Stage 1-2 Archaeological Assessment, Vacant Lot Near the Corner of Nigh Road and Buffalo Road

Part of Lot 7, Concession 2 Lake Erie, Part of Lot 7 Concession 3 Lake Erie, Part of Road Allowance Between Concessions 2 and 3 Lake Erie, Geographic Township of Bertie, Historical County of Welland, Now the Town of Fort Erie, Regional Municipality of Niagara, Ontario

Submitted to:

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and

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

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ORIGINAL REPORT

November 8, 2021

Executive Summary

Detritus Consulting Ltd. ('Detritus') was retained by 2282344 Ontario Inc. ('the Proponent') to conduct a Stage 1-2 archaeological assessment on Part of Lot 7, Concession 2 Lake Erie, Part of Lot 7 Concession 3 Lake Erie, Part of Road Allowance Between Concessions 2 and 3 Lake Erie, Geographic Township of Bertie, Historical County of Welland, now the Town of Fort Erie, Regional Municipality of Niagara, Ontario (Figure 1). This investigation was conducted in advance of the proposed severance and future residential development of this undeveloped lot located near the corner of Nigh Road and Buffalo Road in Fort Erie, Ontario (Figure 5).

An archaeological investigation of the Study Area was triggered by the Provincial Policy Statement ('PPS') that is informed by the *Planning Act* (Government of Ontario 1990a), which states that decisions affecting planning matters must be consistent with the policies outlined in the larger *Ontario Heritage Act* (Government of Ontario 1990b). According to Section 2.6.2 of the PPS, "development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved." To meet the conditions of this legislation, a Stage 1-2 assessment of the Study Area was conducted during the application stage of the development under archaeological consulting license P462 issued to Mike Pitul by the Ministry of Heritage, Sport, Tourism and Culture Industries ('MHSTCI') and adheres to the archaeological license report requirements under subsection 65 (1) of the *Ontario Heritage Act* (Government of Ontario 1990b) and the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* ('*Standards and Guidelines*'; Government of Ontario 2011).

The Study Area is roughly rectangular and measures 10.69 hectares (Figure 4). The Stage 1 background research indicated that the Study Area exhibited moderate to high potential for the identification and recovery of archaeological resources. The Stage 2 field assessment was recommended for the Study Area.

The Stage 2 field assessment was conducted on 17 and 27 August 2021. The Study Area (10.69ha) comprises an undeveloped woodlot as well as a marsh with standing water. The marsh occurs in the southern half of the study area and covers approximately 4.41ha. The Stage 2 assessment confirmed the boundaries of the permanently wet marsh and was excluded from the test pit survey, as per Section 2.1 Standard 2.a.i. of the *Standards and Guidelines* (Government of Ontario 2011). The rest of the Study Area comprised an undeveloped woodlot and grass covered areas that at the time of the assessment were inaccessible to ploughing. Most of the woodlot (3.59ha) was subjected to a standard Stage 2 test pit survey, conducted at 5m intervals in accordance with Section 2.1.2, Standards 1 and 2 of the *Standards and Guidelines* (Government of Ontario 2011). Exceedingly dense vegetation covered the remaining 2.69ha of woodlot. Due to the dense vegetation, test pits were placed where physically possible.

Find Spot 1 was identified during the test pit survey along the eastern edge of the Study Area. The Stage 2 assessment of Find Spot 1 resulted in the documentation of four pieces of Onondaga chert debitage from two test pits and one test unit in an area of less than 5m by 5m. Given the results of the Stage 2 assessment, Find Spot 1 has been interpreted as a small activity area of unknown function, occupied by unspecified Aboriginal people during the pre-contact period. Given the fact that the Stage 2 assessment only recovered four non-diagnostic artifacts within a 10m-by-10m test pit survey, the site does not meet the criteria for a Stage 3 assessment as per Section 2.2 Standard 1.a.ii(2) of the Standards and Guidelines (Government of Ontario 2011). Therefore, Find Spot 1 retains no further CHVI and **a Stage 3 archaeological assessment is not recommended for Find Spot 1.**

The Executive Summary highlights key points from the report only; for a more detailed discussion regarding the results of the current Stage 1-2 assessment, including a complete set of recommendations, the reader should examine the complete report.

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Acknowledgments

Generous contributions made by Stuart Wright of 2282344 Ontario Inc made this report possible.

1.0 Project Context

1.1 Development Context

Detritus Consulting Ltd. ('Detritus') was retained by 2282344 Ontario Inc. ('the Proponent') to conduct a Stage 1-2 archaeological assessment on Part of Lot 7, Concession 2 Lake Erie, Part of Lot 7 Concession 3 Lake Erie, Part of Road Allowance Between Concessions 2 and 3 Lake Erie, Geographic Township of Bertie, Historical County of Welland, Now the Town of Fort Erie, Regional Municipality of Niagara, Ontario (Figure 1). This investigation was conducted in advance of the proposed severance and future residential development of this undeveloped lot located near the corner of Nigh Road and Buffalo Road in Fort Erie, Ontario (Figure 5). The Study Area is bounded by Nigh Road to the north, Buffalo Road to the east and wood lots to the south and west.

An archaeological investigation of the Study Area was triggered by the Provincial Policy Statement ('PPS') that is informed by the *Planning Act* (Government of Ontario 1990a), which states that decisions affecting planning matters must be consistent with the policies outlined in the larger *Ontario Heritage Act* (Government of Ontario 1990b). According to Section 2.6.2 of the PPS, "development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved." To meet the conditions of this legislation, a Stage 1-2 assessment of the Study Area was conducted during the application stage of the development under archaeological consulting license P462 issued to Mike Pitul by the Ministry of Heritage, Sport, Tourism and Culture Industries ('MHSTCI') and adheres to the archaeological license report requirements under subsection 65 (1) of the *Ontario Heritage Act* (Government of Ontario 1990b) and the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* ('*Standards and Guidelines*'; Government of Ontario 2011).

