

**APPENDIX B:**  
**STAGE 1 ARCHAEOLOGICAL ASSESSMENT**

# ARCHEOWORKS INC.

**Stage 1 Archaeological Assessment for the  
City Wide Minor/Major Stormwater Model Development and  
Sophia Creek Class Environmental Assessment Update  
In the Geographic Township of Vespra  
Historical County of Simcoe  
City of Barrie  
County of Simcoe  
Ontario**

**Project #: 015-BA1837-15  
Licensee (#): Nimal Nithiyantham (P390)  
PIF#: P390-0208-2016**

**Original Report**

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## EXECUTIVE SUMMARY

*Archeoworks Inc.* was retained by *C.C. Tatham & Associates Ltd.* to conduct a Stage 1 AA for the City wide minor/major stormwater model development and Sophia Creek Class Environmental Assessment (Class EA) update. The Class EA study area consists of both the Sophia Creek watershed and Mulcaster drainage shed. The study area is located within various lots and concessions in the Geographic Township of Vespra, historical County of Simcoe, City of Barrie, County of Simcoe, Ontario.

Background research identified elevated potential for the recovery of archaeologically significant materials within the study area based on the close proximity (within 300 metres) of: historic structures, historic transportation routes, historic Town of Barrie, designated and listed heritage properties, a previously registered archaeological site and primary water sources. Background research also identified a portion of the study area that was previously subjected to a Stage 1 AA, where it was determined that no further AA was required.

To determine if the archaeological potential classification of the study area is relevant, a desktop review of ground conditions was undertaken using historical aerial photography and satellite imagery obtained through the Google Earth application. Both sources revealed that the study area has undergone significant changes since 1954. Most notably, these changes include the urban expansion of the City of Barrie, with disturbances consisting of urban development, existing structures, roadways, utilities, sewage and infrastructure development, and grading/extensive landscaping. As these activities contribute to the removal of archaeological resources, the areas where these disturbances have occurred, if confirmed during an on-site property inspection, can become classified as “no archaeological potential”. Where removal of archaeological resources and, thus, elimination of archaeological potential cannot be conclusively stated, Stage 2 testing will always be required. Stage 2 testing will be required for those areas corresponding to grassy parklands, manicured lawns, and treed areas.

In conclusion, the following recommendations are presented:

1. With a previous assessment by *Archeoworks Inc.* (2016), having fulfilled the Stage 1 AA requirements within their respective portion of the current study area, it is recommended that this area be exempt from further assessment within the scope of this project.
2. Portions classified as having low or no archaeological potential due to disturbances (e.g., built structures, paved areas, installations) must be subjected to an on-site visual survey to confirm and document their nature and extent. Only then can these areas be exempt from Stage 2 test pit survey. Should any of these areas be confirmed as undisturbed, a standard Stage 2 test pit survey at five-metre intervals must be undertaken.
3. Portions identified as potentially disturbed (including areas within properties that existed prior to 1954) must be subjected to a judgmental Stage 2 test pit survey. Should any of

these areas be confirmed as undisturbed, a standard Stage 2 test pit survey at five-metre intervals must be undertaken.

4. Upon selection of the final project definition, any construction activities which impact areas identified as having archaeological potential will require a Stage 2 shovel test-pit survey at five-metre intervals under the field supervision and monitoring of a licensed archaeologist, prior to any construction activities, in order to minimize impacts to heritage resources.
5. The historic Town of Barrie retains elevated archaeological potential for the presence of deeply buried archaeological resources. Should proposed work occur within the historic City of Barrie, a detailed Stage 1 and 2 AA must be undertaken within potentially impacted areas to determine the presence of deeply buried archaeological resources. The Stage 2 AA archaeological investigations within these areas must follow the survey strategies outlined within *Section 2.1.7* for the survey of deeply buried conditions.

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

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## PROJECT PERSONNEL

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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 Tourism, Culture, and Sport (MTCS)* (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 Stage 2 survey for all or parts of the property; and
- To recommend appropriate strategies for Stage 2 survey.

### 1.2 Development Context

The City of Barrie has identified the need for a comprehensive city-wide hydrological model to keep up with current climate change models, which indicate the growing intensity and frequency of storm events. The current minor drainage system is undersized, which increases the risk of flooding, environmental impacts (e.g. erosion), property damage and life threatening conditions. Consequently, the draft model will aid in the development of upsizing existing minor drainage infrastructure, and alternative peak flow reduction stormwater management techniques throughout the city.

*Archeoworks Inc.* was retained by *C.C. Tatham & Associates Ltd.* to conduct a Stage 1 AA for the City wide minor/major stormwater model development and Sophia Creek Class Environmental Assessment (Class EA) update. The Class EA study area consists of both the Sophia Creek watershed and Mulcaster drainage shed. The study area encompasses part of:

- Lots A-B, 1-4, Concession 1 (West of Penetanguishine Road)
- Lots 20-24, Concession 3 and 4
- Lots 20-24, Concession 5

All within the Geographic Township of Vespra, historical County of Simcoe, City of Barrie, County of Simcoe, Ontario (*see Appendix A – Map 1*). Currently, the City of Barrie does not have an archaeological management plan (AMP).

This study was triggered by the *Environmental Assessment Act*. This Stage 1 AA was conducted under the project direction of Mr. Nimal Nithiyanantham, under the archaeological consultant licence number P390, in accordance with the *Ontario Heritage Act* (2009). Permission to investigate the study area was granted by *C.C. Tatham & Associates Ltd.* on May 5<sup>th</sup>, 2016.

## 1.3 Historical Context

To establish the archaeological and historical significance of the study area, *Archeoworks Inc.* conducted a comprehensive review of Aboriginal and Euro-Canadian settlement history, local history, designated and listed heritage properties, commemorative markers, as well as consulted with available historical mapping. Furthermore, an examination of registered archaeological sites and previous AAs within close proximity to its limits, and review of the physiography of the overall area and its correlation to locating archaeological remains, was performed.

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

### 1.3.1 Pre-Contact Period

#### *1.3.1.1 The Paleoindian Period (ca. 11,000 to 7,500 B.C.)*

The region in which the study area is situated was first inhabited after the final retreat of the North American Laurentide ice sheet 15,000 years ago (or 13,000 B.C.) (Stewart, 2013, p.24). Initial vegetation of the majority of Southern Ontario was tundra-like. As the average climatic temperature began to warm, small groups of Paleoindians entered Southern Ontario (Karrow and Warner, 1990, p.22; Stewart, 2013, p.28). Generally, Paleoindians are thought to have been small groups of nomadic hunter-gatherers who depended on naturally available foodstuffs such as game or wild plants (Ellis and Deller, 1990, p.38). For much of the year, Paleoindians “hunted in small family groups; these would periodically gather into a larger grouping or bands during a favourable period in their hunting cycle, such as the annual caribou migration” (Wright, 1994, p.25).

Paleoindian sites are extraordinarily rare and consist of “stone tools clustered in an area of less than 200-300 metres” (Ellis, 2013, p.35). These sites appear to have been campsites used during travel episodes and can be found on well-drained soils in elevated situations, which would have provided a more comfortable location in which to camp and view the surrounding territory (Ellis and Deller, 1990, p.50). Traditionally, Paleoindian sites have been located primarily along abandoned glacial lake strandlines or beaches. However, this view is biased as these are only areas in which archaeologists have searched for sites, due to the current understanding of the region’s geological history (Ellis and Deller, 1990, p.50; Ellis, 2013, p.37). In areas where attention has been paid to non-strandline areas and to older strandlines, sites are much less concentrated and more ephemeral (Ellis and Deller, 1990, p.51).

Artifact assemblages from this period are characterized by fluted and lanceolate stone points, scrapers, and small projectile points produced from specific chert types (Ellis and Deller, 1990). Distinctive dart heads were used to kill game, and knives were used for butchering and other tasks (Wright, 1994, p.24). These items were created and transported over great distances while following migratory animals within a massive territory.

#### *1.3.1.2 The Archaic Period (ca. 7,800 to 500 B.C.)*

As the climate continued to warm, deciduous trees slowly began to permeate throughout Southern Ontario, creating mixed deciduous and coniferous forests (Karrow and Warner, 1990, p.30). The “Archaic peoples are the direct descendants of Paleoindian ancestors” having adapted to meet new environmental and social conditions (Ellis, 2013, p.41; Wright, 1994, p.25). The Archaic period is divided chronologically and cultural groups are divided geographically and sequentially. Archaic Aboriginals lived in “hunter-gatherer bands whose social and economic organization was probably characterized by openness and flexibility” (Ellis et al., 1990, p.123). This fluidity creates ‘traditions’ and ‘phases’ which encompasses large groups of Archaic Aboriginals (Ellis et al., 1990, p.123).

Few Archaic sites have faunal and floral preservation; hence lithic scatters are often the most commonly encountered Archaic Aboriginal site type (Ellis et al., 1990, p.123). House structures have “left no trace” due to the high acidic content of Ontario soils (Wright, 1994, p.27). Burial/grave goods and ritual items appear, although very rarely. By the Late Archaic, multiple individuals were interred together suggesting semi-permanent communities were in existence (Ellis, 2013, p.46). Ceremonial and decorative items also appear on Archaic Aboriginal sites through widespread trade networks, such as conch shells from the Atlantic coast and galena from New York (Ellis, 2013, p.41). Through trade with the northern Archaic Aboriginals situated around Lake Superior, native copper was initially utilized to make hooks and knives but gradually became used for decorative and ritual items (Ellis, 2013, p.42).

During the Archaic period, stone points were reformed from fluted and lanceolate points to stone points with notched bases to be attached to a wooden shaft (Ellis, 2013, p.41). The artifact assemblages from this period are characterized by a reliance on a wide range of raw lithic materials in order to make stone artifacts, the presence of stone tools shaped by grinding and polishing, and an increase in the use of polished stone axes and adzes as wood-working tools (Ellis et al., 1990, p.65; Wright, 1994, p.26). Ground-stone tools were also produced from hard stones and reformed into tools and throwing weapons (Ellis, 2013, p.41). The bow and arrow was first used during the Archaic period (Ellis, 2013, p.42).

#### *1.3.1.3 The Early Woodland Period (ca. 800 to 0 B.C.)*

Early Woodland cultures evolved out of the Late Archaic period (Ferris and Spence, 1995, p.89; Spence et al., 1990, p.168). The Early Woodland period is divided into two complexes: the Meadowood complex and the Middlesex complex. The Middlesex complex appears to be restricted to Eastern Ontario, particularly along the St. Lawrence River while Meadowood materials depict a broad extent of occupation in southwestern Ontario (Spence et al., 1990, p.134, 141). The distinguishing characteristic of the Early Woodland period is the introduction of pottery (ceramics). The earliest forms were coil-formed, “thick, friable and often under fired, and must have been only limited to utility usage” (Ferris and Spence, 1995, p.89; Williamson, 2013, p.48).

Cache Blades, a formal chipped stone technology, and side-notched Meadowood points, were commonly employed tools that were often recycled into a number of other tool forms such as

end scrapers (Spence et al., 1990, p.128; Ferris and Spence, 1995, p.93). These tools were primarily formed from Onondaga chert (Spence et al., 1990, p.128). Meadowood sites have produced a distinctive material culture that functioned in both domestic and ritual spheres (Ferris and Spence, 1995, p.90; Spence et al., 1990, p.128). This allows correlations to be made between habitations and mortuary sites, creating a well-rounded view of Meadowood culture (Ferris and Spence, 1995, p.90; Spence et al., 1990, p.128). However, their settlement-subsistence system is poorly understood as only a “few settlement types have been adequately investigated, and not all of these are from the same physiographic regions” (Ferris and Spence, 1995, p.93; Spence et al., 1990, p.136). Generally, Meadowood sites are in association with the Point Peninsula and Saugeen complexes which “then eventually changed or were absorbed into the Point Peninsula complex” (Wright, 1994, pp.29-30).

#### *1.3.1.4 The Middle Woodland Period (ca. 200 B.C. to A.D. 900)*

During the Middle Woodland period, three primary cultural complexes developed in Southern Ontario. The Couture complex was located in the southwestern-most part of Ontario (Spence et al., 1990, p.143). The Point Peninsula complex was “distributed throughout south-central and eastern Southern Ontario, the southern margins of the Canadian Shield, the St. Lawrence River down river to Quebec City, most of southeastern Quebec, along the Richelieu River into Lake Champlain” (Spence et al., 1990, p.157; Wright, 1999, p.633). The Saugeen complex occupied “southwestern Southern Ontario from the Bruce Peninsula on Georgian Bay to the north shore of Lake Erie to the west of Toronto” (Wright, 1999, p.629; Wright, 1994, p.30).

