



## ORIGINAL REPORT

### Stage 2 Archaeological Assessment

Phase A – Long Sault Yard  
Highway 401 @ County Road 15  
Part Lots 31, 32, 33, 34, 35, 36, 37, 38 Concession 5  
Former Geographic Township of Cornwall  
South Stormont Township  
United Counties of Stormont, Dundas, and Glengarry  
Long Sault, Ontario

### Prepared For

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Report: MH1059-REP.01

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## **1.0 Executive Summary**

Matrix Heritage was contracted by Avenue 31 Capital Inc. (Avenue 31) to conduct a Stage 2 archaeological assessment of Phase A of the Long Sault Yard development on part of Lots 31, 32, 33, 34, 35, 36, 37, and 38, Concession 5 in the former geographic township of Cornwall (now South Stormont), United Counties of Stormont, Dundas, and Glengarry, Ontario (Map 1). Avenue 31 is planning to develop the property for industrial use through various phases (Map 2). This archaeological assessment was required by the township of South Stormont to fulfill requirements of the Provincial Policy Statement under the Planning Act.

The previous Stage 1 assessment of the entire development area determined portions of the Phase A study area have both pre-contact Indigenous as well as historical Euro-Canadian archaeological potential (Map 3) (Matrix Heritage 2021). This includes factors such as known 19<sup>th</sup>-century historical settlement in the immediate area, the proximity of historic road networks, and water sources.

Given the high rock content of the Phase A study area, forest cover, and overgrown nature of former fields, the Stage 2 archaeological assessment involved subsurface testing consisting of hand excavated test pits at 5 m intervals across areas with archaeological potential as per Standards 1.a., 1.b., and 1.c., Section 2.1.2 (MHSCTI 2001). Large portions of the study area were found to be visually suitable for Stage 2 shovel testing, but upon attempted testing were in fact found to be saturated boggy areas that are permanently wet and of low potential. These areas were therefore excluded from assessment as per Standard 2.a.i, Section 2.1.

The fieldwork was undertaken on November 16 and 23, 2021. Weather conditions were partially sunny with temperatures ranging from -2 to 5° Celsius. The Stage 2 archaeological assessment resulted in no indication of archaeological remains with cultural heritage value or interest within the proposed development area.

Based on the results of this investigation it is recommended that:

1. No further archaeological study is required for the subject property as delineated in Map 1.

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### **3.0 Project Personnel**

|                    |   |
|--------------------|---|
| Licensee           | Nadine Kopp, MA (P378)  |
| Field Director     | Andrea Jackson, MA (P1032)  |
| Field Crew         | Mallory Champagne<br>Carina Hochgeschurz<br>Caleigh Hartery<br>Alex Ailles<br>Natasha Dilkie<br>Ben Mahar |
| Report Preparation | Mercedes Hunter   |
| Archival Research  | Duncan Williams, MA (P1108)   |
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| Report Review      | Nadine Kopp, MA (P378)<br>Ben Mortimer, MA (P369)   |

## 4.0 Project Context

### 4.1 Development Context

Matrix Heritage was contracted by Avenue 31 Capital Inc. (Avenue 31) to conduct a Stage 2 archaeological assessment of Phase A of the Long Sault Yard development, on part of Lots 31, 32, 33, 34, 35, 36, 37, and 38, Concession 5 in the former geographic township of Cornwall (now South Stormont), United Counties of Stormont, Dundas, and Glengarry, Ontario (Map 1). Avenue 31 is planning multiple phases of industrial develop in the coming years and this Stage 2 assessment process was completed for Phase A (Map 2). This archaeological assessment was required by the township of South Stormont to fulfill requirements of the Provincial Policy Statement under the Planning Act. At the time of the archaeological assessment, the study area was owned by TPM Holdings Inc.

### 4.2 Historical Context

#### 4.2.1 Historic Documentation

There are a variety of published resources on the history and development of the former townships of Cornwall and Osnabruck. These include *Stormont, Dundas and Glengarry: A History: 1784-1945* (Harkness 1946), *Illustrated Historical Atlas of the Counties of Stormont, Dundas and Glengarry, Ontario* (Belden 1879), *The Mission of Cornwall, 1784-1812* (Young 1929), and *From Royal Township to industrial City: Cornwall 1784-1984* (Senior 1983).

#### 4.2.2 Pre-Contact Period

The St. Lawrence Valley was not hospitable to human occupation until the retreat of glaciers and the draining of the Champlain Sea, some 10,000 years ago. The Laurentide Ice Sheet of the Wisconsinian glacier blanketed the Cornwall area until about 11,000 B.P. At this time the receding glacial terminus was moving north, and water from the Atlantic Ocean flooded the region to create the Champlain Sea. The Champlain Sea encompassed the lowlands of Quebec on the north shore of the Ottawa River and most of Ontario east of Petawawa, including the Ottawa Valley and Rideau Lakes. However, by 10,000 B.P. the Champlain Sea was receding and within 1,000 years was gone from Eastern Ontario (Watson 1990:9).

By circa 11,000 B.P., when the area was emerging from glaciations and being flooded by the Champlain Sea, northeastern North America was home to what are commonly referred to as the Paleo-Indian people. For Ontario the Paleo-Indian period is been divided into the Early Paleo-Indian period (11,000 - 10,400 B.P.) and the Late Paleo-Indian period (10,500-9,400 B.P.) based on changes in tool technology (Ellis and Deller 1990). The Paleo people, who had moved into hospitable areas of southwest Ontario (Ellis and Deller 1990), likely consisted of small groups of exogamous hunter-gatherers relying on a variety of plants and animals who ranged over large territories (Jamieson 1999). The few possible Paleo-Indian period artifacts found, as surface finds or poorly documented finds, in the broader region are from the Rideau Lakes area (Watson 1990) and Thompson's Island near Cornwall (Ritchie 1969:18). In comparison, little evidence exists for Paleo-Indian occupations in the immediate area, as can be expected given the environmental changes the region underwent, and the recent exposure of the area from glaciations and sea.

As the climate continued to warm, the ice sheet receded further allowing areas of the St. Lawrence Valley near Cornwall to be travelled and occupied in what is known as the Archaic Period (9,500 – 2,900 B.P.). This period is generally characterized by increasing populations, developments in lithic technology (e.g., ground stone tools), and emerging trade networks.

Archaic populations remained hunter-gatherers with an increasing emphasis on fishing. Sites from this period in the region are few, but include the Ault Park site (BgFr-1) 12 km west of Cornwall near Long Sault (Spence et al. 1990:163), and the Lamoureaux site (BiFs-2) in the floodplain of the South Nation River (Clermont 1999).

The Woodland Period in Ontario is characterized by the introduction of ceramics. Populations continued to participate in extensive trade networks that extended across much of North America. Social structure appears to have become increasingly complex with some status differentiation recognized in burials. Towards the end of this period domesticated plants were gradually introduced to the region. This coincided with other changes including the development of semi-permanent villages. The Woodland period is commonly divided into the Early Woodland (1000 – 300 B.C.), Middle Woodland (400 B.C. to A.D. 1000), and the Late Woodland (A.D. 900 – European Contact) periods.

The Early Woodland is typically noted via lithic point styles (i.e., Meadowood bifaces) and pottery types (i.e., Vinette I). Early Woodland sites in the region include the Ault Park site (BgFr-1), and the Long Sault Mound (Spence et al. 1990:141). The Middle Woodland period is identified primarily via changes in pottery style (e.g., the addition of decoration). Some of the best documented Middle Woodland Period sites from the region includes, again, the Ault Park site (BgFr-1), where the Middle Woodland component is dominant (Spence et al. 1990:163).

The identification of pottery traditions or complexes (Laurel, Point Peninsula, Saugeen) within the Northeast Middle Woodland, the identifiers for the temporal and social organizational changes signifying a Late Woodland Period, subsequent phases within in the Late Woodland, and the overall 'simple' culture history model assumed for Ontario at this time (e.g., Ritchie 1969; Wright 1966, 2004) are much debated in light of newer evidence and improved interpretive models (Engelbrecht 1999; Ferris 1999; Hart 2011; Hart and Brumbach 2003, 2005, 2009; Hart and Engelbrecht 2011; Martin 2008; Mortimer 2012). Thus, the shift into the period held as the Late Woodland is not well defined. There are general trends for increasingly sedentary populations, the gradual introduction of agriculture, and changing pottery and lithic styles. However, nearing the time of contact, Ontario was populated with somewhat distinct regional populations that broadly shared many traits. In the southwest, in good cropland areas, groups were practicing corn-bean-squash agriculture in semi-permanent, often palisaded villages which are commonly assigned to Iroquoian peoples (Wright 2004:1297-1304). On the shield and in other non-arable environments, there seems to remain a less sedentary lifestyle often associated with the Algonquian groups noted at contact (Wright 2004:1485-1486).

In the vicinity of the study area, the latter portion of the Late Woodland period is highlighted by the development of the St. Lawrence Iroquoians. Their settlement area has been divided into a variety of clusters (largely based on pottery types) along the St. Lawrence River (Jamieson 1990). St. Lawrence Iroquoians were the first Iroquoian people to be contacted by Europeans, when Jacques Cartier encountered villages around Québec City and Montréal. It is thought that these groups represented two different confederacies (Wright 2004:1235-1298). A few decades later, they had disappeared with various branches likely being subsumed by the more powerful Huron-Petun (Wendat-Tionontate) or Five Nations (Haudenosaunee) Iroquoian confederacies and others incorporated into Algonquian groups in the Ottawa Valley or further east (Wabanaki) (Warrick 2008:203).

#### 4.2.3 Post-Contact Period

European contact with aboriginal peoples along the St. Lawrence River began with the visits of Jacques Cartier in 1534. The following year, he travelled upriver as far as Montreal. Here, he encountered the permanent St. Lawrence Iroquois settlements of Stadacona and Hochelaga

near present-day Quebec City and Montreal, respectively. Cartier's accounts of the St. Lawrence Iroquois are the only that exist of these people at the time of contact, as by the time of Samuel de Champlain's 1603 voyage, these people had disappeared and instead Algonquian-speaking peoples occupied the area (Jamieson 1990:385). Trading between the French and Indigenous occupants of the area was minimal in the 16<sup>th</sup> century as the French determined that the country had little to offer Europe, and trade in furs was not viable until the end of the 16<sup>th</sup> century. It was not until 1599, when the king of France authorized the colonization of New France, and Champlain's 1603 voyage that permanent French-Indigenous relations were established (Heidenreich 1990:480-483).

Although the French exerted some influence in the study area through the 17<sup>th</sup> and 18<sup>th</sup> centuries, with permanent settlements established to the east and west on the Island of Montreal and Cataraqui (present day Kingston), permanent European settlement did not occur until the end of the 18<sup>th</sup> century. Despite having gained control of Canada at the end of the Seven Years' War (1754–1763), the British did not express interest in establishing settlements until the end of the American Revolution, when United Empire Loyalists left the newly established Republic.

The Governor of Quebec, General Frederick Haldimand, made lands available for settlement for the Loyalists in what would become Upper Canada. In 1783, Captain William Redford Crawford negotiated an agreement that surrendered lands that extended west along the north shore of the St. Lawrence River and Lake Ontario from the Mississauga, whom the British believed to be the sole First Nation peoples in the area, to the British crown. This became known as the 'Crawford Purchase'. In 1784, Major Samuel Holland, Surveyor General for Canada surveyed the new lands.

The original plan of settlement was to extend the *seigneurial* system of the old Province of Quebec westward from the seigneurie of Longeuil (the most westerly of established seigneuries in Quebec). Two ranges of townships were laid out. The first nine townships west of Longeuil were known as the Royal Townships and extended to Cataraqui (Kingston). The next five townships, known as the Cataraqui Townships extended to the Bay of Quinte. Townships were divided into concessions and laid out into 200 acre lots. The original townships were numbered as they were to be a part of the Quebec seigneurial system. Not long after settling in these new townships, the Loyalists petitioned the Crown to establish a British form of land tenure and law, as there was a good deal of resistance to French custom and law in the newly settled areas (Craig 1963:4-9).

Upon their arrival, Loyalists drew their lots for their free land grants. The 1783 Royal Instructions granted 100 acres to every "Master of a Family", plus an additional 50 acres for each other member. Military claimants were granted from 200 acres for a private, rising from there up to 5,000 acres for a field officer. In 1789, the Dorchester Resolution allowed for the disbursement of 200 acres to be extended to the sons and daughters of the original United Empire Loyalists. Lots fronting on the St. Lawrence were granted first and were usually not more than 200 acres, meaning higher ranking officers would select their further grants in the rear of the townships, often quite distant from their first. Likewise, the grants to children of Loyalists were in the rear of townships or townships further inland (Moorman 1997:11-20). As a result, the entire riverfront within the newly surveyed Townships of Lancaster, Charlottenburgh, Cornwall, Osnabruck, Williamsburg, Matilda, Edwardsburgh, Augusta, and Elizabethtown (the Royal Townships) was settled almost simultaneously, while the rear lots of the township and other townships were granted but not always settled. Generally, Scots were placed in the eastern townships and the western townships were comprised mostly of German immigrants.

The area had been part of the Montreal District until 1788, when Lord Dorchester, Sir Guy Carleton formed new four districts west of Montreal. From east to west these were Lunenburg,

Mecklenburg, Nassau, and Hesse, reflecting the German origins of the Royal family and the many Germans among the Loyalists. The future counties of Stormont, Dundas and Glengarry became affiliated with the most eastern district of Lunenburg, which extended from the eastern edge of Lancaster Township, the first of the Royal Townships, to just below present-day Kingston (Harkness, 1846). By 1788, the numbered Royal Townships were named for some of the fifteen children of King George III (1760-1820). The Township of Osnabruck was named after a title formerly held by Prince Frederick, who at one time was Prince-Bishop of Osnabrück in Lower Saxony, and Cornwall was named for Prince Frederick's title as Duke of Cornwall. With the Canada Act of 1791 that divided Quebec into Upper and Lower Canada, Colonel John Graves Simcoe, first Lieutenant-Governor of Upper Canada, established the original 19 counties.