The purpose of a Stage 1 Background Study is to compile all available information about the known and potential archaeological heritage resources within a 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 are 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 is 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 following Stage 2 Property Assessment are 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 Study Area and conduct all required archaeological fieldwork activities, including the recovery of artifacts.

1.2 Historical Context

1.2.1 Post-Contact Aboriginal Resources

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

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

Ten years later, hostilities between the French and the Iroquois resumed after the latter formed an alliance with the British through an agreement known as the Covenant Chain (Heidenreich, 1990). In 1696, an aging Louis de Buade, Comte de Frontenac et de Palluau, the Governor General of New France, rallied the Algonquin forces and drove the Iroquois out of the territories north of Lake Erie, as well as those west of present-day Cleveland, Ohio. A second treaty was concluded between the French and the Iroquois in 1701, after which the Iroquois remained mostly neutral (Jamieson 1992:80; Noble 1978:161).

Throughout the late 17th and early 18th centuries, various Iroquoian-speaking communities had been migrating into southern Ontario from New York State. In 1722, the Five Nations adopted the Tuscarora in New York becoming the Six Nations (Pendergast 1995:107). This period also marks the arrival of the Mississaugas into Southern Ontario and, in particular, the watersheds of the lower Great Lakes (Konrad 1981; Schmalz 1991). The oral traditions of the Mississaugas, as told by Chief Robert Paudash suggest that the Mississaugas defeated the Mohawk nation, who retreated to their homeland south of Lake Ontario. Following this conflict, a peace treaty was negotiated and, at the end of the 17th century, the Mississaugas settled permanently in Southern Ontario (Praxis Research Associates n.d.). Around this same time, members of the Three Fires Confederacy (Chippewa, Ottawa, and Potawatomi) began immigrating from Ohio and Michigan into southwestern Ontario (Feest and Feest 1978:778-779).

The Study Area enters the Euro-Canadian historic record on May 9th 1781 as part of the Niagara Treaty No. 381 with the Mississauga and Chippewa. This treaty involved the surrender of …

> *…all that certain tract of land situated on the west side of the said strait or river, leading from Lake Erie to Lake Ontario, beginning at a large white oak tree, forked six feet from the ground, on the bank of the said Lake Ontario, at the distance of four English miles measured in a straight line, from the West side of the bank of the said straight, opposite to the Fort Niagara and extending from thence by a southerly course to the Chipeweigh River, at the distance of four miles on a direct*

> *line from where the said river falls into the said strait about the great Fall of Niagara or such a line as will pass at four miles west of the said Fall in its course to the said river and running from thence by a southeasterly course to the northern bank of Lake Erie at the distance of four miles on a straight line, westerly from the Post called Fort Erie, thence easterly along the said Lake by the said Post, and northerly up the west side of the said strait to the said lake Ontario, thence westerly to the place of beginning*.
>
> Morris 1943: 15-16

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. 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). 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 Bertie and Historical County of Welland, now the Town of Fort Erie within the Regional Municipality of Niagara, Ontario.

Following the Treaty of Paris of 1763, which ended the Seven Years War, Canada was transferred from France to Britain, becoming the Province of Québec. On July 24, 1788, Sir Guy Carleton, the Governor-General of British North America, divided the Province of Québec into the administrative districts of Hesse, Nassau, Mecklenburg and Lunenburg (Archives of Ontario 2012-2015). Further change came in December of 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).

In July 1792, Simcoe divided Upper Canada into 19 counties 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. As population levels in Upper Canada increased, smaller and more manageable administrative bodies were needed resulting in the establishment of many new counties and townships. As part of this realignment, the boundaries of the Home and Western Districts were shifted and the London and Niagara Districts were established. Under this new territorial arrangement, the Study Area became part of Lincoln County in the Niagara District. In 1845, after years of increasing settlement that began after the War of 1812, the southern portion of Lincoln County was severed to form Welland County (the two counties would be amalgamated once again in 1970 to form the Regional Municipality of Niagara; Archives of Ontario 2012-2015).

Settlement within Bertie Township began in 1764, immediately following the end of the Seven Years War. To help defend his newly acquired territory, King George III built a series of military forts along the Niagara River, including Fort Erie. During the American Revolutionary War (1775-1783), the fort was used as a supply depot for British troops. Following the conflict, the land around the fort, later designated as the Town of Fort Erie, was granted to members of the disbanded Butler's Rangers. In 1784, this territory became known as the Township of Bertie. Included in the list of Loyalist settlements within the township was the village of Ridgeway, which was named after the limestone ridge that passes through it from north to south. Settlers

continued to arrive throughout the remainder of the 18th and early 19th centuries, attracted by the fertile soil throughout the township, which was suitable for growing barley, wheat, oats amongst other crops (Niagara Parks 2020).

Following the winter of 1803, a new stone fort was constructed inland from the site of the original Fort Erie, which was made of wood and susceptible to ice damage. This new fort remained incomplete at the start of the War of 1812. American troops captured the new Fort Erie on two occasions during the War of 1812. In 1814, following a long, protracted siege by British forces, the Americans destroyed the fort before retreating back to Buffalo (Niagara Parks 2020).

In the middle of the 19th century, the Township of Bertie, and in particular Bertie Hall, became a major stopping point for the underground railroad (Calarco *et al* 2011). Later, on June 2, 1866, between 1,000 and 1,350 Irish-American invaders known as the Fenians crossed the Niagara River and defeated the local militia at the Battle of Ridgeway. The next day, as they were withdrawing back to America, the Fenian raiders met with another small force of Canadian volunteers and defeated them at the Battle of Fort Erie. Eventually, the Fenians retired back across the river and surrendered to American authorities. This conflict was the largest engagement of the Fenian raids and the only armed victory for the Irish during their battle for Irish Independence between 1798 and 1919 (Niagara Parks 2020).

