Archaeological Services

Geotechnical Engineering

Environmental Engineering

Hydrogeology

Geological Engineering

Materials Testing

Building Science

Paterson Group Inc.
Consulting Engineers
154 Colonnade Road South
Ottawa (Nepean), Ontario
Canada K2E 7J5

Tel: (613) 226-7381
Fax: (613) 226-6344
www.patersongroup.ca

patersongroup

ORIGINAL REPORT

Stage 1 Archaeological Assessment

Thunder/Boundary Roads
Part 1 Plan 5R-12400, Part 1 and 2 Plan 4R-23075,
Part 1 Plan 5R-4318
Part Lot 1 Concession 9 Ottawa Front
Geographic Township of Gloucester
Carleton County
City of Ottawa, Ontario

Prepared For
Michel Pilon
Exit 96 Developments Inc.
222 Somerset Street West, Unit 401
Ottawa, Ontario
K2P 2G3
Email: mpilon@ave31.com

January 2020
Submitted for Review January 2020

PIF: P369-0097-2019
Ben Mortimer, MA (P369)

Report: PA1164-1

1.0 Executive Summary

Paterson Group, on behalf of Exit 96 Developments Inc. (Exit 96) undertook a Stage 1 archaeological assessment of the study area located on Part Lot 1 Concession 9 (Ottawa Front) in the geographic township of Gloucester (Map 1, Map 2). This assessment is in accordance with the Ministry of Heritage, Sport, Tourism, and Culture Industries' *Standards and Guidelines for Consultant Archaeologists* (2011). The objectives of the investigation were to assess the archaeological potential of the property and determine whether further archaeological study was required. This archaeological assessment was required by the City of Ottawa on the study area prior to development activities in accordance with the Planning Act. Exit 96 is planning to develop the property for light industrial use (Map 3).

The Stage 1 assessment included a review of the Ontario Ministry of Heritage, Sport, Tourism, and Culture Industries archaeological sites database, relevant environmental, historical and archaeological literature, primary historical research, and a site visit. The subject property has archaeological potential based on its proximity to a water source (Bear Brook). Additionally, portions of the study area has potential as indicated by the City of Ottawa archaeological management plan (Archaeological Services Inc. and Geomatics International Inc. 1999). A site visit, however, revealed that the entire property is either deeply disturbed or is low-lying and permanently wet.

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

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

2.0 Table of Contents

3.0 Project Personnel

Field Director	Ben Mortimer, MA (P369)
Field Crew	Duncan Williams, MA (R1108)
Report Preparation	Duncan Williams, MA (R1108)
GIS and Mapping	Duncan Williams, MA (R1108)
Report Review	Ben Mortimer, MA (P369)

4.0 Project Context

Paterson Group, on behalf of Exit 96 Developments Inc. (Exit 96) undertook a Stage 1 archaeological assessment of the study area located on Part Lot 1 Concession 9 (Ottawa Front) in the geographic township of Gloucester (Maps 1, 2) located at 6150 Thunder Road and 5368, 5376 and 5384 Boundary Road.

The objectives of the investigation were to assess the archaeological potential of the property and determine whether further archaeological study was required. This archaeological assessment was required by the City of Ottawa on the study area prior to development activities in accordance with the Planning Act. Exit 96 is planning to develop the property for light industrial use (Map 3).

The City of Ottawa has an archaeological management plan, developed in 1999, which covers the Township of Gloucester (Archaeological Services Inc. and Geomatics International Inc. 1999). According to the management plan, portions of the property has archaeological potential (Map 4).

4.1 Historical Context

4.1.1 Historic Documentation

The subject property is in the geographic Township of Gloucester, former County of Carleton. Originally known as Township B, Gloucester was established in 1792. In 1800, it became a part of Russell County, in 1838 in became a part of Carleton County which was incorporated as a township in 1850. The first settler in the township was Braddish Billings in what is now the Billings Bridge area. The early history of Gloucester is best described in Gilles Séguin's *Gloucester: From Past to Present (1991),* Tanya Wackley's *Gloucester: The Proud Legacy of Our Communities (2000),* and M. M. Rowat's *Gloucester Memories* (1986). Other useful resources include *The Carleton Saga* by Harry and Olive Walker (1968), Courtney Bond's *The Ottawa Country* (1968), and Belden's *Illustrated Historical Atlas of Carleton County* (1879).

4.1.2 Pre-Contact Period

The Ottawa 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 Ottawa area until about 11,000 B.P. At this time the receding glacial terminus was north of the Ottawa Valley, 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 Ottawa 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 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 Ottawa Valley, as can be expected given the environmental changes the region underwent, and the recent exposure of the area from glaciations and sea. However, as Watson (1999:38) suggests, it is possible Paleo-Indian people followed the changing shoreline of the Champlain Sea, moving into the Ottawa Valley in the late Paleo-Indian Period, although archaeological evidence is absent.

As the climate continued to warm, the ice sheet receded further allowing areas of the Ottawa Valley 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 include Morrison's Island-2 (BkGg-10), Morrison's Island-6 (BkGg-12) and Allumette Island-1 (BkGg-11) near Pembroke, and the Lamoureaux site (BiFs-2) in the floodplain of the South Nation River (Clermont 1999).

The Woodland Period 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 Ottawa Valley region include Deep River (CaGi-1) (Mitchell 1963), Constance Bay I (BiGa-2) (Watson 1972), and Wyght (BfGa-11) (Watson 1980). 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 are from Leamy Lake Park (BiFw-6, BiFw-16) (Laliberté 1999).

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 the 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 2012; Hart and Brumbach 2003, 2005, 2009; Hart and Englebrecht 2012; Martin 2008; Mortimer 2012). Thus, the shift into the period held as the Late Woodland is not clearly 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, including portions of the Ottawa Valley, there seems to remain a less sedentary lifestyle often associated with the Algonquian groups noted in the region at contact (Wright 2004:1485-1486).

4.1.3 Contact Period

Initial contact between the Ottawa Valley Algonquian groups and European explorers occurred during Champlain's travels in 1613. At this time the Algonquian people along the Ottawa River Valley, an important and long-standing trade route to the interior, were middle-men in the rapidly expanding fur-trade industry and alliances were formed or reinforced with the French. Early historical accounts note many different Algonquian speaking groups in the region at the time. Of note for the lower Ottawa Valley area were the Kichesipirini (focused around Morrison Island); Matouweskarini (upstream from Ottawa, along the Madawaska River); Weskarini (around the Petite Nation, Lièvre, and Rouge rivers west of Montreal), Kinounchepirini (in the Bonnechere River drainage); and the Onontchataronon, (along the South Nation River) (Joan Holmes & Associates 1993; Morrison 2005; Pilon 2005). However, little archaeological work has been undertaken of contact period Algonquins (Pilon 2005).

Starting in the 1630s and continuing into the 1700s, European disease spread among the Algonquian groups along the Ottawa River, bringing widespread death (Trigger 1986:230). Additionally, up to 1650 warfare and raiding into the lower Ottawa Valley by the Five Nation Iroquois forced the various Algonquin groups from the area (Morrison 2005:26). By 1701 the Iroquois had been driven from most of southern Ontario and the Ottawa Valley was occupied by the Algonquin Nation (Morrison 2005:27-28).

A traditional lifeway was continued by many of the Algonquian groups in the lower Ottawa Valley above Montreal through to the influx of European settlement in the late 1700s and early 1800s. This included bands noted to be living along the Gatineau River and other rivers flowing into the Ottawa. These traditional bands maintained a seasonal round focused on harvesting activities into the 1800s when development pressures

and assimilation policies implemented by the colonial government saw Algonquian lands taken up, albeit under increasing protest and without consideration for native claims, for settlement and industry.

4.1.4 Post-Contact Period

A rough survey of the Township of Gloucester was initiated in 1792 but was not completed until 1820. The township was named for William Frederick, second Duke of Gloucester and Edinburgh, nephew of King George III (Clark 2012). The 83,000 acre township was laid out in the typical mile and a quarter concessions, but had two fronts: one facing the Ottawa River, and one facing the Rideau River (Wackley 2000:1).

Braddish Billings, an American working as a lumber jobber on the Rideau River for Philemon Wright of Hull, was the first settler in Gloucester Township, squatting on Lot 17 of the clergy reserve along the Rideau River in 1812 (Séguin 1991:4, 14). In 1823, Braddish Billings constructed the first sawmill in the township on a creek running through his property near present day Bank Street. In 1825, Billings was appointed Clerk and Assessor for Gloucester Township, and the first assessment lists 12 families (Clark 2012). Settlement first occurred along the rivers and the early pioneer communities of the township consisting of Manotick, Long Island Village, Gateville (Billings Bridge), Janeville (Vanier), and New Edinburgh. As roads pushed inland the villages of Cyrville, St. Joseph (Orléans), and Cathartic (Carlsbad Springs) developed. By the late 1820s the township's lumber was mostly felled and agriculture became the main source of revenue. In 1827, Braddish Billings took his last load of lumber to Quebec before turning to agriculture (Séguin 1991:4-5, 14).

Farmer's Bridge, later known as Billings Bridge, was completed in 1830, linking Gloucester Township with Nepean Township and Bytown. By 1834, the township had grown slightly totaling 156 households. That same year, stagecoach service began between Bytown and Prescott via Billings Bridge, Bowesville, and South Gloucester. The road was known as the Bytown & Prescott Carriage Road (Clark 2012).

In 1850, Gloucester Township was incorporated. The following year the township had a population of 3,005. Ten years later the population had only grown to 4,522 (Bond 1968:23). In 1854, the Bytown and Prescott Railway was completed through the township (renamed Ottawa and Prescott Railway in 1855 and leased to CPR in 1881). The railway ran through Gloucester from Manotick Station to New Edinburgh via Gloucester Station, Ellwood, Billings Bridge, Overbrook, and Janeville (Vanier).

In 1865, the Ottawa and Gloucester Road Company was established to build and improve the road between Uppertown Ottawa and South Gloucester, by this time the road was known as Bank Street (Clark 2012). These improvements to the township meant that by 1867 Gloucester was mostly settled, but eventually the township started losing part of its urban population to Ottawa. New Edinburgh was incorporated as a village in 1867 and twenty years later in 1887 was annexed to Bytown, followed in 1889 by another 148 acres to the south of New Edinburgh (Séguin 1991:14).

The study area lies at the extreme southeast of Gloucester Township, where it borders Osgoode Township to the south and Russell Township to the east. It is approximately midway (less than 3 km away from each) between the lines of the Canadian Atlantic Railway (opened 1882, running between Ottawa and Coteaux, southwest of Montreal) and the Ottawa and New York Railway (opened 1898, running between Ottawa and Cornwall). The nearby communities of Edwards (3 km to the southwest) and Carlsbad Springs (4 km to the northwest) were stops along these railways. Carlsbad Springs has an interesting history (Collins 2003), beginning with Scottish immigrant James Forsythe constructing the first house in the settlement in 1849. Other settlers soon arrived along Bear Brook, which included a mineral hot spring at Carlsbad. The village became known by the name Cathartic during this period, due to the popularity of the hot springs for bathing. A hotel was built by Daniel Eastman to house visitors in 1867. The popularity of the mineral springs increased during the last decades of the 19th century in connection with increasing popularity of mineral spas amongst the Victorian middle class. A large spa complex operated by the Dominion Springs company developed in the 1870s but was destroyed by fire not long after. James Boyd took over the spa complex, reinvigorating it and eventually naming it Carlsbad Springs in 1906 after a famed spa resort in the Czech Republic. The location remained popular until the Second World War.

4.1.5 Study Area Specific History

Concession 9 O.F., Lot 1

The study area is located in the central portion of Lot 1, Concession 9 Ottawa Front. Early transactions for the lot are shown in **Error! Reference source not found.**. The lot was patented to Thomas Starmer relatively late in 1871 (OLR). It was then mortgaged to the C.P.B + S. Society (or Company) in separate transactions in 1875 and 1878. The entire property was then deeded by the C.P.L + S. Company to A.S. Woodlawn in 1880, who subsequently deeded it to Geo H. Perley in 1881, who deeded it to David Irwin in 1888. In 1891, Louis Labelle acquired the land from Irwin, and proceeded to split it up into 50-acre portions, which were transferred to his children at the turn of the century. The 50-acre portions remained largely intact and in the Labelle family for the first several decades of the 20th century.

