

Appendix D

Heritage/Cultural (Archaeological) Report (ASI)

**Cultural Heritage Assessment Report:
Built Heritage Resources and Cultural Heritage Landscapes**

**Wastewater Pumping Station Capital Needs Assessment and Master Plan
Class Environmental Assessment Study
City of Burlington and Town of Oakville,
Region of Halton, Ontario**

Prepared for:

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**Wastewater Pumping Station Capital Needs Assessment and Master Plan Class Environmental
Assessment Study
City of Burlington and Town of Oakville,
Region of Halton, Ontario**

EXECUTIVE SUMMARY

Archaeological Services Inc. (ASI) was contracted by R.V. Anderson Associates Limited, Toronto, on behalf of the Regional Municipality of Halton, to conduct a cultural heritage assessment for the proposed Wastewater Pumping Stations Capital Needs Assessment and Master Plan Class Environmental Assessment in the City of Burlington and the Town of Oakville, Regional Municipality of Halton, Ontario. The project will examine the Waste Water Treatment Plants (WWTP) for five drainage areas including:

- Burlington East Trunk (BE);
- Burlington West Trunk (BW);
- Oakville Southeast Trunk (OSE);
- Oakville Southwest East Trunk (OSWE); and,
- Oakville Southwest West Trunk (OSWW).

The current report presents an inventory of previously-identified built heritage resources and cultural heritage landscapes and provides the results of evaluation of project alternatives, including assessment of impacts and development of mitigation measures and/or additional work for the preferred alternative. The results of background research and data collection and analysis confirmed that the five study areas retain a wide number of previously identified cultural heritage resources, a number of which have the potential to be directly or indirectly impacted by the work proposed at various pumping stations. These include:

Burlington West Trunk:

- No previously identified CHRs are expected to be impacted by proposed work at the various Pumping Stations in the Burlington West Trunk (BW) study area

Burlington East Trunk:

- The proposed work at Pumping Station #32 has the potential to directly or indirectly impact a municipally-listed cultural heritage resource (BE-CHR 6);
- The proposed work at Pumping Station #69 has the potential to directly or indirectly impact a municipally-listed cultural heritage resource (BE-CHR 14);
- No previously identified CHRs are expected to be impacted by proposed work at the remaining Pumping Stations in the Burlington East Trunk (BE) study area.

Oakville Southwest West Trunk:

- The proposed work at Pumping Station #65 has the potential to directly or indirectly impact a municipally-listed cultural heritage resource (OSWW-CHR 3);
- No previously identified CHRs are expected to be impacted by proposed work at the remaining Pumping Stations in the Oakville Southwest West (OSWW) study area.



Oakville Southwest East Trunk:

- The proposed work at Pumping Station #18 has the potential to directly or indirectly impact cultural heritage resource Designated under the *Ontario Heritage Act* (OSWE-CHR 10);
- No previously identified CHRs are expected to be impacted by proposed work at the remaining Pumping Stations in the Oakville Southwest East (OSWE) study area.

Oakville Southeast Trunk:

- The proposed work at Pumping Stations #12, #17, #13, and #16 has the potential to directly or indirectly impact cultural heritage resource Designated under the *Ontario Heritage Act* (OSE-CHR 8, OSE-CHR 6, OSE-CHR 23, and OSWE-CHR 25 respectively);
- The proposed work at Pumping Station #15 has the potential to directly or indirectly impact a municipally-listed cultural heritage resource (OSE-CHR 1);
- No previously identified CHRs are expected to be impacted by proposed work at the remaining Pumping Stations in the Oakville Southeast (OSE) study area.

Based on information provided to date, the following general recommendations are provided:

1. Proposed waste water pumping station infrastructure and preferred alternative designs within the study areas should be suitably planned in a manner that avoids any identified, above ground, cultural heritage resources. Upgrading and decommissioning plans for select pumping stations and installation of new gravity trunk sewers and forcemains should be developed to avoid cultural heritage resources.
2. When preliminary or conceptual designs for proposed upgrading and/or decommissioning plans for select pumping stations and installation of new gravity trunk sewers and forcemains are developed, data presented in this report should be reviewed and updated, a field survey should be conducted to identify cultural heritage resources potentially impacted by the undertaking, and mitigation measures should be developed.



