Appendix I:
Archaeological Report (Stage 1)
Nov 21, 2016

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RE: Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "Stage 1 Archaeological Assessment for the Bayview Drive and Big Bay Point Road Transportation Improvements, Phase 3 & 4 Municipal Class Environmental Assessment, In the Geographic Township of Innisfil, Historical County of Simcoe, City of Barrie, Ontario.", Dated Nov 9, 2016, Filed with MTCS Toronto Office on N/A, MTCS Project Information Form Number P390-0156-2015, MTCS File Number 0004242

Dear Mr. Nithiyanantham:

The above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18, has been entered into the Ontario Public Register of Archaeological Reports without technical review.¹

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cc. Archaeology Licensing Officer
    David Perks, C.C. Tatham & Associates Ltd.
    Lloyd Spooner, City of Barrie

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Stage 1 Archaeological Assessment for the
Bayview Drive and Big Bay Point Road
Transportation Improvements
Phase 3 & 4 Municipal Class Environmental Assessment
In the Geographic Township of Innisfil
Historical County of Simcoe
City of Barrie
Ontario

Project #: 091-BA1408-15
Licensee (#): Nimal Nithiyanantham (P390)
PIF#: P390-0156-2015

Original Report

November 9th, 2016

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EXECUTIVE SUMMARY

Archeoworks Inc. was retained by C.C. Tatham & Associates Ltd. to conduct a Stage 1 Archaeological Assessment (AA) in support of the transportation improvements to Bayview Drive and Big Bay Point Road, herein referred to as the “study corridor”. The study corridor is situated within the Geographic Township of Innisfil, historical County of Simcoe, now the City of Barrie, Ontario.

The Stage 1 AA identified elevated potential for the recovery of archaeologically significant materials within the study corridor. Elevated archaeological potential was determined based on the close proximity (within 300 metres) of: a registered archaeological site, a secondary hydrological feature (tributary) and several historic transportation routes.

A detailed review of historical aerial/satellite imagery revealed that the study corridor has undergone significant development since 1954. Disturbances and physiographic features of no or low archaeological potential were identified within the study corridor. Portions of the study corridor that exhibits neither extensively disturbed conditions nor contain physical features of no or low archaeological potential, are considered to retain archaeological potential. These areas of archeological potential include, but are not limited to: woodlots, areas of overgrown vegetation, grassed margins and manicured grass.

The following recommendation is presented:

1. As per Section 1.4.1, Standard 1.f of the 2011 S&G, areas that exhibit disturbed conditions need to be confirmed through an on-site property inspection during a Stage 2 AA.

2. As per Section 2.1, Standard 2.a of the 2011 S&G, lands evaluated as having no or low potential need to be confirmed through an on-site property inspection during a Stage 2 AA.

3. A Stage 2 AA test pit survey at five metre intervals must be undertaken within all identified areas retaining archaeological potential.

4. Should construction activities associated with this development, including construction laydown areas, extend beyond the assessed limits of the study corridor, in order to minimize impacts to cultural heritage resources, further archaeological investigation will be required prior to construction activities.

5. No construction activities shall take place within the study corridor 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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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

In 2010, 2,393 hectares of land were transferred from the Town of Innisfil to the City of Barrie. Over the course of four years, these lands were subjected to a comprehensive master planning exercise, which included the preparation of Multi-Modal Active Transportation Master Plan (MMATMP). The MMATMP was conducted in accordance with the Master plan process, which addressed Phases 1 and 2 of the five-phase Municipal Class Environmental Assessment (Class EA) process. Bayview Drive (from Little Avenue to Big Bay Point Road) and Big Bay Point Road (from Bayview Drive to Huronia Road) are subject to Schedule C, and require completion of Phase 3 & 4 of the Class EA.

Archeoworks Inc. was retained by the C.C. Tatham & Associates Ltd. to conduct a Stage 1 AA in support of the transportation improvements to Bayview Drive and Big Bay Point Road, herein referred to as the “study corridor”. Improvements to Bayview Drive include: equal widening on both sides of the road to three lanes; bicycle lanes; and an urbanized cross section (curb & gutter and sidewalks). Improvements to Big Bay Point Road include: widening to seven lanes (three lanes per direction with a centre median); buffered bicycle lanes; and an urbanized cross section (curb & gutter and sidewalks).

The study corridor encompasses parts of:

- Lots 8 to 11, Concession 12;
- Lots 8 to 11, Concession 13;
- Lots 8 and 9, Concession 14; and,
- the road allowance between Concessions 12 and 13 from Lots 8 to 11.
All in the Geographic Township of Innisfil, historical County of Simcoe, now the City of Barrie, 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 corridor was granted by the C.C. Tatham & Associates Ltd. on August 13th, 2015.

1.3 Historical Context

The 2011 S&G considers areas of early Euro-Canadian settlement, including places of early military pioneer or pioneer settlement (e.g., pioneer homesteads, isolated cabins, and farmstead complexes), early wharf or dock complexes, and pioneer churches and early cemeteries, as having archaeological potential. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks. Early historical transportation routes (trails, passes, roads, railways, portage routes), properties listed in a municipal register or designated under the Ontario Heritage Act or a federal, provincial, or municipal historic landmark or site, and properties that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations are also considered to have archaeological potential.

To establish the archaeological and historical significance of the study corridor, Archeoworks Inc. conducted a comprehensive review of Aboriginal and Euro-Canadian settlement history, the designated and listed heritage properties, commemorative markers as well as consulted with available historical mapping. Furthermore, an examination of the 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. 11,500 to 7,500 B.C.)

The region in which the study corridor 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). Massive amounts of glacial meltwater expanded against the retreating ice boundary in the north, flooding the Huron and Georgian Bay and occupying much of the Simcoe lowlands (Stewart, 2013, p.25). Eventually, the water within these basins coalesced, forming glacial Lake Algonquin, covering “parts or all of Lake Huron, Lake Superior, and Erie basins, which included Lake Simcoe and Lake Couchiching” (Frim, 2002, p.xi; Karrow and Warner, 1990, p.15).
lessening ice load created isostatic rebound, causing abandoned shorelines to tilt northward towards the ice centre and water to accumulate along the southern shorelines. This formed the main glacial strandline of Lake Algonquin, which extended around the southern shore of Lake Simcoe (Karrow and Warner, 1990, p.15). The strandline is marked by a number of erosional and depositional features including high bluffs, off-shore bars, and limestone scarps where wave erosion cut into the bedrock (Storck, 1982, p.9).

The continuing retreat of the glaciers and glacial uplift uncovered a series of lower outlets near North Bay, Ontario and water flooded the Ottawa River (Karrow and Warner, 1990, p.17). The level of Lake Algonquin rapidly fell to form a series of short-lived post-Algonquin lakes located in the Georgian Bay and Lake Huron Basins which “exposed about half the present lake floor areas as dry land” (Larson and Schaetzl, 2001, p.532; Jackson et al, 2000, p.419). These low-water lakes exposed as much as 12,000 to 14,000 kilometres of lake plain along the Ontario side of modern Lake Huron (Jackson, 2004, p.38). Streams and stream valleys extended throughout the flat newly-exposed lake plain, opening large tracts of land available for flora and fauna to colonize (Karrow, 2004, p.8; Karrow and Warner, 1990, p.17). Along this shoreline and the beaches of Lake Algonquin, there is definitive evidence of human occupations corresponding to the Late Paleoindian Period of Southern Ontario (Karrow and Warner, 1990, p.15).