The Saugeen and Point Peninsula cultures appear to have shared Southern Ontario but the borders between these three cultural complexes are not well defined, and many academics believe that the Niagara Escarpment formed a frontier between the Saugeen complex and the Point Peninsula complex (Spence et al., 1990, p.143; Wright, 1999, p.629; Ferris and Spence, 1995, p.98). Consequently, the dynamics of hunter-gatherer societies shifted territorial boundaries resulting in regional clusters throughout Southern Ontario that have been variously assigned to Saugeen, Point Peninsula, or independent complexes (Spence et al., 1990, p.148; Wright, 1999, p.649).

Middle Woodland pottery share a preference for stamped, scallop-edged or tooth-like decoration, but each cultural complex had distinct pottery forms (such as globular pots), finishes, and zones of decoration (Williamson, 2014, p.49; Ferris and Spence, 1995, p.97; Spence et al., 1990, p.143). Major changes in settlement-subsistence systems occurred during the Middle Woodland period, particularly the introduction of large ‘house’ structures and substantial middens associated with these structures (Spence et al., 1990, p.167; Ferris and Spence, 1995, p.99). The larger sites likely indicate a prolonged period of macroband settlement and a more consistent return to the same site, rather than an increase in band size (Spence et al., 1990, p.168). Environmental constraints in different parts of Southern Ontario all produced a common implication of increased sedentism caused by the intensified exploitation of local resources (Ferris and Spence, 1995, p.100). Burial offerings became more ornate and encompassed many material mediums, including antler, whetstones, copper, and pan pipes (Ferris and Spence, 1995, p.99). Burial sites during this time were set away from occupation sites and remains were interred

at time of death; secondary burials were not common (Ferris and Spence, 1995, p.101). Small numbers of burial mounds are present, particularly around Rice Lake, and both exotic and utilitarian items were left as grave goods (Williamson, 2013, p.51; Ferris and Spence, 1995, p.102).

#### *1.3.1.5 The Late Woodland Period (ca. A.D. 900 to 1600)*

At the onset of the Late Woodland Period, the transitional Princess Point complex arrived in Ontario. Sites attributed to the Princess Point complex exhibit few continuities from earlier developments. These sites appear to have arisen suddenly and suggest a well-developed state with no apparent predecessors. It is hypothesised that this complex migrated into Ontario, possibly from the southwest. The material culture includes 'Princess Point Ware' vessels that are collarless, with everted rims and semi-conical bases. Decorations include horizontal lines with an encircling row of circular exterior punctates. Smoking pipes and ground stone tools are rare. Triangular arrow points predominate the lithic assemblage, where some exhibit weakly notched bases. Subsistence patterns include the hunting of deer, bear, squirrels and fish with gathering of berries. Corn horticulture has been attributed to the Princess Point complex. Little is known about the settlement patterns, but it has been suggested that they followed a pattern of warm season macroband and cold season microband dispersal (Fox, 1990, pp.174-179).

During the Late Woodland Period (A.D. 900-1600), multiple sub-stages, and complexes have been assigned, which are divided spatially and chronologically (Fox, 1990; Williamson, 1990; Dodd et al., 1990; Warrick, 2000). Although several migration theories have been suggested explaining the Ontario Iroquoian origins, an "available date from Southern Ontario strongly suggests continuity (*in situ*) from the Middle-Late Woodland Transitional Princess Point complex and Late Woodland cultural groups" (Ferris and Spence, 1995, p.105; Smith, 1990, p.283).

#### *1.3.1.6 The Early Ontario Iroquois Stage (ca. A.D. 900 to 1300)*

Two primary cultural groups have been assigned to the Early Ontario Iroquois Period and were located in Southern Ontario. The Glen Meyer cultural group was located primarily in southwestern Ontario, whose territory "encompassed a portion of southwestern Ontario extending from Long Point on the north shore of Lake Erie to the southeastern shore of Lake Huron" (Williamson, 1990, p.304). The Pickering cultural group is "thought to be much larger encompassing all of the region north of Lake Ontario to Georgian Bay and Lake Nipissing" (Williamson, 1990, p.304). Regional clusters of these groups appear within riverine or lacustrine environments with a preference for sandy soils.

The material culture of Early Iroquois consisted of well-made and thin-walled clay vessels that were more globular in shape with rounded bottoms. These vessels were produced by modelling rather than coil-formed. Decorative stamping, incising, and punctation along the exterior and interior rim region of the vessels were favoured. Material cultural remains also included crudely made smoking pipes, gaming discs, triangular-shaped, concave projectile chert points, and worked bone and antlers. House structures gradually became larger, longer, and wider but variations depended on settlement type and season of occupation. Subsistence patterns indicate a quick adoption of a greater variety of harvest products. Burial practices during this period saw

an evolution to the ossuary burials; however burial patterns are still not well understood (Williamson, 1990, pp.304-311).

#### *1.3.1.7 The Middle Ontario Iroquois Stage (ca. A.D. 1300 to 1400)*

The Middle Ontario Iroquois began “with the fusion of [Glen Meyer and Pickering] caused by the conquest and absorption of Glen Meyer by Pickering” (Dodd et al., 1990, p.321). This fusion resulted in two cultural horizons located throughout most of Southern Ontario and lasting approximately 100 years. Within these 100 years, two cultural groups were present and divided chronologically into two 50-year timespans: the Uren sub-stage (A.D. 1300-1350) and the Middleport sub-stage (A.D. 1350-1400). The chronology of this stage has been contested and reflects a probable overlap with earlier stages. It is theorized that the Uren sub-stage represents a fusion of Glen Meyer and Pickering branches of the Early Ontario Iroquois while the Middleport sub-stage gave rise to the Huron, Petun, Neutral groups of the Late Ontario Iroquois stage (Dodd et al., 1990, pp.321, 356).

Uren sites are distributed throughout much of southwestern and southcentral Ontario, and generally coincide with Early Ontario Iroquoian Stage sites. Middleport sites generally correlate with Uren sites, representing a continuation of local cultural sequences. The material culture of the Uren sub-stage includes rolled rim clay vessels with horizontal indentation on the exterior of the vessel; pipes that gradually improve in structure; gaming discs; and projectile points that favour triangular points. The material culture of Middleport sub-stage includes collared vessels decorated with oblique and horizontal indentation; a well-developed clay pipe complex that includes effigy pipes; and a marked increase in notched projectile points (Dodd et al., 1990, p. 330-342).

Settlement patterns of the Uren sub-stage reflect a preference for sand plains and do not appear to have had defensive palisades surrounding clusters of small longhouses. Subsistence patterns indicate an increasing reliance on corn cultivation, suggesting villages were occupied in the winter and campsites were occupied during the spring to fall. Settlement patterns of the Middleport sub-stage reflect a preference for drumlinized till plains. Small villages are present where palisades first appear, and longhouses are larger than those found in the Uren sub-stage. Subsistence patterns reflect an increasing reliance on corn and beans with intensive exploitation of locally available land and water species. Burial patterns graduate to ossuaries by the Middleport sub-stage (Dodd et al., 1990, pp.342-356).

#### *1.3.1.8 The Late Ontario Iroquois Stage (ca. A.D. 1400 to 1600)*

During the Late Ontario Iroquoian Stage, the Iroquoian-speaking linguistic and cultural groups developed. Prior to European Contact, neighbouring Iroquois-speaking communities united to form several confederacies known as the Huron (Huron-Wendat), Neutral (called Attiemandaron by the Wendat), Petun (Tionnontaté or Khionontateronon) in Ontario, and the Five Nations (later Six Nations) of the Iroquois (Haudenosaunee) of upper New York State (Birch, 2010, p.31; Warrick, 2013, p.71). These groups are located primarily in south and central Ontario. Each group was distinct but shared a similar pattern of life already established by the 16<sup>th</sup> century (Trigger, 1994, p.42).

Prior to European contact, the geographic distribution of pre-contact Ontario Iroquoian sites describes two major groups east and west of the Niagara Escarpment: the ancestral Attiewandaron to the west, and the ancestral Huron-Wendat to the east (Warrick, 2000, p.446). Ancestral Huron-Wendat villages have been located as far east as the Trent River watershed, where “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). These concentrations are distributed in a triangular area along the north shore of Lake Ontario and northward bounded by the Trent River system and the Niagara Escarpment (Ramsden, 1990, p.363).

To traverse their territory, the Huron-Wendat used multiple trails, portage and watercourse routes throughout their territory to travel from the north shores of Lake Ontario inland to the upper Great Lakes. These trail systems included the ‘Nine-Mile Portage’ from Kempenfeldt Bay to Willow Creek, a branch of the Nottawasaga River that connected Lake Ontario to Lake Huron through Simcoe County (Hunter, 1909a, p.80). The landing at Kempenfeldt Bay includes part of the City of Barrie.

Settlement types included longhouse, whose sizes depended on the size of the extended family that inhabited it; however, archaeological evidence suggests that the average longhouse was 25 feet by 100 feet, with heights about the same as widths (Heidenreich, 1978, p.366). Village size gradually enlarged as horticulture began to take on a more central importance in subsistence patterns, particularly the farming of maize, squash, and beans, supplemented by fishing, hunting, and gathering. Sites were chosen for their proximity to sources of “water, arable soils, available firewood, [and] a young secondary forest, [as well as] a defensible position” (Heidenreich, 1978, p.375). Later villages consisted of up to 100 longhouses clustered closely together, and only the largest villages on the frontier were fortified (Heidenreich, 1978, p.377).

Subsistence patterns reflect a horticultural diet that was supplemented with fish rather than meat (Heidenreich, 1978, p.377). ‘Slash-and-burn’ farming was used to quickly and efficiently clear trees and brushwood for flour and flint corn fields (Heidenreich, 1978, p.380). These were consistently cultivated until no longer productive, at which point the village was abandoned, an event that took place about every eight to 12 years (Heidenreich, 1978, p.381). Consequently, as horticulture became the primary mode of subsistence, pre-contact native groups gradually relocated from the northern shores of Lake Ontario to further inland, likely as a result of depleting resources and growing aggression between native communities.

### **1.3.2 Contact Period (ca. A.D. 1600 to 1650)**

At the time of European Contact, Huron-Wendat villages were located north of Lake Simcoe, and their territorial hunting grounds stretched roughly between the Canadian Shield, Lake Ontario and the Niagara Escarpment (Warrick, 2008, p.12). The Haudenosaunee were primarily located south of Lake Ontario but hunted in the lands north of Lake Ontario. The area “south of Lake Simcoe and along the north shore of Lake Ontario remained a no-man’s land during this period, with no permanent settlements and traversed only by raiding parties from the north or from the south” (Robinson, 1965, p.11).

Records left by explorers, Jesuit missionaries, and fur traders provide a history of Euro-Canadian involvement in territory identified as Huron-Wendat. By 1609, Samuel de Champlain had encountered the Huron-Wendat north of Lake Simcoe, and desiring greater quantities of furs, the French initiated a trading relationship with the Huron-Wendat (Trigger, 1994, p.68; Heidenreich, 1978, p.386). By mid-1620, the Huron-Wendat had exhausted all available pelts in their own hunting territories and opted to trade European goods for tobacco and furs from their neighbours (Trigger, 1994, pp.49-50). During the 1630s, Jesuit missionaries attempted to convert the entire Huron-Wendat Confederacy to Christianity as the initial phase of a missionary endeavour to convert all native people in Southern Ontario (Trigger, 1994, p.51). However, the Jesuits' presence in the region had become precarious after a series of major epidemics of European diseases that killed nearly two-thirds of the Wendat population (Warrick 2008, p.245; Heidenreich, 1978, p.369).

By 1645, having grown dependent on European goods and with their territory no longer yielding enough animal pelts, the Haudenosaunee became increasingly aggressive towards the Huron-Wendat Confederacy (Trigger, 1994, p.53). Armed with Dutch guns and ammunition, the Haudenosaunee engaged in warfare with the Huron-Wendat Confederacy and brutally attacked and destroyed several Huron-Wendat villages throughout Southern Ontario (Trigger, 1994, p.53). After the massacres of 1649-50, the small groups that remained of the Huron-Wendat Confederacy became widely dispersed throughout the Great Lakes region, ultimately resettling in Quebec (Schmalz, 1991, p.17). After the massacres of 1649-50, and "for the next forty years, the Haudenosaunee used present-day Ontario to secure furs with the Dutch, then with the English" (Smith, 2013, p.19; Schmalz, 1991, p.17; Coyne, 1895, p.20).