Much of the development of Bertie Township can be attributed to the advancement of the railroad. In the 1850s, Ridgeway received an arm of the Buffalo, Brantford and Goderich Railway, the earliest railway to be built in southwestern Ontario. Later, in 1873, the Grand Trunk Railway built the International Railway Bridge, resulting in large population increases throughout the township and the establishment of a new town just north of the original settlement of Fort Erie. This town was originally called Victoria, but would later be renamed Bridgeburg. By 1876, Victoria had three railway stations (Scrimgeour 1990).

By this time, the population of Fort Erie had reached approximately 1,200 and the village of Ridgeway, 800. A decade later, in 1887, the population of Fort Erie had climbed to around 4,000 while Victoria boasted nearly 700 residents. Ridgeway, conversely, experienced a slight decrease in its growth, with a population of around 600. The following year witnessed the opening of a new amusement park at Crystal Beach. The amusement park remained active for just over a century before closing its doors in 1989. In 1970, Bertie Township amalgamated with Fort Erie and Crystal Beach to form the Town of Fort Erie (Niagara Parks 2020).

The Study Area comprises Part of Lot 7, Concession 2 Lake Erie, Part of Lot 7 Concession 3 Lake Erie within the Geographical Township of Bertie. According to the map of Bertie Township within the *Illustrated Historical Atlas of the Counties of Lincoln and Welland* (‘*Historical Atlas*’) (Page, H.R. & Co 1876; Figure 2), by 1876 the Study Area occurred on property owned by Richard Graham. Based on the *Historical Atlas*, an orchard and residence occur on the northwestern side of the Study Area on the Graham property. Additional orchards and residences occur within 600m of the Study Area in the lots to the north, northwest and southwest. The community of Ridgeway can be seen to the west of the Study Area and a branch of the Grand Trunk Railway can be observed to the south the Study Area.

Although significant and detailed landowner information is available on the current *Historical Atlas* map of Bertie Township, it must 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 large undeveloped lot measuring approximately 10.69ha. It is roughly rectangular-shaped and is bound by Nigh Road to the north, Buffalo Road and residential

properties to the east, a wood lot to the south and a residential 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 and more recently expanding residential developments.

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

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

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

Haldimand clay is slowly permeable, imperfectly drained with medium to high water-holding capacities. Surface runoff is usually rapid, but water retention of the clayey soils can cause it to be droughty during dry periods (Kingston and Presant 1989). The soil is suitable for corn and soybeans in rotation with cereal grains as well as alfalfa and clover (Huffman and Dumanski 1986). The closest source of water is Lake Erie, which is located about 800m to the south of the Study Area. A few small unnamed streams occur within 1km to the north and west of the Study Area.

1.3.2 Pre-Contact Aboriginal Land Use

The Study Area occupies a portion of Ontario that 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 Bertie Township.

Table 1: Cultural Chronology for the Bertie Township

Time Period	Cultural Period	Comments
9000–7500 BC	Paleo-Indian	first human occupation nomadic, small band society hunters of caribou and other extinct Pleistocene game
7800-500 BC	Archaic	nomadic hunter gatherers transition to territorial settlements ceremonial burials increasing trade network polished and groundstone tools
800-400 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 800-1600	Late Woodland	developing hamlets and villages shift to agriculture complete increasing political complexity large palisaded villages regional warfare and political/tribal alliances

Time Period	Cultural Period	Comments
AD 1600-1792	Contact	European settlement tribal displacements

1.3.3 Previous Identified Archaeological Work

In order to compile an inventory of archaeological resources, the registered archaeological site records kept by the MHSTCI were consulted. In Ontario, information concerning archaeological sites stored in the ASDB (Government of Ontario n.d.) is maintained by the MHSTCI. This database contains archaeological sites registered according to the Borden system. Under the Borden system, Canada is divided into grid blocks based on latitude and longitude. A Borden Block is approximately 13km east to west and approximately 18.5km north to south. Each Borden Block is referenced by a four-letter designator and sites within a block are numbered sequentially as they are found. The study area under review is within Borden Block AfGr.

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, only one previously documented archaeological site occurs within a 1km radius of the Study Area. Site AfGr-12 is a pre-contact Aboriginal artifact scatter lacking a known temporal association. To the best of Detritus' knowledge, no previously registered archaeological sites have been registered within 50m of the Study Area and no other assessments have been conducted adjacent to 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 to determine areas of archaeological potential within Study Area. According to Section 1.3.1 of the *Standards and Guidelines* (Government of Ontario 2011), these variables include proximity to previously identified archaeological sites, distance to various types of water sources, soil texture and drainage, glacial geomorphology, elevated topography, and the general topographic variability of the area.

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

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

As was discussed above, the closest source of potable water is Lake Erie (Crescent Beach), which occurs approximately 800m to the south of the Study Area. The primary soils within the Study Area have been documented as being suitable for pre-contact Aboriginal practices. Add to this discussion the presence of a pre-contact Aboriginal site within 1km of the Study Area and the Aboriginal archaeological potential is judged to be moderate.

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* map of Bertie Township (Figure 2; Page & Co 1876), demonstrates that the township was densely occupied by Euro-Canadian farmers by the late 19th century. Much of the established road system and agricultural settlement from that time is still visible today. Also considering the proximity of the Study Area to several nearby historic residences, the Euro-Canadian archaeological potential of the Study Area is judged to be moderate to high.

When the above listed criteria are applied to the Study Area, the archaeological potential for pre-contact Aboriginal, post-contact Aboriginal, and Euro-Canadian sites is deemed to be moderate to high.