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 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.)
Throughout the Archaic period, water levels fluctuated with the most dramatic elevation increase occurring during the Nipissing Phase. As isostatic uplift continued, drainage through the North Bay outlet was closed off, thus elevating water in the Huron Basin to levels higher than modern heights (Jackson et al, 2000, p.419). This high water phase is known as the “Nipissing Phase, occurring approximately 5000 B.P. (3000 B.C.), which inundated large areas probably previously occupied by humans” (Karrow and Warner, 1990, p.21). It is generally believed that during the Nipissing Phase, water levels achieved the same height as those of Lake Algonquin, thus creating one contiguous lake in the Lake Superior, Lake Michigan, and Lake Huron basins (Jackson et al, 2000, p.419). However, isostatic uplift in the north “meant that most of the Lake Simcoe area of south central Ontario flooded by Algonquin was not reoccupied by Nipissing waters” (Jackson et al, 2000, p.420). Gradually, the high water of the Nipissing phase retreated to current lake levels.

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 B.C. to 0 B.C.)
The Woodland period is divided into subsequent stages of development. 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, 2014, p.48).

Cache Blades, a formal chipped stone technology, and side-notched Meadowood point type, 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 number of distinctive material cultures that function 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 which creates a well-rounded view of the Meadowood culture (Ferris and Spence, 1995, p.90; Spence et al., 1990, p. 128). However, the 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 were “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 southwestern 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-edge 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). Burials 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, 2014, p.51; Ferris and Spence, 1995, p.102).

1.3.1.5 The Late Woodland Period (ca. A.D. 900 to 1600)
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 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 punctuation 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 indicate 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 Attiwhandaron by the Wendat), Petun (Tionnontaté or Khionontateronon) in Ontario, and the
Five 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 16th 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).

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 defendable 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 European Contact Period (ca. A.D. 1600 to 1650)
At the time of European Contact, Huron-Wendat villages were located north of Lake Simcoe, but their territorial hunting grounds stretched roughly between the Canadian Shield, Lake Ontario and the Niagara Escarpment (Warrick, 2008, p.12). It is speculated that four nations: the Attignawantan, Tahontaenrat, Attigneenongnahac, and Arendahronon, amalgamated to form a single Huron-Wendat Confederacy in defense against the continual aggression of the Haudenosaunee (Warrick, 2008, p.11; Trigger, 1994, p.41). At the time of Samuel de Champlain’s visit to the Huron-Wendat territory and prior to the great epidemics of 1630, the Huron-Wendat population was reported to number approximately 30,000 individuals (Heidenreich, 1978, p.36).
Detailed ethnohistorical records left by explorers, Jesuit missionaries, and fur traders provide a history of Euro-Canadian involvement in Huron-Wendat territory. By 1609, Samuel de Champlain had encountered the Arendahronon of the Huron-Wendat. Desiring greater quantities of furs, the French concluded a trading relationship with the Huron-Wendat (Trigger, 1994, p.68; Heidenreich, 1978, p.386). Consequently, the Huron-Wendat became the middlemen for trade goods between the French and their Algonquin, Nippissig, Tionnontaté, and Attiewandaron neighbours. 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). The Huron-Wendat would travel along the Nine-Mile Portage Route beginning at Kempenfeldt Bay to Willow Creek, then into the Nottawasaga River to where it empties into the Georgian Bay to seek trade with the Attiewandaron and Tionnontaté (Jury and Jury, 1956, p.2).

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 killed nearly two-thirds of the Huron-Wendat population, lowering the total population to approximately 10,000 individuals (Warrick 2008, p.245; Heidenreich, 1978, p.369). These epidemics affected children and elderly the worst. The death of their elders deprived the Huron-Wendat of their experienced political, military, and spiritual leaders, leaving them more susceptible to Christian missions and conversion (Trigger, 1994, p.52; Heidenreich, 1978, p.371).

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 Huron-Wendat Confederacy widely dispersed across the Great Lakes region, ultimately resettling in Quebec (Schmalz, 1991, p.17). “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).

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 (MNCFN, ND, p.3). 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. 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).

After a major smallpox epidemic and 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 from 1653 to 1662, 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 Ojibwas moved into Huronia and by 1715, the fur trade recommenced in Simcoe County (Rudychyk, N.D., p.2).

From 1701 to the fall of New France in 1759, the Ojibwa experienced a “golden age” of trade, holding no conclusive alliance with either the British or the French (Schmalz, 1991, p.35). The Ojibwa subsistence primarily focused on hunting, fishing and gathering with little emphasis on agriculture (McMillian and Yellowhorn, 2004, p.110). The Ojibwa, like other groups within the Anishinaabeg, utilized housing known as a wigwam, a temporary and moveable structure that was easy to construct and disassemble allowing them to travel swiftly throughout their territory with little archaeological material left behind (McMillian and Yellowhorn, 2004, p.111).

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,
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)

By 1793, Lieutenant-Governor John Graves Simcoe had arrived at Kempenfeldt Bay on route to locate a military route north to Georgian Bay should the American’s provoke war (Jury and Jury, 1956, pp. 10-11). Simcoe travelled on to the entrance of Penetanguishene Bay and sought to establish a fort in the easily defensible natural harbour (Pencen Museum, 2013). This site would also act as a depot of inter-lake commerce (Belden, 1881, p.4). 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. Settlement around Fort Penetanguishene continued slowly to the War of 1812 (Surtees, 1994, p. 109; Hunter, 1909a, p.12).

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 Aboriginals 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 (Hunter, 1909a, p.15; Surtees, 1994, p.103; N.A., 1891, p. xxiv).

The Township of Innisfil was surveyed in 1820 and contained 68,653 acres of rolling terrain and mostly clay loam soils (Belden, 1881, p. 14). Immediately after the survey, the Hewson family arrived in Innisfil on the point of land at the entrance to Kempenfeldt Bay, then called Hewson’s Point (Belden, 1881, p.14). Before 1830, few dwellings had taken up farms, but the few that had, ventured out to Innisfil and, took up land around what is now called Hewson’s Point (Belden, 1881, p.14; Hunter, 1907b, p.53). By 1850, 1,887 individuals resided within Innisfil and the Township had one grist, five saw mills and cultivated acreage that exceeded fifty percent (Smith, 1851, pp.53-54; Belden, 1881, p.14). Agriculture is the main industry within the Township of Innisfil with a “considerable amount of lumbering done within its borders” (Belden, 1881, p.14).

The Town of Barrie, located on the shore of Kempenfeldt Bay, was primarily settled 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). At 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 cut through 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 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 of 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, which contained a tannery, 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 to Allandale, south of Barrie, and was extended to Barrie in 1865. The railway connected Barrie to 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 19th century (Belden, 1881, p.8; Tourism Barrie, 2014; Downtown Barrie, 2014).

1.3.5 Past Land Use
To assess the study corridor’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, which revealed the study corridor is located within unassigned farm lots of the Township of Innisfil (see Map 2). It should be kept in mind, however, that not all historic features would have been depicted in the Township of Innisfil as the Simcoe Supplement in the Illustrated Atlas of the Dominion of Canada required a paid subscription from the residents in the County of Simcoe (Benson, N.D., p.4). The Hamilton and North Western Railway is depicted as falling within a portion of the study corridor, east of present-day Huronia Road.

In addition, the study corridor encompasses portions of several historic settlement roads, namely present-day Big Bay Point Road, Huronia Road and Little Avenue, which were originally laid out during the survey of the Township of Innisfil. Additionally, the study corridor traverses part of the Hamilton and North West Railway, which appears to have been re-routed over time and is now known as the Barrie-Collingwood Railway. In Southern Ontario, the 2011 S&G considers lands within 300 metres of early Euro-Canadian settlements and 100 metres of early historic transportation routes (e.g., trails, passes, roads, railways, portage routes) to be of elevated archaeological potential (per Section 1.4.1, Standard 1.c, Standard 1.d.). Therefore, based on the close proximity of several historic transportation routes, there is elevated
potential for the location of Euro-Canadian archaeological resources (pre-1900) within portions of the study corridor which lie within 100 metres of these features.

