

**Stage 1 Archaeological Assessment for the
Environmental Assessment (EA) and
Preliminary Design for Drainage
Improvements of Highway 50
From Mayfield Road to Healey Road Within Part of Lots 1-
5, Concessions 6-7,
Lot 17, Concession 12 Northeastern Division (NERN DIV) and
Lot 29, Concession 11
And Road Allowances In Between
In the Geographic Townships of Albion, Toronto Gore and Vaughan
Former Counties of Peel and York
Now in the Town of Caledon, City of Brampton, and City of
Vaughan
Regions of Peel and York
Ontario**

**Project #: 008-CA6365-19
Licensee (#): Ian Boyce (P1059)
PIF#: P1059-0068-2020**

Original Report

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Presented to:

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EXECUTIVE SUMMARY

Archeoworks Inc. was retained by *R.V. Anderson Associates Limited* to conduct a Stage 1 Archaeological Assessment (AA) in support of drainage improvements along Highway 50 (Regional Road 50/Queen Street South), from approximately 140 metres south of Mayfield Road/Albion Vaughan Road to approximately 140 metres north of Healey Road and encompassing the existing road right-of-way (ROW), in the Town of Caledon, City of Brampton and City of Vaughan. This property will herein be referred to as the “study corridor.” The study corridor is located:

- along the road allowance between Concessions 6 and 7, in the Geographic Township of Albion, and the road allowances between the Geographic Townships of Albion, Toronto Gore and Vaughan;

and encompassing land in:

- Lots 1-5, Concessions 6-7, in the Geographic Township of Albion, now in the Town of Caledon;
- Lot 17, Concession 12 Northeastern Division (NERN DIV), in the Geographic Township of Toronto Gore, now in the City of Brampton; and
- Lot 29, Concession 11, in the Geographic Township of Vaughan, now in the City of Vaughan.

Located in the historic County of Peel and County of York, now the Regions of Peel and York, Ontario.

Stage 1 AA background research established elevated potential for the recovery of archaeologically significant materials within the study corridor due to the proximity of a listed heritage resource, several previously registered archaeological sites, tributaries of the Humber River, and documented pre-ca. 1900 Euro-Canadian settlement and transportation routes. A large portion of the study corridor was also revealed to have already been subject to various archaeological assessments (Stage 1-3 AAs and Stage 4 mitigation of development impacts) and cleared of any further archaeological concern.

To determine if the archaeological potential classification for the remainder of the study corridor remained relevant, a detailed desktop review of ground conditions using past and current aerial imagery and orthophotographs was undertaken, followed by a property inspection. The remaining balance of the study corridor was determined to have been subjected to deep and extensive disturbances (i.e., construction, maintenance and improvements of Highway 50 and its right-of-way) that have removed archaeological potential.

Considering the findings detailed in the succeeding sections, the following recommendations are presented:

1. With the entirety of the study corridor having been either previously subject to archaeological assessment (Archaeological Assessments Ltd., 2007; Archaeologix Inc., 2001, 2002; ASI, 2003, 2005, 2010a-b, 2012, 2016, 2017a-c, 2019; Archeoworks Inc., 2003b-c, 2007b, 2012; London Museum of Ontario Archaeology, 1990; The Archaeologists Inc., 2005, 2006), and/or visually confirmed to be heavily disturbed during the current Stage 1 AA, no further archaeological concerns exist within the study corridor. No further work is recommended.
2. Should construction activities associated with this project, including construction laydown areas, extend beyond the assessed limits of the study corridor, further archaeological investigation will be required prior to construction activities to minimize impacts to cultural heritage resources.

No construction activities shall take place within the study corridor prior to the *Ministry of Heritage, Sport, Tourism and Culture Industries* (Archaeology Programs Unit) confirming in writing that all archaeological licensing and technical review requirements have been satisfied.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	I
TABLE OF CONTENTS	III
PROJECT PERSONNEL	IV
1.0 PROJECT CONTEXT	1
1.1 OBJECTIVE	1
1.2 DEVELOPMENT CONTEXT	1
1.3 HISTORICAL CONTEXT	2
1.4 ARCHAEOLOGICAL CONTEXT	11
1.5 CONFIRMATION OF ARCHAEOLOGICAL POTENTIAL	19
2.0 PROPERTY INSPECTION	20
3.0 ANALYSIS AND CONCLUSIONS	21
3.1 PREVIOUS ARCHAEOLOGICAL ASSESSMENTS	21
3.2 IDENTIFIED DEEP AND EXTENSIVE DISTURBANCES	21
4.0 RECOMMENDATIONS	23
5.0 ADVICE ON COMPLIANCE WITH LEGISLATION	24
6.0 BIBLIOGRAPHY AND SOURCES	25
APPENDICES	35
APPENDIX A: MAPS	36
APPENDIX B: SUMMARY OF BACKGROUND RESEARCH	51
APPENDIX C: IMAGES	52
APPENDIX D: INVENTORY OF DOCUMENTARY AND MATERIAL RECORD	55
LIST OF TABLES	
TABLE 1: PRE-CONTACT PERIOD	2
TABLE 2: CONTACT PERIOD	6
TABLE 3: SUMMARY OF STRUCTURES AND PROPERTY OWNERS/OCCUPANTS DOCUMENTED IN THE 1859 AND 1860 TREMAINE MAPS AND THE 1877 AND 1878 ILLUSTRATED HISTORICAL ATLASES IN THE STUDY CORRIDOR	9
TABLE 4: DESIGNATED AND LISTED HERITAGE RESOURCES WITHIN 300 METRES OF THE STUDY CORRIDOR	11
TABLE 5: REGISTERED ARCHAEOLOGICAL SITES WITHIN ONE KILOMETRE OF THE STUDY CORRIDOR	13
TABLE 6: PREVIOUS ARCHAEOLOGICAL ASSESSMENTS	13

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1.0 PROJECT CONTEXT

1.1 Objective

The objectives of a Stage 1 Archaeological Assessment (AA), as outlined by the 2011 *Standards and Guidelines for Consultant Archaeologists ('2011 S&G')* published by the *Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI)* (2011), are as follows:

- To provide information about the property's geography, history, previous archaeological fieldwork, and current land condition.
- To evaluate in detail, the property's archaeological potential, which will support recommendations for a Stage 2 survey for all parts of the property.
- To recommend appropriate strategies for a Stage 2 survey.

1.2 Development Context

The Region of Peel has initiated a Municipal Class Environmental Assessment (Class EA) study for the drainage improvements of Regional Road Highway 50 from Mayfield Road to Healey Road, in the Town of Caledon. The culvert crossings and drainage ditches are in poor condition and require replacement and/or improvement to accommodate the existing and future growth in the Village of Bolton. The purpose of this Class EA study is to provide the optimum stormwater management solution for the rehabilitation of the failing culvert crossings and drainage ditches using best industry management practices, to satisfy climate change requirements and comply with existing and future regulatory requirements.

To facilitate this study, *Archeoworks Inc.* was retained by *R.V. Anderson Associates Limited* to conduct a Stage 1 AA in support of the drainage improvements along Highway 50 (Regional Road 50/Queen Street South), from approximately 140 metres south of Mayfield Road/Albion Vaughan Road to approximately 140 metres north of Healey Road and encompassing the existing road right-of-way (ROW), in the Town of Caledon, City of Brampton and City of Vaughan. This property will herein be referred to as the "study corridor." The study corridor is located:

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and encompassing land in:

- Lots 1-5, Concessions 6-7, in the Geographic Township of Albion, now in the Town of Caledon;

- Lot 17, Concession 12 Northeastern Division (NERN DIV), in the Geographic Township of Toronto Gore, now in the City of Brampton; and
- Lot 29, Concession 11, in the Geographic Township of Vaughan, now in the City of Vaughan.

Located in the historic County of Peel and County of York, now the Regions of Peel and York, Ontario (*see Appendix A – Map 1*).

This study was triggered by the *Environmental Assessment Act*, as a Schedule ‘B’ project in accordance with the Municipal Class Environmental Assessment regulatory process. It was conducted under the project direction of Mr. Ian Boyce under the archaeological consultant licence number P1059, in accordance with the *Ontario Heritage Act (2009)* and *2011 S&G*. Permission to investigate the study corridor was granted by *R.V. Anderson Associates Limited* on December 3rd, 2019.

The Region of Peel, Town of Caledon and City of Brampton do not have any archaeological management plans. The Regional Municipality of York has an archaeological management plan (AMP), founded on the principles of archaeological potential modeling, and developed using a Geographic Information System (GIS). Per the Regional Municipality of York AMP, the portion of the study corridor that falls within the City of Vaughan does not retain archaeological potential (Regional Municipality of York, 2020).

1.3 Historical Context

To establish the historical context and archaeological potential of the study corridor, *Archeoworks Inc.* conducted a review of Aboriginal and Euro-Canadian settlement history, and a review of available historic mapping.

The results of this background research are documented below and summarized in **Appendix B – Summary of Background Research**.

1.3.1 Pre-Contact Period

The pre-contact period of Southern Ontario includes numerous Aboriginal groups that continually progressed and developed within the environment they inhabited. **Table 1** includes a brief overview and summary of the pre-contact Aboriginal history of Southern Ontario (Ferris, 2013, p.13).

Table 1: Pre-Contact Period

Periods	Date Range	Overview and Attributes
PALEO-INDIAN (Early)		

Periods	Date Range	Overview and Attributes
Early	ca. 11000 to 8500 BC	Small groups of nomadic hunter-gathers who utilized seasonal and naturally available resources; sites are rare; hunted in small family groups who periodically gathered into larger groups/bands during favourable periods in the hunting cycle; campsites used during travel episodes and found in well-drained soils in elevated situations; sites found primarily along glacial strandlines due to current understanding of regional geological history; artifacts include fluted and lanceolate stone points, scrapers and dart heads. - Gainey, Barnes, Crowfield Fluted Points (Early Paleo-Indian) - Holcombe, Hi-Lo, Lanceolates (Late Paleo-Indian) (Ellis and Deller, 1990, pp.37-64; Wright, 1994, p.25; Ellis, 2013, p.37).
Late	ca. 8500 to 7500 BC	
ARCHAIC (Middle)		
Early	ca. 7800 to 6000 BC	Descendants of Paleo-Indian ancestors; lithic scatters are the most encountered site type; trade networks appear; artifacts include reformed fluted and lanceolate stone points with notched bases to attach to wooden shaft; ground-stone tools shaped by grinding and polishing; stone axes, adzes and bow and arrow; Shield Archaic in Northern Ontario introduced copper tools. - Side-notched, corner-notched, bifurcate projectile points (Early Archaic) - Stemmed, Otter Creek/Other Side-notched, Brewerton side and corner-notched projectile points (Middle Archaic) - Narrow Point, Broad Point, Small Point projectile points (Late Archaic) (Ellis et al., 1990, pp.65-124; Wright, 1994, pp.26-28; Ellis, 2013, pp.41-46; Dawson, 1983, pp.8-14).
Middle	ca. 6000 to 2000 BC	
Late	ca. 2500 to 500 BC	
WOODLAND (Late)		
Early	ca. 800 BC to AD 1	Evolved out of the Late Archaic Period; introduction of pottery (ceramic) where the earliest were coil-formed, under fired and likely utility usage; two primary cultural complexes: Meadowood (broad extent of occupation in southern Ontario) and Middlesex (restricted to Eastern Ontario); poorly understood settlement-subsistence patterns; artifacts include cache blades, and side-notched points that were often recycled into other tool forms; primarily Onondaga chert; commonly associated with Saugeen and Point Peninsula complexes; oral traditions of the present-day Michi Saagiig (Mississauga Anishinaabeg), an Algonquian-speaking First Nation group, state that they, "are the descendants of the ancient peoples who lived in Ontario during the Archaic and Paleo-Indian periods" (Migizi and Kapyrka, 2015, p.1). - Meadowood side-notched projectile points (Spence et al., 1990, pp.125-142; Wright, 1994, pp.29-30; Ferris and Spence, 1995, pp.89-97; Williamson, 2013, pp.48-61; Dawson, 1983, pp.15-19).
Middle	ca. 200 BC to AD 700	Three primary cultural complexes: Point Peninsula (generally located throughout south-central and eastern Southern Ontario), Saugeen (generally located southwestern Southern Ontario), and Couture (generally located in southwestern-most part of Ontario); introduction of large "house" structures and substantial middens; settlements have dense debris cover indicating increased degree of sedentism; incipient horticulture; burial mounds present; shared preference for stamped, scallop-edged or tooth-like decoration, but each cultural complex had distinct pottery forms; Laurel Culture (ca. 500 BC to AD 1000) established in boreal forests of Northern Ontario. - Saugeen Point projectile points (Saugeen) - Vanport Point projectile points (Couture) - Snyder Point projectile points

