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May 5, 2015

Lafe Meicenheimer (P457)
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**RE: Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "STAGE 1 ARCHAEOLOGICAL ASSESSMENT North Kent Wind Project Various Lots and Concessions Former Townships of Chatham and Dover, Historical County of Kent Now Municipality of Chatham-Kent, Ontario", Dated Apr 27, 2015, Filed with MTCS Toronto Office on N/A, MTCS Project Information Form Number P457-0006-2015**

Dear Mr. Meicenheimer:

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].

Please note that the ministry makes no representation or warranty as to the completeness, accuracy or quality of reports in the register[2].

Should you require further information, please do not hesitate to send your inquiry to ArchaeologyReports@Ontario.ca.

cc. Archaeology Licensing Officer
Becky Grieve,AECOM
Zeljko Romic,Ministry of the Environment and Climate Change

[1]This letter constitutes the Ministry of Tourism, Culture and Sport's written comments where required pursuant to section 22 of O. Reg. 359/09, as amended (Renewable Energy Approvals under the Environmental Protection Act), regarding the archaeological assessment undertaken for the above-captioned project. Depending on the study area and scope of work of the archaeological assessment as detailed in the report, further archaeological assessment reports may be required to complete the archaeological assessment for the project under O. Reg. 359/09. In that event Ministry comments pursuant to section 22 of O. Reg. 359/09 will be required for any such additional reports. This letter constitutes the Ministry of Tourism, Culture and Sport's written comments where required pursuant to section 22 of O. Reg. 359/09, as amended (Renewable Energy Approvals under the Environmental Protection Act), regarding the archaeological assessment undertaken for the above-captioned project. Depending on the study area and scope of work of the archaeological assessment as detailed in the report, further archaeological assessment reports may be required to complete the archaeological assessment for the project under O. Reg. 359/09. In that event Ministry comments pursuant to section 22 of O. Reg. 359/09 will be required for any such additional reports. fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate,

incomplete, misleading or fraudulent.

[2]In no way will the ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or

27 April 2015

# STAGE 1 ARCHAEOLOGICAL ASSESSMENT

## North Kent Wind Project
## Various Lots and Concessions
## Former Townships of Chatham and Dover,
## Historical County of Kent
## Now Municipality of Chatham-Kent, Ontario

ORIGINAL REPORT

Submitted to:
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| | |
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| Licensee: | Lafe Meicenheimer, M.A. (P457) |
| PIF Number: | P457- 0006-2015 |
| PPA Number: | TBD |

Report Number: 1521110-1000-R01

Distribution:

1 Copy - AECOM
1 Copy - Samsung Renewable Energy Inc.
1 Copy - Pattern Development
1 PDF Copy - Ministry of Tourism, Culture and Sport
2 Copies - Golder Associates Ltd.

# 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 archaeological background study was conducted by Golder Associates Ltd. (Golder) on behalf of AECOM Canada Ltd. for the North Kent Wind Project (Map 1). The project is being proposed by North Kent Wind 1 LP, by its general partner, North Kent Wind 1 GP Inc. (North Kent Wind). North Kent Wind is a joint venture limited partnership owned by affiliates of Pattern Renewable Holdings Canada ULC (Pattern Development) and Samsung Renewable Energy Inc. (Samsung Renewable Energy).

This Stage 1 assessment was undertaken to meet the requirements of the client's application for a Renewable Energy Approval (REA), as outlined in Ontario Regulation 359/09 Section 22(3) of the Environmental Protection Act (Government of Ontario 1990c). The Green Energy Act (Government of Ontario 2009) enabled legislation governing project assessments and approvals to be altered to allow for a more streamlined Renewable Energy Approval (REA) process. Under Section 21 and 22 of the REA, an archaeological assessment must be conducted if the proponent concludes that engaging in the project may have an impact on archaeological resources. Currently, Ontario Regulation 359/09 of the Environmental Protection Act governs the REA process for renewable energy projects such as wind, anaerobic digestions, solar and thermal treatment facilities.

The North Kent Wind Project Stage 1 assessment area encompasses approximately 14,997 hectares of public and privately owned lands situated north of the City of Chatham in the former Townships of Chatham and Dover, Kent County, now Municipality of Chatham-Kent, Ontario (Map 1). The Stage 1 assessment area is generally bounded by Oldfield Line to the north, Winter Line Road to the west, Pioneer Line and Pine Line/ Darrell Line to the south, and Centre Side Road and Caledonia Road to the east. Approximately 50 wind turbine locations are currently being assessed for the North Kent Wind Project, but have not been finalized.

The North Kent Wind Project is anticipated to be categorized as a Class 4 wind facility with a total nameplate capacity of up to 100 MW. The major components of this project are expected to include commercial wind turbines with a nominal power up to 3.2 MW, concrete turbine foundations, pad mounted step-up transformers, turbine access roads, buried and overhead collector lines, a collector substation, a microwave tower, meteorological towers, buried and overhead transmission lines and interconnection station, temporary construction areas for the erection of wind turbines, and an operations and maintenance building.

The objective of the Stage 1 assessment was to compile all available information about the known and potential cultural heritage resources within the assessment area and to provide specific direction for the protection, management and/or recovery of these resources, consistent with Ontario Ministry of Tourism, Culture and Sport's (MTCS) Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011).

Golder applied archaeological potential criteria commonly used by the MTCS to determine the presence of archaeological potential within the Stage 1 assessment area. The archaeological potential for pre-contact Aboriginal sites within the Stage 1 assessment area was deemed to be high. This assessment was based on the presence of pre-contact Aboriginal sites in the vicinity of the Stage 1 assessment area, and the presence of natural potable water sources running through the assessment area. The archaeological potential for Euro-Canadian sites within the Stage 1 assessment area was deemed to be high. This determination was based on

the documentation indicating occupation in the vicinity from the late 18th to early 19th centuries onwards, as well as the presence of historic transportation routes, and properties within the assessment area that have been listed on a municipal heritage register.

Based on the background research, it is recommended that Stage 2 archaeological assessment be performed for all areas that will be impacted by the proposed project (Map 8). The following methods are recommended for the Stage 2 property survey:

- A Stage 2 archaeological assessment will be conducted by a licenced archaeologist using the pedestrian survey method at 5 metre intervals in all areas that will be impacted by the project and where ploughing is possible (e.g., agricultural fields). This assessment will occur when the agricultural fields have been recently ploughed, weathered, and exhibit at least 80% surface visibility;
- A Stage 2 archaeological assessment will be conducted by a licenced archaeologist using the test pit survey method at 5 metre intervals in all areas that will be impacted by the project and where ploughing is not possible (e.g., wood lots, overgrown areas, manicured lawns);
- Poorly drained areas, areas of steep slope and areas of previous disturbance (e.g., road ROWs, buildings) identified within all areas that will be impacted by the project are to be mapped and photo-documented, but are not recommended for Stage 2 archaeological assessment as they possess low to no archaeological potential; and
- The Stage 2 archaeological assessment will follow the requirements set out in the Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011).

The Ontario Ministry of Tourism, Culture and Sport is asked to review the results and recommendations presented herein, accept this report into the Provincial Register of archaeological reports and issue a standard letter of concurrence with the findings presented herein.

# Project Personnel

| | |
|---|---|
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| Project Manager | Bradley Drouin, M.A. (P311), Senior Archaeologist |
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# Acknowledgements


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# 1.0 PROJECT CONTEXT

## 1.1 Development Context

Golder Associates Ltd. (Golder) was contracted by AECOM Canada Ltd. to perform a Stage 1 archaeological background study for the North Kent Wind Project (Map 1). The project is being proposed by North Kent Wind 1 LP, by its general partner, North Kent Wind 1 GP Inc. (North Kent Wind). North Kent Wind is a joint venture limited partnership owned by affiliates of Pattern Renewable Holdings Canada ULC (Pattern Development) and Samsung Renewable Energy Inc. (Samsung Renewable Energy).

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The North Kent Wind Project Stage 1 assessment area encompasses approximately 14,997 hectares of public and privately owned lands situated north of the City of Chatham in the former Townships of Chatham and Dover, Kent County, now Municipality of Chatham-Kent, Ontario (Map 1). The Stage 1 assessment area is generally bounded by Oldfield Line to the north, Winter Line Road to the west, Pioneer Line and Pine Line/ Darrell Line to the south, and Centre Side Road and Caledonia Road to the east. Approximately 50 wind turbine locations are currently being assessed for the North Kent Wind Project, but have not been finalized.

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The objective of the Stage 1 assessment was to compile all available information about the known and potential cultural heritage resources within the assessment area 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 (Government of Ontario 2011), the objectives of the Stage 1 archaeological background study are as follows:

- To provide information about the Stage 1 assessment area's geography, history, previous archaeological fieldwork and current land conditions;
- To evaluate in detail the Stage 1 assessment 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 Stage 1 assessment area;
- A review of the land use history, including pertinent historic maps; and
- An examination of the Ontario Archaeological Sites Database (OASD) to determine the presence of known archaeological sites in and around the project area (MTCS 2014).

Background research was also conducted at the Crown Land Survey Records Office at the Ministry of Natural Resources and Forestry in Peterborough, and Golder's corporate library.

The Stage 1 background study was conducted under archaeological consulting licence P457, issued to Lafe Meicenheimer, M.A. of Golder by the Ontario Ministry of Tourism, Culture and Sport, PIF # P457-0006-2015. A property inspection was not conducted as part of the Stage 1 archaeological assessment, as it was clearly demonstrated by the background research that the entire Stage 1 assessment area exhibits archaeological potential (see Section 2.0).

## 1.2 Historical Context

The Stage 1 assessment area is situated in an area of Ontario that exhibits evidence of an extended period of human settlement dating back at least 11,000 years. To provide context to the following sections of this report, the nature of this settlement is summarized below beginning with the pre-contact Aboriginal period as it relates to southwestern Ontario in general (Map 2). This is followed by a summary of the historic Euro-Canadian period for Chatham and Dover Townships in general and the Stage 1 assessment area in particular.

