Stage 1-2 Archaeological Assessment
1433 Firelane 1, Port Colborne

Part of Lot 19, Concession 1, Geographic Township of Humberstone, Historical County of Welland, now the Regional Municipality of Niagara, Ontario

Submitted to:

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and

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Submitted by:

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ORIGINAL REPORT

September 26, 2024

Executive Summary

Detritus Consulting Ltd. ('Detritus') was retained by Frank DiCosimo (the 'Proponent') to conduct a Stage 1-2 archaeological assessment on part of Lot 19, Concession 1, in the Geographic Township of Humberstone, within the Historical County of Welland, which is now the Regional Municipality of Niagara, Ontario (Figure 1). This assessment was undertaken in advance of future development on the property at 1433 Firelane 1, Port Colborne. The proposed development will span the entire property (the 'Study Area;' Figure 4).

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

The Study Area comprises an irregular-shaped parcel that fronts onto Firelane 1 and measures approximately 1.43 hectares ('ha'). The Study Area is bound by Firelane 1 to the North, Weaver Road to the east, one residential property to the west, and Lake Erie to the south. At the time of assessment, the Study Area included one residential property fronting on Firelane 1, featuring a manicured lawn with several large trees, a house, a sand volleyball court, a driveway, an inground pool, a shed, a beachfront, a section of Lake Erie, and a tributary of the Niagara River. Near the opening of the gravel driveway, to the east, is a small paved area. The gravel driveway leads from Firelane 1 to the house, inground pool, and shed which are at the highest point of the property, surrounded by steep downward slopes to the east and south of these features. The slope forms an upside-down sickle-like shape around these features. The southern slope below the house contains large rocks, likely in place for erosion control. The tributary cuts into the southeastern corner of the Study Area. The southern edge of the Study Area comprises sandy shores which lead into Lake Erie. A portion of Lake Erie in included in the Study Area. (Figure 3).

The Stage 1 background research indicated that the Study Area exhibited moderate to high potential for the identification and recovery of archaeological resources. This research also indicated that the Study Area is located within an area of archaeological potential, as indicated by the Niagara Region Archaeological Management Plan (Niagara Region, 2021). Therefore, a Stage 2 Property Assessment was recommended for the Study Area.

The subsequent Stage 2 field assessment of the Study Area was conducted on July 19th and 30th, 2024. This investigation began with a property inspection, conducted according to Section 2.1.8, which is informed by Section 1.2 of the *Standards and Guidelines* (Government of Ontario, 2011). The inspection revealed that the house, driveway, inground pool, and shed retained no, or low, archaeological 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). The property inspection also revealed that a portion of the Study consisted of a steeply sloping area surrounding the house, shed, and inground pool to the east and south, which was evaluated as having no potential for archaeological resources. Finally, the portion of the Study Area extending into Lake Erie was determined to be permanently wet, and was therefore was also excluded from the Stage 2 field survey, as per Section 2.1, Standard 2b of the *Standards and Guidelines* (Government of Ontario 2011). The previously disturbed, steeply sloping, and permanent wet areas, as confirmed during the Stage 2 property inspection, were mapped and photo documented only in accordance with Section 2.1, Standard 6, and Section 7.8.1, Standards 1a and 1b of the *Standards and Guidelines* (Government of Ontario, 2011).

The remainder of the Study Area comprised the manicured lawns with trees and the sandy beachfront , which were assessed by means of a typical test pit survey at 5m intervals. No archaeological resources were observed. Given the results of the Stage 2 investigation and the identification and documentation of no archaeological resources, **no further archaeological assessment of the Study Area is recommended.**

Additionally, according to the MHSTCI web page for marine archaeology (Government of Ontario 2020), many of the cold, fresh waters of Ontario's lakes and rivers have conserved important evidence of Ontario's history of exploration, settlement and commerce. Some of Ontario's waterways have been surveyed for marine archaeological resources, leaving much to be discovered in Ontario's abundance of lake beds, river beds and shorelines. Therefore, **the unassessed portion of the Study Area that extends into Lake Erie retains archaeological potential**. If, in the future, the underwater portion of the Study Area will be impacted by development, then a marine archaeological assessment is required. According to Subsection 48(1), P.3 of the *Heritage Act* (Government of Ontario 1990b), a marine archaeological assessment must be carried out by the holder of a Marine Archaeology license, and adhere to Ontario Regulation 11/06 for Marine Archaeological sites within the larger *Heritage Act* (Government of Ontario 1990b).

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

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Acknowledgments

Generous contributions by Frank DiCosimo made this report possible.