The town of Cornwall, originally named New Johnstown, was settled in June 1784 by Lieutenant-Colonel Sir John Johnson and the First Battalion King's Royal Regiment of New York, a contingent of the Royal Highland Emigrants (84<sup>th</sup>), and their families (Senior 1983:7). Sir John Johnson and his men laid out a mile-square town plot in the centre of Township No. 2 (Royal Townships). The town's plan lay along the north shore of the St. Lawrence River between Maligne Grande Point and Maligne Petite Pointe, a bay that has since been filled in. A few miles downriver, the St. Lawrence widened into what was known as Lake St. Francis, while upriver lay the most perilous of the rapids of the St. Lawrence River, the Long Sault. Cornwall was located at a strategic place along the St. Lawrence for fur traders and military personnel moving from Montreal to Oswegatchie (present day Ogdensburg, New York), Catarauqui (Kingston), Niagara, or the Upper Lakes (Senior 1983:20-21). By October 1784, the muster returns show that within Royal Township No. 2 there were 215 men, 87 women, and 214 children. It is likely that only 99 people were actually living on their land at this point. These same musters show that the Catarauqui Township No 1, in which the town site of Catarauqui was located, had a total of 220 settlers. While the town site of Catarauqui soon had substantial homes with neatly fenced gardens, the town site of New Johnstown failed to attract settlers (Senior 1983:33, 47).

The town of New Johnstown quickly adopted the name Cornwall. The town did not fall into obscurity as other town sites prospered, since Cornwall was an important transshipment location at the east end of the Long Sault Rapids. Travellers moving along the St. Lawrence River were forced to disembark from their vessels and go by foot through the town while their bateaux were dragged over the rapids. At first, these travellers stayed overnight with welcoming farmers, but several inns and taverns gradually developed. By 1792, the town had a small Presbyterian log church, an Episcopalian parsonage house, a school, a medical doctor, and the King's stores, located at present day Water Street at the foot of Pitt Street (Senior 1983:72-73). By the early 1800s Cornwall had sixty-six families, totalling 397 people, living in thirty-two houses. The township itself had a population of 1080 living in 91 houses, making a total of 1,477 in the town and township by 1804 (Senior 1983:74).

Prior to the War of 1812, a garrison of the Second Battalion of the Royal Canadian Volunteer Regiment of Foot was stationed at Cornwall. With the outbreak of war in 1812, Cornwall served as a communications link between Upper and Lower Canada. Cornwall lay very near to the Battle of Crysler's Farm (November 11, 1813) in which the British and Canadian force won against the Americans who greatly outnumbered them. The morning after the battle the American flotilla passed by Cornwall on its way to Montreal. The residents had evacuated the town while the Glengarry and Stormont militia conveyed the depot's supplies to the base at Coteau-du-Lac. The American army occupied the empty town for several days before a decision was made to suspend the attack on Montreal (Senior 1983:106-108).

By 1816, the population of the town of Cornwall had reached 500. The population and economic expansion of the town changed little from 1816 to the 1840s with the opening of the Cornwall Canal (Senior 1983:116). The Cornwall Canal was built between 1834 and 1842 in order to

bypass the Long Sault rapids. It was 11 miles long and 9 feet deep. The canal accelerated the development of the town into an industrial centre. Flour, paper, and textile mills set up operations in the town. The canal was enlarged beginning in 1876 to 1904 to allow for larger ships to pass up the St. Lawrence River. While the town had previously been largely inhabited by British descendants, the industrialization of the town changed to include a large French-Canadian element, increasing the town's population to 4,468 by 1881 (Senior 1983:7).

The village of Moulinette was located just to the south of the study area on the banks of the St. Lawrence River and Cornwall Canal (built between 1834 and 1843). As with other villages in the area, it was settled by United Empire Loyalists. One of the most notable early occupants was Adam Dixson, who successfully established a grist mill by damming a portion of the river between the mainland and Sheek's Island. By the 1840s, the village had 100 residents and a variety of businesses (Danileyko 2020). The 1879 historical atlas states that the village had about 200 occupants and possessed a "singularly neat and inviting appearance", noting that it contained several stores, mechanics' shops, churches, and attractive private residences (Belden 1879:v).

By the early 20<sup>th</sup> century, a railway station along the Grand Trunk Railway was established at Moulinette. The village continued to be an important strip community located along Highway 2 and the Cornwall Canal and was a popular stopping point for tourists, as well as steamers travelling from Toronto to Montreal (Danileyko 2020). After decades of planning and international negotiation, construction of the St. Lawrence Seaway project began in the mid 1950s. The Seaway project was undertaken to expand the existing system of canals to allow for the passage of ocean-going vessels. As part of the project, nine communities now known as the Lost Villages (including Moulinette) were permanently flooded in 1958. Many of the residences and businesses of Moulinette were permanently relocated to the newly created town of Long Sault, some 2.5 km to the northwest. At the time of the relocation, Moulinette had a population of 311. In all, over 6,500 residents of the Lost Villages were relocated to the towns of Long Sault, Ingleside, and Iroquois. Large sections of highway and railway also had to be relocated.

#### 4.2.4 Study Area Specific History

The study area encompasses portions of eight different Lots (31-38) on Concession 5 in the former Cornwall Township, Stormont County. These are examined individually below.

##### **Lot 31, Concession 5**

The study area encompasses a portion of the southern half of this lot. The land registry records for the lot are largely illegible but indicate that the entire lot was granted to Stephen and Ruth Brownell in 1824 (OLR). In 1861, Stephen Brownell willed the entire lot to Ann Brownell, who in turn sold it to Alexander G. Forsyth in 1881. Several other transactions occurred in the last couple decades of the 19<sup>th</sup> century resulting in the partitioning of the lot, but the names are mostly illegible. The 1862 Walling county atlas map (Walling 1862) is damaged in the northern half of the lot but indicates JE Dixson as the property owner (Map 4). The 1879 Belden map (Belden 1879) shows the property divided into 100-acre east and west halves with J. Dixon owning the west half and Mrs. Brownell the east (Map 4). There are no structures shown on the lot, though a structure is shown on the western edge of the adjacent Lot 30, immediately to the east of the study area.

##### **Lot 32, Concession 5**

The study area encompasses most of the northern  $\frac{3}{4}$  of this lot. The west half of the lot was patented to John Dixon in 1810 with the east half patented to [illegible] Dixon in 1803. The 1862 map shows A Barnhart occupying the property, with a structure in the southeast corner, outside the study area (Map 4). The northern half of the lot is obscured by damage to the map. The 1879

map shows the east half subdivided into 50-acre portions, with D Buckley occupying the northeast parcel and A Barnhart again on the southeast (Map 4). The same structure is shown in the southeast corner. S Moss is listed on the western half on the 1879 map (Map 4).

### **Lot 33, Concession 5**

The study area encompasses the northern  $\frac{3}{4}$  of this lot. The east half of this lot was patented to Daniel Sheets in 1836 and willed to George Sheets in 1847. The west half was patented to George Sheets in 1817. G Sheets is listed on the 1862 map with a structure in the southwest corner of the lot, outside the study area (Map 4). The northern half of the lot is obscured by damage to the map. Another structure appears to be present in the extreme southwest corner at a bifurcation in a stream draining into the South Raisin River. The 1879 map shows the entire 200 acres under the ownership of J. Harvey Fickes. No structures are shown on the map (Map 4).

### **Lot 34, Concession 5**

The study area encompasses the northern half of this lot. The entire lot was patented to Nicholas and Adam Mattice in 1808. It was subdivided through the 19<sup>th</sup> century but appears to have remained in the Mattice family well into the 20<sup>th</sup> century. The 1862 map indicates a Mattice on the property, but the given name is obscured by damage to the map on the northern portion of the lot (Map 4). Two structures are shown in the southeast corner, one of which is a schoolhouse. Both are outside the study area. A stream which drains into the South Raisin River enters the lot in the southeast corner and runs north-south through it. The 1879 map shows the stream in the same orientation. The lot is divided into two 100-acre portions on this map: Josh Mattice is listed on the west half, with E.D. Mattice on the east half (Map 4). A structure is shown on each half, further north than those depicted on the 1863 map but both still outside the study area.

### **Lot 35, Concession 5**

The study area encompasses most of the northern half of this lot. It was patented in 1797 to Philip Empey and Frederick Gore. Adam Mattice acquired the west half in 1810 and John Fyckes the east half in 1817. The east half remained with the Fyckes into the 20<sup>th</sup> century. The west half passed through various hands in the late 1820s, ending up with Gabriel Forrister in 1831. Forrister sold a small portion of the southeast corner of the west half (1.5 acres) to John Hogaboam in 1833, which then passed to William Fyckes in 1836. The rest of the west half remained with members of the Forristers until the end of the century. The 1862 map lists three names and associated structures at the far southern end of the lot, outside the study area: J.J. Fyckes, J.W. Forrister, and William Fyckes (Map 4). The northern portion is again obscured by damage. The 1879 map shows J.J. Fickes owning 100 acres on the east half of the lot with a structure on the southern end outside the study area (though north of the one shown on the 1862 map) (Map 4). J.W. Forrester is listed as owning 98.5 acres of the west half, with a structure on the southern portion (again outside the study area but further north than the earlier structure on the 1862 map). Finally, the small 1.5-acre parcel is shown in the extreme southwest corner with a structure.

### **Lot 36, Concession 5**

The study area encompasses most of the northern half of this lot. The west half was patented twice: first to Captain Patrick Daly in 1797, then to Joseph Brownell in 1808. The latter sold it to John Millross in 1809. The records quickly become illegible, but the property was subdivided several times throughout the 1840s. The east half was patented to Jacob Barnhart in 1822, who sold it to James Robertson in 1821. Robertson sold it to William Fyckes in 1836 and the property remained with the Fyckes through the end of the century. The 1862 map shows a tenant house in the southwest corner, outside the study area, with the name J. Roys (Map 4). Again, the northernmost portion of the lot is obscured on this map. The 1879 shows the property divided into several long narrow sections; there are no structures shown on the lot. From east to west,

the names listed are: W Fickes (80 acres), Geo Fickes (37 acres), W Roys (60 acres), and A Winters (23 acres) (Map 4).

### **Lot 37, Concession 5**

The study area encompasses the majority of the northern third of this lot. The entire lot was patented in 1797 to Captain Patrick Daly, then again to Joseph Brownell in 1803. The easternmost quarter (50 acres) was sold to John Millross in 1809, with the remaining 150 acres sold to Solomon Raymond in 1816. The configuration appears to have remained the same through the remainder of the 19<sup>th</sup> century, passing between members of the Raymond, Roys, Cass, Brownell, and Winters families. The 1862 map shows Wm Rookes (likely a tenant) with a structure in the far southeast corner, alongside E Cass' tenant house in the southwest corner (Map 4). Both structures are outside the study area. The 1879 map shows two structures in the same area: the western one is associated with Edward Cass who occupies a 150 acre parcel, while A Winters occupies the eastern 50 acres (Map 4).

### **Lot 38, Concession 5**

The study area encompasses only a very small sliver of the northeastern corner of this lot. The eastern half was patented to Aaron Welch in 1804. The next transaction is a sale to John Brossard in 1882. The property then passed back to Welch the following year, who sold it to John Murray. It remained in the Murray family into the 20<sup>th</sup> century. The 1862 shows the eastern half under the ownership of A Welch, with a structure at the far southern end (Map 4). An identical configuration is shown on the 1879 map (Map 4).

### **Summary**

In sum, despite being a rural area, the study properties were generally patented quite early (between 1797 and 1836, but typically in the first decade of the 19<sup>th</sup> century). Historical maps depict several structures on the lots of interest, but they all appear to have been situated at the far southern end of the lots, well outside the study area (Map 4). While most of the study area is obscured due to damage on the 1862 Walling map, the later Belden map (1879) supports the lack of early development in the northern portion of the lots. Topographic maps from the early 20<sup>th</sup> century confirm the lack of development in the northern portions of the lots (Map 4). There are several early transportation corridors close to the study area: one road between concessions runs approximately 150 m to the north (present-day County Road 29) with another some 300-400 m to the south (present-day County Road 36/Post Road). Another two roads border the eastern (County Road 15/Avonmore Road) and western (close to County Road 35/Moulinette Road) sides of the study area. All these roads appear on both the 1862 and 1879 historical maps. The village of Moulinette was located approximately two kilometers to the south; it was flooded during the creation of the St. Lawrence Seaway in 1958. A section of the Grand Trunk Railway (opened in 1855) also passed through Moulinette; it was relocated to the north during the flooding and today forms the southern boundary of the study area.

### 4.3 Archaeological Context

#### 4.3.1 Current Conditions

The Phase A study area is comprised of a 32.1 ha thin and long, roughly rectangular, strip located along the southern border of the original 277 ha Stage 1 area (Map 3) (Matrix Heritage 2021). The southern border of the property is demarcated by the Canadian National Railway line (Figure 1). The western border is formed by County Road 35 (Moulinette Road), the northern border by scrubland and the eastern border by County Road 15 (Avonmore Road). In the northeast corner of the property a winding narrow strip, that connects to Avonmore Rd. was also tested for a future access road.

Several creeks draining into the South Raisin River are present throughout the property (Figure 2, Figure 3). Large portions of the study area range from seasonally wet to permanently wet and marshy with standing water that is visible on aerial imagery (Map 5). Sections have been previously grubbed and are now scrubland. Historic aerial photos (Map 6) indicate that large portions of the study area had until recently been cleared as pasture but have since become overgrown scrubland or woodlots cleared through previous grubbing and logging activities. The study area is surrounded by wooded and agricultural areas to the north, east, and west, and the village of Long Sault to the south. Topography in the study area is generally flat and low-lying but rises to the east. There are elevated areas and steeper slopes in the eastern corner adjacent to the branches of the streams that protrude into the study area. There is also a distinct elevated terrace in the southeast corner (Figure 4) and another that is centrally located (Figure 5-Figure 7). The western half of the study area is a low-lying marshy/swampy area.

#### 4.3.2 Physiography

The study area is situated entirely within the Glengarry Till Plain (Chapman and Putnam 1984) (Map 7). This region between the Ottawa and St. Lawrence River watersheds is characterized by undulating low topographic relief. A variety of moraine ridges and drumlins are present with swamps and low-lying clayey areas interspersed. The Lancaster Flats region is located approximately 10 km to the east and the Winchester Clay Plain region 25 km to the west.

There are two soil types present in the study area (Map 7). The vast majority is made up of the Eamer series, which is a well-draining, slightly stony loamy soil developed on nearly level topography (Land Information Ontario 2012). This type is present throughout much of the central and eastern portions of the study area. A swath of North Gower series is present in the southwest corner. This type is a poorly draining, non-stony clay loam developed on nearly level topography. An eroded channel with variable textured soils is also present in the southwestern portion of the study area.

The surficial geology (Map 7) is mainly characterized by Pleistocene-era stone-poor carbonate-derived silty to sandy till formed on Paleozoic terrain (Survey 2003). Areas of massive well-laminated fine-textured glaciomarine clay deposits and coarse-textured glaciomarine littoral gravel deposits are also present in the central and northeastern portions.