### 1.2.1 Pre-Contact Aboriginal Period

Table 1 provides a general outline of the pre- and post-contact culture history for southwestern Ontario, drawn from Ellis and Ferris (1990).

Table 1: Cultural Chronology for Southwestern Ontario

| Period | Characteristics | Time | Comments |
|---|---|---|---|
| Early Paleo-Indian | Fluted Projectiles | 9000 - 8400 B.C. | spruce parkland/caribou hunters |
| Late Paleo-Indian | Hi-Lo Projectiles | 8400 - 8000 B.C. | smaller but more numerous sites |
| Early Archaic | Kirk and Bifurcate Base Points | 8000 - 6000 B.C. | slow population growth |
| Middle Archaic | Brewerton-like points | 6000 - 2500 B.C. | environment similar to present |
| Late Archaic | Narrow Points (Lamoka) | 2000 - 1800 B.C. | increasing site size |
| | Broad Points | 1800 - 1500 B.C. | large chipped lithic tools |
| | Small Points | 1500 - 1100 B.C. | introduction of bow hunting |
| Terminal Archaic | Hind Points | 1100 - 950 B.C. | emergence of true cemeteries |

| Period | Characteristics | Time | Comments |
|---|---|---|---|
| Early Woodland | Meadowood Points | 950 - 300 B.C. | introduction of pottery |
| Middle Woodland | Vertical Cord-Marked Pottery, Couture Complex | 300 B.C. - A.D.500 | Hopewell Influence |
| Late Woodland | Riviere au Vase | A.D. 500 – 900 | introduction of corn |
| | Young Phase | A.D. 900 – 1200 | dense storage pits, proto-settlements |
| | Springwell Phase | A.D. 1200 – 1400 | emergence of agricultural villages |
| | Wolf Phase | A.D. 1400 – 1550 | palisaded villages, tribal warfare and displacement |
| Contact Aboriginal | Various Algonquian Groups | A.D. 1700 – 1875 | early written records and treaties |
| Historic | Euro-Canadian | A.D. 1796 – present | European settlement |

## Paleo Period

The first human occupation of the southwestern Ontario begins just after the end of the Wisconsin Glacial Period and is known as the Paleo 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 settlement patterns suggest that small bands, that consisted of probably no more than 25 to 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. 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, with all of southwestern Ontario being occupied by perhaps only 100 to 200 people (Ellis and Deller 1990:54). Because this is the case, Early Paleo sites are exceedingly rare.

While the Late Paleo Period (8400-8000 B.C.) is more recent, it has been less well researched, and is consequently poorly understood. By this time the environment of southwestern Ontario was coming to be dominated by closed coniferous forests with some minor deciduous elements. 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.

During the late Paleo Period people continued to cover 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.

The end of the Paleo Period was heralded by numerous technological and cultural innovations that appeared throughout the Archaic Period. These innovations may be best explained in relation to the dynamic nature of the post-glacial environment and region-wide population increases.

## Archaic Period

During the Early Archaic period (8000-6000 B.C.), the jack and red pine forests that characterized the Late Paleo-Indian environment were replaced by forests dominated by white pine with some associated deciduous trees (Ellis, Kenyon and Spence 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 B.C.) the trend to more diverse toolkits continued, as the presence of net-sinkers suggest that fishing was becoming an important aspect of the subsistence economy. It was also at this time that "bannerstones" were first manufactured (Ellis, Kenyon and Spence 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, Kenyon and Spence 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, Kenyon and Spence 1990:66). By 3,500 B.C. the local environment had stabilized in a near modern form (Ellis, Kenyon and Spence 1990:69).

During the Late Archaic (2000-950 B.C.) 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, Kenyon and Spence 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, Kenyon and Spence 1990:66-67, 106, 117).

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, Kenyon and Spence 1990:117). 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, Kenyon and Spence 1990:111). Birdstones are small, bird-like effigies usually manufactured from green banded slate.

### Woodland Period

The Early Woodland period (950-400 B.C.) 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, Pihl and Murphy 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, Pihl and Murphy 1990:129).

Likewise, the thin, well-made projectile points which were 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, Pihl and Murphy 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, Pihl and Murphy 1990:138).

In terms of settlement and subsistence patterns, the Middle Woodland (400 B.C. - A.D. 500) 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, Pihl and Murphy 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, Pihl and Murphy 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 Ontario Iroquoian and Western Basin are two archaeological traditions that characterize pre-contact Aboriginal communities living in the Chatham-Kent area of southwestern Ontario from about A.D. 500 to 1650. Peoples of the Western Basin Tradition lived throughout the southwestern-most portion of the province, from the present-day Sarnia/Windsor area to about London. Iroquoian peoples, on the other hand, appear to have lived from the present-day Chatham area east to Toronto. Each of these traditions are divided into distinct temporal phases (see Table 1) defined by material cultural attributes, and settlement and subsistence patterns that exhibit a shift towards larger and more permanent villages due to an increasing reliance on cultivated plants such as corn, beans, squash, sunflower, and tobacco (Dodd et al. 1990; Forman 2011; Fox 1990; Lennox and Fitzgerald 1990; Murphy and Ferris 1990).

After 1525 A.D. communities of pre-contact Aboriginals 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 1600's and early 1700's, 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 ongoing wars between the Huron and the League Iroquois located in upper New York State. It has been satisfactorily demonstrated that the Late Ontario Iroquoian communities which were located in southwestern Ontario as far west as the Chatham area were ancestral to at least some of the Neutral Nation groups (Lennox and Fitzgerald 1990; Smith 1990:283). For this reason the Late Ontario Iroquoian groups which occupied southwestern Ontario prior to the arrival of the French are often identified as "Prehistoric Neutral". They occupied a large area extending along the Grand River and throughout the Niagara Peninsula as far east as Fort Erie and Niagara Falls (Lennox and Fitzgerald 1990:448).

### 1.2.2 Post-Contact Aboriginal History

The post-contact Aboriginal occupation of southern Ontario was heavily influenced by the dispersal of various Iroquoian-speaking peoples, such as the Huron and closely related Petun, 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). The nature of their settlement size, population distribution, and material culture shifted as European settlers encroached upon their territory. However, despite this shift, "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). First Nation peoples of southern Ontario have left behind archaeologically significant resources throughout Southern Ontario which show continuity with past peoples, even if they have not been recorded in historical Euro-Canadian documentation.

### 1.2.3 Historic Euro-Canadian Period

The North Kent Wind Project Stage 1 assessment area is located within the boundaries of the former Townships of Chatham and Dover, in the historical County of Kent, Ontario. The Euro-Canadian history for this area of southwestern Ontario began in 1790 when a land treaty, known as Treaty No. 2, was made between the British government and local aboriginal groups. Treaty No. 2:

> ... was made with the O[dawa], Chippew[a], Pottawatom[i] and Huro[n] May 19th, 1790, portions of which nations had established themselves on the Detroit River all of whom had been driven by the Iroquois from the northern and eastern parts of the Province, from the Detroit River easterly to Catfish Creek and south of the river La Tranche [Thames River] and Chenail Ecarte, and contains Essex County except Anderdon Township and Part of West Sandwich; Kent County except Zone Township, and Gores of Camden and Chatham; Elgin County except Bayham Township and parts of South Dorchester and Malahide. In Middlesex County, Del[a]ware and Westminster Townships and part of North Dorchester [are included].
>
> Morris 1943:17

While it is difficult to delineate treaty boundaries exactly today, Map 3 provides an approximate outline of the limits of Treaty No. 2.

Following this land treaty, and in response to numerous land petitions from United Empire Loyalists, the British government ordered crown surveys to be completed for the tract of land that would become Kent County. Within Chatham and Dover Townships in particular, the lots fronting on the Thames River were surveyed according to the single front survey system by Patrick McNiff between 1790 and 1791 (Kent Historical Society 1939). The interior portions of these townships were later surveyed according to the same system by Abraham Iredell, William Hambly, and Thomas Smith between 1795 and 1810.

Aside from some early squatters that had arrived in the area early as 1780, formal settlement of Chatham and Dover Townships was not initiated until 1792 when United Empire Loyalists and French immigrants began locating along the banks of the Thames River (H. Belden & Co. 1880; Lauriston 1989). Settlement of the lands north of the Thames did not begin until 1803 when a group of 111 Scottish immigrants arrived in Dover

Township. Brought to the area by the patronage of the Earl of Selkirk, these early pioneers initially settled in the northern corner of the township on the Earl's estate, known as the Baldoon farm. Eventually forced off of the settlement by rising water levels, many of these early settlers relocated within the interior of Dover and Chatham Townships during the early 19th century. Additional settlement of the interior portions of Chatham and Dover Townships did not occur until the 1830s when an influx of settlers, primarily from Northern Ireland and Scotland, began arriving in the area. These settlers typically located along the well-drain banks of Pain Court and Big Creeks (Lauriston 1989).

Once the well-drained lands in Chatham and Dover Township were taken up, the pace of growth and development in the area remained relatively slow. By 1846, these townships had a cumulative population of only 2,041 (Smith 1846). The slow rate of settlement in the area was undoubtedly related to the flat topography and the poor natural drainage of the landscape, which hindered agricultural development and the prosperity of local farmers in the area. This hypothesis is supported by the fact that in 1846, only 3.9% of the cumulative acreage available in Dover and Chatham Townships was under cultivation.

In 1852, the Great Western Railway was constructed just beyond the southern limits of Chatham and Dover Townships, with a station situated in the Town of Chatham. The introduction of railway communication, along with an increased demand for timber to be used for building and fuel purposes, appears to have triggered some additional growth and development in the Kent County area (Kent Historical Society 1939). By 1861, the population of Chatham Township had reached 3,585, while the population of Dover Township had reached 2,636 (McEvoy et al. 1867).

