



REPORT

STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT

CBM Proposed Lanci Pit Extension, Part of Lot 25, Concession 1, Township of Puslinch, County of Wellington, Ontario

Submitted to:

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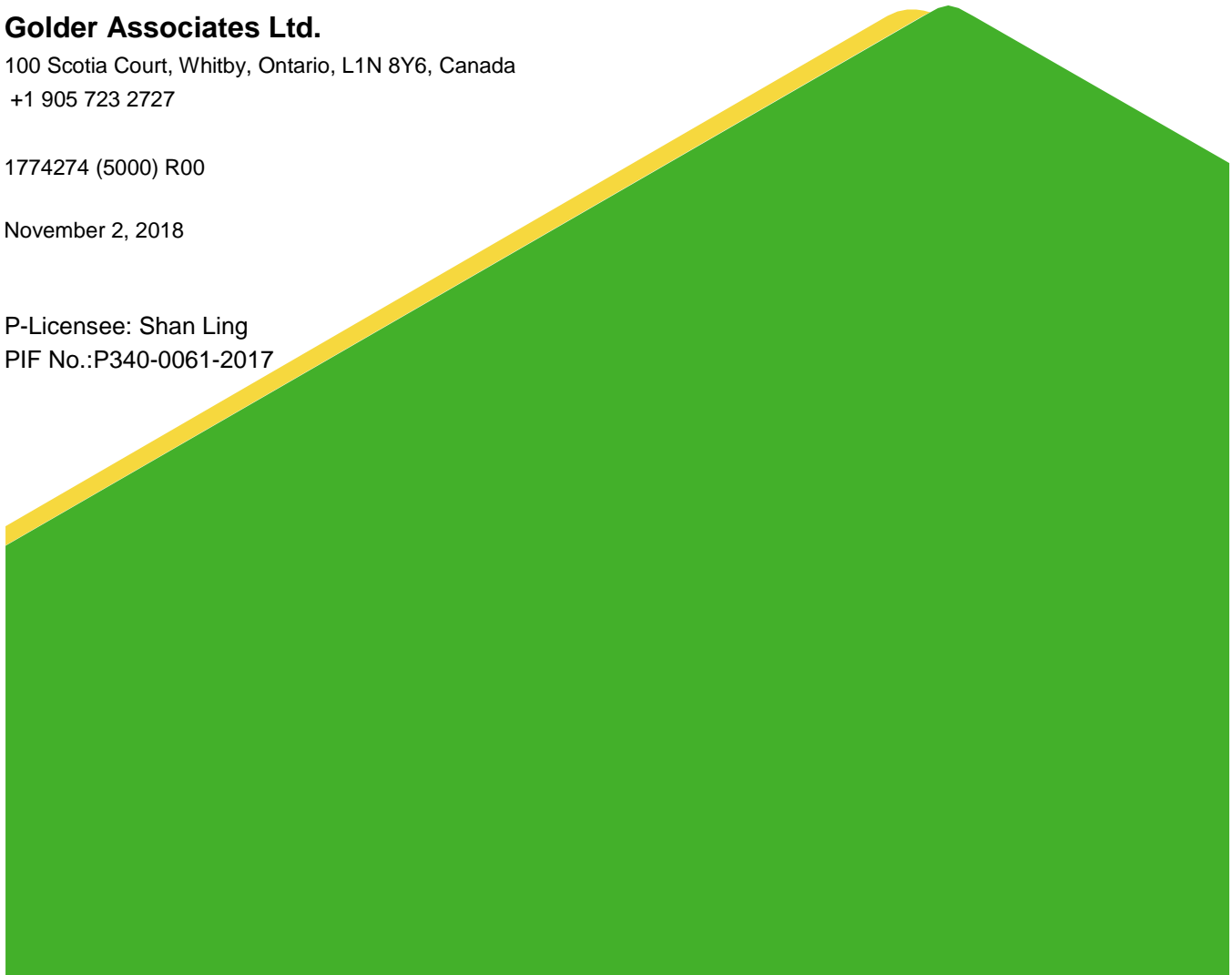
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November 2, 2018

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PIF No.:P340-0061-2017



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EXECUTIVE SUMMARY

The Executive Summary highlights key points from the report only; for complete information and findings, as well as the limitations, the reader should examine the complete report.

A Stage 1 and 2 archaeological assessment was conducted on behalf of CBM Aggregates Ltd. (CBM), a division of Votorantim Cimentos North America (VCNA) (the client) by Golder Associates Ltd. (Golder) in support of a licence application for extraction under the Aggregate Resources Act (ARA) adjacent to the existing CBM Lanci Pit, in the Township of Puslinch. The study area was reduced in size after archaeological assessment had taken place. The entire original study area is presented in this report and is approximately 17 hectares in size and is currently a combination of forested areas and manicured lawn. The study area includes a portion of Lot 25, Concession 1 in Puslinch Township in the County of Wellington, Ontario (Map 1).

The objective of the Stage 1 assessment was to compile all available information about the known and potential archaeological resources within the study area and to provide direction for the protection, management and/or recovery of these resources, consistent with Ministry of Tourism, Culture and Sport (MTCS) guidelines (MTCS 2011). The Stage 1 background study found potential to exist within the study area for the recovery of pre-contact and historic Indigenous and Euro-Canadian archaeological resources.

The objectives of the Stage 2 archaeological assessment were to provide an overview of archaeological resources on the property and to determine whether any of the resources might be artifacts and archaeological sites with cultural heritage value or interest and to provide specific direction for the protection, management and/or recovery of these resources. Areas recommended for Stage 2 assessment were surveyed by means of shovel test pitting. The Stage 2 archaeological assessment resulted in the recovery of zero artifacts.

No further archaeological assessment is recommended for the defined study area for the extension of the existing CBM Lanci Pit, in the Township of Puslinch, Ontario.

The MTCS is asked to review the results and recommendations presented herein and accept this report into the Provincial Register of archaeological reports. The MTCS is also asked to provide a letter concurring with the results presented herein.

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Table of Contents

| | |
|-------------------------------------------------------------------------------------------|-----------|
| 1.0 PROJECT CONTEXT | 1 |
| 1.1 Development Context..... | 1 |
| 1.2 Historical Context | 2 |
| 1.2.1 Historical Indigenous Occupation of Southern Ontario..... | 2 |
| 1.2.2 Puslinch Township, Wellington County..... | 2 |
| 1.2.2.1 Lot 25, Concession 1, Township of Puslinch | 3 |
| 1.3 Archaeological Context | 3 |
| 1.3.1 The Natural Environment | 3 |
| 1.3.2 General Overview of the Pre-Contact Period in Southern Ontario | 4 |
| 1.3.3 Pre-historic Indigenous Documentation | 4 |
| 1.3.3.1 Paleo Period | 5 |
| 1.3.3.2 Archaic Period..... | 5 |
| 1.3.3.3 Woodland Period | 7 |
| 1.3.4 Previously Identified Archaeological Sites and Surveys..... | 9 |
| 1.3.5 Assessing Archaeological Potential | 10 |
| 1.3.5.1 Archaeological Integrity..... | 11 |
| 1.3.5.2 Potential for Pre-contact and Historical Indigenous Archaeological Resources..... | 11 |
| 1.3.5.3 Potential for Euro-Canadian Archaeological Resources | 12 |
| 2.0 FIELD METHODS | 13 |
| 2.1 Existing Conditions..... | 13 |
| 2.2 Field Survey Methods | 13 |
| 3.0 RECORD OF FINDS | 15 |
| 4.0 ANALYSIS AND CONCLUSIONS..... | 16 |
| 5.0 RECOMMENDATIONS | 17 |
| 6.0 ADVICE ON COMPLIANCE WITH LEGISLATION..... | 18 |
| 7.0 BIBLIOGRAPHY AND SOURCES | 19 |
| 8.0 IMAGES | 22 |

| | |
|------------------------------------------------------------------------|-----------|
| 9.0 MAPS | 37 |
| 10.0 IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT | 44 |

TABLES

| | |
|-------------------------------------------------------------------------------------------------------------|----|
| Table 1: Cultural Chronology for Southern Ontario, based on chapters in Ellis and Ferris (eds.) (1990)..... | 4 |
| Table 2: Registered Archaeology Sites within 2 kilometres of Study Area | 10 |
| Table 3: Weather Conditions during Stage 2 Assessment of Study Area..... | 13 |
| Table 4: Inventory of Documentary Record..... | 15 |

IMAGES

| | |
|-------------------------------------------------------------------------------------------------------------------------------|----|
| Image 1: CBM Lanci Stage 2, gravel driveway into extant home, forest test pit at 5m intervals, facing west. | 22 |
| Image 2: CBM Lanci Stage 2, area of disturbance, demolished home, facing west. | 22 |
| Image 3: CBM Lanci Stage 2, forest subject to test pit survey at 5m intervals, facing west. | 22 |
| Image 4: CBM Lanci Stage 2, area of disturbance, abandoned shed, facing north..... | 23 |
| Image 5: CBM Lanci Stage 2, area of steep slope, facing north. | 23 |
| Image 6: CBM Lanci Stage 2, forest subject to test pit survey at 5m intervals, facing west. | 23 |
| Image 7: CBM Lanci Stage 2, forest subject to test pit survey at 5m intervals, facing west. | 24 |
| Image 8: CBM Lanci Stage 2, forest subject to test pit survey at 5m intervals, facing east..... | 24 |
| Image 9: CBM Lanci Stage 2, test pit survey at 5m interval to confirm disturbance surrounding extant house, facing east. | 24 |
| Image 10: CBM Lanci Stage 2, area of steep slope, facing north-east. | 25 |
| Image 11: CBM Lanci Stage 2, rock wall and area of steep slope, facing south-west. | 25 |
| Image 12: CBM Lanci Stage 2, rock piles and slope along ROW, facing north. | 25 |
| Image 13: CBM Lanci Stage 2, area of grassland, disturbed due to housing construction and demolition, facing west. | 26 |
| Image 14: CBM Lanci Stage 2, driveway to abandoned/demolished home, facing west. | 26 |
| Image 15: CBM Lanci Stage 2 test pit survey at 5m intervals, facing east. | 26 |
| Image 16: CBM Lanci Stage 2 test pit, facing north. | 27 |
| Image 17: CBM Lanci Stage 2, clearing subject to test pit survey at 5m intervals, facing south. | 27 |
| Image 18: CBM Lanci Stage 2, clearing subject to test pit survey at 5m intervals, facing north..... | 27 |
| Image 19: CBM Lanci Stage 2, forest subject to test pit survey at 5m intervals, facing south..... | 28 |
| Image 20: CBM Stage 2, clearing subject to test pit survey at 5m intervals, facing south..... | 28 |