Periods	Date Range	Overview and Attributes
		<p>- Laurel stemmed and corner-notched projectile points (Spence et al., 1990, pp.142-170; Wright, 1994, pp.28-33; Ferris and Spence, 1995, pp.97-102; Wright, 1999, pp.629-649; Williamson, 2013, pp.48-61; Wright, 1994, p.28; Hessel, 1993, pp.8-9; Dawson, 1983, pp.15-19; Gagné, 2015).</p>
Late (Transitional) Woodland	ca. AD 600 to 1000	<p>The north shore of Lake Ontario in Southern Ontario was occupied throughout the entire Late Woodland Period by the Mississauga Anishinaabeg (Michi Saagiig); their territory extended north where they would hunt and trap during the winter months, followed by a return to Lake Ontario in the spring and summer; “the traditional territories of the Michi Saagiig span from Gananoque in the east, all along the north shore of Lake Ontario, west to the north shore of Lake Erie at Long Point. The territory spreads as far north as the tributaries that flow into these lakes, from Bancroft and north of the Haliburton highlands” (Migizi and Kapyrka, 2015, p.1); the Mississauga were highly mobile and often traveled great distances to obtain resources; Mississauga oral traditions speak of people (the Iroquoian) coming into their territory between AD 500-1000 who wished to establish villages and grow corn; treaties were made and the Mississauga allowed the Iroquois to stay in their traditional territories.</p> <p>Earliest Iroquoian development in Southern Ontario is Princess Point which exhibits few continuities from earlier developments with no apparent predecessors; hypothesized to have migrated into Ontario; the settlement data is limited, but oval houses are present; artifacts include ‘Princess Point Ware’ vessels that are cord roughened, with horizontal lines and exterior punctation; smoking pipes and ground stone tools are rare; introduction of maize/corn horticulture; continuity of Princess Point and Late Woodland Iroquoian groups.</p> <p>- Triangular projectile points (Fox, 1990, pp.171-188; Ferris and Spence, 1995, pp.102-106; Migizi and Kapyrka, 2015, pp.1-3; MCFN, 2017a).</p>
Early Late Woodland	ca. AD 900 to 1300	<p>Two primary Iroquoian cultures in Southern Ontario: Glen Meyer (located primarily in southwestern Ontario from Long Point on Lake Erie to southwestern shore of Lake Huron) and Pickering (encompassed north of Lake Ontario to Georgian Bay and Lake Nipissing); well-made and thin-walled clay vessels with stamping, incising and punctation; multi-family longhouses and some small, semi-permanent palisade villages; adoption of greater variety of harvest products; increase in corn-yielding sites; crudely made smoking pipes, and worked bone/antler present; evolution of the ossuary burials.</p> <p>- Triangular-shaped, basally concave projectile points with downward projecting corners or spurs (Williamson, 1990, pp.291-320; Ferris and Spence, 1995, pp.106-109).</p>
Middle Late Woodland	ca. AD 1300 to 1400	<p>Two primary Iroquoian cultures in Southern Ontario: Uren and Middleport; decorated clay vessels decrease; well-developed clay pipe complex that includes effigy pipes; increase in village sizes (0.5 to 1.7 hectares) and campsites (0.1 to 0.6 hectares) appear with some palisades; classic longhouse takes form; increasing reliance on maize and other cultigens such as beans and squash; intensive exploitation of locally available land and water resources; from Middleport emerged the Huron-Wendat, Petun, Neutral Natives and the Erie.</p> <p>- Triangular and (side of corner or corner removed) notched projectile points - Middleport Triangular and Middleport Notched projectile points (Dodd et al., 1990, pp.321-360; Ferris and Spence, 1995, pp.109-115).</p>

Periods	Date Range	Overview and Attributes
Late Woodland	ca. AD 1400 to 1600	<p>The Mississauga Anishinaabeg “were the negotiators, the messengers, the diplomats, and they successfully mediated peace throughout this area of Ontario for countless generations” (Migizi and Kapyrka, 2015, p.1); the Mississauga Anishinaabeg, along with the Odawa Nation, continued to meet with the Huron-Wendat, Neutral Nation and Petun Nation to ensure their friendly political and economic relations remained strong while the Iroquoian groups continued to establish villages in the Mississauga traditional territory.</p> <p>Two major Iroquoian groups: the Neutral Natives to the west, and the Huron-Wendat to the east of the Niagara Escarpment; Huron-Wendat “concentrations of sites occur in the areas of the Humber River valley, the Rouge and Duffin Creek valleys, the lower Trent valley, Lake Scugog, the upper Trent River and Simcoe County” (Ramsden, 1990, p.363); Toronto Carrying Place Trail connecting Lake Ontario to Lake Simcoe by way of the Humber and Rouge River, overland to the Holland River; longhouses; villages enlarged to 100 longhouses clustered together as horticulture (maize, squash and beans) gained importance in subsistence patterns; villages chosen for proximity to water, arable soils, available fire wood and defensible position; diet supplemented with fish; ossuaries; tribe/band formation; relocation to north of Lake Simcoe.</p> <p>Neutral (called Attiewandaron by the Huron-Wendat) Natives distributed west of the Niagara Escarpment, around the western end of Lake Ontario and eastward across the Niagara Peninsula; sites also found west of the Niagara Escarpment as far as Milton; varying settlements include villages up to five acres in size to isolated fishing cabins; villages tend to be located along smaller creeks, headwaters and marshlands; diet dependent on hunting, gathering, fishing and farming; longhouses present; ossuaries; tribe/band formation; theorized that the Credit River may have functioned as a boundary marker between the ancestral Neutral Natives and Huron-Wendat peoples.</p> <p>The Petun (Tionnontaté or Khionontateronon) were located along the Blue Mountains to the northwest and have been theorized to have arrived ca. 1580 from Neutral territory; the Grand River headwaters are in the northwest corner of Dufferin County and the Petun are believed to have utilized Dufferin County (northwest of the study corridor) as hunting territory; the northern reaches of the Town of Caledon may have been included in this hunting territory.</p> <ul style="list-style-type: none"> - Huron-Wendat points are limited but change from predominantly side-notched to unnotched triangular - Neutral Native projectile points are typically small but long and narrow, frequently side-notched <p>(Sawden, 1952, p.7; Heidenreich, 1978, pp.368-388; Lennox and Fitzgerald, 1990, pp.405-456; Ramsden, 1990, pp.361-384; Ferris and Spence, 1995, pp.115-122; Warrick, 2000, p.446; Warrick, 2008, p.15; Migizi and Kapyrka, 2015, pp.1-3; TRCA, 2007, p.9; Garrad, 2014, pp.1, 147-148).</p>

1.3.2 Contact Period

The contact period of Southern Ontario is defined by European arrival, interaction, and influence with the established Aboriginal communities of Southern Ontario. **Table 2** includes an overview of some of the main developments that occurred during the contact period of Southern Ontario.

Table 2: Contact Period

Period	Date Range	Overview and Attributes
European Contact	ca. AD 1600s	<p>The Mississauga Anishinaabeg focused on hunting/fishing/gathering with little emphasis on agriculture; highly mobile within their traditional territory; temporary and moveable houses (wigwam); inter-marriage between Algonquian-speaking groups (such as the Nipissing, Algonquin, Odawa, Mississauga and Ojibway) and Iroquoian groups likely occurred; Algonquian-speaking groups often wintered with Iroquoian neighbours, resulting in a complex archaeological record; oral traditions of the Mississauga Anishinaabeg state that at the time of European Contact, the Mississauga Anishinaabeg retreated to their winter grounds in the north, thus avoiding disease and warfare.</p> <p>French arrival into Ontario; Huron-Wendat villages north of Lake Simcoe and Neutral Natives were clustered around the Niagara Peninsula; trade relationship with Huron-Wendat and French established; Neutral Natives referred to as <i>la Nation neutre</i> by Samuel de Champlain but limited European contact with Neutrals; the Tionnontaté or Khionontateronon were called 'Petun' a term meaning tobacco; little references to the Petun were made by fur traders leading to the belief that fur traders assumed they were similar to the Huron-Wendat; trade goods begin to replace traditional tools/items; Jesuit and Récollets missionaries; epidemics (Jury, 1974, pp.3-4; Heidenreich, 1978, pp.368-388; Garrad and Heidenreich, 1978, pp.395-396; White, 1978, pp.407-411; Lennox and Fitzgerald, 1990, pp.405-456; Trigger, 1994, pp.47-55; Warrick, 2008, pp.12, 245; Fox and Garrad, 2004, p.124; McMillan and Yellowhorn, 2004, pp.110-111; Garrad, 2014, pp.148, 167-168, 490).</p>
Five Nations of Iroquois (Haudenosaunee) Arrival	ca. AD 1650s	<p>The Five (later Six) Nations of Iroquois (or Haudenosaunee), originally located south of the Great Lakes, engaged in warfare with Huron-Wendat neighbours as their territory no longer yielded enough furs; the Five Nations, armed with Dutch firearms, attacked and destroyed numerous Huron-Wendat villages in 1649-50; the small groups that remained became widely dispersed throughout the Great Lakes region, ultimately resettling in Quebec, in southwestern Ontario and in America; to prevent the revival of Huron-Wendat settlements, the Five Nations attacked and destroyed the villages of the Huron-Wendat allies, the Petun Natives; in 1650, what remained of the Petun Natives migrated through Neutral Native territory; the Five Nations attacked Neutrals ca. 1650s and caused their dispersal; the Five Nations, particularly the Seneca, established settlements along the northern shoreline of Lake Ontario at strategic locations along canoe-and-portage routes and used territory for extensive fur trade; European fur trade and exploration continues (Robinson, 1965, pp.15-16; Abler and Tooker, 1978, p.506; Schmalz, 1991, pp.12-34; Trigger, 1994, pp.53-59; Williamson, 2013, p.60; Migizi and Kapyrka, 2015, p.2).</p>
Anishinaabeg Return	ca. AD 1650s	<p>Algonquian-speaking groups within the Anishinaabeg (Ojibway, Chippewa, Odawa, Mississauga and others) returned from the north to their traditional</p>

Period	Date Range	Overview and Attributes
	to 1700s	territory of Southern Ontario; by 1690s, the Five Nations settlements were abandoned; battles fought throughout Southern Ontario; by 1701, the Five Nations were driven out by the returning Anishinaabeg; the Five Nations returned to their homelands south of the Great Lakes, and some remained in parts of Southern Ontario (Hathaway, 1930, p.433; Trigger, 1994, pp.57-59; Johnston, 2004, pp.9-10; Gibson, 2006, pp.35-41; Smith, 2013, pp.16-20; Williamson, 2013, p.60).
Trade, Peace and Conflict	ca. AD 1700 to 1770s	Great Peace negotiations of 1701 in Montreal established peace around the Great Lakes; collectively referred to Anishinaabeg and Five Nations of Iroquois as the First Nations; European commerce and exploration resumed; the Anishinaabeg continued to trade with both the English and the French; genesis of the Métis and their communities; France and Britain were the basis of the Seven Years' War; French defeat transferred the territory of New France to Britain; Treaty of Paris (1763); Royal Proclamation of 1763 established the government administration of the North American territories ceded by France to Britain and established the framework for the negotiation of treaties with First Nation inhabitants; Pontiac's War; fur trade continued until Euro-Canadian settlement (Schmalz, 1991, pp.35-62, 81; Surtees, 1994, pp.92-97; Johnston, 2004, pp.13-14; Jaenen, 2013; Hall, 2015).
Early British Administration and Euro-Canadian Settlement	ca. AD 1760s to 1790s	American Revolution (1775 to 1783) caused large numbers of United Empire Loyalists, military petitioners, immigrants from the British Isle/European locations, and groups who faced persecution in the United States to arrive in Upper Canada; Treaty of Paris (1783) formally recognized the independence of the United States; Province of Quebec divided in 1791 into sparsely populated Upper Canada (now southern Ontario) and culturally French Lower Canada (now southern Quebec); Jay's Treaty of 1795 establishes American/Canadian border along the Great Lakes; large parts of Upper Canada opened to settlement after land cession treaties were secured with various First Nation groups by the British Crown (Department of Indian Affairs, 1891; Government of Ontario, 2014; Jaenen, 2014; Hall, 2019; Surtees, 1994, p.110; Sutherland, 2014).
British Land Treaties	1805 to 1806	In 1805 a tract of land was ceded from the Mississauga that included lands "reaching from the Etobicoke Creek on the East for twenty-six miles westward to the outlet of Burlington Bay, these lands stretching back from the Lake shore line for from five to six miles to what we now know as the Second Concession North of Dundas (or Eglinton Avenue)" (Fix, 1967, p.13); the Mississauga obtained £1000 worth of goods and the right to retain their fishery sites at the mouths of the Credit River, Sixteen Mile Creek, and Twelve Mile Creek; this treaty, Treaty No.13a, included lands in the southern parts of the Township of Toronto in Peel County and Trafalgar and Nelson Townships in Halton County; a confirmatory surrender was issued in 1806, Treaty No.14; included lands south of Eglinton Avenue (Department of Indian Affairs, 1891, pp.lix, 35-40; Weaver, 1913, p.65; Surtees, 1994, p.110; Government of Ontario, 2014; Government of Ontario, 2019; MCFN, 2017b).