2.0 Field Methods

The Stage 2 assessment was conducted on August 17 and 27, 2021 under archaeological consulting license P462 issued to Mike Pitul by the MHSTCI. The limits of the Study Area were recognised in the field by means of Nigh Road to the north, Buffalo Road to the east, and property boundary lines to the south and west. The weather during fieldwork on August 17 and 27, 2021 was sunny and with a high of 33° Celsius and 31° Celsius respectively. Assessment conditions were excellent; at no time were the field, weather, or lighting conditions detrimental to the recovery of archaeological material. Photos 1-42 demonstrate the field conditions throughout the Study Area at the time of the assessment, including areas that met the requirements for a Stage 2 archaeological assessment, as per Section 7.8.6, Standards 1a and b of the *Standards and Guidelines* (Government of Ontario 2011). Figure 3 illustrates the Stage 2 assessment methods, including all photograph locations and directions; Figure 4 illustrates the Stage 2 assessment methods in relation to the current development map.

The Study Area (10.69ha) comprises an undeveloped woodlot as well as a marsh with standing water. The marsh occurs in the southern half of the study area and covers approximately 4.41ha. The Stage 2 assessment confirmed the boundaries of the permanently wet marsh and was excluded from the test pit survey, as per Section 2.1 Standard 2.a.i. of the *Standards and Guidelines* (Government of Ontario 2011).

The rest of the Study Area comprised an undeveloped woodlot and grass covered areas that at the time of the assessment were inaccessible to ploughing. Most of the woodlot (3.59ha) was subjected to a standard Stage 2 test pit survey, conducted at 5m intervals in accordance with Section 2.1.2, Standards 1 and 2 of the *Standards and Guidelines* (Government of Ontario 2011). Exceedingly dense vegetation covered the remaining 2.69ha of woodlot. Due to the dense vegetation, test pits were placed where physically possible.

Each test pit was at least 30 centimetres ('cm') in diameter and excavated 5cm into sterile subsoil as per Section 2.1.2, Standards 5 and 6 of the *Standards and Guidelines* (Government of Ontario 2011). The soils were then examined for stratigraphy, cultural features, or evidence of fill. 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, as per Section 2.1.2, Standards 7 and 9 of the *Standards and Guidelines* (Government of Ontario 2011). Test pits ranged in depth from 30 to 40cm and contained a single stratigraphic layer; considering that each test pit was excavated 5cm into sterile subsoil, this observed soil layer ranged in depth from 25 to 35cm.

The Stage archaeological assessment resulted in the documentation of one pre-contact Aboriginal find spot (Find Spot 1). Find Spot 1 comprised two test pits (PTP 1-2) producing a total of three pre-contact Aboriginal artifacts and covering an area of less than 5m by 5m (Photos 43-44). Find Spot 1 was identified along the eastern edge of the Study Area. Given that insufficient resources were documented to meet the criteria for continuing to Stage 3, the survey coverage was intensified around the two positive test pits to determine whether a recommendation for Stage 3 could be supported, as per Section 2.1.3, Standard 2 of the Standards and Guidelines (Government of Ontario 2011). As per Option A of this Standard, eight additional test pits were excavated at a 2.5m interval around all sides of the two test pits. A single 1m test unit was then excavated directly over top of PTP 1 (Photo 45). The test unit excavation recovered a single additional flake made of Onondaga chert.

All cultural material encountered was collected and recorded to the associated test pit or excavation unit and returned for laboratory analysis. Universal Transverse Mercator ('UTM') coordinates were recorded for all positive test pits as well as a fixed landmark using a Garmin eTrex 10 GPS unit with a minimum accuracy 3m (North American Datum 1983 ('NAD83') and UTM Zone 17T). These coordinates are presented in the Supplementary Documentation to this report.

3.0 Record of Finds

The Stage 2 archaeological assessment was conducted employing the methods described in Section 2.0 above, resulting in the documentation of one location with Aboriginal artifacts (Find Spot 1). An inventory of the documentary record generated by the fieldwork is provided in Table 2 below.

Table 2: Inventory of Document Record

Document Type	Current Location	Additional Comments
2 page of field notes	Detritus office	Stored digitally in project file
2 maps provided by the Proponent	Detritus office	Stored digitally in project file
3 field maps	Detritus office	Stored digitally in project file
72 photographs	Detritus office	Stored digitally in project file

All the material culture collected during the Stage 2 survey are 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

The Stage 2 archaeological assessment identified a single location with pre-contact Aboriginal artifacts (Find Spot 1). The test pit survey and unit excavation recovered a total of four flakes made from Onondaga chert at Find Spot 1. 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).

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 primary, secondary, thinning, and fragmentary flakes. 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.

3.2 Find Spot 1

Find Spot 1 was identified in the undeveloped grassy area along the eastern edge of the Study Area. The Stage 2 assessment of Find Spot 1 resulted in the documentation of four pieces of Onondaga chert debitage from two test pits and one test unit in an area of less than 5m by 5m. According to the morphological analysis, the flakes recovered from Find Spot 1 include two flake

fragments and two secondary flakes. The exclusive use of Onondaga chert may indicate that site occupants were largely relying on a single source of raw material. Outcrops of Onondaga chert are found along the north shore of Lake Erie between Long Point and the Niagara River, which occur less than 400m to the south of the site. Given the paucity of cultural materials, however, it is difficult to draw any useful conclusions regarding site function or specific temporal association.

3.2.1 Find Spot 1 Artifact Catalogue

Table 3 provides a catalogue of the Stage 2 artifact assemblage recovered from Find Spot 1. A sample of artifacts are depicted in Section 9.2 of this report.