1.0 Project Context

1.1 Development Context

Detritus Consulting Ltd. ('Detritus') was retained by Frank DiCosimo (the 'Proponent') to conduct a Stage 1-2 archaeological assessment on part of Lot 19, Concession 1, Geographic Township of Humberstone, Historical County of Welland, now the Regional Municipality of Niagara, Ontario (Figure 1). This assessment was undertaken in advance of future development on the property at 1433 Firelane 1, Port Colborne and the development will span the entire property (the 'Study Area;' Figure 4).

This assessment was triggered by the Provincial Policy Statement ('PPS') that is informed by the *Planning Act* (Government of Ontario, 1990a), which states that decisions affecting planning matters must be consistent with the policies outlined in the larger *Ontario Heritage Act* (Government of Ontario, 1990b). According to Section 2.6.2 of the PPS, "development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved." To meet this condition, a Stage 1-2 assessment was conducted as part of the application phase of development under archaeological consulting license P389 issued to Mr. Walter McCall by the Ministry of Citizenship and Multiculturalism ('MCM') and adheres to the archaeological license report requirements under subsection 65 (1) of the *Ontario Heritage Act* (Government of Ontario, 1990b) and the MCM'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 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 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 land and conduct all required archaeological fieldwork activities, including the recovery of artifacts.

1.2 Historical Context

1.2.1 Post-Contact Indigenous Resources

Prior to the arrival of European settlers, much of the central and southern Ontario was occupied by Iroquoian speaking linguistic groups that had united to form confederacies, including the Huron-Wendat, the Neutral (or Attawandaran), and the Petun in Ontario, as well as the Five Nations Iroquois Confederacy in Upper New York State (Warrick, 2013; Birch, 2010). Of these groups, the Huron-Wendat established themselves to the east of the Niagara escarpment and the Neutral, to the west (Warrick, 2000).

Throughout the middle of the 17th century, the Iroquois Confederacy sought to expand upon their territory and to monopolize the fur trade between the European markets and the tribes of the western Great Lakes region. A series of bloody conflicts followed known as the Beaver Wars or the French and Iroquois Wars, contested between the Iroquois Confederacy and the Algonkian speaking communities of the Great Lakes region. Many communities were destroyed including the Huron, Neutral, 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 (Heidenreich, 1990).

At this same time, the Anishinaabeg Nation, an Algonkian-speaking community situated inland from the northern shore of Lake Huron, began to challenge the Haudenosaunee for dominance in the Lake Huron and Georgian Bay region in order to advance their own role in the fur trade (Gibson, 2006). The Algonkian-speaking groups that settled in the area bound by Lake Ontario, Lake Erie, and Lake Huron were referred to by the English as the Chippewas or Ojibwas. By 1680, the Ojibwa began expanding into the evacuated Huron-Wendat territory, and eventually into Southern Ontario. By 1701, the Haudenosaunee had been driven out of Ontario completely and were replaced by the Ojibwa (Gibson, 2006; Schmalz, 1991).

The late 17th and early 18th centuries also mark the arrival of an Ojibwa band known as the Mississaugas into Southern Ontario and, in particular, the watersheds of the lower Great Lakes. 'The Mississaugas' is the name that the Jesuits had used in 1840 for the Algonquin community living near the Mississagi River on the northwestern shore of Lake Huron (Smith, 2002). The oral traditions of the Mississaugas, as recounted 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 (Praxis Research Associates, n.d.).

From the beginning of the 18th century until the end of the Seven Year War in 1763, the Ojibwa nation, including the Mississaugas, experienced a golden age in trade holding no alliance with either the French or the British (Schmalz, 1991). At the end of the 17th century, the Mississaugas' settled permanently in Southern Ontario (Praxis Research Associates, n.d.). Around this same time, in 1722, the Five Nation Iroquois Confederacy adopted the Tuscarora in New York becoming the Six Nations (Pendergast, 1995).

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

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

> *Lincoln County excepting Niagara Township; Saltfleet, Binbrook, Barton, Glanford and Ancaster Townships, in Wentworth County; Brantford, Onondaga, Tusc[a]r[o]ra, Oakland and Burford Townships in Brant County; East and West Oxford, North and South Norwich, and Dereham Townships in Oxford County; North Dorchester Township in Middlesex County; South Dorchester, Malahide and Bayham Township in Elgin County; all Norfolk and Haldimand Counties;*

> *Pelham, Wainfleet, Thorold, Cumberland and Humberstone Townships in Welland County.*
>
> Morris, 1943, pp. 17-8

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

Throughout southern Ontario, the size and nature of the pre-contact settlements and the subsequent spread and distribution of Indigenous material culture began to shift with the establishment of European settlers. By 1834 it was accepted by the Crown that losses of portions of the Haldimand Tract to Euro-Canadian settlers were too numerous for all lands to be returned. Lands in the Lower Grand River area were surrendered by the Six Nations to the British Government in 1832, at which point most Six Nations people moved into Tuscarora Township in Brant County and a narrow portion of Oneida Township (Page, 1879; Weaver, 1978; Tanner, 1987). Following 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, now the Mississaugas of the Credit First Nation, in 1847 (Smith, 2002)

Despite the encroachment of European settlers on previously established Indigenous territories, "written accounts of material life and livelihood, the correlation of historically recorded villages to their archaeological manifestations, and the similarities of those sites to more ancient sites have revealed an antiquity to documented cultural expressions that confirms a deep historical continuity to Iroquoian systems of ideology and thought" (Ferris, 2009, p. 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 current Study Area is located on part of Lot 19, Concession 1, in the Geographic Township of Humberstone, within the Historical County of Welland, which is now the Regional Municipality of Niagara, Ontario.