1.3.6 Present Land Use
The present land use of the study corridor can be categorized as urban/transportation.

1.4 Archaeological Context

1.4.1 Designated and Listed Cultural Heritage Resources
Consultation with the online inventory entitled ‘Municipal Heritage Register’ (City of Barrie, N.D.) was reviewed. This source records both municipal properties that have been formally designated under Part IV of the Ontario Heritage Act and listed heritage properties of cultural heritage value, and confirmed the absence of both designated and listed heritage properties within and in proximity to (within 300 metres of) the study corridor.

As no date of creation or maintenance was identified for Municipal Heritage Register, the Heritage Staff Liaison at the City of Barrie was contacted to determine if an updated inventory was available (Templeton, 2015a). No response was granted by report completion.

According to Section 1.3.1 of the 2011 S&G, lands within 300 metres of properties listed in 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. Therefore, based on the absence of heritage properties within or in proximity to (within 300 metres of) the study corridor (as per Section 1.4.1., Standard 1.c.), this feature does not further elevate archaeological potential within the study corridor.

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 a 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.

An inventory of HCDs within the City of Barrie could not be located online. In an attempt to determine if the study corridor is located within or near (within 300 metres) an HCD, the Heritage Staff Liaison at the City of Barrie was contacted (Templeton, 2015a). No response was received by the time of report completion.
1.4.3 Commemorative Plaques or Monuments

According to Section 1.3.1 of the 2011 S&G, lands within 300 metres of Aboriginal and Euro-Canadian settlements where commemorative markers of their history, such as local, provincial, or federal monuments, cairns or plaques, or heritage parks, are considered to have 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. This review identified the presence of a commemorative plaque within 300 metres of the study corridor, attributed to 1928 Olympian Fanny “Bobbie” Rosenfeld, located in front of the Allandale Recreation Centre at the southwest corner of Little Avenue and Bayview Drive. However, given that this commemorative marker is not associated with an Aboriginal or Euro-Canadian settlement (per Section 1.4.1, Standard 1.c), this feature does not further elevate archaeological potential within the study corridor.

1.4.4 Registered Archaeological Sites

In order to provide a summary of registered or known archaeological sites within a minimum one-kilometre distance from the study corridor limits, as per Section 1.1 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, 2015). 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. The study corridor is located within Borden blocks BcGv and BcGw.

According to the MTCS (2015), five archaeological sites have been registered within one-kilometre of the study corridor, where one site (BcGv-7) lies within 300 metres of the study corridor (see Table 1).

The 2011 S&G considers lands within 300 metres of a registered archaeological site to be of elevated archaeological potential. Therefore, given that one archaeological site falls within 300 metres of the study corridor (per Section 1.4.1, Standard 1.c), there is elevated archaeological potential within lands that fall within 300 metres of this site.

Table 1: Registered Archaeological Site within One Kilometre of the Study Corridor

<table>
<thead>
<tr>
<th>Borden #</th>
<th>Name</th>
<th>Cultural Affiliation</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sites within 300 metres of the Study Corridor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BcGv-7</td>
<td>Huronia Road</td>
<td>Late Woodland (Aboriginal, Iroquoian)</td>
<td>Other-camp/campsite; cabin; hamlet</td>
</tr>
<tr>
<td>Sites within one kilometre of the Study Corridor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BcGw-28</td>
<td>Little 2</td>
<td>Late Woodland (Aboriginal, Iroquoian)</td>
<td>Village</td>
</tr>
<tr>
<td>BcGw-33</td>
<td>Gnarly Man</td>
<td>Post-Contact (Euro-Canadian)</td>
<td>Cabin</td>
</tr>
<tr>
<td>BcGw-86</td>
<td>-</td>
<td>Late Woodland (Middleport)</td>
<td>Village</td>
</tr>
<tr>
<td>BcGw-87</td>
<td>-</td>
<td>Late Woodland (Middleport)</td>
<td>-</td>
</tr>
</tbody>
</table>

Having noted the presence of these site in relation to the study corridor, it is useful to place them in the proper context by reviewing the cultural history of occupation in Southern Ontario.
provided in Table 2 (Ferris, 2013, p.13). This data provides an understanding of the potential cultural activity that may have occurred within the study corridor.

### Table 2: History of Occupation in Southern Ontario

<table>
<thead>
<tr>
<th>Period</th>
<th>Archaeological Culture</th>
<th>Date Range</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PALEO-INDIAN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early</td>
<td>Gainey, Barnes, Crowfield</td>
<td>≥11500-8500 BC</td>
<td>Big game hunters. Fluted projectile points</td>
</tr>
<tr>
<td>Late</td>
<td>Holcombe, Hi-Lo, Lanceolate</td>
<td>8500-7500 BC</td>
<td>Small nomadic hunter-gatherer bands. Lanceolate projectile points</td>
</tr>
<tr>
<td>ARCHAIC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early</td>
<td>Side-notched, corner notched, bifurcate-base</td>
<td>7800-6000 BC</td>
<td>Small nomadic hunter-gatherer bands; first notched and stemmed points, and ground stone celts.</td>
</tr>
<tr>
<td>Middle</td>
<td>Otter Creek, Brewerton</td>
<td>6000-2000 BC</td>
<td>Transition to territorial settlements</td>
</tr>
<tr>
<td>Late</td>
<td>Narrow, Broad and Small Points Normanskill, Lamoka, Genesee, Adder Orchard etc.</td>
<td>2500-500 BC</td>
<td>More numerous territorial hunter-gatherer bands; increasing use of exotic materials and artistic items for grave offerings; regional trade networks</td>
</tr>
<tr>
<td>WOODLAND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early</td>
<td>Meadowood, Middlesex</td>
<td>800BC-0BC</td>
<td>Introduction of pottery, burial ceremonialism; panregional trade networks</td>
</tr>
<tr>
<td>Middle</td>
<td>Point Peninsula, Saugeen, Couture: Jack’s Reef Corner Notched</td>
<td>200 BC-AD 900</td>
<td>Cultural and ideological influences from Ohio Valley complex societies; incipient horticulture</td>
</tr>
<tr>
<td>Late</td>
<td>Algonquian, Iroquoian, Western Basin</td>
<td>AD 900-1250</td>
<td>Transition to village life and agriculture</td>
</tr>
<tr>
<td></td>
<td>Algonquian, Iroquoian, Western Basin</td>
<td>AD 1250-1400</td>
<td>Establishment of large palisaded villages</td>
</tr>
<tr>
<td></td>
<td>Algonquian, Iroquoian</td>
<td>AD 1400-1600</td>
<td>Tribal differentiation and warfare</td>
</tr>
<tr>
<td>HISTORIC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early</td>
<td>Huron, Neutral, Petun, Odawa, Ojibwa, Five Nations Iroquois</td>
<td>AD 1600 – 1650</td>
<td>Tribal displacements</td>
</tr>
<tr>
<td>Late</td>
<td>Six Nations Iroquois, Ojibwa, Mississauga</td>
<td>AD 1650 – 1800s</td>
<td>Migrations and resettlement</td>
</tr>
<tr>
<td></td>
<td>Euro-Canadian</td>
<td>AD 1780 - present</td>
<td>European immigrant settlements</td>
</tr>
</tbody>
</table>

### 1.4.5 Previous Archaeological Assessments

In order to further establish the archaeological context of the study corridor, reports documenting previous archaeological fieldwork carried out within the limits of, or immediately adjacent to (i.e., within 50 metres) the study corridor were consulted. One report was identified:

1. REVISED: Report on the 2005 Stage 1-2 AA Huronia Rd Municipal Class EA, Yonge Street to Lockhard Road (To5-HU), part of Lots 10& 11, Concession 11, 12, 13, 14 (formerly Innisfill Township, County of Simcoe), City of Barrie, R.M. of Simcoe (AMICK, date unknown).
In an attempt to adhere to Section 7.5.8, Standard 4 of the 2011 S&G, the MTCS was contacted on December 9th, 2015 in order to obtain copy of above listed report (Templeton, 2014b). No response was received at the time of report completion.