Period	Date Range	Overview and Attributes
British Land Treaties	1818	After the War of 1812, immigration from the United States came to a halt as a change in British policy discouraged Americans from taking residence in Canada and encouraged immigration from the British Isles; the remainder of the Mississauga Tract, within what is now Peel Region, was purchased by William Claus in 1818; the area belonged to the Credit River Mississauga who, despite efforts from the Indian Department officials to protect them, found themselves victim to encroachment on their lands and fisheries by Euro-Canadian settlers; Ajetance, chief of the Credit River Mississauga, settled for goods in the value of £522.10 shilling annually per person in exchange for 648,000 acres of land; this second purchase surrendered those lands within what would encompass the Township of Albion; this treaty was also known as Treaty No.19 (Department of Indian Affairs, 1891, p.lviii; Surtees, 1994, pp.116-117; Government of Ontario, 2014; MCFN, 2017c).

1.3.3 Euro-Canadian Settlement Period (1800s to present)

1.3.3.1 Township of Albion

From 1818 to 1819, the Township of Albion was surveyed by William Chewett and named after the “ancient name of England” (Gardiner, 1899, p.235). Official settlement in the area began soon afterwards where settlers in the southern part of the township recognized the agricultural potential of the rich soils and flat terrain and focused on agriculture. Alternatively, settlers in the northern part of the Township of Albion navigated the difficult terrain and settled in plateau areas and along river valleys while attempting to farm. Stands of mixed hardwood covering the Township of Albion were cleared by settlers, and by 1830 the township had numerous prosperous wheat farms. By 1840, after several years of severe agricultural depression, the export of Canadian wheat increased when new British Corn laws gave preferential treatment to Canadian wheat, and after the 1853 European crop failure, the prices of Canadian grain rapidly increased. Additionally, the Crimean War prevented supplies of Russian wheat from entering the European markets and brought the wheat prices still higher; farms throughout the township experienced great financial surplus. By 1842, 2,154 individuals resided in the township and there were four grist mills, two sawmills and two distilleries located in the township. The agricultural prosperity was short lived and livestock husbandry stimulated the economy with emphasis placed on breeding high quality beef and dairy cattle (Smith, 1846, p.2; Walker & Miles, 1877, p.89; Heyes, 1961, pp.111-113; Town of Caledon, 2009, pp.9-2, 9-7, 10-1).

1.3.3.2 Bolton

Bolton, situated around the intersection of Regional Road 50 (Queen Street) and King Street, is located northwest of the study corridor. Initially named Bolton Mills, it was founded by James Bolton who came to the township with his family in 1819. When George Bolton, James’s nephew, arrived in 1824, they began construction of a small grist mill on part of James’s property where the Humber River flowed. The mill became profitable as local farmers capitalized on the closer mill to process their wheat. Early settlers to Bolton Mills were primarily from England (Heyes, 1961, p.133; Walker & Miles, 1877, p.89).

By 1840, Bolton Mills had two stores, a distillery, post office, blacksmith shop, shoemaker, tailor, tannery, and a hotel. In 1842, the first schoolhouse was opened and in the following year, a church was built of mud bricks by the Congregationalists. Later, an Anglican church was constructed (Town of Caledon, 2009, p.11-2; Walker & Miles, 1877, p.89). In about twenty years, a soda-biscuit factory, steam bakery, a metal shop for tin and copper, a lawyer and doctor were available in Bolton Mills (Walker & Miles, 1877, p.89; Town of Caledon, 2009, p.11-3). In 1872, the hamlet was incorporated and it separated from the Township of Albion to become the Village of Bolton. The Toronto, Grey and Bruce Railway arrived in Bolton in 1873, and by 1877, Bolton's inhabitants exceeded 900 individuals. However, by 1881 the population had dropped to 200-300 individuals due to poor harvests forcing many into the nearby cities, such as Toronto (Heyes, 1961, p.136).

1.3.4 Past Land Use

1.3.4.1 Pre-1900 Land Use

Several documents were reviewed to gain an understanding of the land use history and of the study corridor's potential for the recovery of historic pre-1900 remains, namely G.R. & G.M. Tremaine's 1859 *Map of the County of Peel*, G.R. Tremaine's 1860 *Map of the County of York*, Walker & Miles' 1877 *Illustrated Historical Atlas of the County of Peel* and Miles & Co.'s 1878 *Illustrated Historical Atlas of the County of York* (**see Maps 2-3; Table 3**). The study corridor primarily encompasses an open road allowance and where it extends beyond the road allowance it falls within farmland of adjacent property owners.

Table 3: Summary of Structures and Property Owners/Occupants documented in the 1859 and 1860 *Tremaine Maps* and the 1877 and 1878 *Illustrated Historical Atlases* in the Study Corridor

Con.	Lot	Part	Owner/Occupant		Structure(s) in the Study Corridor	
			1859/1860	1877/1878	1859/1860	1877/1878
Township of Toronto Gore						
12 NERN DIV	17	E½	Robert Hart	George Hart	-	1 farmstead
Township of Vaughan						
11	29	All	Smith	Thomas Smith	-	-
Township of Albion						
6	1	E½	William Graham	Robert Robinson	1 store	-
	2	E½	William Parr		-	1 orchard
	3	NE¼	William Stewart	George Johnston	-	-
	3	S½	Russell Snell	Robert Snell	-	-
	4	E½	Adam Goodfellow	John Ferrester	-	1 homestead
	5	E½	William Lindsey		-	-
7	1	All	William Graham	Robert Robinson	1 homestead	-
	2	All	William Jolley	William Thomas	-	-
	3	All	George Moore		-	-

Con.	Lot	Part	Owner/Occupant		Structure(s) in the Study Corridor	
			1859/1860	1877/1878	1859/1860	1877/1878
	4	All	William Goodfellow	James Goodfellow	-	-
	5	W½	John Clark	Unlisted	-	-

Additionally, two homesteads are depicted falling within 300 metres of the study corridor in the 1859/1860 *Tremaine Maps*. By 1877/1878, eight homesteads are depicted within 300 metres of the study corridor in the *Illustrated Atlases*.

Additionally, the study corridor encompasses Highway 50 (Regional Road 50/Queen Street South) and Mayfield Road/Albion Vaughan Road, which were originally laid out during the survey of the Townships of Albion, Toronto Gore and Vaughan. In Ontario, the 2011 *S&G* considers areas of early Euro-Canadian settlements (e.g., pioneer homesteads, isolated cabins, farmstead complexes, early wharf or dock complexes, pioneer churches, and early cemeteries), early historic transportation routes (e.g., trails, passes, roads, railways, portage routes), and properties that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations, as features or characteristics that indicate archaeological potential (per *Section 1.3.1*). The proximity of Euro-Canadian settlements and early historic transportation routes contributes to the archaeological potential of the study corridor.

1.3.4.2 Post-1900 Land Use

To facilitate further evaluation of the established archaeological potential along the study corridor, a detailed review of topographic maps from 1914, 1926, 1934 and 1940 (*see Maps 4-5*), aerial imagery from 1954 (*see Map 6*), and orthophotographs from 2002, 2007, 2009, 2013, 2017 and 2019 was undertaken (*see Maps 6-9*).

The 1914 to 1940 *Topographic Maps* depicted the study corridor largely encompassing an unmetalled road (Highway 50) as well as portions of Mayfield Road and Albion Vaughan Road (also unmetalled). The land that flanked these roadways had been cleared of overgrown vegetation, was likely agricultural lands and pockets of treed areas were also situated along the roadways. Numerous houses (both wood and brick) are depicted along the study corridor, and a telegram or telephone line was depicted along the east side of Highway 50.

In 1954, the study corridor primarily consisted of a two-lane gravel roadway that was flanked by open agricultural lands and manicured yards dotted with trees. Numerous houses and farm complexes were constructed immediately adjacent to the study corridor, and Mayfield Road and Albion Vaughan Road were also depicted at the southern end of the study corridor. By 2002, much of the land situated around George Bolton Parkway, which was under construction, had been subjected to large commercial developments. The lands flanking Highway 50, particularly on the west side south of George Bolton Parkway and on the east side north of McEwan Drive still consisted of agricultural lands and several residential structures and farms were located

immediately adjacent to the roadway. Highway 50 was now a paved four-lane roadway with centre turning lanes.

Between 2007 and 2019, large commercial developments continued to be constructed along Highway 50 and a considerable amount of the land flanking the roadway was subjected to grading and construction activities to accommodate the new urban expansion. The right-of-way was significantly altered with extensive roadside ditching and landscaping, new traffic lights and signs, a sidewalk installed along portions of Highway 50, and many new roadway intersections and entrance driveways. A commuter lot was also constructed at the southwest corner of Mayfield Road and Highway 50 by 2013.

1.3.5 Present Land Use

The present land use of the study corridor is categorized as a High-Capacity Arterial roadway flanked by Dry Industrial, Prestige Industrial, Bolton Highway 50 Commercial Area, Special Residential, Rural Uses, Agricultural and Industrial (Town of Caledon, 2018; City of Brampton, 2016; City of Vaughan, 2020a).

1.4 Archaeological Context

To establish the archaeological context and further establish the archaeological potential of the study corridor, *Archeoworks Inc.* conducted a comprehensive review of designated and listed heritage properties, commemorative markers and pioneer churches and early cemeteries in relation to the study corridor. Furthermore, an examination of registered archaeological sites and previous AAs in proximity to the study corridor limits, and a review of the physiography of the study corridor were performed.

The results of this background research are documented below and summarized in **Appendix B – Summary of Background Research.**

1.4.1 Designated and Listed Cultural Heritage Resources

Per *Section 1.3.1* of the 2011 S&G, properties listed on a municipal register or designated under the *Ontario Heritage Act*, or that is a federal, provincial, or municipal historic landmark or site, are considered features or characteristics that indicate archaeological potential. One listed heritage resource is located within 300 metres of the study corridor (Town of Caledon, 2020a; City of Brampton, 2020a; *see Table 4*), thus contributing to the archaeological potential classification of the study corridor.

No online inventory for designated and listed heritage resources could be found for the City of Vaughan. The City of Vaughan Heritage Coordinator was contacted; no response was granted by report completion (Templeton, 2020)

Table 4: Designated and Listed Heritage Resources within 300 metres of the Study corridor

Address	Description	Heritage Status
11970 Highway 50	Hart House	Listed

1.4.2 Heritage Conservation Districts

Per *Section 1.3.1* of the *2011 S&G*, heritage resources listed on a municipal register or designated under the *Ontario Heritage Act* are considered features or characteristics that indicate archaeological potential. The study corridor is not located in or within 300 metres of a Heritage Conservation District (Town of Caledon, 2020b; City of Brampton, 2020b; City of Vaughan, 2020b) and as such this feature does not contribute to the archaeological potential classification of the study corridor.

1.4.3 Commemorative Plaques or Monuments

Per *Section 1.3.1* of the *2011 S&G*, commemorative markers of Aboriginal and Euro-Canadian settlements and history which may include local, provincial, or federal monuments, cairns or plaques, or heritage parks are considered features or characteristics that indicate archaeological potential. The study corridor is not located in or within 300 metres of a commemorative plaque or monument (Ontario Historical Plaques, 2019; OHT, 2020).and as such this feature does not contribute to the archaeological potential classification of the study corridor.

1.4.4 Pioneer/Historic Cemeteries

Per *Section 1.3.1* of the *2011 S&G*, pioneer churches and early cemeteries are considered features or characteristics that indicate archaeological potential. The study corridor is not located in or within 300 metres of a pioneer church or early cemetery (OGS, 2020a; OGS, 2020b; OGS, 2020c). This feature, therefore, does not contribute to the archaeological potential classification of the study corridor.

1.4.5 Registered Archaeological Sites

Per *Section 1.1, Standard 1* and *Section 7.5.8, Standard 1* of the *2011 S&G*, the *Ontario Archaeological Sites Database (OASD)* maintained by the *MHSTCI* was consulted to provide a summary of registered or known archaeological sites within a minimum one-kilometre distance of the study corridor limits.

According to the OASD, eight registered archaeological sites are located within a one-kilometre radius of the study corridor (MHSTCI, 2020).

Upon review of the report tied to the discovery of AIGw-65 and AIGw-66 (Archeoworks Inc., 2000), it was realized that both sites are located greater than 300 metres west of the study corridor near Simpson Road and George Bolton Parkway. Furthermore, upon review of the report tied to the discovery of AIGw-80 and AIGw-81 (ASI, 2005), AIGw-80 is located within the study corridor and AIGw-81 is located within 300 metres of the study corridor.