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

On July 24, 1788, Sir Guy Carleton, the Governor-General of British North America, divided the Province of Québec into the administrative districts of Hesse, Nassau, Mecklenburg, and Lunenburg (Archives of Ontario, 2012-2024). Further change came in December 1791 when the former Province of Québec was rearranged into Upper Canada and Lower Canada under the provisions of the Constitutional Act. Colonel John Graves Simcoe was appointed as Lieutenant-Governor of Upper Canada and he spearheaded several initiatives to populate the province including the establishment of shoreline communities with effective transportation links between them (Coyne, 1895).

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

Later that year, the four districts originally established in 1788 were renamed the Western, Home, Midland, and Eastern Districts. As population levels in Upper Canada increased, smaller and more manageable administrative bodies were needed resulting in the establishment of many new counties and townships. As part of this realignment, the boundaries of the Home and Western Districts were shifted and the London and Niagara Districts were established. Under this new territorial arrangement, the Study Area became part of the Niagara District (Archives of Ontario, 2012-2024). In 1845, after years of increasing settlement that began after the War of 1812, the southern portion of Lincoln County was severed to form Welland County, of which Humberstone Township was a part. The two counties would be amalgamated once again in 1970 to form the Regional Municipality of Niagara.

Humberstone Township was settled in 1785. In 1817 it featured 75 inhabited houses, a grist mill, and a sawmill. By 1850 the number of inhabited houses had increased to 279, and the population to 2,377 inhabitants. At this time, the township also contained a grist mill, three sawmills, a foundry, two churches, and eight public schools. The township continued to grow throughout the 19th century. By 1875, the population had increased to 3,200 (Page, 1876).

The *Illustrated Historical Atlas of the Counties of Lincoln and Welland* ('*Historical Atlas*'), demonstrates the extent to which Humberstone Township had been settled by 1876 (Page, 1876). Landowners are listed for most of the lots within the township, many of which had been subdivided multiple times into smaller parcels to accommodate an increasing population throughout the late 19th century. Structures and orchards are prevalent throughout the township.

According to the *Historical Atlas* map of Humberstone Township, the Study Area is located in the southeastern corner of Lot 19 Concession 1. The Lot is owned in its entirety by Nicholas Weaver (Figure 2). The Grand Trunk Railway passes within 1.5 km of the Study Area to the north. Various other railways crisscross the township, including the Canadian Southern Railway further to the north of the Study Area. The historic community of Port Colborne is visible 3 kilometres ('km') to the west of the Study Area, towards the western edge of the township.

Significant and detailed landowner information is available on the current *Historical Atlas* map of Humberstone Township; however, 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 & Head, 1984).

1.3 Archaeological Context

1.3.1 Property Description and Physical Setting

The Study Area comprises an irregular-shaped parcel that fronts onto Firelane 1 and measures approximately 1.43 hectares ('ha'). The Study Area is bound by Firelane 1 to the North, Weaver Road to the east, one residential property to the west, and Lake Erie to the south. At the time of assessment, the Study Area included one residential property fronting on Firelane 1, featuring a manicured lawn with several large trees, a house, a sand volleyball court, a driveway, an inground pool, a shed, a beachfront, a section of Lake Erie, and a tributary of the Niagara River. Near the opening of the gravel driveway, to the east, is a small paved area. The gravel driveway leads from Firelane 1 to the house, inground pool, and shed which are at the highest point of the property, surrounded by steep downward slopes to the east and south of these features. The slope forms an upside-down sickle-like shape around these features. The southern slope below the house contains large rocks, likely in place for erosion control. The tributary cuts into the southeastern corner of the Study Area. The southern edge of the Study Area comprises sandy shores which lead into Lake Erie. A portion of Lake Erie in included in the Study Area. (Figure 3).

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

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

Haldimand Clay is slowly permeable, imperfectly drained with medium to high water-holding capacities. Surface runoff is usually rapid, but water retention of the clayey soils can cause it to be droughty during dry periods (Kingston & Presant, 1989). According to Chapman and Putnam,

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

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

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

The closest source of potable water is Lake Erie which is located within the southern portion of the Study Area.