### **1.3.3 Post Contact Period (ca. A.D. 1650 – 1800)**

Although their homeland was located south of the lower Great Lakes, the Haudenosaunee controlled most of Southern Ontario after the 1660s, occupying at "least half a dozen villages along the north shore of Lake Ontario and into the interior" (Schmalz, 1991, p.17; Williamson, 2013, p.60). The Haudenosaunee established "settlements at strategic locations along the trade routes inland from the north shore of Lake Ontario. Their settlements were on canoe-and-portage routes that linked Lake Ontario to Georgian Bay and the upper Great Lakes" (Williamson, 2013, p.60).

At this time, several Algonquin-speaking linguistic and cultural groups within the Anishinaabeg (or Anishinaabe) began to challenge the Haudenosaunee dominance in the region (Johnston, 2004, pp.9-10; Gibson, 2006, p.36). The Anishinaabeg were originally located primarily in Northern Ontario. Before contact with the Europeans, the Ojibwa territorial homeland was situated inland from the north shore of Lake Huron, particularly near Sault Ste. Marie (MNCFN, ND, p.3; Hunter, 1909a, p.10). The English referred to those Algonquin-speaking linguistic and cultural groups that settled in the area bounded by Lakes Ontario, Erie, and Huron as Chippewas or Ojibwas (Smith, 2002, p.107). In 1640, the Jesuit fathers had recorded the name "*oumisagai*, or Mississaugas, as the name of an Algonquin group near the Mississagi River on the northwestern shore of Lake Huron, in Algoma District (Hunter, 1909a, p.10). The French, and later English, applied this same designation to all Algonquian [-speaking groups] settling on the north

shore of Lake Ontario” (Smith, 2002, p. 107; Smith, 2013, pp.19-20). “The term ‘Mississauga’ perplexed the Algonquins, or Ojibwas, on the north shore of Lake Ontario, who knew themselves as the Anishinaabeg” (Smith, 2013, p.20).

A major smallpox epidemic combined with the capture of New Netherland by the English, access to guns and powder became increasingly restricted for the Haudenosaunee. After a series of successful attacks against the Haudenosaunee by groups within the Anishinaabeg, the Haudenosaunee dominance in the region began to fail (Warrick, 2008, p.242; Schmalz, 1991, p.20). Prior to 1680, groups within the Anishinaabeg had begun to settle just north of the evacuated Huron-Wendat territory and with the English entering the fur-trading market, began to expand further into Southern Ontario (Gibson, 2006, p.36; Schmalz, 1991, p.18). By the 1690s, Haudenosaunee settlements along the northern shores of Lake Ontario were abandoned (Williamson, 2013, p.60). By 1701, after a series of successful battles throughout Ontario, the Haudenosaunee were defeated and expelled from Ontario (Gibson, 2006, p.37; Schmalz, 1991, p.27; Coyne, 1895, p.28). After these battles, the Anishinaabeg replaced the Haudenosaunee in Southern Ontario (Schmalz, 1991, p.29).

In 1701, representatives of several groups within the Anishinaabeg and the Haudenosaunee, collectively known as the First Nations, assembled in Montreal to participate in Great Peace negotiations, sponsored by the French (Johnston, 2004, p.10; Trigger, 2004, p.58). The Mississaugas were granted sole possession of the territory along and extending northward of Lake Ontario and Lake Erie (Hathaway, 1930, p.433). The Ojibway settled in County of Simcoe (Hunter, 1909a, p.10).

The Seven Years War brought warfare between the French and British in North America. In 1763, the Royal Proclamation declared the Seven Years War over, giving the British control of New France. The British did not earn the respect of the Anishinaabeg, as the British did not honour fair trade nor the Anishinaabeg occupancy of the land as the French had. Consequently, the Pontiac Uprising, also known as the Beaver Wars, began that same year (Schmalz, 1991, p.70; Johnston, 2004, pp.13-14). This uprising involved both groups within the Haudenosaunee and groups within the Anishinaabeg. After numerous attacks on the British, the Pontiac Uprising was over by 1766 when a peace agreement was concluded with Sir William Johnson, the Superintendent of Indian Affairs (Schmalz, 1991, p.81). The fur-trade continued throughout Southern Ontario until the beginning of British colonization.

#### **1.3.4 Euro-Canadian Settlement Period (A.D. 1800 to present)**

After the American War of Independence in the late 1700s, United Empire Loyalists and American immigrants began to move into Southern Ontario, putting greater demand on the quantity of lands available for settlement within Upper Canada. Early settlement occurred primarily along the Lake Ontario shoreline. In 1793, Lieutenant-Governor John Graves Simcoe arrived at the entrance of Penetanguishene Bay and sought to establish a fort in this easily defensible location should the Americans provoke an attack from the south. In 1798, William Claus, Superintendent of Indian Affairs, bargained on behalf of the British Government for a tract of land adjacent to the harbour of Penetanguishene, and purchased the tip of the peninsula for cloth, blankets and

kettles valued at £101 of Quebec currency (Surtees, 1994, p.109; Pencion Museum, 2013; Hunter, 1909a, p.12).

In 1810, North West Company, a fur trade company, began to complain about American customs officers interfering along the route to the west via Lake Ontario, the Niagara River, Lake Erie and the Detroit River. The British government proposed a new route that would largely utilize existing native trail systems, such as the Toronto Carrying Place trail, which linked Lake Ontario to Lake Simcoe by ways of the Rouge River or Humber River to the Holland River, to avoid American customs officials. This proposed route would require the construction of a road from Lake Simcoe to the Fort at Penetanguishene. In 1811, William Claus reached an agreement with the Lake Simcoe Ojibwa at a cost of £4,000. However, the War of 1812 broke out and the agreement was not finalized until 1815. This treaty was known as the Lake Simcoe Purchase and included the east part of the Township of Vespra (Surtees, 1994, p. 111; Hunter, 1909a, p.84; N.A. 1891, p.lviii).

After the War of 1812, the second wave of settlers arrived in Upper Canada. Between 1815 and 1824 the non-Aboriginal population doubled as a result of heavy immigration from Britain (Surtees, 1994, p. 112). In 1818, William Claus assembled an Ojibwa council and “asked for over a million hectares to the west and south of Lake Simcoe” (Surtees, 1994, p. 115; Hunter, 1909a, p.14). At this council, William Claus advised settlement would take several years and the Aborigines residing in the area were still able to occupy the area while receiving annual clothing and the usual presents distributed by the King (Surtees, 1994, p. 116). The government agreed to pay an annuity of £1200 currency in goods (Surtees, 1994, p.116; Hunter, 1909a, p. 15). This tract included 1, 592,000 acres of land containing the majority of the County of Simcoe, and was known as the Lake Simcoe-Nottawasaga Treaty. This treaty included the west part of the Township of Vespra (Hunter, 1909a, p.15; Surtees, 1994, p.103; N.A., 1891, p. xxiv).

Township of Vespra was surveyed by several individuals beginning in 1811 and completed by 1835. In 1811, Samuel S. Wilmot was instructed to survey a road leading from Kempenfeldt Bay to Penetanguishene Harbour and lay lots on either side of the road for settlement purposes. In 1820, James G. Chewett partially surveyed Vespra and in 1835, John Goessman continued the survey of Vespra. Consequently, the survey of the township was inconsistent with some half lots receiving more acres while others fell short (Anderson and Anderson, 1987, pp.25-26, 41).

The Township of Vespra contained 67,720 acres and settlement in the township did not occur until after the War of 1812. By 1819, a series of settlements were established along Penetanguishene Road. Most of the Township of Vespra’s Euro-Canadian development is tied to the establishment of Barrie as a military port during the War of 1812 and the township did not progress until the 1830s. In 1847, a stage coach service was introduced utilizing Penetanguishene Road to allow passengers to commute from Holland’s Landing to Penetanguishene Harbour. By 1850, the Township of Vespra had doubled its population to 1,254 individuals, but the cultivated land did not increase proportionately. In 1859, Vespra became a separate municipality from the Townships of Flos, and Sunnidale and a new town hall was built in Midhurst (Belden, 1881, pp.7-8; Anderson and Anderson, 1987, pp.55, 111-112; Smith, 1851, p.56).

The Town of Barrie, located on the shore of Kempenfeldt Bay, was primarily settled by Euro-Canadian settlers after the War of 1812. Sir George Head arrived at the head of Kempenfeldt Bay and erected a log house on the site of Barrie for himself and other French-Canadians who were part of the small detachment stationed with him (Hunter, 1909b, p.203). In 1818, the British Government established “two store-houses, one at Willow Creek end of the Nine-Mile portage, the other at Barrie” (Hunter, 1909b, p.204). In Barrie, a log structure was constructed and functioned as a depot for military supplies in transit to the Lake Huron and Georgian Bay areas and a temporary shelter for early pioneers (Hunter, 1909b, p.204; Belden, 1881, p.7). The following year, Penetanguishene Road was established from Kempenfeldt Bay to Georgian Bay by the British Government (Belden, 1881, p.7).

In 1830, the storehouse at Kempenfeldt Bay was abandoned by the British Government, but a small community had already formed in its wake. The town was named Barrie in honor of Sir Robert Barrie, a British naval officer who commanded a squadron at Kingston during the War of 1812. In 1833, town lots were surveyed, small wood shanties were constructed, and over the following three years, the community grew. By 1837, 28 families resided in Barrie and were principally English, Irish and Scottish. By 1846, all the town-lots within the old survey were owned by private landowners, while only a few lots within the new survey were occupied. By 1851, 800 individuals lived in the town and the town contained a tannery, a brewery, a newspaper office, Upper Canadian Bank, County Offices, four churches and a Grammar school (Hunter, 1909b, p.204; Belden, 1881, p.8; Brock, 2014; Smith, 1846, p.9; Smith, 1851, p.54).

In 1853, the Ontario, Simcoe and Huron railway was constructed and extended to Barrie in 1865. The railway connected Barrie with Toronto and allowed for the transportation of people, agricultural goods and natural timber resources. After a series of devastating fires, the town of Barrie continued to steadily grow throughout the remainder of the 19<sup>th</sup> century (Belden, 1881, p.8; Tourism Barrie, 2014; Downtown Barrie, 2014).

### 1.3.5 Past Land Use

To assess the study area’s potential for the recovery of historic pre-1900 remains, the 1881 *Simcoe Supplement in Illustrated Historical Atlas of the Dominion of Canada* was reviewed (**see Map 2-3**). This mapping revealed that the study area was located primarily within the developed area of the City of Barrie, and owned by several unlisted property owners. One school house was also located within the study area. It should be kept in mind, however, that not all historic features would have been depicted in the Township of Vespra as this resource required a paid subscription from the residents in the County of Simcoe for inclusion (Benson, N.D., p.4).

Additionally, the study area is located along several historic roadways: Bayfield Street, St. Vincent Street, Duckworth Street, Cundles Road and Ross Street/Sunnidale Road; which were originally laid out during the survey of the Township of Vespra. The City of Barrie also contains numerous historic roadways tied to the core of the City, which include Dunlop Street, Collier Street, Worsley Street, Macdonal Street, Clapperton Street, Owen Street, Mulcaster Street, Poyntz Street and Kempenfelt Drive. The City of Barrie also lies at the end of the Nine Mile Portage.

In Southern 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, to be of elevated archaeological potential (per *Section 1.3.1* of the *2011 S&G*). Therefore, based on the close proximity to both historic settlements and historic transportation routes, there is elevated potential for the location of Euro-Canadian archaeological resources (pre-1900) within portions of the study area which lie within 300 metres and 100 metres, respectively, of these features

### 1.3.6 Present Land Use

According to the City of Barrie Official Plan - Schedule A – Land Use, the study area encompasses a variety of land uses, including Residential, Open Space, Institutional, Educational Institutional, City Centre, General Commercial, Highway 400 Industrial, Business Park, and General Industrial (City of Barrie, 2014).

## 1.4 Archaeological Context

### 1.4.1 Designated and Listed Cultural Heritage Resources

According to *Section 1.3.1* of the *2011 S&G*, property 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 to have elevated potential.

Consultation with the online inventory entitled ‘Designated Heritage Properties’ (City of Barrie, 2016a), which records municipal properties that have been formally designated under Part IV of the *Ontario Heritage Act*, confirmed the presence of several designated heritage resources within or in close proximity to (within 300 metres of) the study area (*see Table 1*).

Additional consultation with the online inventory entitled, “Non-Designated Heritage Properties” (City of Barrie, 2016a) which identifies heritage properties not formally designated (or listed), confirmed the presence of a non-designated heritage property in close proximity to the study area (*see Table 1; Map 4*).