| | |
|---------------------------------------------------------------------------------------------------------------------------------|----|
| Image 21: CBM Stage 2, old roadway through forest, facing west. | 28 |
| Image 22: CBM Lanci Stage 2, area of manicured lawn subject to test pit survey at 5m intervals, facing north. | 29 |
| Image 23: CBM Lanci Stage 2, area of garden and manicured lawn, subject to test pit survey at 5m intervals, facing west. | 29 |
| Image 24: CBM Lanci Stage 2, corner of extant house, manicured lawn, disturbed due to house construction, facing north. | 29 |
| Image 25: CBM Lanci Stage 2, area of rock rubble disturbance, facing east. | 30 |
| Image 26: CBM Lanci Stage 2, area of rock rubble disturbance, facing west. | 30 |
| Image 27: CBM Lanci Stage 2, area of rock rubble disturbance, facing east. | 30 |
| Image 28: CBM Lanci Stage 2, area that had been bush-hogged and cleared for aggregate testing previous year, facing north. | 31 |
| Image 29: CBM Lanci Stage 2, area that had been bush-hogged and cleared for aggregate testing previous year, facing north. | 31 |
| Image 30: CBM Lanci Stage 2, area that had been bush-hogged and cleared for aggregate testing previous year, facing north. | 31 |
| Image 31: CBM Lanci Stage 2, area that had been bush-hogged and cleared for aggregate testing previous year, facing west. | 32 |
| Image 32: CBM Lanci Stage 2, ridge of slope through forest, subject to Stage 2 test pit at 5m intervals, facing east. | 32 |
| Image 33: CBM Lanci Stage 2, piled stone before area of steep slope, facing east. | 32 |
| Image 34: CBM Lanci Stage 2 test pit survey at 5m intervals, through planted pine forest, facing east. | 33 |
| Image 35: CBM Lanci Stage 2 test pit, facing north. | 33 |
| Image 36: CBM Lanci Stage 2, are of steep slope, facing east. | 33 |
| Image 37: CBM Lanci Stage 2, area of steep slope, facing south-south-west. | 34 |
| Image 38: CBM Lanci Stage 2, abandoned home, facing south. | 34 |
| Image 39: CBM Lanci Stage 2, rubbish pile near abandoned home, facing south. | 34 |
| Image 40: CBM Lanci Stage 2 test pit survey at 5m intervals, facing west. | 35 |
| Image 41: CBM Lanci Stage 2 test pit survey at 5m intervals, facing south. | 35 |
| Image 42: CBM Lanci Stage 2, tree-lined driveway to an abandoned home, facing north-west. | 35 |
| Image 43: CBM Lanci Stage 2 test pit, facing north. | 36 |
| Image 44: CBM Lanci Stage 2 test pit showing gravel disturbance, facing south. | 36 |

MAPS

Map 1: Location of Study Area

Map 2: A Portion of the 1861 Tremaine Map of County of Wellington, Canada West

Map 3: A Portion of the 1877 Historic Atlas Map of the Township of Puslinch

Map 4: A Portion of the 1906 Historic Atlas Map of the Township of Puslinch

Map 5: Stage 1 Areas of Archaeological Potential

Map 6: Stage 2 Archaeological Assessment Methods and Photo Locations

1.0 PROJECT CONTEXT

1.1 Development Context

A Stage 1 and 2 archaeological assessment was conducted on behalf of CBM Aggregates Ltd. (CBM), a division of Votorantim Cimentos North America (VCNA) (the client) by Golder Associates Ltd. (Golder) in support of a licence application for extraction under the *Aggregate Resources Act* (ARA) adjacent to the CBM Lanci Pit, in the Township of Puslinch. The study area was reduced in size after archaeological assessment had taken place. The entire original study area is presented in this report and is approximately 17 hectares in size and is currently a combination of forested areas and manicured lawn. The study area includes a portion of Lot 25, Concession 1 in the Township of Puslinch in the County of Wellington, Ontario (Map 1).

The objective of the Stage 1 archaeological assessment was to compile available information about the known and potential archaeological resources within the study area and to determine if a field survey (Stage 2) is required, as well as the recommended Stage 2 strategy. In compliance with the provincial standards and guidelines set out in the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011), the objectives of the Stage 1 archaeological assessment are as follows:

- To provide information about the study area's geography, history, previous archaeological fieldwork and current land conditions;
- To evaluate in detail the study area'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.

To meet these objectives Golder archaeologists employed the following research strategies:

- A review of relevant archaeological, historic and environmental literature pertaining to the study area;
- A review of the land use history, including pertinent historic maps;
- An examination of the Ontario Archaeological Sites Database (OASD) to determine the presence of known archaeological sites in and around the project area; and
- An inquiry with the MTCS to determine previous archaeological assessments conducted in close proximity to the study area.

The objectives of the Stage 2 archaeological assessment were to provide an overview of archaeological resources on the property and to determine whether any of the resources might be artifacts and archaeological sites with cultural heritage value or interest and to provide specific direction for the protection, management and/or recovery of these resources. In compliance with the provincial standards and guidelines set out in the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011), the objectives of the Stage 2 property assessment are as follows:

- To document all archaeological resources on the property;
- To determine whether the property contains archaeological resources requiring further assessment; and
- To recommend appropriate Stage 3 assessment strategies for archaeological sites identified.

The Stage 1 and 2 assessments were conducted under professional archaeological licence P340, issued to Shan Ling of Golder by the MTCS (PIF P340-0061-2017). Permission for Golder staff to enter the property for the purposes of the Stage 2 test pit survey was provided by Stephen May.

1.2 Historical Context

1.2.1 Historical Indigenous Occupation of Southern Ontario

The historical Indigenous occupation of southern Ontario was heavily influenced by the dispersal of various Iroquoian-speaking peoples by the New York State Iroquois and the subsequent arrival of Algonkian-speaking groups from northern Ontario at the end of the 17th century and beginning of the 18th century (Schmalz 1991).

Following the introduction of Europeans to North America, the nature of Indigenous settlement size, population distribution, and material culture shifted as settlers began to colonize the land. Despite this shift in life ways, “written accounts of material life and livelihood, the correlation of historically recorded villages to their archaeological manifestations, and the similarities of those sites to more ancient sites have revealed an antiquity to documented cultural expressions that confirms a deep historical continuity to Iroquoian systems of ideology and thought” (Ferris 2009:114). As a result, Indigenous peoples of southern Ontario have left behind archaeologically significant resources throughout southern Ontario which show continuity with past peoples, even if this connection has not been recorded in historical Euro-Canadian documentation.

The study area is situated within the historic Geographic Township of Puslinch, Wellington County, Ontario. The study area is within lands that first enter the Euro-Canadian historic record as part of Treaty Number 3 made with the Mississauga Indians on December 7th, 1792, though purchased as early as 1784. This purchase was to procure for that part of the Six Nation Indians coming into Canada a permanent abode.

All that parcel or tract of land lying and being between the Lakes Ontario and Erie, beginning at Lake Ontario, four miles south' westerly from the point opposite to Niagara Fort, known by the name of Mississaugue Point, and running from thence along the said lake to the creek that falls from a small lake, known by the name of Washquarter into the said Lake Ontario, and from thence north forty-five degree west, fifty miles; thence south forty-five degrees west, twenty miles; and thence south until it strikes the River La Tranche; then down the stream of the said river to that part or place where a due south course will lead to the mouth of Catfish Creek emptying into Lake Erie, and from the above mentioned part or place of the aforesaid River La Tranche, following the south course to the mouth of the said Catfish Creek; thence down Lake Erie to the lands heretofore purchased from the Nation of Mississauga Indians; and from thence along the said purchase at Lake Ontario at the place of beginning as above mentioned together with all the woods, ways, paths, waters, watercourses and appurtenances thereunto belonging

(J. Morris 1943:18).

The Stage 2 survey involved participation by archaeological field liaisons from Mississauga of New Credit First Nation. Details of this participation is provided in Supplement A.

1.2.2 Puslinch Township, Wellington County

In 1838, the District of Wellington was established and contained the counties of Wellington, Waterloo, Grey and parts of Dufferin County. In 1854, Wellington County was formed and included the Townships and Towns of

Amaranth, Arthur, Eramosa, Erin, Guelph, Maryborough, Nichol, Peel, Pilkington, Puslinch and Garafraxa (Wellington County 2017).

The Crown Survey of Puslinch Township began in 1828 and was completed by 1831. Settlers began to arrive in 1828 and the entire township was settled by 1840. The township was surveyed using a variation of the Double Front survey system that was commonly used between 1815 and 1829. The survey system produced a rectangular pattern of ten 100-acre lots allowances. The resulting survey created the modern farm landscape and road pattern that is still visible today (Dean 1880). Puslinch was named after a community in Devonshire, England. The population of Puslinch Township in 1829 – one year after surveying began – was 126. By 1877 the population had grown to 4,514. In the same year, the township was described as the “least valuable in an agricultural point of view, of any in the county” (Carter 1984).

Until 1852 the Study Area was a part of the District of Wellington, which included the counties of Wellington, Waterloo, Grey and parts of Dufferin County. In 1852 the district was reorganized and the United Counties of Waterloo, Wellington and Grey were formed. In 1854 Wellington County became an individual entity that consisted of the Towns and Townships of Amaranth, Arthur, Eramosa, Erin, Guelph, Garafraxa, Maryborough, Nichol, Peel, Pilkington, and Puslinch. In 1879, the City of Guelph separated from the County. The county remained politically unchanged until 1999 when it was reorganized into seven new municipalities through the amalgamation of several towns and townships. Puslinch Township remained the only municipality to exist unchanged by the amalgamation. However, recent expansions of Guelph’s city limits have resulted in portions of Puslinch being annexed into the City.