1.3.2 Pre-Contact Indigenous Land Use

This portion of southern 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 Humberstone Township (Ellis & Ferris, 1990).

Table 1: Cultural Chronology for Humberstone 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

Time Period	Cultural Period	Comments
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 MCM were consulted. In Ontario, information concerning archaeological sites stored in the ASDB (Government of Ontario, n.d.) is maintained by the MCM. 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 13 kilometres ('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 lies within block AfGt.

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 MCM 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, one pre-contact Indigenous archaeological site has been registered within a 1km radius of the Study Area (Table 2).

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

Borden Number	Site Name	Time Period	Affinity	Site Type
AfGt-311	-	Pre-Contact	Indigenous	camp / campsite

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

1.3.4 Archaeological Potential

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

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

- Primary water sources, lakes, rivers, streams, creeks;
- secondary water sources, intermittent streams and creeks, springs, marshes and swamps;
- past water sources, glacial lake shorelines, relic river or stream channels, cobble beaches, shorelines of drained lakes or marshes; and

- accessible or inaccessible shorelines, high bluffs, swamp or marshy lake edges, sandbars stretching into marsh.

As was discussed above, the closest source of potable water is Lake Erie which is located within the southern portion of the Study Area.

Soil texture is also an important determinant of past settlement, usually in combination with other factors such as topography. The Study Area is situated within the Haldimand Clay Plain physiographic region. As was discussed earlier, the soils within this region are imperfectly drained, but suitable for pre-contact and post contact Indigenous agricultural. Considering also the length of occupation of Humberstone Township prior to the arrival of Euro-Canadian settlers, as evidenced by the one pre-contact Indigenous site registered within 1km, the pre-contact and post-contact Indigenous 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* from 1876 shows the Study Area in close proximity to historical infrastructure, including Grand Trunk Railway. Considering the location of the Study Area near to Port Colborne, the potential for post-contact Euro-Canadian archaeological resources is judged to be moderate to high. Additionally, Detritus reviewed the *Niagara Region Archaeological Management Plan* (Niagara Region, 2023) which indicates that portions of the Study Area retain archaeological potential.

Finally, 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). Aerial imagery identified a possible disturbance area within the Study Area in the form of a house, driveway, inground pool, shed and small paved area. It is recommended that these potential disturbances be subject to a Stage 2 property inspection to confirm the limits of the disturbance. Detritus determined that the remainder of the Study Area, including the manicured lawns with trees and beachfront, demonstrated the potential for the recovery of pre-contact Indigenous, post-contact Indigenous, and Euro-Canadian archaeological resources, and were recommended for Stage 2 assessment.

2.0 Field Methods

The Stage 2 assessment of the Study Area was conducted on July 19th and 30th, 2024, under archaeological consulting license P389 issued to Mr. Walter McCall by the MCM. The limits of the Study Area were established in the field using a georeferenced shapefile produced using QGIS and uploaded to a hand-held GPS device running Qfield. Buried utility locates were obtained prior to initiating fieldwork.

During the Stage 2 assessment conditions were excellent and at no time were the field, weather, or lighting conditions detrimental to the recovery of archaeological material as per Section 2.1, Standard 3 of the *Standards and Guidelines* (Government of Ontario, 2011). Table 3 provides a summary of the weather and field conditions during the Stage 2 archaeological assessment. Photos 1 to 22 demonstrate the land conditions at the time of the survey throughout the Study Area, including areas that met the requirements for a Stage 2 archaeological assessment, as per Section 7.8.6, Standards 1a of the *Standards and Guidelines* (Government of Ontario, 2011). Figure 3 illustrates the Stage 2 assessment methods, as well as photograph locations and directions all in relation to the proposed development of the Study Area. First Nations Representative joined Detritus on site during the Stage 2 Assessment (see Supplementary Documentation for further details regarding Indigenous Engagement).

Table 3: Field and Weather Conditions

Date	Activity	Weather	Field Conditions
July 19, 2024	test pit survey and photo documentation	Sunny	soil dry
July 30, 2024	test pit survey and photo documentation	Sunny, humid, 25°C (feels like 35°C)	soil dry and screens easily

The Stage 2 field assessment began with a property inspection conducted as per Section 2.1.8, of the *Standards and Guidelines* (Government of Ontario, 2011). According to the results of this inspection, approximately 14% of the Study Area comprised the possible disturbance areas identified on the current aerial imagery (see Section 1.3.4 above). The disturbed areas, which includes the house, driveway, inground pool, sheds, and small paved area, 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).