Date	Transaction	Grantor	Grantee	Description
2 Jan 1871	Patent	Crown	Thomas Starmer	All lot 1, 200 acres
30 Dec 1875	Mortgage	Thomas Starmer et ux	C.P.B. + S. Society	All, $500
13 Dec 1878	Mortgage	Thomas Starmer et ux	C.P.B. + S. Company	All lot 1 ($500)
15 Nov 1880	Deed	C.P.L. + S. Company	A.S. Woodlawn	All lot 1
26 Nov 1881	Deed	Alex S. Woodlawn + wife	Geo H. Perley	All lot 1
27 Nov 1888	Deed	Geo. H. Perley et ux	David Irwin	All lot 1
15 Jan 1891	Deed	David Irwin et ux	Louis Labelle	All lot 1, 200 acres
10 May 1899	B+S	Louis Labelle + wife	Peter Labelle	Love + $1. S 50 acres of N'ly 100 acres, lot 1
10 May 1899	B+S	Louis Labelle + wife	Jos. Labelle	$654. N – 50 acres lot 1
30 Mar 1901	B+S	Louis Labelle + wife	Augustes Labelle	$100. S ½ of S ½ lot 1, 50 acres
30 Mar 1901	B+S	Louis Labelle + wife	Wm Labelle	$400. N ½ of S1/2 lot 1, 50 acres

Table 1: Lot 1 Concession 9 O.F. transactions. (OLR)

A county atlas map dating to 1825 (Map 5) does not indicate a landowner for this particular lot, nor for any of the surrounding ones in the southeast quarter of the township, indicating that it was settled quite late (Coffin 1825). A stream is shown running through the central portion of the lot on this map, in approximately the position of the current Bear Brook. An 1863 map also indicates that the land had not yet been patented (Map 5), though some of the surrounding lots now have landowners and structures associated. The creek is no longer shown on the property (Walling 1863). Finally, an 1879 map shows Thomas Starmer as the owner of the entire lot (Map 5), though no structures are shown on the property (Belden 1879). As with the Walling map of 1863, the creek is absent from the property.

Thomas Starmer appears in Gloucester township tax assessment rolls for various years throughout the 1870s, including 1879 (Ancestry.com 2018). He is listed as the owner of the Lot 1 Con 9 property, owning all 200 acres which are valued at 1000 (currency type not specified). It is also noted that that he is a non-resident. As late as 1880, the assessment rolls still list Starmer as the owner of the entire property. He is listed as a shoemaker in this roll. The census records for 1881 list Starmer as living in St Georges ward (Statistics Canada 1881), confirming his status as a non-resident. He also appears in city directories for various years in the late 19th century.

The 1895 rolls list Louis and his sons Peter and Joseph Labelle as the freeholding owners of all 200 acres of Lot 1 Con 9, indicating that they are farmers. The assessment notes that 30 acres of the property is wooded and 30 acres is considered swamp land. The 1891 census (Statistics Canada 1891) lists Louis Labelle and his wife Quebec-born wife Exlandrin along with 10 children ranging in age from 4 to 23. Two wooden houses are listed on the property. Schedule 2 from the 1901 census confirms the occupation of various members of the large Labelle family on the property (Statistics Canada 1901). A topographic map from 1908 shows three wooden houses located along the extreme eastern boundary of the lot (Map 6).

Thus, early historical activity on the property appears to have been very limited. There may have been tenant farmers using the property late in the 19th century, with Starmer acting as an absentee landlord. Later, the Labelle family established themselves on the property in the last decade of the 19th century.

Clearing of the forested areas on the majority of the property does not appear to have taken place until about the 1930s, as suggested from topographic maps which show the majority of it under deciduous cover until at least 1926 (with the exception of narrow zones along the concession lines where the houses were located). The majority is shown as cleared by 1936 (Map 6). The same topographic maps indicate that the natural course of the stream stops to the west in Lot 3, indicating that it was diverted between fields further east. The poorly draining soils (as noted in the early assessment rolls indicating large areas of swamp) combined with the low-lying elevation and the late forest clearing all indicate that the area was not suitable for agricultural use. By at least 1965, the entire lot had been cleared and was under cultivation, but replanting was undertaken only a few decades later.

4.2 Archaeological Context

4.2.1 Current Conditions

The study area consists of a 19.5 ha parcel west of Thunder and Boundary Roads that includes wooded areas, recently grubbed land, and extant buildings surrounded by some landscaped open areas, as well as active light industrial areas (Map 7). The subject property is bounded by Thunder and Boundary roads to the east (Figure 1, Figure 2). Neighbouring properties to the north are primarily residential and there are industrial properties to the east.

The northern portion of the study area has two standing structures, including a house and an outbuilding (Figure 3, Figure 4). North and south of this area there are some wooded recent growth areas (Figure 5), adjacent to large grubbed areas further south (Figure 6). Other residences and outbuildings are located towards the southern end of the property at 5368 and 5376 Boundary Road (Figure 7, Figure 8). The southern extreme of the property at 5384 Boundary Road consists of a cleared area with several structures and a large gravel lot (Figure 9). It is currently subject to light industrial use as a landscaping equipment depot.

4.2.2 Physiography and Surficial Geology

The study area lies within the Russell and Prescott Sand Plains physiographic region (Chapman and Putnam 2007). This large sand plain is situated to the south of the extensive Ottawa Valley Clay Plains region.

The surficial geology (Map 8) shows the study area in a zone of coarse-textured deltaic deposits dating to the Pleistocene and consisting of sand, gravel, minor silt, and clay. Immediately to the east, there is a zone of fine-textured massive to well laminated glaciomarine deposits. There are also a series of eolian dune deposits located about 1 km to the north of the study area.

The study area consists of Cheney soils in the northern and southern portions of the property, and Allendale soils in the centre (Map 9). Allendale soils are poorly drained with granular structure and dark brown surface horizons. Cheney soils are similarly described as poorly draining with dark surface horizons. Both series are water saturated for the majority of the growing season, making them poorly suited to agriculture (Schut and Wilson 1987).

The closest water source is a stream associated with the Bear Brook which passes through the northern portion of the study area. It has been heavily modified as part of stormwater management practices in recent years (Figure 10). The stream was diverted from its natural course as early as 1965 (as shown on aerial photos) (Map 10) to allow for drainage between the various agricultural fields. It was likely initially diverted sometime in the late 19th or early 20th century, but the natural course of the stream would probably have been through the southern portion of the property. The stream joins a larger tributary of the same name near Carlsbad Springs to the north, which eventually joins the South Nation River at Plantagenet, then drains into the Ottawa River at Wendover.

4.2.3 Previous Archaeological Assessments

Archaeological work in the region has primarily consisted of cultural resource management studies related to specific properties or development projects. Work has been fairly limited in the rural parts of Gloucester County, with more work taking place to the northwest near Walkley, Russell, Hawthorne and Hunt Club Roads. Examples include Stage 1 investigations of a properties along Walkley and Hawthorne Roads (Paterson Group 2013a, 2013b), various investigations near the intersection of Russell and Hunt Cub Roads (Paterson Group 2019; Stantec 2018), a Stage 1/2 assessment for the widening of Hawthorne Road and the extension of Hunt Club Road in the 1990s (Daechsel 1995a, 1995b), another Stage 1 assessment for the Hunt Club extension in 2005 (Archaeological Services Inc. 2005), Stage 1 assessment for a hydro corridor to Quebec that passed from the Hawthorne Station to Cumberland Township (Kennett 1999), and a Phase 1 to 3 study of the widening of Hawthorne Road (Kennett 1991a, 1992, 1993). Golder (2012b) also undertook a Stage 1 assessment of parts of Lots 5, 6, and 7 Ottawa Front in advance of rehabilitation work on Highway 417. Archaeological investigations of the Billings Estate also took place in the 1980s by Gerrard and Hossack (Gerrard and Hossack 1981a, 1981b, 1981c, 1981d) and in the 1990s by the Cataraqui Archaeological Research Foundation (Kennett

1990, 1991b; Stewart 1989). In neighbouring Cumberland Township to the east, the majority of work has similarly been concentrated in areas further north in proximity to Navan and Orleans.

A previous assessment undertaken by Golder on Lot 1 Concession 9 Ottawa Front lies within 50 m of the present study area (Golder Associates 2012a). It encompasses the interchanges between Highway 417 and Boundary Road at the northern corner of the lot. This Stage 1 assessment was undertaken in advance of rehabilitation work on the Boundary Road Overpass of the Highway 417. No further work was recommended for this area, as it was determined it was used only as marginal farmland during the historic period and does not possess significant pre-contact archaeological potential, in accordance with the findings of this report.

4.2.4 Registered Archaeological Sites and Commemorative Plaques

A search of the Ontario Archaeological Sites Database revealed that there are no registered sites within 5 km of the study area. A historical plaque erected by the Ontario Heritage Foundation is located in the community of Carlsbad Springs 3 km to the north, commemorating the role of the mineral springs in the early settlement of the area. Other plaques (sponsored by the South Nation Conservation Authority, the Gloucester Historical Society, the Friends of the Environment Foundation, the National Capital Commission, and the Government of Canada) outlining the history of Carlsbad Springs are found at the same site, near a springhouse that formed part of the spa complex operated by the Boyd family in the early 20th century.

4.3 Archaeological Potential

Based on the Archaeological Resource Potential Map for the City of Ottawa, portions of the centre and southern end of the study area have archaeological potential (Archaeological Services Inc. and Geomatics International Inc. 1999) (Map 4).

A closer examination, however, shows that the area has low archaeological potential. According to the Ministry of Heritage, Sport, Tourism and Culture Industries' (MHSTCI) Standards and Guidelines (S+G) Section 1.3.1 (MHSTCI 2011), pre-contact archaeological potential is based on proximity to water sources, elevated topography, pockets of well-drained soil, distinctive land formations, raw material resource areas, and known archaeological sites. While there are secondary water sources on and in close proximity to the study area (Bear Brook and a variety of marsh areas), the property is located a considerable distance away from primary water sources. Additionally, it is low-lying with poorly drained soils and there are no known archaeological sites in the vicinity. Thus, the area possesses low pre-contact archaeological potential.

Euro-Canadian archaeological potential is based on proximity to water sources, well-draining soils, elevated topography, early areas of industry, pockets of early settlement, and historical transportation routes (Section 1.3.1 MHSTCI 2011). Settlement in the area was apparently quite late based on the available historical records. This is likely related to the generally poor quality of the soils for agriculture. Historical settlement maps indicate a lack of development in the immediate area (Map 5), though there were denser pockets of settlement further north in the area of Cathartic Village (present-day Carlsbad Springs) and later to the south in the Village of Edwards in Osgoode Township.

Early transportation routes in the area were limited, with the exception of the road passing through Cathartic some 2.5 km to the north (present-day Russell Road) and a railway (the Canadian Atlantic Railway) connecting Hurdman's Bridge to Cathartic, which opened in 1882. The Ottawa and New York Railway, over 3 km to the southwest, was also established in 1898 running from Hurdman's Bridge to Edwards. The aforementioned villages were important stops on the railway. There are no registered archaeological sites in the vicinity. Thus, there is low-medium potential for Euro-Canadian archaeological sites, though settlement pre-dating the very late 19th century is unlikely.

5.0 Field Methods

The entire property is considered to have archaeological potential according to the 2011 standards set out for consultant archaeologists by the MHSTCI (2011), based on the presence of a nearby water source.

Following Section 1.2 of the Standards and Guidelines (MHSTCI 2011), an optional property inspection was undertaken on November 7, 2019. Permission to access the property was provided by Exit 96 Developments, with no limitations. Spot-checking, rather than systematic inspection, was undertaken due to difficulties accessing certain areas of the property because of large sections of standing water (Section 1.2 Standard 1). Weather conditions were sunny, with temperatures around 5° Celsius. Visibility was excellent, with no limitations to the observation of features of archaeological potential (Section 1.2 Standard 2).

This inspection was undertaken to confirm the extent of disturbances and to determine what survey strategies would be appropriate for a Stage 2 assessment, should it be required. Areas were examined to confirm if features of archaeological potential were present and if there were any areas of disturbance which would have removed archaeological potential (Section 1.2 Standards 3-5).

Photographs were taken during the site visit to document the current land conditions in order to support analysis, conclusions and recommendations following Section 7.8.6 Standard 1 (MHSTCI 2011).

Mapping of the extent of disturbances and wet areas as shown in Map 11 was completed using an iPad with ArcGIS Collector streaming location data from a handheld BadElf Surveyor GNSS GPS with DGPS correction enabled. Mapping of extents was verified and updated in post-processing using aerial imagery. Average GPS signal accuracy during the site visit was +/-2 m.