1.2.2.1 Lot 25, Concession 1, Township of Puslinch

The study area is located on part of Lot 25, Concession 1, Geographic Township of Puslinch, Wellington County. The 1878 *Illustrated Historical Atlas of Wellington County* indicates that all 100 acres of Lot 25, Concession 1 were owned by Mr. John McKenzie in 1878 (Map 3). The 1878 *Illustrated Historical Atlas of Wellington County*, illustrates a structure on the north edge of the property, however, it is outside the study area.

The 1871 personal census indicates that John McKenzie and his family were living in Puslinch Township on Lot 25 Concession 1 and owned 100 acres of it. 95 acres are listed as ‘improved’ with 20 in pasture, 10 in wheat, 10 in hay, and various amounts in other crops. The farm produced 300 pounds of butter and 100 pounds of home-made cheese and seems to have been of comparable levels of success and production as similarly sized farms in the neighbourhood. John McKenzie was a 34 year old farmer from Ontario and he lived on the property with his wife Hellen (34) and his children: Donald (6), William (4), John (2) and Hellen (10 mos).

1.3 Archaeological Context

1.3.1 The Natural Environment

The study area is situated within the “Horseshoe Moraines” physiographic region (Chapman and Putnam 1984: 127-129).

From the edge of the escarpment in the Town of Caledon the moraines trend somewhat west of the Niagara Escarpment forming a belt of moderately hilly relief....Associated with the moraines is a system of old spillways with broad gravel terraces and swampy floors.....Good cross-sections of this landscape may be seen along Highway 7 from Rockwood to Georgetown.

Chapman and Putnam, 1984:128

The soils of the study area consist predominately of Burford loam and Dumfries soil. Burford loam can be found smooth, very gently sloping areas; this type of soil exhibits good natural drainage and can be slightly stony (Hoffman et al. 1963). Whereas Dumfries, can be found in irregular and steeply sloping areas; this type of soil exhibits good natural drainage and can be very stony. Overall these soil types likely would have been suitable for Indigenous agricultural practices. The closest potable water sources are an unnamed tributary or seasonal waterway that is within 1 kilometre west of the study area, as well as several other similar waterways within 5 kilometres. The closest substantial source of water is Puslinch Lake (~ 7.8 kilometres to the west) of the study area (Map 1).

1.3.2 General Overview of the Pre-Contact Period in Southern Ontario

The cultural chronology of Southern Ontario is briefly summarized in Table 1.

Table 1: Cultural Chronology for Southern Ontario, based on chapters in Ellis and Ferris (eds.) (1990)

| Period | Characteristics | Time Period | Comments |
|--------------------|----------------------------------------------------------|---------------------|-----------------------------------------------------------|
| Early Paleo | Fluted Projectiles | 9000 - 8400 BC | spruce parkland/caribou hunters |
| Late Paleo | Hi-Lo Projectiles | 8400 - 8000 BC | smaller but more numerous sites |
| Early Archaic | Kirk and Bifurcate Base Points | 8000 - 6000 BC | slow population growth |
| Middle Archaic | Brewerton-like points | 6000 - 2500 BC | environment similar to present |
| Late Archaic | Lamoka (Narrow Points) | 2000 - 1800 BC | increasing site size |
| | Broad Points | 1800 - 1500 BC | large chipped lithic tools |
| | Small Points | 1500 - 950 BC | introduction of bow hunting, emergence of true cemeteries |
| Early Woodland | Meadowood Points | 950 - 400 BC | introduction of pottery |
| Middle Woodland | Dentate Stamp and Pseudo-Scallop Shell Impressed pottery | 400 BC - AD 500/800 | increased sedentism |
| Late Woodland | Princess Point Complex | AD 500 - 1050 | introduction of corn |
| | Early Ontario Iroquoian | AD 900/1000 - 1300 | emergence of agricultural villages |
| | Middle Ontario Iroquoian | AD 1300 - 1400 | long longhouses (100m +) |
| | Late Ontario Iroquoian | AD 1400 - 1650 | tribal warfare and displacement |
| Contact Indigenous | Various Algonkian Groups | AD 1700 - 1875 | early written records and treaties |
| Late Historic | Euro-Canadian | AD 1785 - present | European settlement |

1.3.3 Pre-historic Indigenous Documentation

Previous archaeological assessments and research surveys have demonstrated that Wellington County was intensively occupied by pre-historic Indigenous communities. The following subsections outline the cultural or temporal periods recognized for southern Ontario more generally.

1.3.3.1 Paleo Period

The first human occupation of southern Ontario began just after the end of the Wisconsin Glacial period. Although there was a complex series of ice retreats and advances which played a large role in shaping the local topography, southwestern Ontario was finally ice free by 12,500 years ago. The first human settlement can be traced back 11,000 years, when this area was settled by Native groups that had been living south of the Great Lakes.

Our current understanding of Early Paleo period (*circa* 9000-8400 BC) settlement patterns suggest that small bands, consisting of probably no more than 25-35 individuals, followed a pattern of seasonal mobility extending over large territories (Ellis and Deller 1990:54). One of the most thoroughly studied of these groups followed a seasonal round that extended from as far south as Chatham to the Horseshoe Valley north of Barrie. Early Paleo sites tend to be located in elevated locations on well-drained loamy soils.

Many of the known sites were located on former beach ridges associated with Lake Algonquin, the post-glacial lake occupying the Lake Huron/Georgian Bay basin. There are a few extremely large Early Paleo sites, such as one located close to Parkhill, Ontario, which covered as much as six hectares (Ellis and Deller 1990:51).

It appears that these sites were formed when the same general locations were occupied for short periods of time over the course of many years. Given their placement in locations conducive to the interception of migratory mammals such as caribou, it has been suggested that they may represent communal hunting camps (Ellis and Deller 1990:51). There are also smaller Early Paleo camps scattered throughout the interior of southwestern Ontario, usually situated adjacent to wetlands. The most recent research suggests that population densities were very low during the Early Paleo period (Ellis and Deller 1990:54). Because this is the case, Early Paleo sites are exceedingly rare.

While the Late Paleo period (8400-8000 BC) is more recent, it has been less well researched, and is consequently more poorly understood. By this time the environment of southwestern Ontario was coming to be dominated by closed coniferous forests with some minor deciduous trees (Ellis and Deller 1990:60). It seems that many of the large game species that had been hunted in the early part of the Paleo period had either moved further north, or as in the case of the mastodons and mammoths, become extinct (Ellis and Deller 1990).

As in the early Paleo period, late Paleo period peoples covered large territories as they moved about in response to seasonal resource fluctuations. On a province wide basis, Late Paleo projectile points are far more common than Early Paleo materials, suggesting a relative increase in population (Ellis and Deller 1990:62).

The end of the Paleo period was heralded by numerous technological and cultural innovations which may be best explained in relation to the dynamic nature of the post-glacial environment and region-wide population increases.

1.3.3.2 Archaic Period

During the Early Archaic period (8000-6000 BC), the jack and red pine forests that characterized the Late Paleo period environment were replaced by forests dominated by white pine with some associated deciduous trees (Ellis *et al.* 1990:68-69). One of the more notable changes in the Early Archaic period is the appearance of side and corner-notched projectile points.

Other significant innovations include the introduction of ground stone tools such as celts and axes, suggesting the beginnings of a simple woodworking industry (Ellis and Deller 1990:65). The presence of these often large and

not easily portable tools suggests there may have been some reduction in the degree of seasonal movement, although it is still suspected that population densities were quite low, and band territories large.

During the Middle Archaic period (6000-2500 BC) the trend to more diverse toolkits continued, as the presence of netsinkers suggest that fishing was becoming an important aspect of the subsistence economy. It was also at this time that "bannerstones" were first manufactured (Ellis *et al.* 1990:65). Bannerstones are carefully crafted ground stone devices that served as a counterbalance for "atlatls" or spear-throwers. Another characteristic of the Middle Archaic is an increased reliance on local, often poor quality chert resources for the manufacturing of projectile points. It seems that during earlier periods, when groups occupied large territories, it was possible for them to visit a primary outcrop of high quality chert at least once during their seasonal round. However, during the Middle Archaic, groups inhabited smaller territories that often did not encompass a source of high quality raw material. In these instances lower quality materials which had been deposited by the glaciers in the local till and river gravels were utilized.

This reduction in territory size was probably the result of gradual region-wide population growth which led to the infilling of the landscape (Ellis *et al.* 1990:67). This process resulted in a reorganization of Native subsistence practices, as more people had to be supported from the resources of a smaller area.

During the latter part of Middle Archaic, technological innovations such as fish weirs have been documented as well as stone tools especially designed for the preparation of wild plant foods. It is also during the latter part of the Middle Archaic period that long distance trade routes began to develop, spanning the northeastern part of the continent. In particular, native copper tools manufactured from a source located northwest of Lake Superior were being widely traded (Ellis *et al.* 1990:66). By 3500 BC the local environment had stabilized in a near modern form (Ellis *et al.* 1990:69).

During the Late Archaic (2500-900 BC) the trend towards decreased territory size and a broadening subsistence base continued. Late Archaic sites are far more numerous than either Early or Middle Archaic sites, and it seems that the local population had definitely expanded. It is during the Late Archaic that the first true cemeteries appear (Ellis *et al.* 1990:66). Before this time individuals were interred close to the location where they died. During the Late Archaic, if an individual died while his or her group happened to be at some distance from their group cemetery, the bones would be kept until they could be placed in the cemetery. Consequently, it is not unusual to find disarticulated skeletons, or even skeletons lacking minor elements such as fingers, toes or ribs, in Late Archaic burial pits.

The appearance of cemeteries during the Late Archaic has been interpreted as a response to increased population densities and competition between local groups for access to resources. It is argued that cemeteries would have provided strong symbolic claims over a local territory and its resources. These cemeteries are often located on heights of well-drained sandy/gravel soils adjacent to major watercourses (Ellis *et al.* 1990).