The Stage 2 property inspection revealed 13% (0.20 ha) of the Study Area consisted of a steeply sloping area surrounding the house, inground pool, and shed, roughly in the centre of the Study Area (Photos 3 to 6). This area was evaluated as having no potential for archaeological resources due to the identification of a physical feature of low archaeological potential, in this case a steeply sloped area greater than 20° as per Section 2.1, Standard 2.a(iii) of the *Standards and Guidelines* (Government of Ontario, 2011). The areas of previous disturbance and slope observed within the Study Area were mapped and photo documented in accordance with Section 2.1, Standard 6 and Section 7.8.1, Standard 1b of the *Standards and Guidelines* (Government of Ontario, 2011).

Approximately 25% of the Study Area comprised the open water of Lake Erie, within the entirety of the southern edge of the Study Area, and a small tributary from the Niagara River located on the southeastern edge of the Study Area (Photos 7, 8, 12). The open water of Lake Erie and the tributary could not be evaluated as this is a marine feature. There is a separate process for marine archaeological assessment. There is a checklist provided by the MCM to ensure marine concerns are not overlooked. This can be consulted in order to determine whether or not a marine archaeological assessment of this waterbody is required.

Approximately 48% (0.69 ha) of the Study Area comprised the manicured lawns with trees and beachfront area that were deemed inaccessible to ploughing. These areas were subject to a typical test pit survey at five-metre intervals in accordance with Section 2.1.2 of the *Standards and Guidelines* (Government of Ontario, 2011; Photos 1-3, 6, 8-12, 14, 17-20) The test pit survey was conducted to within 1m of the built structures or until test pits show evidence of recent ground disturbance, as per Section 2.1.2, Standard 4 of the *Standards and Guidelines* (Government of

Ontario, 2011). 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.

The test pits ranged in total depth from 30cm to 110cm and featured mostly light grey sand with bands of dark sand throughout (topsoil) above a dark brown sand subsoil with river rocks within the beachfront (Photo 21) and a light brown topsoil mixed with rocks and gravel over a sandy subsoil within the manicured lawn (Photo 22). Considering that each test pit was excavated 5cm into sterile subsoil, the observed topsoil layer ranged in depth from 25cm to 105cm. All soil was checked for stratigraphy and screened through six-millimetre mesh hardware cloth to facilitate the recovery of small artifacts, and then the screened material used to backfill the pit as per Section 2.1.2, Standards 7 and 9 of the *Standards and Guidelines* (Government of Ontario, 2011).

No artifacts were encountered during the test pit survey; therefore, no further survey methods were employed.

3.0 Record of Finds

The Stage 2 archaeological assessment was conducted employing the methods described in Section 2.0. 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	Additional Comments
1 Page of Field Notes	Detritus office	Stored digitally in project file
1 Map provided by the Proponent	Detritus office	Stored digitally in project file
1 Field Maps	Detritus office	Stored digitally in project file
31 Digital Photographs	Detritus office	Stored digitally in project file

No archaeological resources were identified within the Study Area during the Stage 2 assessment; therefore, no artifacts were collected. As a result, no storage arrangements were required.

4.0 Analysis and Conclusions

Detritus was retained by the Proponent to conduct a Stage 1-2 archaeological assessment in advance of future development on the property at 1433 Firelane 1, Port Colborne.

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. This research also indicated that the Study Area is located within an area of archaeological potential, as indicated by the Niagara Region Archaeological Management Plan (Niagara Region, 2021). Therefore, a Stage 2 Property Assessment was recommended for the Study Area.

The subsequent Stage 2 field assessment of the Study Area was conducted on July 19th and 30th, 2024. This investigation began with a property inspection, conducted according to Section 2.1.8, which is informed by Section 1.2 of the *Standards and Guidelines* (Government of Ontario, 2011). The inspection revealed that the house, driveway, inground pool, and shed retained no, or low, archaeological 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). The property inspection also revealed that a portion of the Study consisted of a steeply sloping area surrounding the house, shed, and inground pool to the east and south, which was evaluated as having no potential for archaeological resources. The previously disturbed and sloped areas, as confirmed during a Stage 2 property inspection, were mapped and photo documented only in accordance with Section 2.1, Standard 6, and Section 7.8.1, Standards 1a and 1b of the *Standards and Guidelines* (Government of Ontario, 2011).

The open water of Lake Erie visible in the aerial imagery could not be evaluated as this is a marine feature. There is a separate process for marine archaeological assessment. There is a checklist provided by the MCM to ensure marine concerns are not overlooked. This can be consulted in order to determine whether or not a marine archaeological assessment of this waterbody is required.

The remainder of the Study Area comprised the manicured lawns with trees and the sandy beachfront , which were assessed by means of a typical test pit survey at 5m intervals. No archaeological resources were observed.