Locations of all photos included in this report are shown on Map 7, identified by catalogue number. Map, photograph, and document catalogues appear in Appendices A, B, and C.

6.0 Findings

The site visit determined that the property does not possess any archaeological potential.

The central portions along Thunder Road are low-lying and permanently wet, as evidenced by the presence of *Typha* (cattail) plants and other wetland species (Figure 11). In accordance with Standard and Guidelines Section 2.1 Standard 2a, these areas are excluded from requiring Stage 2 survey (Map 10). Historical aerial photographs showing the cleared fields also demonstrate this inundation (Map 9).

Recent grubbing across much of the southern portion of the property has caused deep disturbance through the deep disturbance of topsoil layers, resulting in subsoil disturbance and exposure (Figure 12, Figure 13). These areas are excluded from Stage 2 survey following Section 2.1 Standard 2b (Map 10). A map provided by the proponent shows the area that was cleared of trees; this area was verified in the field, though much of the western portion of the study area was inaccessible due to large amounts of standing water. Where tree cover remains (mostly at the northern end of the property), the ground is low-lying and wet (Figure 14). This is again evidenced by wetland plant species (Figure 15), as well as moss lines around the base of trees indicating recurrent inundation (Figure 16).

At the northern end of the property, there is significant disturbance associated with a residence at 6150 Thunder Road (Figure 3, Figure 4). This property is noticeably built up from the low-lying surrounding landscape. The cleared and filled area is particularly evident on a 1991 aerial photo, which also shows a driveway cutting in behind the residence to an outbuilding located to the west in another cleared and filled area (Map 9). A concrete stormwater conduit associated with the heavily modified Bear Brook is located just south of the residence passing under Thunder Road (Figure 10).

At the southern end of the property, there are residences located on heavily disturbed built-up lots at 5368 and 5376 Boundary Road (Figure 7, Figure 8). In the southeast corner, extensive disturbances related to the existing landscaping depot at 5384 Thunder Road are present. The area has been cleared and filled to raise it from the surrounding low-lying landscape. Where lightly treed sections remain in this area, they are low-lying and wet.

In sum, the entire property is either disturbed (9.3 ha or 47.7%) or low-lying and permanently wet (10.2 ha or 52.3%). The areas shown as having archaeological potential on the City of Ottawa's model (Archaeological Services Inc. and Geomatics International Inc. 1999) are primarily located in the grubbed area at the south end of the property, as well as the adjacent disturbed industrial and residential zones.

See Appendices A, B, and C for catalogues of photographs, maps, and field notes.

7.0 Analysis and Conclusions

The Stage 1 assessment concluded that there was low potential for pre-contact Aboriginal and low-medium potential for historic Euro-Canadian archaeological resources within the study area.

A Stage 1 site visit confirmed that the entire property is either wet and low-lying or significantly disturbed and thus meets the criteria for exclusion from Stage 2 survey (S+G Section 2.1 Standard 2).

As such, no further work is recommended.

8.0 Recommendations

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

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

9.0 Closure

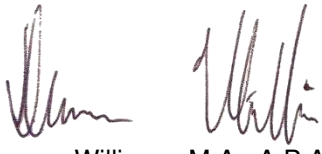
Paterson has prepared this report in a manner consistent with the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made. The sampling strategies incorporated in this study generally follow those identified in the Ministry of Heritage, Sport, Tourism 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 Exit 96 Developments Inc 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.

We trust that this report meets your current needs. If you have any questions or we may be of further assistance, please contact the undersigned.

Paterson Group Inc.

Ben Mortimer, M.A., A.P.A.
Senior Archaeologist



Duncan Williams, M.A., A.P.A.
Staff Archaeologist

10.0 Bibliography and Sources

Ancestry.com
2018 Ottawa (Gloucester), Ontario, Canada, Tax Assessment and Collector Rolls, 1855-1919. The Generations Network, Inc. https://search.ancestry.ca/search/db.aspx?dbid=2994, accessed 2016.

Archaeological Services Inc.
2005 *Stage 1 Archaeological Assessment Proposed Innes-Walkley Connection and Hunt Club Road Extension, City of Ottawa, Ontario*.

Archaeological Services Inc. and Geomatics International Inc.
1999 *The Archaeological Resource Potential Mapping Study of the Regional Municipality of Ottawa-Carleton: Planning Report.* Archaeological Services Inc. and Geomatics International Inc., Ottawa, Ont.

Belden, H. & Co.
1879 *Illustrated Historical atlas of the county of Carleton (including city of Ottawa), Ont.* Toronto.

Bond, Courtney C. J.
1968 *The Ottawa Country*. National Capital Comm., Ottawa.

Chapman, L. J., and D. F. Putnam
2007 *The Physiography of Southern Ontario*. Ontario Geological Survey, Toronto.

Clark, Glenn
2012 A Historical Timeline for the Township of Gloucester. Gloucester Historical Society, accessed 2012.

Clermont, N.
1999 The Archaic Occupation of the Ottawa Valley. In *Ottawa Valley Prehistory*, edited by J.-L. Pilon, pp. 43-53. Imprimerie Gauvin, Hull.

Coffin, William
1825 *Plan of the township of Gloucester*.

Collins, James
2003 *The chronicle of Carlsbad Springs*. Kevin Collins.

Daechsel, H.
1995a *Stage 1 Archaeological Assessment of Proposed Widening of Hawthorne Road and Extension of Hunt Club Road, Lots 2-6, Concessions 5 & 6 Rideau Front, Gloucester Township, Regional Municipality of Ottawa-Carleton*.

1995b *Stage 2 Archaeological Assessment of Proposed Widening of Hawthorne Road and Extension of Hunt Club Road, Lots 2-6, Concessions 5 & 6 Rideau Front, Gloucester Township, Regional Municipality of Ottawa-Carleton*.

Ellis, C. J., and B. D. Deller
1990 Paleo-Indians. In *The Archaeology of Southern Ontario to A.D.1650*, Vol 5, edited by C. J. Ellis, and N. Ferris, pp. 37-63. Occasional Publications of the London Chapter, OAS, London.

Engelbrecht, W.
1999 Iroquoian Ethnicity and Archaeological Taxa. In *Taming the Taxonomy: Toward a New Understanding of Great Lakes Archaeology*, edited by R.F. Williamson, and Christopher M. Watts, pp. 51-60. eastendbooks, Toronto.

Ferris, Neal

1999 Telling Tales: Interpretive Trends in Southern Ontario Late Woodland Archaeology. *Ontario Archaeology* 68:1-62.

Gerrard and Hossack
1981a *Billings Estate Archaeological Research Report*.

1981b *Billings Estate Archaeological Research Report Part 1: Artifact Inventory*.

1981c *Billings Estate Master Plan*.

1981d *Summary Report of the 1981 Archaeological Investigations at the Billings Estate Ottawa, Ontario*.

Golder Associates
2012a *Stage 1 Archaeological Assessment Highway 417 Corridor from 8th Line to OC Road 26*.

2012b *Stage 2 Archaeological Assessment, Highway 417, Bear Brook Bridge and Ramsay Creek, Part Lots 19 and 20 Concession 5, Part Lots 17 and 18 Concession 6, Part Lots 6 and 7 Concession 7, Ottawa Front, Geographic Township of Gloucester*

Hart, John P.
2012 The Effects of Geographical Distances on Pottery Assemblages and Similarities: A Case Study from Northern Iroquoia. *Journal of Archaeological Science* 39(1):128–134. DOI: 10.1016/j.jas.2011.09.010.

Hart, John P., and Hetty Jo Brumbach
2003 The Death of Owasco. *American Antiquity* 68(4):737-752.

2005 Cooking Residues, AMS Dates, and the Middle-to-Late Woodland Transition in Central New York. *Northeast Anthropology* 69(Spring):1-34.

2009 On Pottery Change and Northern Iroquoian Origins: An Assessment from the Finger Lakes Region of Central New York. *Journal of Anthropological Archaeology* 28:367-381.

Hart, John P., and W. Englebrecht
2012 Northern Iroquoian Ethnic Evolution: A Social Network Analysis. *Journal of Archaeological Method and Theory* 19(2):322–349. DOI: 10.1007/s10816-011-9116-1.

Jamieson, S.
1999 A Brief History of Aboriginal Social Interactions in Southern Ontario and Their Taxonomic Implications. In *Taming the Taxonomy: Toward a New Understanding of Great Lakes Archaeology*, edited by R.F. Williamson, and Christopher M. Watts, pp. 175-192. eastendbooks, Toronto.

Joan Holmes & Associates
1993 Executive Summary. In *Algonquins of Golden Lake Claim*. Ontario Native Affairs Secretariat.

Kennett, Brenda
1990 *Archaeological Monitoring of the Restoration Work in the Vicinity of the Old Well, Billings Estate, City of Ottawa*.

1991a *Phase 1 Study of the Heritage Resources of the Proposed Extension to Hawthorne Road, Regional Municipality of Ottawa-Carleton*.

1991b *Phase II Archaeological Assessment of the Regional Municipality of Ottawa-Carteton Southeast Transitway Development, Impact on the Billings Estate*.

1992 *Phase 2 Archaeological Investigation of the Proposed Extension to Hawthorne Road, Regional Municipality of Ottawa-Carleton*.

1993 *Phase 3 Study of the Heritage Resources of the Proposed Extension to Hawthorne Road, Regional Municipality of Ottawa-Carleton*.

1999 *Stage 1 Archaeological assessment of the Hydro Transmission Corridor from The Hawthorne Transformer Station (Ottawa) to the Cumberland Junction, Regional Municipality of Ottawa Carleton*. Copies available from Heritage Quest.

Laliberté, Marcel
1999 The Middle Woodland in the Ottawa Valley. In *Ottawa Valley Prehistory*, edited by J.-L. Pilon, pp. 69-81. Imprimerie Gauvin, Hull.

Martin, Scott W. J.
2008 Languages Past and Present: Archaeological Approaches to the Appearance of Northern Iroquoian Speakers in the Lower Great Lakes Region of North America. *American Antiquity* 73(3):441-463.

Ministry of Tourism Culture and Sport
2011 Standards and Guidelines for Consultant Archaeologists, edited by Ministry of Tourism and Culture. Queen's Printer for Ontario.

Mitchell, B.M.
1963 Occurrence of Overall Corded Pottery in the Upper Ottawa Valley, Canada. *American Antiquity* 29(1):114-115.

Morrison, James
2005 Algonquin History in the Ottawa River Watershed. *Ottawa River: A Background Study for Nomination of the Ottawa River Under the Canadian Heritage Rivers System*:17-36.

Mortimer, B.
2012 Whos Pot is This? Analysis of Middle to Late Woodland Ceramics From the Kitchikewana Site, Georgian Bay Islands National Park of Canada. Unpublished M.A. Thesis, Department of Anthropology, Trent University, Peterborough.

OLR
Ontario Land Registry Office Records, Ontario.

Paterson Group
2013a *Stage 1 Archaeological Assessment: 2510 Walkley Road, Concession 5 R.F., Part Lot 1 and A and Concession 6 R.F., Part Lot 1 and A, Geographic Township of Gloucester, City of Ottawa, Ontario*, Ottawa.

2013b *Stage 1 Archaeological Assessment: 3475 and 3481 Hawthorne Road, Concession 6 R.F., part lot 5 and 6, Geographic Township of Gloucester, City of Ottawa, Ontario*.

2019 *Archaeological Impact Assessment: 4055 and 4120 Russell Road*.

Pilon, J.-L.
2005 Ancient History of the Lower Ottawa River Valley. *Ottawa River: A Background Study for Nomination of the Ottawa River Under the Canadian Heritage Rivers System*:12-17.

Ritchie, W. A.
1969 *The Archaeology of New York State*. Revised ed. The Natural History Press, Garden City.

Rowat, M. M.

1986 *Gloucester Memories*. Gloucester Historical Society, Ottawa.

Schut, L.W., and E.A. Wilson
1987 *The Soils of the Regional Municipality of Ottawa-Carleton (Excluding the Ottawa Urban Fringe)*. Soil Survey Report No. 58 of the Ontario Institute of Pedology. Agriculture Canada, Ottawa.

Séguin, Gilles
1991 *Gloucester: From Past to Present*. City of Gloucester, Gloucester, ON.