During the late 19th century, growth and development of Chatham and Dover Townships began to significantly diverge. By 1880, the population of Chatham Township had increased to 5,048 and was considered by local residents to be 90% settled (Ontario Agriculture Commission 1880). This comparatively fast pace of growth between 1861 and 1880 can likely be attributed to the introduction of funding for roadside drainage ditches in 1872 and tile underdrains in 1879 (Jones 1946, Herniman 1968), which drastically improved the drainage characteristics of the area, and by extension, the success of the local farmers. Proceeding into the 20th century, the population in Chatham Township continued to grow, eventually reaching 6,916 in 1980 (Carter 1984:221).

In contrast to the growth experienced in Chatham Township during the late 19th century, by 1880, the population of Dover Township had decreased to 2,128 and the township was considered only 75% settled (Ontario Agriculture Commission 1880). This decrease in population between 1861 and 1880 can likely be attributed to the effects of urban expansion in the nearby Town of Chatham to the east, which, along with the Great Western Railway, functioned as the township's primary market facility. Despite this late 19th century decrease, Dover Township experienced some renewed prosperity in the 20th century, with populations rising to 4,237 by 1980 (Carter 1984:319).

In 1998, Chatham and Dover Townships were amalgamated with the City of Chatham and the rest of Kent County to form the new Municipality of Chatham-Kent. In 2011, this new municipality boasted a population of 103,671 residents (Statistics Canada 2011).

#### 1.2.3.1 Organized Communities

Over the course of the 19th century, several urban and rural communities developed in the Townships of Chatham and Dover. In particular, the rural communities of Oungah and Oldfield were both located within the limits of the Stage 1 assessment area. Just beyond the limits of the assessment area were the secondary urban centre of Pain Court, the Town (later City) of Chatham, and the rural communities of Baldoon and Darrell.

##### Oungah

Located at the centre of the townline between Dover and Chatham Townships was the community of Oungah. A post office was established in this small community in 1853 and by 1873, the population was reportedly 50 residents (Lovell 1873). By the late 19th century, the population had grown to roughly 90 individuals, enabling the community to support a general store, a grocery store, a lumber manufacturer, a hotel, and a saw mill (Union Publishing Co. 1886, Lovell 1895). Throughout the 20th century, the population of Oungah slowly decreased, eventually reaching 11 individuals in 1976 (Carter 1984:892). In 1998, this community was incorporated within the new Municipality of Chatham-Kent.

##### Oldfield

Oldfield was a dispersed rural community located in the northwest portion of Chatham Township, near the town line with Dover Township. A post office was first established in Oldfield in 1876 (Carter 1984:870). By 1892, this community had 50 residents and contained a general store and hotel (Carter 1984, Union Publishing Co. 1903). The community of Oldfield did not experience any significant growth in the 20th century and became a part of the Municipality of Chatham-Kent in 1998.

##### Pain Court

The community of Pain Court, also known as Dover South, is a secondary urban centre situated north of the Thames River in the southeastern portion of the former Dover Township. Settlers of French descent from Detroit first began arriving in the area that would eventually be known as Pain Court in the late 18th century. In 1828, the Pain Court settlement was surveyed and by 1852 a chapel had been built in the area. The chapel quickly became the cultural and educational centre of French-speaking Catholics in the area. By 1860, when a post office was established, Pain Court had become a small village (Carter 1984:898). In 1873, this community had a population of 100 residents (Lovell 1873). This number rose to 175 in 1886, at which point Pain Court also contained a carriage manufacturer, two grocery stores, two lumber manufacturers, one saw mill, three blacksmiths, one carpenter, one shoemaker, and one insurance agency (Union Publishing Co. 1886). Throughout the 20th century, Pain Court experienced some modest growth with populations rising to 403 in 1976 (Carter 1984:898). In 1998, Pain Court was incorporated within the new Municipality of Chatham-Kent.

##### Town (later City) of Chatham

Located along the banks of the Thames River, partly within the former Townships of Chatham, Dover, Raleigh, and Harwich, was the community that would eventually be known as the Town of Chatham. Named for a place in

England by Governor Simcoe, Chatham's town plot was first laid out and surveyed in 1795 by Deputy Surveyor Abraham Iredell (Kent Historical Society 1939). Grants of town lots were made as early as 1802 and in 1816 a post office known as McGregor's Creek was established in the community (Carter 1984:742). Fifteen years later, the first public school was erected in the community and by 1833, Chatham's population had reached 300 individuals (Kent Historical Society 1939). The pace of growth and development in the community of Chatham increased rapidly during the mid-19th century. In 1846, the community had a population of 1,500 inhabitants and contained two grist mills, two saw mills, two breweries, three distilleries, one tannery, ten stores, four groceries, one pottery, one maltster, six tailors, two saddlers, three shoemakers, ten taverns, one printing office, one watchmaker, one gunsmith, eight blacksmiths, three cabinet makers, one hatter, one tinsmith, two carriage makers, one foundry, two bakers, one tallow chandler, two asheries, one livery stable, one bookseller and stationer, two banks, one land agency, three schools, five doctors, one lawyer, and one dentist (Smith 1846). This rapid growth prompted Chatham's incorporation as a village in 1850 (Carter 1984:742). Two years later, railway communication was established in the area by the completion of the Great Western Railway. Construction of this railway triggered additional growth and development in the Village of Chatham, which was incorporated as a town in 1855 and by 1857, contained a population of 6,000 individuals. The Town of Chatham continued to prosper throughout the late 19th century and was eventually incorporated as a city in 1895. During the 20th century, the City of Chatham expanded beyond its 19th century limits into the surrounding agricultural landscape, and by 1980, was home to 40,928 residents. In 1998, the City of Chatham was amalgamated with the rest of Kent County to form the Municipality of Chatham-Kent.

### Baldoon

Baldoon was a dispersed rural community located in the north-central portion of Dover Township at the intersection between Concession 11 and Little Bear Line. Founded in 1804 by Lord Selkirk and named for a village in the Highlands of Scotland, Baldoon remained a small community for much of the 19th century (Carter 1984:55). A post office was first established in Baldoon in 1875. By 1895, the community had a population of 30 individuals and contained a Methodist church, two stores, saw and grist mills, and a carriage factory (Lovell 1895). In the early 20th century, Baldoon's population began to decrease, reaching 25 in 1926 (Carter 1984:55). In 1998, this community was incorporated within the new Municipality of Chatham-Kent.

### Darrell

The community of Darrell was located in the south-central portion of Chatham Township. This rural community was first established in 1863 when a post office of the same name was constructed in the area (Carter 1984:1065). By 1895, the population of Darrell had reached roughly 260 individuals, and the community contained a general store and lumber manufacturer (Lovell 1895). Throughout the 20th century, the population of Darrell slowly decreased and in 1998, the community was amalgamated into the new Municipality of Chatham-Kent.

#### 1.2.3.2 Historic Structur es and Heritage Properties

Although relatively sparse in their details, the 1880 maps of Dover and Chatham Townships in the Illustrated Historical Atlas of Kent County (Maps 4 and 5) indicate the presence of various types of structures within the limits of the present Stage 1 assessment area.

Within Dover Township, 17 residential structures, three schoolhouses, two churches, one town hall, one grange hall, one hotel, and one saw mill are all depicted within the limits of the assessment area. Two additional residential structures are also depicted just beyond the limits of the Stage 1 assessment area.

The structures that are depicted within the limits of the Stage 1 assessment area in Chatham Township include 25 residential structures, two schoolhouses, and two churches. Just beyond the limits of the assessment area are six additional residential structures and two additional churches.

The limited representation of residential structures on the 1880 historical atlas maps can likely be attributed to poor atlas subscribership for the area; therefore, it is highly likely that additional residential structures were located on parcels to be optioned for the North Kent Wind Project during the 19th century.

In addition to the above noted structures identified on the historical atlas maps, inspection of the Municipality of Chatham-Kent's Municipal Heritage Register (2010) indicates that three listed properties with cultural heritage value or interest occur within the limits of the North Kent Wind Project Stage 1 assessment area (Table 2). No properties formally designated under the Ontario Heritage Act (Government of Ontario 1990a) occur within the limits of the assessment area.

Table 2: Listed Heritage Properties in the North Kent Wind Project Stage 1 Assessment Area

| Former Township | Concession/ Community | Part of Lot | Civic Address | Comments |
|---|---|---|---|---|
| Dover | 10 | 24 | 8576 Dover Centre Line | 2 ½ storey Queen Anne style red brick farmhouse, built 1902 |
| Chatham | 6 | 1 | 8613 Eberts Line | Single storey red brick former schoolhouse, built ca. 1900, converted into private dwelling |
| Chatham | 13 | 8 | 9630 Oldfield Line | 1 ½ storey frame farmhouse, built ca. 1880 in a vernacular Gothic Revival style |

## 1.3 Archaeological Context

### 1.3.1 Stage 1 Assessmen t Area Overview

Since a property inspection was not performed as part of this Stage 1 background study, a general overview of the land uses within the limits of the Stage 1 assessment area was compiled by inspecting topographical maps (Natural Resources Canada 1990, 2001) and the Municipality of Chatham-Kent's Comprehensive Zoning By-laws (2014).

In general, the land use within the Stage 1 assessment area is primarily devoted to agricultural purposes; the majority of the land has been cleared with only a few minor wooded areas remaining. In addition to agricultural

fields, the farm properties located across the Stage 1 assessment area typically include a residential area with various associated outbuildings (e.g., barns, sheds) situated in close proximity to the concession road. In some cases, the farm properties have also been severed to accommodate non-farm residential or commercial uses. It is likely that manicured lawns and/or overgrown areas are associated with many of the residential or commercial areas. Minor portions of the Stage 1 assessment area are also classified as rural settlements (i.e., Oungah and Dover Centre).