Table 3: Find Spot 1 Artifact Catalogue

Context	Cat #	Artifact	Freq.	Morphology	Chert Type	Notes
PTP 1	1	chipping detritus	1	secondary	Onondaga	
PTP 2	2	chipping detritus	2	fragment	Onondaga	both equivocal
Test Unit (Over PTP 1)	3	chipping detritus	1	secondary	Onondaga	

4.0 Analysis and Conclusions

Detritus Consulting Ltd. ('Detritus') was retained by 2282344 Ontario Inc. ('the Proponent') to conduct a Stage 1-2 archaeological assessment on Part of Lot 7, Concession 2 Lake Erie, Part of Lot 7 Concession 3 Lake Erie, Part of Road Allowance Between Concessions 2 and 3 Lake Erie, Geographic Township of Bertie, Historical County of Welland, Now the Town of Fort Erie, Regional Municipality of Niagara, Ontario (Figure 1). This investigation was conducted in advance of the proposed severance and future residential development of this undeveloped lot located near the corner of Nigh Road and Buffalo Road in Fort Erie, Ontario (Figure 5). The Study Area is bounded by Nigh Road to the north, Buffalo Road to the east and wood lots to the south and west.

The Stage 1 background research indicated that the Study Area exhibited moderate to high potential for the identification and recovery of archaeological resources. The Stage 2 assessment was conducted on August 17 and 27, 2021 under archaeological consulting license P462 issued to Mike Pitul by the MHSTCI. The Study Area (10.69ha) comprises an undeveloped woodlot as well as a marsh with standing water. The marsh occurs in the southern half of the study area and covers approximately 4.41ha. The Stage 2 assessment confirmed the boundaries of the permanently wet marsh and was excluded from the test pit survey, as per Section 2.1 Standard 2.a.i. of the *Standards and Guidelines* (Government of Ontario 2011).

The rest of the Study Area comprised an undeveloped woodlot and grass covered areas that at the time of the assessment were inaccessible to ploughing. Most of the woodlot (3.59ha) was subjected to a standard Stage 2 test pit survey, conducted at 5m intervals in accordance with Section 2.1.2, Standards 1 and 2 of the *Standards and Guidelines* (Government of Ontario 2011). Exceedingly dense vegetation covered the remaining 2.69ha of woodlot. Due to the dense vegetation, test pits were placed where physically possible.

The Stage 2 archaeological assessment resulted in the identification and documentation of one location with pre-contact Aboriginal artifacts identified in the field as Find Spot 1.

4.1 Find Spot 1

The Stage 2 assessment of Find Spot 1 resulted in the documentation of four pieces of Onondaga chert debitage from two test pits and a test unit in an area measuring less than 5m by 5m. The exclusive use of Onondaga chert, meanwhile, indicates that site occupants were largely relying on a single source of raw material. Outcrops of Onondaga chert are found along the north shore of Lake Erie between Long Point and the Niagara River, which is approximately 10 kilometres ('km') to the south of the site. Given the small sample size, however, it is difficult to draw any useful conclusions regarding site function.

Based on these results, Find Spot 1 has been interpreted as a small activity area of unknown function, occupied by unspecified Aboriginal people during the pre-contact period.

4.3 Preliminary Indication of Sites Possibly Requiring Stage 4 Mitigation of Developmental Impacts

This preliminary indication of whether any site could be eventually recommended for Stage 4 a mitigation of impacts is required under the *Standards and Guidelines* Section 7.8.3 Standard 2c.

Find Spot 1 is a small activity area of unknown function, occupied by unspecified Aboriginal people during the pre-contact period. Based on the results of the Stage 2 assessment, Find Spot 1 does not meet the minimum requirements for a Stage 3 assessment (see Section 5.0 below).

5.0 Recommendations

Given the results of the Stage 2 assessment Find Spot 1 has been interpreted as a small activity area of unknown function, occupied by unspecified Aboriginal people during the pre-contact period. Given the fact that the Stage 2 assessment only recovered four non-diagnostic artifacts within a 10m-by-10m test pit survey, the site does not meet the criteria for a Stage 3 assessment as per Section 2.2 Standard 1.a.ii(2) of the Standards and Guidelines (Government of Ontario 2011). Therefore, Find Spot 1 retains no further CHVI and **a Stage 3 archaeological assessment is not recommended for Find Spot 1.**

6.0 Advice on Compliance with Legislation

This report is submitted to the Minister of Heritage, Sport, Tourism and Culture Industries as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Heritage, Sport, Tourism and Culture Industries, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