1.4.6 Physical Features
An investigation of the study corridor’s physical features was conducted to aid in the development of an argument for archaeological potential based on the environmental conditions of the study corridor. 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 corridor is located within the Peterborough Drumlin Field physiographic region of Southern Ontario. The Peterborough Drumlin Field physiographic region lies between the Oak Ridges Moraine and Gulf River Formation. It extends from Hastings County to Simcoe County, and includes a portion of Northumberland County. As its name implies, the physiographic is composed of drumlins and is geographically centered around the city of Peterborough (Chapman and Putnam, 1984). Limestone is the underlying rock of the region, and the drumlins are composed of highly calcareous till with local differences. The Peterborough Drumlin field is also noted for its eskers, such as the Cannington, Norwood, Stirling and West Huntington Eskers. The dense drumlinization of the area imposes difficulties for farmers of the region. Roads and farm lines are generally angled with awkwardly shaped fields. The most important cereal crop is corn, and about 40% of farmland is used for grazing. Peterborough is the largest and most centrally located market point, however the city has since outgrown local development and became an independent manufacturing centre (Chapman and Putnam, 1984, pp. 169-172).

The native soil within the study corridor is classified as Tioga sandy loam, a Podzol soil characterized as grey, calcareous outwash sand with good drainage (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).
A tributary bisects the study corridor along Bayview Drive. Therefore, based on the presence of a secondary hydrological feature within the study corridor (per Section 1.4.1, Standard 1.c), there is elevated archaeological potential within portions of the study corridor which lie within 300 metres of this feature.

1.4.7 Current Land Conditions
The study corridor is situated within an urban landscape within the City of Barrie, and currently encompasses Bayview Drive (from Little Avenue to Big Bay Point Road) and Big Bay Point Road (from Bayview Drive to Huronia Road) and their respective road right-of-ways (ROW). The topography within the study corridor slightly inclines north to south along Bayview Drive, from with an elevation of approximately 272 to 279 metres above sea level, and slightly declines along Big Bay Point Road moving west to east, from approximately 279 to 252 metres above sea level.

1.4.8 Date of Review
A detailed desktop review of the study corridor was undertaken on December 15th, 2015, using historical aerial photographs and Google Earth satellite and street view imaging, to systematically review the archaeological potential of the entire study corridor.

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 established within the study corridor boundary. Features contributing to archaeological potential are summarized in Appendix B.
2.0 ANALYSIS AND CONCLUSIONS

A desktop review of the study corridor was carried out using historical aerial photographs and Google Earth satellite and street view imaging. In combination with data gathered from background research (see Sections 1.3 and 1.4), an assessment of archaeological potential was performed.

2.1 Historical Imagery

A detailed review of aerial photographs taken from 1954 to 1978 (see Maps 3-5), and satellite imagery taken in 2015 (see Map 6), reveals that the study corridor has undergone significant changes since 1954.

The 1954 aerial photograph reveals that the study corridor and surrounding landscape was rural and consisted of agricultural fields and some woodlots at the north end of the study corridor (see Map 3). Big Bay Point Road was established as a roadway, but Bayview Drive had not yet been established as a roadway. By 1971, Bayview Drive was established as a roadway and some development can be seen along its western side. Big Bay Point Road remained relatively unchanged, with some residential farmsteads along the south side (see Map 4).

In 1978, the large swath of land northwest of the study corridor began to see major development, including the establishment of Welham Road off of the north side of Big Bay Point Road. Furthermore, almost the entirety of the west side of Bayview Drive was developed (see Map 5). By 2015, the farmland south of Big Bay Point Road was replaced by commercial development and further development was established along the north side of Big Bay Point Road and the east side of Bayview Drive (see Map 6).

2.2 Identified Deep and Extensive Disturbances

The study corridor was evaluated for extensive disturbances that have removed archaeological potential. 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.”

The paved/gravel roadways and driveways; paved sidewalks and parking areas; gravel shoulders; roadside ditches and embankments; extensive landscaping and utilities exhibit disturbed conditions. These land and infrastructure developments, the construction of which often entail soil-grading operations and the installation of utilities essential to service the areas (i.e., hydro, cable, sewer, water, etc.), would have caused extensive and deep disturbance to any archaeological resources that may have been present in the ground, thus resulting in the removal of archaeological potential within their footprints (see Maps 7-8; Appendix C - Images).
However, in accordance with Section 1.4.1 of the 2011 S&G, which requires that both an on-site visual inspection and background research be conducted in order to exempt any area from further Stage 2 survey, 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.

### 2.3 Physiographic Features of No or Low Archaeological Potential

The study corridor was also evaluated for physical features of no or low archaeological potential. These usually include but are not limited to: permanently wet areas, exposed bedrock, and steep slopes (greater than 20°) except in locations likely to contain pictographs or petroglyphs, as per Section 2.1, Standard 2.a. of the 2011 S&G.

Physiographic features of no or low archaeological potential include permanently wet areas associated with a tributary bisecting the study corridor (see Maps 7-8; Image 6). A Stage 2 visual inspection is still required to provide on-site confirmation and documentation of the actual condition and exact extent of the physiographic feature.

### 2.4 Areas of Archaeological Potential

Portions of the study corridor that exhibits neither extensively disturbed conditions nor contain physical features of no or low archaeological potential, are considered to retain archaeological potential. These areas of archeological potential include, but are not limited to: woodlots, areas of overgrown vegetation, grassed margins and manicured grass (see Maps 7-8, Images 2-3, 6-8).
3.0 RECOMMENDATIONS

The following recommendation is presented:

1. As per Section 1.4.1, Standard 1.f of the 2011 S&G, areas that exhibit disturbed conditions need to be confirmed through an on-site property inspection during a Stage 2 AA.

2. As per Section 2.1, Standard 2.a of the 2011 S&G, lands evaluated as having no or low potential need to be confirmed through an on-site property inspection during a Stage 2 AA.

3. A Stage 2 AA test pit survey at five metre intervals must be undertaken within all identified areas retaining archaeological potential.

4. Should construction activities associated with this development, including construction laydown areas, extend beyond the assessed limits of the study corridor, in order to minimize impacts to cultural heritage resources, further archaeological investigation will be required prior to construction activities.

5. No construction activities shall take place within the study corridor 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*.

5.0 BIBLIOGRAPHY AND SOURCES


Ontario Ministry of Tourism, Culture and Sport (2015). *Sites within a One Kilometre Radius of the Project Area*, provided from the Ontario Archaeological Sites Database 09 December 2015.