The road network traversing the Stage 1 assessment area includes a combination of local, rural collector, and rural arterial roads, which generally correspond to the original 19th century survey grids. King's Highway 40, or St. Clair Road, also runs through the central portion of the assessment area, forming the boundary between the historical Townships of Dover and Chatham. In order to improve the natural drainage of the landscape, many of the roads situated within the assessment area are flanked by municipal drains that ultimately outlet into Lake St. Clair to the west. In addition to these drains, several natural watercourses also meander through the assessment area (see Section 1.3.2 below). Finally, a branch of the CSX Railway runs in a northerly direction through the eastern portion of the assessment area, and two hydro-electric corridors run in a northwesterly direction through the central portion of the assessment area.

Thus, it appears that the Stage 1 assessment area predominantly consists of agricultural fields, with some minor wooded areas, municipal ROWs, possible manicured lawns and overgrown areas, and areas with no to low archaeological potential (i.e., water courses, previously disturbed areas).

### 1.3.2 The Natural Environment

The Stage 1 assessment area is situated entirely within the Chatham Flats portion of the "St. Clair Clay Plains" physiographic region defined by Chapman and Putnam (1984:147):

> Adjoining Lake St. Clair in Essex and Kent Counties … are extensive clay plains covering 2,270 square miles. The region is one of little relief, lying between 575 and 700 feet a.s.l.…Glacial Lake Whittlesey, which deeply covered all of these lands, and Lake Warren which subsequently covered nearly the whole area, failed to leave deep stratified beds of sediment on the underlying clay…. Most of Lambton and Essex Counties, therefore, are essentially till plains smoothed by shallow deposits of lacustrine clay which settled in the depressions while the knolls were being lowered by wave action. In general the levelling is better done in Essex than in Lambton. [In contrast to Essex and Lambton Counties, t]he very flat tract of land east of Lake St. Clair [ in Kent County, known as the Chatham Flats,] was submerged after the disappearance of Lake Warren in a correlative of Early Lake Algonquin and received a deeper covering of stratified clay and silt.
>
> Chapman and Putnam, 1984:146

This physiographic region has produced the very flat localized topography of the Stage 1 assessment area, which has an elevation ranging between 177 and 181 metres above sea level. East of the assessment area, land elevations rise to a height of 190 metres above sea level. This gradient produces a west-trending natural surface drainage into Lake St. Clair throughout the majority of the assessment area. Natural drainage of the assessment area is largely provided by five minor watercourses: Little Bear Creek, Big Creek, Rankin Creek, Boyle Drain, originally known as Cheffs Creek, and a branch of McFarlane Drain, originally known as Pain Court Creek (LTVCA 2008, SCRCA 2013; Lauriston 1983). Due to the relatively flat topography of the area, sections of these watercourses have been artificially straightened to improve their drainage capacity. One secondary water source, a small marsh located southwest of Centre Sideroad, was also identified within the present study.

Although additional secondary water sources no longer exist in the area, research indicates that prior to Euro-Canadian settlement, the majority of the Stage 1 assessment area was likely a swamp forest of elm, black ash, white ash, and silver or red maple (Chapman and Putnam 1984:150). This feature of the natural environment hindered agricultural development in the area until artificial drainage works were first established by the local municipalities in the late 19th century (Jones 1946, Herniman 1968). Today, the large network of road-side flanking drainage ditches forms an integral part of the local landscape.

According to the Soil Map for the County of Kent (Ontario Agricultural College 1930) (Map 6), five main soil types occur within the Stage 1 assessment area. The soils within the southwestern portion of the assessment area are comprised mainly of the highly fertile Brookston clay loam series, which exhibits poor natural drainage. The soils within the central portion of the assessment area are dominated by the Brookston sandy loam series and the Berrien sandy loam series, which both exhibit imperfect natural drainage. A large pocket of the poorly drained Clyde loam series also occurs near the northwestern boundary of the assessment area. Finally, the imperfectly drained Thames clay loam series occurs along the banks of Little Bear Creek and Rankin Creek.

Lying beneath the surficial features of the area are bedrock deposits that date to the Middle and Upper Devonian Periods and consist of the Hamilton Formation and the Kettle Point Formation (Hewitt 1972). The Hamilton Formation outcrops in portions of Middlesex, Elgin, Lambton, Kent, and Essex Counties of southwestern Ontario. This formation consists predominantly of grey shale with interbeds of grey crystalline cherty limestone and has a thickness ranging between 80 and 300 feet. The Kettle Point Formation outcrops principally in the Lambton and Kent County areas. It consists primarily of thin-bedded, fissile grey to black bituminous shale and varies from 40 to 290 feet in thickness. Kettle Point chert is a relatively high quality raw material that outcrops from the Kettle Point Formation between Kettle Point and Ipperwash, on Lake Huron. Currently, Kettle Point occurs as submerged outcrops extending for approximately 1350 metres into Lake Huron. Secondary deposits of Kettle Point chert have been reported in Essex County and in the Ausable Basin.

### 1.3.3 Previous Archaeological Research

A search of the Ontario Archaeological Sites Database (OASD) indicated that there are 23 registered archaeological sites (5 pre-contact Aboriginal, 3 historic Euro-Canadian, 15 unknown) located within a one kilometre radius of the Stage 1 assessment area (MTCS 2015). Table 3 provides a summary of these sites. Fourteen of the registered archaeological sites (4 pre-contact Aboriginal, 10 unknown) are situated within the present assessment area, and no archaeological sites are situated within 300 metres of the assessment area limits.

Table 3: Sites Recorded within One Kilometre Radius of Stage 1 Assessment Area

| Borden Number | Site Name | Type | Cu ltural Affiliation | Approximate Distance to Stage 1 Assessment Area (m) |
|---|---|---|---|---|
| AbHn-24 | J. McKeon | Farmstead | Historic Euro-Canadian (mid-19th to early/mid-20th century) | 440 |
| AcHn-1* | Szucs 1 | Unknown | Unknown | N/A |

| Borden Number | Site Name | Type | Cu ltural Affiliation | Approximate Distance to Stage 1 Assessment Area (m) |
|---|---|---|---|---|
| AcHn-2* | Szucs 2 | Unknown | Unknown | N/A |
| AcHn-3* | J. Rankin | Unknown | Unknown | N/A |
| AcHn-4* | E. Cadotte 1 | Campsite | Pre-contact Aboriginal | N/A |
| AcHn-5* | E. Cadotte 2 | Campsite | Pre-contact Aboriginal | N/A |
| AcHn-6* | Henderson | Campsite | Pre-contact Aboriginal | N/A |
| AcHn-10 | Belanger | Campsite | Late Woodland (ca. A.D. 1,200-1,400) | 610 |
| AcHo-12 | H. Kennedey | Unknown | Unknown | 505 |
| AcHo-18* | - | Unknown | Unknown | N/A |
| AcHo-19 | Letourneau 1 | Unknown | Unknown | 775 |
| AcHo-20 | Letourneau 2 | Unknown | Unknown | 930 |
| AcHo-21 | MacPhail 1 | Unknown | Unknown | 720 |
| AcHo-22* | MacPhail 2 | Unknown | Unknown | N/A |
| AdHn-1* | Bear Creek | Unknown | Paleo-Indian, Archaic | N/A |
| AdHn-2* | - | Unknown | Unknown | N/A |
| AdHn-3* | - | Unknown | Unknown | N/A |
| AdHn-4* | - | Unknown | Unknown | N/A |
| AdHn-5* | - | Unknown | Unknown | N/A |
| AdHn-6* | - | Unknown | Unknown | N/A |
| AdHn-9 | Butler | Homestead | Historic Euro-Canadian | 450 |
| AdHn-11 | CanEnerco West | Scatter | Historic Euro-Canadian | 680 |
| AdHo-12 | O'Mara | Unknown | Unknown | 740 |

*Sites located within North Kent Wind Project Stage 1 assessment area

Based on information obtained from Robert Von Bitter, Archaeological Data Coordinator with the Ministry of Tourism, Culture and Sport, and the OASD, at least two previous archaeological assessments (ARA 2011, FAC 2013) have been conducted within the limits of the present Stage 1 assessment area.

In 2011, Archaeological Research Associates Ltd. (ARA) performed Stage 1 and 2 archaeological assessments of several small parcels of land to be potentially impacted by 11 work sites for proposed improvements to Highway 40, organized under Group Work Project (GWP) 3103-03-00 (ARA 2011; PIF# P007-359-2011). Two of the work sites proposed to be impacted by GWP 3103-03-00 were located within the limits of the North Kent Wind Project Stage 1 assessment area. Due to the identification of disturbance associated with past construction activities, the Stage 1 background study indicated that only limited portions of the project lands exhibited archaeological potential. As a result of this finding, Stage 2 property assessments were only performed for those

lands that still retained archaeological potential. The Stage 2 property assessments did not result in the identification of any archaeological materials.

A Stage 1 archaeological background study was performed by Fisher Archaeological Consulting (FAC) in 2013 for the Chatham Western Transportation Link in the Municipality of Chatham-Kent, Ontario (FAC 2013; PIF# P042-278-2012). This project involved investigating three alternative linear routes on the west and south sides of the Community of Chatham with the chosen route providing a link between Highway 401 south of Chatham and Highway 40 to the north. One of the alternative routes investigated by FAC was situated along Bear Line Road, which coincides with a boundary in the southern portion of the North Kent Wind Project Stage 1 assessment area. The Stage 1 background study concluded that portions of each alternative route that were not extensively disturbed should still retained high archaeological potential, as each of these routes mostly passed through areas adjacent to early transportation routes and were within 300 metres of a water source. Bear Line Road was indicated as an area with high archaeological potential. As a result of these findings, Stage 2 archaeological assessments were recommended for areas with high archaeological potential along each of the alternative routes, while the areas with low archaeological potential were not recommended for any further archaeological assessment.