**ARCHAEOLOGICAL SERVICES INC.
ENVIRONMENTAL ASSESSMENT DIVISION**

PROJECT PERSONNEL

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	ii
PROJECT PERSONNEL	ii
TABLE OF CONTENTS	iii
1.0 INTRODUCTION	1
2.0 BUILT HERITAGE RESOURCE AND CULTURAL HERITAGE LANDSCAPE ASSESSMENT CONTEXT.....	1
2.1 Approach and Methodology.....	1
2.2 Data Collection.....	5
3.0 BUILT HERITAGE RESOURCE AND CULTURAL HERITAGE LANDSCAPE ASSESSMENT	7
3.1 Introduction	7
3.2 Township Survey and Settlement.....	8
3.2.1 Township of Flamboro East	8
3.2.2 Township of Nelson	8
3.2.3 Township of Trafalgar.....	8
3.3 Review of Historic Mapping	9
3.3.1 Burlington West Trunk Study Area (BW).....	9
3.3.2 Burlington East Trunk Study Area (BE).....	10
3.3.3 Oakville Southwest West Trunk Study Area (OSWW)	11
3.3.4 Oakville Southwest East Trunk Study Area (OSWE)	11
3.3.5 Oakville Southeast Trunk Study Area (OSE)	12
3.4 Desk-top Data Collection Results	13
3.5 Evaluation of Alternatives and Implementation Plans.....	23
4.0 CONCLUSIONS.....	24
5.0 RECOMMENDATIONS	25
6.0 REFERENCES	25
APPENDIX A: Cultural Heritage Resource Mapping	27
APPENDIX B: Implementation Plan Figures	40
APPENDIX C: Implementation Plan Tables.....	46
Burlington West Implementation Plan – Cultural Heritage Resources (CHR)	47
Burlington East Implementation Plan – Cultural Heritage Resources (CHR)	47
Oakville Southwest West Implementation Plan – Cultural Heritage Resources (CHR).....	48
Oakville Southwest East Implementation Plan – Cultural Heritage Resources (CHR).....	49
Oakville Southeast Implementation Plan – Cultural Heritage Resources (CHR).....	49

LIST OF FIGURES

Figure 1: General location of the five study areas in the City of Burlington and the Town of Oakville.....	2
Figure 2: Approximate location of the Burlington West Trunk study area, Township of Flamboro, 1875.....	9
Figure 3: Approximate location of the Burlington East Trunk study area, Township of Nelson, 1877.....	10
Figure 4: Approximate location of the Oakville Southwest West Trunk study area, Township of Nelson, 1877....	11
Figure 5: Approximate location of the Oakville Southwest East Trunk study area, Township of Nelson, 1877....	12
Figure 6: Approximate location of the Oakville Southwest East Trunk study area, Township of Nelson, 1877....	13

LIST OF TABLES

Table 1: Summary of Historic Features in the Burlington West Trunk Study Area	10
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1.0 INTRODUCTION

Archaeological Services Inc. (ASI) was contracted by R.V. Anderson Associates Limited, Toronto, on behalf of the Regional Municipality of Halton, to conduct a cultural heritage assessment for the proposed Wastewater Pumping Stations Capital Needs Assessment and Master Plan Class Environmental Assessment in the City of Burlington and the Town of Oakville, Regional Municipality of Halton, Ontario. The project will examine the Waste Water Treatment Plants for five drainage areas including:

- Burlington West Trunk (BW);
- Burlington East Trunk (BE);
- Oakville Southwest West Trunk (OSWW);
- Oakville Southwest East Trunk (OSWE); and,
- Oakville Southeast Trunk (OSE).

Research was completed to identify, through desktop data collection methods, previously recognized built heritage resources and cultural heritage landscapes within the five study areas, and to evaluate proposed alternatives, including assessment of impacts and development of mitigation measures and/or additional work recommended for the preferred alternative. This research was conducted under the project direction of Rebecca A. Sciarra, Manager of Built Heritage and Cultural Heritage Landscape Planning Division, ASI.