Stantec
2018 *Stage 1-2 Archaeological Assessment, Infrastructure Ontario Project Number 1055639, Part of Lots 3-5, Concession 6 from Rideau River, formerly Gloucester Township, Carleton County, now City of Ottawa, Ontario*.

Statistics Canada
1881 Census of Canada http://www.collectionscanada.gc.ca/databases/census-1881/index-e.html, accessed.

1891 Census of Canada http://www.collectionscanada.gc.ca/databases/census-1891/index-e.html?PHPSESSID=vcme2kelmj1gs39p0q3rf75j45, accessed 2012.

1901 Census of Canada http://www.collectionscanada.gc.ca/databases/census-1891/index-e.html?PHPSESSID=vcme2kelmj1gs39p0q3rf75j45, accessed.

Stewart, W. Bruce
1989 *Regional Municipality of Ottawa-Carleton Southeast Transitway Archaeological Assessment of Impact on the Billings Estate*.

Trigger, B. G.
1986 *Natives and Newcomers: Canada's "Heroic Age" Reconsidered*. McGill-Queen's University Press, Montreal.

Wackley, Tanya
2000 *Gloucester: The Proud Legacy of Our Communities*. Gloucester Historical Society, Ottawa.

Walker, H. J., and O. Walker
1968 *The Carleton Saga*. The Runge Press Ltd., Ottawa, Ont.

Walling, Henry
1863 *Map of the county of Carleton, Canada West*. D.P. Putnam. Ontario.

Watson, Gordon D.
1972 A Woodland Indian Site at Constance Bay, Ontario. *Ontario Archaeology* 18:1-24.

1980 The Wyght Site: A Multicomponent Woodland Site on the Lower Rideau Lake, Leeds County, Ontario Unpublished M.A. Thesis, Department of Anthropology, Trent University, Peterborough.

1990 Paleo-Indian and Archaic Occupations of the Rideau Lakes. *Ontario Archaeology* 50:5-26.

1999 The Paleo-Indian Period in the Ottawa Valley. In *Ottawa Valley Prehistory*, edited by J.-L. Pilon, pp. 28-41. Imprimerie Gauvin, Hull.

Wright, James V.
1966 *The Ontario Iroquois Tradition*. Bulletin 210. National Museum of Canada, Ottawa.

2004 *A History of the Native People of Canada: Volume III (A.D. 500 - European Contact)*. National Museum of Canada Mercury Series, Archaeological Survey of Canada Paper No. 152. Canadian Museum of Civilization, Hull.

11.0 Images

Figure 1: Eastern border of property along Thunder Road, showing low-lying wet areas and forested area beyond. (PA1164-D01)

Figure 2: Eastern border of study area along Boundary Road, adjacent to landscaping depot. (PA1164-D38)

Figure 3: Residence at 6150 Thunder Road. Note how the property has been artificially elevated from the surrounding area. (PA1164-D17)

Figure 4: Outbuilding at 6150 Thunder Road. Note how the yard has been artificially elevated from the surrounding landscape. (PA1164-D31)

Figure 5: Lightly wooded area north of 6150 Thunder Road. (PA1164-D18)

Figure 6: Extensive grubbed area towards south end of property. (PA1164-D11)

Figure 7: Residence and built-up property at 5376 Boundary Road. (PA1164-D46)

Figure 8: Residence and built-up property at 5368 Boundary Road. (PA1164-D47)

Figure 9: Landscaping depot at 5384 Boundary Road. (PA1164-D37)

Figure 10: Bear Brook crossing Thunder Road. (PA1164-D30)

Figure 11: Low-lying wet area along Boundary Road, central portion of study area. (PA1164-D04)

Figure 12: Extensive disturbances from recent grubbing. (PA1164-D08)

Figure 13: Extensive disturbance from grubbing in central-southern portion of study area. Note subsoil exposure. (PA1164-D12)

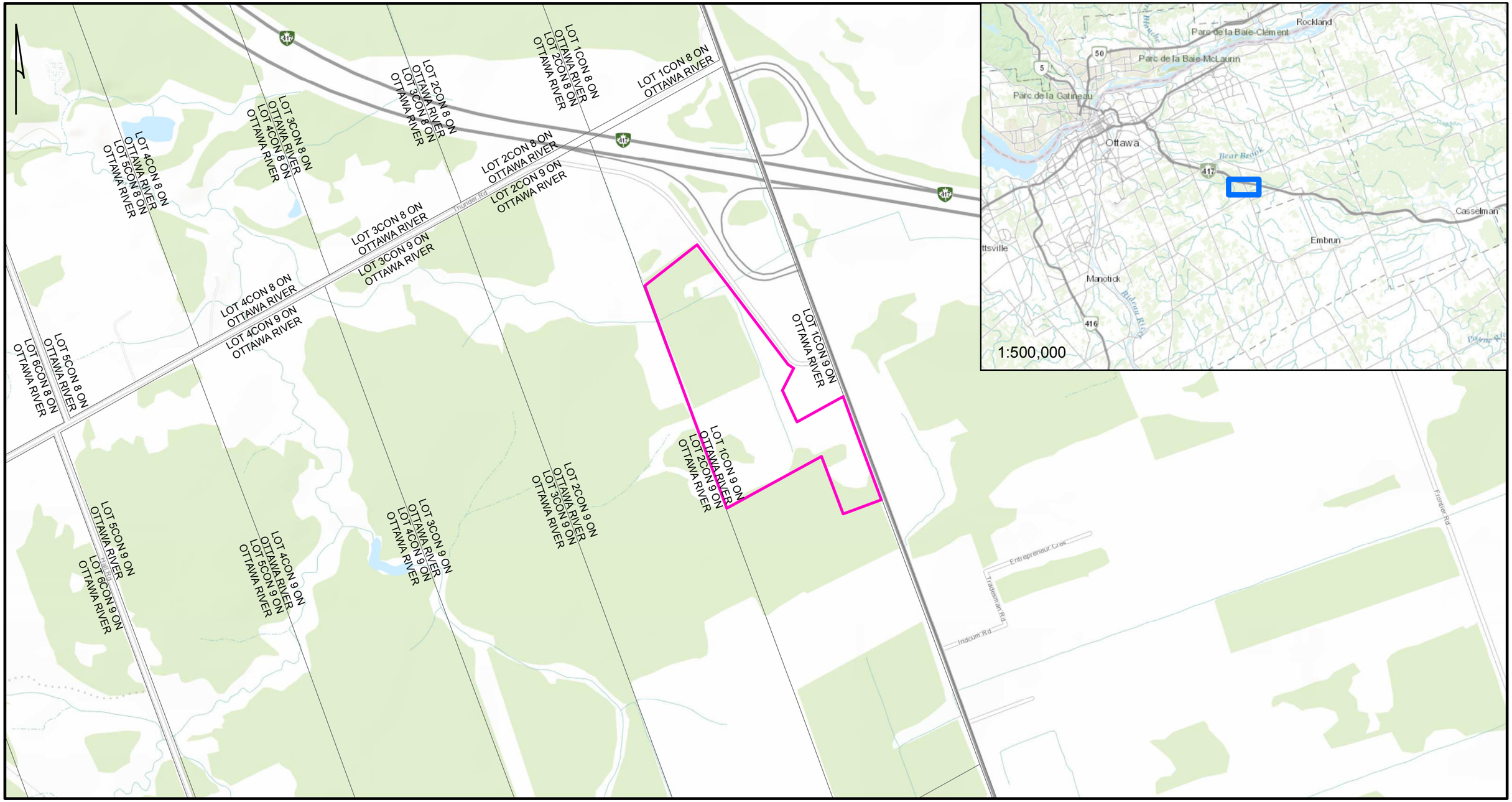
Figure 14: Low-lying inundated and lightly forested area. (PA1164-D13)

Figure 15: Low-lying wet forested area behind 6150 Thunder Road. (PA1164-D32)

Figure 16: Low-lying treed area north of 6150 Thunder Road. Note moss line at base of tree, indicating recurrent inundation. (PA1164-D25)

Figure 17: Low-lying wet area at southeastern corner of property. (PA1164-D40)

12.0 Maps



DEVELOPMENT AREA

0 200 400 600 800 1,000 Meters

REFERENCES:

COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N
SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

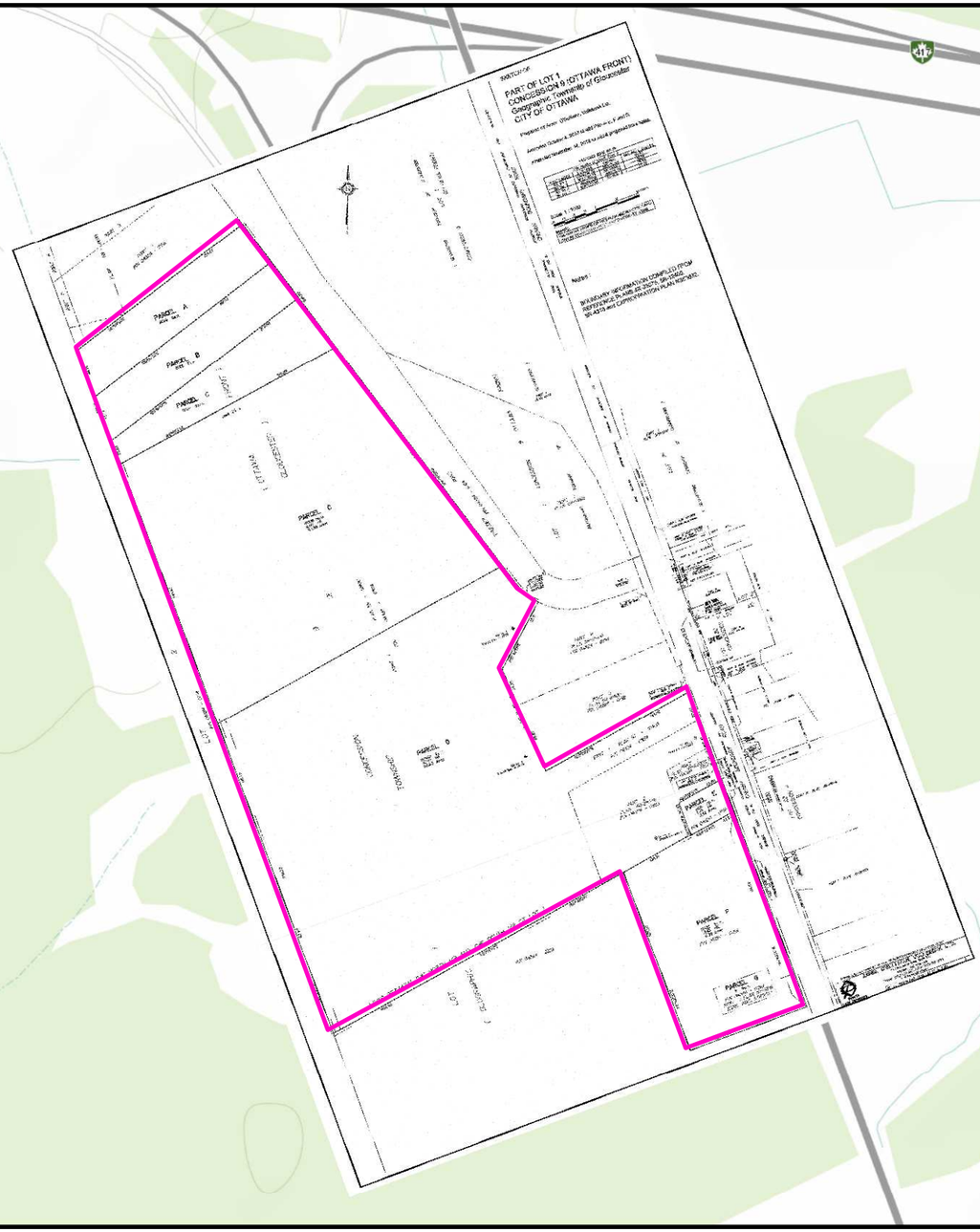
paterson group
consulting engineers
154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Scale	1:10,000
Des	DW
Drawn	DW
Chkd	BM
Project	PA1164
Borden	N/A

STAGE 1 ARCHAEOLOGICAL ASSESSMENT:
PART OF 1 CONCESSION 9
TOWNSHIP OF GLOUCESTER, OTTAWA, ON

LOCATION

File:	PA1164 - PIF
Date:	21/01/2020
Map:	1



DEVELOPMENT AREA

0 100 200 300 400 500 Meters

REFERENCES:

COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N
SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
SURVEY PLAN PROVIDED BY EXIT 96 DEVELOPMENTS

paterson group
consulting engineers
154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Scale	1:5,000
Des	DW
Drawn	DW
Chkd	BM
Project	PA1164
Borden	N/A

STAGE 1 ARCHAEOLOGICAL ASSESSMENT:
PART OF LOT 1 CONCESSION 9
TOWNSHIP OF GLOUCESTER, OTTAWA, ON

SURVEY PLAN

File:	PA1164 - SURVEY PLAN
Date:	24/01/2020
Map:	2

DEVELOPMENT AREA

0 50 100 150 200 250 Meters

REFERENCES:

COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N
SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
CONCEPT PLAN PROVIDED BY EXIT 96 DEVELOPMENTS

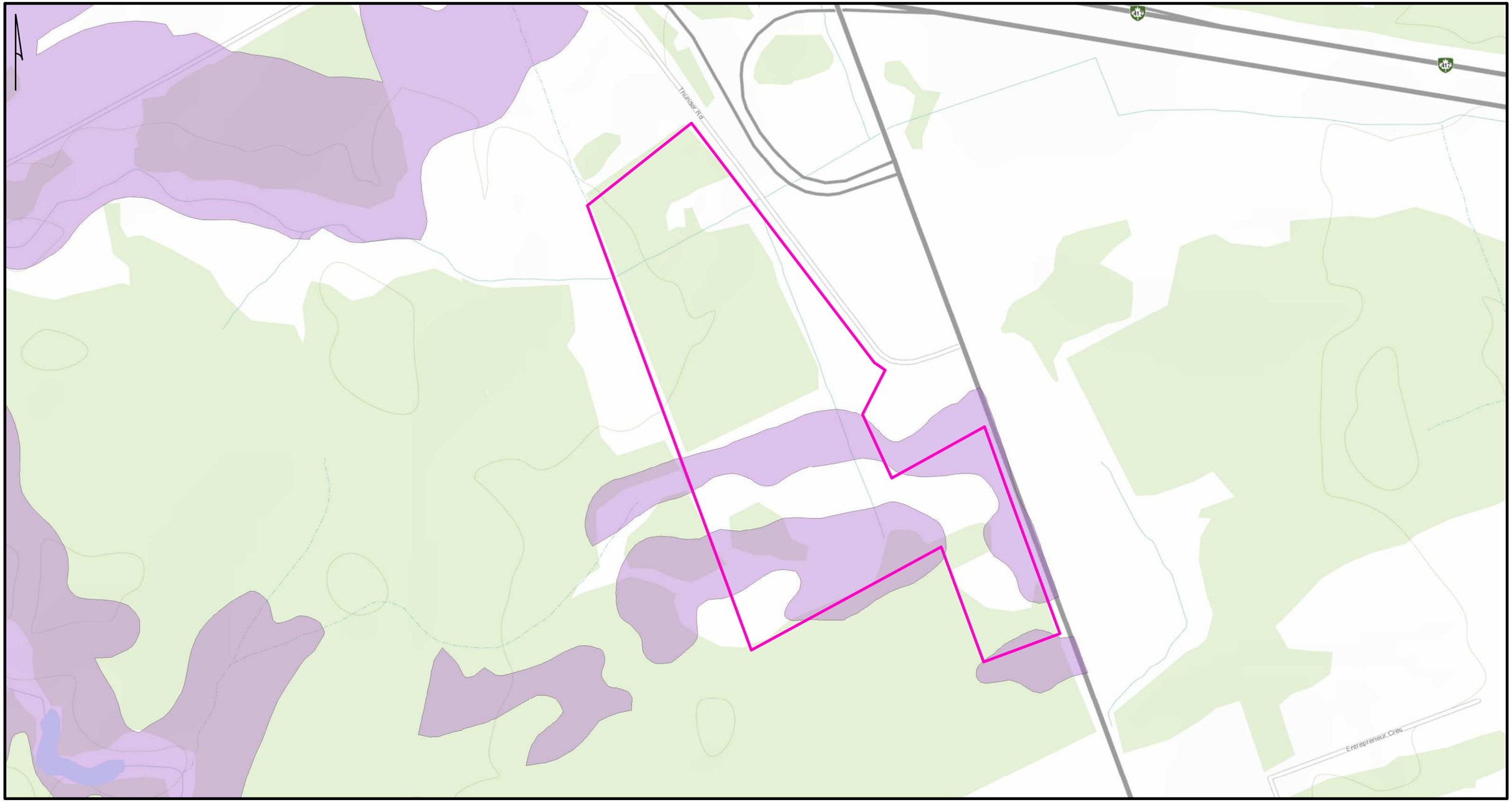
paterson group
consulting engineers
154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Scale	1:2,500
Des	DW
Drawn	DW
Chkd	BM
Project	PA1164
Borden	N/A

STAGE 1 ARCHAEOLOGICAL ASSESSMENT:
PART OF LOT 1 CONCESSION 9
TOWNSHIP OF GLOUCESTER, OTTAWA, ON

CONCEPT PLAN

File:	PA1164 - DM
Date:	21/01/2020
Map:	3



DEVELOPMENT AREA

ARCHAEOLOGICAL POTENTIAL

0 100 200 300 400 500 Meters

REFERENCES:

COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N
SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
CITY OF OTTAWA

paterson group
consulting engineers
154 Colonnade Road South, Ottawa, Ontario K2E 7J5