This suggestion of increased territoriality is also consistent with the regionalized variation present in Late Archaic projectile point styles. It was during the Late Archaic that distinct local styles of projectile points appear. Also during the Late Archaic the trade networks which had been established during the Middle Archaic continued to flourish. Native copper from northern Ontario and marine shell artifacts from as far away as the mid-Atlantic coast are frequently encountered as grave goods (Ellis *et al.* 1990:117; Ellis *et al.* 2009:824-825). Other artifacts such as polished stone pipes and banded slate gorgets also appear on Late Archaic sites. One of the more unusual and interesting of the Late Archaic artifacts is the "birdstone" (Ellis *et al.* 1990:111). Birdstones are small, bird-like effigies usually manufactured from green banded slate.

1.3.3.3 Woodland Period

The Early Woodland period (950-400 BC) is distinguished from the Late Archaic period primarily by the addition of ceramic technology. While the introduction of pottery provides a useful demarcation point for archaeologists, it may have made less difference in the lives of the Early Woodland peoples. The first pots were very crudely constructed, thick walled, and friable. It has been suggested that they were used in the processing of nut oils by boiling crushed nut fragments in water and skimming off the oil (Spence *et al.* 1990:137). These vessels were not easily portable, and individual pots must not have enjoyed a long use life. There have also been numerous Early Woodland sites located at which no pottery was found, suggesting that these poorly constructed, undecorated vessels had yet to assume a central position in the day-to-day lives of Early Woodland peoples.

Other than the introduction of this rather limited ceramic technology, the life-ways of Early Woodland peoples show a great deal of continuity with the preceding Late Archaic period. For instance, birdstones continue to be manufactured, although the Early Woodland varieties have "pop-eyes" which protrude from the sides of their heads (Spence *et al.* 1990:129).

Likewise, the thin, well-made projectile points produced during the terminal part of the Archaic period continue in use. However, the Early Woodland variants were side-notched rather than corner-notched, giving them a slightly altered and distinctive appearance.

The trade networks which were established in the Middle and Late Archaic also continued to function, although there does not appear to have been as much traffic in marine shell during the Early Woodland period (Spence *et al.* 1990:129). During the last 200 years of the Early Woodland period, projectile points manufactured from high quality raw materials from the American Midwest begin to appear in southern Ontario (Spence *et al.* 1990:138).

In terms of settlement and subsistence patterns, the Middle Woodland (400 BC- AD 500/800) provides a major point of departure from the Archaic and Early Woodland periods. While Middle Woodland peoples still relied on hunting and gathering to meet their subsistence requirements, fish were becoming an even more important part of the diet (Spence *et al.* 1990:151). Some Middle Woodland sites have produced literally thousands of bones from spring spawning species such as walleye and sucker. Nuts such as acorns were also being collected and consumed (Spence *et al.* 1990:134). In addition, Middle Woodland peoples relied much more extensively on ceramic technology. Middle Woodland vessels are often decorated with hastily impressed designs covering the entire exterior surface and upper portion of the vessel interior. Consequently, even very small fragments of Middle Woodland vessels are easily identifiable.

It is also at the beginning of the Middle Woodland period that rich, densely occupied sites appear on the valley floor of major rivers. Middle Woodland sites are significantly different in that the same location was occupied off and on for as long as several hundred years. Because this is the case, rich deposits of artifacts often accumulated.

Unlike earlier seasonally utilized locations, these Middle Woodland sites appear to have functioned as base camps, occupied off and on over the course of the year. There are also numerous small upland Middle Woodland sites, many of which can be interpreted as special purpose camps from which localized resource patches were exploited. This shift towards a greater degree of sedentism continues the trend witnessed from at least Middle Archaic times, and provides a prelude to the developments that follow during the Late Woodland period.

The Late Woodland period began with a shift in settlement and subsistence patterns involving an increasing reliance on corn horticulture (Fox 1990:185; Smith 1990; Williamson 1990:312). Corn may have been introduced into southwestern Ontario from the American Midwest as early as AD 600 (Fox 1990:174; Williamson 1990:312). However, it did not become a dietary staple until at least three to four hundred years later. Others have more recently espoused or accepted a Late Woodland beginning around AD 500 with the appearance or development of the Princess Point Complex (e.g. Crawford and Smith 2002; see also Martin 2004, 2008).

The first agricultural villages in southwestern Ontario date to the 10th century (Williamson 1990:291). Unlike the riverine base camps of the Middle Woodland period, these sites are located in the uplands, on well-drained sandy soils.

Categorized as "Early Ontario Iroquoian" (900-1300 A.D.), many archaeologists believe that it is possible to trace a direct line from the Iroquoian groups which inhabited southwestern Ontario at the time of first European contact, to these early villagers.

Village sites dating between AD 900 and 1300, share many attributes with the historically reported Iroquoian sites, including the presence of longhouses and sometimes palisades. However, these early longhouses were actually not all that large, averaging only 12.4 metres in length (Dodd *et al.* 1990:349; Williamson 1990:304-305). It is also quite common to find the outlines of overlapping house structures, suggesting that these villages were occupied long enough to necessitate re-building. The Jesuits reported that the Huron moved their villages once every 10-15 years, when the nearby soils had been depleted by farming and conveniently collected firewood grew scarce (Pearce 2010). It seems likely that Early Ontario Iroquoians occupied their villages for considerably longer, as they relied less heavily on corn than did later groups, and their villages were much smaller, placing less demand on nearby resources.

Judging by the presence of carbonized corn kernels and cob fragments recovered from sub-floor storage pits, agriculture was becoming a vital part of the Early Ontario Iroquoian economy. However, it had not reached the level of importance it would in the Middle and Late Ontario Iroquoian periods. There is ample evidence to suggest that more traditional resources continued to be exploited, and comprised a large part of the subsistence economy. Seasonally occupied special purpose sites relating to deer procurement, nut collection, and fishing activities, have all been identified (Williamson 1990:317). While beans are known to have been cultivated later in the Late Woodland period, they have yet to be identified on Early Ontario Iroquoian sites (Williamson 1990:291).

The Middle Ontario Iroquoian period (AD 1300-1400) witnessed several interesting developments in terms of settlement patterns and artifact assemblages. Changes in ceramic styles have been carefully documented, allowing the placement of sites in the first or second half of this 100-year period. Moreover, villages, which averaged approximately 0.6 hectares in extent during the Early Ontario Iroquoian period, now consistently range between one and two hectares.

House lengths also change dramatically, more than doubling to an average of 30 metres, while houses of up to 45 metres have been documented. This radical increase in longhouse length has been variously interpreted. The simplest possibility is that increased house length is the result of a gradual, natural increase in population (Dodd *et al.* 1990:323, 350, 357; Smith 1990). However, this does not account for the sudden shift in longhouse lengths around 1300 A.D. Other possible explanations involve changes in economic and socio-political organization (Dodd *et al.* 1990:357). One suggestion is that during the Middle Ontario Iroquoian period small villages were amalgamating to form larger communities for mutual defence (Dodd *et al.* 1990:357). If this was the

case, the more successful military leaders may have been able to absorb some of the smaller family groups into their households, thereby requiring longer structures.

This hypothesis draws support from the fact that some sites had up to seven rows of palisades, indicating at least an occasional need for strong defensive measures. There are, however, other Middle Ontario Iroquoian villages which had no palisades present (Dodd *et al.* 1990:358). More research is required to evaluate these competing interpretations.

The lay-out of houses within villages also changes dramatically by AD 1300. During the Early Ontario Iroquoian period villages were haphazardly planned at best, with houses oriented in various directions. During the Middle Ontario Iroquoian period villages are organized into two or more discrete groups of tightly spaced, parallel aligned, longhouses.

It has been suggested that this change in village organization may indicate the initial development of the clans which were a characteristic of the historically known Iroquoian peoples (Dodd *et al.* 1990:358).

Initially at least, the Late Ontario Iroquoian period (AD 1400-1650) continues many of the trends which have been documented for the preceding century. For instance, between AD 1400 and 1450 house lengths continue to grow, reaching an average length of 62 metres.

After AD 1450, house lengths begin to decrease, with houses dating between AD 1500-1580 averaging only 30 metres in length. Why house lengths decrease after AD 1450 is poorly understood, although it is believed that the even shorter houses witnessed on historic period sites can be at least partially attributed to the population reductions associated with the introduction of European diseases such as smallpox (Lennox and Fitzgerald 1990:405, 410).

Village size also continues to expand throughout the Late Ontario Iroquoian period, with many of the larger villages showing signs of periodic expansions. The Late Middle Ontario Iroquoian period and the first century of the Late Ontario Iroquoian period was a time of village amalgamation.

One large village situated in London expanded one-fifth of its size (Anderson 2009) and one village north of Toronto have been shown to have expanded on no fewer than five occasions (Ramsden 1990:374-375). These large villages were often heavily defended with numerous rows of wooden palisades, suggesting that defence may have been one of the rationales for smaller groups banding together.

After AD 1525 communities of pre-colonial Indigenous of the Late Ontario Iroquoian period who had formerly lived throughout southwestern Ontario as far west as the Chatham area moved further east to the Hamilton area. During the late 1600s and early 1700s, the French explorers and missionaries reported a large population of Iroquoian peoples clustered around the western end of Lake Ontario. They called these people the "Neutral", because they were not involved in the on-going wars between the Huron and the League Iroquois located in upper New York State.

1.3.4 Previously Identified Archaeological Sites and Surveys

A search of the OASD and within Golder's corporate library indicated there are nine archaeological sites currently registered within two kilometres of the study area (MTCS 2017).

Table 2: Registered Archaeology Sites within 2 kilometres of Study Area

| Borden Number | Site Name | Time Period |
|---------------|-----------|-------------------------|
| AiHb-71* | Tog 2 | Other |
| AiHb-70* | Tog 1 | Other |
| AiHb-216 | Smith | Post-Contact |
| AiHb-215 | Smith | Post-Contact, homestead |
| AiHb-121 | Heritage | Pre-Contact, campsite |
| AiHa-45 | - | Post-Contact |
| AiHa-38 | Reid | Pre-Contact |
| AiHa-13 | Scott | Unlisted |

* Sites are located within 1 kilometre of Study Area.

No archaeological sites are registered within 300 metres of the study area and no archaeological work has been noted or registered within 50 metres with the MTCS.