Therefore, of the eight registered archaeological sites located within a one-kilometre radius of the study corridor limits, two of these are in the study corridor and four are located within 300 metres of the study corridor (*see Table 5*).

Table 5: Registered Archaeological Sites within One Kilometre of the Study Corridor

Borden #	Name	Cultural Affiliation	Type
Registered archaeological sites within the study corridor			
AlGw-80	Graham	Post-Contact (Euro-Canadian)	Farmstead
AlGw-152	Graham-Robinson	Post-Contact (Euro-Canadian)	Homestead
Registered archaeological sites within 300 metres			
AlGw-40	-	Early Woodland (Meadowood)	Findspot
AlGw-41	-	Post-Contact (Euro-Canadian)	Findspot
AlGw-81	-	Early Archaic	Findspot
AlGw-151	Hart	Post-Contact (Euro-Canadian)	Homestead
Other registered archaeological sites within one kilometre			
AlGw-65	-	Pre-Contact (Aboriginal)	Findspot
AlGw-66	-	Pre-Contact (Aboriginal)	Findspot

Per *Section 1.3.1* of the *2011 S&G*, previously registered archaeological sites in proximity are considered features or characteristics that indicate archaeological potential. Given the presence of numerous registered archaeological sites within 300 metres of the study corridor, this feature contributes to the establishment of archaeological potential of the study corridor.

1.4.6 Previous Archaeological Assessments

Per *Section 1.1, Standard 1* and *Section 7.5.8, Standards 4-5* of the *2011 S&G*, to further establish the archaeological context of the study corridor, a review of previous AAs carried out within the limits of, or immediately adjacent (i.e., within 50 metres) to the study corridor — as documented by all available reports — was undertaken. Twenty-four archaeological reports were identified (*see Table 6*):

Table 6: Previous Archaeological Assessments

Company, Report Date	Stage of Work	Relation to Study Corridor	Details and Recommendations
Archaeological Assessments Ltd., 2007	Stage 1-2 AA	Encompassing part of the study corridor	Located at the southwest corner of Highway 50 and Healey Road associated within Parts 1 and 2, Reference Plan 43R-2477, encompassing 15 acres. During the Stage 2 AA, no archaeological material or sites were encountered. It was recommended that the archaeological conditions attached to the development be cleared in order that the commercial development can proceed.
Archaeologix Inc., 2001	Stage 1-2 AA	Encompassing part of the study corridor	Located on the east side of Highway 50, opposite Healey Road, and encompassing approximately 35 acres for a proposed commercial development.

Company, Report Date	Stage of Work	Relation to Study Corridor	Details and Recommendations
			During the Stage 2 AA, no archaeological material was identified, and no additional assessment was recommended.
Archaeologix Inc., 2002	Stage 1-2 AA	Encompassing part of the study corridor	Located on the east side of Highway 50 at McEwan Drive East and encompassing approximately 20 acres for a proposed commercial development. During the Stage 2 AA, no archaeological material was identified, and no additional assessment was recommended.
Archeoworks Inc., 2003a	Stage 1 AA	Encompassing part of the study corridor	Stage 2 AA recommended.
Archeoworks Inc., 2003b	Stage 2 AA	Encompassing part of the study corridor	Associated with the AA of the north parcel of Lot 2, Concession 6, measuring 47.995 acres in size. Despite scrutiny, no archaeological remains were encountered during the survey. It was recommended that the entire 47.995-acre subject area be cleared of further archaeological concern.
Archeoworks Inc., 2003c	Stage 2 AA	Encompassing part of the study corridor	Associated with the AA of the east parcel of Lot 2, Concession 6, measuring 49.170 acres in size. During the AA, one late nineteenth century site was discovered. Due to the late date of the historic cluster, further Stage 3 AA was not recommended. Despite scrutiny throughout the rest of the survey, no additional archaeological remains were encountered. It was recommended that the balance of the subject area be cleared of further archaeological concerns.
Archeoworks Inc., 2007a	Stage 1 AA	Encompassing part of the study corridor	Associated with the AA of Highway 50/Mayfield Road intersection improvements and the adjacent carpool lot. Stage 2 AA required on all undisturbed areas.
Archeoworks Inc., 2007b	Stage 2 AA	Encompassing part of the study corridor	Associated with the AA of Highway 50/Mayfield Road intersection improvements and the adjacent carpool lot. Despite scrutiny during the Stage 2 AA, no archaeological remains were encountered. Therefore, the subject area is cleared of further archaeological concern.
Archeoworks Inc., 2012	Stage 1-2 AA	Encompassing part of the study corridor	Composed of properties 1-11 in Lots 1-2, Concession 7. During the Stage 2 AA, one historic Euro-Canadian collection, identified as H1, was encountered in Property 6. This site consisted almost entirely of twentieth century material with only a few artifacts identified as pre-dating ca. 1900. The H1 site does not meet the criteria for further Stage 3 AA and is cleared of any further archaeological concern. Properties 1, 9 and 10 represent future development phases and were not included in this Stage 1-2 AA. No development or land alteration shall take place in

Company, Report Date	Stage of Work	Relation to Study Corridor	Details and Recommendations
			those properties prior to fulfilling the necessary archaeological conditions. Further AA was recommended on the Graham site (AlGw-152) (located in Property 11).
Archeoworks Inc., 2017	Stage 1-2 AA	Within 50 metres of the study corridor	Located at 12148 Albion Vaughan Road. During the Stage 2 AA, no archaeological resources were identified. The study corridor is considered free of archaeological concern. No further archaeological investigation is recommended.
ASI, 2003	Stage 1-2 AA	Encompassing part of the study corridor	Located immediately west of the Albion Vaughan Road realignment and east of Highway 50, measuring approximately one-acre. During the Stage 2 AA, it was determined the subject area had been entirely disturbed. It was recommended that the entire subject area be considered free from further archaeological concern.
ASI, 2005	Stage 1-2 AA	Encompassing part of the study corridor	<p>Located at the northwest corner of Mayfield Road and Highway 50, measuring approximately 36.3 hectares (90.69 acres). During the Stage 2 AA, one mid-19th century Euro-Canadian site, H1/Graham (AlGw-80), and two pre-contact Aboriginal findspots, P1 (AlGw-81) and P2, were located. P1 consisted of a single Early Archaic bifurcate base projectile point and P2 a single chert flake. Although the location data provided in the OASD depicts H1/Graham and P1 in the same location over 100 metres from the current study corridor limits, H1/Graham site (AlGw-80) is located within the study corridor.</p> <p>Further Stage 3 AA is recommended for the H1/Graham site (AlGw-80) and no further AA is recommended for findspot P1 (AlGw-81) or findspot P2.</p>
The Archaeologists Inc., 2005	Stage 3 AA	Located within the study corridor	Associated with the Stage 3 AA of AlGw-80. The Stage 3 commenced with a controlled surface pick up where nine additional artifacts were recovered. A total of 15 one-by-one metre test units were excavated and 73 artifacts were collected. It was determined that the artifacts date the site occupation from the 1830s to at least 1877. Stage 4 archaeological mitigation was recommended.
The Archaeologists Inc., 2006	Stage 4 Mitigation	Located within part of the study corridor	Associated with the Stage 4 mitigation of AlGw-80. The Stage 4 commenced with the mechanical topsoil removal of an area measuring 60 metres by 45 metres. One cultural feature was present after the overburden had been removed and was determined to be a dwelling. A total of 159 artifacts were recovered that suggested an occupation period

Company, Report Date	Stage of Work	Relation to Study Corridor	Details and Recommendations
			between 1840-1870s. The Stage 4 mitigation of ALGw-80 was completed with 100% excavation of the deposit.
ASI, 2010a	Stage 1 AA	Encompassing part of the study corridor	Associated with the AA of Highway 50 from Castlemore Road to Mayfield Road. Stage 2 recommended beyond the disturbed right-of-way and Stage 3 AA adjacent to the Shiloh Cemetery was also recommended.
ASI, 2012	Stage 2 AA	Encompassing part of the study corridor	Associated with the AA of Highway 50 from Castlemore Road to Mayfield Road. During the Stage 2 AA, one previously unregistered Euro-Canadian site, ALGw-168 (H1), was identified; further Stage 3 AA was recommended. A previously registered Euro-Canadian site, the Hart site (ALGw-151), also requires Stage 3 AA. Additionally, six properties remained unassessed due to lack of permission to enter (PTE). Both registered archaeological sites are located greater than 50 metres away and will not be impacted by the current development.
ASI, 2010b	Stage 1-2 AA	Encompassing part of the study corridor	Located at 12131 Highway 50. During the Stage 2 AA, one Euro-Canadian site was discovered in the vicinity of the mid- to late nineteenth century house: the Graham Site (ALGw-152). Stage 3 AA was recommended on ALGw-152.
ASI, 2017a	Stage 2 AA	Encompassing part of the study corridor	Associated with the Stage 2 AA of the Graham-Robinson site (ALGw-152). The Stage 2 was deemed necessary to confirm whether any portions of the site remained intact following recent ground-disturbing activities, including the removal of a historic house from the immediate vicinity of the site. It was determined that much of the site had been impacted by recent ground disturbing activities, but undisturbed portions were present. Stage 3 AA was recommended.
ASI, 2017b	Stage 3 AA	Located within part of the study corridor	Associated with the Stage 3 AA of the Graham-Robinson site (ALGw-152). During the Stage 3 AA, 17 test units were excavated where two loci: 1 and 2; two horizons: A and B; and a total of 18 lots (layers) were present. A total of 2,263 historical artifacts were recovered from 13 unique contexts: A-horizon (Lot 1), buried A-horizon (lots 8, 10), six fill events (lots 2, 6, 14-17), one laid topsoil landscaping event (lot 5), and three potential cultural features (lots 9, 11, 18). The artifacts date the period of use from ca. 1840 to 1860 and archival research indicates the site was related to the occupation of a one-story log house occupied by William and Maria Graham. Further Stage 4 mitigation was recommended.

Company, Report Date	Stage of Work	Relation to Study Corridor	Details and Recommendations
ASI, 2019	Stage 4 Mitigation	Located within part of the study corridor	Associated with the Stage 4 mitigation of the Graham-Robinson site (AlGw-152). Stage 4 began with the hand excavation of A-horizon resulting in the excavation of 119 one-by-one metre square units followed by mechanical topsoil removal. Nine cultural features (ash pit, animal burial and seven refuse pits) were documented and 18,866 artifacts, 2,251 faunal elements and six pre-contact Aboriginal flaked lithics were recovered. It was noted that there was an unusually large quantity of smoking pipes recovered and could likely be attributed to the Graham's usage of the property as a store. It was recommended that because the Graham-Robinson site (AlGw-152) has been completely excavated, no further assessment is required because there is no further cultural heritage value or interest.
ASI, 2016	Stage 1 AA	Encompassing part of the study corridor	Associated with the extension of George Bolton Parkway easterly from Highway 50 to Albion Vaughan Road. A property inspection was completed and determined the subject area had been subjected to deep and pervasive soil disturbance events due to industrial and commercial land use activities as well as construction of the right-of-way. It was recommended that the subject area does not retain archaeological potential and do not require further archaeological assessment.
ASI, 2017c	Stage 1-2 AA	Encompassing part of the study corridor	Located at 12435 Highway 50. Despite scrutiny during the Stage 2 AA, no archaeological resources or intact soil profiles were encountered during the survey. No further archaeological assessment of the subject property is required.
London Museum of Ontario Archaeology, 1990	Stage 1-2 AA (equivalent)	Encompassing part of the study corridor	Located at the northwest corner of Mayfield Road and Highway 50. During the property survey, artifacts were encountered in two areas and registered as AlGw-40 (an isolated findspot of an Early Woodland projectile point) and AlGw-41 (a scatter of late nineteenth century historic debris). Both sites were determined to not be significant heritage resources and no further work was recommended. Furthermore, a portion of the subject area had winter wheat growing and due to 75% of the total subject area having already been assessed, no archaeological survey of the winter wheat field was required.
The Archaeologists Inc., 2014	Stage 1-2 AA	Within 50 metres of the study corridor	Located at 12295 Highway 50. During the Stage 2, no archaeological sites were identified. It is

Company, Report Date	Stage of Work	Relation to Study Corridor	Details and Recommendations
			recommended that no further archaeological assessment of the property be required.

