiHc-502), and 4

Findspots 1, 2, 3 (AiHc-502), and 4 do not fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines* (Government of Ontario 2011). The CHVI of Findspots 1, 2, 3 (AiHc-502), and 4 have been sufficiently documented. Therefore, **no further archaeological assessment is recommended for Findspots 1, 2, 3 (AiHc-502), and 4**.

6.0 Advice on Compliance with Legislation

This report is submitted to the Minister of Tourism and Culture 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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8.0 Maps

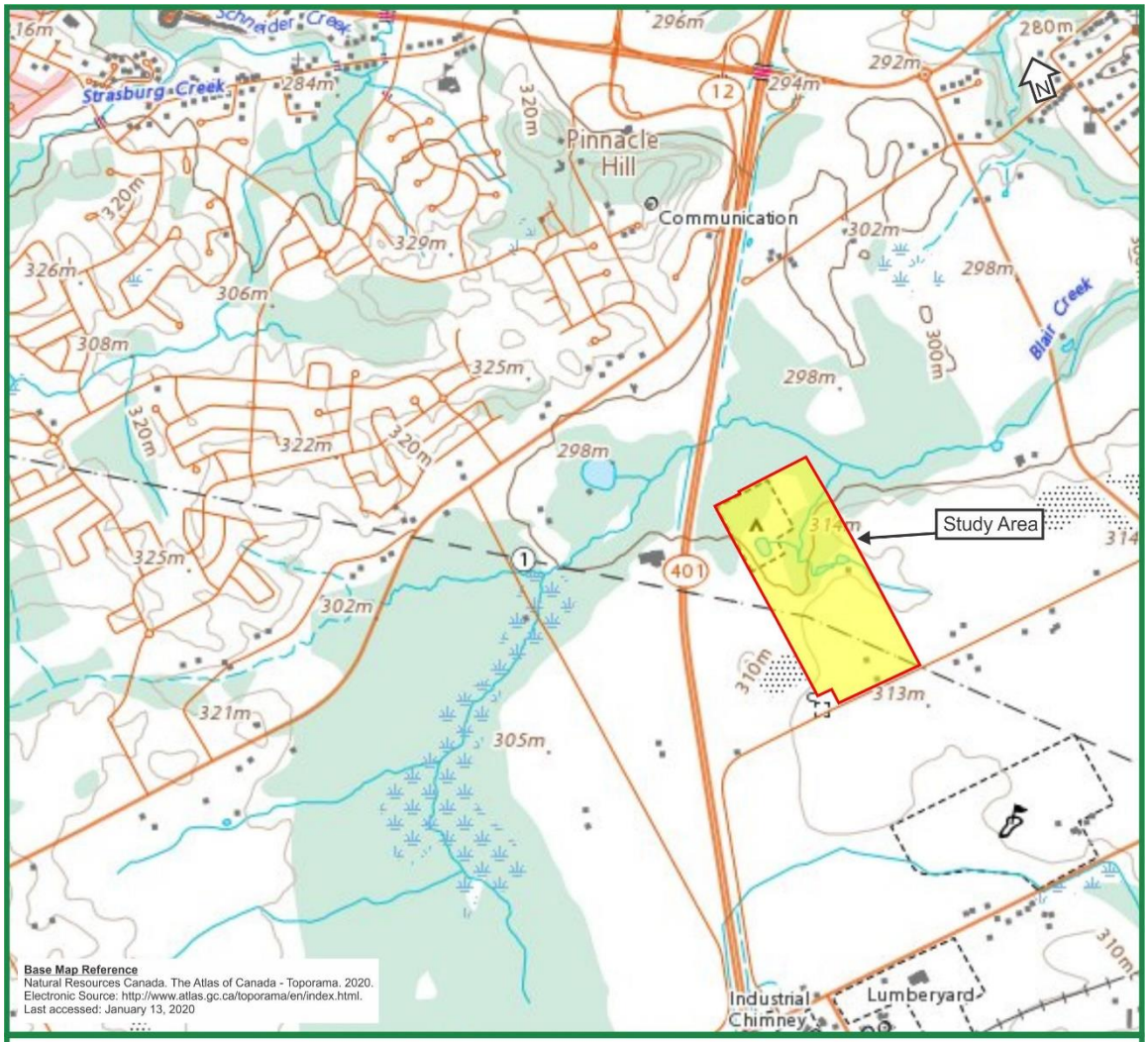

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Figure 1: Study Area

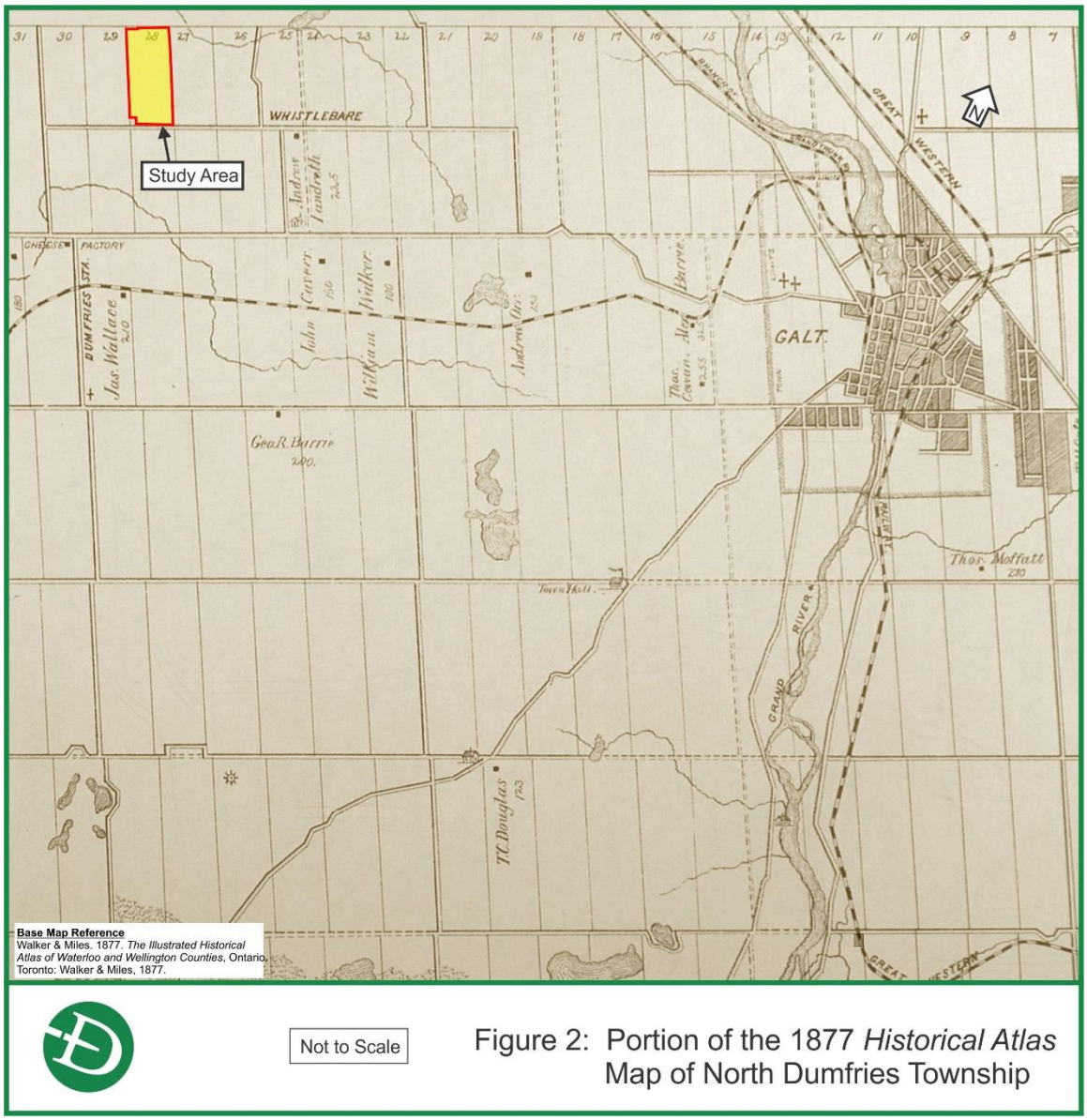
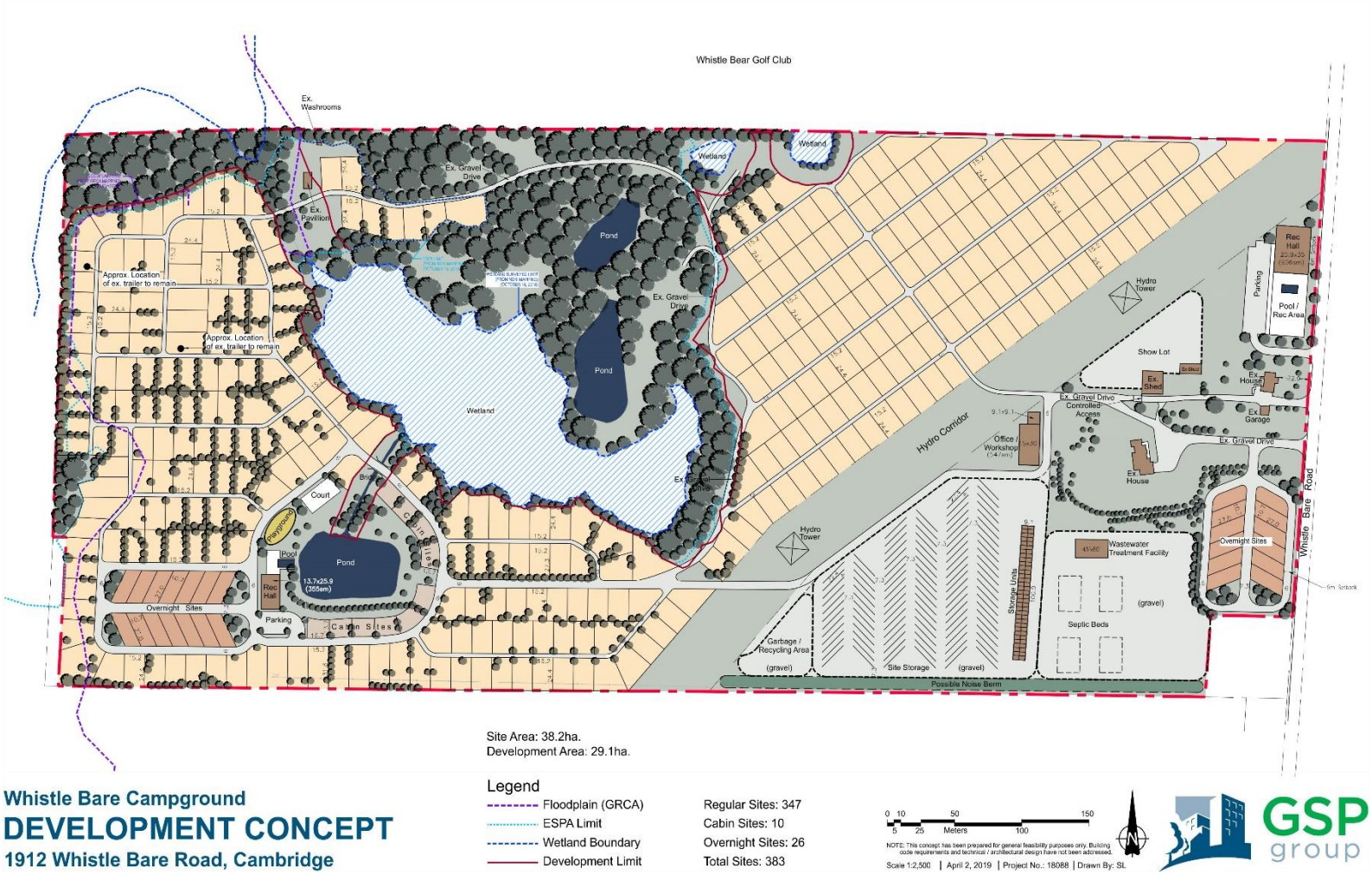