#### 4.3.3 Previous Archaeological Assessments

Archaeological work in the area has been limited. Early studies include those conducted by the National Museum of Man (now the Canadian Museum of History) in 1947 and 1954 in advance of the creation of the St. Lawrence Seaway (Dailey and Wright 1955; Leachman and de Laguna 1949), resulting in the discovery of a variety of sites in the area. Most of the work in the broader area has focussed on the study of the St-Lawrence Iroquoians, who occupied a large stretch of

the St. Lawrence River between Lake Ontario and Quebec City (Gates St-Pierre 2016). More recently, a variety of cultural resource management projects have been undertaken in relation to specific development projects. Much of this work has taken place in or around the City of Cornwall. There are no reports of any previous work within any of the lots that make up the present study area.

#### 4.3.4 Registered Archaeological Sites and Commemorative Plaques

A search of the MHSTCI archaeological site database revealed there are no sites within 1 km of the study area.

There are no commemorative plaques or monuments located in the vicinity of the study area.

#### 4.4 Archaeological Potential

Potential for pre-contact Indigenous sites is based on physiographic variables that include distance from the nearest source of water, the nature of the nearest source/body of water, distinguishing features in the landscape (e. g. ridges, knolls, eskers, and wetlands), the types of soils found within the area of assessment and resource availability. The study property is situated relatively close to the St. Lawrence River, contains several branches of the South Raisin River along with marshy areas, and has discrete areas of elevated topography. There are also several known Indigenous pre-contact sites in the vicinity (one within 1 km and an additional three within 2 km).

Potential for historical Euro-Canadian sites is based on proximity to historical transportation routes, historical community buildings such as schools, churches, and businesses, and any known archaeological or culturally significant sites. The land registry records, census records, and historic maps show that although this area was mainly rural, the lots were granted quite early – between the late 18<sup>th</sup> century and the first few decades of the 19<sup>th</sup> century with residential development limited to the extreme southern portions of the lot, and along County Road 35 where several farmhouses are located today, in addition to portions of the Long Sault community. This suggests that most of the study area was likely only used for agricultural purposes historically (as well as recently). Nonetheless, the presence of several historical roads and the stream shown on the historical settlement maps lends some historical potential to the study area. The railway bordering the southern edge of the study area is not considered a historical transportation route, as it was originally located approximately two kilometers further south but was relocated during the Seaway project of the 1950s.

Thus, the study area has potential for both pre-contact Indigenous and historical Euro-Canadian archaeological resources; however, there is some evidence of recent disturbances in the study area associated with aggregate extraction, tree grubbing, and the construction of access roads, further discussed in Section 6.0. Large areas were also noted as permanently wet. Consequently, these areas have low to no archaeological potential.

## 5.0 Field Methods

The majority of the 32.1 property is considered to have archaeological potential according to the 2011 standards set out for consultant archaeologists by the MHSTCI.

As per Section 2.1 Standard 2.b., areas determined to have low potential in the Stage 1 assessment (Map 3) were excluded from further assessment (3.2 ha, 10%). At the time of the survey large portions of the property totalling 19.2 ha (60%) were observed as permanently wet and marshy (Map 8). These areas included parts of the eastern section where the land sloped down and became quite wet (Figure 8 - Figure 10) as well as the western half of the property which appears to have had significant ground disturbance. Indeed the western area consists of large and very deep furrows and ruts of turned up, disturbed soil (Figure 11, Figure 12) and deep standing water (Figure 13 - Figure 15). Across the property we areas ranged from marshland with marsh grasses, dogwood bushes, and bulrushes to less obvious wet areas with dogwood and other wet soils vegetation (Figure 16 - Figure 19). Notably, weather conditions in the days leading up to assessment were not atypically wet and aerial imagery of the study area shows standing water over these areas (Map 8). These areas meet the criteria for exclusion as per Standards 2.a.i and 2.b. Section 2.1 (MHSTCI 2011) (seen in orange on Map 5).

A small portion of the property, 0.9 ha (3%) was observed as likely being deeply disturbed by previous earthmoving (Map 8). This area was sporadically shovel tested to confirm complete disturbance as per Section 2.1.8 (MHSTCI 2011).

The study area is pockets and areas of marsh and wetlands with slightly rolling hills in the east (Figure 20 - Figure 23) and generally overgrown with scrublands with shallow bedrock and high rock content. Accordingly, the entire property was not suitable for ploughing as per Standard 1.a., 1.b, and 1.c., Section 2.1.2 (MHSTCI 2011) and was subject to shovel testing (Map 8). In total 8.8 ha (27%) were shovel tested at 5-meter intervals (Figure 24 - Figure 27). All test pits were a minimum of 30 cm in diameter and were excavated to bedrock or 5 cm into subsoil and extended to within 1 m of structures (Section 2.1.2). All soil was screened using 6 mm mesh screens. All test-pits were examined for cultural features and stratigraphy then backfilled upon completion.

All field activity and testing areas were mapped using a handheld BadElf Surveyor GPS with WAAS and DGPS enabled, paired to an iPad with ArcGIS Field Maps. Average accuracy at the time of survey was approximately 2 m horizontal. Study area boundaries were determined in the field using property boundaries digitized from a georeferenced development plan of the parcel overlaid in ArcGIS Field Maps.

Photographs were taken during fieldwork to document the current land conditions (see Map 5 for photo locations by figure number) as per Standard 1.a., Section 7.8.6 (MHSTCI 2011). Photo catalogue, map inventory, and daily field notes (including sketch maps drawn in the field) are listed in Appendix A, B, C, and D.

Field work took place on November 16 and 23, 2021. Weather conditions were partially sunny with temperatures ranging from -2 to 5° Celsius. Ground conditions were excellent with no saturation due to adverse conditions or freezing and there was no snow or other ground cover to impede visual assessment as per Section 2.1. Standard 3 (MHSTCI 2011). Permission to access the property was provided by the landowner prior to the commencement of any field work; no limits were placed on this access.

## **6.0 Record of Finds**

Despite having archaeological potential, no archaeological remains, artifacts, or cultural soil profiles were encountered during the Stage 2 investigations of the study area.

Ground conditions in dry areas are relatively consistent across the property, consisting of a mix of scrubby vegetation, long grasses and sporadic trees in significantly overgrown fields, and lightly treed areas (Figure 28 - Figure 30).

Evidence of previous grubbing and tree removal is present in the form of piles of cut lumber and brush in the central part of the study area (Figure 31 - Figure 34). Further evidence of this tree removal can be gleaned by comparing aerial photos from 2016 with more recent ones from 2020 (Maps 5 and 6). The earlier air photo appears to show denser tree cover across nearly the entirety of the property, while the later photo clearly shows bare deforested areas.

Also, in the central section of the property, disturbances related to earthmoving or possible aggregate extraction were noted. These consisted of large depressions where topsoil had been removed revealing gravelly or sandy deposits. Several large berms or push piles were also revealed in proximity to these areas, suggesting extensive ground alteration (Figure 35 - Figure 38). Some of the areas correlate to gravel deposits on the surficial geology mapping (Map 7). These areas were shovel tested to confirm total disturbance as per Section 2.1.8 (Map 8) (MHSTCI 2011).

Several areas were observed as being wet at the time of the Stage 2 assessment, these include the majority of the western half of the property, the access road (Figure 39 - Figure 41), the southeast corner adjacent to agricultural fields. Pooling water was also observed at the base of steep slopes in the eastern half of the property. It should be noted that the spring 2020 aerial photo appears to show larger areas of standing water, suggesting that large parts of the greater 277-hectare study property are seasonally inundated as a result of the low-lying land and the proximity of the South Raisin River watershed.

Piles of modern garbage including plastic buckets, mangled metal, rusted farming equipment, tires, and debris from logging (Figure 42 - Figure 45) were found throughout the site along with large boulders, stumps, and small bedrock outcrops (Figure 46 - Figure 48). Also found at the bottom of one of the sloped areas in the eastern half of the property along the southern edge of the study area, was an open stone lined well (Figure 49), however no artifacts were found in this area. Several stone boundary fences in the eastern section of the property were also located during the archaeological assessment (Figure 50 - Figure 52). These fences or boundary walls are largely visible on aerial photos of the property (Map 5).

Test pits across the site generally revealed a rocky medium to dark brown sandy clay with a lighter brown sandy subsoil (Figure 53, Figure 54) while at the top of the steep rise in the central section of the property, soils were quite gravelly with a shallow bedrock reached only 5 to 10 cm from surface (Figure 55).

Photograph record, maps, and daily field notes (including sketch maps drawn in the field) are listed in Appendix A to C.

## **7.0 Conclusions and Recommendations**

The previous Stage 1 assessment indicated that there the study area had both pre-contact Indigenous as well as historical Euro-Canadian archaeological potential (Matrix Heritage 2021). However, the Stage 2 assessment of the Phase A development area did not find any archaeological resources present in the study area.

Based on the results of this investigation it is recommended:

1. No further archaeological study is required for the subject property as delineated in Map 1.

## **8.0 Advice on Compliance with Legislation**

- a. This report is submitted to the *Minister of Tourism and Culture* as a condition of licencing 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 Tourism and Culture, 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.
- b. It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licenced 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*.
- c. 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 licenced consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.
- d. 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.

## 9.0 Closure

Matrix has prepared this report in a manner consistent with the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made. The strategies incorporated in this study comply with those identified in the Ministry of Heritage, Sport, Tourism and Culture Industries' *Standards and Guidelines for Consultant Archaeologists* (2011) however; archaeological assessments may fail to identify all archaeological resources.

The present report applies only to the project described in the document. Use of this report for purposes other than those described herein or by person(s) other than Avenue 31 or their agent(s) is not authorized without review by this firm for the applicability of our recommendations to the altered use of the report.

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This report is pending Ministry approval.

If you have any questions or we may be of further assistance, please contact the undersigned.