APPENDICES
APPENDIX A: MAPS

Map 1: National Topographical System Map (Natural Resources Canada, 1998) identifying the Stage 1 AA study corridor.
Map 3: Study corridor within a 1954 aerial photograph (Hunting Survey Corporation Ltd., 1954).
Map 4: Study corridor within a 1971 aerial photograph (Simcoe County Forest Resource Inventory Aerial Photographic Print, 1971).
Map 5: Study Corridor within a 1978 aerial photograph (Simcoe County Forest Resource Inventory Aerial Photographic Print, 1978).
Map 6: Study corridor within a 2015 satellite image (Google Earth, 2015).
Map 7: Stage 1 AA results of the study corridor with photo locations indicated.
Map 8: Stage 1 AA results of the study corridor with photo locations indicated.
## APPENDIX B: SUMMARY OF BACKGROUND RESEARCH

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

Image 1: View of disturbances associated with paved roadways/sidewalks, utilities and landscaping (Google Earth, 2015a).

Image 2: View of disturbances associated with paved roadways/driveway, gravel shoulder, utilities, roadside ditches and landscaping. Also a view of woodlot with archaeological potential (right side) (Google Earth, 2015a).
Image 3: View disturbances associated with paved roadway/driveway, gravel shoulder, and utilities. Also a view of an area of overgrown vegetation retaining archaeological potential within the study corridor (Google Earth, 2015a).

Image 4: View of disturbances associated with paved roadways/parking areas, gravel shoulder, roadside ditching and extant structures (Google Earth, 2015a).
Image 5: View of disturbances associated with paved roadways, utilities, and railway corridor (Google Earth, 2015a).

Image 6: View of disturbances associated with paved roadways and gravel shoulder. Also a view of permanently wet areas associated with a tributary (Google Earth, 2015a).
Image 7: View of disturbances associated with paved road and gravel shoulder/driveway. Also a view of an area of overgrown vegetation retaining archaeological potential (Google Earth, 2015a).

Image 8: View of disturbances associated with paved road and railway corridor (Google Earth, 2015a).
Image 9: View of disturbances associated with paved road/driveways, gravel shoulder, roadside ditching and utilities (Google Earth, 2015a).

Image 10: View of disturbances associated with paved road/sidewalks, and utilities (Google Earth, 2015a).
APPENDIX D: INVENTORY OF DOCUMENTARY AND MATERIAL RECORD

<table>
<thead>
<tr>
<th>Document/ Material</th>
<th>Location</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Research/ Analysis/ Reporting Material</td>
<td>Digital files stored in: /2015/091-BA1408-15 - Bayview Drive + Big Bay Point Road - Barrie</td>
<td>Stored on Archeoworks network servers</td>
</tr>
<tr>
<td>3. Digital Images</td>
<td>Digital Images: 10 Images</td>
<td>Stored on Archeoworks network servers</td>
</tr>
</tbody>
</table>

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.”
Lloyd Spooner

From: Minkin, Dan (MTCS) <Dan.Minkin@ontario.ca>
Sent: Wednesday, March 23, 2016 5:49 PM
To: Lloyd Spooner
Cc: Liu, Chunmei (MOECC)
Subject: Bayview Drive (Big Bay Point to Little Avenue) and Big Bay Point Road (Bayview Drive to Huronia Road) Draft ESR - MTCS Comments
Attachments: 2016-03-23 Bayview Drive and Big Bay Point Road Draft ESR - MTCS Comments.pdf

Please see attached.

Dan Minkin
Heritage Planner
Ministry of Tourism, Culture and Sport
Culture Division | Programs and Services Branch | Heritage Program Unit
401 Bay Street, Suite 1700
Toronto, Ontario M7A 0A7
Tel. 416.314.7147 | Fax. 416.314.7175
March 23, 2016 (EMAIL ONLY)

Mr. Lloyd Spooner, C.E.T.
City of Barrie
Engineering Department
70 Collier Street, P.O. Box 400
Barrie, ON L4M 4T5
E: Lloyd.Spooner@barrie.ca

RE: MTCS file #: 0004242
Proponent: City of Barrie
Subject: Presentation of Alternative Design Solutions
Bayview Drive (Big Bay Point to Little Avenue) and Big Bay Point Road
(Bayview Drive to Huronia Road)
Location: City of Barrie, Ontario

Dear Mr. Spooner:

On February 18, 2016, the Ministry of Tourism, Culture and Sport (MTCS) received a Notice of Presentation of Alternative Solutions for the above-noted project. MTCS’s interest in this EA project relates to its mandate of conserving Ontario’s cultural heritage, which includes:

- Archaeological resources, including land-based and marine;
- Built heritage resources, including bridges and monuments; and,
- Cultural heritage landscapes.

We have reviewed the Draft Environmental Study Report (ESR) for this study and offer the following comments.

The Draft ESR does not mention built heritage resources or cultural heritage landscapes, either in the description of the cultural/heritage environment in Section 4.4, in the description of cultural heritage impacts in Section 5.3 and Tables 6 and 7. The MTCS Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes is normally used to determine whether an EA study has the potential to impact built heritage resources and cultural heritage landscapes, and whether it is therefore necessary for a Cultural Heritage Evaluation Report to be carried out by a qualified heritage professional. In the case of this project, it is unclear whether this screening tool, or any other rationale, has been applied in excluding built heritage impacts from consideration.

The Draft ESR, and the Stage 1 Archaeological Assessment Report provided in Appendix H, makes clear that some portions of the study area that would be impacted by various alternatives retain archaeological potential and require Stage 2 assessment work. It appears that the archaeological assessment has not proceeded to Stage 2, and such survey work is discussed only as a future requirement for construction. Where technical heritage studies such as archaeological surveys are required for alternatives under consideration in an environmental assessment process, they should be carried out early enough in the process that their results can be incorporated in the evaluation of those alternatives and the selection of a preferred alternative. Only by doing so can the evaluation of alternatives properly consider their potential effects on the cultural environment, as is required under the Municipal Class Environmental Assessment. For example, the evaluation of cultural impacts in Tables 6 and 7 compares alternatives on the basis of...
the amount of land with archaeological potential they would impact, and deems those impacting the lesser amount to be preferred from a cultural environment perspective; however, without a pedestrian or test-pit survey of the affected lands to determine the presence or absence of archaeological resources, it is impossible to know which alternative would in fact have the greater impact on archaeological resources.

Thank you for consulting MTCS on this project; please continue to do so through the EA process, and contact me for any questions or clarification.

Sincerely,

Dan Minkin
Heritage Planner
Dan.Minkin@Ontario.ca

Copied to: Chunmei Liu
MOECC

It is the sole responsibility of proponents to ensure that any information and documentation submitted as part of their EA report or file is accurate. MTCS makes no representation or warranty as to the completeness, accuracy or quality of the any checklists, reports or supporting documentation submitted as part of the EA process, and in no way shall MTCS be liable for any harm, damages, costs, expenses, losses, claims or actions that may result if any checklists, reports or supporting documents are discovered to be inaccurate, incomplete, misleading or fraudulent.

Please notify MTCS if archaeological resources are impacted by EA project work. All activities impacting archaeological resources must cease immediately, and a licensed archaeologist is required to carry out an archaeological assessment in accordance with the Ontario Heritage Act and the Standards and Guidelines for Consultant Archaeologists.