5.0 Recommendations

Given the results of the Stage 2 investigation and the identification and documentation of no archaeological resources, **no further archaeological assessment of the Study Area is recommended.**

6.0 Advice on Compliance with Legislation

This report is submitted to the Minister Citizenship and Multiculturalism 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 Citizenship and Multiculturalism, 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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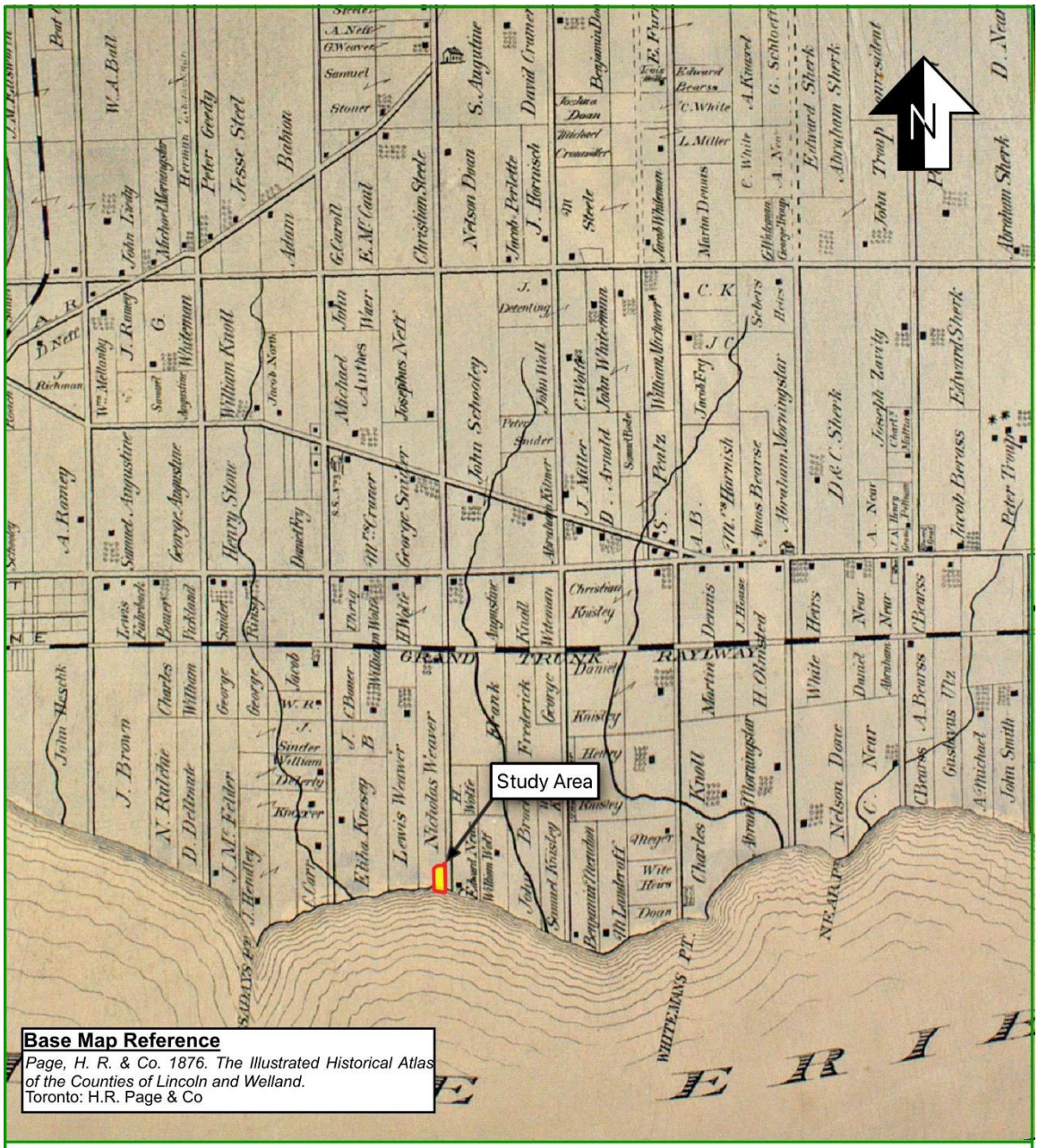
8.0 Maps

Figure 1: Study Area Location

Figure 2: Historic Map Showing Study Area Location



Not to Scale

Figure 2: Portion of H. R. Page & Co. 1876 Historical Atlas map of Humberstone Township