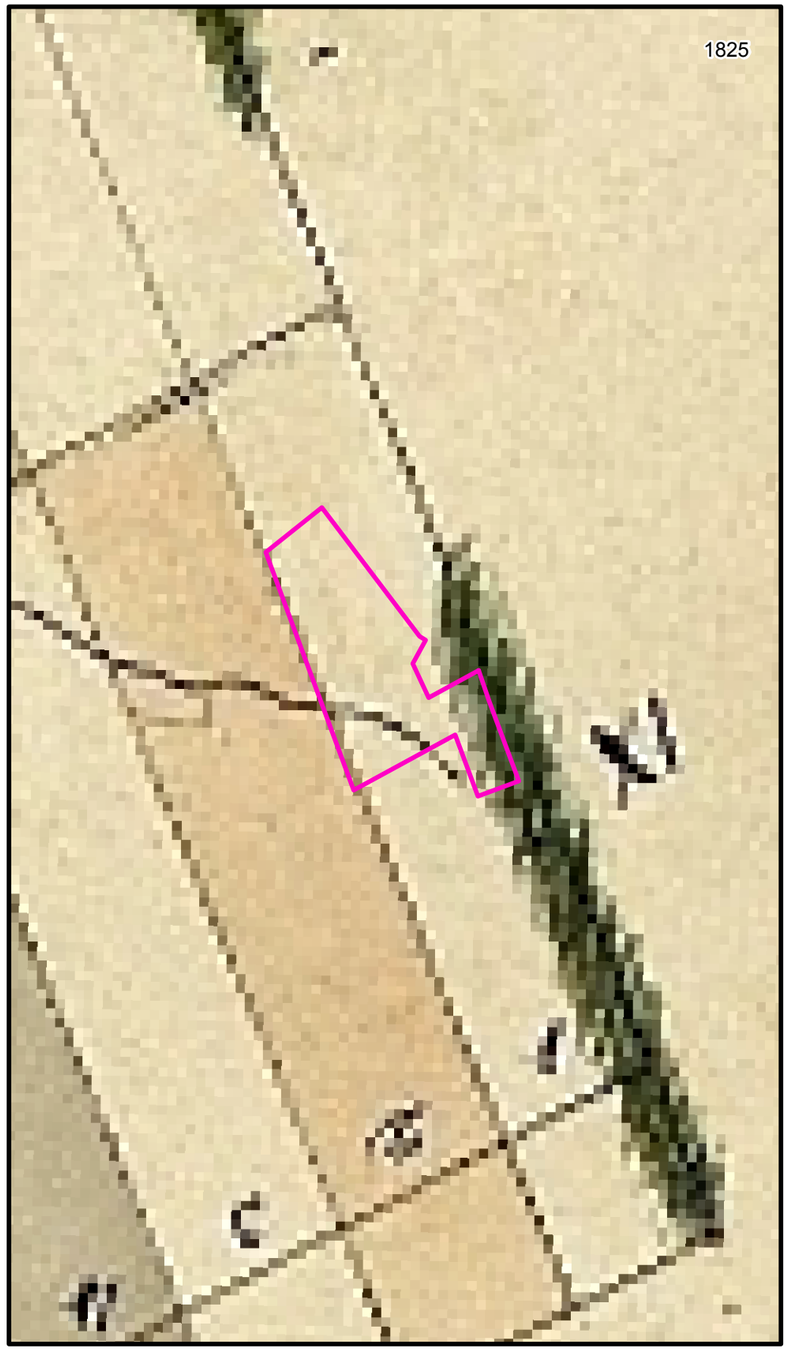
Scale	1:5,000
Des	DW
Drawn	DW
Chkd	BM

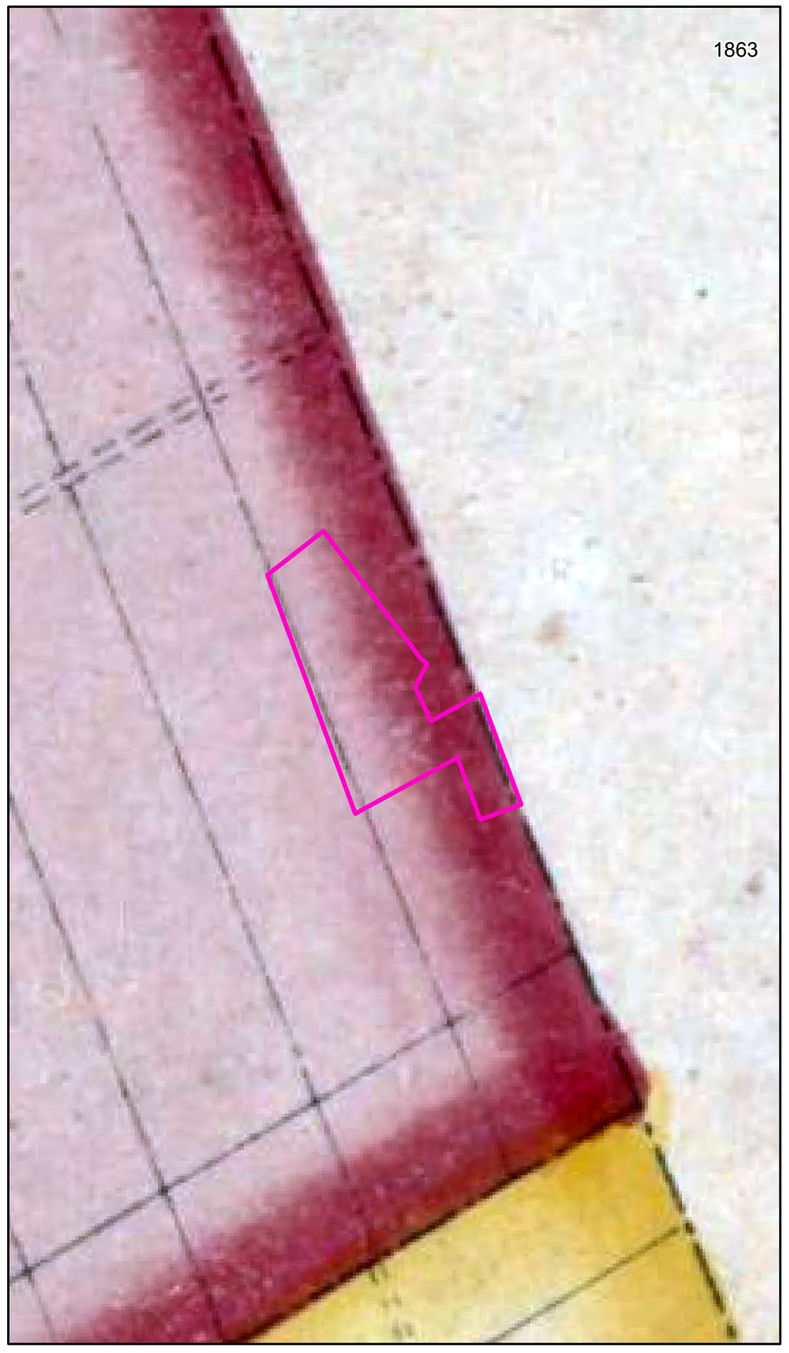
Project: PA1164
Borden: N/A

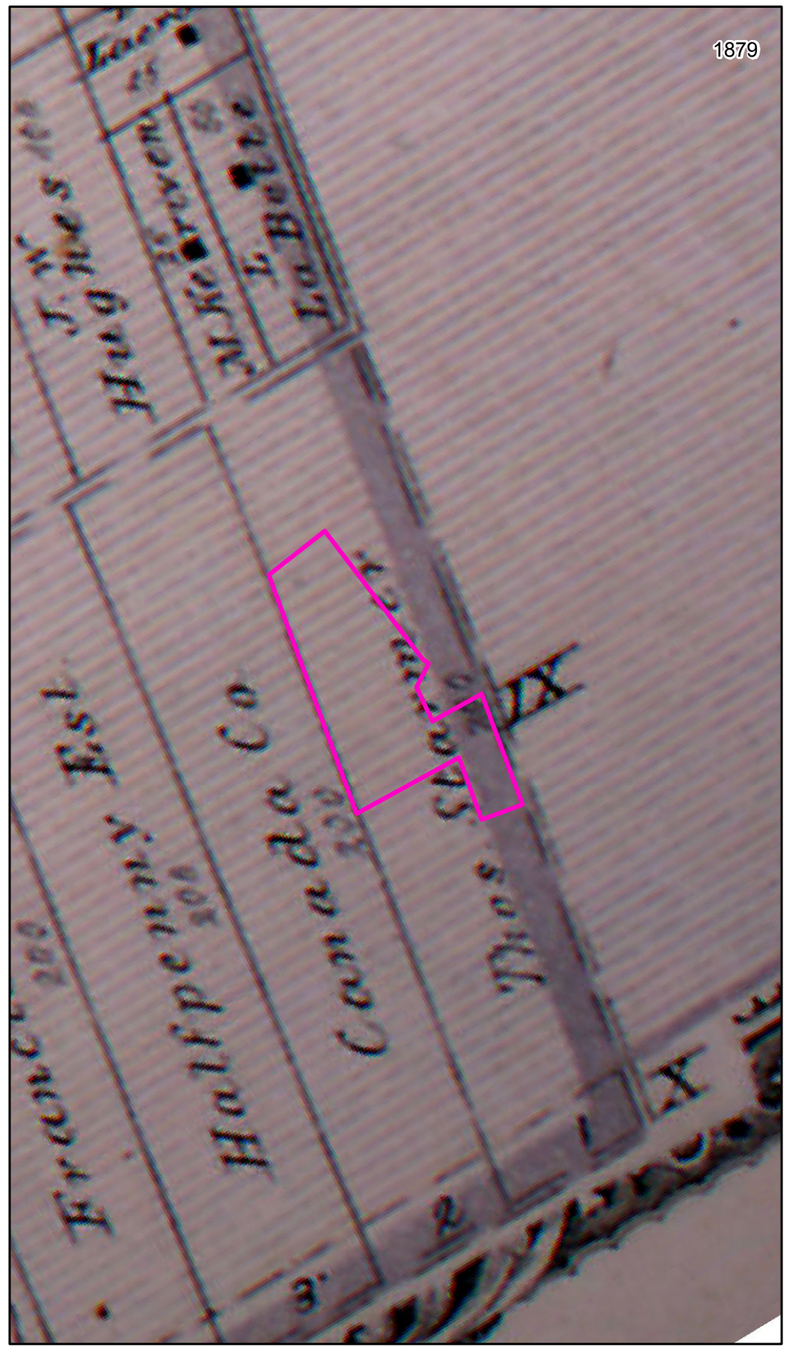
STAGE 1 ARCHAEOLOGICAL ASSESSMENT:
PART OF LOT 1 CONCESSION 9
TOWNSHIP OF GLOUCESTER, OTTAWA, ON

ARCHAEOLOGICAL POTENTIAL

File: PA1164 - POTENTIAL
Date: 21/01/2020
Map: 4







DEVELOPMENT AREA

0 300 600 900 1,200 1,500 Meters

REFERENCES:
COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N
SERVICE LAYER CREDITS: COFFIN 1823, WALLING 1863, BELDEN 1879

paterson group
consulting engineers
154 Colonnade Road South, Ottawa, Ontario K2E 7J5

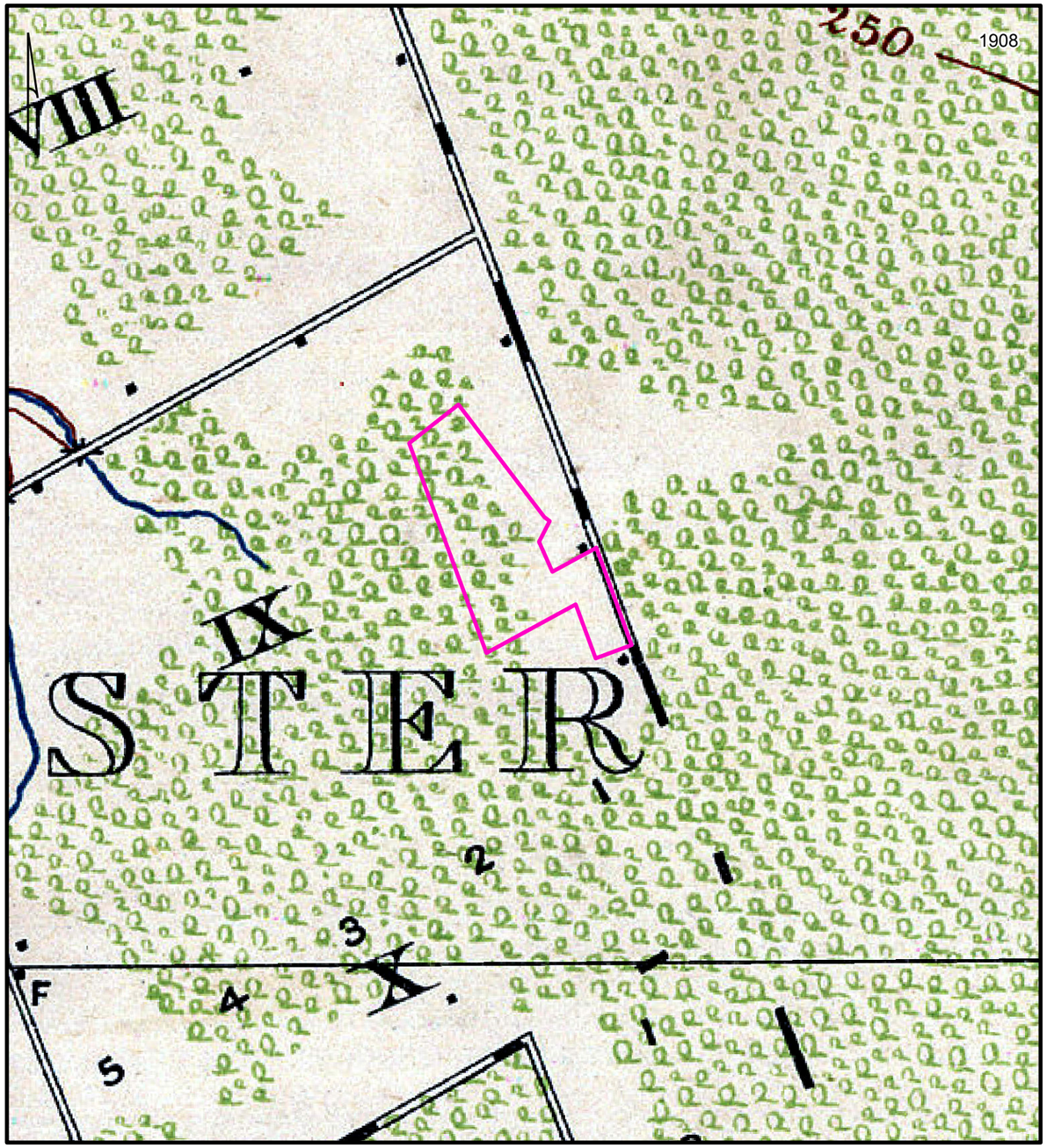
Scale	1:15,000
Des	DW
Drawn	DW
Chkd	BM

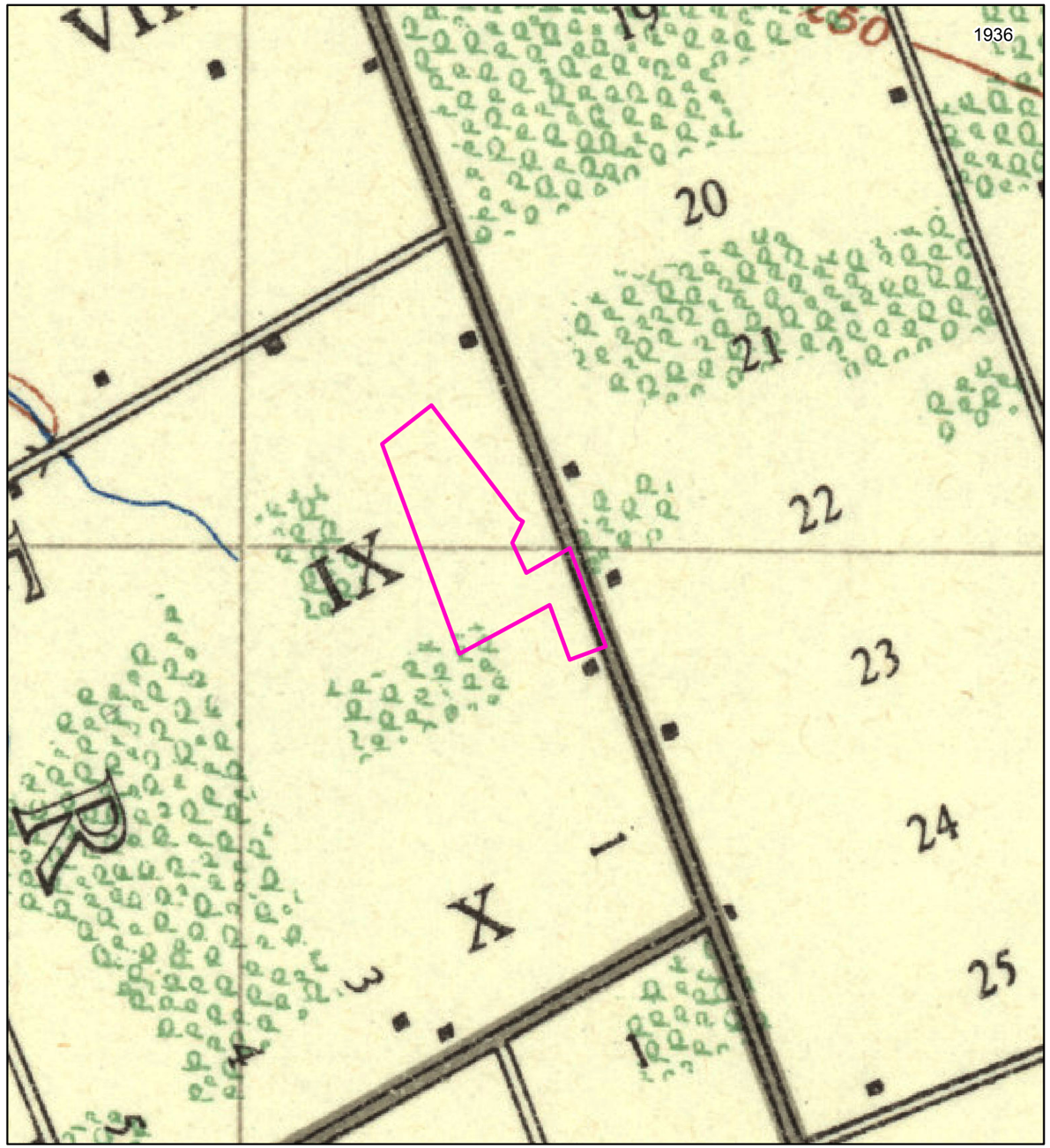
Project: PA1164
Borden: N/A

STAGE 1 ARCHAEOLOGICAL ASSESSMENT:
PART OF LOT 1 CONCESSION 9
TOWNSHIP OF GLOUCESTER, OTTAWA, ON

HISTORIC MAPS

File: PA1164 - HISTORIC
Date: 21/01/2020
Map: 5





DEVELOPMENT AREA

0 300 600 900 1,200 1,500 Meters

REFERENCES:

COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N
SERVICE LAYER CREDITS:
ONTARIO COUNCIL OF UNIVERSITY LIBRARIES

paterson group
consulting engineers
154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Scale	1:15,000
Des	DW
Drawn	DW
Chkd	BM
Project	PA1164
Borden	N/A