Table 1: Designated and Listed Heritage Resources within close proximity of the Study Area

| Address   | Description              | Heritage Status    |
|---|--------------------------|--------------------|
| <i>Heritage resources within the study area</i> |                          |                    |
| 72-74 Dunlop Street East                        | The Sanders Block        | Designated Part IV |
| 123 Dunlop Street East                          | -                        | Designated Part IV |
| 158 Dunlop Street East                          | Morton/Turnbul House     | Designated Part IV |
| 72 High Street                                  | Maplehurst               | Designated Part IV |
| 16-18 Mary Street                               | John Pearson House       | Designated Part IV |
| 30 Mary Street                                  | Dutton House             | Designated Part IV |
| 36 Mulcaster Street                             | Farmers’ Market Building | Designated Part IV |
| 37 Mulcaster Street                             | Carnegie Building        | Designated Part IV |
| 17 Peel Street                                  | Shearman Bird House      | Designated Part IV |

| Address   | Description            | Heritage Status    |
|---|------------------------|--------------------|
| 105 Toronto Street  | Robinson-Burton House  | Designated Part IV |
| 147 Toronto Street  | Maple Street           | Designated Part IV |
| <b>Heritage resources within 300 metres of the study area</b> |                        |                    |
| 50 Bradford Street  | Prince of Wales School | Non-Designated     |
| 268 Codrington Street   | Grubbe House           | Designated Part IV |

Therefore, based on presence of several designated and non-designated (listed) heritage resources within and in close proximity to the study area, there is elevated archaeological potential within portions of the study area which lie within 300 metres of these features.

#### 1.4.2 Heritage Conservation Districts

A Heritage Conservation District (HCD) includes areas that have been protected under Part V of the *Ontario Heritage Act*. An HCD can be found in both urban and rural environments and may include residential, commercial, and industrial areas, rural landscapes or entire villages or hamlets with features or land patterns that contribute to a cohesive sense of time or place and contribute to an understanding and appreciation of the cultural identity of a local community, region, province, or nation. An HCD may comprise an area with a group or complex of buildings, or large area with many buildings and properties and often extends beyond its built heritage, structures, streets, landscape and other physical and spatial elements, to include important vistas and views between and towards buildings and spaces within the district (MTCS, 2006, p.5). An HCD area contains valuable cultural heritage and must be taken into consideration during municipal planning to ensure that they are conserved.

According to *Section 1.3.1* of the *2011 S&G*, heritage resources listed on a municipal register or designated under the *Ontario Heritage Act*, or a federal, provincial, or municipal historic landmark or site, are considered to have elevated archaeological potential. To determine if the study area is located within or in close proximity to (within 300 metres of) an HCD, the Planning Services Department at the City of Barrie was contacted (Templeton, 2016a). No response was granted by report completion.

#### 1.4.3 Commemorative Plaques or Monuments

According to *Section 1.3.1* of the *2011 S&G*, commemorative markers of Aboriginal and Euro-Canadian settlements, which may include their history, local, provincial, or federal monuments, cairns or plaques, or heritage parks, are considered to be features of elevated archaeological potential. To determine if any historical plaques are present, the Ontario Historical Plaques inventory, which contains a catalogue of federal Historic Sites and Monuments Board of Canada plaques, the provincial Ontario Heritage Trust plaques, plaques identified by various historical societies, and other published plaques located in Ontario was reviewed (Ontario Historical Plaques, 2016). This review confirmed the presence of two commemorative plaques within the study area (*see Table 2*).

Table 2: Commemorative Plaques within the Study Area

| Name                               | Location and Description   |
|------------------------------------|--|
| Nine Mile Portage                  | South side of Dunlop Street East across from Owen Street. Site of the eastern terminus of a Native portage from Kempenfeldt Bay to Willow Creek and then by the Nottawasaga River to George Bay. Later developed as a rough wagon road. By 1830, was in frequent use for transportation of supplies to the fort at Penetanguishene and the western military and fur trading posts. |
| Simcoe County Court-house and Gaol | Southeast corner of Mulcaster and McDonald Streets. An important county judicial and administrative centre. The gaol was erected in 1840 and the court-house completed a year later. The court-house was enlarged in 1877 and demolished in 1976. The gaol remains extant.   |

Therefore, based on the presence of commemorative markers within the study area, this feature further elevates archaeological potential within the study area.

#### 1.4.4 Registered Archaeological Sites

In order provide a summary of registered or known archaeological sites within a minimum one kilometre distance from the study area limits, as 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 MTCS was consulted (MTCS, 2016). Every archaeological site is registered according to the Borden System, which is a numbering system used throughout Canada to track archaeological sites and their artifacts.

According to the MTCS (2016), six archaeological sites have been registered within one-kilometre of the study area. One registered site (BcGw-2) falls within the study area limits (*see Table 3*).

Table 3: Registered Archaeological Sites within One Kilometre of the Study Area

| Borden #  | Name            | Cultural Affiliation        | Type      |
|---|-----------------|-----------------------------|-----------|
| <b>Registered Archaeological Sites within the Study Area</b>                  |                 |                             |           |
| BcGw-2  | Bell            | -                           | -         |
| <b>Registered Archaeological Sites within one kilometre of the Study Area</b> |                 |                             |           |
| BcGw-11   | Cundles         | Late Woodland (Middleport)  | Village   |
| BcGw-20   | Cundles Creek 2 | Post-contact, Euro-Canadian | Earthwork |
| BcGw-21   | Cundles Creek 1 | Late Woodland (Middleport)  | Hamlet    |
| BcGw-22   | Sunnidale Park  | Late Woodland (Middleport)  | Hamlet    |
| BcGw-34   | Rice            | Post-contact                | Homestead |

“-“ denotes details not provided in OASD

In addition, site leads were provided by the Archaeological Site Coordinator. These leads include sites were discovered in the early 20<sup>th</sup> century by Andrew Hunter, a distinguished historian and archaeologist who explored and surveyed archaeological sites throughout Huronia (present day Simcoe County). The location of these sites are estimated to be accurate to the quarter lot. During the 1980's, an attempt was made to relocate some of the Hunter sites and this work was met with some moderate success. The BcGw-2 and BcGw-11 Sites were associated with the Hunter (Vespra) Sites 49 and 54, respectively. Additionally, Hunter Vespra Sites 48, 53 and 56 were also

identified as being situated within one-kilometre of the study area (Templeton, 2016d). A map detailing the location of the site leads that fall within and within 300 metres of the study area is provided within **Map S-1 to S-4** of the attached **Supplementary Document**.

BcGw-2 (Vespra 49), which is located within the study area, is described as having “a position on a peak of land, as if for defence. Two acres, or more, are occupied by the site, which as about 20 lodges, averaging about 3 fires apiece (Huron form of lodge). The camps extend for 150 yards or more along the high strip of land” (Hunter, 1907, pp.54-55). Clay pipes, stone axes, shells, animal bones and evidence of scaffold ground for burial piers were also noted at the site, which represents a small village. Given the site’s present situation within the vicinity of the Highway 400 corridor and an industrialized area, this site has likely been mitigated/removed.

Vespra 51, which is located within 300 metres of the study area, is described as the “Indian Landing” where the shore provided a cove for suitable landing place. It is likely this was the end of the portage route from Little Lake and numerous Aboriginal artifacts were found (Hunter, 1907, p.55). Given the site’s present situation within the suburban area, this site has likely been mitigation/moved.

Vespra 52, which is located within the study area, is described being one of the first burial pits discovered in 1840. It became known as “Tim Haggart Pit” and had a diameter of 20 feet and contained from 200 to 300 Aboriginal crania, and additional human bones in the main pit. Several skeletons were also found in single graves and two similar pits were also found around the main pit (Hunter, 1907, p.55). Given the site’s present situation at Ross Street and Toronto Street, and partially within the Barrie Armoury facility, this site has likely been partially mitigated/removed.

According to *Section 1.3.1* of the *2011 S&G*, previously identified archaeological sites are considered to be features of elevated archaeological potential. Therefore, based on the presence of a registered archaeological site within the study area, there is elevated archaeological potential within portions of the study area which lie within 300 metres of this feature.

Having noted the presence of these sites in relation to the study area, it is useful to place them in the proper context by reviewing the cultural history of occupation in Southern Ontario provided in **Table 4**. This data provides an understanding of the potential cultural activity that may have occurred within the study area (Ferris, 2013, p.13).

Table 4: History of Occupation in Southern Ontario

| Period              | Archaeological Culture      | Date Range     | Attributes  |
|---------------------|-----------------------------|----------------|---|
| <b>PALEO-INDIAN</b> |                             |                |   |
| Early               | Gainey, Barnes, Crowfield   | >11000-8500 BC | Big game hunters. Fluted projectile points                        |
| Late                | Holcombe, Hi-Lo, Lanceolate | 8500-7500 BC   | Small nomadic hunter-gatherer bands. Lanceolate projectile points |
| <b>ARCHAIC</b>      |                             |                |   |

**STAGE 1 AA FOR THE MINOR/MAJOR STORMWATER MODEL DEVELOPMENT AND SOPHIA CREEK CLASS EA  
CITY OF BARRIE, COUNTY OF SIMCOE, ONTARIO**

| Period          | Archaeological Culture  | Date Range        | Attributes  |
|-----------------|---|-------------------|---|
| Early           | Side-notched, corner notched, bifurcate-base                                    | 7800-6000 BC      | Small nomadic hunter-gatherer bands; first notched and stemmed points, and ground stone celts.  |
| Middle          | Otter Creek, Brewerton  | 6000-2000 BC      | Transition to territorial settlements   |
| Late            | Narrow, Broad and Small Points Normanskill, Lamoka, Genesee, Adder Orchard etc. | 2500-500 BC       | More numerous territorial hunter-gatherer bands; increasing use of exotic materials and artistic items for grave offerings; regional trade networks |
| <b>WOODLAND</b> |   |                   |   |
| Early           | Meadowood, Middlesex  | 800BC-0BC         | Introduction of pottery, burial ceremonialism; panregional trade networks   |
| Middle          | Point Peninsula, Saugeen, Jack's Reef Corner Notched                            | 200 BC-AD 900     | Cultural and ideological influences from Ohio Valley complex societies; incipient horticulture  |
| Late            | Algonquian, Iroquoian, Western Basin  | AD 900-1250       | Transition to village life and agriculture  |
|                 | Algonquian, Iroquoian, Western Basin  | AD 1250-1400      | Establishment of large palisaded villages   |
|                 | Algonquian, Iroquoian   | AD 1400-1600      | Tribal differentiation and warfare  |
| <b>HISTORIC</b> |   |                   |   |
| Early           | Huron, Neutral, Petun, Odawa, Ojibwa, Five Nations Iroquois                     | AD 1600 – 1650    | Tribal displacements  |
| Late            | Six Nations Iroquois, Ojibwa, Mississauga                                       | AD 1650 – 1800s   | Migrations and resettlement   |
|                 | Euro-Canadian   | AD 1780 - present | European immigrant settlements  |

### 1.4.5 Previous Archaeological Assessments

In order to further establish the archaeological context of the study area, a review of previous archaeological fieldwork carried out within the limits of, or immediately adjacent (i.e., within 50 metres) to the study area (per *Section 1.1, Standard 1*), as documented by all available reports was undertaken. Eight reports were identified (*see Table 5*):

**Table 5: Previous Archaeological Fieldwork**

| Company                                       | Stage of Work | Relation to Current Study Area     | Recommendation   |
|---|---------------|------------------------------------|--|
| Archeoworks Inc., 2016                        | Stage 1 AA    | Within the study area              | The subject corridor was cleared of further archaeological concern.      |
| Archaeological Research Associates Ltd., 1996 | Stage 1-2 AA  | Within 50 metres of the study area | No archaeological resources were recovered; no further work recommended. |

| <b>Company</b>                        | <b>Stage of Work</b> | <b>Relation to Current Study Area</b>       | <b>Recommendation</b>  |
|---------------------------------------|----------------------|---|--|
| New Directions Archaeology Ltd., 2012 | Stage 1 AA           | Within 50 metres of the study area          | No further work recommended.   |
| AMICK Consultants Ltd., 2008          | Stage 1-2 AA         | Possibly within 50 metres of the study area | A copy of this report was requested from the MTCS (Templeton, 2016b). No report was obtained by report completion.               |
| AMICK Consultants Ltd., 2009          | Stage 1 AA           | Possibly within 50 metres of the study area | A copy of this report was requested from the MTCS (Templeton, 2016b). No report was obtained by report completion.               |
| L. Currie, 2001                       | Stage 1-2 AA         | Possibly within 50 metres of the study area | A copy of this report was requested from the MTCS (Templeton, 2016b). No report was obtained by report completion.               |
| I. Ball, 2001                         | Stage 1-2 AA         | Possibly within 50 metres of the study area | A copy of this report was requested from the MTCS (Templeton, 2016b). No report was obtained by report completion.               |
| Archaeological Services Inc.,         | Uncertain            | Possibly within 50 metres of the study area | A copy of this report was requested from the consultant company (Templeton, 2016c). No report was obtained by report completion. |

#### **1.4.6 Physical Features**

An investigation of the study area’s physical features was conducted to aid in the development of an argument for archaeological potential based on the environmental conditions of the study area. Environmental factors such as close proximity to water, soil type, and nature of the terrain, for example, can be used as predictors to determine where human occupation may have occurred in the past.