1.3.5 Assessing Archaeological Potential

Archaeological potential is established by determining the likelihood that archaeological resources may be present on in a study area. In accordance with the MTCS's 2011 *Standards and Guidelines for Consultant Archaeologists* the following are features or characteristics that indicate archaeological potential:

- Previously identified archaeological sites;
- Water sources:
 - Primary water sources (lakes, rivers, streams, creeks);
 - Secondary water sources (intermittent streams and creeks; springs; marshes; swamps);
 - Features indicating past water sources (e.g. glacial lake shorelines indicated by the presence of raised gravel, sand, or beach ridges; relic river or stream channels indicated by clear dip or swale in the topography; shorelines of drained lakes or marshes; and cobble beaches);
 - Accessible or inaccessible shoreline (e.g. high bluffs, swamps or marsh fields by the edge of a lake; sandbars stretching into marsh);
- Elevated topography (eskera, drumlins, large knolls, plateaux);
- Pockets of well drained sandy soil, especially near areas of heavy soil or rocky ground; Distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases (there may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings);
- Resource areas including:
 - Food or medicinal plants;
 - Scarce raw minerals (e.g. quartz, copper, ochre or outcrops of chert);

- Early Euro-Canadian industry (fur trade, mining, logging);
- Areas of Euro-Canadian settlement; and
- Early historical transportation routes.

In recommending a Stage 2 property survey based on determining archaeological potential for a study area, MTCS stipulates the following:

- No areas within 300 metres of a previously identified site; water sources; areas of early Euro-Canadian Settlement; or locations identified through local knowledge or informants can be recommended for exemption from further assessment;
- No areas within 100 metres of early transportation routes can be recommended for exemption from further assessment; and,
- No areas within the property containing an elevated topography; pockets of well-drained sandy soil; distinctive land formations; or resource areas can be recommended for exemption from further assessment.

1.3.5.1 Archaeological Integrity

A negative indicator of archaeological potential is extensive land disturbance. This includes widespread earth movement activities that would have eradicated or relocated any cultural material to such a degree that the information potential and cultural heritage value or interest has been lost.

Section 1.3.2 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists states that:

Archaeological potential can be determined not to be present for either the entire property or a part(s) of it when the area under consideration has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources.

MTCS 2011:18

The types of disturbance referred to above includes, but is not restricted to, quarrying, sewage and infrastructure development, building footprints and major landscaping involving grading below topsoil.

1.3.5.2 Potential for Pre-contact and Historical Indigenous Archaeological Resources

Following the criteria outlined above in Section 1.3.5 to determine pre-contact and historic Indigenous archaeological potential, a number of factors can be highlighted. The soils of the study area would have been suitable for pre-contact Indigenous practices. The closest potable water sources are an unnamed tributary or seasonal waterway that is within 1 kilometre west of the study area, as well as several other similar waterways within 5 kilometres. The closest substantial source of water is Puslinch Lake (~ 7.8 kilometres to the west) of the study area (Map 1).

When the above noted archaeological potential criteria were applied to the study area, the study area exhibits archaeological potential for pre-contact and post-contact Indigenous sites. While areas of previous disturbance eradicate the potential for the recovery of archaeological resources (Section 1.3.4.1), areas of no or low levels of previous disturbance retain their archaeological potential; these areas include the areas of forest and manicured lawn. Map 5 illustrates areas of potential within the study area that were determined to require further Stage 2 assessment.

1.3.5.3 Potential for Euro-Canadian Archaeological Resources

Following the criteria outlined above in Section 1.3.5 to determine Euro-Canadian archaeological potential, a number of factors can be highlighted including the occupation of the surrounding area from the early to mid-19th century as evidenced by historical mapping and land records.

When the above noted archaeological potential criteria were applied to the study area, the study area exhibits archaeological potential for Euro-Canadian sites. While areas of previous disturbance eliminate the potential for the recovery of archaeological resources (Section 1.3.5.1), areas of no or low levels of previous disturbance retain their archaeological potential. Map 5 illustrates areas of potential within the study area that require Stage 2 assessment.

2.0 FIELD METHODS

2.1 Existing Conditions

The Stage 2 field survey of the study area was conducted between 23 October 2017 and 27 October 2017, under archaeological consulting licence P340, issued to Shan Ling of Golder. Mr. Ling designated Ms. Sarah News (R485) to conduct the Stage 2 field work. The weather during the Stage 2 assessment was primarily overcast, the details of each day are presented in Table 3 below. At no time were the weather or field conditions detrimental to the recovery of archaeological material. Field visibility during the test pitting survey was excellent and lighting conditions also allowed for excellent field visibility. At the time of the Stage 2 survey the study area included areas of mature hardwood forest, mature cedar forest, forests with sections of steep slope, areas of manicured lawn around extant houses, and areas of previous disturbance (where gravel has been extracted and man-made berms have been constructed, as well as previous homes demolished).

Table 3: Weather Conditions during Stage 2 Assessment of Study Area.

| Date | Weather |
|-----------------|-----------------------------------|
| 23 October 2017 | Overcast/partly sunny, warm, 20°C |
| 24 October 2017 | Overcast, cool, 14°C |
| 25 October 2017 | Sun and cloud, cool, 9°C |
| 26 October 2017 | Overcast/partly sunny, cool, 10°C |
| 27 October 2017 | Sunny, warm, 14°C |

2.2 Field Survey Methods

The Stage 1 background study identified the potential for the identification of archaeological sites, both historic and pre-contact Indigenous in nature (Map 5). Map 6 illustrates the Stage 2 assessment of the study area and indicates all field conditions encountered. Map 6 also provides a photographic key to images illustrated in Section 8.0. Images 1-42 illustrate the field conditions and activities at the time of the Stage 2 survey.

All days from October 23, 2017 to October 27, 2017 were utilized for test pit survey at five metre intervals across the study area, which is comprised primarily of densely wooded areas. The central portion of the forested area is interrupted by heavy disturbance due to aggregate testing. (Image 25-31). Areas of disturbance were also confirmed through test pit survey around each extant house, the demolition of one home resulted in a larger area of disturbance that was documented in the field. Areas of steep slope were also encountered throughout the study area (Image 5, 37) and are illustrated on Map 6. Each test pit was excavated to at least 30 centimetres in diameter and dug a minimum of five centimetres into sterile subsoil; the stratigraphy of each test pit was then inspected for evidence of cultural features. All soil matrix from the test pits was screened through six millimetre hardware cloth to facilitate the recovery of any cultural material. Each test pit was back filled upon completion and topped up with additional soil when necessary.

No artifacts were recovered during the Stage 2 test pit survey.

The soil displays some variability across the site, in general it was a brown sand loam with an orange sand subsoil, varying in depth from approximately 10 – 30 centimetres.

A field log was maintained for the duration of the investigations detailing pertinent information and digital photographs were taken of the surveyed areas and topography. Photographs were taken using an iPhone 7 cellphone camera. GPS points were recorded with a Garmin GPSTMap62s, using the North American Datum (NAD) 83, with a minimal accuracy of five metres.

3.0 RECORD OF FINDS

The Stage 2 archaeological assessment was conducted employing the methods described in Section 2.0 and resulted in the recovery of zero artifacts. Table 4 provides an inventory of the documentary record generated in the field.

Table 4: Inventory of Documentary Record

| Document Type | Current Location of Document | Additional Comments |
|-------------------------|------------------------------|----------------------------------------------------------------------|
| Field Notes | Golder office in Whitby | 12 pages in original field book and stored digitally in project file |
| Hand Drawn Maps | Golder office in Whitby | 3 hand drawn maps stored digitally in project file |
| Maps Provided by Client | Golder office in Whitby | 1 maps stored in project file |
| Digital Photographs | Golder office in Whitby | 235 photographs stored digitally in project file |

4.0 ANALYSIS AND CONCLUSIONS

Areas of disturbance were noted due to the previous construction of four homes (and subsequent demolition of one); these areas of construction disturbance were identified and confirmed through test pit survey. There was also a portion of the forest that was disturbed due to bush-hogging/clearing for hydrogeologic testing wells, which was completed in the previous year in support of the license application.

Despite the Stage 1 background study identifying potential for the identification of archaeological sites within the study area, no archaeological resources were identified during the Stage 2 field survey, therefore no analysis of artifacts and/or sites was undertaken.

5.0 RECOMMENDATIONS

The Stage 2 assessment resulted in the recovery of zero artifacts. Given the occurrence of some disturbance activity across the study area and the lack of identified artifacts during the test pit survey, the information potential and cultural heritage value of the study area was determined to be low. No further archaeological assessment is recommended for the study area.

6.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c O.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regards to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licenced archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licenced archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating 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*.

Should previously undocumented archaeological resources be discovered, they may be representative of a new archaeological site or sites 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*.

The Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33, requires that any person discovering or having knowledge of a burial site shall immediately notify the police or coroner. It is recommended that the Registrar of Cemeteries at the Ministry of Consumer Services is also immediately notified.

Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

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8.0 IMAGES



Image 1: CBM Lanci Stage 2, gravel driveway into extant home, forest test pit at 5m intervals, facing west.



Image 2: CBM Lanci Stage 2, area of disturbance, demolished home, facing west.



Image 3: CBM Lanci Stage 2, forest subject to test pit survey at 5m intervals, facing west.



Image 4: CBM Lanci Stage 2, area of disturbance, abandoned shed, facing north.



Image 5: CBM Lanci Stage 2, area of steep slope, facing north.



Image 6: CBM Lanci Stage 2, forest subject to test pit survey at 5m intervals, facing west.



Image 7: CBM Lanci Stage 2, forest subject to test pit survey at 5m intervals, facing west.



Image 8: CBM Lanci Stage 2, forest subject to test pit survey at 5m intervals, facing east.



Image 9: CBM Lanci Stage 2, test pit survey at 5m interval to confirm disturbance surrounding extant house, facing east.



Image 10: CBM Lanci Stage 2, area of steep slope, facing north-east.



Image 11: CBM Lanci Stage 2, rock wall and area of steep slope, facing south-west.



Image 12: CBM Lanci Stage 2, rock piles and slope along ROW, facing north.