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Senior Archaeologist

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**11.0 Images**



**Figure 1: Fence line along the southern edge of the study area, with rail line (MH1059-D189).**



**Figure 2: Creek in centra area (MH1059-D077).**



**Figure 3: Creek in central area (MH1059-D078).**



**Figure 4: View of eastern end of site, from crest of hill (MH1059-D015).**



**Figure 5: General view of the central high ground (MH1059-D047).**



**Figure 6: Western side of slope from central high ground (MH1059-D060).**



**Figure 7: General view of central wet area from the disturbed high ground (MH1059-D082).**



**Figure 8: Wet conditions along eastern edge of property at Avonmore rd. (MH1059-D002).**



**Figure 9: Eastern wet conditions (MH1059-D031).**



**Figure 10: Eastern wet conditions (MH1059-D037).**



**Figure 11: Disturbed, furrows, wet, marshy areas in the western portion of the study area (MH1059-D113).**



**Figure 12: Disturbed, furrows, wet, marshy areas in the western portion of the study area (MH1059-D119).**



**Figure 13: Western wet areas (MH1059-D103).**



**Figure 14: Western wet areas (MH1059-D106).**



**Figure 15: Marsh area in the western portion of the study area (MH1059-D126).**



**Figure 16: General conditions in the western edge of the study area (MH1059-D115).**



**Figure 17: General view of the western portion of the study area, towards central high ground (MH1059-D137).**



**Figure 18: Disturbed, furrows, wet, marshy areas in the western portion of the study area (MH1059-D139).**



**Figure 19: Looking into the marshy area (MH1059-D177).**



**Figure 20: General conditions and rise of hill in eastern portion of the study area (MH1059-D010).**



**Figure 21: General conditions and rise of hill in eastern portion of the study area (MH1059-D014).**



**Figure 22: General conditions and rise of hill in eastern portion of the study area (MH1059-D016).**



**Figure 23: Test pitted rise in eastern portion of study area from the bottom (MH1059-D023).**



**Figure 24: Test pitting in eastern portion (MH1059-D150).**



**Figure 25: Test pitting in eastern portion (MH1059-D160).**



**Figure 26: Test pitting in eastern portion (MH1059-D190).**



**Figure 27: Test pitting in the central eastern portion of the study area (MH1059-D195).**



**Figure 28: General conditions in the eastern portion of the study area, deer path, damp (MH1059-D008).**



**Figure 29: General low lying marshy area in eastern portion (MH1059-D030).**



**Figure 30: General shot approaching the marshy area, tree limbs (MH1059-D172).**



**Figure 31: Remains of logging and tree clearing activity in the central high ground (MH1059-D048).**



**Figure 32: Remains of logging and tree clearing activity in the central high ground (MH1059-D052).**



**Figure 33: Remains of logging and tree clearing activity in the central high ground (MH1059-D053).**



**Figure 34: Remains of logging and tree clearing activity in the central high ground (MH1059-D081).**



**Figure 35: Large berm of displaced soil in central high ground (MH1059-D058).**



**Figure 36: Large berm of displaced soil in central high ground (MH1059-D061).**



**Figure 37: Disturbed soil near berms in the central high ground (MH1059-D063).**



**Figure 38: Large berm of displaced soil in central high ground (MH1059-D065).**



**Figure 39: Wet conditions in the eastern portion, "access road" area (MH1059-D091).**



**Figure 40: Wet conditions in the eastern portion, "access road" area (MH1059-D095).**



**Figure 41: Wet conditions in the eastern portion, "access road" area (MH1059-D100).**



**Figure 42: Modern refuse along northern edge of study area in the east (MH1059-D152).**



**Figure 43: Modern refuse along northern edge of study area in the east (MH1059-D155).**



**Figure 44: Modern refuse along northern edge of study area in the east (MH1059-159).**



**Figure 45: Old farm machinery in the central eastern portion (MH1059-209).**



**Figure 46: Remains of logging and general conditions in the "access road" portion of the study area (MH1059-D088).**



**Figure 47: General shot showing large rocks and tree debris (MH1059-D170).**



**Figure 48: General shot showing large rocks and tree debris (MH1059-D173).**



**Figure 49: Stone lined well along the southern edge of the study area (MH1059-D205).**



**Figure 50: Rock boundary wall along southern edge of the eastern portion of the study area (MH1059-D012).**



**Figure 51: Stone boundary wall in the north of the eastern portion of the study area (MH1059-D018).**



**Figure 52: Stone boundary wall in the north of the eastern portion of the study area (MH1059-D027).**



**Figure 53: General test pit fill showing sandy clay soil with light brown subsoil (MH1059-D148).**

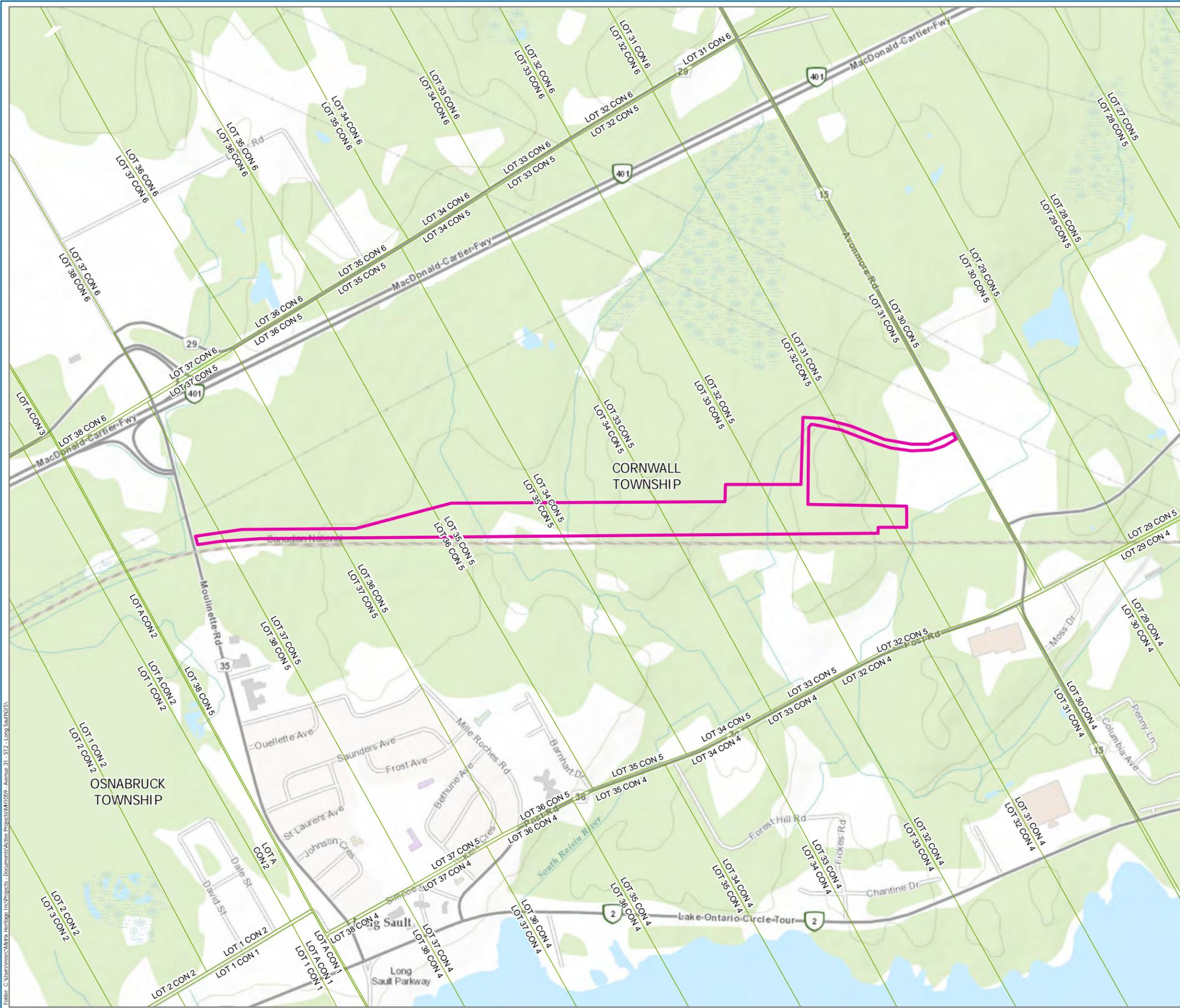


**Figure 54: Standing water in the bottom of test pit at the edge of the marshy area (MH1059-D178).**

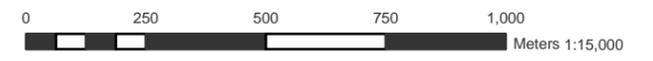


**Figure 55: Excavated test pit on the top of the rise in the central eastern portion, gravel on bedrock (MH1059-D197).**

## 12.0 Maps



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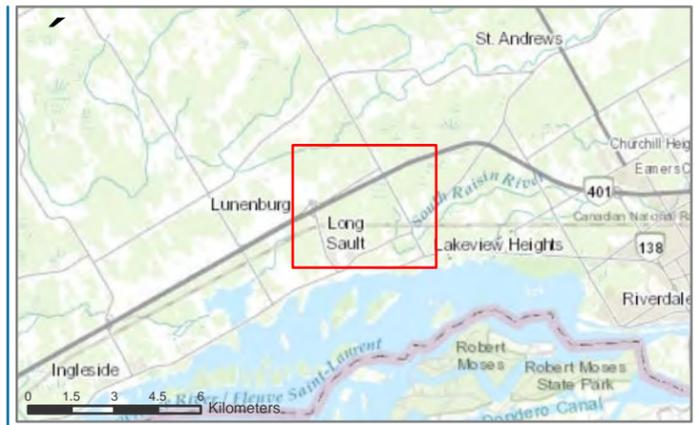


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 CHECKED BY: BM  
 PROJECT  
**STAGE 2 ARCHAEOLOGICAL ASSESSMENT - PHASE A**  
**LONG SAULT YARD, LONG SAULT, ON**

TITLE **LOCATION** MAP **1**

File: C:\Users\matrix\OneDrive\Projects\Heritage\Projects\MH1059 - Avenue 31 - S12 - Long Sault\GIS



LEGEND  
 STUDY AREA



REFERENCES:  
 ESRI CANADA, ESRI, HERE, GARMIN, INCREMENT P, USGS, METI/NASA, EPA, USDA, AAFC, NRCAN, ESRI CANADA, ESRI, © OPENSTREETMAP CONTRIBUTORS, HERE, GARMIN, USGS, NGA, EPA, USDA, NPS, AAFC, NRCAN  
 UNDATED PLAN PROVIDED BY AVENUE 31 CAPITAL INC.

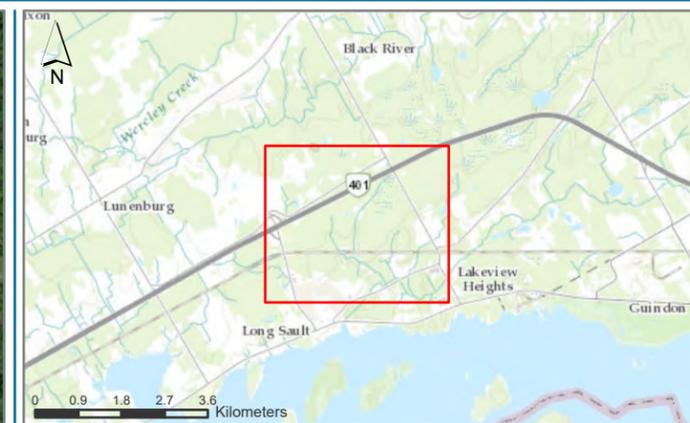
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 CHECKED BY: NK

PROJECT  
**STAGE 2 ARCHAEOLOGICAL ASSESSMENT - PHASE A  
 LONG SAULT YARD, LONG SAULT, ON**

TITLE  
**DRAFT PLAN** MAP  
**2**

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**LEGEND**

- STAGE 1 STUDY AREA
- STAGE 2 DEVELOPMENT AREA

**STAGE 1 RECOMMENDATIONS**

EXCLUSIONS - LOW POTENTIAL

- DISTURBED
- WET
- LOW POTENTIAL

MODERATE TO HIGH POTENTIAL

- STAGE 2 ASSESSMENT REQUIRED (5M INTERVAL)



REFERENCES:  
 ESRI CANADA, ESRI, HERE, GARMIN, USGS, NGA, EPA, USDA, NPS, AAFC, NRCAN, MAXAR

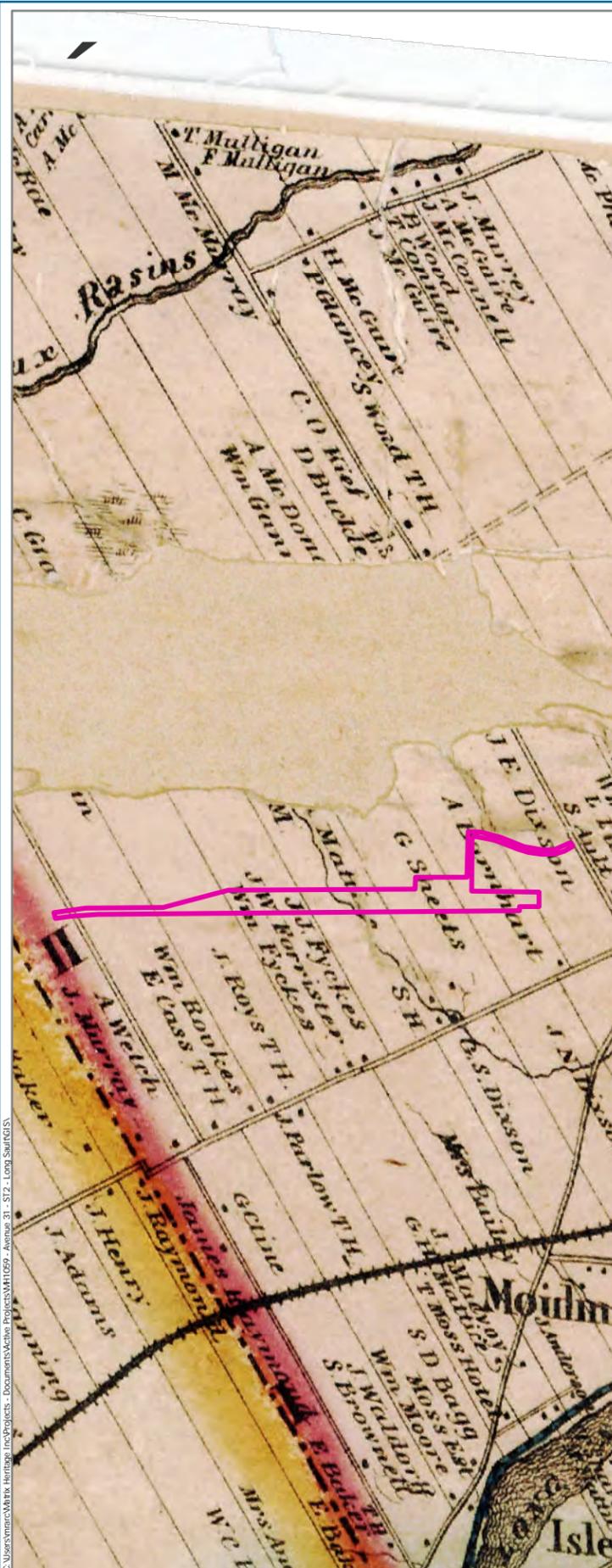
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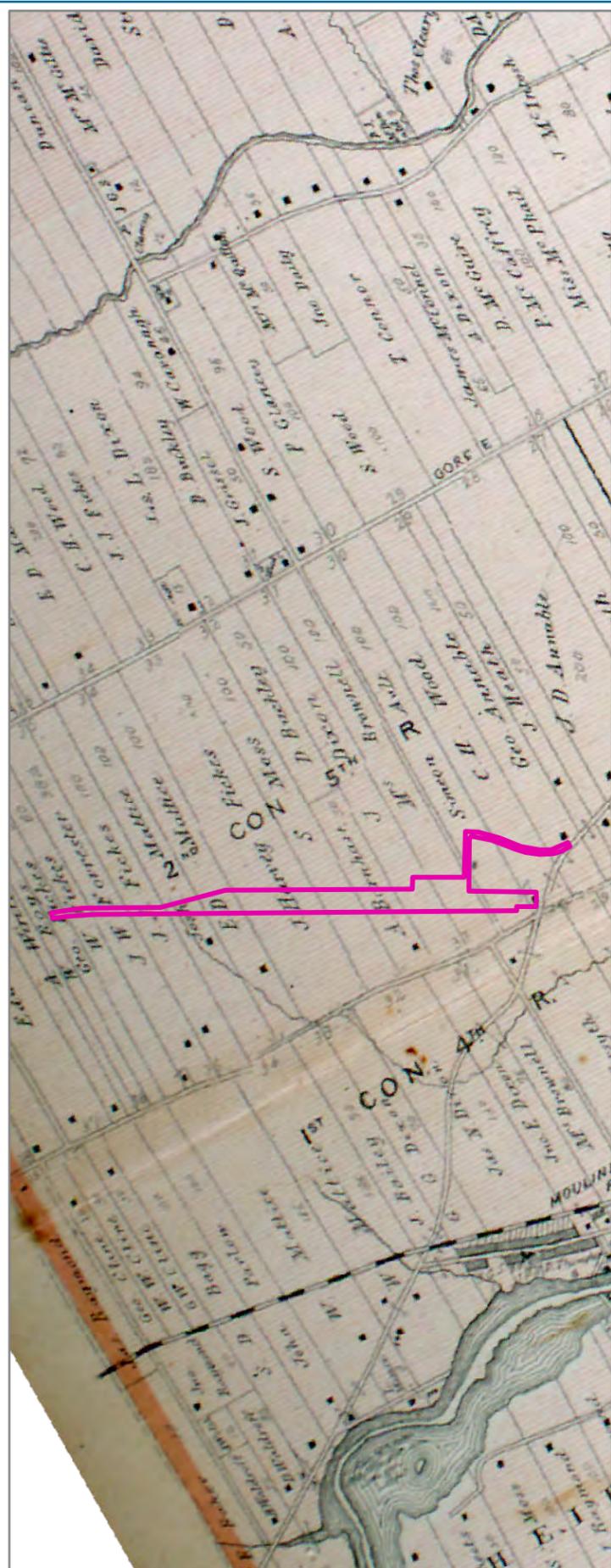
PROJECT  
 STAGE 2 ARCHAEOLOGICAL ASSESSMENT - PHASE A  
 LONG SAULT YARD, LONG SAULT, ON