2.0 BUILT HERITAGE RESOURCE AND CULTURAL HERITAGE LANDSCAPE ASSESSMENT CONTEXT

2.1 Approach and Methodology

This cultural heritage assessment considers cultural heritage resources in the context of improvements to specified areas, pursuant to the *Environmental Assessment Act*. This assessment addresses above ground cultural heritage resources over 40 years old. Use of a 40 year old threshold is a guiding principle when conducting a preliminary identification of cultural heritage resources (Ministry of Transportation 2006; Ministry of Transportation 2007; Ontario Realty Corporation 2007). While identification of a resource that is 40 years old or older does not confer outright heritage significance, this threshold provides a means to collect information about resources that may retain heritage value. Similarly, if a resource is slightly younger than 40 years old, this does not preclude the resource from retaining heritage value.

The upgrading and/or replacement of specific waste water pumping stations and associated infrastructure has the potential to affect cultural heritage resources in a variety of ways. Impacts can include: direct impacts that result in the loss of resources through demolition, or the displacement of resources through relocation; and indirect impacts that result in the disruption of resources by introducing physical, visual, audible or atmospheric elements that are not in keeping with the resources and/or their setting.



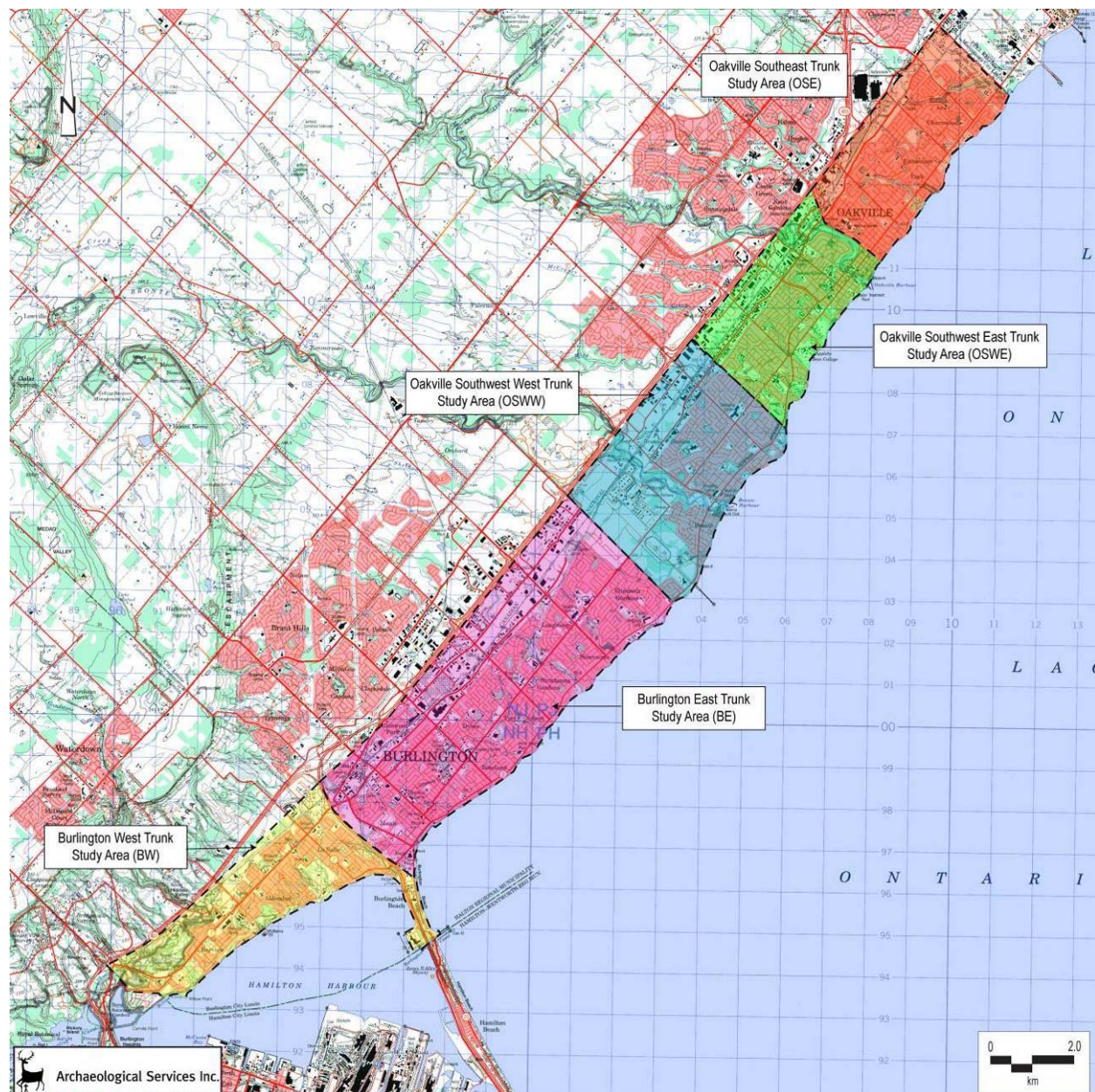


Figure 1: General location of the five study areas in the City of Burlington and the Town of Oakville.
Base Map: NTS Sheet 30 M/05 (Hamilton-Burlington)

For the purposes of this assessment, the term cultural heritage resources was used to describe both cultural landscapes and built heritage features. A cultural landscape is perceived as a collection of individual built heritage features and other related features that together form farm complexes, roadsides and nucleated settlements. Built heritage features are typically individual buildings or structures that may be associated with a variety of human activities, such as historical settlement and patterns of architectural development.

The analysis throughout the study process addresses cultural heritage resources under various pieces of legislation and their supporting guidelines. Under the *Environmental Assessment Act* (1990) environment is defined in Subsection 1(c) to include:

- cultural conditions that influence the life of man or a community, and;
- any building, structure, machine, or other device or thing made by man.