Image 13: CBM Lanci Stage 2, area of grassland, disturbed due to housing construction and demolition, facing west.



Image 14: CBM Lanci Stage 2, driveway to abandoned/demolished home, facing west.



Image 15: CBM Lanci Stage 2 test pit survey at 5m intervals, facing east.



Image 16: CBM Lanci Stage 2 test pit, facing north.



Image 17: CBM Lanci Stage 2, clearing subject to test pit survey at 5m intervals, facing south.



Image 18: CBM Lanci Stage 2, clearing subject to test pit survey at 5m intervals, facing north.



Image 19: CBM Lanci Stage 2, forest subject to test pit survey at 5m intervals, facing south.



Image 20: CBM Stage 2, clearing subject to test pit survey at 5m intervals, facing south.



Image 21: CBM Stage 2, old roadway through forest, facing west.



Image 22: CBM Lanci Stage 2, area of manicured lawn subject to test pit survey at 5m intervals, facing north.



Image 23: CBM Lanci Stage 2, area of garden and manicured lawn, subject to test pit survey at 5m intervals, facing west.



Image 24: CBM Lanci Stage 2, corner of extant house, manicured lawn, disturbed due to house construction, facing north



Image 25: CBM Lanci Stage 2, area of rock rubble disturbance, facing east.



Image 26: CBM Lanci Stage 2, area of rock rubble disturbance, facing west.



Image 27: CBM Lanci Stage 2, area of rock rubble disturbance, facing east.



Image 28: CBM Lanci Stage 2, area that had been bush-hogged and cleared for aggregate testing previous year, facing north.



Image 29: CBM Lanci Stage 2, area that had been bush-hogged and cleared for aggregate testing previous year, facing north.



Image 30: CBM Lanci Stage 2, area that had been bush-hogged and cleared for aggregate testing previous year, facing north.



Image 31: CBM Lanci Stage 2, area that had been bush-hogged and cleared for aggregate testing previous year, facing west



Image 32: CBM Lanci Stage 2, ridge of slope through forest, subject to Stage 2 test pit at 5m intervals, facing east.



Image 33: CBM Lanci Stage 2, piled stone before area of steep slope, facing east.



Image 34: CBM Lanci Stage 2 test pit survey at 5m intervals, through planted pine forest, facing east.



Image 35: CBM Lanci Stage 2 test pit, facing north.



Image 36: CBM Lanci Stage 2, are of steep slope, facing east.



Image 37: CBM Lanci Stage 2, area of steep slope, facing south-south-west.



Image 38: CBM Lanci Stage 2, abandoned home, facing south.



Image 39: CBM Lanci Stage 2, rubbish pile near abandoned home, facing south.



Image 40: CBM Lanci Stage 2 test pit survey at 5m intervals, facing west.



Image 41: CBM Lanci Stage 2 test pit survey at 5m intervals, facing south.



Image 42: CBM Lanci Stage 2, tree-lined driveway to an abandoned home, facing north-west.



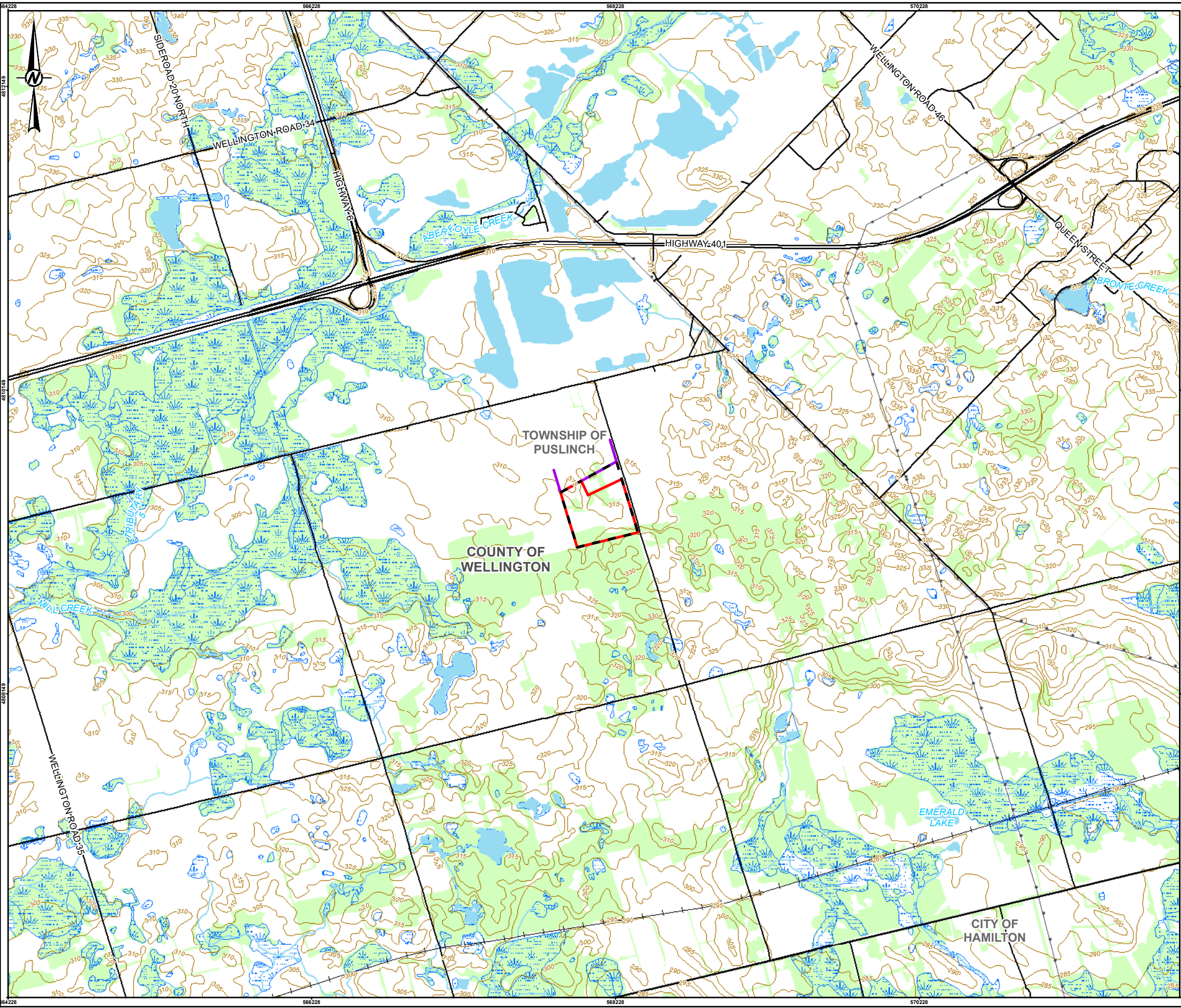
Image 43: CBM Lanci Stage 2 test pit, facing north.



Image 44: CBM Lanci Stage 2 test pit showing gravel disturbance, facing south.

9.0 MAPS

All maps follow on succeeding pages.



- LEGEND**
- ROAD
 - + RAILWAY
 - UTILITY LINE
 - WATERCOURSE
 - CONTOURS (M)
 - WATERBODY
 - MUNICIPAL BOUNDARY
 - MUNICIPAL BOUNDARY
 - WETLAND
 - WOODED AREA
 - BOUNDARY
 - LANCI PIT BOUNDARY
 - STUDY AREA SUBJECT TO STAGE 2 ARCHAEOLOGICAL ASSESSMENT



NOTE(S)
 1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
 BASE DATA - MNR LIO, OBTAINED 2017
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 BASE IMAGERY
 PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17N

CLIENT
 CBM AGGREGATES

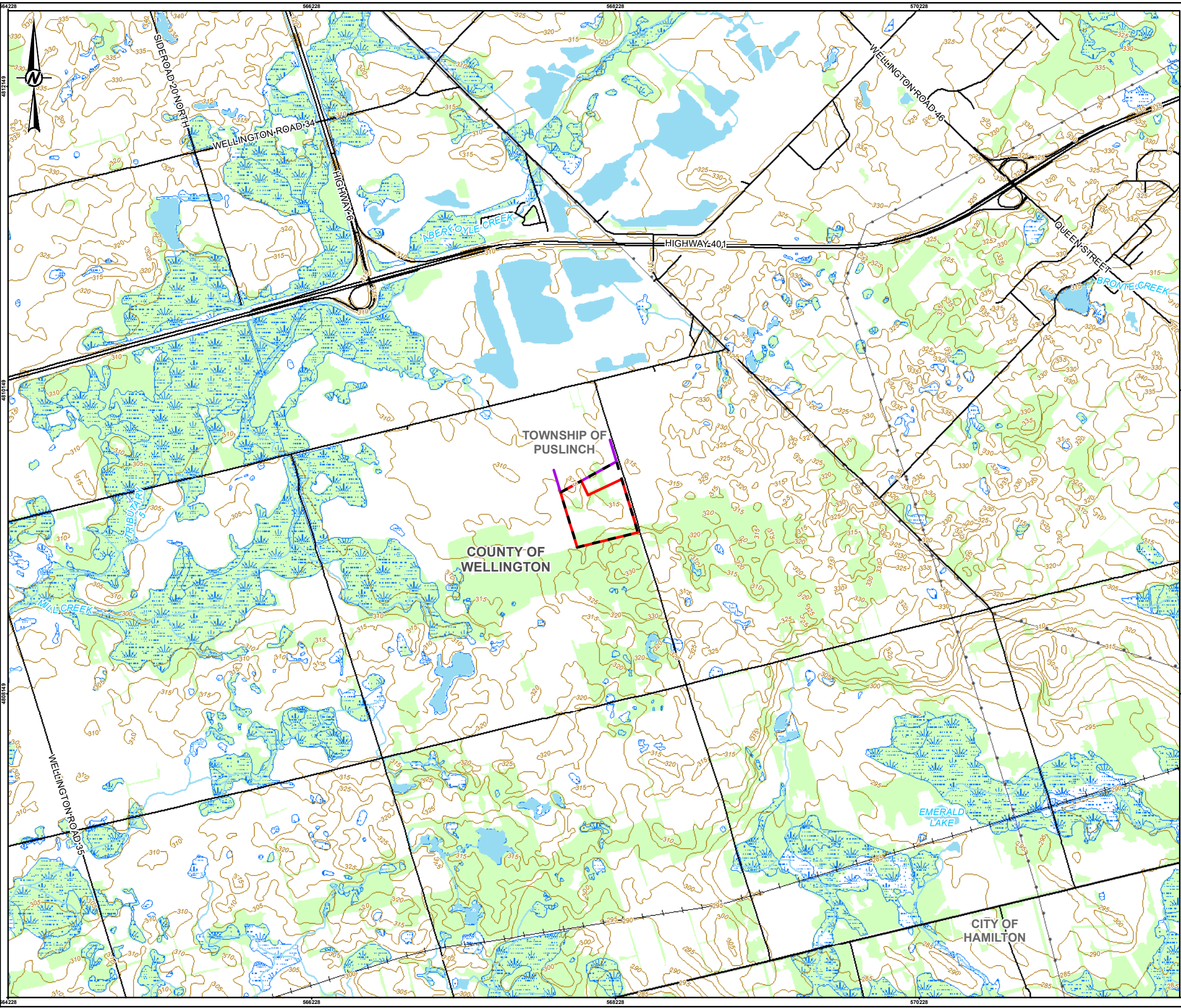
PROJECT
 STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT
 CBM LANCI PIT EXPANSION - ABERVOYLE
 PART OF LOT 25, CONCESSION 1, TOWNSHIP OF PUSLINCH,
 COUNTY OF WELLINGTON