TITLE MAP  
**STAGE 1 RECOMMENDATIONS** 3

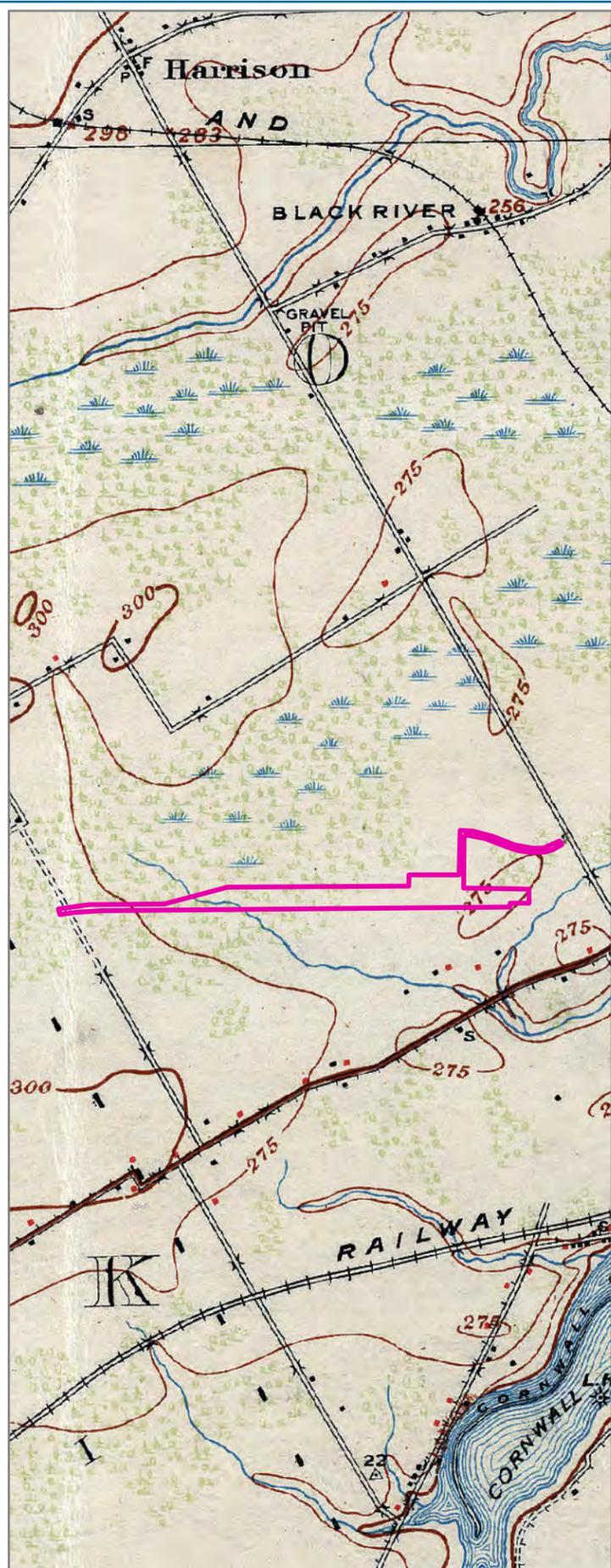
Folder: C:\Users\matrix\Matrix Heritage Inc\Projects - Documents\Active Projects\MH1059 - Avenue 31 - ST2 - Long Sault(GIS)



WALLING 1861



BELDEN 1879



TOPOGRAPHIC 1909



LEGEND  
 STUDY AREA

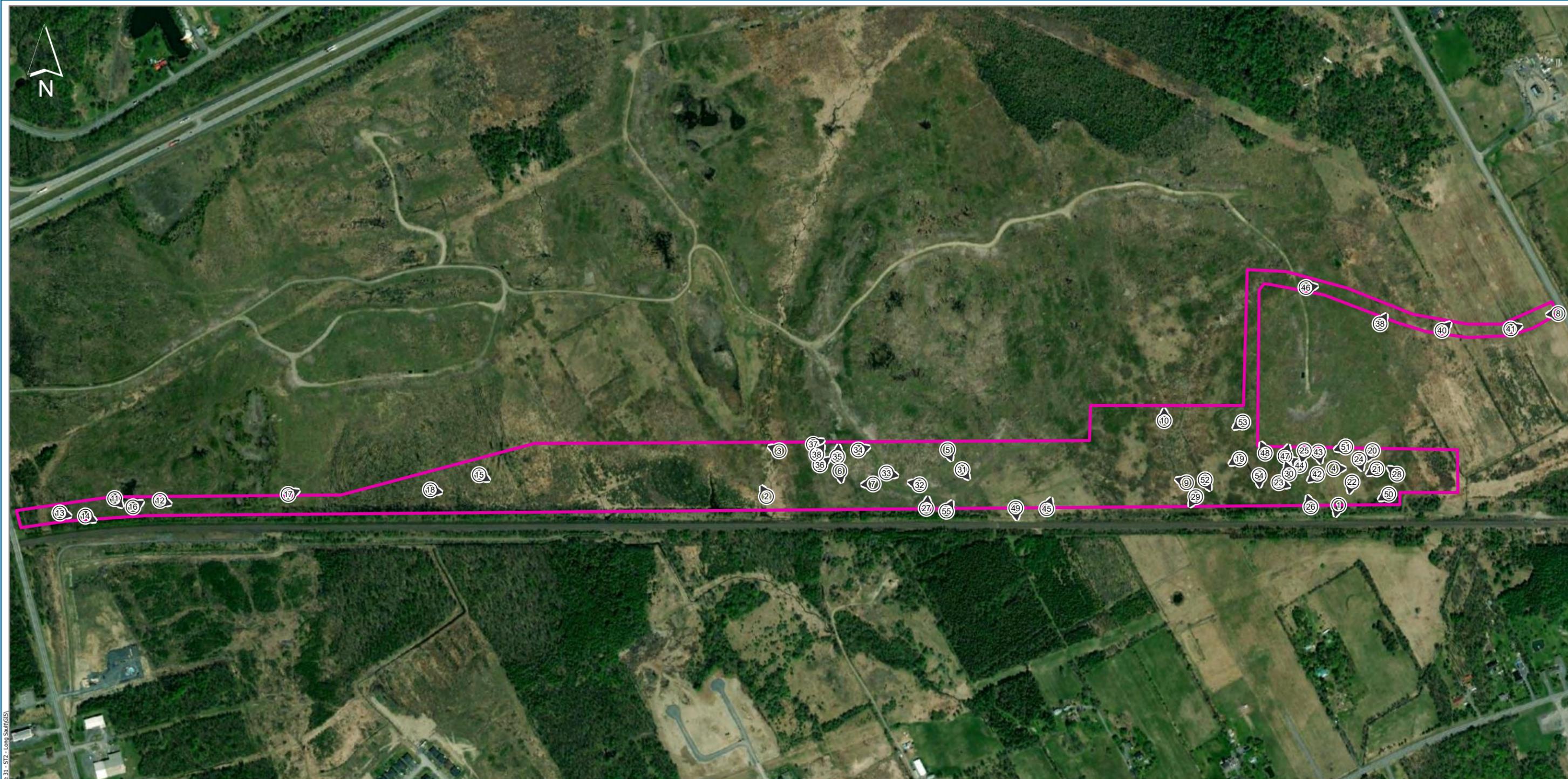


REFERENCES:  
 ESRI CANADA, ESRI, © OPENSTREETMAP CONTRIBUTORS, HERE, GARMIN, USGS, NGA,  
 EPA, USDA, NPS, AAFC, NRCAN  
 SEGMENT OF MAP OF THE COUNTIES OF STORMONT, DUNDAS, GLENGARRY, PRESCOTT  
 & RUSSELL, WALLING 1862  
 SEGMENT OF THE TOWNSHIP OF STORMONT FROM THE ILLUSTRATED HISTORICAL ATLAS  
 OF THE COUNTIES OF STORMONT, DUNDAS AND GLENGARRY, ONT. BELDEN 1879  
 SEGMENT OF TOPOGRAPHIC MAP OF CORNWALL, SHEET NO. 031G02, DEPARTMENT OF  
 MILITIA AND DEFENCE 1909

FILE MH1059 DATE 2021-11-11  
 PROJECTION: NAD 1983 UTM Zone 18N CREATED BY: BM  
 CHECKED BY: NK

PROJECT  
 STAGE 2 ARCHAEOLOGICAL ASSESSMENT - PHASE A  
 LONG SAULT YARD, LONG SAULT, ON

TITLE MAP  
**HISTORIC** 4



Folder: C:\Users\matrix\Matrix Heritage Inc\Projects - Documents\Active Projects\MH1059 - Avenue 31 - S72 - Long Sault(GIS)



- LEGEND**
- DEVELOPMENT AREA
  - PHOTO LOCATION, DIRECTION, AND FIGURE NUMBER



REFERENCES:  
ESRI CANADA, ESRI, HERE, GARMIN, USGS, NGA, EPA, USDA, NPS, AAFC, NRCAN, MAXAR

FILE MH1059 DATE 2021-12-02

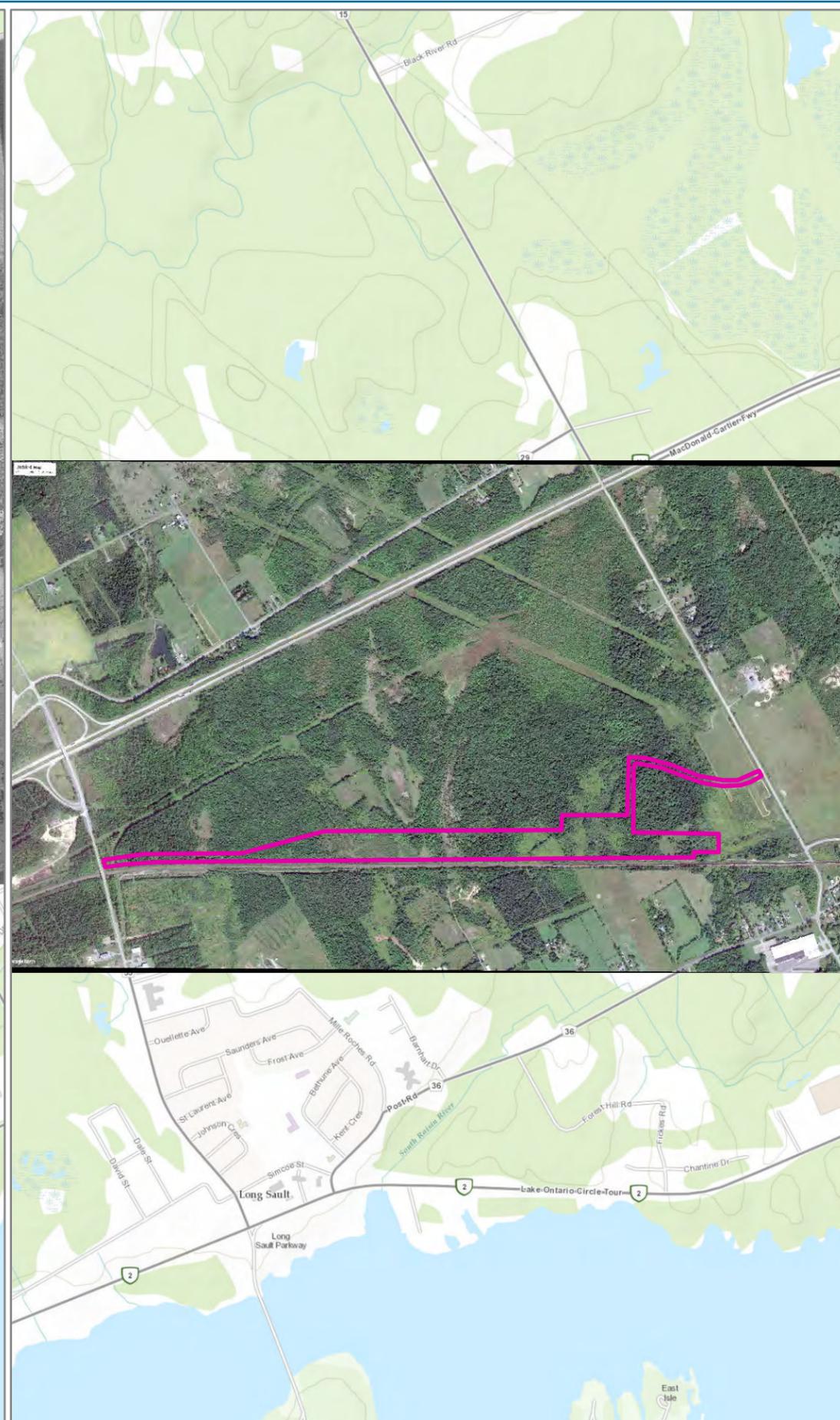
PROJECTION: NAD 1983 UTM Zone 18N  
CREATED BY: DW  
CHECKED BY: BM

PROJECT  
STAGE 2 ARCHAEOLOGICAL ASSESSMENT - PHASE A  
LONG SAULT YARD, LONG SAULT, ON

TITLE MAP  
**CONDITIONS AND KEY** 5



1946



2016



LEGEND

 DEVELOPMENT AREA



0 375 750 1,125 1,500 Meters 1:25,000

REFERENCES:  
 ESRI CANADA, ESRI, HERE, GARMIN, INCREMENT P, USGS, METI/NASA, EPA, USDA, AAFC, NRCAN, ESRI CANADA, ESRI, © OPENSTREETMAP CONTRIBUTORS, HERE, GARMIN, USGS, NGA, EPA, USDA, NPS, AAFC, NRCAN  
 1946 PHOTO FROM (NATIONAL AIR PHOTO LIBRARY A9575-87)  
 2016 PHOTO FROM GOOGLE EARTH (PLATFORM UNKNOWN)