1.4.7 Physical Features

1.4.7.1 Physiographic Region

The northern limits of the study corridor (from Industrial Road to Healey Road) are in the South Slope physiographic region of Southern Ontario while the southern limits of the study corridor (from Industrial Road to Mayfield Road) are located within the Peel Plain physiographic region. The South Slope is the southern slope of the Oak Ridges Moraine, but also includes a strip south of the Peel Plain. This region covers approximately 2,400 square kilometres from the Niagara Escarpment to the Trent River. The South Slope contains a variety of soils that have been conducive to agricultural use. The soils in the west are developed upon more clayey than sandy tills, and the slopes here are less steep than in the east. Portions of the South Slope region that lay in the interior, away from the lakeshore, were mainly colonized by the “second wave” of largely British immigrants after the Napoleonic Wars. Early settlers practiced mixed subsistence agriculture, although grain exportation did confer a measure of prosperity across the region, as evidenced by the construction of many fine fieldstone houses, the building of railroads and the improvement of main haulage roads. The decline of wheat growing, however, resulted in the replacement with commercial mixed farming in which beef cattle, hogs, and dairy butter were the primary income sources. The eastern portion of the South Slope region has preserved less of its rural character compared to the western portion, as large areas around Toronto have become more urbanized (Chapman and Putnam, 1984, pp.172-174).

The Peel Plain is described as a level-to-undulating region of clay soils, with a gradual and uniform slope toward Lake Ontario. Till containing large amounts of shale and limestone underlies clay that is generally heavy in texture, this clay having been presumably brought by meltwater from the predominantly limestone regions to the north and east. Some well-drained soils are found within the Peel Plain, but the most dominant soil is Peel clay. With the underlying shales not being able to retain water well, compounded by the almost complete deforestation of the region which results in a high degree of evaporation, the Peel Plain has somewhat of a water supply problem. Practically all utilized for agriculture until 1940, the land within much of the region has been urbanized, now occupying two-thirds of the Peel Plain and taking more than 50,000 hectares of good farmland out of production (Chapman & Putnam, 1984, pp.174-176).

1.4.7.2 Soil Type and Topography

The native soil type within the study corridor is Peel clay, which is a Grey-Brown Podzolic soil whose soil material is characterized as lacustrine over heavy till. It has imperfect drainage, is slightly stone-free and its topography may be described as smooth, gently sloping (Ontario Agricultural College, 1953).

The topography within the study corridor decreases from north to south, with an elevation range of 226-249 metres above sea level.

1.4.7.3 Hydrological Features

Hydrological features such as primary water sources (i.e., lakes, rivers, creeks, streams) and secondary water sources (i.e., intermittent streams and creeks, springs, marshes, swamps) would have helped supply plant and food resources to the surrounding area and are indicators of archaeological potential (per *Section 1.3.1* of the *2011 S&G*). Tributaries of the Humber River bisect the study corridor and as such, this feature contributes to the establishment of archaeological potential within the study corridor.

1.4.8 Current Land Conditions

The study corridor is situated mainly within a built-up commercial and industrial area of the Town of Caledon, City of Brampton, and City of Vaughan. The study corridor encompasses Highway 50, a paved four-lane roadway with centre-turning lanes, as well as several other intersecting entrance driveways and roadways (Mayfield Road, Albion Vaughan Road, Agrocrop Road, Parr Boulevard, Simona Drive, George Bolton Parkway, Industrial Road, Hopcroft Road, McEwan Drive and Healey Road), and their associated rights-of ways consisting of culverts, ditching, existing utilities, sidewalks, traffic barriers, lights, and signs.

1.4.9 Date of Review

A desktop review of field conditions of the study corridor using historic aerial photographs, and past and current orthophotographs obtained through the VuMAP (© First Base Solutions) application was undertaken on July 20, 2020. A property inspection was carried out within the study corridor on July 23rd, 2020. The purpose of the property inspection is to identify and describe areas of high potential requiring additional archaeological research; identify and describe areas of no/low potential not warranting further archaeological concern; and to help gather information to formulate appropriate Stage 2 AA strategies.

1.5 Confirmation of Archaeological Potential

Based on the information gathered from the background research documented in the preceding sections, elevated archaeological potential has been provisionally established within the study corridor limits. Features contributing to archaeological potential are summarized in **Appendix B**. Further review and assessment of conditions within the study corridor will be addressed in **Section 3.0**.

2.0 PROPERTY INSPECTION

This property inspection was conducted in compliance with the standards set forth in *Section 1.2* of the *2011 S&G*. The weather and lighting conditions (average of 24°C and sunny) during the Stage 1 property inspection permitted good visibility of all parts of the study corridor and were conducive to the identification of features of archaeological potential.

The inspection was carried out by random spot-checking features previously identified during the desktop review, reviewing the study corridor to gain first-hand knowledge of the area's geography, topography, and current condition, and to evaluate and map archaeological potential. Background research revealed that a large portion of the study corridor had been previously subject to archaeological assessment and cleared of further archaeological concern (*see Section 1.4.6, Table 6*); a visual inspection was neither warranted nor conducted within these areas.

The results of the property inspection and location and orientation information associated with a selection of photographs taken in the field are illustrated within **Maps 10-15**. Photographic images of the study corridor are presented within **Appendix C**. An inventory of the documentary record generated in the field can be found within **Appendix D**.

3.0 ANALYSIS AND CONCLUSIONS

In combination with data gathered from the background research (*see Sections 1.3 and 1.4*), a desktop review of aerial imagery and orthophotographs, and the property inspection, an evaluation of the established archaeological potential of the study corridor was performed. The results of this evaluation are presented in **Maps 10-15**.

3.1 Previous Archaeological Assessments

Lands within the study corridor which have already been subjected to an archaeological assessment (Archaeological Assessments Ltd., 2007; Archaeologix Inc., 2001, 2002; ASI, 2003, 2005, 2010a-b, 2012, 2016, 2017a-c, 2019; Archeoworks Inc., 2003b-c, 2007b, 2012; London Museum of Ontario Archaeology, 1990; The Archaeologists Inc., 2005, 2006), and deemed free of further archaeological concern do not require further assessment (*see Section 1.4.6, Table 6; Maps 10-15*). No further work is recommended for these areas.

3.2 Identified Deep and Extensive Disturbances

The study corridor was evaluated for deep and extensive land alterations – commonly referred to as disturbances – that have severely impacted the integrity of any archaeological resources and indicate that archaeological potential has been removed. Per *Section 1.3.2* of the *2011 S&G*, these include, but are not limited to: quarrying, major landscaping involving grading below topsoil, building footprints, or sewage and infrastructure development.

It is clear from a detailed review of aerial imagery and orthophotographs as discussed in *Section 1.3.4.2*, that a large portion of the study corridor has been subjected to deep and extensive disturbances from the construction, maintenance and improvements of Highway 50 and its right-of-way (*see Maps 10-15; Images 1-11*). These disturbances were further highlighted during the property inspection.

Documented disturbances within the study corridor include: the existing paved and gravel roadways (Highway 50 and the numerous other interesting roadways) and rights-of-ways (deep, wet drainage ditching, culverts, modified riverbanks, existing utilities, concrete curbs and sidewalks, paved shoulders, traffic lights, signs and barriers, extensive landscaping and graded terrain, a stormwater management pond, and paved and gravel access driveways) (*see Maps 10-15*). The construction of these features would have resulted in severe damage to the integrity of any archaeological resources which may have been present within their footprints.

No areas retaining archaeological potential were identified within the study corridor. The study corridor has either been subjected to previous archaeological assessments that have addressed all archaeological concerns within their footprints, or has been subjected to deep and extensive

disturbances that have removed any archaeological potential. As such, the study corridor is considered free of archaeological concern and does not require further archaeological assessment. However, should construction activities extend beyond the assessed limits of the study corridor, further AA is required prior to construction activities to minimize impacts to potential cultural heritage resources.

DRAFT

4.0 RECOMMENDATIONS

Considering the findings outlined within this report, the following recommendations are presented:

1. With the entirety of the study corridor having been either previously subject to archaeological assessment (Archaeological Assessments Ltd., 2007; Archaeologix Inc., 2001, 2002; ASI, 2003, 2005, 2010a-b, 2012, 2016, 2017a-c, 2019; Archeoworks Inc., 2003b-c, 2007b, 2012; London Museum of Ontario Archaeology, 1990; The Archaeologists Inc., 2005, 2006), and/or visually confirmed to be heavily disturbed during the current Stage 1 AA, no further archaeological concerns exist within the study corridor. No further work is recommended.
2. Should construction activities associated with this project, including construction laydown areas, extend beyond the assessed limits of the study corridor, further archaeological investigation will be required prior to construction activities to minimize impacts to cultural heritage resources.

No construction activities shall take place within the study corridor prior to the *MHSTCI* (Archaeology Programs Unit) confirming in writing that all archaeological licensing and technical review requirements have been satisfied.

5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

1. This report is submitted to the *MHSTCI* as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection, and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the *MHSTCI*, a letter will be issued by the ministry stating that there are no further concerns about alterations to archaeological sites by the proposed development.
2. It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.
3. Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.
4. The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the *Ministry of Consumer Services*.

6.0 BIBLIOGRAPHY AND SOURCES

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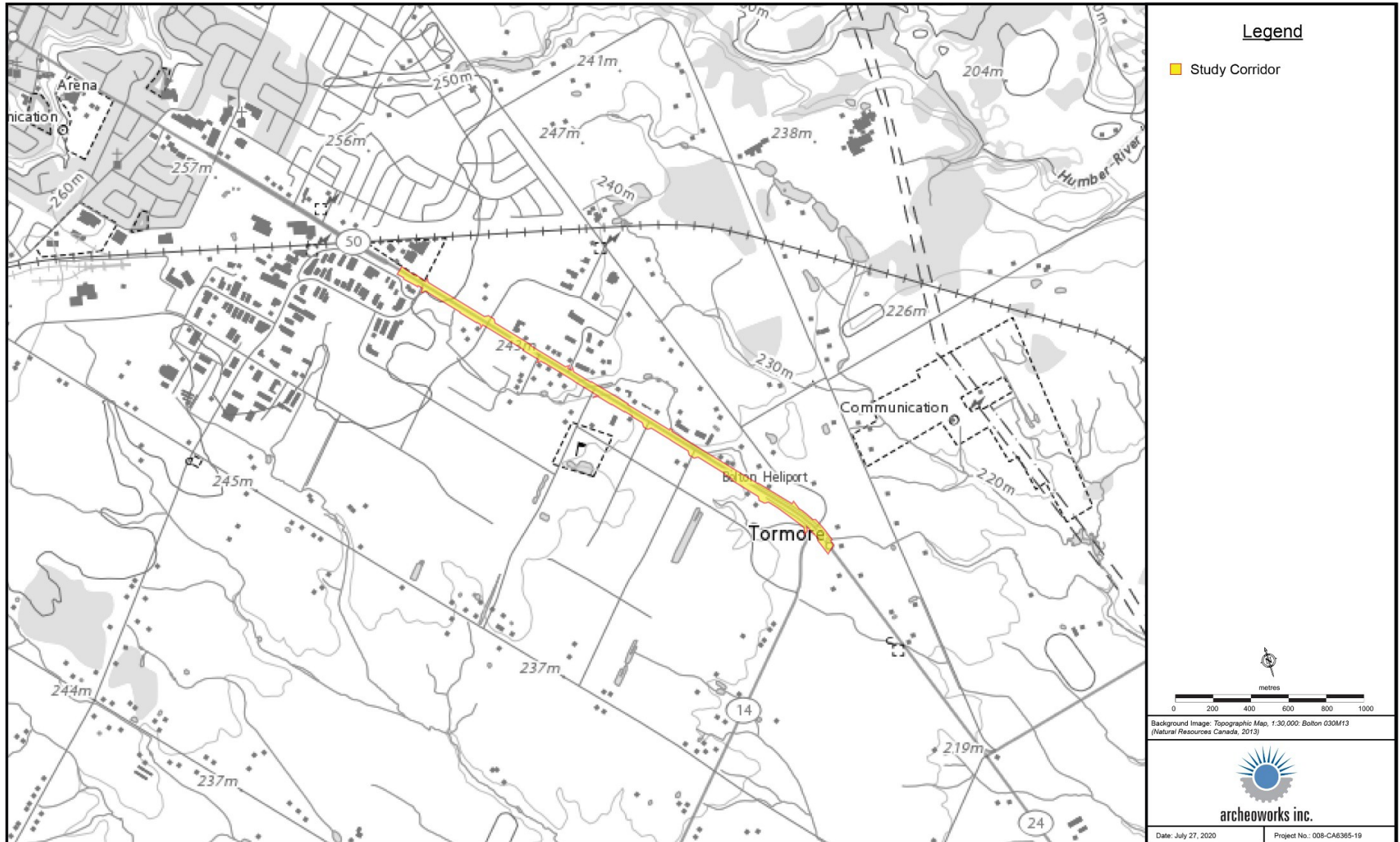
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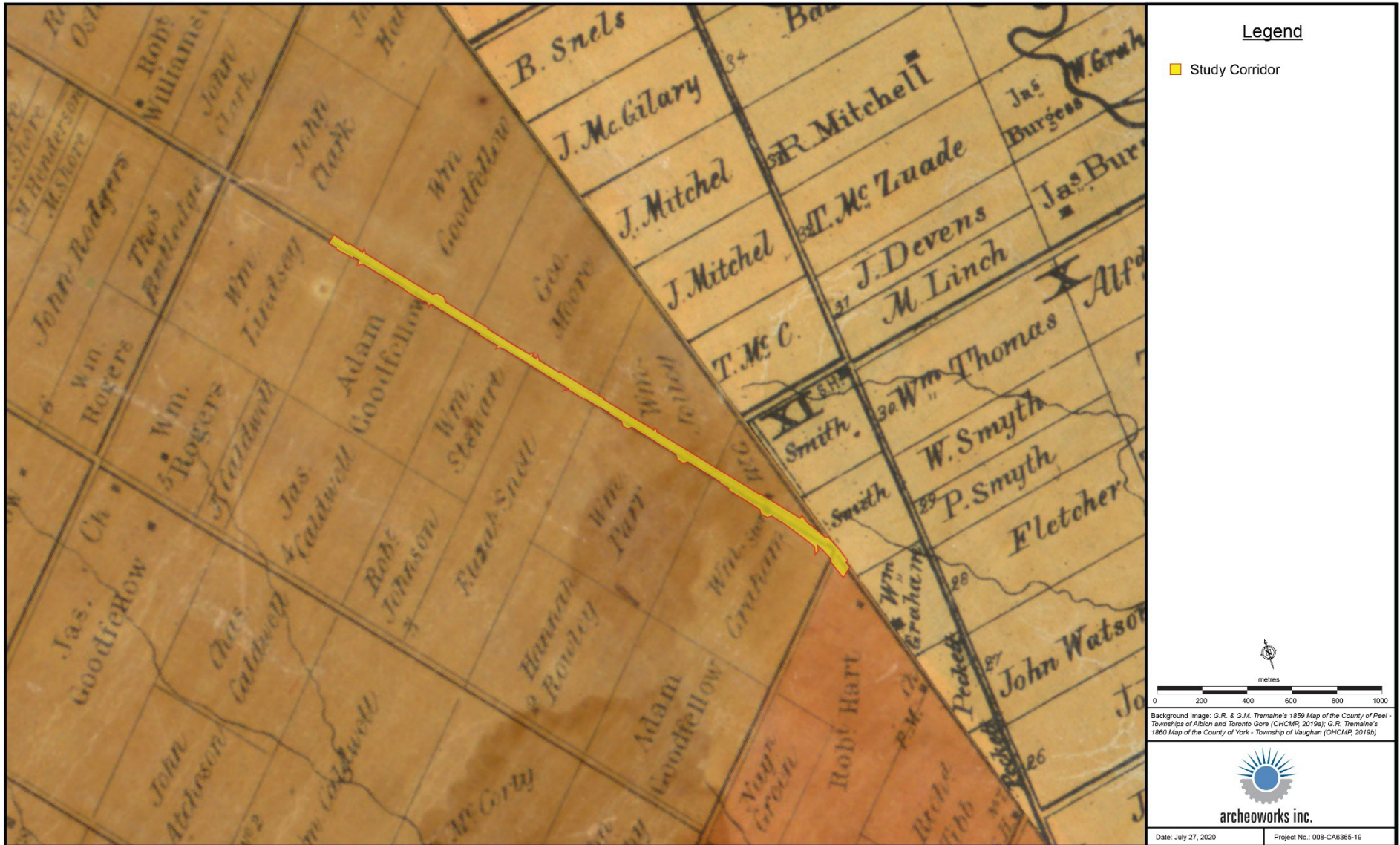
APPENDICES