TITLE
 LOCATION OF STUDY AREA

| | | |
|-------------------|------------|------------|
| CONSULTANT | YYYY-MM-DD | 2018-10-25 |
| DESIGNED | JT | |
| PREPARED | JT/ISO | |
| REVIEWED | KP | |
| APPROVED | | |

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- LEGEND**
- ROAD
 - +— RAILWAY
 - UTILITY LINE
 - WATERCOURSE
 - CONTOURS (M)
 - WATERBODY
 - MUNICIPAL BOUNDARY
 - MUNICIPAL BOUNDARY
 - WETLAND
 - WOODED AREA
 - BOUNDARY
 - LANCI PIT BOUNDARY
 - STUDY AREA SUBJECT TO STAGE 2 ARCHAEOLOGICAL ASSESSMENT



NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
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CBM AGGREGATES

PROJECT
STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT
CBM LANCI PIT EXPANSION - ABERFOYLE
PART OF LOT 25, CONCESSION 1, TOWNSHIP OF PUSLINCH,
COUNTY OF WELLINGTON

TITLE
LOCATION OF STUDY AREA

| | | |
|-------------------|------------|------------|
| CONSULTANT | YYYY-MM-DD | 2018-10-25 |
| | DESIGNED | JT |
| | PREPARED | JT/ISO |
| | REVIEWED | KP |
| | APPROVED | |

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- LEGEND**
- BOUNDARY
 - LANCI PIT BOUNDARY
 - STUDY AREA SUBJECT TO STAGE 2 ARCHAEOLOGICAL ASSESSMENT

DRAFT

- NOTE(S)**
1. NOT TO SCALE
 2. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
 BASE IMAGE - WHELOCK, CHARLES J. AND GUY LESLIE. 1861. MAP OF THE COUNTY OF WELLINGTON, CANADA WEST. CHEWETT & CO.: TORONTO.

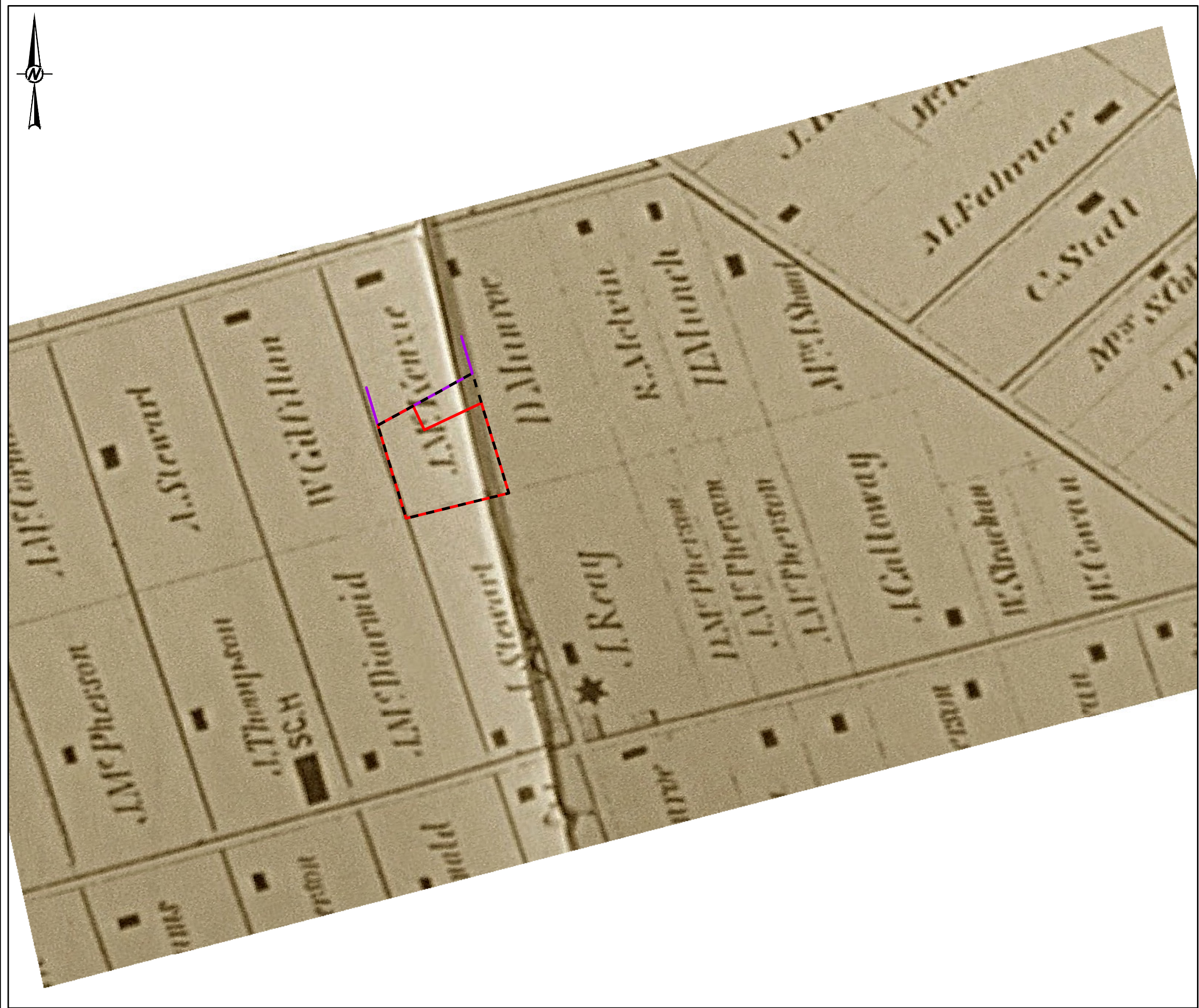
CLIENT
 CBM AGGREGATES

PROJECT
 STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT
 CBM LANCI PIT EXPANSION - ABERFOYLE
 PART OF LOT 25, CONCESSION 1, TOWNSHIP OF PUSLINCH,
 COUNTY OF WELLINGTON

TITLE
 A PORTION OF THE 1861 TREMAINE MAP OF COUNTY OF WELLINGTON, CANADA WEST

| CONSULTANT | YYYY-MM-DD | 2018-10-25 |
|------------|------------|------------|
| DESIGNED | JT | |
| PREPARED | JT/SO | |
| REVIEWED | KP | |
| APPROVED | | |





- LEGEND**
- BOUNDARY
 - LNCI PIT BOUNDARY
 - STUDY AREA SUBJECT TO STAGE 2 ARCHAEOLOGICAL ASSESSMENT

NOTE(S)
 1. NOT TO SCALE
 2. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
 BASE IMAGE - MILES & CO. 1877. ILLUSTRATED HISTORICAL ATLAS OF THE COUNTY OF WELLINGTON, ONTARIO. MILES & CO.: TORONTO.