FILE MH1059

DATE 2021-12-02

PROJECTION: NAD 1983 UTM Zone 18N

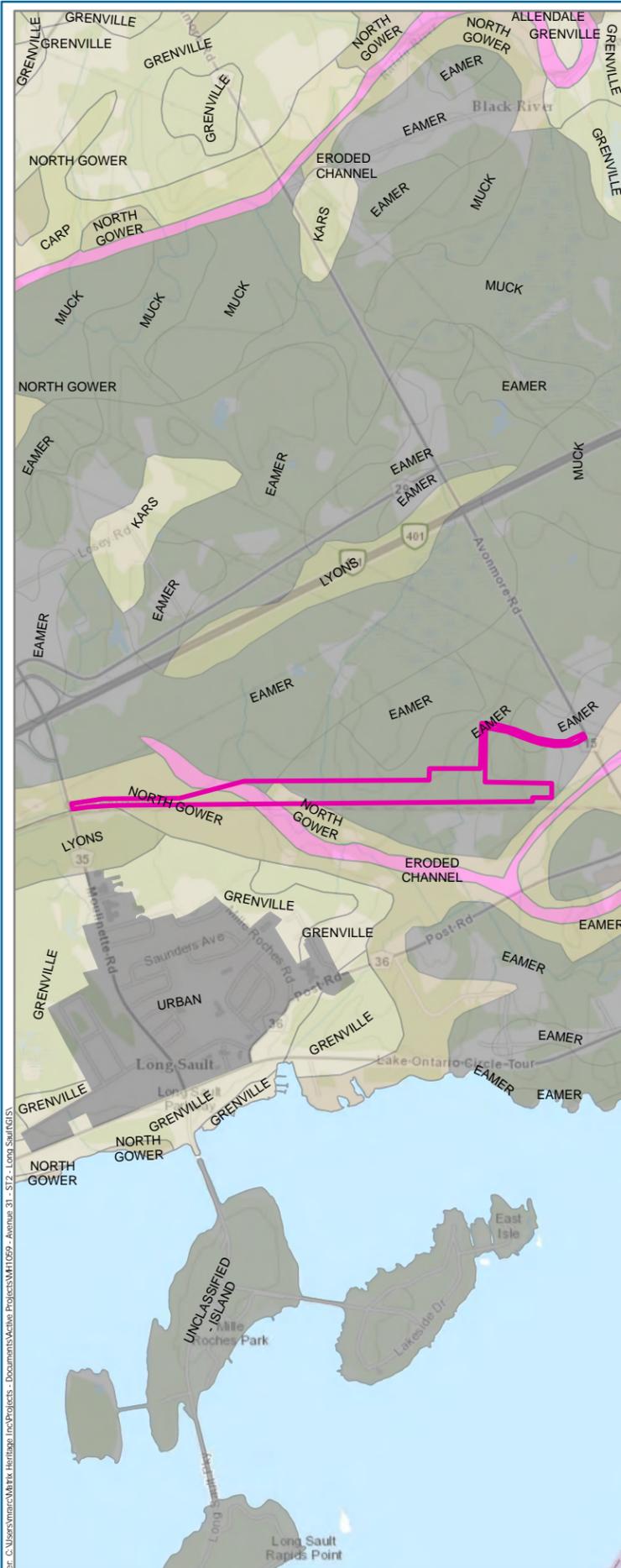
CREATED BY: BM

CHECKED BY: NK

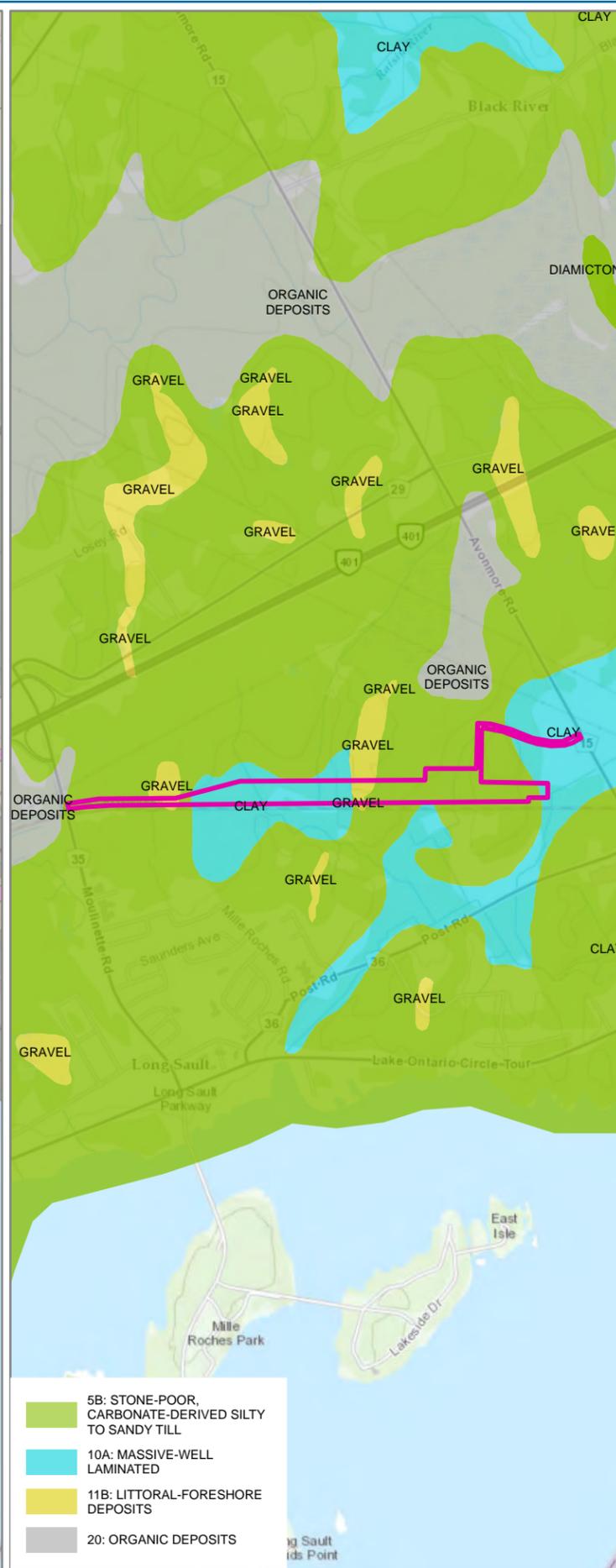
PROJECT  
 STAGE 2 ARCHAEOLOGICAL ASSESSMENT - PHASE A  
 LONG SAULT YARD, LONG SAULT, ON

TITLE  
**AERIAL PHOTOS**

MAP  
 6

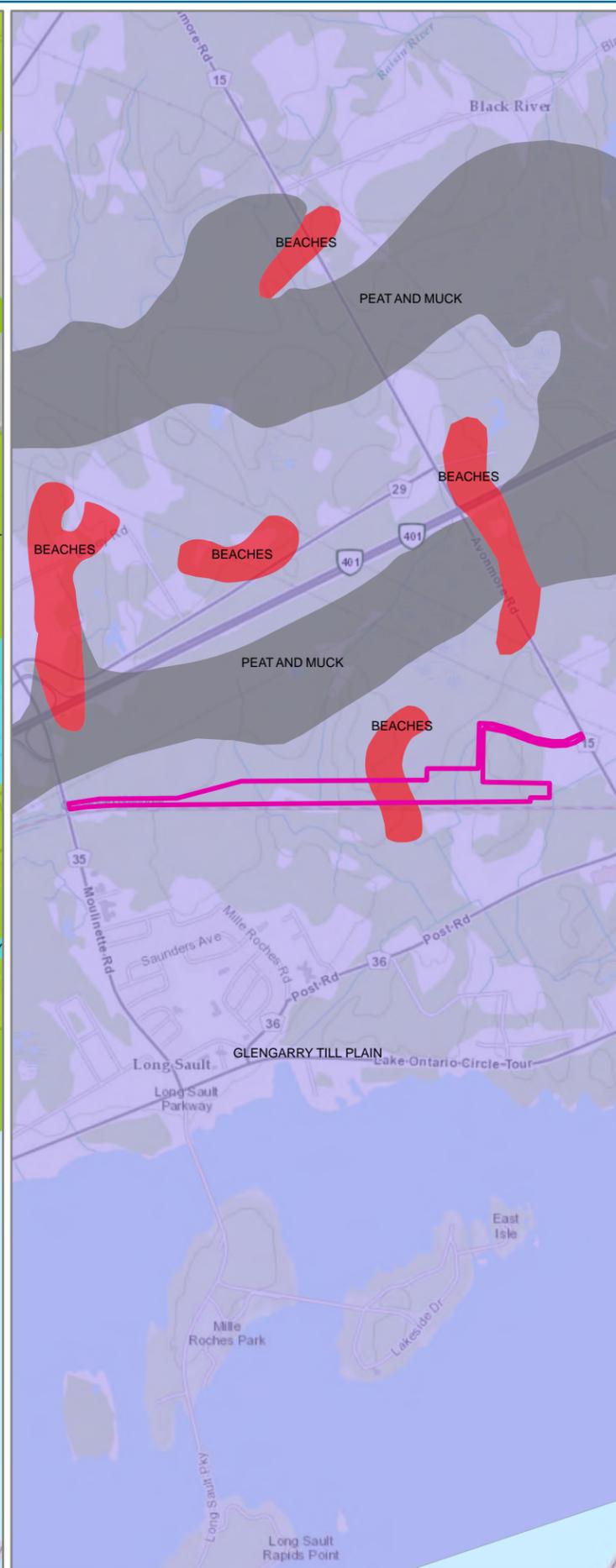


SOIL SURVEY COMPLEX

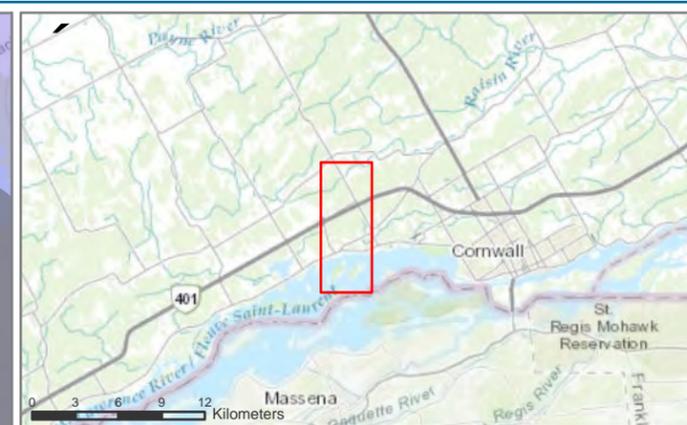


SURFICIAL GEOLOGY

- 5B: STONE-POOR, CARBONATE-DERIVED SILTY TO SANDY TILL
- 10A: MASSIVE-WELL LAMINATED
- 11B: LITTORAL-FORESHORE DEPOSITS
- 20: ORGANIC DEPOSITS



PHYSIOGRAPHY



LEGEND  
 STUDY AREA



0 500 1,000 1,500 2,000  
 Meters 1:35,000

REFERENCES:  
 ESRI CANADA, ESRI, HERE, GARMIN, INCREMENT P, USGS, METI/NASA, EPA, USDA, AAFC, NRCAN, ESRI CANADA, ESRI, © OPENSTREETMAP CONTRIBUTORS, HERE, GARMIN, USGS, NGA, EPA, USDA, NPS, AAFC, NRCAN  
 SOIL SURVEY COMPLEX LIO  
 SURFICIAL GEOLOGY OF SOUTHERN ONTARIO 2003  
 CHAPMAN AND PUTNAM 2007 PHYSIOGRAPHY OF SOUTHERN ONTARIO

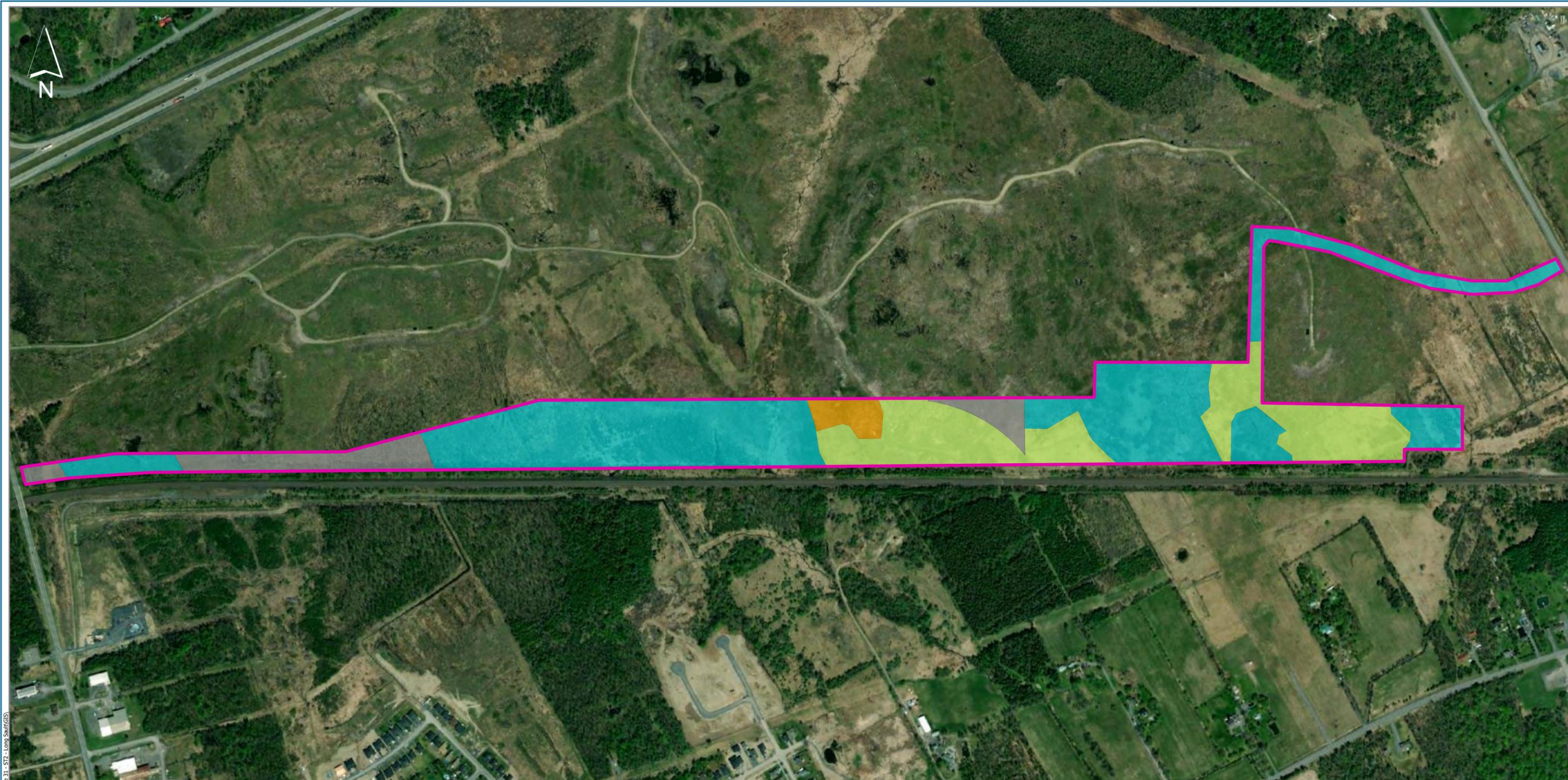
FILE **MH1059** DATE **2021-11-11**

PROJECTION: NAD 1983 UTM Zone 18N CREATED BY: BM  
 CHECKED BY: NK

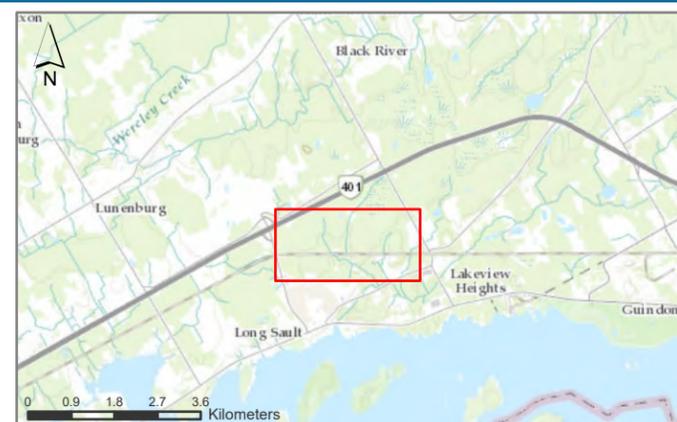
PROJECT  
**STAGE 2 ARCHAEOLOGICAL ASSESSMENT - PHASE A**  
**LONG SAULT YARD, LONG SAULT, ON**

TITLE **SOILS AND GEOLOGY** MAP **7**

Federal: C:\Users\matrix\Matrix\Heritage\Projects\MH1059 - Avenue 31 - S12 - Long Sault\GIS