STAGE 1 ARCHAEOLOGICAL ASSESSMENT:
PART OF LOT 1 CONCESSION 9
TOWNSHIP OF GLOUCESTER, OTTAWA, ON

AERIAL PHOTOS

File:	PA1164 - HISTORIC TOPO
Date:	21/01/2020
Map:	6

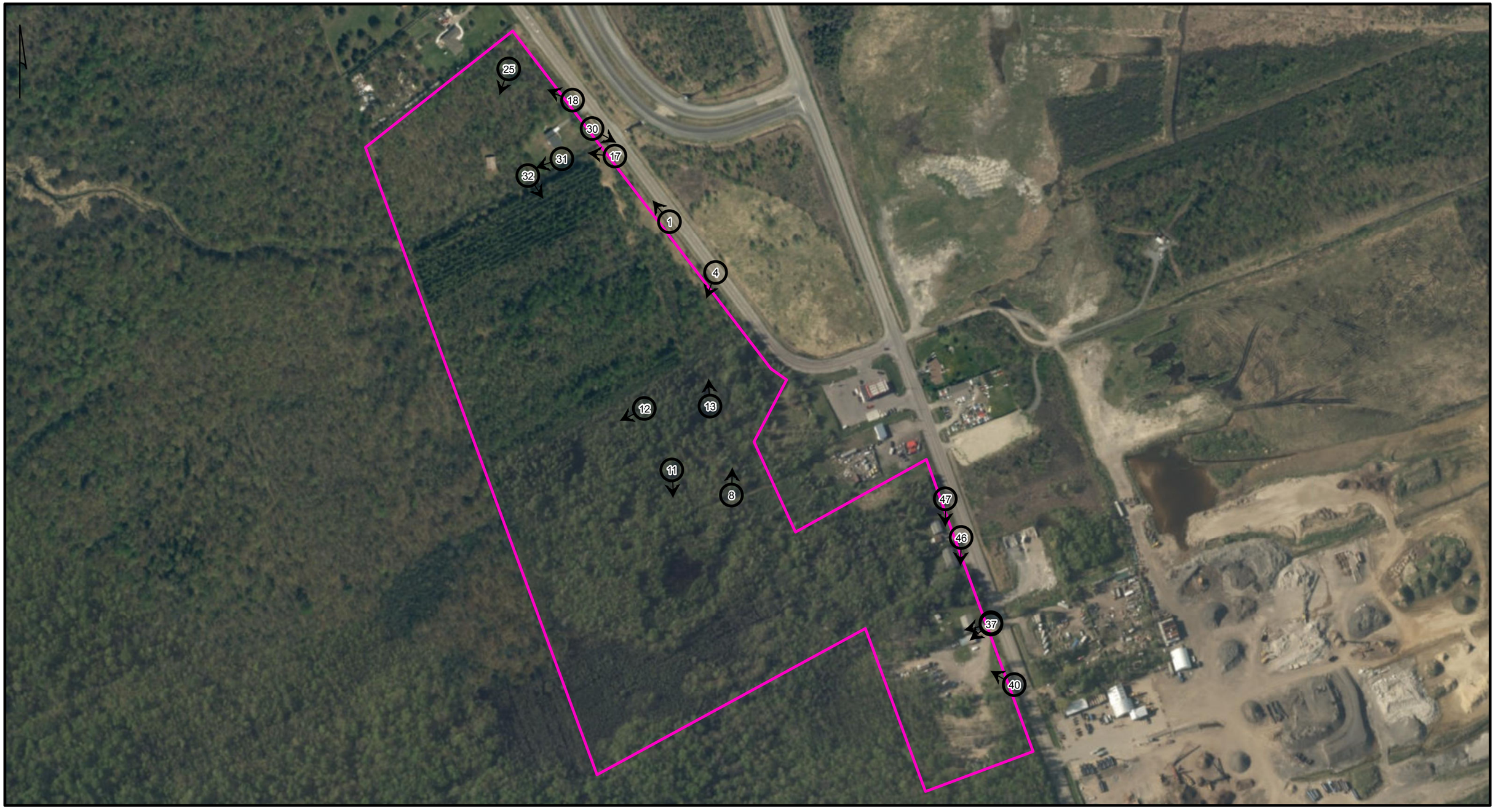


PHOTO LOCATION AND DIRECTION (D#)

DEVELOPMENT AREA

0 80 160 240 320 400 Meters

REFERENCES:

COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N
SERVICE LAYER CREDITS:
AERIAL PHOTO CITY OF OTTAWA (2017)

paterson group
consulting engineers
154 Colonnade Road South, Ottawa, Ontario K2E 7J5

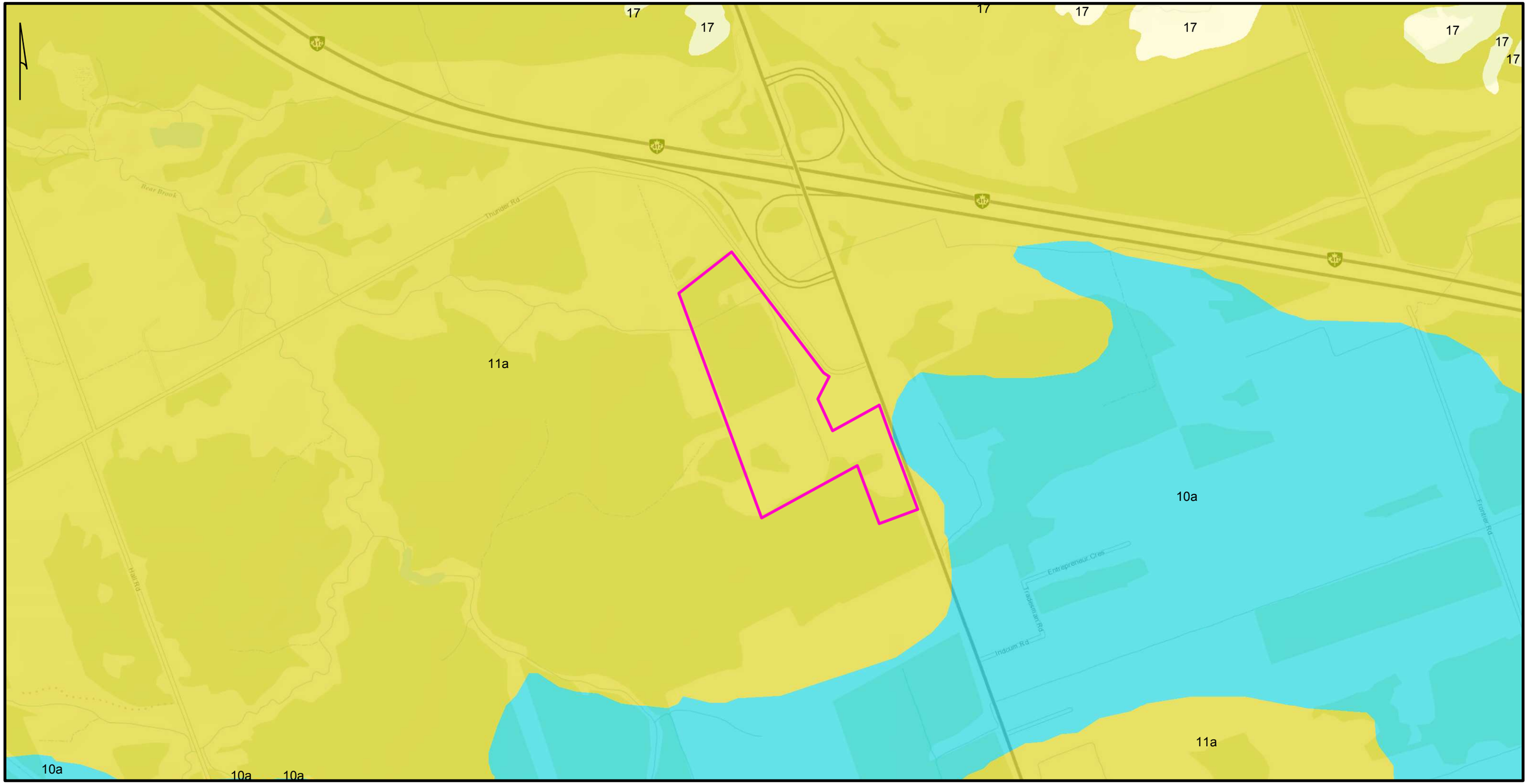
Scale	1:3,500
Des	DW
Drawn	DW
Chkd	BM

Project: PA1164
Borden: N/A

STAGE 1 ARCHAEOLOGICAL ASSESSMENT:
PART OF LOT 1 CONCESSION 9
TOWNSHIP OF GLOUCESTER, OTTAWA, ON

CURRENT CONDITIONS AND PHOTO KEY

File: PA1164 - CURRENT CONDITIONS+PHOTO
Date: 21/01/2020
Map: 7



DEVELOPMENT AREA

10A: MASSIVE-WELL LAMINATED

11A: DELTAIC DEPOSITS

17: EOLIAN DEPOSITS

0 200 400 600 800 1,000 Meters

REFERENCES:

COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N
SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
ONTARIO GEOLOGICAL SURVEY 2010

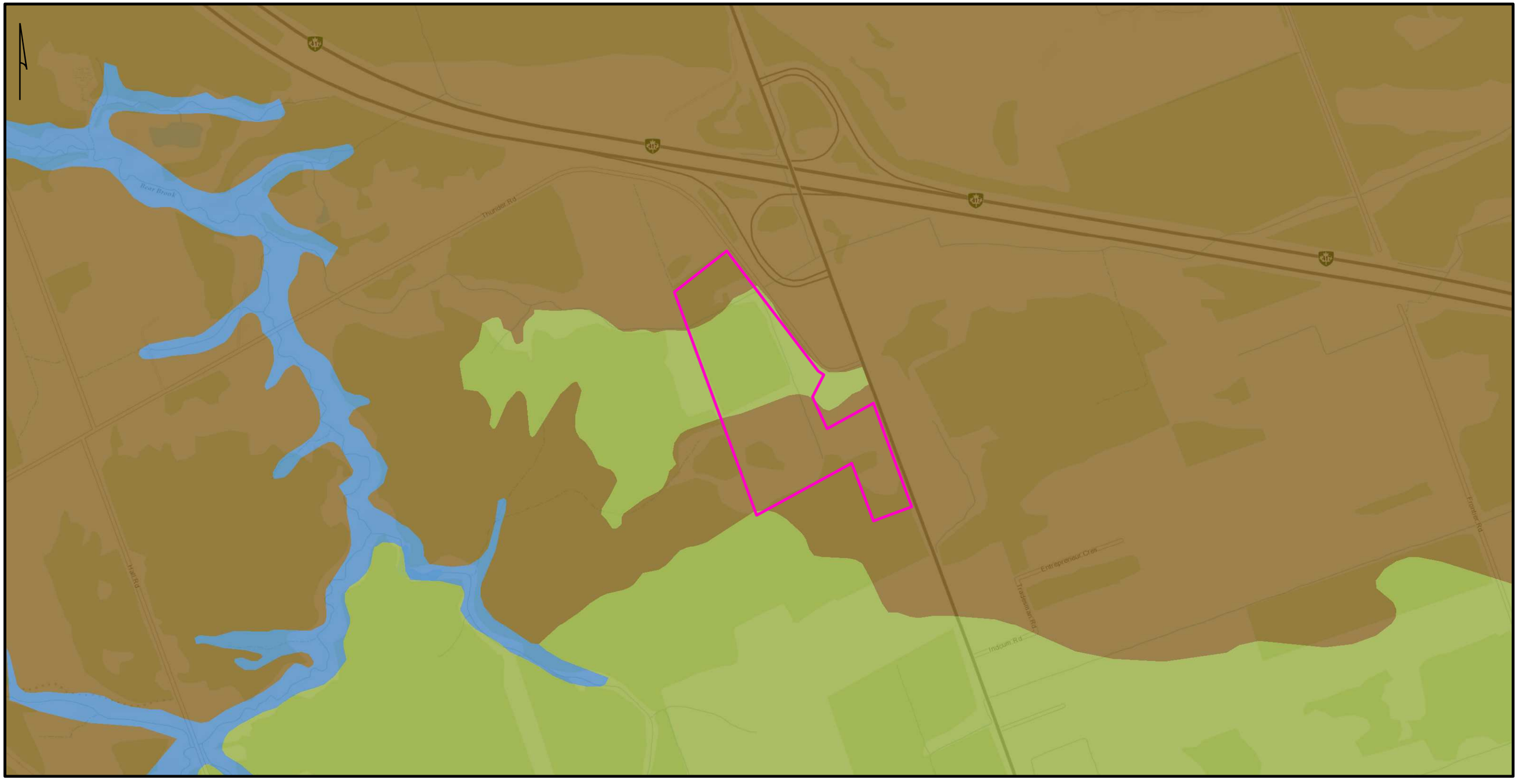
paterson group
consulting engineers
154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Scale	1:10,000
Des	DW
Drawn	DW
Chkd	BM
Project	PA1164
Borden	N/A