If human remains are encountered, all activities must cease immediately and the local police as well as the Cemeteries Regulation Unit of the Ministry of Government and Consumer Services must be contacted. In situations where human remains are associated with archaeological resources, MTCS should also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the Ontario Heritage Act.
October 24, 2016 via e-mail: Dan.Minkin@Ontario.ca
CCTA File 415375

Dan Minkin
Heritage Planner
Ministry of Tourism, Culture & Sport
401 Bay Street, Suite 1700
Toronto, ON M7A 0A7

Re: Bayview Drive & Big Bay Point Road Class EA – Draft ESR (MTCS File #0004242)
Response to MTCS Comments

Dear Mr. Minkin:

As requested by the City of Barrie, we have reviewed the comments provided by the Ministry of Tourism, Culture & Sport (received by the City via email in the letter dated March 23, 2016) in relation to the Draft Environmental Study Report submitted in support of the Bayview Drive and Big Bay Point Road Municipal Class Environmental Assessment. Our response to the Ministry’s comments is provided below. For ease of reference we have included the Ministry’s comments in italics followed by our response.

1) The Draft ESR does not mention built heritage resources or cultural heritage landscapes, either in the description of the cultural/heritage environment in Section 4.4, in the description of cultural heritage impacts in Section 5.3 and Tables 6 and 7. The MTCS Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes is normally used to determine whether an EA study has the potential to impact built heritage resources and cultural heritage landscapes, and whether it is therefore necessary for a Cultural Heritage Evaluation Report to be carried out by a qualified heritage professional. In the case of this project, it is unclear whether this screening tool, or any other rationale, has been applied in excluding built heritage impacts from consideration.

The Draft ESR will be revised to include consideration for built heritage resources and cultural heritage landscapes. It is noted that a review of the City’s inventoried heritage properties, cultural heritage points and cultural trails did not identify any built heritage resources or cultural heritage landscapes within the study area. Furthermore, the Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes screening tool checklist has also been reviewed, the results of which indicate that a Cultural Heritage Evaluation Report is
The Draft ESR will be updated to document the process by which the built heritage resources and cultural heritage landscapes have been considered.

2) The Draft ESR, and the Stage 1 Archaeological Assessment Report provided in Appendix H, makes clear that some portions of the study area that would be impacted by various alternatives retain archaeological potential and require Stage 2 assessment work. It appears that the archaeological assessment has not proceeded to Stage 2, and such survey work is discussed only as a future requirement for construction. Where technical heritage studies such as archaeological surveys are required for alternatives under consideration in an environmental assessment process, they should be carried out early enough in the process that their results can be incorporated in the evaluation of those alternatives and the selection of a preferred alternative. Only by doing so can the evaluation of alternatives properly consider their potential effects on the cultural environment, as is required under the Municipal Class Environmental Assessment. For example, the evaluation of cultural impacts in Table 6 and 7 compares alternatives on the basis of the amount of land with archaeological potential they would impact, and deems those impacting the lesser amount to be preferred from a cultural environment perspective; however, without a pedestrian or test-pit survey of the affected lands to determine the presence or absence of archaeological resources, it is impossible to know which alternative would in fact have the greater impact on archaeological resources.

The approach employed in evaluating the potential impacts of each alternative on the cultural environment considers the results of the Stage 1 assessment and the amount of land identified for Stage 2 assessment under each alternative. The rationale to this approach recognizes that the specific parcels of land identified for Stage 2 assessment are the same for each alternative and only vary in size based on the footprint of each alternative. Thus it is impossible (in this circumstance) for an alternative with a smaller Stage 2 requirement to have a greater impact on the cultural environment than an alternative with a greater Stage 2 requirement, recognizing that the same specific parcels of land have been identified for Stage 2 assessment under both alternatives. Our approach is considered conservative in that it assumes that the alternative with the greatest Stage 2 requirement has the greatest potential to impact the cultural environment. This is a worst case scenario given that it is far more likely that the impact to the cultural environment will be the same for all alternatives. As noted in the Stage 1 Assessment, the areas identified for Stage 2 review are nearly identical for each alternative (in fact, the Stage 2 area is such that a single set of test-pits would be sufficient to evaluate all of the design alternatives). At any rate, the alternatives with the greatest Stage 2 requirements will in no way have a lesser impact on the cultural environment than those alternatives with a lesser Stage 2 requirement. In this respect, our evaluation approach is considered sufficient.
The Draft ESR will be revised to provide a clearer explanation of how the impacts to the cultural environment have been considered and evaluated. It is further noted that upon identification of the preferred solution, the Stage 1 assessment will be reviewed to confirm the Stage 2 requirements. At such time, the Stage 2 assessment will be completed and incorporated to the ESR.

We appreciate the comments provided by the Ministry of Tourism, Culture and Sport and trust that our responses satisfy the comments/concerns expressed. Should you require any further clarification or wish to discuss the matter, please do not hesitate to contact us.

Yours truly,
C.C. Tatham & Associates Ltd.

Michael Cullip, P.Eng
Director, Manager - Transportation & Municipal Engineering
DP: dp
The purpose of the checklist is to determine:

- if a property(ies) or project area:
  - is a recognized heritage property
  - may be of cultural heritage value
- it includes all areas that may be impacted by project activities, including – but not limited to:
  - the main project area
  - temporary storage
  - staging and working areas
  - temporary roads and detours

Processes covered under this checklist, such as:

- Planning Act
- Environmental Assessment Act
- Aggregates Resources Act
- Ontario Heritage Act – Standards and Guidelines for Conservation of Provincial Heritage Properties

Cultural Heritage Evaluation Report (CHER)

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a qualified person(s) (see page 5 for definitions) to undertake a cultural heritage evaluation report (CHER).

The CHER will help you:

- identify, evaluate and protect cultural heritage resources on your property or project area
- reduce potential delays and risks to a project

Other checklists

Please use a separate checklist for your project, if:

- you are seeking a Renewable Energy Approval under Ontario Regulation 359/09 – separate checklist
- your Parent Class EA document has an approved screening criteria (as referenced in Question 1)

Please refer to the Instructions pages for more detailed information and when completing this form.
The purpose of the checklist is to determine:

- if a property(ies) or project area:
  - is a recognized heritage property
  - may be of cultural heritage value
- it includes all areas that may be impacted by project activities, including – but not limited to:
  - the main project area
  - temporary storage
  - staging and working areas
  - temporary roads and detours

Processes covered under this checklist, such as:

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- Environmental Assessment Act
- Aggregates Resources Act
- Ontario Heritage Act – Standards and Guidelines for Conservation of Provincial Heritage Properties

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- you are seeking a Renewable Energy Approval under Ontario Regulation 359/09 – separate checklist
- your Parent Class EA document has an approved screening criteria (as referenced in Question 1)

Please refer to the Instructions pages for more detailed information and when completing this form.
Project or Property Name
Bayview Drive/Big Bay Point Road Transportation Improvement Class EA

Project or Property Location (upper and lower or single tier municipality)
City of Barrie

Proponent Name
City of Barrie

Proponent Contact Information
Lloyd Spooner

Screening Questions

1. Is there a pre-approved screening checklist, methodology or process in place?
   
   If Yes, please follow the pre-approved screening checklist, methodology or process.
   If No, continue to Question 2.

Part A: Screening for known (or recognized) Cultural Heritage Value

2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?
   
   If Yes, do not complete the rest of the checklist.
   The proponent, property owner and/or approval authority will:
   • summarize the previous evaluation and
   • add this checklist to the project file, with the appropriate documents that demonstrate a cultural heritage evaluation was undertaken
   
   The summary and appropriate documentation may be:
   • submitted as part of a report requirement
   • maintained by the property owner, proponent or approval authority
   
   If No, continue to Question 3.

3. Is the property (or project area):
   
   a. identified, designated or otherwise protected under the Ontario Heritage Act as being of cultural heritage value?
   
   b. a National Historic Site (or part of)?
   c. designated under the Heritage Railway Stations Protection Act?
   d. designated under the Heritage Lighthouse Protection Act?
   e. identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office (FHBRO)?
   f. located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?