- LEGEND**
- TESTING METHOD**
- SHOVEL TEST (5 M INTERVAL)
  - SHOVEL TEST TO CONFIRM DISTURBANCE
- EXCLUDED**
- STAGE 1 - LOW POTENTIAL EXCLUSION
  - PERMANENTLY WET



REFERENCES:  
ESRI CANADA, ESRI, HERE, GARMIN, USGS, NGA, EPA, USDA, NPS, AAFC, NRCAN, MAXAR

FILE MH1059 DATE 2021-12-02

PROJECTION: NAD 1983 UTM Zone 18N CREATED BY: DW

PROJECT  
STAGE 2 ARCHAEOLOGICAL ASSESSMENT - PHASE A  
LONG SAULT YARD, LONG SAULT, ON CHECKED BY: BM

TITLE METHODS MAP 8

Folder: C:\Users\matrix\Matrix Heritage Inc\Projects - Documents\Active Projects\MH1059 - Avenue 31 - ST2 - Long Sault\GIS

## Appendix A: Photo Catalogue

| <b>Catalogue Number</b> | <b>Comment</b>  | <b>Dir.</b> | <b>Photo By</b> | <b>Date</b> |
|-------------------------|---|-------------|-----------------|-------------|
| MH1059-D001             | Eastern edge of property from Avonmore Rd.  | W           | A. Jackson      | 16-Nov-21   |
| MH1059-D002             | Wet conditions along eastern edge of property at Avonmore rd.                           | W           | A. Jackson      | 16-Nov-21   |
| MH1059-D003             | Wet conditions along eastern edge of property at Avonmore rd.                           | SW          | A. Jackson      | 16-Nov-21   |
| MH1059-D004             | General conditions at the southwestern corner of the study area                         | NW          | A. Jackson      | 16-Nov-21   |
| MH1059-D005             | General view of the southwestern corner of the study area                               | N           | A. Jackson      | 16-Nov-21   |
| MH1059-D006             | General view of the southwestern corner of the study area, culvert                      | N           | A. Jackson      | 16-Nov-21   |
| MH1059-D007             | General view of the southwestern corner of the study area                               | N           | A. Jackson      | 16-Nov-21   |
| MH1059-D008             | General conditions in the eastern portion of the study area, deer path, damp            | NW          | A. Jackson      | 16-Nov-21   |
| MH1059-D009             | General conditions of eastern edge of study area, looking back to Avonmore Rd           | E           | A. Jackson      | 16-Nov-21   |
| MH1059-D010             | General conditions and rise of hill in eastern portion of the study area                | SW          | A. Jackson      | 16-Nov-21   |
| MH1059-D011             | View of the eastern portion of the study area   | S           | A. Jackson      | 16-Nov-21   |
| MH1059-D012             | Rock boundary wall along southern edge of the eastern portion of the study area         | W           | A. Jackson      | 16-Nov-21   |
| MH1059-D013             | Close up view of rocks in rock wall   | W           | A. Jackson      | 16-Nov-21   |
| MH1059-D014             | General conditions and rise of hill in eastern portion of the study area                | SW          | A. Jackson      | 16-Nov-21   |
| MH1059-D015             | View of eastern end of site, from crest of hill   | E           | A. Jackson      | 16-Nov-21   |
| MH1059-D016             | General conditions and rise of hill in eastern portion of the study area                | SW          | A. Jackson      | 16-Nov-21   |
| MH1059-D017             | General conditions and rise of hill in eastern portion of the study area                | N           | A. Jackson      | 16-Nov-21   |
| MH1059-D018             | Stone boundary wall in the north of the eastern portion of the study area               | W           | A. Jackson      | 16-Nov-21   |
| MH1059-D019             | Stone boundary wall in the north of the eastern portion of the study area               | S           | A. Jackson      | 16-Nov-21   |
| MH1059-D020             | Stone boundary wall in the north of the eastern portion of the study area               | S           | A. Jackson      | 16-Nov-21   |
| MH1059-D021             | Disturbed, piled soil near the stone wall in the northeastern portion of the study area | W           | A. Jackson      | 16-Nov-21   |
| MH1059-D022             | Disturbed, piled soil near the stone wall in the northeastern portion of the study area | NW          | A. Jackson      | 16-Nov-21   |
| MH1059-D023             | Slope in eastern portion of study area from the bottom                                  | SE          | A. Jackson      | 16-Nov-21   |
| MH1059-D024             | Eastern edge of marshy area in eastern portion of study area                            | W           | A. Jackson      | 16-Nov-21   |
| MH1059-D025             | Eastern wet conditions  | W           | A. Jackson      | 16-Nov-21   |
| MH1059-D026             | General low-lying marshy area in eastern portion  | SW          | A. Jackson      | 16-Nov-21   |
| MH1059-D027             | Stone boundary wall in the north of the eastern portion of the study area               | E           | A. Jackson      | 16-Nov-21   |
| MH1059-D028             | Stone boundary wall in the north of the eastern portion of the study area               | NE          | A. Jackson      | 16-Nov-21   |
| MH1059-D029             | Eastern wet conditions  | W           | A. Jackson      | 16-Nov-21   |
| MH1059-D030             | General low-lying marshy area in eastern portion  | W           | A. Jackson      | 16-Nov-21   |
| MH1059-D031             | Eastern wet conditions  | NW          | A. Jackson      | 16-Nov-21   |
| MH1059-D032             | General view of high ground to the north of the study area                              | N           | A. Jackson      | 16-Nov-21   |
| MH1059-D033             | General view of high ground to the north of the study area                              | W           | A. Jackson      | 16-Nov-21   |
| MH1059-D034             | Eastern wet conditions  | N           | A. Jackson      | 16-Nov-21   |
| MH1059-D035             | Eastern wet conditions  | W           | A. Jackson      | 16-Nov-21   |
| MH1059-D036             | Eastern wet conditions  | SW          | A. Jackson      | 16-Nov-21   |
| MH1059-D037             | Eastern wet conditions  | NW          | A. Jackson      | 16-Nov-21   |
| MH1059-D038             | General view from the central high ground looking back towards the east                 | SE          | A. Jackson      | 16-Nov-21   |
| MH1059-D039             | General view from the central high ground   | NW          | A. Jackson      | 16-Nov-21   |
| MH1059-D040             | General view from the central high ground   | W           | A. Jackson      | 16-Nov-21   |
| MH1059-D041             | Wet areas in the central high ground  | SW          | A. Jackson      | 16-Nov-21   |
| MH1059-D042             | Wet areas in the central high ground  | W           | A. Jackson      | 16-Nov-21   |
| MH1059-D043             | Wet areas in the central high ground  | E           | A. Jackson      | 16-Nov-21   |
| MH1059-D044             | General view of the central high ground   | SE          | A. Jackson      | 16-Nov-21   |
| MH1059-D045             | General view of the central high ground   | SW          | A. Jackson      | 16-Nov-21   |
| MH1059-D046             | General view of the central high ground   | SE          | A. Jackson      | 16-Nov-21   |
| MH1059-D047             | General view of the central high ground   | S           | A. Jackson      | 16-Nov-21   |
| MH1059-D048             | Remains of logging and tree clearing activity in the central high ground                | SE          | A. Jackson      | 16-Nov-21   |
| MH1059-D049             | Wet area, disturbed soil in the central high ground                                     | W           | A. Jackson      | 16-Nov-21   |
| MH1059-D050             | General conditions in the central high ground   | E           | A. Jackson      | 16-Nov-21   |
| MH1059-D051             | Wet area, disturbed soil in the central high ground                                     | S           | A. Jackson      | 16-Nov-21   |

| Catalogue Number | Comment  | Dir. | Photo By   | Date      |
|------------------|--|------|------------|-----------|
| MH1059-D052      | Remains of logging and tree clearing activity in the central high ground                 | NW   | A. Jackson | 16-Nov-21 |
| MH1059-D053      | Remains of logging and tree clearing activity in the central high ground                 | SE   | A. Jackson | 16-Nov-21 |
| MH1059-D054      | Remains of logging and tree clearing activity in the central high ground                 | NE   | A. Jackson | 16-Nov-21 |
| MH1059-D055      | Path/ roadway through the centra high ground   | NW   | A. Jackson | 16-Nov-21 |
| MH1059-D056      | Remains of logging and tree clearing activity in the central high ground                 | W    | A. Jackson | 16-Nov-21 |
| MH1059-D057      | Remains of logging and tree clearing activity in the central high ground                 | W    | A. Jackson | 16-Nov-21 |
| MH1059-D058      | Large berm of displaced soil in central high ground                                      | N    | A. Jackson | 16-Nov-21 |
| MH1059-D059      | Large berm of displaced soil in central high ground                                      | NE   | A. Jackson | 16-Nov-21 |
| MH1059-D060      | Western side of slope from central high ground   | S    | A. Jackson | 16-Nov-21 |
| MH1059-D061      | Large berm of displaced soil in central high ground                                      | E    | A. Jackson | 16-Nov-21 |
| MH1059-D062      | Coming down off the slope in the central high ground to meet the central wet area        | S    | A. Jackson | 16-Nov-21 |
| MH1059-D063      | Disturbed soil near berms in the central high ground                                     | E    | A. Jackson | 16-Nov-21 |
| MH1059-D064      | Disturbed soil near berms in the central high ground                                     | NE   | A. Jackson | 16-Nov-21 |
| MH1059-D065      | Large berm of displaced soil in central high ground                                      | NE   | A. Jackson | 16-Nov-21 |
| MH1059-D066      | Large berm of displaced soil in central high ground                                      | E    | A. Jackson | 16-Nov-21 |
| MH1059-D067      | Large berm of displaced soil in central high ground                                      | S    | A. Jackson | 16-Nov-21 |
| MH1059-D068      | Disturbed soil near berms in the central high ground                                     | NE   | A. Jackson | 16-Nov-21 |
| MH1059-D069      | Central marshy area around creek   | SW   | A. Jackson | 16-Nov-21 |
| MH1059-D070      | Central marshy area around creek   | W    | A. Jackson | 16-Nov-21 |
| MH1059-D071      | Central marshy area around creek   | NW   | A. Jackson | 16-Nov-21 |
| MH1059-D072      | Central marshy area around creek   | SW   | A. Jackson | 16-Nov-21 |
| MH1059-D073      | Central marshy area around creek   | W    | A. Jackson | 16-Nov-21 |
| MH1059-D074      | Central marshy area around creek   | NW   | A. Jackson | 16-Nov-21 |
| MH1059-D075      | Creek in central area  | W    | A. Jackson | 16-Nov-21 |
| MH1059-D076      | Creek in central area  | NW   | A. Jackson | 16-Nov-21 |
| MH1059-D077      | Creek in central area  | NW   | A. Jackson | 16-Nov-21 |
| MH1059-D078      | Creek in central area  | N    | A. Jackson | 16-Nov-21 |
| MH1059-D079      | Remains of logging and tree clearing activity in the central high ground                 | E    | A. Jackson | 16-Nov-21 |
| MH1059-D080      | Remains of logging and tree clearing activity in the central high ground                 | SE   | A. Jackson | 16-Nov-21 |
| MH1059-D081      | Remains of logging and tree clearing activity in the central high ground                 | S    | A. Jackson | 16-Nov-21 |
| MH1059-D082      | General view of central wet area from the disturbed high ground                          | SW   | A. Jackson | 16-Nov-21 |
| MH1059-D083      | General view of central wet area from the disturbed high ground                          | NW   | A. Jackson | 16-Nov-21 |
| MH1059-D084      | Disturbed soil, wet areas, in central high ground  | NE   | A. Jackson | 16-Nov-21 |
| MH1059-D085      | Large tree down along road to the north of the study area                                | NE   | A. Jackson | 16-Nov-21 |
| MH1059-D086      | Wet area in the high ground north of the eastern portion of the study area               | S    | A. Jackson | 16-Nov-21 |
| MH1059-D087      | Large circular hole with water, north of eastern portion of study area                   | NE   | A. Jackson | 16-Nov-21 |
| MH1059-D088      | Remains of logging and general conditions in the "access road" portion of the study area | E    | A. Jackson | 16-Nov-21 |
| MH1059-D089      | General conditions, very wet, at the bottom of the slope in the "access road" area       | E    | A. Jackson | 16-Nov-21 |
| MH1059-D090      | General conditions, very wet, at the bottom of the slope in the "access road" area       | S    | A. Jackson | 16-Nov-21 |
| MH1059-D091      | Wet conditions in the eastern portion, "access road" area                                | E    | A. Jackson | 16-Nov-21 |
| MH1059-D092      | Wet conditions in the eastern portion, "access road" area                                | E    | A. Jackson | 16-Nov-21 |
| MH1059-D093      | Wet conditions in the eastern portion, "access road" area                                | SE   | A. Jackson | 16-Nov-21 |
| MH1059-D094      | Wet conditions in the eastern portion, "access road" area                                | E    | A. Jackson | 16-Nov-21 |
| MH1059-D095      | Wet conditions in the eastern portion, "access road" area                                | E    | A. Jackson | 16-Nov-21 |
| MH1059-D096      | Wet conditions in the eastern portion, "access road" area                                | NW   | A. Jackson | 16-Nov-21 |
| MH1059-D097      | Wet conditions in the eastern portion, "access road" area                                | W    | A. Jackson | 16-Nov-21 |
| MH1059-D098      | Wet conditions in the eastern portion, "access road" area                                | SE   | A. Jackson | 16-Nov-21 |
| MH1059-D099      | Wet conditions in the eastern portion, "access road" area                                | W    | A. Jackson | 16-Nov-21 |
| MH1059-D100      | Wet conditions in the eastern portion, "access road" area                                | E    | A. Jackson | 16-Nov-21 |
| MH1059-D101      | Wet conditions in the eastern portion, "access road" area                                | W    | A. Jackson | 16-Nov-21 |
| MH1059-D102      | Western wet areas  | E    | A. Jackson | 16-Nov-21 |
| MH1059-D103      | Western wet areas  | E    | A. Jackson | 16-Nov-21 |
| MH1059-D104      | Western wet areas  | E    | A. Jackson | 16-Nov-21 |
| MH1059-D105      | Western wet areas  | SE   | A. Jackson | 16-Nov-21 |