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

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

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

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8.0 Maps

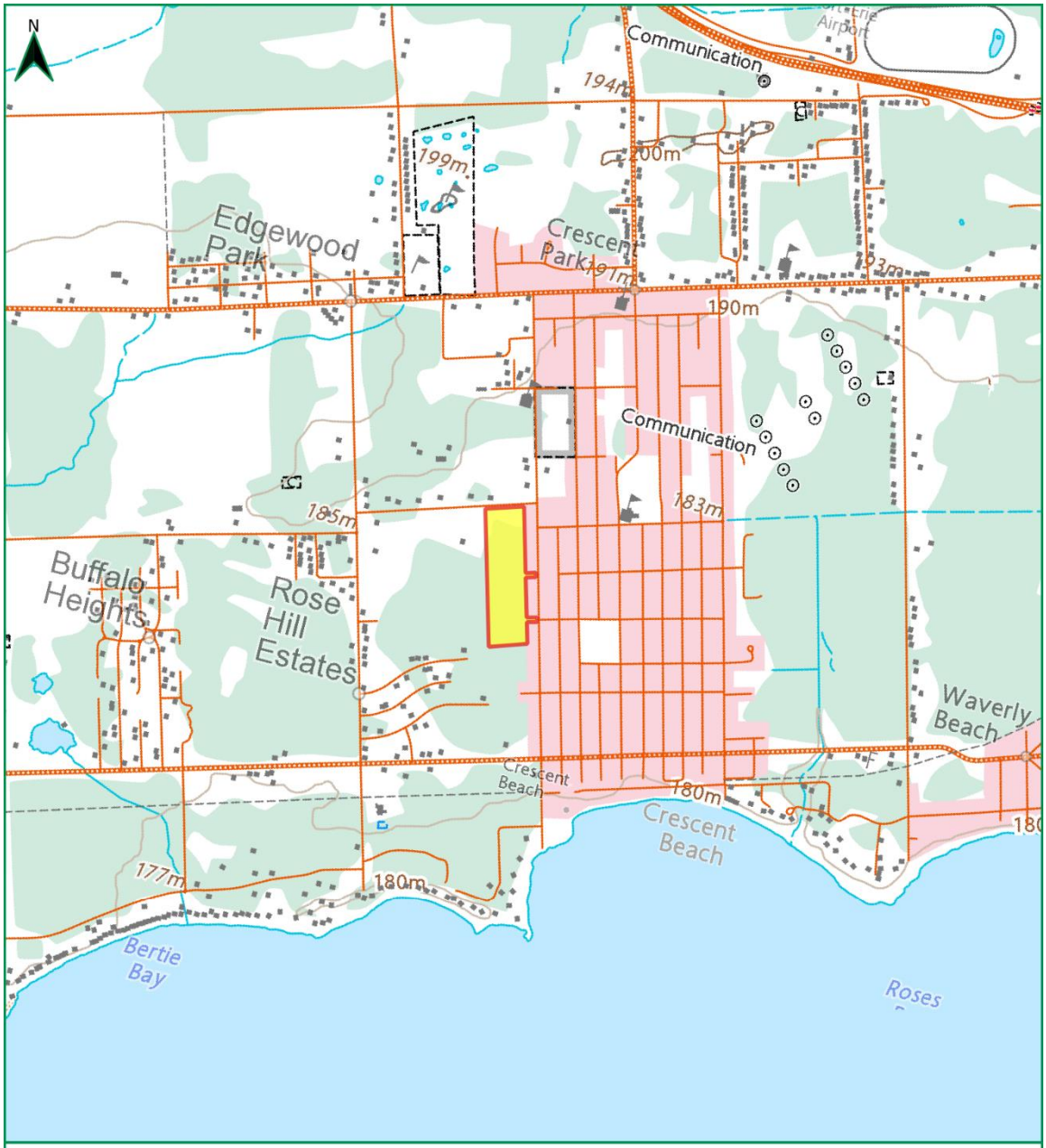


Figure 1: Study Area

Map Creator: Jonathan M. Peart
CRS: WGS 84 NAD 17N
Baselayer: Natural Resources Canada. The Atlas of Canada - Toporama, 2017. Electronic source http://atlas.gc.ca/toporama/en/index.html

Figure 2: Portion of the 1876 Historical Atlas Map of Bertie Township

Map Creator: Jonathan M. Peart
CRS: WGS 84 NAD 17N
Baselayer: Page, H.R. & Co. 1876. The Illustrated Historical Atlas of the Counties of Lincoln and Welland.