   If Yes to any of the above questions, you need to hire a qualified person(s) to undertake:
   • a Cultural Heritage Evaluation Report, if a Statement of Cultural Heritage Value has not previously been prepared or the statement needs to be updated
   
   If a Statement of Cultural Heritage Value has been prepared previously and if alterations or development are proposed, you need to hire a qualified person(s) to undertake:
   • a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

   If No, continue to Question 4.
### Part B: Screening for Potential Cultural Heritage Value

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

4. Does the property (or project area) contain a parcel of land that:
   - is the subject of a municipal, provincial or federal commemorative or interpretive plaque? ✔
   - has or is adjacent to a known burial site and/or cemetery? ✔
   - is in a Canadian Heritage River watershed? ✔
   - contains buildings or structures that are 40 or more years old? ✔

### Part C: Other Considerations

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

5. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area):
   - is considered a landmark in the local community or contains any structures or sites that are important in defining the character of the area? ✔
   - has a special association with a community, person or historical event? ✔
   - contains or is part of a cultural heritage landscape? ✔

**If Yes** to one or more of the above questions (Part B and C), there is potential for cultural heritage resources on the property or within the project area.

You need to hire a qualified person(s) to undertake:
- a Cultural Heritage Evaluation Report (CHER)

If the property is determined to be of cultural heritage value and alterations or development is proposed, you need to hire a qualified person(s) to undertake:
- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

**If No** to all of the above questions, there is low potential for built heritage or cultural heritage landscape on the property.

The proponent, property owner and/or approval authority will:
- summarize the conclusion
- add this checklist with the appropriate documentation to the project file

The summary and appropriate documentation may be:
- submitted as part of a report requirement e.g. under the *Environmental Assessment Act, Planning Act* processes
- maintained by the property owner, proponent or approval authority
Instructions

Please have the following available, when requesting information related to the screening questions below:

- a clear map showing the location and boundary of the property or project area
- large scale and small scale showing nearby township names for context purposes
- the municipal addresses of all properties within the project area
- the lot(s), concession(s), and parcel number(s) of all properties within a project area

For more information, see the Ministry of Tourism, Culture and Sport's Ontario Heritage Toolkit or Standards and Guidelines for Conservation of Provincial Heritage Properties.

In this context, the following definitions apply:

- **qualified person(s)** means individuals – professional engineers, architects, archaeologists, etc. – having relevant, recent experience in the conservation of cultural heritage resources.
- **proponent** means a person, agency, group or organization that carries out or proposes to carry out an undertaking or is the owner or person having charge, management or control of an undertaking.

## 1. Is there a pre-approved screening checklist, methodology or process in place?

An existing checklist, methodology or process may already be in place for identifying potential cultural heritage resources, including:

- one endorsed by a municipality
- an environmental assessment process e.g. screening checklist for municipal bridges
- one that is approved by the Ministry of Tourism, Culture and Sport (MTCS) under the Ontario government’s Standards & Guidelines for Conservation of Provincial Heritage Properties [s.B.2.]

### Part A: Screening for known (or recognized) Cultural Heritage Value

#### 2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?

Respond ‘yes’ to this question, if all of the following are true:

A property can be considered not to be of cultural heritage value if:

- a Cultural Heritage Evaluation Report (CHER) - or equivalent - has been prepared for the property with the advice of a qualified person and it has been determined not to be of cultural heritage value and/or
- the municipal heritage committee has evaluated the property for its cultural heritage value or interest and determined that the property is not of cultural heritage value or interest

A property may need to be re-evaluated, if:

- there is evidence that its heritage attributes may have changed
- new information is available
- the existing Statement of Cultural Heritage Value does not provide the information necessary to manage the property
- the evaluation took place after 2005 and did not use the criteria in Regulations 9/06 and 10/06

**Note:** Ontario government ministries and public bodies [prescribed under Regulation 157/10] may continue to use their existing evaluation processes, until the evaluation process required under section B.2 of the Standards & Guidelines for Conservation of Provincial Heritage Properties has been developed and approved by MTCS.

To determine if your property or project area has been evaluated, contact:

- the approval authority
- the proponent
- the Ministry of Tourism, Culture and Sport

### 3a. Is the property (or project area) identified, designated or otherwise protected under the Ontario Heritage Act as being of cultural heritage value e.g.:

i. designated under the *Ontario Heritage Act*

- individual designation (Part IV)
- part of a heritage conservation district (Part V)
Individual Designation – Part IV

A property that is designated:

- by a municipal by-law as being of cultural heritage value or interest [s.29 of the *Ontario Heritage Act*]
- by order of the Minister of Tourism, Culture and Sport as being of cultural heritage value or interest of provincial significance [s.34.5]. **Note:** To date, no properties have been designated by the Minister.

Heritage Conservation District – Part V

A property or project area that is located within an area designated by a municipal by-law as a heritage conservation district [s. 41 of the *Ontario Heritage Act*].

For more information on Parts IV and V, contact:

- municipal clerk
- *Ontario Heritage Trust*
- local land registry office (for a title search)

**ii. subject of an agreement, covenant or easement entered into under Parts II or IV of the *Ontario Heritage Act***

An agreement, covenant or easement is usually between the owner of a property and a conservation body or level of government. It is usually registered on title.

The primary purpose of the agreement is to:

- preserve, conserve, and maintain a cultural heritage resource
- prevent its destruction, demolition or loss

For more information, contact:

- *Ontario Heritage Trust* - for an agreement, covenant or easement [clause 10 (1) (c) of the *Ontario Heritage Act*]
- municipal clerk – for a property that is the subject of an easement or a covenant [s.37 of the *Ontario Heritage Act*]
- local land registry office (for a title search)

**iii. listed on a register of heritage properties maintained by the municipality**

Municipal registers are the official lists - or record - of cultural heritage properties identified as being important to the community.

Registers include:

- all properties that are designated under the *Ontario Heritage Act* (Part IV or V)
- properties that have not been formally designated, but have been identified as having cultural heritage value or interest to the community

For more information, contact:

- municipal clerk
- municipal heritage planning staff
- municipal heritage committee

**iv. subject to a notice of:**

- intention to designate (under Part IV of the *Ontario Heritage Act*)
- a Heritage Conservation District study area bylaw (under Part V of the *Ontario Heritage Act*)

A property that is subject to a **notice of intention to designate** as a property of cultural heritage value or interest and the notice is in accordance with:

- section 29 of the *Ontario Heritage Act*
- section 34.6 of the *Ontario Heritage Act*. **Note:** To date, the only applicable property is Meldrum Bay Inn, Manitoulin Island. [s.34.6]

An area designated by a municipal by-law made under section 40.1 of the *Ontario Heritage Act* as a **heritage conservation district study area**.

For more information, contact:

- municipal clerk – for a property that is the subject of notice of intention [s. 29 and s. 40.1]
- *Ontario Heritage Trust*
Provincial heritage properties are properties the Government of Ontario owns or controls that have cultural heritage value or interest. The Ministry of Tourism, Culture and Sport (MTCS) maintains a list of all provincial heritage properties based on information provided by ministries and prescribed public bodies. As they are identified, MTCS adds properties to the list of provincial heritage properties.

For more information, contact the MTCS Registrar at registrar@mtc.gov.on.ca.

### 3b. Is the property (or project area) a National Historic Site (or part of)?

National Historic Sites are properties or districts of national historic significance that are designated by the Federal Minister of the Environment, under the *Canada National Parks Act*, based on the advice of the Historic Sites and Monuments Board of Canada.

For more information, see the [National Historic Sites website](#).