The Ministry of Tourism and Culture is charged under Section 2 of the *Ontario Heritage Act* with the responsibility to determine policies, priorities and programs for the conservation, protection and preservation of the heritage of Ontario and has published two guidelines to assist in assessing cultural heritage resources as part of an environmental assessment: *Guideline for Preparing the Cultural Heritage Resource Component of Environmental Assessments* (1992), and *Guidelines on the Man-Made Heritage Component of Environmental Assessments* (1981). Accordingly, both guidelines have been utilized in this assessment process.

The *Guidelines on the Man-Made Heritage Component of Environmental Assessments* (Section 1.0) states the following:

When speaking of man-made heritage we are concerned with the works of man and the effects of his activities in the environment rather than with movable human artifacts or those environments that are natural and completely undisturbed by man.

In addition, environment may be interpreted to include the combination and interrelationships of human artifacts with all other aspects of the physical environment, as well as with the social, economic and cultural conditions that influence the life of the people and communities in Ontario. The *Guidelines on the Man-Made Heritage Component of Environmental Assessments* distinguish between two basic ways of visually experiencing this heritage in the environment, namely as cultural landscapes and as cultural features.

Within this document, cultural landscapes are defined as the following (Section 1.0):

The use and physical appearance of the land as we see it now is a result of man's activities over time in modifying pristine landscapes for his own purposes. A cultural landscape is perceived as a collection of individual man-made features into a whole. Urban cultural landscapes are sometimes given special names such as townscapes or streetscapes that describe various scales of perception from the general scene to the particular view. Cultural landscapes in the countryside are viewed in or adjacent to natural undisturbed landscapes, or waterscapes, and include such landuses as agriculture, mining, forestry, recreation, and transportation. Like urban cultural landscapes, they too may be perceived at various scales: as a large area of homogeneous character; or as an intermediate sized area of homogeneous character or a collection of settings such as a group of farms; or as a discrete example of specific landscape character such as a single farm, or an individual village or hamlet.

A cultural feature is defined as the following (Section 1.0):

...an individual part of a cultural landscape that may be focused upon as part of a broader scene, or viewed independently. The term refers to any man-made or modified object in or on the land or underwater, such as buildings of various types, street



furniture, engineering works, plantings and landscaping, archaeological sites, or a collection of such objects seen as a group because of close physical or social relationships.