Figure 3: Stage 2 Field Methods Map

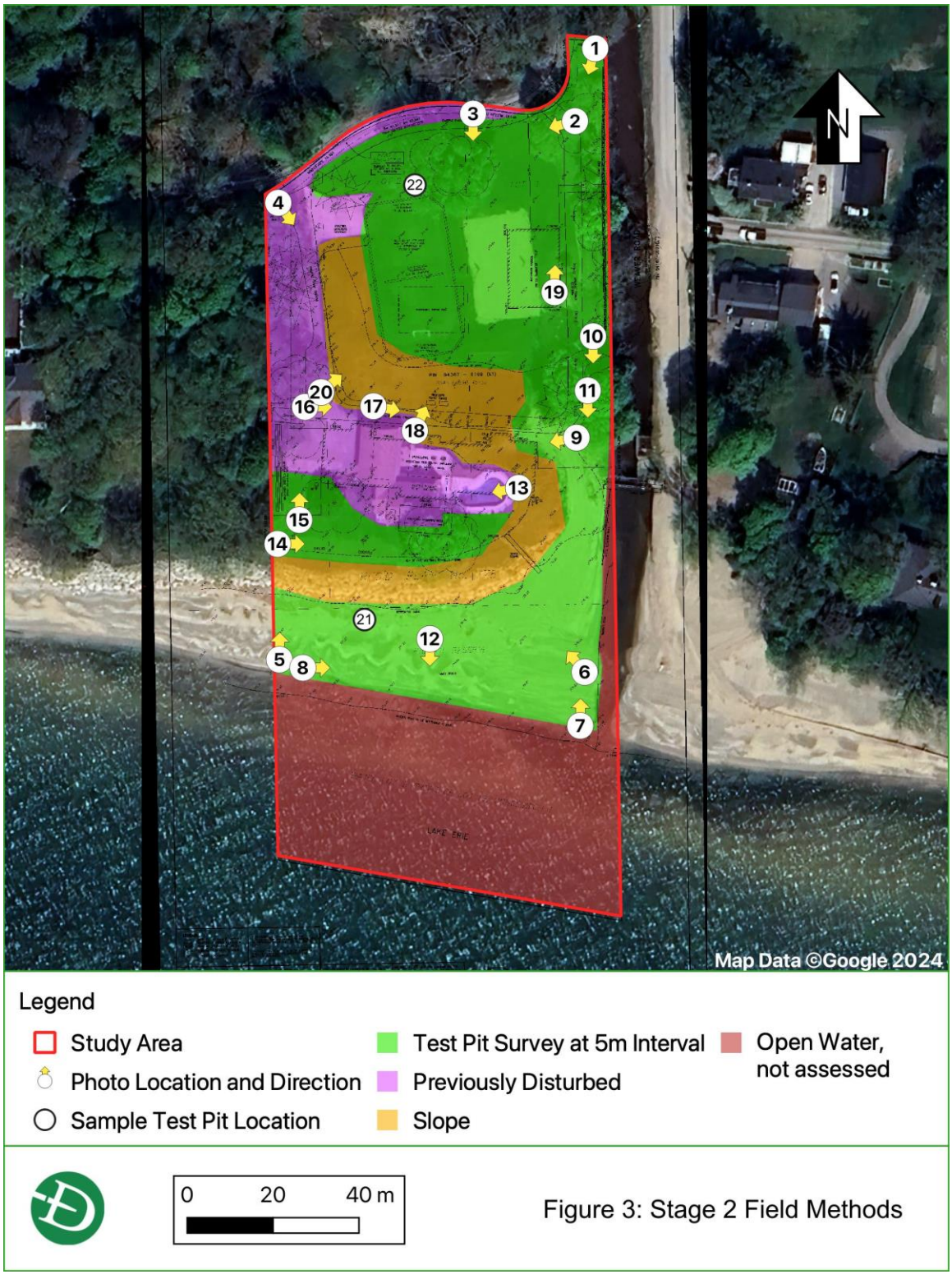
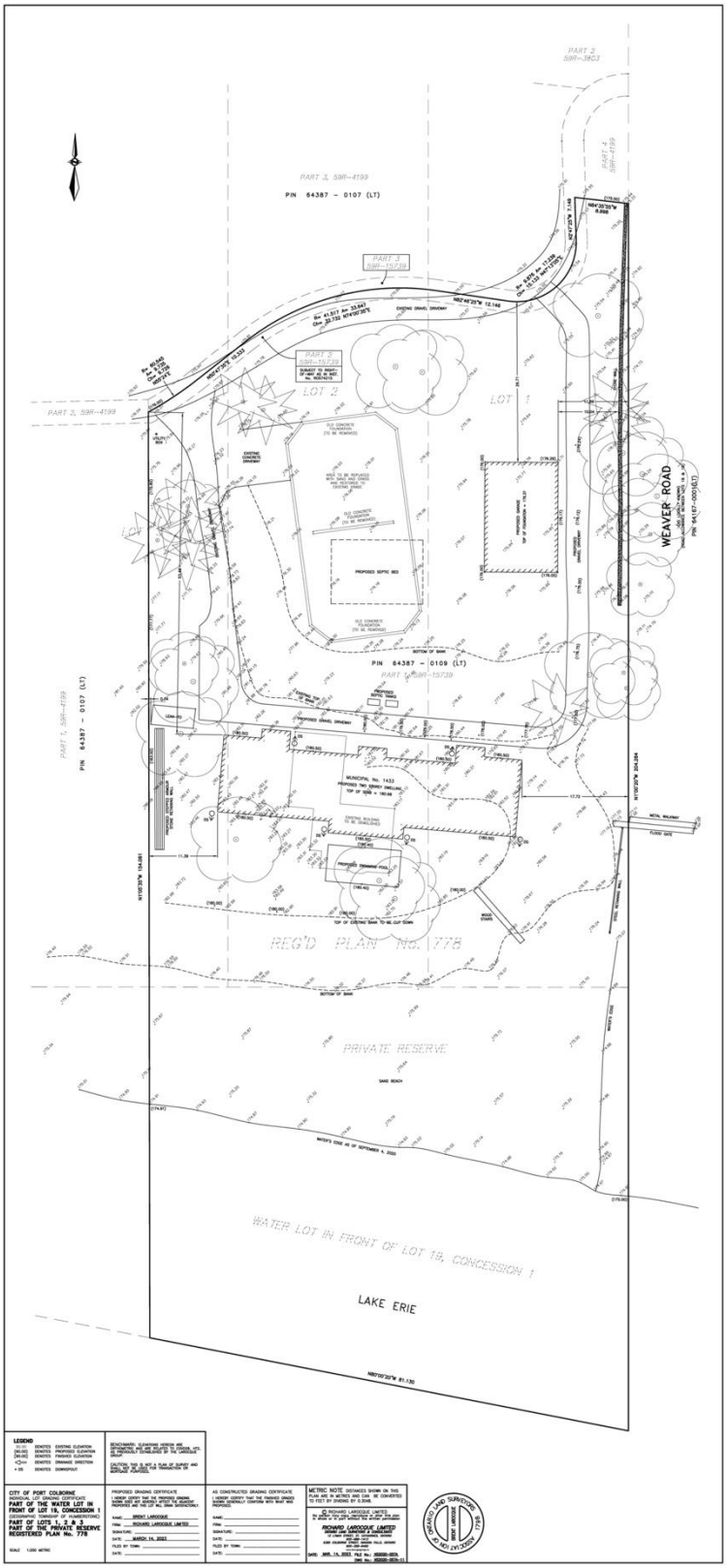