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APPENDIX A: MAPS



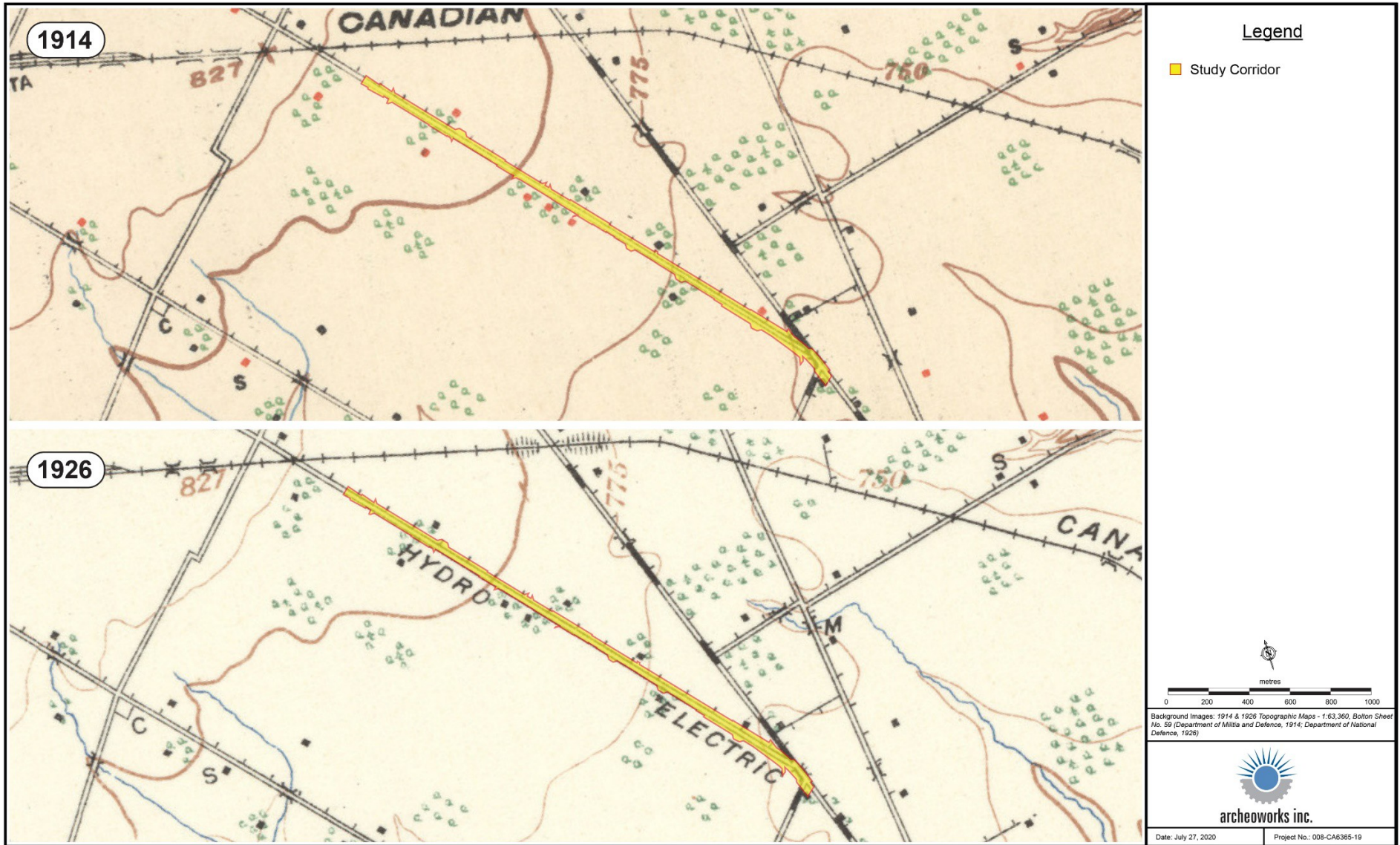
Map 1: Topographic Map, 1:30,000, Bolton 030M13 (Natural Resources Canada, 2013) identifying the Stage 1 AA study corridor.



Map 2: Stage 1 AA study corridor within G.R. & G.M. Tremain's 1859 Map of the County of Peel – Townships of Albion and Toronto Gore (OHCMP, 2019a) and G.R. Tremain's 1860 Map of the County of York – Township of Vaughan (OHCMP, 2019b).



Map 3: Stage 1 AA study corridor within Walker & Miles's 1877 Illustrated Historical Atlas of the County of Peel – Townships of Albion and Toronto Gore (McGill University, 2001a) and Miles & Co.'s 1878 Illustrated Historical Atlas of the County of York – Township of Vaughan (McGill University, 2001a).



Map 4: Stage 1 AA study corridor within 1914 and 1926 Topographic Maps (Department of Militia and Defence, 1914; Department of National Defence, 1926).



Map 5: Stage 1 AA study corridor within 1934 and 1940 Topographic Maps (Department of National Defence, 1934; Department of National Defence, 1940).



Map 6: Stage 1 AA study corridor within a 1954 aerial photograph (University of Toronto Map and Data Library, 2020) and 2002 orthophotograph (VuMAP © First Base Solutions).



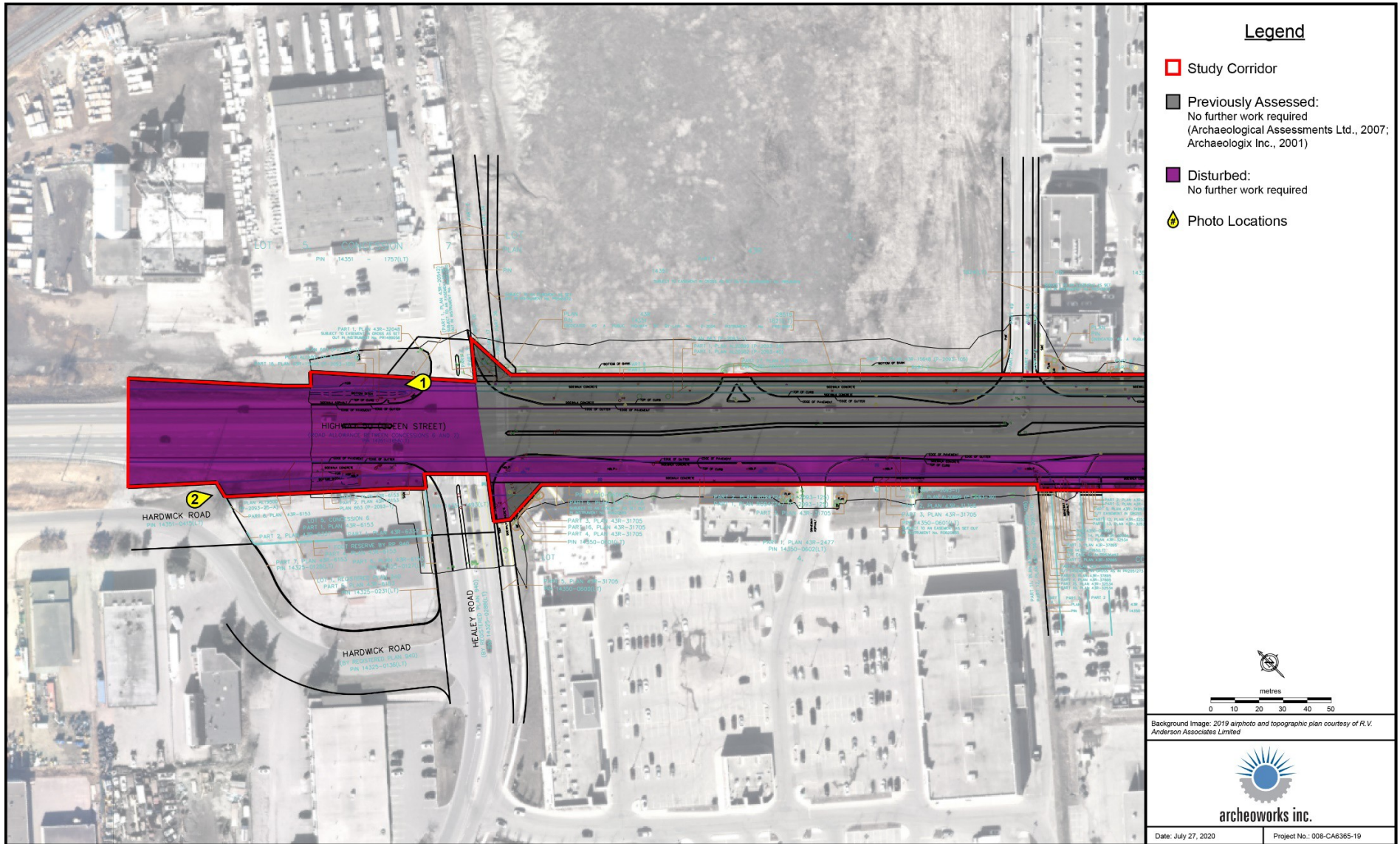
Map 7: Stage 1 AA study corridor within 2007 and 2009 orthophotographs (VuMAP © First Base Solutions).