It should also be noted that the 14 archaeological sites located within the Stage 1 assessment area limits (AcHn-1 to AcHn-6, Acho-18, AcHo-22, and AdHn-1 to AdHn-6) were all documented during the 1970s and did not have any data fields entered into the OASD. As a result of this lack of data, it is not possible at this time to provide any additional information about these sites, or the archaeological surveys that resulted in their identification.

To the best of our knowledge, no additional archaeological assessments have been conducted within 50 metres of the current Stage 1 assessment area.

Information concerning specific site locations is protected by provincial policy, and is not fully subject to the Freedom of Information Act. The release of such information in the past has led to looting or various forms of illegally conducted site destruction. Confidentiality extends to all media capable of conveying location, including maps, drawings, or textual descriptions of a site location. For this reason maps and data that provide information on archaeological site locations are provided as supplementary documentation and do not form part of this public report.

The Ministry of Tourism, Culture and Sport will provide information concerning site location to the party or an agent of the party holding title to a property, or to a licensed archaeologist with relevant cultural resource management interests.

# 2.0 ANALYSIS AND CONCLUSIONS

## 2.1 Assessing Archaeological Potential

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. 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 (eskers, 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, the 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.

### 2.1.1 Potential for Pre-contact A boriginal Archaeological Resources

As outlined in Section 1.3 above, at least five sources of natural potable water exist within the limits of the present Stage 1 assessment area. Research has also indicated that the majority of the assessment area was likely once a wooded swamp. The landscape within the assessment area is relatively flat and contains several poor to imperfectly drained soil types. Five pre-contact Aboriginal sites have also been previously registered within a one kilometre radius of the Stage 1 assessment area, including four sites that were identified within the assessment area boundaries.

Given these factors, the archaeological potential for pre-contact Aboriginal sites within the Stage 1 assessment area is deemed to be high. Areas of archaeological potential have been indicated on Map 7.

### 2.1.2 Potential for Euro-Canadian Archaeological Resources

As discussed in Section 1.2.3 above, the Townships of Chatham and Dover have a long history of Euro-Canadian occupation dating back to the late 18$^{th}$ to early 19$^{th}$ centuries.

The 1880 Maps of Chatham and Dover Townships in the Illustrated Historical Atlas of Kent County indicate that the historical communities of Oungah, Oldfield, and Pain Court were once located within the Stage 1 assessment area limits, while the Town of Chatham and the communities of Baldoon and Darrell were located in close proximity to the assessment area. Several residential buildings, school houses and churches are also depicted within the assessment area, and the road system is recognizable as the current transportation layout.

Three historic Euro-Canadian sites have also been previously registered within a one kilometre radius of the Stage 1 assessment area. Additionally, three properties listed on the Municipality of Chatham-Kent's Municipal Heritage Register (2010) occur within the limits of the North Kent Wind Project Stage 1 assessment area.

Given these factors, the archaeological potential for historic Euro-Canadian sites within the Stage 1 assessment area is deemed to be high. Areas of archaeological potential have been indicated on Map 7.

### 2.1.3 Features Indicating the Remo val of Archaeological Potential

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's 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.
>
> Government of Ontario 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.

The Ministry of Natural Resources' Pits and Quarries Online Database (Government of Ontario 2014) does not indicate the presence of any pits or quarries within the North Kent Wind Project Stage 1 assessment area. Map 7 illustrates several roads and drainage ditches traversing the assessment area. The construction of these features, as well as any other built structures (e.g., houses, outbuildings), would have likely resulted in extensive land disturbance that would have removed any archaeological potential associated with these portions of the assessment area; however, the full extent of this disturbance is not known at the present time. As a result, any previously disturbed areas identified within the areas to be impacted by the proposed project will require documentation, but will not require Stage 2 archaeological assessment as they possess low to no archaeological potential.

## 2.2 Conclusion

Golder applied archaeological potential criteria commonly used by the MTCS to determine the presence of archaeological potential within the Stage 1 assessment area. The archaeological potential for pre-contact Aboriginal sites within the Stage 1 assessment area was deemed to be high. This assessment was based on the presence of pre-contact Aboriginal sites in the vicinity of the Stage 1 assessment area, and the presence of natural potable water sources running through the assessment area. The archaeological potential for Euro-Canadian sites within the Stage 1 assessment area was deemed to be high. This determination was based on the documentation indicating occupation in the vicinity from the late 18$^{th}$ to early 19$^{th}$ centuries onwards, as well as the presence of historic transportation routes, and properties within the assessment area that have been listed on a municipal heritage register.

# 3.0 RECOMMENDATIONS

Based on the background research, it is recommended that Stage 2 archaeological assessment be performed for all areas that will be impacted by the proposed project (Map 8). The following methods are recommended for the Stage 2 property survey:

- A Stage 2 archaeological assessment will be conducted by a licenced archaeologist using the pedestrian survey method at 5 metre intervals in all areas that will be impacted by the project and where ploughing is possible (e.g., agricultural fields). This assessment will occur when the agricultural fields have been recently ploughed, weathered, and exhibit at least 80% surface visibility;
- A Stage 2 archaeological assessment will be conducted by a licenced archaeologist using the test pit survey method at 5 metre intervals in all areas that will be impacted by the project and where ploughing is not possible (e.g., wood lots, overgrown areas, manicured lawns);
- Poorly drained areas, areas of steep slope and areas of previous disturbance (e.g., road ROWs, buildings) identified within all areas that will be impacted by the project are to be mapped and photo-documented, but are not recommended for Stage 2 archaeological assessment as they possess low to no archaeological potential; and
- The Stage 2 archaeological assessment will follow the requirements set out in the Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011).

The Ontario Ministry of Tourism, Culture and Sport is asked to review the results and recommendations presented herein, accept this report into the Provincial Register of archaeological reports and issue a standard letter of concurrence with the findings presented herein.

# 4.0 ADVICE ON COMPLIAN CE WITH LEGISLATION

This report is submitted to the Minister of Tourism and Culture as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18 (Government of Ontario 1990b). 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 and Culture, 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 Section 48 and 69 of the Ontario Heritage Act for any party other than a licensed archaeologist to make any alterations 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 Archaeological reports referred to in Section 65.1 of the Ontario Heritage Act (Government of Ontario 1990b).

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 (Government of Ontario 1990b).

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.

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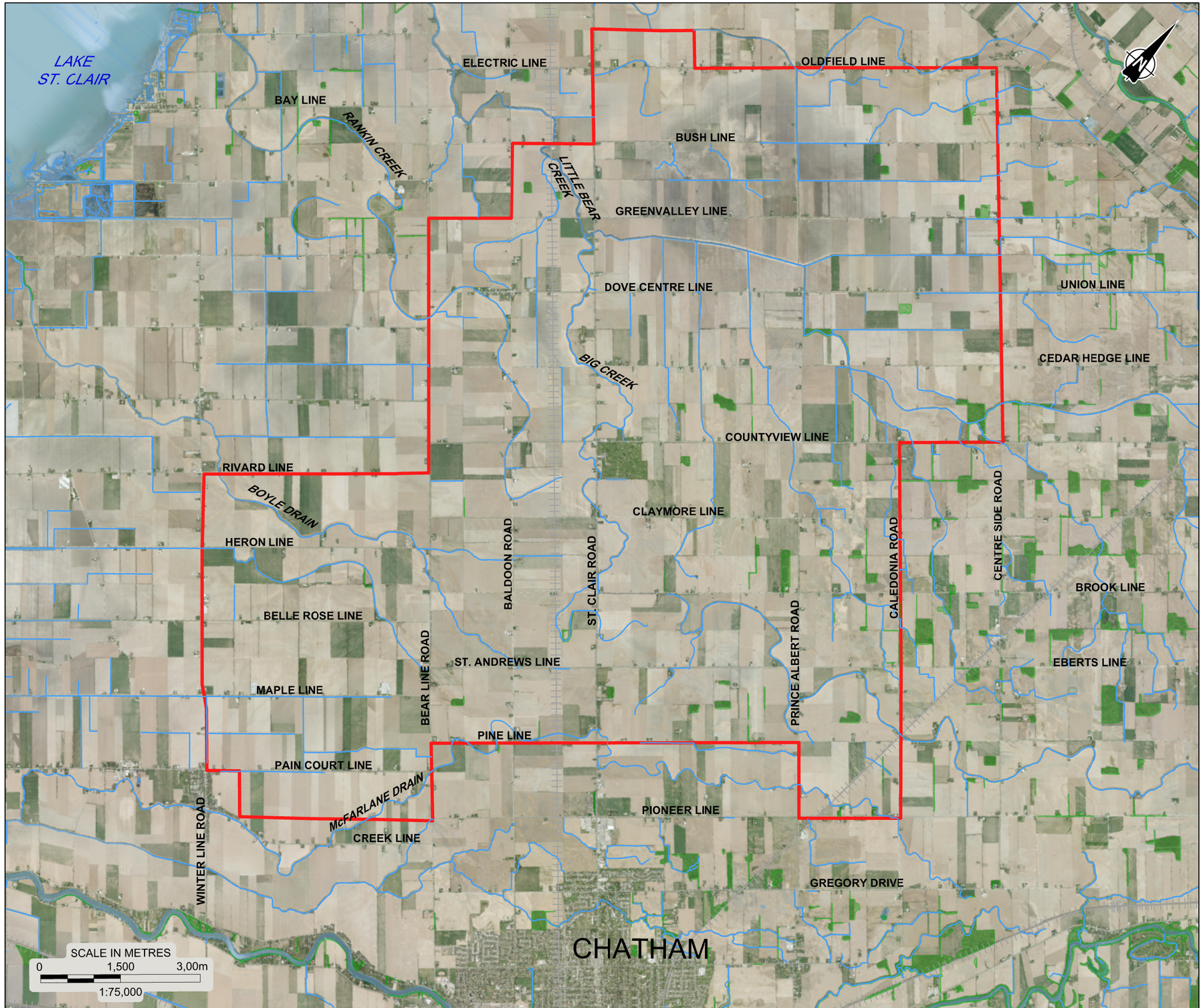
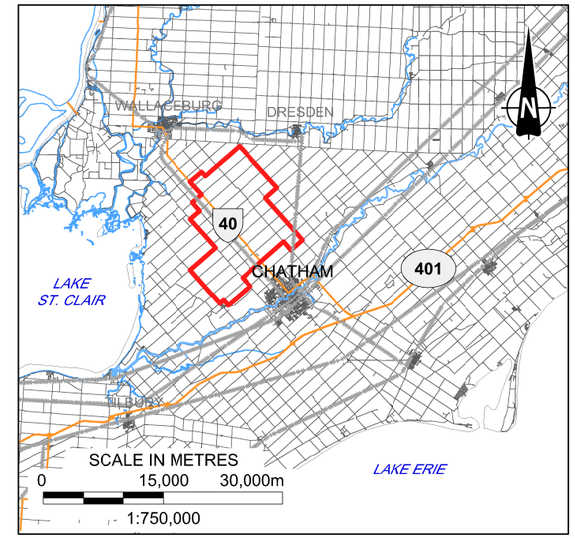
# 6.0 MAPS

All maps follow on the succeeding pages.