Additionally, the *Planning Act* (1990) and related *Provincial Policy Statement (PPS)* make a number of provisions relating to heritage conservation. One of the general purposes of the *Planning Act* is to integrate matters of provincial interest in provincial and municipal planning decisions. In order to inform all those involved in planning activities of the scope of these matters of provincial interest, Section 2 of the *Planning Act* provides an extensive listing. These matters of provincial interest shall be regarded when certain authorities, including the council of a municipality, carry out their responsibilities under the *Act*. One of these provincial interests is directly concerned with:

2.0 ...protecting cultural heritage and archaeological resources for their economic, environmental, and social benefits.

Part 4.5 of the *PPS* states that:

Comprehensive, integrated and long-term planning is best achieved through municipal official plans. Municipal official plans shall identify provincial interests and set out appropriate land use designations and policies. Municipal official plans should also coordinate cross-boundary matters to complement the actions of other planning authorities and promote mutually beneficial solutions.

Municipal official plans shall provide clear, reasonable and attainable policies to protect provincial interests and direct development to suitable areas.

In order to protect provincial interests, planning authorities shall keep their official plans up-to-date with this Provincial Policy Statement. The policies of this Provincial Policy Statement continue to apply after adoption and approval of a municipal official plan.

Those policies of particular relevance for the conservation of heritage features are contained in Section 2-Wise Use and Management of Resources, wherein Subsection 2.6 - Cultural Heritage and Archaeological Resources, makes the following provisions:

2.6.1 Significant built heritage resources and cultural heritage landscapes shall be conserved.

A number of definitions that have specific meanings for use in a policy context accompany the policy statement. These definitions include built heritage resources and cultural heritage landscapes.

Built heritage resources mean one or more buildings, structures, monuments, installations or remains associated with architectural, cultural, social, political, economic, or military history, and identified as being important to a community.

Cultural heritage landscapes mean a defined geographical area of heritage significance that has been modified by human activities. Such an area is valued by a community, and is of significance to the understanding of the history of a people or place. Examples include farmscapes, historic settlements, parks, gardens, battlefields, mainstreets and neighbourhoods, cemeteries, trailways, and industrial complexes of cultural heritage value (*PPS* 2005).



In addition, significance is also more generally defined. It is assigned a specific meaning according to the subject matter or policy context, such as wetlands or ecologically important areas. With regard to cultural heritage and archaeology resources, resources of significance are those that are valued for the important contribution they make to our understanding of the history of a place, an event, or a people (*PPS 2005*).

Criteria for determining significance for the resources are recommended by the Province, but municipal approaches that achieve or exceed the same objective may also be used. While some significant resources may already be identified and inventoried by official sources, the significance of others can only be determined after evaluation (*PPS 2005*).

Accordingly, the foregoing guidelines and relevant policy statement were used to guide the scope and methodology of the cultural heritage assessment.

2.2 Data Collection

In the course of the cultural heritage assessment, all potentially affected cultural heritage resources within the study area are subject to inventory. Short form names are usually applied to each resource type, (e.g. barn, residence). Generally, when conducting a preliminary identification of cultural heritage resources, three stages of research and data collection are undertaken to appropriately establish the potential for and existence of cultural heritage resources in a particular geographic area.

Background historic research, which includes consultation of primary and secondary source research and historic mapping, is undertaken to identify early settlement patterns and broad agents or themes of change in a study area. This stage in the data collection process enables the researcher to determine the presence of sensitive heritage areas that correspond to 19th and 20th century settlement and development patterns. To augment data collected during this stage of the research process, federal, provincial, and municipal databases and/or agencies are consulted to obtain information about specific properties that have been previously identified and/or designated as retaining cultural heritage value. Typically, resources identified during these stages of the research process are reflective of particular architectural styles, associated with an important person, place, or event, and contribute to the contextual facets of a particular place, neighbourhood, or intersection.

For the purposes of this assessment, desktop data collection and analysis was conducted. Desk-top data collection results were employed to evaluate alternatives and preferred alternatives proposed for the undertaking which included: (1) maintain all pumping stations; (2) construct a new trunk sewer to replace certain pumping stations; and (3) construct a new trunk sewer to replace all pumping stations. Due to the size of the project study area and the level of detail available regarding proposed and preferred alternatives, a desk-top data collection approach was employed to provide a sufficient level of information relevant for evaluating alternatives, developing mitigation measures, and developing implementation plans.