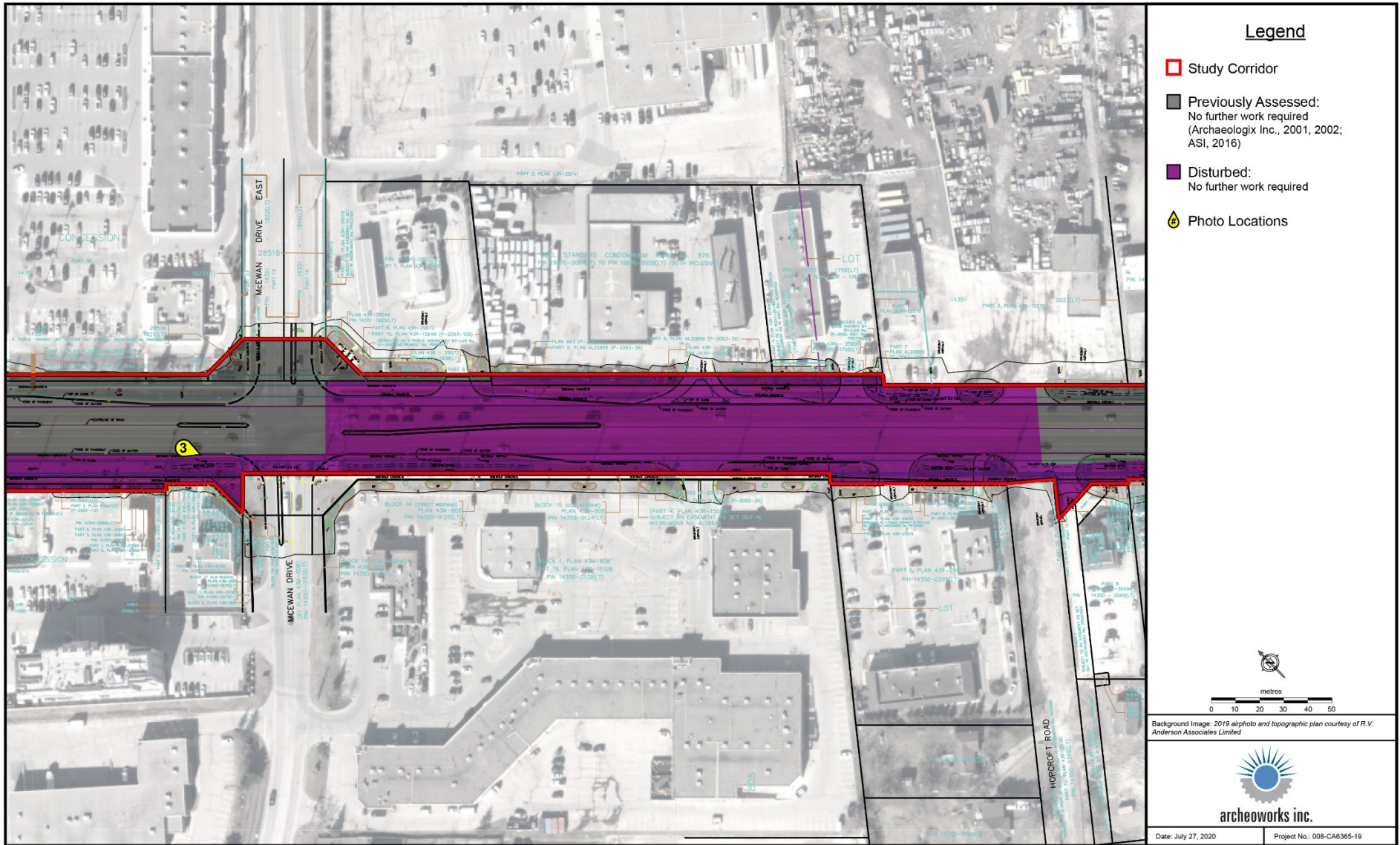
Map 8: Stage 1 AA study corridor within 2013 and 2017 orthophotographs (VuMAP © First Base Solutions).



Map 9: Stage 1 AA study corridor within a 2019 orthophotograph (VuMAP © First Base Solutions).

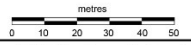


Map 10: Stage 1 AA results.



Legend

- Study Corridor
- Previously Assessed:
No further work required
(Archeologix Inc., 2001, 2002;
ASI, 2016)
- Disturbed:
No further work required
- △ Photo Locations



Background Image: 2019 airphoto and topographic plan courtesy of R.V. Anderson Associates Limited

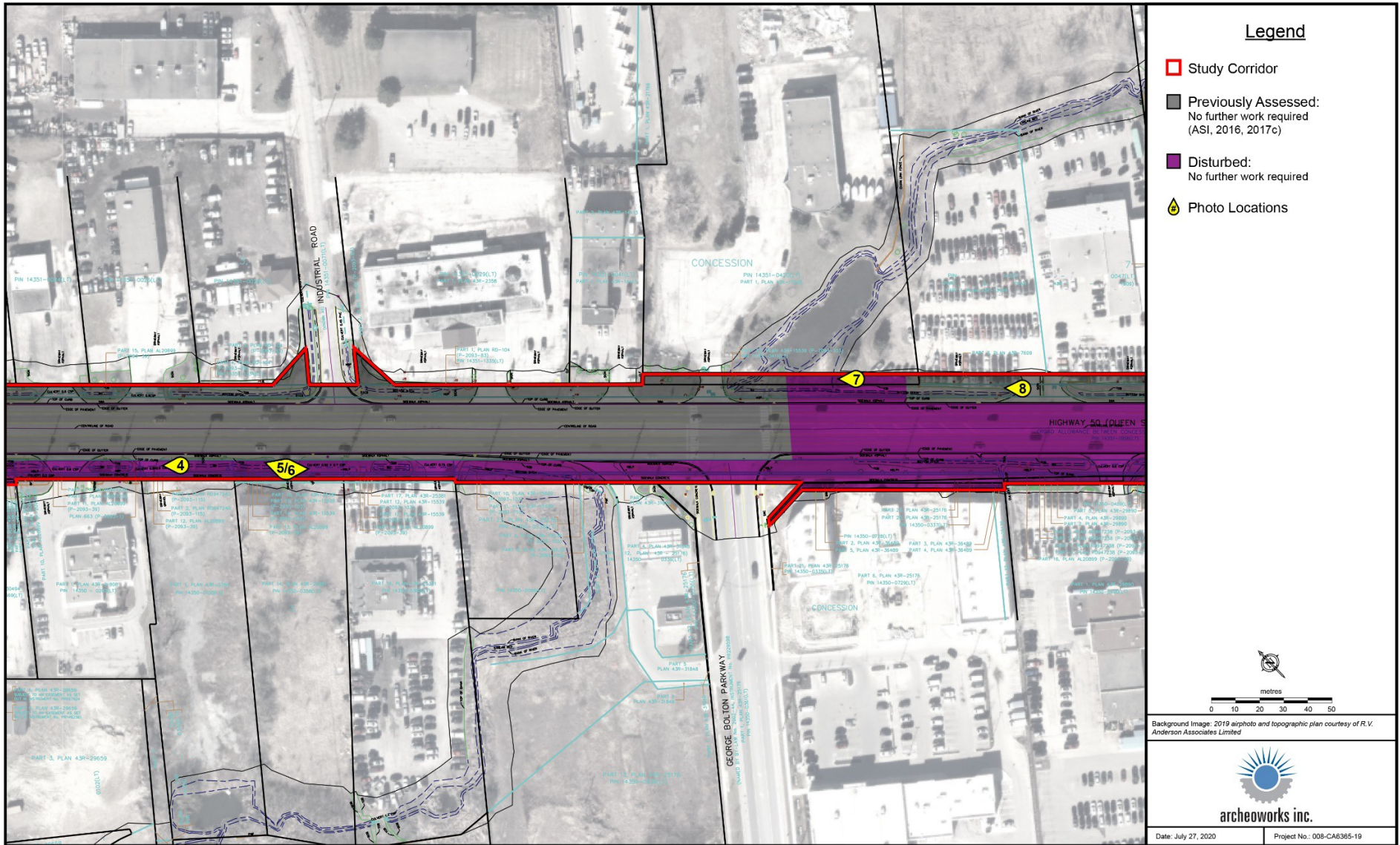


archeoworks inc.

Date: July 27, 2020

Project No.: 008-CA6365-19

Map 11: Stage 1 AA results.



Legend

- Study Corridor
- Previously Assessed:
No further work required
(ASI, 2016, 2017c)
- Disturbed:
No further work required
- Photo Locations

metres

0 10 20 30 40 50

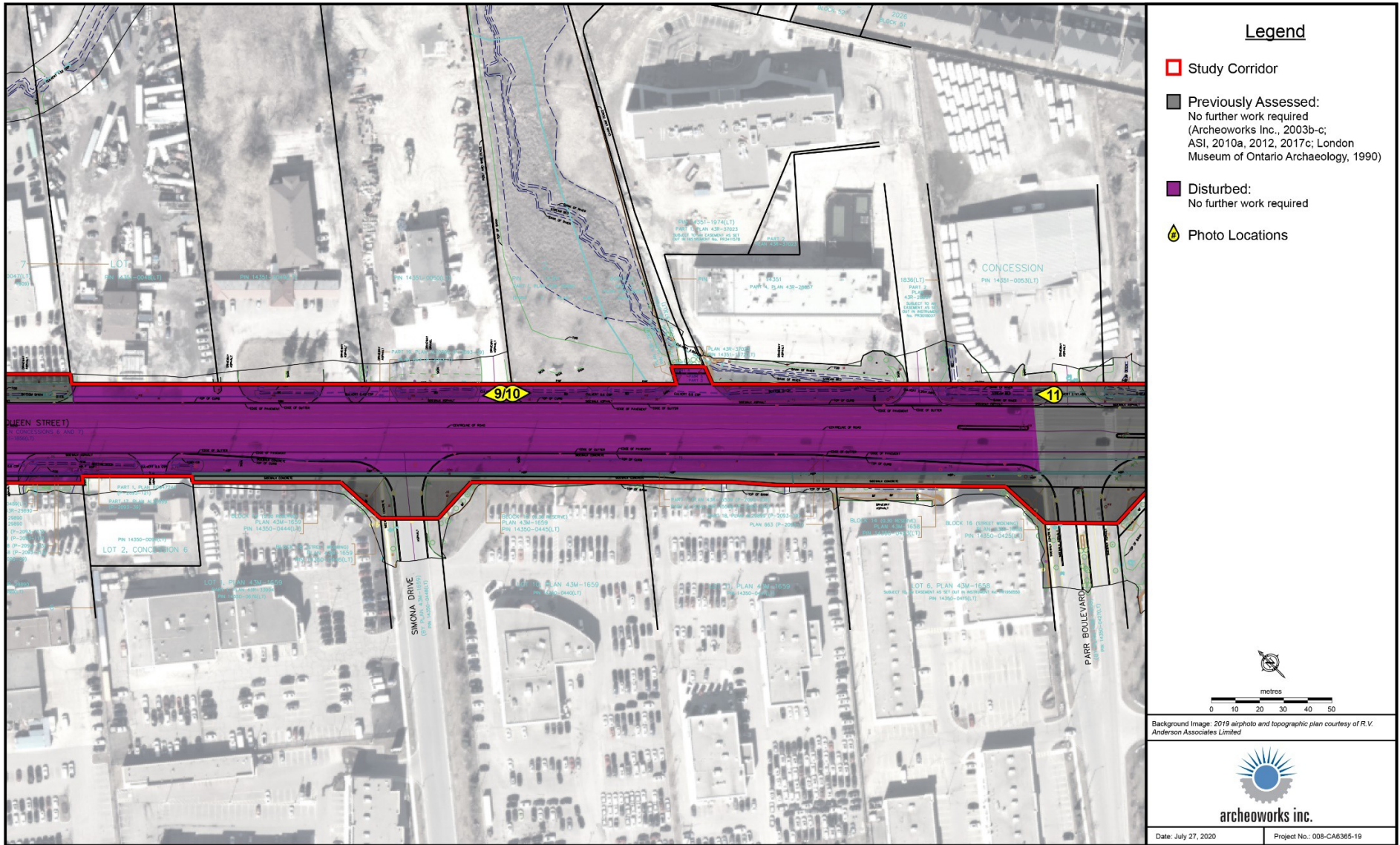
Background Image: 2019 airphoto and topographic plan courtesy of R.V. Anderson Associates Limited



archeoworks inc.

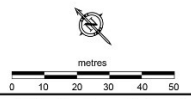
Date: July 27, 2020 Project No: 008-CA6385-19

Map 12: Stage 1 AA results.