Figure 4: Development Plan



9.0 Images

9.1 Field Photos

Photo 1: Manicured Lawn with Trees, Test Pit Surveyed at 5m Intervals, northeast corner looking south

Photo 2: Manicured lawn with trees along Firelane 1, Test Pit Surveyed at 5m Intervals, looking west

Photo 3: Manicured lawn, Test Pit Surveyed at 5m Intervals, and Slope, looking south

Photo 4: Gravel driveway and small paved area, Previously Disturbed, and Slope, northwest corner looking southeast

Photo 5: Retaining wall of southern slope, Previously Disturbed, southwest corner of beach looking north

Photo 6: Beachfront, Test Pit Surveyed at 5m Intervals, and Slope, work photo looking northeast

Photo 7: Open Water Tributary, southeast corner of beachfront looking north

Photo 8: Beachfront, Test Pit Surveyed at 5m Intervals, Lake Erie, Open Water, southwest corner looking east

Photo 9: Manicured lawn and sand, Test Pit Surveyed at 5m Intervals, and house, Previously Disturbed looking west

Photo 10: Cluster of Trees on Eastern Edge of Study Area, Test Pit Surveyed at 5m Intervals, looking south

Photo 11: Cluster of Trees on Eastern Edge of Study Area, Test Pit Surveyed at 5m Intervals, looking south

Photo 12: Beachfront, Test Pit Surveyed at 5m Intervals, and Lake Erie, Open Water, looking south

Photo 13: House and Inground Pool, Previously Disturbed, looking west

Photo 14: House, Previously Disturbed, and Manicured Lawn, Test Pit Surveyed at 5m Intervals, looking east

Photo 15: Gravel Driveway, Previously Disturbed, looking north

Photo 16: Gravel Driveway and House, Previously Disturbed, looking east

Photo 17: Manicured lawn, Test Pit Surveyed at 5m Intervals, and Inground Pool and Small Paved Area, Previously Disturbed, looking east

Photo 18: Manicured Lawn and Beach Volleyball Court, Test Pit Surveyed at 5m Intervals, looking north

Photo 19: Manicured Lawn and Beach Volleyball Court, Test Pit Surveyed at 5m Intervals, work photo looking north

Photo 20: Manicured lawn, Test Pit Surveyed at 5m Intervals, work photo looking northeast

Photo 21: Sample Test Pit from Beachfront

Photo 22: Sample Test Pit from Manicured Lawn