The study area is located within the Simcoe Uplands and Simcoe Lowlands physiographic regions of Southern Ontario. The Simcoe Uplands is characterized by broad and rolling till plains, and are separated by steep-sided and flat-floored valleys (Chapman and Putnam, 1984, p.181). These till plains and valleys are “encircled by numerous shorelines, indicating they were islands in Lake Algonquin” (Chapman and Putnam, 1984, p.181). The till is comprised primarily of Pre-Cambrian rock instead of limestone, providing a gritty loam texture that becomes sandier toward the north. Heavier, more calcareous till occurs near Lake Simcoe and Midland. The original forests of the land included hardwoods, mainly sugar maple and beech with white pine. Other common trees include yellow birch, basswood and hemlock. The agriculture can be classified as mixed farming based on a variety of products such as milk, cream, beef, veal, hogs, eggs, and poultry. Over the years, the region generally saw a “moving away” from agriculture, as fewer farms existed within the area, however, those that did remain saw a great increase in size and improvement. Although the uplands did not develop any market centres, it is connected by good highways to Barrie and Orillia, the major urban centres of the Lake Simcoe Basin, and in proximity to small ports by the Georgian Bay shore (Chapman and Putnam, 1984, pp. 182-184).

The study area is also situated within the eastern district (“Lake Simcoe Basin”) of the physiographic region known as the Simcoe Lowlands. These lowlands were flooded by glacial Lake Algonquin and are bordered by shore cliffs, beaches, and bouldery terraces, floored by sand,

silt and clay. At the southern end of Lake Simcoe, a broad valley extends between high morainic hills. The floor of this valley is now a marsh through which traverses the Holland River. Since 1925, the area has been diked and drained as garden land, and making way for 1,800 acres of profitable farming land. The marsh gardens have brought great prosperity to the Town of Bradford, as it became a vegetable storage, packing, and trading centre for the surrounding population, and distributes its produce to Toronto markets, all parts of Canada and even the United States (Chapman & Putnam, 1984).

The study area encompasses several different soil types: Tioga sandy loam, Vasey sandy loam, and Schomberg silty clay loam. The majority of the study area is situated within Tioga sandy, a grey calcareous outwash sand with good drainage. It can be stonefree to moderately stony, and has a smooth to moderately sloping topography. The northern portion of the study area falls within Vasey sandy loam, a light grey, calcareous and non-calcareous sandy loam till that has good drainage. It can be moderately to very stony, and has a smooth, moderately to steeply sloping topography. Finally, the northeastern portion of the study area is situated within Schomberg silty clay loam, which is a calcareous lacustrine varved silt loam and clay with good drainage. It can be stonefree to very stony, and has a smooth, moderately to steeply sloping topography (Ontario Agricultural College, 1959).

In terms of archaeological potential, potable water is a highly important resource necessary for any extended human occupation or settlement. As water sources have remained relatively stable in Southern Ontario since post-glacial times, proximity to water can be regarded as a useful index for the evaluation of archaeological site potential. Indeed, distance from water has been one of the most commonly used variables for predictive modeling of site location. A watershed is an area drained by a river and its tributaries. As surface water collects and joins a collective water body, it picks up nutrients, sediment and pollutants, which may altogether, affect ecological processes along the way. 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*).

The study area is situated at the shores of Kempenfeldt Bay, and encompasses the Sophia Creek watershed and Mulcaster drainage shed. Historic mapping also reveals the presence of former water courses within the study area. Given the presence of several primary water sources within and in close proximity to (within 300 metres of) the study area, there is elevated potential for the location of archaeological resources within portions of the study area which lie within 300 metres of these features.

#### **1.4.7 Current Land Conditions**

The study area is situated within an urban landscape and encompasses the northern half of the City of Barrie. The topography within the study area inclines moving south to north, with the elevation ranging from 220 to 260 metres above sea level.

#### **1.4.8 Date of Review**

A desktop review of field conditions using historical aerial photography and current satellite imagery obtained through the Google Earth application was undertaken on June 2<sup>nd</sup>, 2016.

### **1.5 Confirmation of Archaeological Potential**

Based on the information gathered from background research documented in the preceding sections, potential for the recovery of archaeological resources within any portions of the study area limits has been established. Features contributing to archaeological potential are summarized in **Appendix B**.

## 2.0 ANALYSIS AND CONCLUSIONS

In combination with data gathered from background research (*see Sections 1.3 and 1.4*) and an inspection of satellite imagery and aerial photography, an evaluation of archaeological potential was performed to determine if the archaeological potential classification of the study area is relevant

### 2.1 Historical Imagery

Data gathered from background research (*see Sections 1.3 and 1.4*) was used to perform an assessment of archaeological potential. Additionally, a detailed review of aerial photographs taken from 1954 (*see Map 5*), and satellite imagery taken in 2002 to 2015 (*see Maps 6-7*), reveals that the study area has undergone significant changes since 1954.

The 1954 aerial photograph reveals that the southern half of the study area was developed, representing the urbanized City of Barrie (*see Map 5*). The northern half of the study area consisted of numerous ploughed agricultural fields and several rural farmsteads. Highway 400 is depicted running through the northwestern portion of the study area. By 2002, the entirety of the study area was developed, which included new residential subdivisions, commercial structures and industrial land uses (*see Map 6*). The study area has remained relatively unchanged since this time (*see Map 7*).

### 2.2 Previously Surveyed Lands

Background research revealed that a portion of the study area following Duckworth Street had previously been subjected to a Stage 1 AA by *Archeoworks Inc.* (2016). The Stage 1 AA determined the study area to be entirely disturbed not warranting of any further archaeological concern (*see Maps 8-9*).

### 2.3 Low + Uncertain Archaeological Potential – Potential Disturbances

The study area was evaluated for extensive disturbances that have removed archaeological potential. Per *Section 1.3.2* of the *2011 S&G*, disturbances may include but are not limited to: grading below topsoil, quarrying, building footprints, or sewage and infrastructure development. *Section 1.3.2* of the *2011 S&G* considers infrastructure development among those “features indicating that archaeological potential has been removed.”

Obvious disturbances include urban development, existing structures, roadways and road right-of-ways (i.e. pavement, graded margins, artificial embankments, utility corridors and pedestrian sidewalks), utilities, sewage and infrastructure development, and grading/extensive landscaping (*see Maps 8-9; Appendix C - Images 1-10*). The construction of these features during the 20<sup>th</sup> century was confirmed in historical aerial imagery, and would have resulted in severe damage to

the integrity of any archaeological resources which may have been present within their footprints.

The aforementioned areas of deep and extensive disturbances should only be considered as *likely* not requiring Stage 2 survey. A Stage 2 visual inspection is still required to provide on-site confirmation and documentation of the actual condition and exact extent of the disturbances.

Areas of uncertain archaeological potential due to varying degrees of previous soil disturbance include: areas within the City of Barrie that appear to have largely remained unchanged since 1954. In accordance with *Section 2.1.8* of the *2011 S&G*, it is necessary to conduct a Stage 2 AA using judgmental test pit survey within these areas, to confirm the disturbed ground conditions and document the nature and extent of any encountered disturbance. Should any of these areas exhibit undisturbed conditions, a Stage 2 test pit survey at standard five-metre intervals will be required.

## 2.4 Identified Areas of Archaeological Potential

Areas of archaeological potential that can be potentially impacted include grassy parklands, manicured lawns, and treed areas, and exhibit no apparent signs of previous deep and extensive disturbance (*see Maps 8-9; Images 11-14*).

As there is potential to recover archaeological resources within these identified areas, following the selection of the final project definition, should any construction activities tied to this EA study impact these areas, a Stage 2 AA must be undertaken prior to any construction activity.

Furthermore, given that some of these identified areas encompass existing infrastructure (i.e., Hydro poles, gas lines, underground utilities, etc., and limit plough access and safety), ploughing in advance of pedestrian archaeological survey will not be possible. Therefore, all identified areas of potential will need to be subjected to a Stage 2 shovel test pit survey at five-metre intervals prior to construction activities.

Additionally, the historic Town of Barrie retains high archaeological potential for the presence of deeply buried archaeological resources. Should proposed work occur within the historic Town of Barrie, a detailed Stage 1 and 2 AA must be undertaken within potentially impacted areas to determine the presence of deeply buried archaeological resources.

## 3.0 RECOMMENDATIONS

In light of the findings detailed in preceding sections, the following recommendations are presented:

1. With a previous assessment by *Archeoworks Inc.* (2016), having fulfilled the Stage 1 AA requirements within their respective portion of the current study area, it is recommended that this area be exempt from further assessment within the scope of this project.
2. Portions classified as having low or no archaeological potential due to disturbances (e.g., built structures, paved areas, installations) must be subjected to an on-site visual survey to confirm and document their nature and extent. Only then can these areas be exempt from Stage 2 test pit survey. Should any of these areas be confirmed as undisturbed, a standard Stage 2 test pit survey at five-metre intervals must be undertaken.
3. Portions identified as potentially disturbed (including areas within properties that existed prior to 1954) must be subjected to a judgmental Stage 2 test pit survey. Should any of these areas be confirmed as undisturbed, a standard Stage 2 test pit survey at five-metre intervals must be undertaken.
4. Upon selection of the final project definition, any construction activities which impact areas identified as having archaeological potential will require a Stage 2 shovel test-pit survey at five-metre intervals under the field supervision and monitoring of a licensed archaeologist, prior to any construction activities, in order to minimize impacts to heritage resources.
5. The historic Town of Barrie retains high archaeological potential for the presence of deeply buried archaeological resources. Should proposed work occur within the historic City of Barrie, a detailed Stage 1 and 2 AA must be undertaken within potentially impacted areas to determine the presence of deeply buried archaeological resources. The Stage 2 AA archaeological investigations within these areas must follow the survey strategies outlined within *Section 2.1.7* for the survey of deeply buried conditions.

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

## 4.0 ADVICE ON COMPLIANCE WITH LEGISLATION

1. This report is submitted to the *MTCS* 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 *MTCS*, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.
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*.

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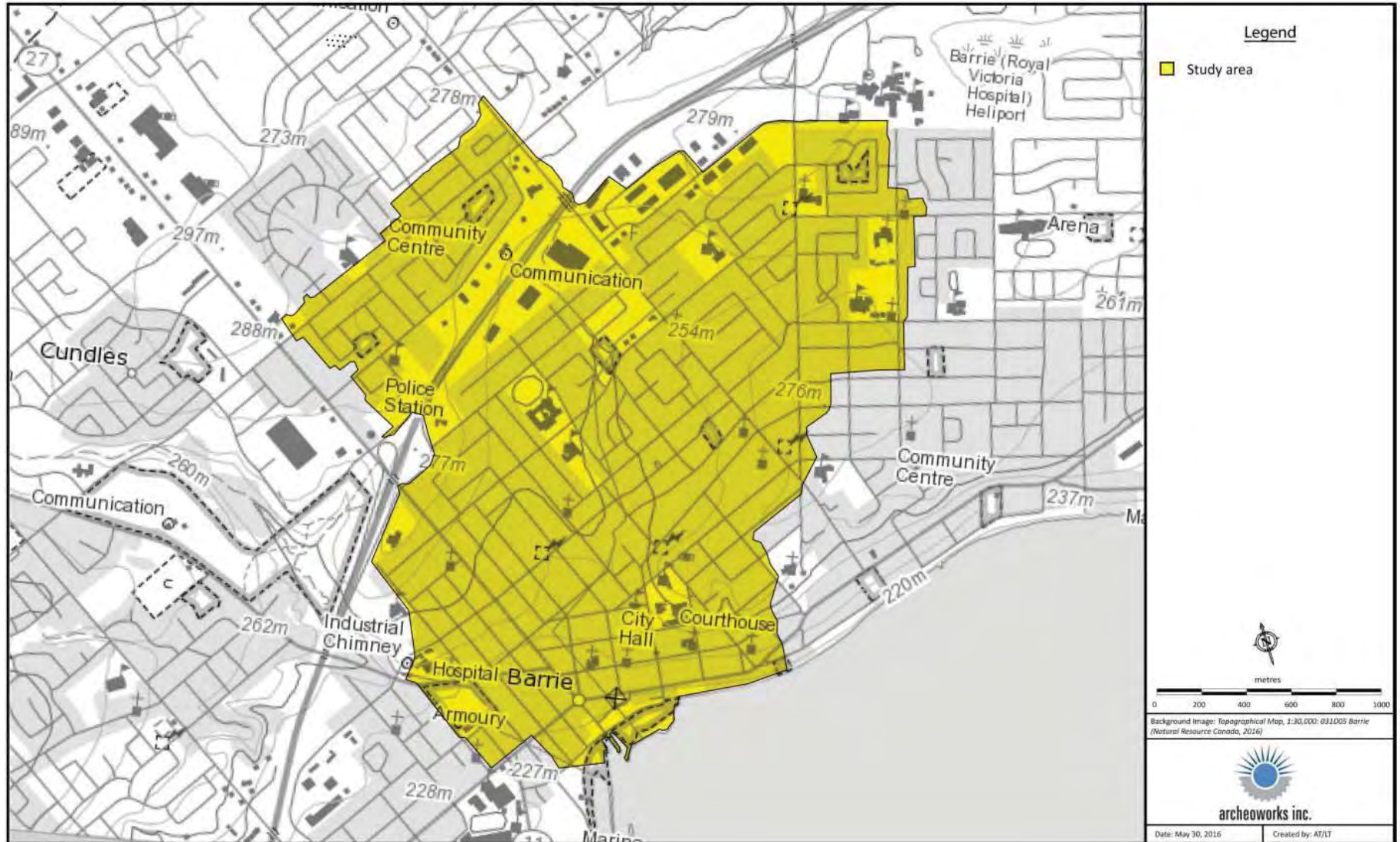
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## APPENDICES