KEY PLAN

## LEGEND

- STAGE 1 ASSESSMENT AREA
- WATER SEGMENT
- RAIL LINE (EXISTING OR FORMER)
- WATER BODY

## REFERENCE

DRAWING BASED ON CITY OF LONDON CITYCD V2011; AND CANMAP STREETFILES V2008.4.

## NOTES

THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

PROJECT

STAGE 1 ARCHAEOLOGICAL ASSESSMENT
NORTH KENT WIND PROJECT, VARIOUS LOTS AND CONCESSIONS
FORMER TOWNSHIP OF CHATHAM AND DOVER
HISTORICAL COUNTY OF KENT
NOW MUNICIPALITY OF CHATHAM-KENT, ONTARIO

TITLE

**LOCATION PLAN**

Golder Associates

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| PROJECT No. | | 1521110 | FILE No. 1521110-1000-R01001 |
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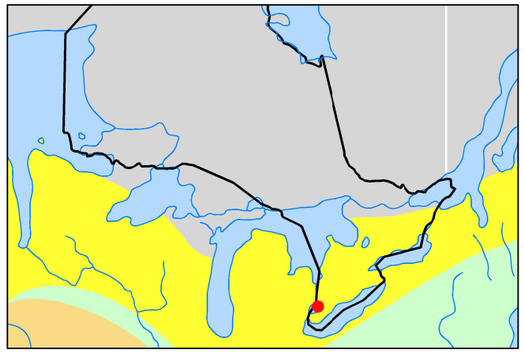

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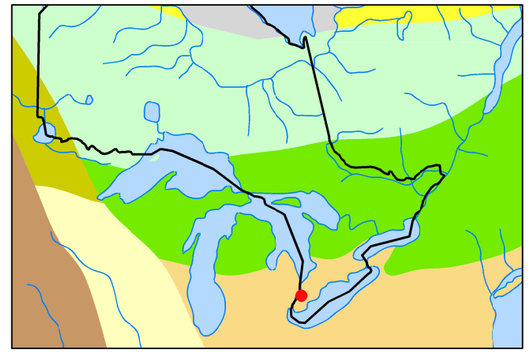

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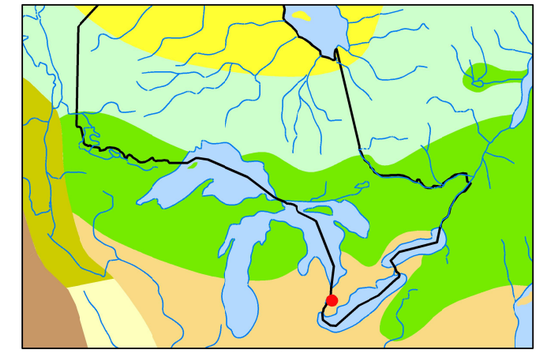

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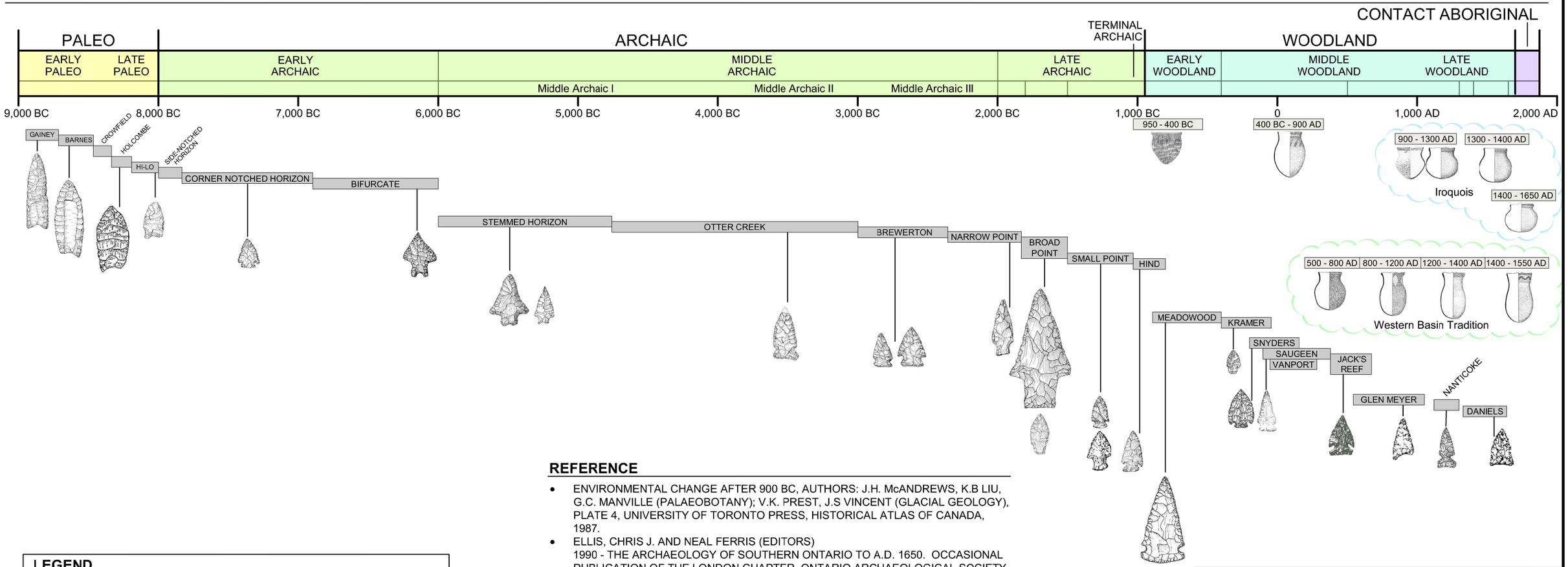


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## LEGEND

- PROJECT AREA

VEGETATION COVERAGE:

- Tundra
- Boreal Forest
- Great Lakes-St. Lawrence Forest
- Decidous Forest
- Decidous Woodlands
- Grassland
- Litchen Woodland
- Parkland

PROJECT

STAGE 1 ARCHAEOLOGICAL ASSESSMENT
NORTH KENT WIND PROJECT, VARIOUS LOTS AND CONCESSIONS
FORMER TOWNSHIP OF CHATHAM AND DOVER
HISTORICAL COUNTY OF KENT
NOW MUNICIPALITY OF CHATHAM-KENT, ONTARIO

TITLE

# SOUTHWESTERN ONTARIO PRE-CONTACT ABORIGINAL CULTURE HISTORY

Golder Associates

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|---|---|---|---|
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## LEGEND

TREATY BOUNDARY

| |
|---|
| Treaty No. 381, Volume 3 (May 9th, 1781): Mississauga and Chippewa |
| Crawford's Purchase (Oct. 9th, 1783): Algonquin and Iroquois |
| Crawford's Purchase (Oct. 9th, 1783): Mississauga |
| Crawford's Purchases (1784, 1787, 1788): Mississauga |
| John Collins' Purchase (1785): Chippewa |
| Treaty No. 2 (May 19th, 1790): Odawa, Chippewa, Pottawatomi, and Huron |
| Treaty No. 3 (Dec. 2nd, 1792): Mississauga |
| Haldimand Tract: from the Crown to the Mohawk (1793) |
| Tyendinaga: from the Crown to the Mohawk (1793) |
| Treaty No. 3¾ (Oct. 24th, 1795): from the Crown to Joseph Brant |
| Treaty No. 5 (May 22nd, 1798): Chippewa |
| Treaty No. 6 (Sep. 7th, 1796): Chippewa |
| Treaty No. 7 (Sep. 7th, 1796): Chippewa |
| Treaty No. 13 (Aug. 1st, 1805): Mississauga |
| Treaty No. 13A (Aug. 2nd, 1805): Mississauga |
| Treaty No. 16 (Nov. 18th, 1815): Chippewa |
| Treaty No. 18 (Oct. 17th, 1818): Chippewa |
| Treaty No. 19 (Oct. 28th, 1818): Chippewa |
| Treaty No. 20 (Nov. 5th, 1818): Chippewa |
| Treaty No. 21 (Mar. 9th, 1819): Chippewa |
| Treaty No. 27 (May 31st, 1819): Mississauga |
| Treaty No. 27½ (Apr. 25th, 1825): Ojibwa and Chippewa |
| Treaty No. 35 (Aug. 13th, 1833): Wyandot or Huron |
| Treaty No. 45 (Aug. 9th, 1836): Chippewa and Odawa |
| Treaty No. 45½ (Aug. 9th, 1836): Saugeen |
| Treaty No. 57 (Jun. 1st, 1847): Iroquois of St. Regis |
| Treaty No. 61, Robinson Treaty (Sep. 9th, 1850): Ojibwa |
| Treaty No. 72 (Oct. 30th, 1854): Chippewa |
| Treaty No. 82 (Feb. 9th, 1857): Chippewa |
| Williams Treaty (Oct. 31st and Nov. 15th, 1923): Chippewa and Mississauga |
| Williams Treaty (Oct. 31st, 1923): Chippewa |

## NOTES

THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.
ALL LOCATIONS ARE APPROXIMATE.