When the project advances to a preliminary design stage, and trunk sewer infrastructure and pumping station upgrading and decommissioning plans are refined, a field review would then be conducted to provide additional information regarding potential impacts of the undertaking on cultural heritage resources.

Several investigative criteria would be utilized during the field review to appropriately identify new cultural heritage resources. These investigative criteria are derived from provincial guidelines, definitions,



and past experience. During the course of the environmental assessment, a built structure or landscape is identified as a cultural heritage resource if it is considered to be 40 years or older¹, and if the resource satisfies at least one criterion in one of the following three categories:

Design/Physical Value:

- It is a rare, unique, representative or early example of a style, type, expression, material or construction method
- It displays a high degree of craftsmanship or artistic merit
- It demonstrates a high degree of technical or scientific achievement
- The site and/or structure retains original stylistic features and has not been irreversibly altered so as to destroy its integrity

Historical/Associative Value:

- It has a direct association with a theme, event, belief, person, activity, organization, or institution that is significant to: the City of Burlington; the Town of Oakville; the Province of Ontario; Canada; or the world heritage list
- It yields, or had the potential to yield, information that contributes to an understanding of: the City of Burlington; the Town of Oakville; the Province of Ontario, Canada; or the world heritage list
- It demonstrates or reflects the work or ideas of an architect, artist builder, designer, or theorist who is significant to: the City of Burlington; the Town of Oakville; the Province of Ontario; Canada; or the world heritage list

Contextual Value:

- It is important in defining, maintaining, or supporting the character of an area
- It is physically, functionally, visually, or historically linked to its surroundings
- It is a landmark
- It illustrates a significant phase in the development of the community or a major change or turning point in the community's history
- The landscape contains a structure other than a building (fencing, culvert, public art, statue, etc.) that is associated with the history or daily life of that area or region
- There is evidence of previous historic and/or existing agricultural practices (e.g. terracing, deforestation, complex water canalization, apple orchards, vineyards, etc.)

If a resource meets one criterion in one or more of the categories, it will be identified as a cultural heritage resource and is subject to further research where appropriate and when feasible. Typically, further historical research and consultation is required to determine the specific significance of the identified cultural heritage resource.

When identifying cultural heritage landscapes, the following categories are typically utilized for the purposes of the classification during the field review:

Farm complexes: comprise two or more buildings, one of which must be a farmhouse or barn,

¹ Use of a 40 year old threshold is a guiding principle when conducting a preliminary identification of cultural heritage resources (Ministry of Transportation 2006; Ministry of Transportation 2007; Ontario Realty Corporation 2007). While identification of a resource that is 40 years old or older does not confer outright heritage significance, this threshold provides a means to collect information about resources that may retain heritage value. Similarly, if a resource is slightly younger than 40 years old, this does not preclude the resource from retaining heritage value.



	and may include a tree-lined drive, tree windbreaks, fences, domestic gardens and small orchards.
Roadscapes:	generally two-lanes in width with absence of shoulders or narrow shoulders only, ditches, tree lines, bridges, culverts and other associated features.
Waterscapes:	waterway features that contribute to the overall character of the cultural heritage landscape, usually in relation to their influence on historic development and settlement patterns.
Railscapes:	active or inactive railway lines or railway rights of way and associated features.
Historical settlements:	groupings of two or more structures with a commonly applied name.
Streetscapes:	generally consists of a paved road found in a more urban setting, and may include a series of houses that would have been built in the same time period.
Historical agricultural landscapes	generally comprises a historically rooted settlement and farming pattern that reflects a recognizable arrangement of fields within a lot and may have associated agricultural outbuildings, structures, and vegetative elements such as tree rows.
Cemeteries:	land used for the burial of human remains.

3.0 BUILT HERITAGE RESOURCE AND CULTURAL HERITAGE LANDSCAPE ASSESSMENT

3.1 Introduction

This section provides a brief summary of historic research and a description of previously identified above ground cultural heritage resources that may be affected by the Wastewater Pumping Station Capital Needs Assessment and Master Plan Class Environmental Assessment Study. The subject study area is located in the Town of Oakville and City of Burlington, Regional Municipality of Halton. Historically, the area under study is located in the former Townships of Flamboro East, Nelson, and Trafalgar in the Counties of Wentworth and Halton.