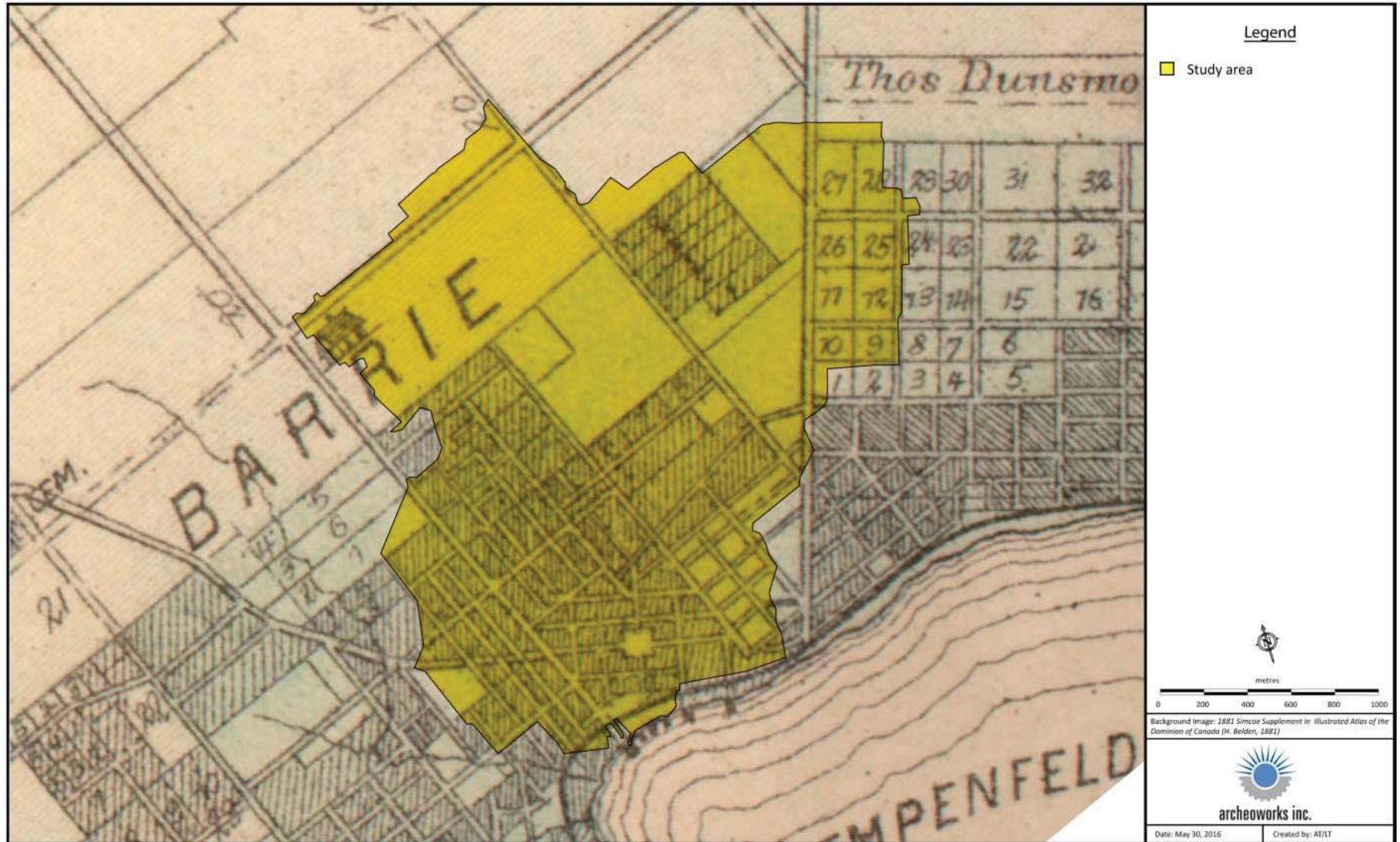
APPENDIX A: MAPS



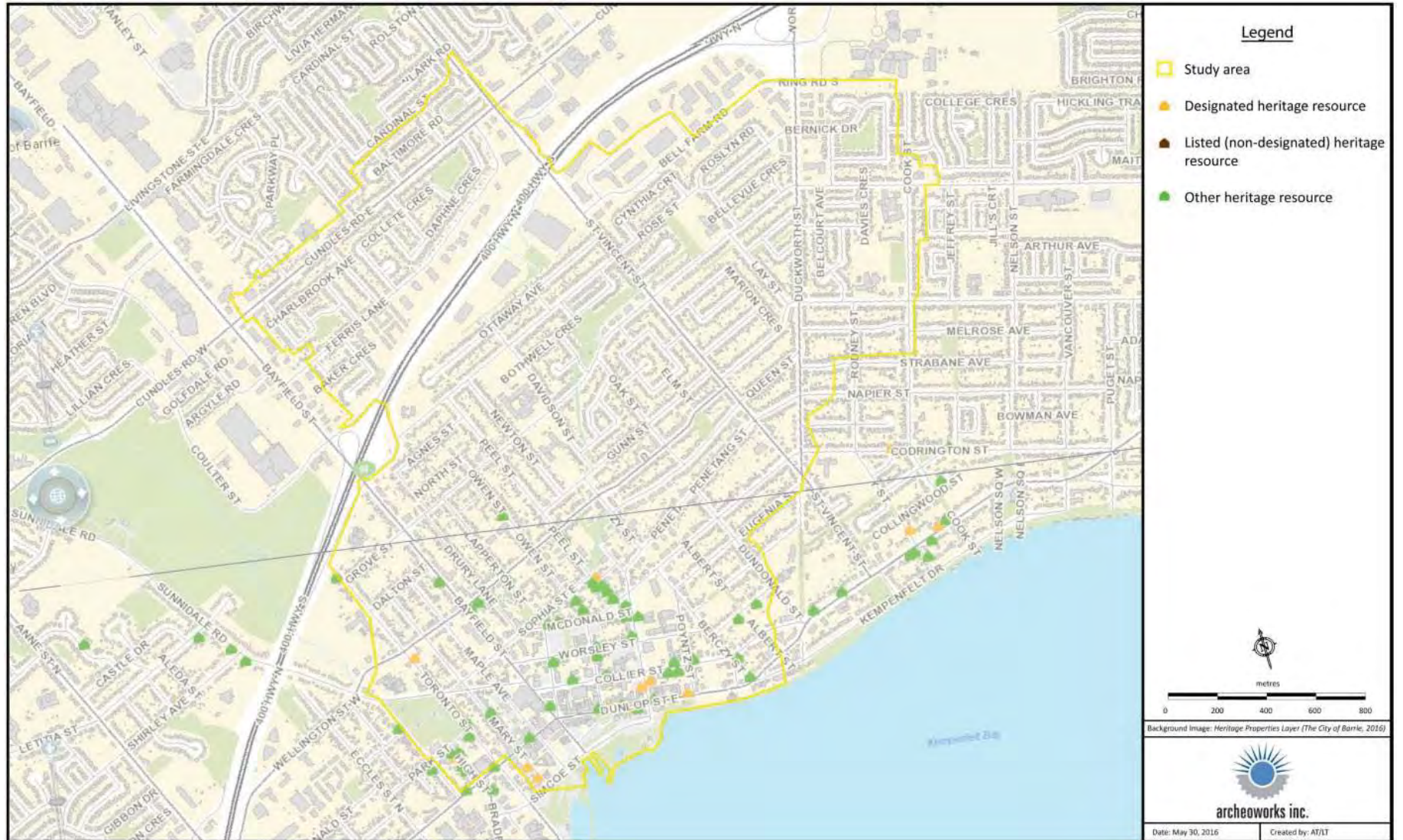
Map 1: Topographical map 1:30000, NTS Barrie 031D05 (Government of Canada, 2016) identifying the Stage 1 AA study area.



Map 2 The Stage 1 AA study area within the Simcoe Supplement in the Illustrated Atlas of the Dominion of Canada – 1879 Map of the Town of Barrie (H. Belden, 1881).



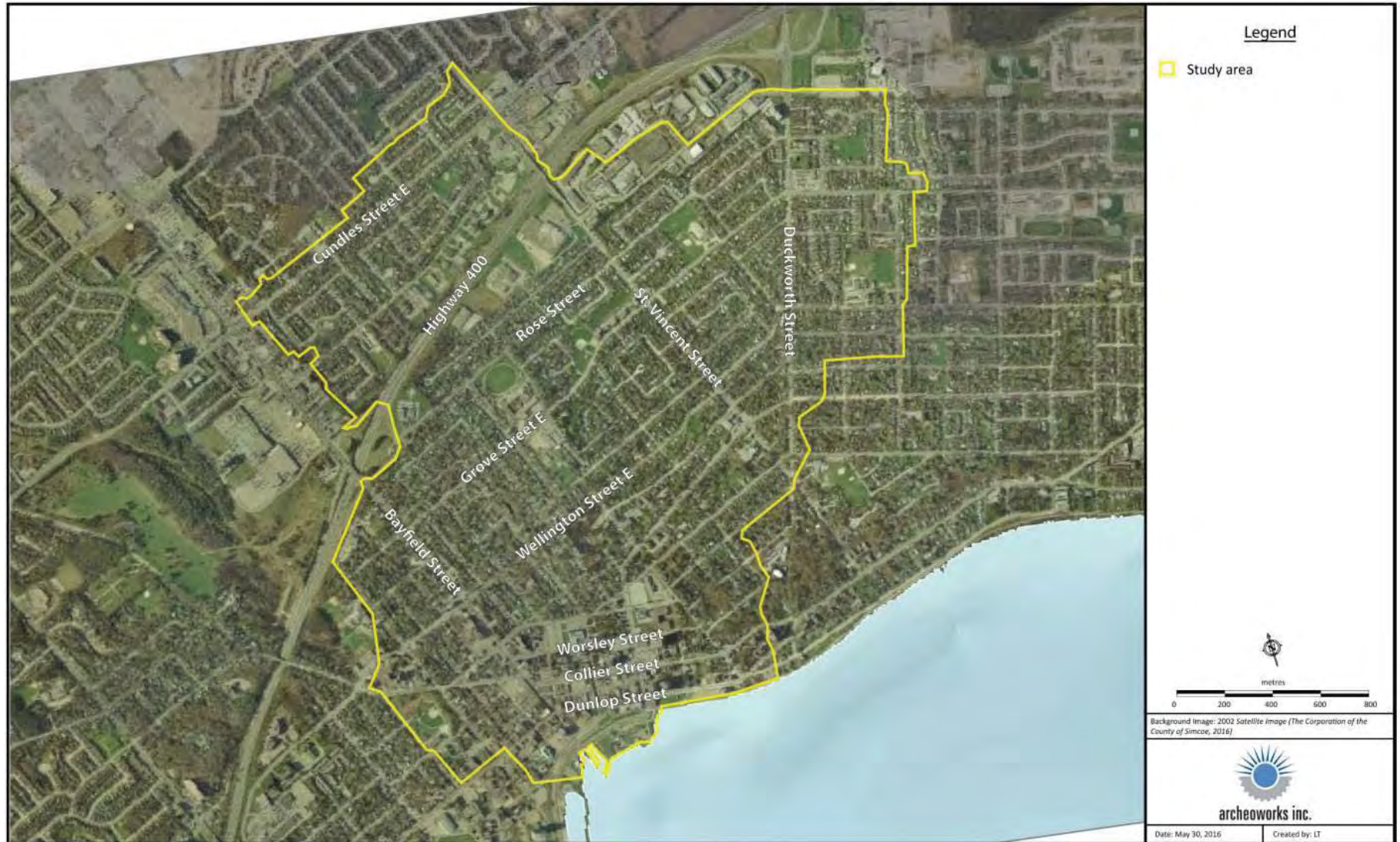
Map 3 The Stage 1 AA study area within the Simcoe Supplement in the Illustrated Atlas of the Dominion of Canada (H. Belden, 1881).