Figure 2: Portion of the 1877 *Historical Atlas* Map of North Dumfries Township

Figure 3: Stage 2 Survey Methods

Figure 4: Development Map



9.0 Images

9.1 Photos

Photo 1: Grass Area Test Pit Surveyed at 5m Intervals; Disturbed Gravel Laneway and House Not Assessed, facing northwest

Photo 2: Grass Area Test Pit Surveyed at 5m Intervals; Disturbed Garage Not Assessed, facing north

Photo 3: Grass Area Test Pit Surveyed at 5m Intervals; Disturbed Gravel Laneway and House Not Assessed, facing north

Photo 4: Grass Area Test Pit Surveyed at 5m Intervals; Disturbed House Not Assessed, facing northwest

Photo 5: Grass Area Test Pit Surveyed at 5m Intervals; Disturbed Gravel Laneway Not Assessed, facing west

Photo 6: Grass Area Test Pit Surveyed at 5m Intervals; Disturbed Gravel Laneway and Parking Area, and Two Sheds Not Assessed, facing northeast

Photo 7: Grass Area Test Pit Surveyed at 5m Intervals; Disturbed Gravel Laneway and Walkway Not Assessed, facing south

Photo 8: Disturbed House with Attached Garage; Gravel Laneway and Parking Area; Landscaped Gardens and Stone Walkway Not Assessed, facing northwest

Photo 9: Grass Area Test Pit Surveyed at 5m Intervals, facing north

Photo 10: Grass Area Test Pit Surveyed at 5m Intervals; Visible Gravel on Surface of Artificial Berm, facing southeast

Photo 11: Grass Area Test Pit Surveyed at 5m Intervals; Disturbed House, Patio, Shed, and Landscaped Gardens Not Assessed, facing southeast

Photo 12: Grass Area Test Pit Surveyed at 5m Intervals; Determined to be Artificial Berm, facing northeast

Photo 13: Grass Area Test Pit Surveyed at 5m Intervals; Disturbed House, Patio, and Landscaped Gardens Not Assessed, facing west

Photo 14: Grass Area Test Pit Surveyed at 5m Intervals; Disturbed Shed, Silo, and Gravel Laneway Not Assessed, facing south

Photo 15: Grass Area Test Pit Surveyed at 5m Intervals; Disturbed Shed, Silo, and Gravel Laneway Not Assessed, facing southeast

Photo 16: Pedestrian Survey at 5m Intervals, facing north

Photo 17: Pedestrian Survey at 5m Intervals, facing northeast

Photo 18: Pedestrian Survey at 5m Intervals; Disturbed Gravel Laneway, facing north

Photo 19: Pedestrian Survey at 5m Intervals, facing southwest

Photo 20: Pedestrian Survey at 5m Intervals, facing south

Photo 21: Pedestrian Survey at 5m Intervals, facing southwest

Photo 22: Pedestrian Survey at 5m Intervals, facing south

Photo 23: Pedestrian Survey at 5m Intervals, facing northwest

Photo 24: Grass Area Test Pit Survey at 5m Intervals, facing southeast

Photo 25: Grass Area Test Pit Survey at 5m Intervals, facing north

Photo 26: Grass Area Test Pit Surveyed at 5m Intervals; Disturbed Gravel Laneway Not Assessed, facing northwest

Photo 27: Grass Area Test Pit Surveyed at 5m Intervals; Disturbed Gravel Laneway Not Assessed, facing northeast

Photo 28: Steeply Sloped Not Assessed, facing northeast

Photo 29: Grass Area Test Pit Survey at 5m Intervals; Steeply Sloped Grass Area and Disturbed Gravel Laneways Not Assessed, facing northwest

Photo 30: Grass Area Test Pit Survey at 5m Intervals; Steeply Sloped Grass Area Not Assessed, facing west

Photo 31: Grass Area Test Pit Survey at 5m Intervals or Wherever Possible, facing southwest

Photo 32: Grass Area Test Pit Survey at 5m Intervals; Disturbed Gravel Laneway and Parking Area Not Assessed, facing north