Historic mapping of the townships is provided in the 1877 *Illustrated Historical Atlas of the County of Halton* and the 1875 *Illustrated Historical Atlas of the County of Wentworth*. This mapping was reviewed in order to determine the location of historic settlements, road alignments and other transportation related data. It should be noted, however, that not all features of interest were mapped systematically in the Ontario series of historical atlases, given that they were financed by subscription, and subscribers were given preference with regard to the level of detail provided on the maps. Moreover, not every feature of interest would have been within the scope of the atlases. A review of additional primary and secondary source material was undertaken to produce a contextual overview of the study corridor, including a general description of Euro-Canadian settlement and land-use.



3.2 Township Survey and Settlement

3.2.1 Township of Flamboro East

The township of Flamboro East was originally surveyed by John Stegmann in 1797 in the single front system. This was preceded by Augustus Jones' survey of a line through the area that was to become the Dundas or Governor's Road (present day Highway 5). Land grants were made in the township as early as 1796 in an attempt to establish settlements along the Dundas Road. Few pioneers took up their land at that time—the first arrived the following year when both East and West Flamborough were surveyed. The township developed slowly at first and by 1817 there were only 360 people. However, owing largely to intensified settlement in the Crooks Hollow area, by 1832, Flamborough had more mills and stores than any other township in the county—although most of this activity was in the south west. It also had the largest tax assessment of improved and unimproved lands. By 1846, the combined population of East and West Flamborough had reached 3,769 (2,428 in the west and 1341 in the east), supported by a grist mill, sawmills, a distillery, a paper mill, a woollen factory, and a tannery. Flamborough was subdivided in 1854.

3.2.2 Township of Nelson

The land within Nelson Township was acquired by the British from the Mississaugas in 1795. The first township survey was undertaken in 1806, and the first legal settlers occupied their land holdings in the same year. The township was first named "Alexander Township" in honour of Alexander Grant the administrator of Upper Canada. In 1806, it was renamed in honour of Horatio Viscount Nelson, after his victory at Cabo Trafalgar in Spain the previous year. Nelson was initially settled by the children of Loyalists, soldiers who served during the War of 1812, and by immigrants from England, Scotland and Ireland. By the 1840s, the township was noted for its good land and excellent farms (Smith 1846:121; Armstrong 1985:143; Rayburn 1997:237).

3.2.3 Township of Trafalgar

The land within Trafalgar Township was acquired by the British from the Mississaugas in 1795. In 1806, Samuel Wilmot surveyed the townships of Nelson, Trafalgar and Toronto from land obtained in this purchase, using Dundas Street (Highway 5) as a baseline from which to survey two concessions north and four concessions south. Dundas Street had been surveyed in 1793 as a military road.

Trafalgar Township was first named "Grant Township" in honour of Alexander Grant, who was the administrator of Upper Canada. In 1806, it was renamed in honour of the victory by Horatio Viscount Nelson at Cabo Trafalgar in Spain the previous year. Trafalgar was initially settled by the children of Loyalists, soldiers who served during the War of 1812, and by immigrants from England, Scotland and Ireland. By the 1840s, the township was noted for its well cultivated farms (Smith 1846:197; Armstrong 1985:148; Rayburn 1997:348).

The earliest families to settle within the township included those of Sovereign, Proudfoot, Katting, Freeman, Post, Biggar, Mulholland, Kenney, Chalmer, Albertson, Chisholms, Sproat, Brown and Hagar. According to the 1877 atlas, it contained 548 inhabitants with one grist mill and four saw mills in 1817.



Early settlement was often influenced by the presence of watercourses. The development of the network of concession roads and railroads through the course of the 19th century also frequently influenced the siting of farmsteads and early industries.