Map 4: Illustrating heritage resources within the Stage 1 AA study area (The City of Barrie, 2016).



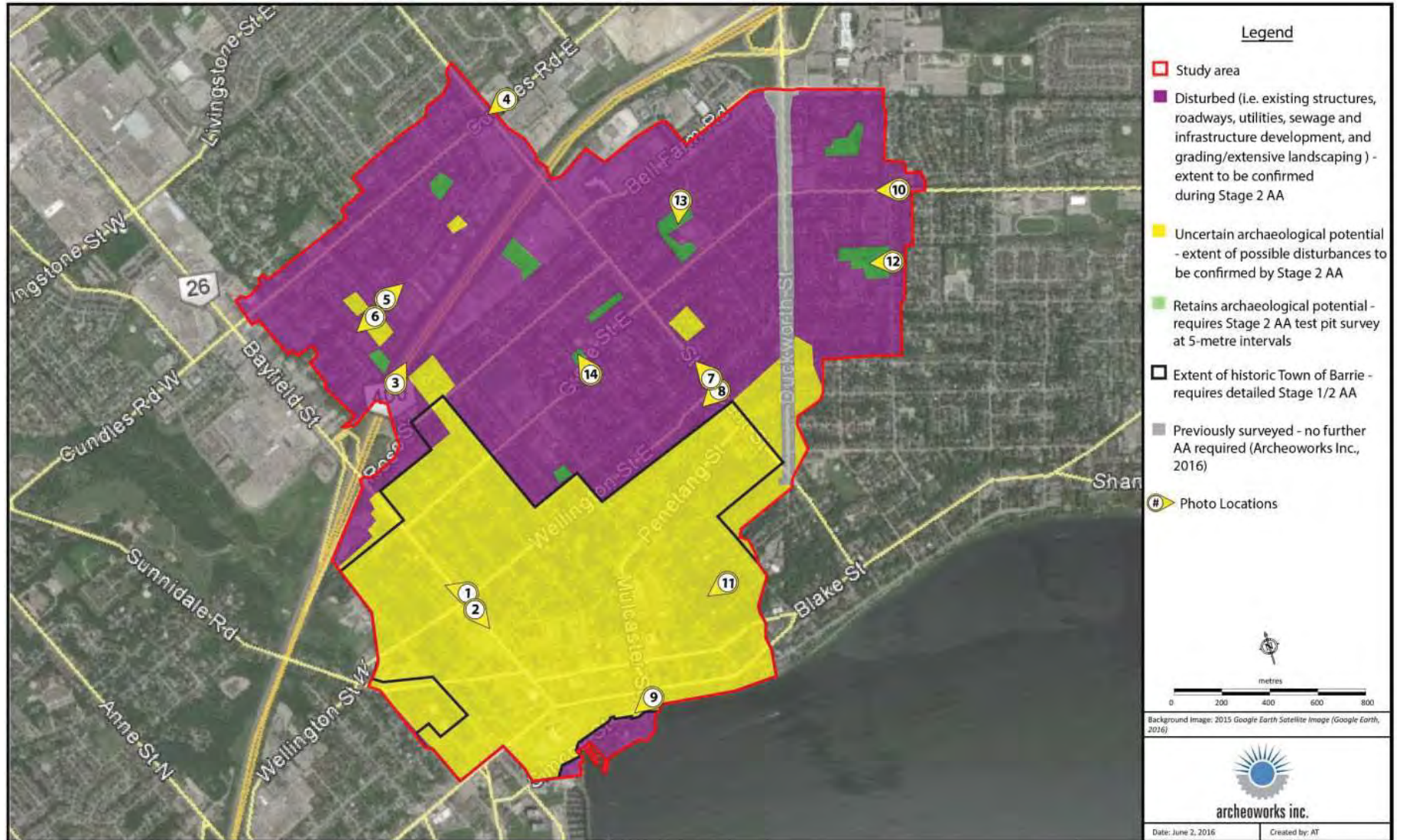
Map 5: Stage 1 AA study area within a 1954 aerial photograph (Hunting Survey Corporation Ltd., 1954).



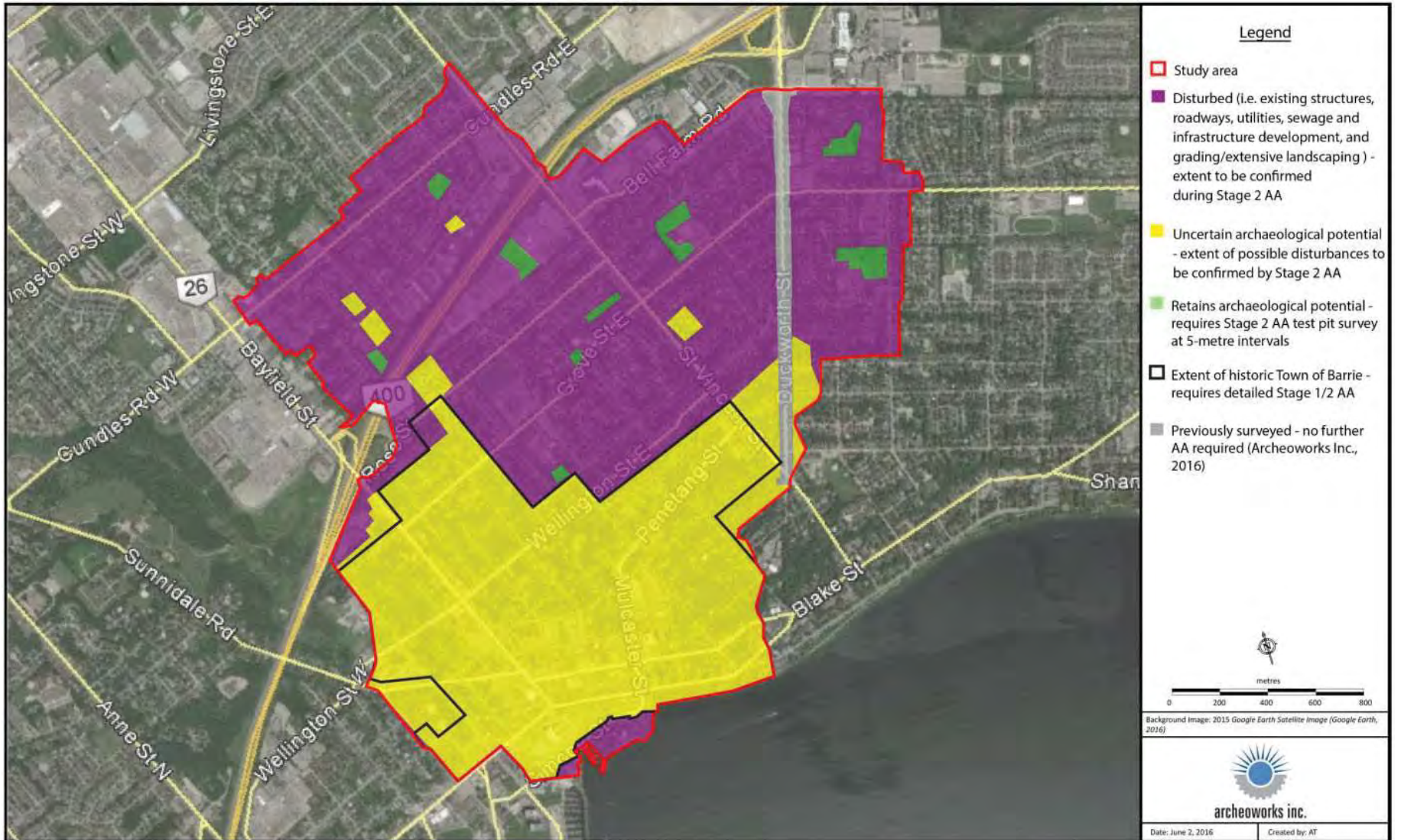
Map 6: Stage 1 AA study area within a 2002 satellite image (The Corporation of the County of Simcoe, 2016).



Map 7: Stage 1 AA study area within a 2015 satellite image (Google Earth, 2016).



Map 8: Stage 1 AA results of the study area with photo locations indicated.



Map 9: Stage 1 AA results of the study area.

## 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                               |
| <b>Physical Features</b>             |   | <b>Yes</b>              | <b>No</b> | <b>Unknown</b> | <b>Comment</b>  |
| 2                                    | Is there water on or near the property?   | X                       |           |                | Storm water management facility                           |
| 2a                                   | Presence of primary water source within 300 metres of the study area (lakes, rivers, streams, creeks)                                     | X                       |           |                | If Yes, potential confirmed                               |
| 2b                                   | Presence of secondary water source within 300 metres of the study area (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 |
| <b>Cultural Features</b>             |   | <b>Yes</b>              | <b>No</b> | <b>Unknown</b> | <b>Comment</b>  |
| 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 |
| <b>Property-specific Information</b> |   | <b>Yes</b>              | <b>No</b> | <b>Unknown</b> | <b>Comment</b>  |
| 10                                   | Contains property designated under the Ontario Heritage Act   | X                       |           |                | If Yes to two or more of 3-5 or 7-10, 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 of study area |           |                | If Yes, low archaeological potential is determined        |

## APPENDIX C: IMAGES



Image 1: View of disturbances associated with extant structures, paved road, sidewalks, parking lots, and utilities (Google Earth, 2016a).



Image 2: View of disturbances associated with extant structures, paved road, sidewalks, parking lots, and utilities (Google Earth, 2016a).



Image 3: View of disturbances associated with Highway 400 (Google Earth, 2016a).



Image 4: View of disturbances associated with extant structures, paved road, sidewalks, and utilities (Google Earth, 2016a).



Image 5: View of disturbances associated with extant structures, paved road, sidewalks, and utilities (Google Earth, 2016a).



Image 6: View of disturbances associated with extant structures, paved road, sidewalks, and utilities (Google Earth, 2016a).



Image 7: View of disturbances associated with extant structures, paved road, sidewalks, parking lots, and utilities (Google Earth, 2016a).



Image 8: View of disturbances associated with extant structures, paved road, sidewalks, parking lots, and utilities (Google Earth, 2016a).



Image 9: View of disturbances associated with paved road, sidewalks, parking lots, and utilities (Google Earth, 2016a).



Image 10: View of disturbances associated with extant structures, paved road, sidewalks, and utilities (Google Earth, 2016a).



Image 11: View of wood lot retaining archaeological potential (Google Earth, 2016a).



Image 12: View of manicured grassed field with archaeological potential (Google Earth, 2016a).



Image 13: View of manicured grassed field with archaeological potential (Google Earth, 2016a).



Image 14: View of manicured grassed field with archaeological potential (Google Earth, 2016a).

## APPENDIX D: INVENTORY OF DOCUMENTARY AND MATERIAL RECORD

| Project Information:   |   |  |   |   |
|------------------------|---|--|---|---|
| <b>Project Number:</b> |   | 015-BA1837-15  |   |   |
| <b>Licensee:</b>       |   | Nimal Nithiyantham (P390)  |   |   |
| <b>MTCS PIF:</b>       |   | P390-0208-2016   |   |   |
| Document/<br>Material  |   |  | Location  | Comments                                    |
| 1.                     | Research/<br>Analysis/<br>Reporting<br>Material | Digital files stored in:<br>/2015/015-BA1837-15 -<br>Sophia Creek Class EA -<br>Barrie/Stage 1 | Archeoworks Inc.,<br>16715-12 Yonge<br>Street, Suite 1029,<br>Newmarket, ON,<br>Canada, L3X 1X4 | Stored on<br>Archeoworks<br>network servers |
| 2.                     | Digital Images                                  | Digital Images: 14 digital<br>images   | Archeoworks Inc.,<br>16715-12 Yonge<br>Street, Suite 1029,<br>Newmarket, ON,<br>Canada, L3X 1X4 | Stored on<br>Archeoworks<br>network servers |

Under Section 6 of Regulation 881 of the *Ontario Heritage Act*, *Archeoworks Inc.* will, “keep in safekeeping all objects of archaeological significance that are found under the authority of the licence and all field records that are made in the course of the work authorized by the licence, except where the objects and records are donated to Her Majesty the Queen in right of Ontario or are directed to be deposited in a public institution under subsection 66 (1) of the Act.”