STAGE 1 ARCHAEOLOGICAL ASSESSMENT:
PART OF LOT 1 CONCESSION 9
TOWNSHIP OF GLOUCESTER, OTTAWA, ON

SURFICIAL GEOLOGY

File:	PA1164 - SURFICIAL GEOLOGY
Date:	21/01/2020
Map:	8



DEVELOPMENT AREA

SOILS

- ALLENDALE
- CHENEY
- ERODED CHANNEL

0 200 400 600 800 1,000 Meters

REFERENCES:

COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N
SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
LAND INFORMATION ONTARIO 2014

paterson group
consulting engineers
154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Scale	1:10,000
Des	DW
Drawn	DW
Chkd	BM

Project: PA1164
Borden: N/A

STAGE 1 ARCHAEOLOGICAL ASSESSMENT:
PART OF LOT 1 CONCESSION 9
TOWNSHIP OF GLOUCESTER, OTTAWA, ON

SOILS

File: PA1164 - SOILS
Date: 21/01/2020
Map: 9

DEVELOPMENT AREA

0 100 200 300 400 500 Meters

REFERENCES:

COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N
SERVICE LAYER CREDITS:
CITY OF OTTAWA

paterson group
consulting engineers
154 Colonnade Road South, Ottawa, Ontario K2E 7J5

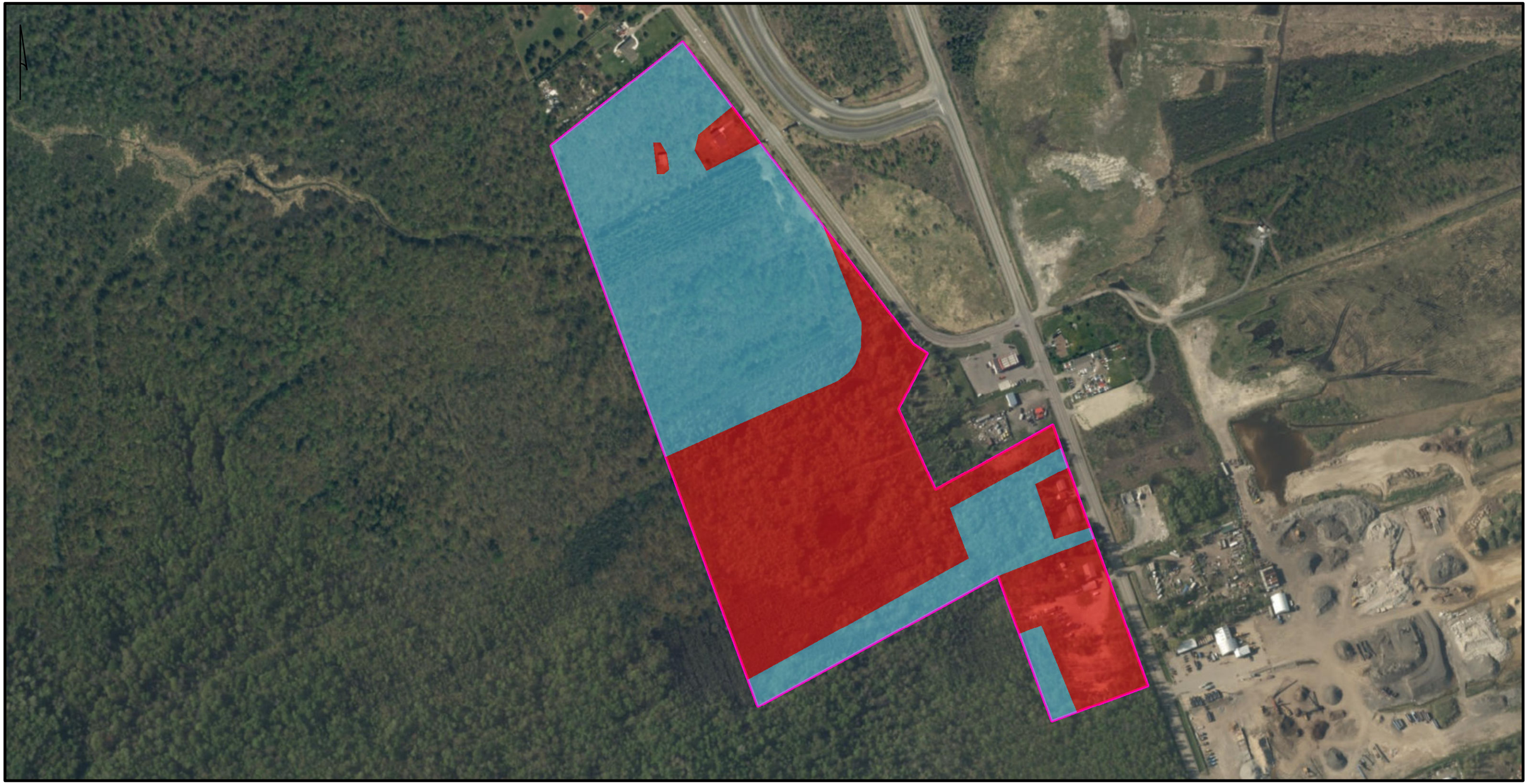
Scale	1:5,000
Des	DW
Drawn	DW
Chkd	BM

Project: PA1164
Borden: N/A

STAGE 1 ARCHAEOLOGICAL ASSESSMENT:
PART OF LOT 1 CONCESSION 9
TOWNSHIP OF GLOUCESTER, OTTAWA, ON

AERIAL PHOTOS

File: PA1164 - AERIALS
Date: 21/01/2020
Map: 10



DEVELOPMENT AREA

DISTURBED - EXCLUDED

WET - EXCLUDED

0 100 200 300 400 500 Meters

REFERENCES:

COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N
SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
TREE CUTTING LIMIT PROVIDED BY EXIT 96 DEVELOPMENTS
AERIAL PHOTO CITY OF OTTAWA (2017)

paterson group
consulting engineers
154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Scale	1:4,000
Des	DW
Drawn	DW
Chkd	BM

Project: PA1164
Borden: N/A

STAGE 1 ARCHAEOLOGICAL ASSESSMENT:
PART OF LOT 1 CONCESSION 9
TOWNSHIP OF GLOUCESTER, OTTAWA, ON

FINDINGS AND RECOMMENDATIONS

File: PA1164 - FINDINGS
Date: 21/01/2020
Map: 11

Appendix A: Photographic Catalogue

Catalogue Number	Subject	Direction	Date	Photographer
PA1164-D01	Low-lying wet ditch along Thunder road, eastern portion of study area	N	11/07/2019	DW
PA1164-D02	Low-lying wet ditch along Thunder road, eastern portion of study area	S	11/07/2019	DW
PA1164-D03	Low-lying wet ditch along Thunder road, eastern portion of study area	SE	11/07/2019	DW
PA1164-D04	Wet disturbed area along east side of study area	S	11/07/2019	DW
PA1164-D05	Wet grubbed area, central portion of study area	S	11/07/2019	DW
PA1164-D06	Wet grubbed area, central portion of study area	SW	11/07/2019	DW
PA1164-D07	Wet grubbed area north of Petro Can	SW	11/07/2019	DW
PA1164-D08	Wet disturbed area near Thunder Road	N	11/07/2019	DW
PA1164-D09	Deeply disturbed grubbed and stripped area, centre of study area	W	11/07/2019	DW
PA1164-D10	Deep disturbance - subsoil exposure	W	11/07/2019	DW
PA1164-D11	Disturbed and wet south portion of study area	S	11/07/2019	DW
PA1164-D12	Deep disturbance - subsoil exposure in centre of study area	W	11/07/2019	DW
PA1164-D13	Permanently wet forested area, centre of study area	N	11/07/2019	DW
PA1164-D14	Wet ditch, deep disturbance, centre of study area	W	11/07/2019	DW
PA1164-D15	Wet ditch, deep disturbance, centre of study area	SW	11/07/2019	DW
PA1164-D16	Low-lying wet area along Thunder road, north end of study area	NW	11/07/2019	DW
PA1164-D17	House at 6150 Thunder Rd, built up from surrounding area	W	11/07/2019	DW
PA1164-D18	Low-lying area at north end of study area, north of house	NW	11/07/2019	DW
PA1164-D19	House at 6150 Thunder Rd, built up from surrounding area	SW	11/07/2019	DW
PA1164-D20	Low-lying wet area north of 6150 Thunder Rd	SW	11/07/2019	DW
PA1164-D21	Low-lying wet area north of 6150 Thunder Rd	S	11/07/2019	DW
PA1164-D22	Low-lying wet area north of 6150 Thunder Rd	SW	11/07/2019	DW
PA1164-D23	Low-lying wet area north of 6150 Thunder Rd	S	11/07/2019	DW
PA1164-D24	Low-lying wet area northeast end of study area	W	11/07/2019	DW

Catalogue Number	Subject	Direction	Date	Photographer
PA1164-D25	Moss-covered trees in wet area northeast end of study area	S	11/07/2019	DW
PA1164-D26	Low-lying wet area northeast end of study area	NW	11/07/2019	DW
PA1164-D27	Shed behind 6150 Thunder in low-lying area	SW	11/07/2019	DW
PA1164-D28	Built up area at 6150 Thunder	SW	11/07/2019	DW
PA1164-D29	Permanent wet area where Bear Brook crosses Thunder	SE	11/07/2019	DW
PA1164-D30	Permanent wet area where Bear Brook crosses Thunder	SE	11/07/2019	DW
PA1164-D31	Shed in low-lying area behind built-up 6150 Thunder	W	11/07/2019	DW
PA1164-D32	Low-lying forested area near Bear Brook, central portion of study area	SE	11/07/2019	DW
PA1164-D33	Low-lying area north end of study area	SW	11/07/2019	DW
PA1164-D34	Permanent wet area where Bear Brook crosses Thunder	W	11/07/2019	DW
PA1164-D35	Landscaping depot south end of study area along Boundary Rd	W	11/07/2019	DW
PA1164-D36	Landscaping depot south end of study area along Boundary Rd	S	11/07/2019	DW
PA1164-D37	Landscaping depot south end of study area along Boundary Rd	W	11/07/2019	DW
PA1164-D38	Landscaping depot south end of study area along Boundary Rd	S	11/07/2019	DW
PA1164-D39	Landscaping depot south end of study area along Boundary Rd	W	11/07/2019	DW
PA1164-D40	Low-lying area south of 5384 Boundary Rd	NW	11/07/2019	DW
PA1164-D41	Low-lying area west of Petro Can, centre of study area	SW	11/07/2019	DW
PA1164-D42	Low-lying area west of Petro Can, centre of study area	S	11/07/2019	DW
PA1164-D43	Wet grubbed area, south end of study area	SW	11/07/2019	DW
PA1164-D44	Wet grubbed area, south end of study area	SE	11/07/2019	DW
PA1164-D45	Low-lying wet area, south end of study area	S	11/07/2019	DW
PA1164-D46	House in built-up area at south end of study area - 5376 Boundary	S	11/07/2019	DW
PA1164-D47	House in built-up area at south end of study area - 5368 Boundary	S	11/07/2019	DW

Appendix B: Map Catalogue

Map Number	Description	Created By
1	Location	D. Williams
2	Survey Plan	D. Williams
3	Concept Plan	D. Williams
4	Archaeological Potential	D. Williams
5	Historic Maps	D. Williams
6	Historic Topographic Maps	D. Williams
7	Conditions / Photo Key	D. Williams
8	Surficial Geography	D. Williams
9	Soils	D. Williams
10	Aerial Photography	D. Williams
11	Findings	D. Williams

Appendix C: Document Catalogue

Project	Description	Created By
PA1164	Thunder at Boundary - Field Notes Stage 1 Site Survey (stored in Microsoft OneNote)	D. Williams