Photo 33: Grass Area Test Pit Survey at 5m Intervals; Disturbed Gravel Laneway Not Assessed, facing northwest

Photo 34: Permanently Wet Pond Not Assessed, facing northwest

Photo 35: Grass Area Test Pit Survey at 5m Intervals; Disturbed Structures; and Gravel Laneway and Parking Area Not Assessed, facing southwest

Photo 36: Grass Area Test Pit Survey at 5m Intervals; Disturbed Structure Not Assessed, facing southeast

Photo 37: Grass Area Test Pit Survey at 5m Intervals, facing east

Photo 38: Grass Area Test Pit Survey at 5m Intervals; Disturbed Gravel Laneway, facing east

Photo 39: Grass Area Test Pit Survey at 5m Intervals; Disturbed Gravel Laneway, facing south

Photo 40: Grass Area Test Pit Survey at 5m Intervals, facing north

Photo 41: Grass Area Test Pit Survey at 5m Intervals; Disturbed Gravel Laneway Not Assessed, facing south

Photo 42: Grass Area Test Pit Survey at 5m Intervals; Disturbed Gravel Laneway Not Assessed, facing northwest

Photo 43: Grass Area Test Pit Survey at 5m Intervals, facing east

Photo 44: Steeply Sloped and Wet Judgemental Test Pit Survey, facing southeast

Photo 45: Grass Area Test Pit Survey at 5m Intervals; Disturbed Gravel Laneway Not Assessed, facing north

Photo 46: Grass Area Test Pit Survey at 5m Intervals; Permanently Wet Drainage Ditch Not Assessed, facing southwest

Photo 47: Wet Judgemental Test Pit Survey, facing south

Photo 48: Grass Area Test Pit Survey at 5m Intervals; Disturbed Gravel Laneway Not Assessed, facing west

Photo 49: Grass Area Test Pit Survey at 5m Intervals; Disturbed Structure (background) and Gravel Laneway Not Assessed, facing north

Photo 50: Steeply Sloped and Wet Judgemental Test Pit Survey, facing west

Photo 51: Wet Judgemental Test Pit Survey, facing west

Photo 52: Grass Area Test Pit Survey at 5m Intervals; Permanently Wet Pond Not Assessed, facing south

Photo 53: Grass Area Test Pit Survey at 5m Intervals; Permanently Wet Pond Not Assessed, facing northwest

Photo 54: Grass Area Test Pit Survey at 5m Intervals, facing northwest

Photo 55: Grass Area Test Pit Survey at 5m Intervals; Permanently Wet Pond Not Assessed, facing north

Photo 56: Grass Area Test Pit Survey at 5m Intervals, facing south

9.2 Artifact Photos

Plate 1: Secondary Flake (Location 2 (AiHc-501); Two Thinning Flakes and a Micro Flake (Location 1 (AiHc-500)

Plate 2: Fossil Hill Chipping Detritus Recovered from Location 1 (AiHc-500)

Plate 3: Onondaga Chert Biface Recovered from Location 1 (AiHc-500)

Plate 4: Onondaga Chert Biface Recovered from Location 1 (AiHc-500)

Plate 5: Onondaga Chert Uniface Recovered from Location 1 (AiHc-500)

Plate 6: Onondaga Chert Projectile Point Recovered from Location 2 (AiHc-501)

Plate 7: Onondaga Chert Utilized Flake Recovered from Location 3

Plate 8: Banded Ironstone Recovered from Location 4 (AiHc-503)

Plate 9: Porcelain Recovered from Location 4 (AiHc-503)

Plate 10: Red Earthenware Recovered from Location 4 (AiHc-503)

Plate 11: Cut Nail Recovered from Location 4 (AiHc-503)

Plate 12: Cartridge Casing Recovered from Location 4 (AiHc-503)