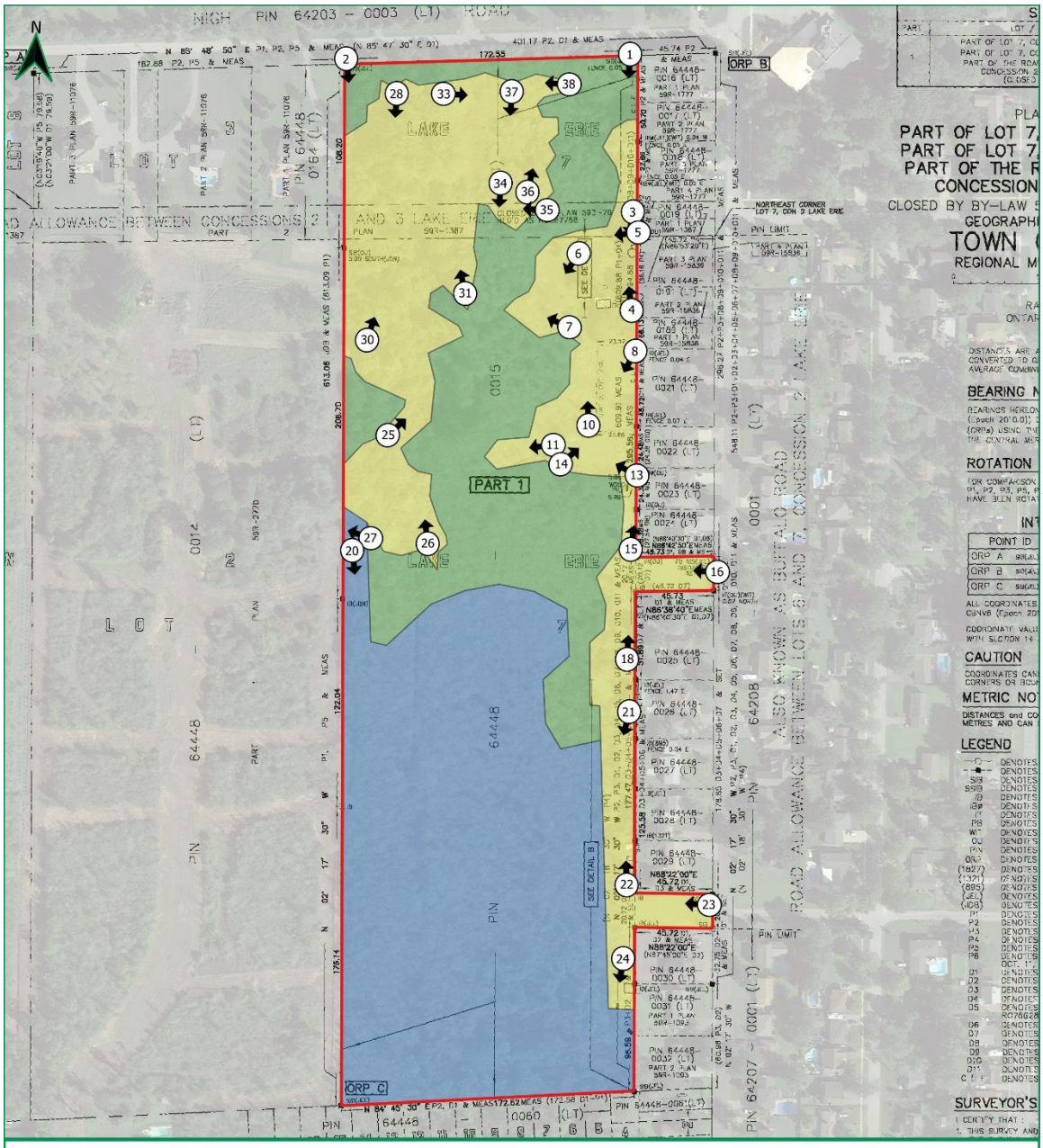


Figure 3: Stage 2 Methodology

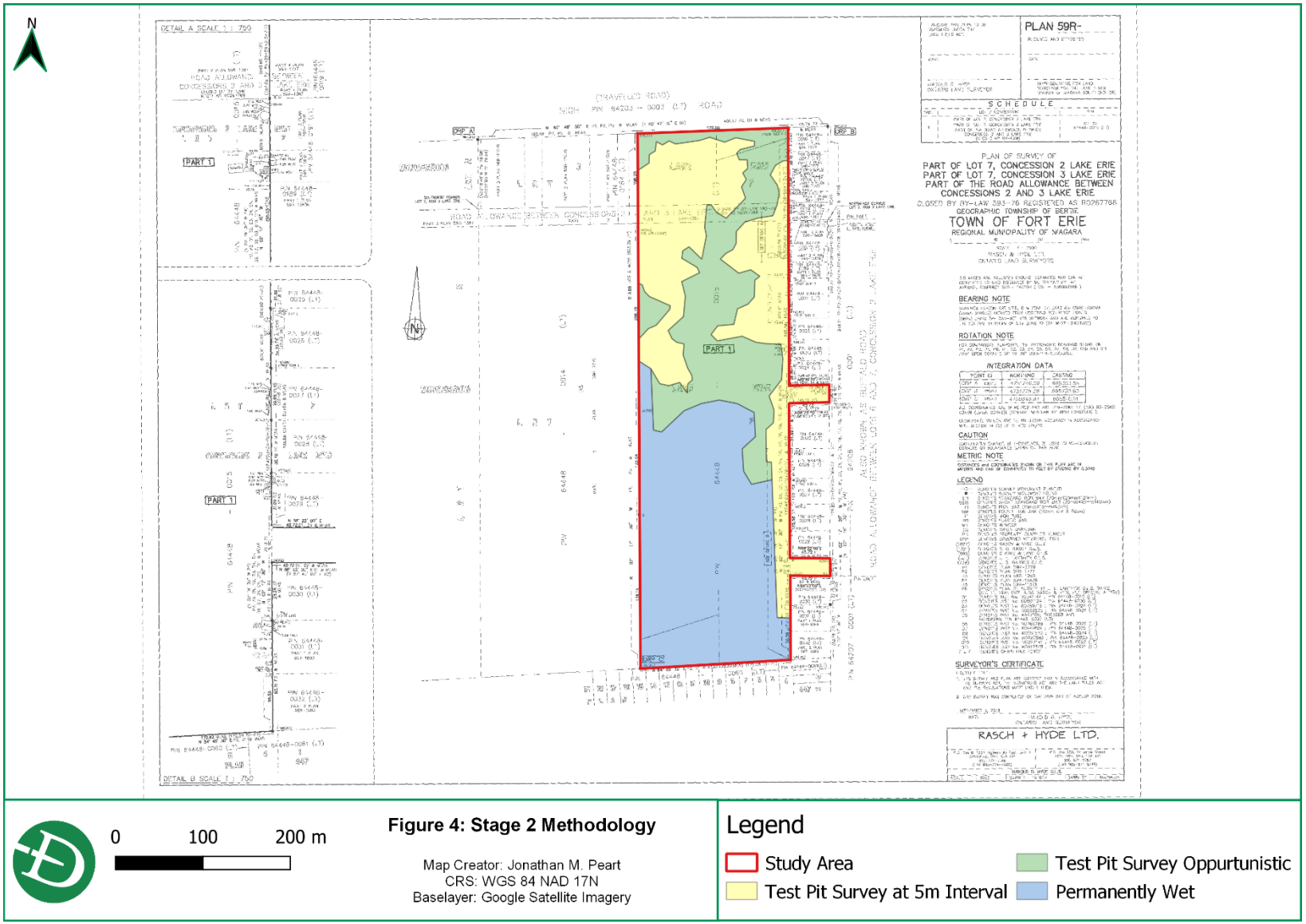
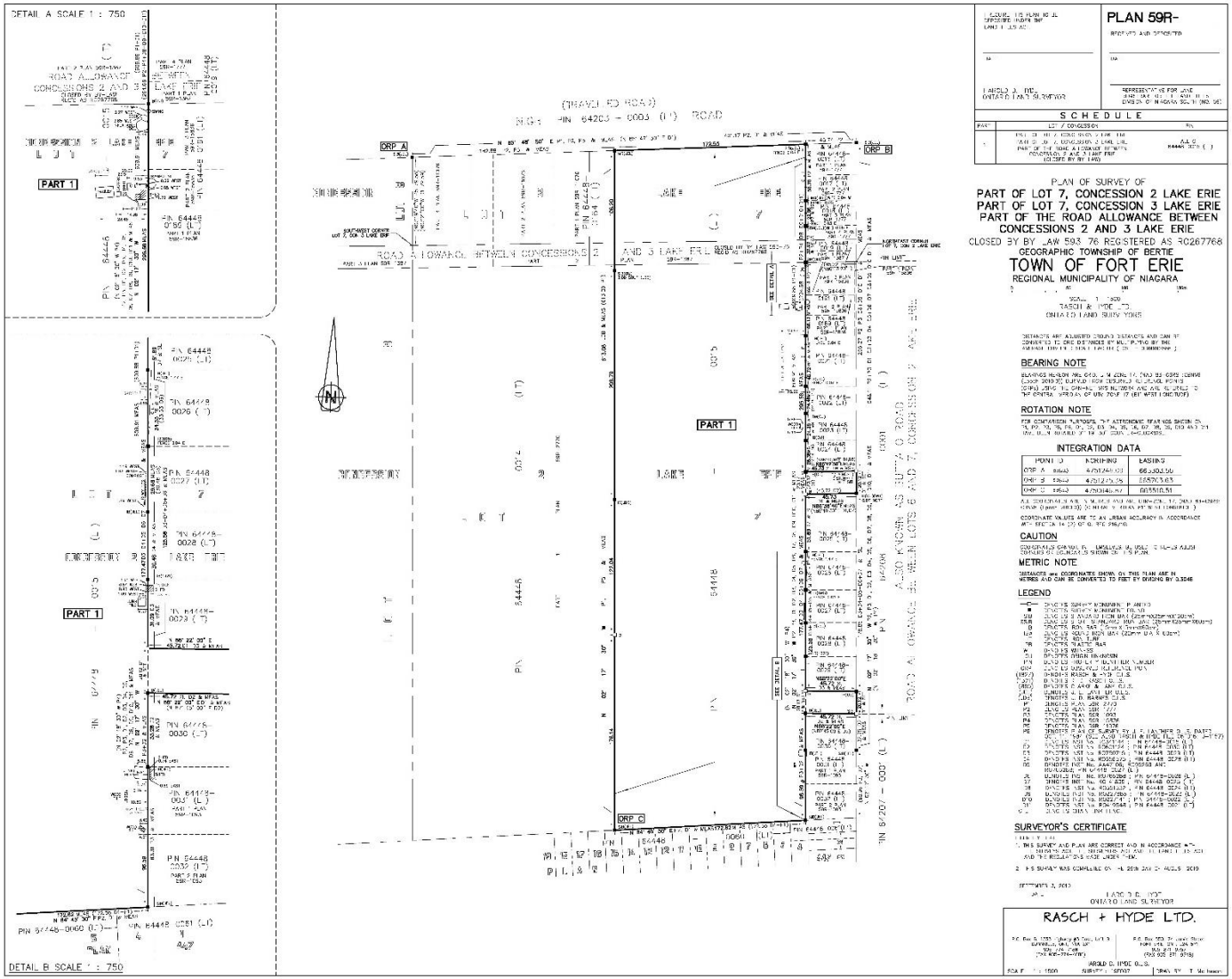