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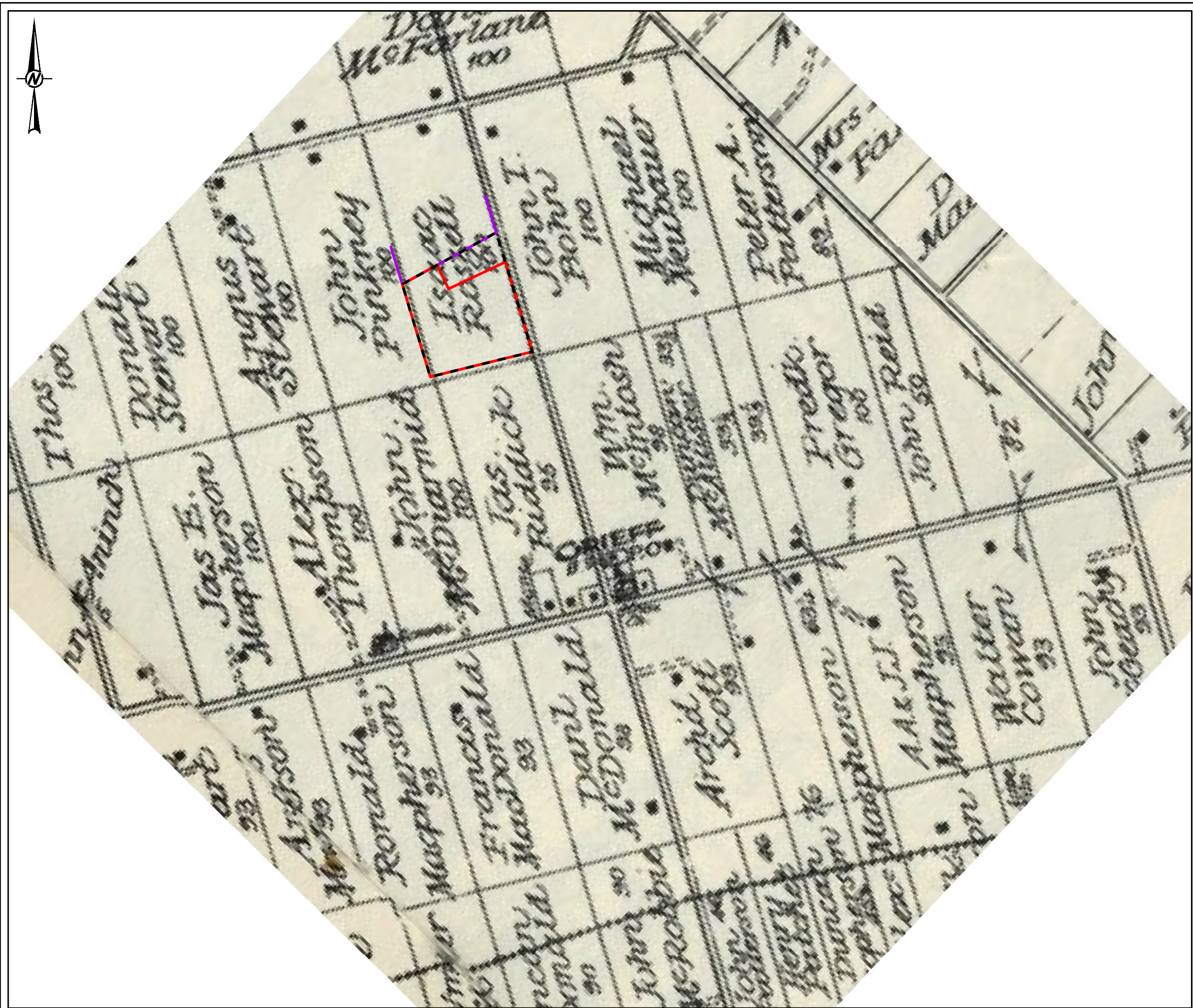
PROJECT
 STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT
 CBM LNCI PIT EXPANSION - ABERFOYLE
 PART OF LOT 25, CONCESSION 1, TOWNSHIP OF PUSLINCH,
 COUNTY OF WELLINGTON

TITLE
A PORTION OF THE 1877 HISTORIC ATLAS MAP OF THE TOWNSHIP OF PUSLINCH

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| CONSULTANT | YYYY-MM-DD | 2018-10-25 |
| DESIGNED | | JT |
| PREPARED | | JT/SO |
| REVIEWED | | KP |
| APPROVED | | |

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- BOUNDARY
 - LANCI PIT BOUNDARY
 - STUDY AREA SUBJECT TO STAGE 2 ARCHAEOLOGICAL ASSESSMENT

NOTE(S)

1. NOT TO SCALE
2. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

BASE IMAGE - MILES & CO. 1877. ILLUSTRATED HISTORICAL ATLAS OF THE COUNTY OF WELLINGTON, ONTARIO. MILES & CO.: TORONTO.

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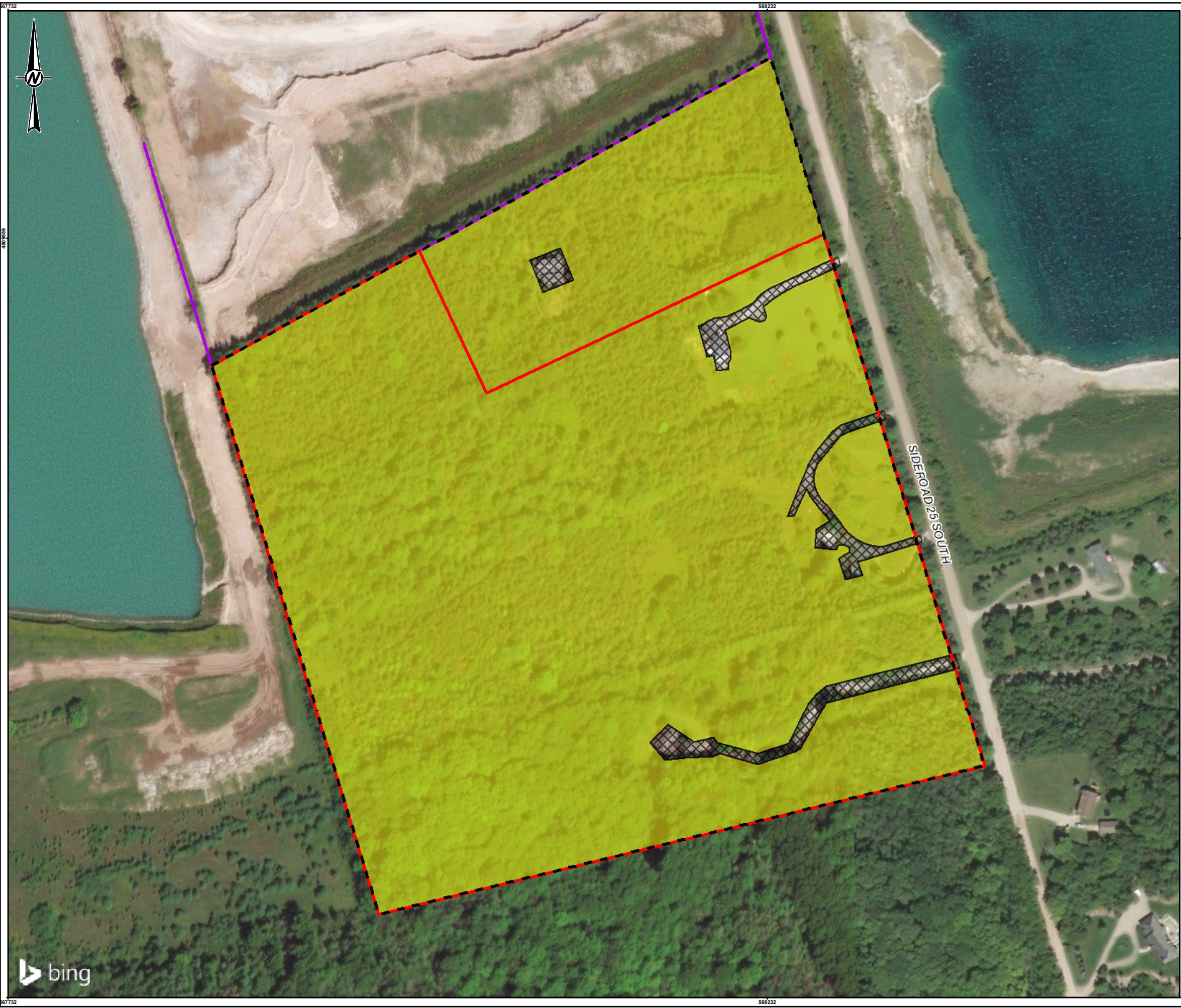
PROJECT
STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT
CBM LANCI PIT EXPANSION - ABERFOYLE
PART OF LOT 25, CONCESSION 1, TOWNSHIP OF PUSLINCH,
COUNTY OF WELLINGTON

TITLE
**A PORTION OF THE 1906 HISTORIC ATLAS MAP OF THE
TOWNSHIP OF PUSLINCH**

| CONSULTANT | YYYY-MM-DD | 2018-10-25 |
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| DESIGNED | JT | |
| PREPARED | JT/SO | |
| REVIEWED | KP | |
| APPROVED | | |

| PROJECT NO. | CONTROL | REV. | MAP |
|-------------|---------|------|-----|
| 1774274 | | | 4 |





- LEGEND**
- AREA OF PREVIOUS DISTURBANCE, NO ARCHAEOLOGICAL POTENTIAL
 - ARCHAEOLOGICAL POTENTIAL, STAGE 2 TEST PIT SURVEY RECOMMENDED
 - BOUNDARY
 - LANCI PIT BOUNDARY
 - STUDY AREA SUBJECT TO STAGE 2 ARCHAEOLOGICAL ASSESSMENT



NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
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PROJECT
 STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT
 CBM LANCI PIT EXPANSION - ABERFOYLE
 PART OF LOT 25, CONCESSION 1, TOWNSHIP OF PUSLINCH,
 COUNTY OF WELLINGTON

TITLE
STAGE 1 AREAS OF ARCHAEOLOGICAL POTENTIAL

| | | |
|------------|------------|------------|
| CONSULTANT | YYYY-MM-DD | 2018-10-25 |
| DESIGNED | JT | |
| PREPARED | JT/SO | |
| REVIEWED | KP | |
| APPROVED | | |

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- LEGEND**
- PHOTO LOCATION AND DIRECTION
 - AREA OF ARCHAEOLOGICAL POTENTIAL, SUBJECT TO STAGE 2 TEST PIT SURVEY AT 5M INTERVALS
 - AREA OF STEEP SLOPE, NO STAGE 2 TEST PIT SURVEY
 - AREA OF PREVIOUS DISTURBANCE, NO ARCHAEOLOGICAL POTENTIAL, NO STAGE 2 TEST PIT SURVEY
 - BOUNDARY
 - LANCI PIT BOUNDARY
 - STUDY AREA SUBJECT TO STAGE 2 ARCHAEOLOGICAL ASSESSMENT



NOTE(S)
 1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
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PROJECT
**STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT
 CBM LANCI PIT EXPANSION - ABERFOYLE
 PART OF LOT 25, CONCESSION 1, TOWNSHIP OF PUSLINCH,
 COUNTY OF WELLINGTON**

TITLE
STAGE 2 ARCHAEOLOGICAL ASSESSMENT METHODS

| | | |
|------------|------------|------------|
| CONSULTANT | YYYY-MM-DD | 2018-10-25 |
| DESIGNED | JT | |
| PREPARED | JT/SO | |
| REVIEWED | KP | |
| APPROVED | | |

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10.0 IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

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Special risks occur whenever archaeological investigations are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain archaeological resources. The sampling strategies incorporated in this study comply with those identified in the Ministry of Tourism, Culture and Sport's 2011 *Standards and Guidelines for Consultant Archaeologists*.

Signature Page

Golder Associates Ltd.



Kendra Patton, M.A.
Project Archaeologist



Bradley Drouin
Senior Archaeologist, Associate

KP/BD/lb/lb

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