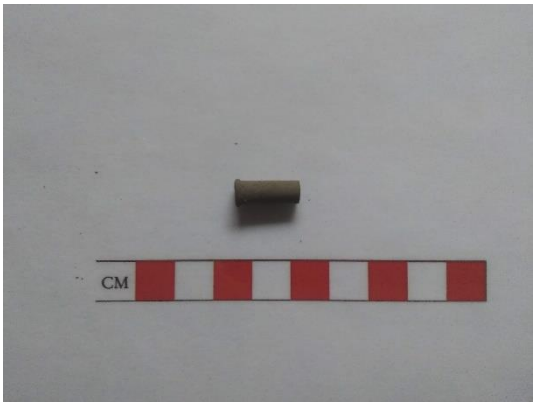


Plate 13: White Clay Pipe Bowl Fragment Recovered from Location 4 (AiHc-503)

Plate 14: Bone Button Recovered from Location 4 (AiHc-503)

Plate 15: Onondaga Chert Projectile Point Recovered from Findspot 1

Plate 16: Onondaga Chert Utilized Flake Recovered from Findspot 2

Plate 17: Fossil Hill Chert Projectile Point Recovered from Findspot 3 (AiHc-502)

Plate 18: Onondaga Chert Utilized Flake Recovered from Findspot 4

10.0 Appendix

10.1 Euro Canadian Artifact Descriptions

10.1.1 Ceramic Ware Types

Ironstone

Ironstone was a variety of RWE designed by the Turner family in the late 1700s (Tharp 2017). Like its contemporaries, it featured a white surface, but with a bluish tint. Furthermore, ironstone vessels were usually thicker than earlier whiteware varieties with a dense, heavy paste. The impetus behind their development was a desire among Staffordshire potters to find a cheap alternative to imported porcelain. By 1813 James Mason had reworked and patented "ironstone china." The patent lasted only fourteen years; by that time a variety of Staffordshire potteries were producing a similar product. Nevertheless, the Mason's brand name had become associated with all of the various stone china ceramics that were in production. Ironstone began to be imported from England to Canada during the 1840s and came to dominate the ceramic trade during the middle part of the century (The Potteries.org 2003). In terms of appearance, ironstone vessels were commonly left plain with infrequent applied surface decoration, although moulded designs were common (Adams 1994).

Red and Yellow Earthenware

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

Porcelain

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

Throughout the 19th Century, potters in Staffordshire, England, sought to replicate Chinese porcelain resulting in the creation of many variations of refined white earthenware, including creamware, pearlware and whiteware. English porcelain, also known as bone china or English soft-paste porcelain, was the most common variety of porcelain represented in Euro-Canadian sites throughout the 19th Century (Majewski and O'Brien 1987: 129). It was a vitreous ceramic with high silicon oxide content (although not as high as Chinese porcelain) that maintained glass-like sharpness on breakage. Given its cost, its presence of porcelain in large numbers on Euro-Canadian sites in Southern Ontario usually indicates a higher economic status.

10.1.2 Ceramic Decorative Styles

Banding

Banding is one of several terms that denotes the use of an applied coloured slip to decorate the edge of a vessel; others include annular ware and slip-decorated ware. As the name implies, simple bands of colour were a common motif among banded vessels, but the term also includes dendritic (or mocha), cabling, and cat's eye designs, as well as machine-turned impressed patterns. Banding was common on ceramic vessels throughout the 19th century. As the century progressed, the patterns tended to become simpler and blue the most dominant colour (Adams 1994).

10.1.3 Structural Artifacts

Nails

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

Window Glass

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

10.1.4 Household Artifacts

Bottle Glass

Bottle glass fragments are generally not diagnostic and are often simply categorized according to colour. Clear, or colourless glass was uncommon prior to the 1870s. Until 1880, clear glass bottles often displayed an aqua tinge that resulted from the iron additives used to de-colourise it. Clear or colourless glass came into much more widespread use after the development of automatic bottle manufacturing machines in the early 20th century (Lindsey 2020).

10.1.5 Personal Artifacts

White Clay Pipes

White clay pipes were popular throughout the 19th century, with a decline in use around 1880 due to the rise in popularity of briar pipes and cigarettes (Kenyon 1980). Most white clay pipes were manufactured in either Québec or Scotland, with occasional examples from English, Dutch, French, and American manufacturers. The maker's name is commonly impressed on one side of the stem with the city of manufacture on the opposite side, although this did not become common practice until after 1840.