| Catalogue Number | Comment  | Dir. | Photo By   | Date      |
|------------------|--|------|------------|-----------|
| MH1059-D106      | Western wet areas  | SE   | A. Jackson | 16-Nov-21 |
| MH1059-D107      | Western wet areas  | S    | A. Jackson | 16-Nov-21 |
| MH1059-D108      | Disturbed, furrows, wet, marshy areas in the western portion of the study area     | E    | A. Jackson | 16-Nov-21 |
| MH1059-D109      | Disturbed, furrows, wet, marshy areas in the western portion of the study area     | SE   | A. Jackson | 16-Nov-21 |
| MH1059-D110      | Disturbed, furrows, wet, marshy areas in the western portion of the study area     | E    | A. Jackson | 16-Nov-21 |
| MH1059-D111      | Disturbed, furrows, wet, marshy areas in the western portion of the study area     | E    | A. Jackson | 16-Nov-21 |
| MH1059-D112      | Disturbed, furrows, wet, marshy areas in the western portion of the study area     | E    | A. Jackson | 16-Nov-21 |
| MH1059-D113      | Disturbed, furrows, wet, marshy areas in the western portion of the study area     | SE   | A. Jackson | 16-Nov-21 |
| MH1059-D114      | General conditions in the western edge of the study area                           | NW   | A. Jackson | 16-Nov-21 |
| MH1059-D115      | General conditions in the western edge of the study area                           | N    | A. Jackson | 16-Nov-21 |
| MH1059-D116      | General conditions in the western edge of the study area                           | NE   | A. Jackson | 16-Nov-21 |
| MH1059-D117      | General conditions in the western edge of the study area                           | SE   | A. Jackson | 16-Nov-21 |
| MH1059-D118      | Disturbed, furrows, wet, marshy areas in the western portion of the study area     | SE   | A. Jackson | 16-Nov-21 |
| MH1059-D119      | Disturbed, furrows, wet, marshy areas in the western portion of the study area     | E    | A. Jackson | 16-Nov-21 |
| MH1059-D120      | Disturbed, furrows, wet, marshy areas in the western portion of the study area     | N    | A. Jackson | 16-Nov-21 |
| MH1059-D121      | Disturbed, furrows, wet, marshy areas in the western portion of the study area     | NE   | A. Jackson | 16-Nov-21 |
| MH1059-D121      | General conditions in the western edge of the study area                           | S    | A. Jackson | 16-Nov-21 |
| MH1059-D122      | General view of western portion showing berms/deep furrows                         | SE   | A. Jackson | 16-Nov-21 |
| MH1059-D123      | General view of western portion showing berms/deep furrows                         | SE   | A. Jackson | 16-Nov-21 |
| MH1059-D124      | Deep furrows in western portion of the study area                                  | N    | A. Jackson | 16-Nov-21 |
| MH1059-D125      | marsh area in the western portion of the study area                                | N    | A. Jackson | 16-Nov-21 |
| MH1059-D126      | marsh area in the western portion of the study area                                | E    | A. Jackson | 16-Nov-21 |
| MH1059-D127      | marsh area in the western portion of the study area                                | NE   | A. Jackson | 16-Nov-21 |
| MH1059-D128      | marsh area in the western portion of the study area                                | N    | A. Jackson | 16-Nov-21 |
| MH1059-D129      | Berms and water in southwestern portion of the study area                          | NE   | A. Jackson | 16-Nov-21 |
| MH1059-D130      | General conditions, large berm in western area                                     | E    | A. Jackson | 16-Nov-21 |
| MH1059-D131      | General low-lying conditions in western area                                       | N    | A. Jackson | 16-Nov-21 |
| MH1059-D132      | Large, disturbed berm in western area  | NE   | A. Jackson | 16-Nov-21 |
| MH1059-D133      | Marshy area, by berms, in western area   | N    | A. Jackson | 16-Nov-21 |
| MH1059-D134      | Large berms, water, garbage  | SE   | A. Jackson | 16-Nov-21 |
| MH1059-D135      | Large berm, showing height/slope   | SW   | A. Jackson | 16-Nov-21 |
| MH1059-D136      | General view of the western portion of the study area                              | E    | A. Jackson | 16-Nov-21 |
| MH1059-D137      | General view of the western portion of the study area, towards central high ground | E    | A. Jackson | 16-Nov-21 |
| MH1059-D138      | Disturbed, furrows, wet, marshy areas in the western portion of the study area     | S    | A. Jackson | 16-Nov-21 |
| MH1059-D139      | Disturbed, furrows, wet, marshy areas in the western portion of the study area     | E    | A. Jackson | 16-Nov-21 |
| MH1059-D140      | Disturbed, furrows, wet, marshy areas in the western portion of the study area     | E    | A. Jackson | 16-Nov-21 |
| MH1059-D141      | Disturbed, furrows, wet, marshy areas in the western portion of the study area     | N    | A. Jackson | 16-Nov-21 |
| MH1059-D142      | General shot of marshy area in western portion                                     | NE   | A. Jackson | 16-Nov-21 |
| MH1059-D143      | Gravel road north of study area  | E    | A. Jackson | 16-Nov-21 |
| MH1059-D144      | General view towards central portion of study area, to the north                   | SE   | A. Jackson | 16-Nov-21 |
| MH1059-D145      | Western side of the creek in the central area                                      | S    | A. Jackson | 16-Nov-21 |
| MH1059-D146      | Western side of the creek in the central area                                      | N    | A. Jackson | 16-Nov-21 |
| MH1059-D147      | General view of the southwestern corner of the study area from the overpass        | E    | A. Jackson | 16-Nov-21 |
| MH1059-D148      | General test pit fill showing sandy clay soil with light brown subsoil             | N    | A. Jackson | 23-Nov-21 |
| MH1059-D149      | Example of excavated test pit in eastern portion of study area                     | N    | A. Jackson | 23-Nov-21 |
| MH1059-D150      | Test pitting in eastern portion  | S    | A. Jackson | 23-Nov-21 |

| Catalogue Number | Comment   | Dir. | Photo By   | Date      |
|------------------|---|------|------------|-----------|
| MH1059-D151      | Stone wall along northern boundary of study area in the east                      | N    | A. Jackson | 23-Nov-21 |
| MH1059-D152      | Modern refuse along northern edge of study area in the east                       | W    | A. Jackson | 23-Nov-21 |
| MH1059-D153      | Modern refuse along northern edge of study area in the east                       | NW   | A. Jackson | 23-Nov-21 |
| MH1059-D154      | Modern refuse along northern edge of study area in the east                       | SW   | A. Jackson | 23-Nov-21 |
| MH1059-D155      | Modern refuse along northern edge of study area in the east                       | SW   | A. Jackson | 23-Nov-21 |
| MH1059-D156      | Modern refuse along northern edge of study area in the east                       | NW   | A. Jackson | 23-Nov-21 |
| MH1059-D157      | General conditions along norther edge of study area in the east                   | N    | A. Jackson | 23-Nov-21 |
| MH1059-D158      | General conditions along norther edge of study area in the east                   | NW   | A. Jackson | 23-Nov-21 |
| MH1059-D159      | Modern refuse along northern edge of study area in the east                       | NW   | A. Jackson | 23-Nov-21 |
| MH1059-D160      | Test pitting in eastern portion   | SW   | A. Jackson | 23-Nov-21 |
| MH1059-D161      | General conditions and branches in the northeastern portion of the study area     | N    | A. Jackson | 23-Nov-21 |
| MH1059-D162      | General shot showing large rocks and tree debris                                  | N    | A. Jackson | 23-Nov-21 |
| MH1059-D163      | General shot showing large rocks and tree debris                                  | NE   | A. Jackson | 23-Nov-21 |
| MH1059-D164      | Test pitting in eastern portion   | SW   | A. Jackson | 23-Nov-21 |
| MH1059-D165      | General conditions in the eastern portion before the marshy area                  | W    | A. Jackson | 23-Nov-21 |
| MH1059-D166      | General conditions with large rocks   | S    | A. Jackson | 23-Nov-21 |
| MH1059-D167      | General conditions with piled soil, branches, large rocks                         | N    | A. Jackson | 23-Nov-21 |
| MH1059-D168      | General conditions with piled soil, branches, large rocks                         | N    | A. Jackson | 23-Nov-21 |
| MH1059-D169      | Test pitting in eastern portion   | S    | A. Jackson | 23-Nov-21 |
| MH1059-D170      | General shot showing large rocks and tree debris                                  | NW   | A. Jackson | 23-Nov-21 |
| MH1059-D171      | General shot at the edge of the marshy area in the east                           | W    | A. Jackson | 23-Nov-21 |
| MH1059-D172      | General shot approaching the marshy area, tree limbs                              | NE   | A. Jackson | 23-Nov-21 |
| MH1059-D173      | General shot showing large rocks and tree debris                                  | NE   | A. Jackson | 23-Nov-21 |
| MH1059-D174      | Water at the edge of the marshy area  | SW   | A. Jackson | 23-Nov-21 |
| MH1059-D175      | Water at the edge of the marshy area  | S    | A. Jackson | 23-Nov-21 |
| MH1059-D176      | Edge of the marshy area, large rock   | SE   | A. Jackson | 23-Nov-21 |
| MH1059-D177      | Looking into the marshy area  | SW   | A. Jackson | 23-Nov-21 |
| MH1059-D178      | Standing water in the bottom of test pit at the edge of the marshy area           | W    | A. Jackson | 23-Nov-21 |
| MH1059-D179      | General view of the marshy area and the slope further to the west                 | W    | A. Jackson | 23-Nov-21 |
| MH1059-D180      | Test pitting in eastern portion   | SE   | A. Jackson | 23-Nov-21 |
| MH1059-D181      | Example of large rock in the eastern portion                                      | E    | A. Jackson | 23-Nov-21 |
| MH1059-D182      | Test pitting in eastern portion   | E    | A. Jackson | 23-Nov-21 |
| MH1059-D183      | Stone boundary wall by the edge of the marshy area in the east                    | NW   | A. Jackson | 23-Nov-21 |
| MH1059-D184      | Test pitting in eastern portion   | N    | A. Jackson | 23-Nov-21 |
| MH1059-D185      | Southern edge of the study area in view of the rail line                          | SE   | A. Jackson | 23-Nov-21 |
| MH1059-D186      | General conditions test pitting in the southeastern portion of the study area     | N    | A. Jackson | 23-Nov-21 |
| MH1059-D187      | Fence line along the southern edge of the study area, with rail line              | S    | A. Jackson | 23-Nov-21 |
| MH1059-D188      | General conditions test pitting in the southeastern portion of the study area     | N    | A. Jackson | 23-Nov-21 |
| MH1059-D189      | Fence line along the southern edge of the study area, with rail line              | SW   | A. Jackson | 23-Nov-21 |
| MH1059-D190      | Test pitting in eastern portion   | N    | A. Jackson | 23-Nov-21 |
| MH1059-D191      | General conditions in the eastern portion   | N    | A. Jackson | 23-Nov-21 |
| MH1059-D192      | Boundary wall along the southern portion of the study area, very large rocks      | S    | A. Jackson | 23-Nov-21 |
| MH1059-D193      | Boundary wall along the southern portion of the study area, very large rocks      | SE   | A. Jackson | 23-Nov-21 |
| MH1059-D194      | View along the southern boundary in the central eastern portion of the study area | E    | A. Jackson | 23-Nov-21 |
| MH1059-D195      | Test pitting in the central eastern portion of the study area                     | N    | A. Jackson | 23-Nov-21 |
| MH1059-D196      | General conditions in central eastern portion, tree and logging debris            | NE   | A. Jackson | 23-Nov-21 |
| MH1059-D197      | Excavated test pit on the top of the rise in the central eastern portion, gravel  | NE   | A. Jackson | 23-Nov-21 |
| MH1059-D198      | Test pitting in the central eastern portion of the study area                     | NE   | A. Jackson | 23-Nov-21 |
| MH1059-D199      | General conditions in central eastern portion, tree and logging debris            | E    | A. Jackson | 23-Nov-21 |
| MH1059-D200      | Test pitting in the central eastern portion of the study area, logging debris     | N    | A. Jackson | 23-Nov-21 |
| MH1059-D201      | General conditions in central eastern portion on top of ridge, rocky, tree debris | SE   | A. Jackson | 23-Nov-21 |
| MH1059-D202      | Large rock boundary wall in central eastern portion                               | NW   | A. Jackson | 23-Nov-21 |
| MH1059-D203      | Intensified test pits around a positive test pit                                  | NE   | A. Jackson | 23-Nov-21 |

| Catalogue Number | Comment   | Dir. | Photo By   | Date      |
|------------------|---|------|------------|-----------|
| MH1059-D204      | General fill of excavated test pit in central eastern portion, not in gravel area | E    | A. Jackson | 23-Nov-21 |
| MH1059-D205      | Stone lined well along the southern edge of the study area                        | S    | A. Jackson | 23-Nov-21 |
| MH1059-D206      | Stone lined well along the southern edge of the study area                        | E    | A. Jackson | 23-Nov-21 |
| MH1059-D207      | Old farm machinery in the central eastern portion                                 | S    | A. Jackson | 23-Nov-21 |
| MH1059-D208      | Stone lined well along the southern edge of the study area                        | S    | A. Jackson | 23-Nov-21 |
| MH1059-D209      | Old farm machinery in the central eastern portion                                 | E    | A. Jackson | 23-Nov-21 |
| MH1059-D210      | General view of central eastern portion, approaching marshy area                  | E    | A. Jackson | 23-Nov-21 |
| MH1059-D211      | Test pitting in central eastern portion, approaching marshy area                  | N    | A. Jackson | 23-Nov-21 |
| MH1059-D212      | General view of central eastern portion, approaching marshy area                  | NW   | A. Jackson | 23-Nov-21 |
| MH1059-D213      | Waterlogged fill from test pit near the marshy area                               | E    | A. Jackson | 23-Nov-21 |
| MH1059-D214      | General view of the central eastern portion                                       | W    | A. Jackson | 23-Nov-21 |
| MH1059-D215      | General view towards the marshy area and the rail line                            | SE   | A. Jackson | 23-Nov-21 |
| MH1059-D216      | Standing water at the edge of the marshy area                                     | E    | A. Jackson | 23-Nov-21 |
| MH1059-D217      | View of the marshy area   | NE   | A. Jackson | 23-Nov-21 |
| MH1059-D218      | ATV trail into the marshy area  | E    | A. Jackson | 23-Nov-21 |

### Appendix B: Map Catalogue

| Map Number | Description                                    | Created By  |
|------------|--|-------------|
| 1          | Location                                       | B. Mortimer |
| 2          | Development Map                                | B. Mortimer |
| 3          | Stage 1 Recommendations                        | B. Mortimer |
| 4          | Historic                                       | B. Mortimer |
| 5          | Current Conditions (Spring 2020) and Photo Key | B. Mortimer |
| 6          | Aerial Photos (1946 and 2016)                  | B. Mortimer |
| 7          | Soils and Geology                              | B. Mortimer |
| 8          | Methods  | B. Mortimer |

### Appendix C: Document Catalogue

| Project Number | Description                                    | Created By |
|----------------|--|------------|
| MH1059         | Long Sault Stage 2 Field Notes (One Note File) | A. Jackson |