# ARCHEOWORKS INC.

**Stage 1 Archaeological Assessment for the  
Minor/Major Stormwater Model Development and  
Sophia Creek Class Environmental Assessment  
In the Geographic Township of Vespra  
Historical County of Simcoe  
City of Barrie  
County of Simcoe  
Ontario**

**Project #: 015-BA1837-15  
Licensee (#): Nimal Nithiyantham (P390)  
PIF#: P390-0208-2016**

**Original Supplementary Document**

**July 11<sup>th</sup>, 2016**

**Presented to:**

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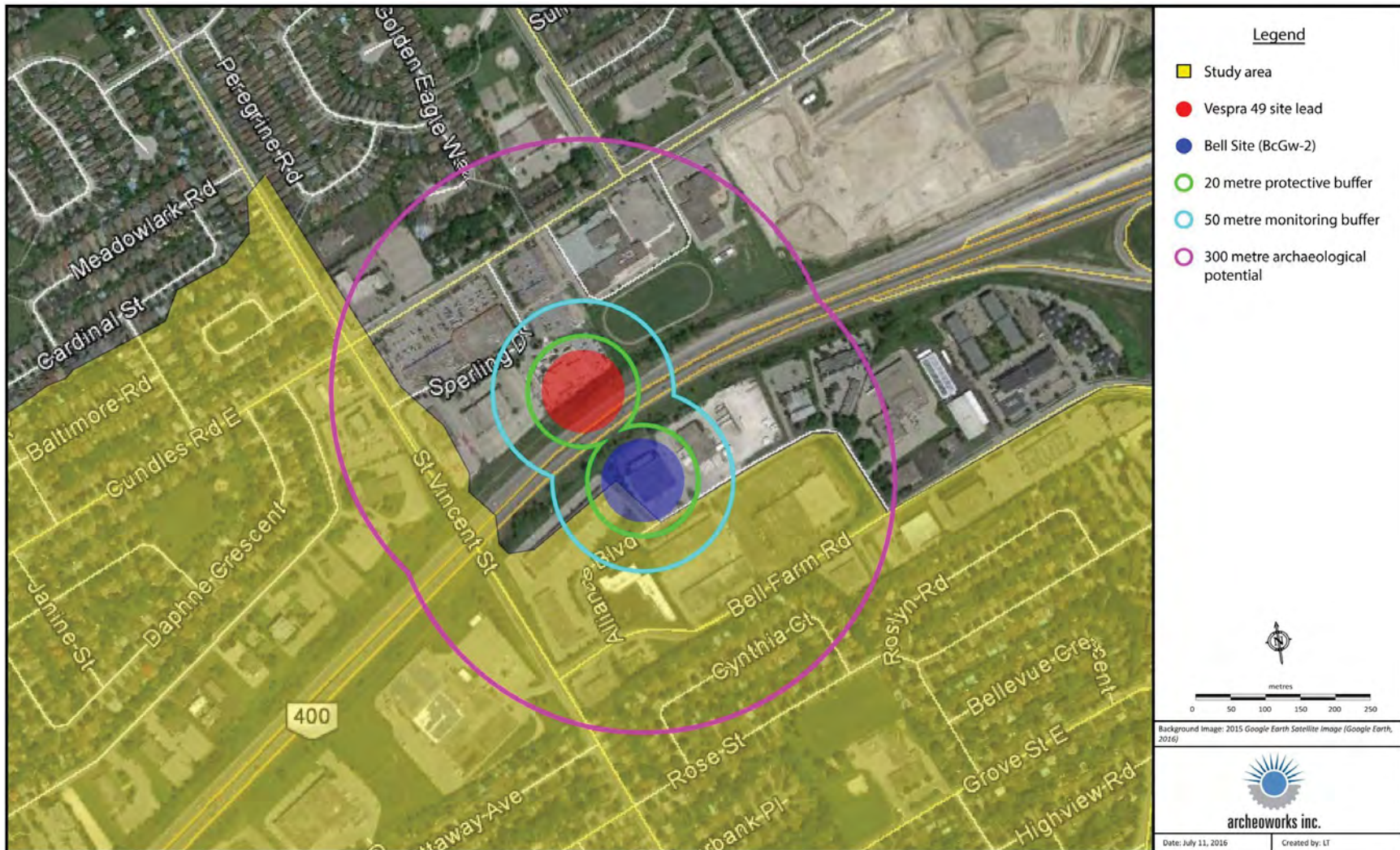
1.0 DETAILED MAPS..... 3

## 1.0 DETAILED MAPS



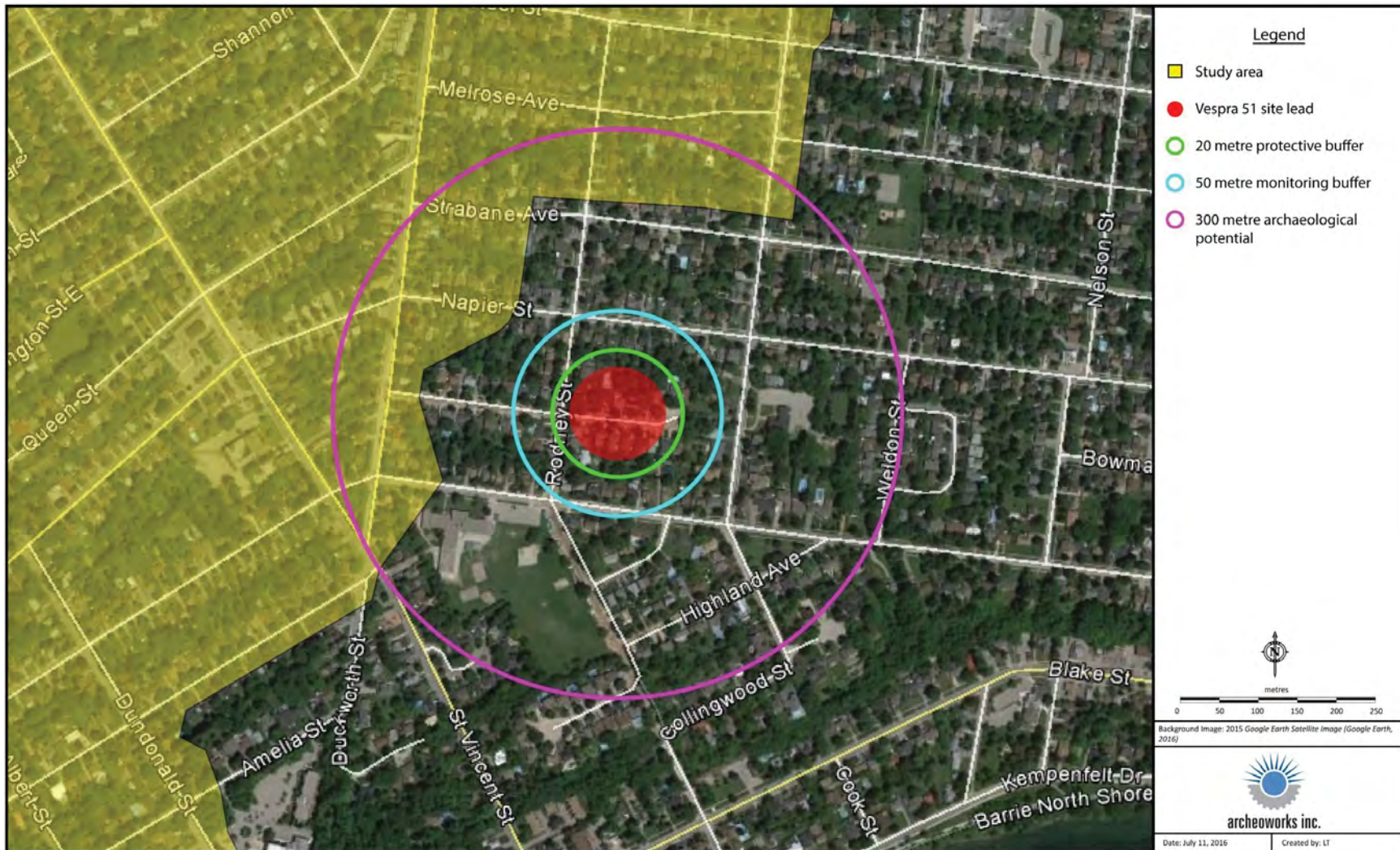
Map S-1: The Stage 1 AA identifying the location of the Nine Mile Portage Route and the site leads within the study area.  
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SUPPLEMENTARY: STAGE 1 AA FOR THE MINOR/MAJOR STORMWATER MODEL DEVELOPMENT AND SOPHIA CREEK CLASS EA CITY OF BARRIE, COUNTY OF SIMCOE, ONTARIO

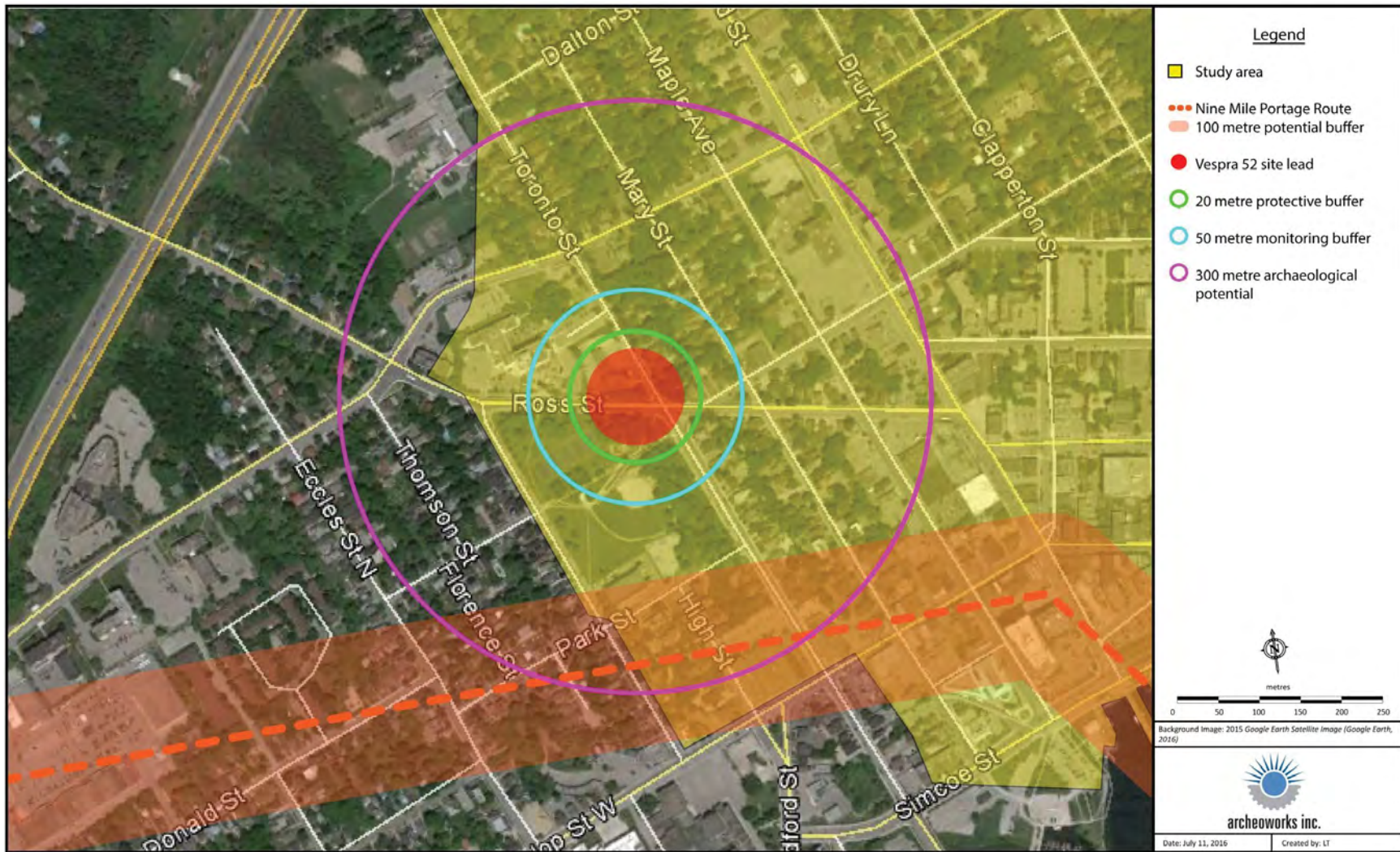


Map S-2: Vespra 49 site lead within the Stage 1 AA study area.

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Map S-3: Vespra 51 site lead within 300 metres of the Stage 1 AA study area.



Map S-4: Vespra 52 site lead within the Stage 1 AA study area.

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