Figure 4: Stage 2 Methodology

Map Creator: Jonathan M. Peart
CRS: WGS 84 NAD 17N
Baselayer: Google Satellite Imagery

Figure 5: Development Map



9.0 Photos

9.1 Field Photos

Photo 1: Test Pit Survey among dense vegetation, looking south

Photo 2: Test Pit Survey among dense vegetation, looking south along the western edge of the Study Area

Photo 3: Test Pit Survey at 5m Intervals, looking south

Photo 4: Test Pit Survey at 5m Intervals, looking north

Photo 5: Test Pit Survey at 5m Intervals, looking west

Photo 6: Test Pit Survey at 5m Intervals, looking southwest

Photo 7: Test Pit Survey at 5m Intervals, looking northwest

Photo 8: Test Pit Survey at 5m Intervals, looking southwest

Photo 9: Typical Test Pit

Photo 10: Test Pit Survey at 5m Intervals, looking north

Photo 11: Test Pit Survey at 5m Intervals, looking west

Photo 12: Typical Test Pit

Photo 13: Test Pit Survey at 5m Intervals, looking northwest

Photo 14: Test Pit Survey at 5m Intervals, looking northeast

Photo 15: Test Pit Survey at 5m Intervals, looking north

Photo 16: Test Pit Survey at 5m Intervals, looking west

Photo 17: Typical Test Pit

Photo 18: Test Pit Survey at 5m Intervals, looking north

Photo 19: Typical Test Pit

Photo 20: Permanently Wet Area, facing south

Photo 21: Test Pit Survey at 5m Intervals, looking south

Photo 22: Test Pit Survey at 5m Intervals, looking north

Photo 23: Test Pit Survey at 5m Intervals, looking west

Photo 24: Test Pit Survey at 5m Intervals, looking south

Photo 25: Test Pit Survey at 5m Intervals, looking northeast

Photo 26: Test Pit Survey at 5m Intervals, looking north

Photo 27: Permanently Wet Area, facing northwest

Photo 28: Test Pit Survey at 5m Intervals, looking south

Photo 29: Typical Test Pit

Photo 30: Test Pit Survey at 5m Intervals, looking northeast

Photo 31: Test Pit Survey at 5m Intervals, looking north

Photo 32: Typical Test Pit

Photo 33: Test Pit Survey at 5m Intervals, looking east

Photo 34: Test Pit Survey at 5m Intervals, looking south

Photo 35: Test Pit Survey at 5m Intervals, looking west

Photo 36: Test Pit Survey at 5m Intervals, looking north

Photo 37: Test Pit Survey at 5m Intervals, looking south

Photo 38: Test Pit Survey at 5m Intervals, looking west

Photo 39: Permanently Wet Area Overview

Photo 40: Permanently Wet Area Overview

Photo 41: Permanently Wet Area Overview

Photo 42: Permanently Wet Area Overview

Photo 43: PTP 1, test pit

Photo 44: PTP 2, test pit

Photo 45: Test Unit over PTP 1, south profile

9.2 Artifact Photos

Plate 1: Find Spot 1 Lithic Debitage; PTP 1 flake top left; PTP 2 two flakes in top right; bottom flake from test unit over PTP 1