## REFERENCE

1. Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
2. Treaty Boundary - Approximate Treaty Boundary was created by Golder Associates Ltd. Jan. 2009.
MORRIS, J.L. 1943. Indians Of Ontario. Reprinted 1964. Department Of Lands And Forests, Toronto.
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PROJECT

STAGE 1 ARCHAEOLOGICAL ASSESSMENT
NORTH KENT WIND PROJECT, VARIOUS LOTS AND CONCESSIONS
FORMER TOWNSHIP OF CHATHAM AND DOVER
HISTORICAL COUNTY OF KENT
NOW MUNICIPALITY OF CHATHAM-KENT, ONTARIO

TITLE

# TREATY BOUNDARIES BASED ON MORRIS, 1943

Golder Associates

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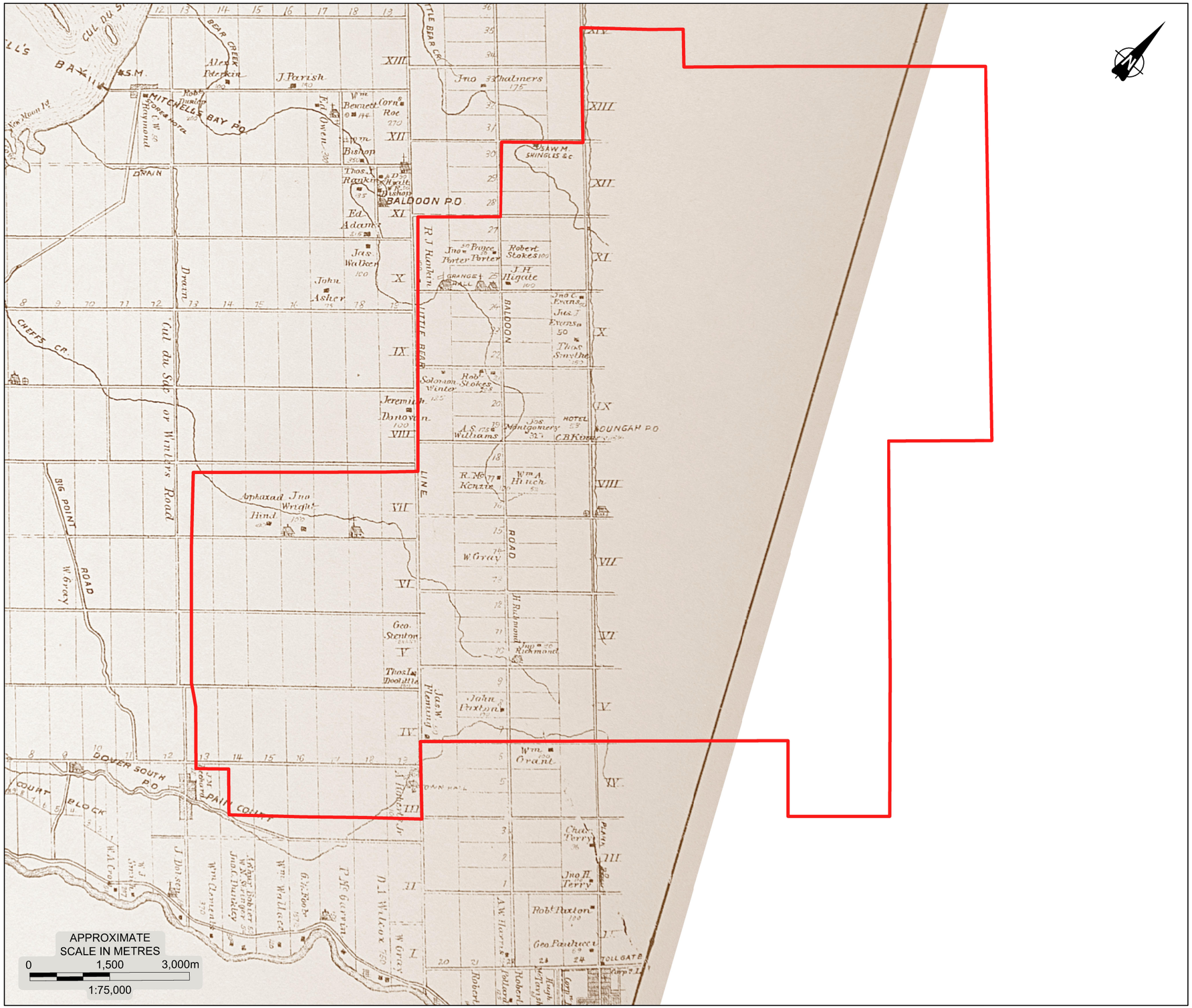


## LEGEND

STAGE 1 ASSESSMENT AREA

## REFERENCE

Belden, H. & Co.
1880 *Illustrated Historical Atlas of Kent County*. H. Belden & Co., Toronto.

## NOTES

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PROJECT

STAGE 1 ARCHAEOLOGICAL ASSESSMENT
NORTH KENT WIND PROJECT, VARIOUS LOTS AND CONCESSIONS
FORMER TOWNSHIP OF CHATHAM AND DOVER
HISTORICAL COUNTY OF KENT
NOW MUNICIPALITY OF CHATHAM-KENT, ONTARIO

TITLE

# A PORTION OF THE 1880 MAP OF DOVER TOWNSHIP

Golder Associates

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| PROJECT No. | | 1521110 | FILE No. 1521110–1000–R01004 |
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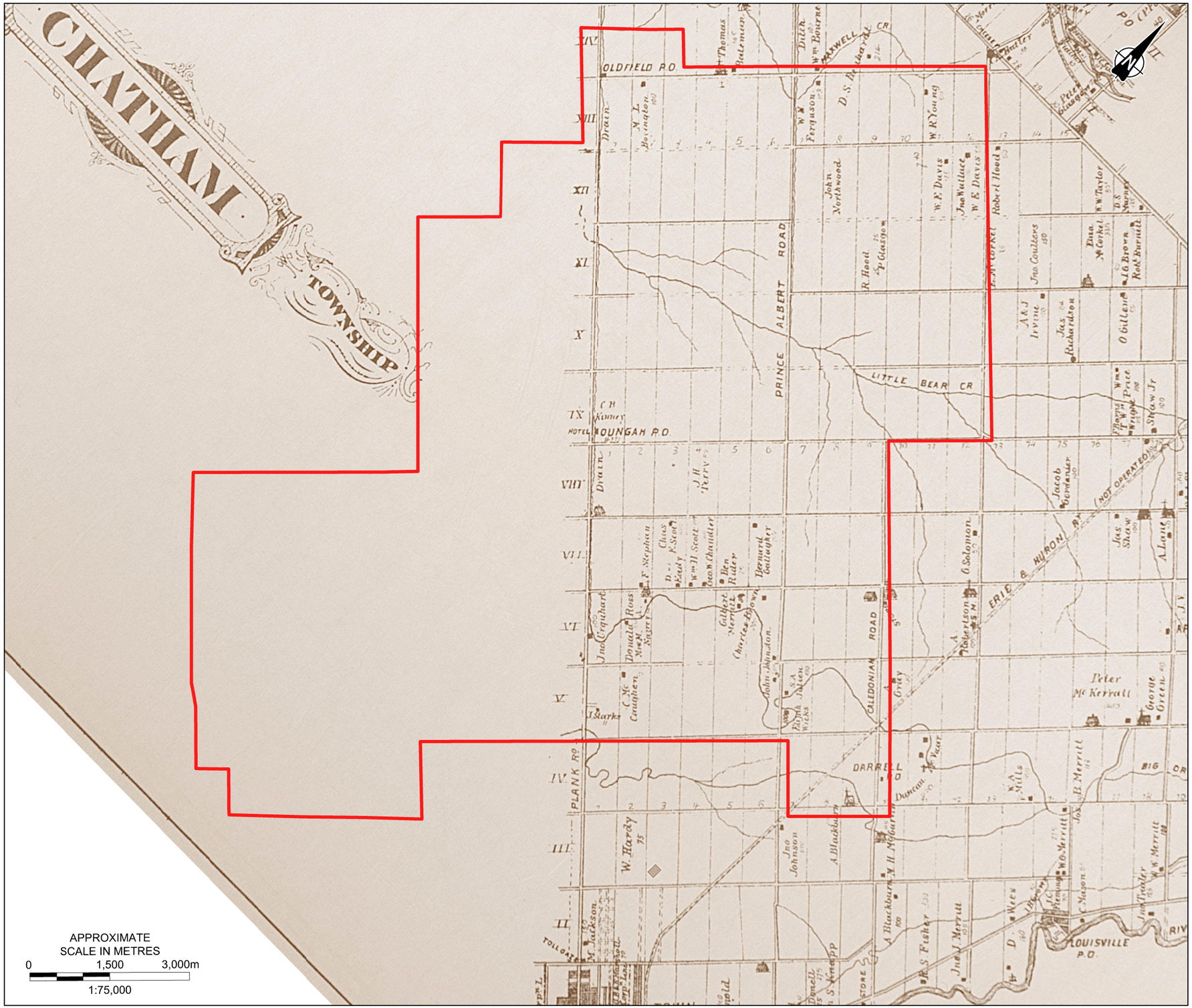


## LEGEND

STAGE 1 ASSESSMENT AREA

## REFERENCE

Belden, H. & Co.
1880 *Illustrated Historical Atlas of Kent County*. H. Belden & Co., Toronto.

## NOTES

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ALL LOCATIONS ARE APPROXIMATE.