Legend

- Study Corridor
- Previously Assessed:
No further work required
(Archeoworks Inc., 2003b-c;
ASI, 2010a, 2012, 2017c; London
Museum of Ontario Archaeology, 1990)
- Disturbed:
No further work required
- ♦ Photo Locations



Background Image: 2019 airphoto and topographic plan courtesy of R.V. Anderson Associates Limited

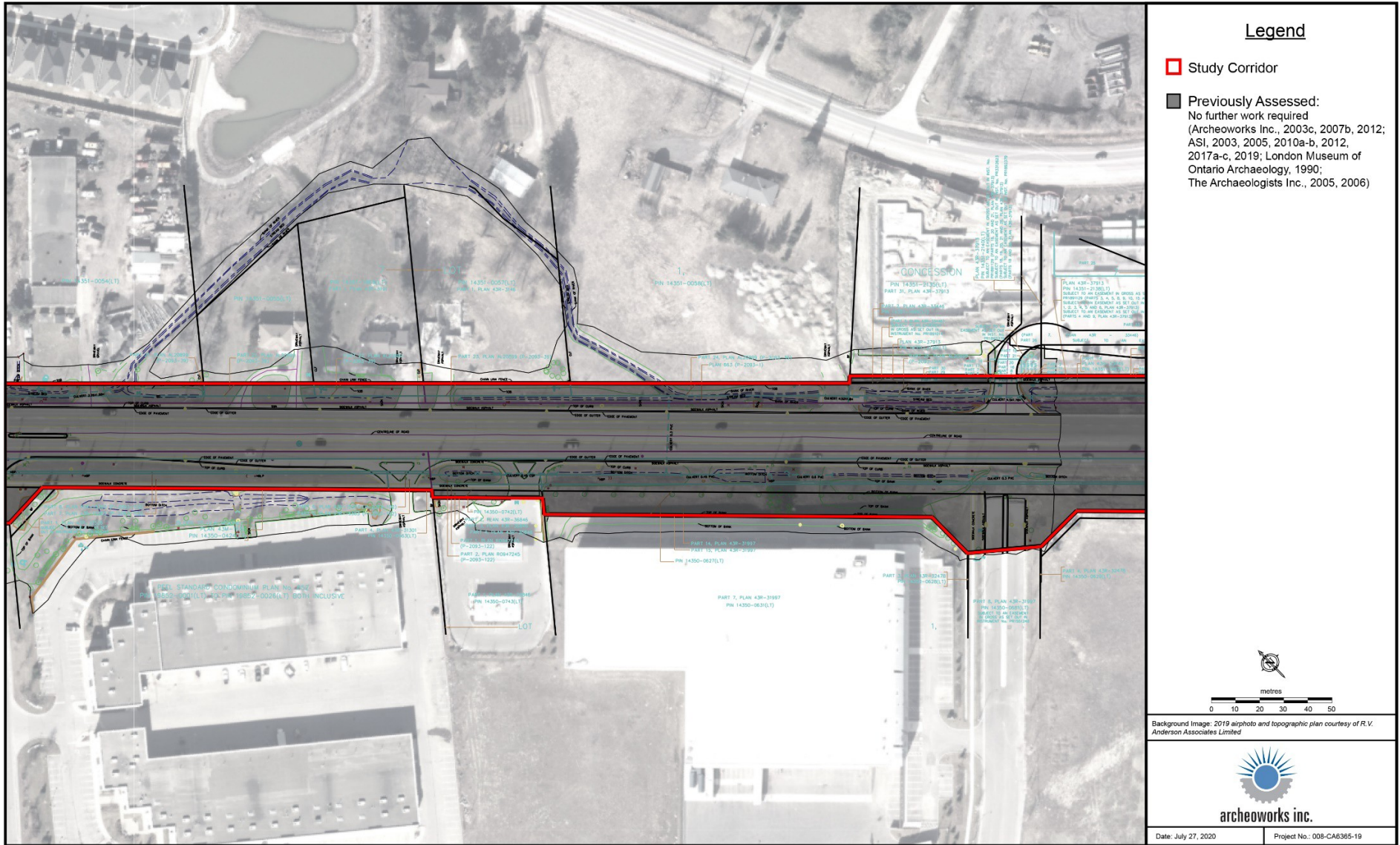


archeoworks inc.

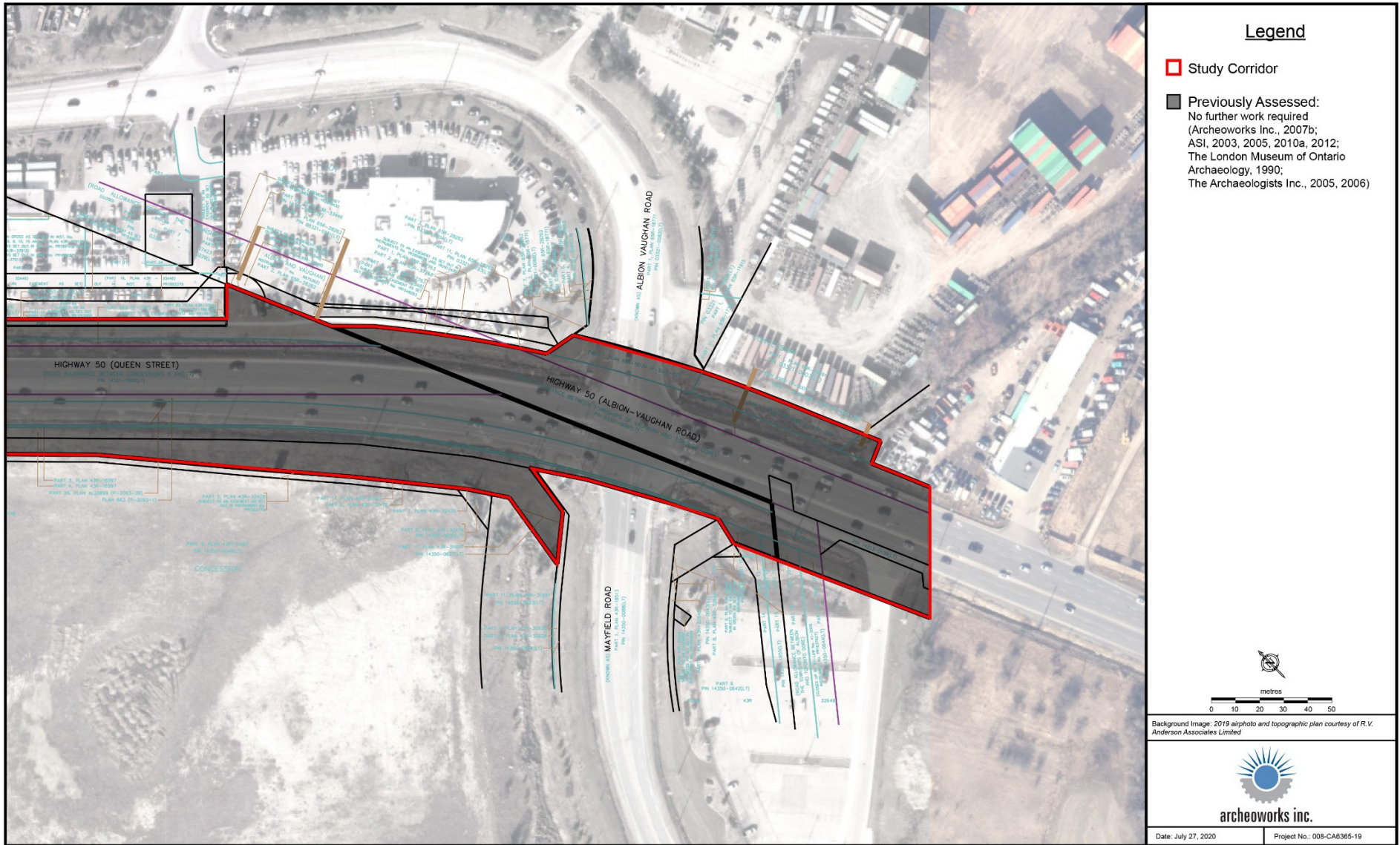
Date: July 27, 2020

Project No.: 008-CA6385-19

Map 13: Stage 1 AA results.



Map 14: Stage 1 AA results.



Map 15: Stage 1 AA results.

APPENDIX B: SUMMARY OF BACKGROUND RESEARCH

Feature of Archaeological Potential		Yes	No	Unknown	Comment
1	Known archaeological sites within 300 m?	X			If Yes, potential confirmed
Physical Features		Yes	No	Unknown	Comment
2	Is there water on or adjacent to the property?	X			If Yes, potential confirmed
2a	Presence of primary water source within 300 metres of the study corridor (lakes, rivers, streams, creeks)	X			If Yes, potential confirmed
2b	Presence of secondary water source within 300 metres of the study corridor (intermittent creeks and streams, springs, marshes, swamps)		X		If Yes, potential confirmed
2c	Features indicating past presence of water source within 300 metres (former shorelines, relic water channels, beach ridges)		X		If Yes, potential confirmed
2d	Accessible or inaccessible shoreline (high bluffs, swamp, or marsh fields by the edge of a lake, sandbars stretching into marsh)		X		If Yes, potential confirmed
3	Elevated topography (knolls, drumlins, eskers, plateaus, etc.)		X		If Yes to two or more of 3-5 or 7-10, potential confirmed
4	Pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground		X		If Yes to two or more of 3-5 or 7-10, potential confirmed
5	Distinctive land formations (mounds, caverns, waterfalls, peninsulas, etc.)		X		If Yes to two or more of 3-5 or 7-10, potential confirmed
Cultural Features		Yes	No	Unknown	Comment
6	Is there a known burial site or cemetery that is registered with the Cemeteries Regulation Unit on or directly adjacent to the property?		X		If Yes, potential confirmed
7	Associated with food or scarce resource harvest areas (traditional fishing locations, food extraction areas, raw material outcrops, etc.)		X		If Yes to two or more of 3-5 or 7-10, potential confirmed
8	Indications of early Euro-Canadian settlement (monuments, cemeteries, structures, etc.) within 300 metres	X			If Yes to two or more of 3-5 or 7-10, potential confirmed
9	Associated with historic transportation route (historic road, trail, portage, rail corridor, etc.) within 100 metres of the property	X			If Yes to two or more of 3-5 or 7-10, potential confirmed
Property-specific Information		Yes	No	Unknown	Comment
10	Contains property designated under the Ontario Heritage Act		X		If Yes, potential confirmed
11	Local knowledge (aboriginal communities, heritage organizations, municipal heritage committees, etc.)		X		If Yes, potential confirmed
12	Recent ground disturbance, not including agricultural cultivation (post-1960, extensive and deep land alterations)	X - parts			If Yes, low archaeological potential is determined

APPENDIX C: IMAGES



Image 1: View of disturbances tied to wet ditching and graded, manicured lawn.



Image 2: View of disturbances associated with ditching and graded grassed margins.



Image 3: View of disturbances associated with the asphalt roadway (Highway 50), concrete curb and sidewalk, ditching, and utilities.



Image 4: View of disturbances associated with the asphalt roadway, concrete curb, paved shoulder, asphalt and gravel driveway, and ditching.



Image 5: View of disturbances associated with the asphalt roadway and driveway, paved shoulder, culvert, and wet ditching.



Image 6: View of disturbances associated with the asphalt roadway and driveway, concrete curb, paved shoulder, previous grading activities and buried utilities.



Image 7: View of disturbances associated with a stormwater management pond.



Image 8: View of disturbances associated with the asphalt roadway, concrete curb, paved shoulder, buried utilities and ditching.



Image 9: View of disturbances associated with the asphalt roadway and driveway, concrete curb, paved shoulder, buried utilities, culverts and ditching.



Image 10: View of disturbances associated with the asphalt roadway, concrete curbs, paved shoulder, buried utilities and ditching.



Image 11: View of disturbances - asphalt roadway, driveway, concrete curb, paved shoulder, existing buried utilities, roadside ditching, and modified riverbanks.

APPENDIX D: INVENTORY OF DOCUMENTARY AND MATERIAL RECORD

Project Information:				
Project Number:		008-CA6365-19		
Licensee:		Ian Boyce (P1059)		
MHSTCI PIF:		P1059-0068-2020		
Document/ Material		Details	Location	
1.	Research/ Analysis/ Reporting Material	Digital files stored in: /2019/008-CA6365-19 - Hwy 50 Drainage Improvements - Caledon/Stage 1/	Archeoworks Inc., 16715- 12 Yonge Street, Suite 1029, Newmarket, ON, Canada, L3X 1X4	Stored on Archeoworks network servers
2.	Written Field Notes/Annotated Field Maps/Images	Field Maps/Field Notes: three (3) pages Digital Images: 15 digital photos	Archeoworks Inc., 16715- 12 Yonge Street, Suite 1029, Newmarket, ON, Canada, L3X 1X4	Stored on Archeoworks network servers

Under Section 14 of the Terms and Conditions for Archaeological Licences issued under the Ontario Heritage Act, "the licensee shall hold in safekeeping all artifacts and records of archaeological fieldwork carried out under this licence, except where those artifacts and records are transferred by the licensee to Her Majesty the Queen in right of Ontario or the licensee is directed to deposit them in a public institution in accordance with subsection 66(1) of the Act." The collections are being stored at *Archeoworks Inc.* on the licensee's behalf.