### 3c. Is the property (or project area) designated under the *Heritage Railway Stations Protection Act*?

The *Heritage Railway Stations Protection Act* protects heritage railway stations that are owned by a railway company under federal jurisdiction. Designated railway stations that pass from federal ownership may continue to have cultural heritage value.

For more information, see the [Directory of Designated Heritage Railway Stations](#).

### 3d. Is the property (or project area) designated under the *Heritage Lighthouse Protection Act*?

The *Heritage Lighthouse Protection Act* helps preserve historically significant Canadian lighthouses. The Act sets up a public nomination process and includes heritage building conservation standards for lighthouses which are officially designated.

For more information, see the [Heritage Lighthouses of Canada](#) website.

### 3e. Is the property (or project area) identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office?

The role of the Federal Heritage Buildings Review Office (FHBRO) is to help the federal government protect the heritage buildings it owns. The policy applies to all federal government departments that administer real property, but not to federal Crown Corporations.

For more information, contact the [Federal Heritage Buildings Review Office](#).

See a [directory of all federal heritage designations](#).

### 3f. Is the property (or project area) located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?

A UNESCO World Heritage Site is a place listed by UNESCO as having outstanding universal value to humanity under the Convention Concerning the Protection of the World Cultural and Natural Heritage. In order to retain the status of a World Heritage Site, each site must maintain its character defining features.

Currently, the Rideau Canal is the only World Heritage Site in Ontario.

For more information, see Parks Canada – [World Heritage Site website](#).

### Part B: Screening for potential Cultural Heritage Value

#### 4a. Does the property (or project area) contain a parcel of land that has a municipal, provincial or federal commemorative or interpretive plaque?

Heritage resources are often recognized with formal plaques or markers.

Plaques are prepared by:

- municipalities
- provincial ministries or agencies
- federal ministries or agencies
- local non-government or non-profit organizations
For more information, contact:

- municipal heritage committees or local heritage organizations – for information on the location of plaques in their community
- Ontario Historical Society’s [Heritage directory](#) – for a list of historical societies and heritage organizations
- Ontario Heritage Trust – for a list of plaques commemorating Ontario’s history
- Historic Sites and Monuments Board of Canada – for a list of plaques commemorating Canada’s history

<table>
<thead>
<tr>
<th>4b. Does the property (or project area) contain a parcel of land that has or is adjacent to a known burial site and/or cemetery?</th>
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<tbody>
<tr>
<td>For more information on known cemeteries and/or burial sites, see:</td>
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<tr>
<td>- Cemeteries Regulations, Ontario Ministry of Consumer Services – for a <a href="#">database of registered cemeteries</a></td>
</tr>
<tr>
<td>- Ontario Genealogical Society (OGS) – to <a href="#">locate records of Ontario cemeteries</a>, both currently and no longer in existence; cairns, family plots and burial registers</td>
</tr>
<tr>
<td>- Canadian County Atlas Digital Project – to <a href="#">locate early cemeteries</a></td>
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<td>In this context, adjacent means contiguous or as otherwise defined in a municipal official plan.</td>
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<tr>
<th>4c. Does the property (or project area) contain a parcel of land that is in a Canadian Heritage River watershed?</th>
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<tbody>
<tr>
<td>The Canadian Heritage River System is a national river conservation program that promotes, protects and enhances the best examples of Canada’s river heritage.</td>
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<tr>
<td>Canadian Heritage Rivers must have, and maintain, outstanding natural, cultural and/or recreational values, and a high level of public support.</td>
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<tr>
<td>For more information, contact the <a href="#">Canadian Heritage River System</a>.</td>
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<td>If you have questions regarding the boundaries of a watershed, please contact:</td>
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<tr>
<td>- your conservation authority</td>
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<td>- municipal staff</td>
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<tr>
<th>4d. Does the property (or project area) contain a parcel of land that contains buildings or structures that are 40 or more years old?</th>
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<tbody>
<tr>
<td>A 40 year ‘rule of thumb’ is typically used to indicate the potential of a site to be of cultural heritage value. The approximate age of buildings and/or structures may be estimated based on:</td>
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<tr>
<td>- history of the development of the area</td>
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<td>- fire insurance maps</td>
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<td>- architectural style</td>
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<tr>
<td>- building methods</td>
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<tr>
<td>Property owners may have information on the age of any buildings or structures on their property. The municipality, local land registry office or library may also have background information on the property.</td>
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<tr>
<td>Note: 40+ year old buildings or structure do not necessarily hold cultural heritage value or interest; their age simply indicates a higher potential.</td>
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<tr>
<td>A building or structure can include:</td>
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<tr>
<td>- residential structure</td>
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<td>- farm building or outbuilding</td>
</tr>
<tr>
<td>- industrial, commercial, or institutional building</td>
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<tr>
<td>- remnant or ruin</td>
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<td>- engineering work such as a bridge, canal, dams, etc.</td>
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<tr>
<td>For more information on researching the age of buildings or properties, see the Ontario Heritage Tool Kit Guide <a href="#">Heritage Property Evaluation</a>.</td>
</tr>
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## Part C: Other Considerations

### 5a. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) is considered a landmark in the local community or contains any structures or sites that are important to defining the character of the area?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has potential landmarks or defining structures and sites, for instance:

- buildings or landscape features accessible to the public or readily noticeable and widely known
- complexes of buildings
- monuments
- ruins

### 5b. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) has a special association with a community, person or historical event?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has a special association with a community, person or event of historic interest, for instance:

- Aboriginal sacred site
- traditional-use area
- battlefield
- birthplace of an individual of importance to the community

### 5c. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) contains or is part of a cultural heritage landscape?

Landscapes (which may include a combination of archaeological resources, built heritage resources and landscape elements) may be of cultural heritage value or interest to a community.

For example, an Aboriginal trail, historic road or rail corridor may have been established as a key transportation or trade route and may have been important to the early settlement of an area. Parks, designed gardens or unique landforms such as waterfalls, rock faces, caverns, or mounds are areas that may have connections to a particular event, group or belief.

For more information on Questions 5.a., 5.b. and 5.c., contact:

- Elders in Aboriginal Communities or community researchers who may have information on potential cultural heritage resources. Please note that Aboriginal traditional knowledge may be considered sensitive.
- municipal heritage committees or local heritage organizations
- Ontario Historical Society’s "Heritage Directory" - for a list of historical societies and heritage organizations in the province

An internet search may find helpful resources, including:

- historical maps
- historical walking tours
- municipal heritage management plans
- cultural heritage landscape studies
- municipal cultural plans

Information specific to trails may be obtained through Ontario Trails.
Hi David,

Thank you for the letter of October 24. As I see both issues have been explicitly addressed in the November 10 draft of the ESR, I have no concerns with that draft.

Dan Minkin
Heritage Planner
Ministry of Tourism, Culture and Sport
Culture Division | Programs and Services Branch | Heritage Program Unit
401 Bay Street, Suite 1700
Toronto, Ontario M7A 0A7
Tel. 416.314.7147 | Fax. 416.314.7175

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Hello Dan,

On behalf of the City of Barrie, please find attached our response to the comments provided by the Ministry for Tourism, Culture and Sport (letter dated March 23, 2016) with respect to the Municipal Class EA being undertaken by the City of Barrie for the proposed improvements along Bayview Drive (from Big Bay Point Rd to Little Ave.) and along Big Bay Point Road (from Little Ave to Huronia Rd).

I will follow-up with a phone call in a day or so to discuss the file and to make sure we have adequately addressed your concerns.

Kind regards,
David

David Perks, M.Sc., PTP
Transportation Planner