PROJECT

STAGE 1 ARCHAEOLOGICAL ASSESSMENT
NORTH KENT WIND PROJECT, VARIOUS LOTS AND CONCESSIONS
FORMER TOWNSHIP OF CHATHAM AND DOVER
HISTORICAL COUNTY OF KENT
NOW MUNICIPALITY OF CHATHAM-KENT, ONTARIO

TITLE

# A PORTION OF THE 1880 MAP OF CHATHAM TOWNSHIP

Golder Associates

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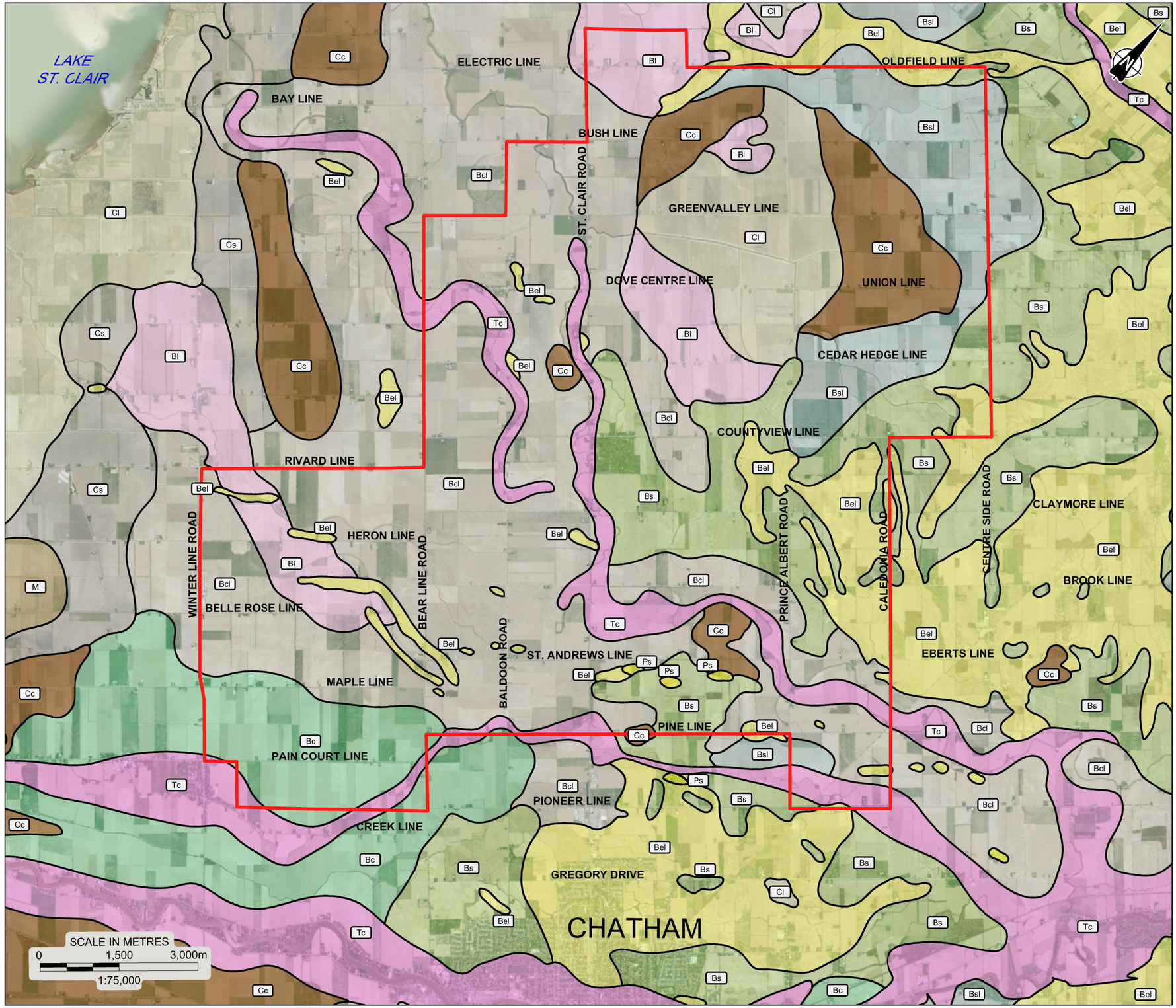


## LEGEND

STAGE 1 ASSESSMENT AREA

CLAY SOILS:

- Bc — Poorly drained clay
- Bcl — Lighter in texture, but otherwise similar to Brookston clay (Bc)
- Cc — Poorly drained, deep, black clay, underlain by mottled blue-grey clay
- Tc — Imperfectly drained, reddish-brown, friable clay loam and silty clay loam

SILT LOAM:

- Bsl — Poorly drained, friable silt loam
- Cs — Poorly drained, deep black, friable, silt loam

LOAM:

- Bl — Friable, dark grey loam

SANDY LOAM:

- Bel — Imperfectly drained sandy loam underlain by clay
- Bs — Mixed area where shallow sand knolls cover a large part of the area
- Cl — Poorly drained, black, sandy loam to loam

SANDS:

- Ps — Loose open sand

MISCELLANEOUS SOILS:

- M — Muck

## REFERENCE

DRAWING BASED ON SOIL MAP OF COUNTY OF KENT, ONTARIO, SURVEY REPORT No. 3, DEPARTMENT OF MILITIA AND DEFENCE, OTTAWA, 1930;
2010 AERIAL IMAGE PROVIDED BY THE MUNICIPALITY OF CHATHAM-KENT, INCLUDES MATERIAL © 2015 OF THE QUEEN'S PRINTER FOR ONTARIO. ALL RIGHTS RESERVED;
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PROJECT

STAGE 1 ARCHAEOLOGICAL ASSESSMENT
NORTH KENT WIND PROJECT, VARIOUS LOTS AND CONCESSIONS
FORMER TOWNSHIP OF CHATHAM AND DOVER
HISTORICAL COUNTY OF KENT
NOW MUNICIPALITY OF CHATHAM-KENT, ONTARIO

TITLE

# SOILS PRESENT IN STUDY AREA

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| PROJECT No. | | 1521110 | FILE No. 1521110–1000–R01006 |
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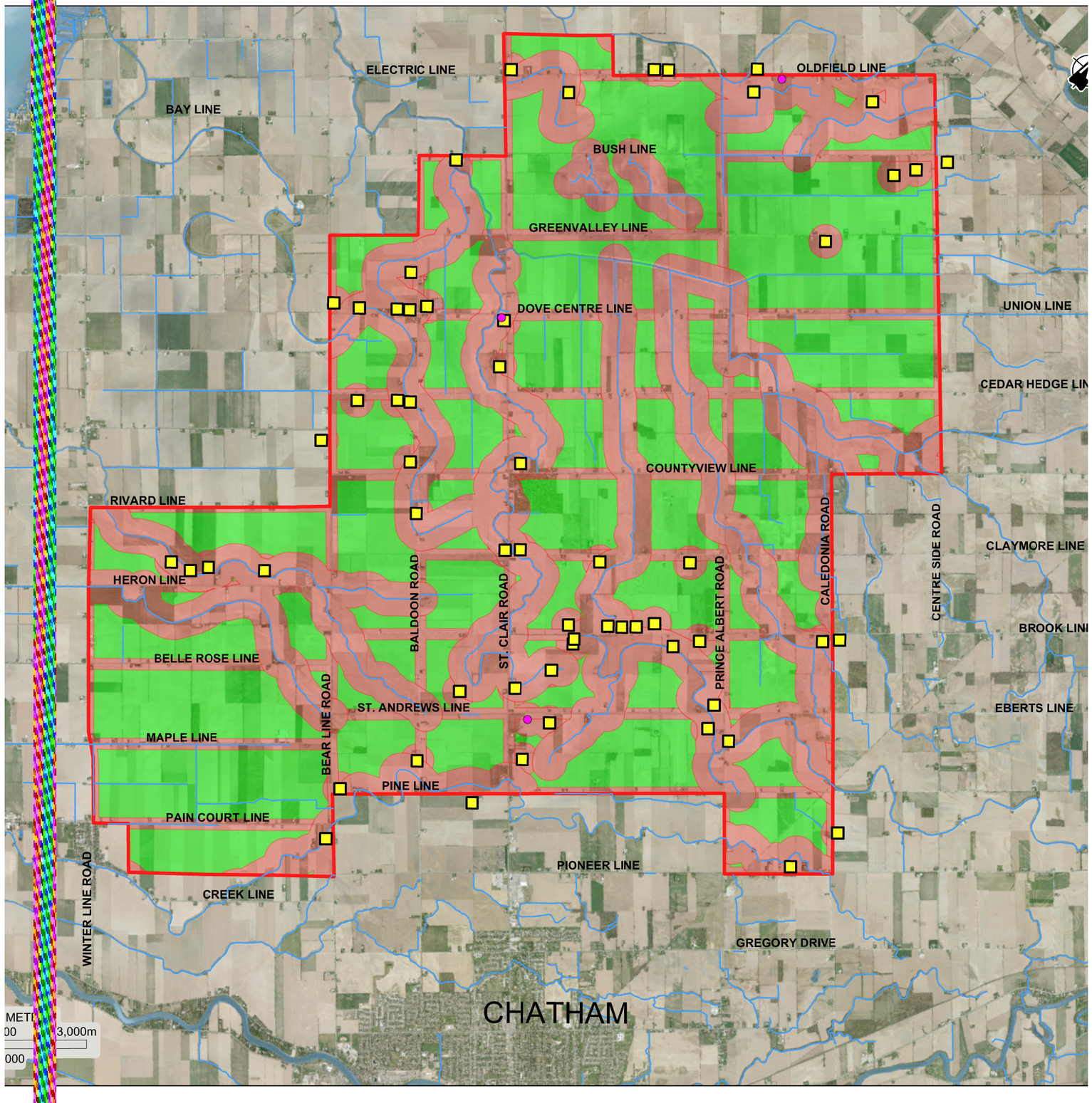


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## LOGY POTENTIAL

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