Dundas Street, the baseline survey road in Trafalgar Township had been surveyed in 1793 as a military road connecting Lake Ontario, Lake Erie, Lake St. Clair and Lake Huron, as well as a road to aid Loyalist settlement and deter expansionist claims in Upper Canada. After the two concessions south of Dundas St. were opened up, two new east-west concession line access roads, the Upper Middle Road and the Lower Middle Road, were surveyed. These early east-west roads were later complemented in 1832 by the Lakeshore Road, which was constructed nearby and parallel to an aboriginal pathway skirting Lake Ontario. The concession roads of the 1806 survey, and the line roads running perpendicular, blocked out the township in areas a mile and quarter square with five 200-acre lots to a square. Between every five lots ran a line road (Mathews 1953:45).

3.3 Review of Historic Mapping

3.3.1 Burlington West Trunk Study Area (BW)

Historically, the Burlington West Trunk study area was located on Lots 1 to 13, Broken Front Concession and Concession I, in the former Township of Flamboro East, County of Wentworth (Figure 2). The atlas depicts several historic features, in addition to farmhouses and orchards, within the Burlington West Trunk study area (Table 1).

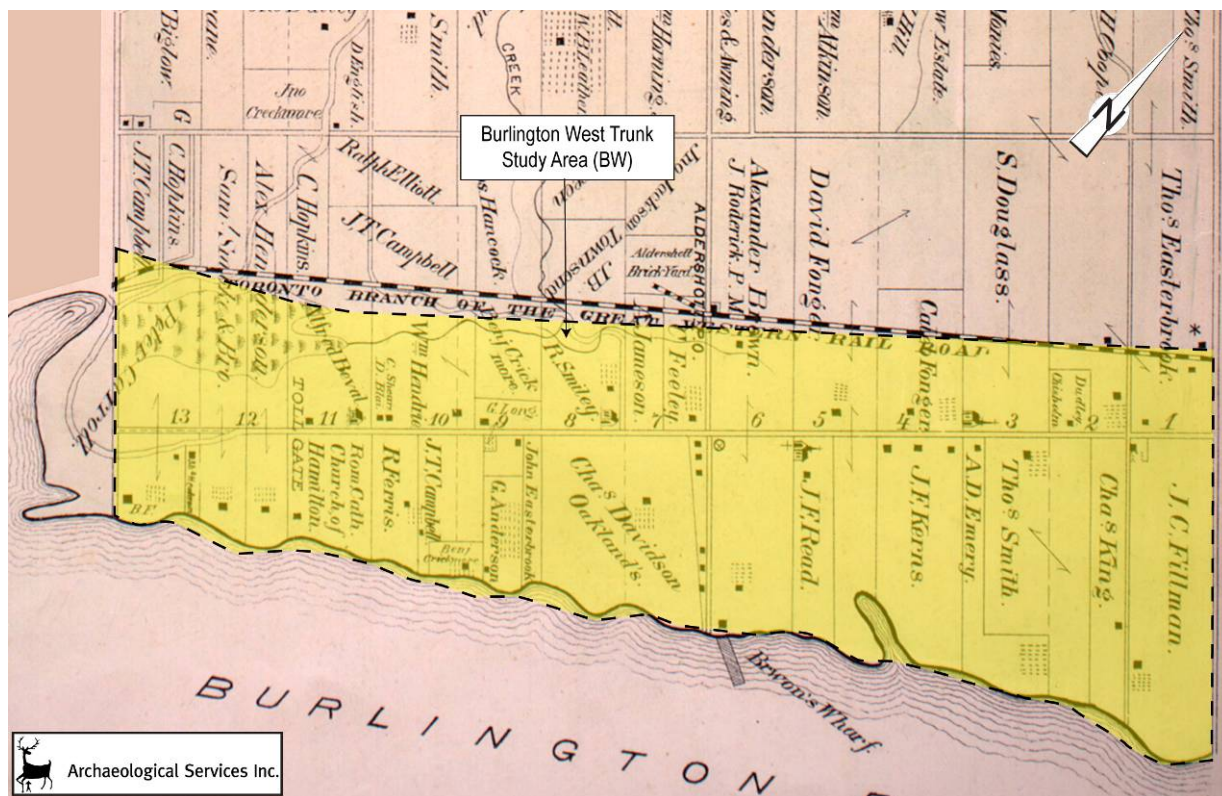


Figure 2: Approximate location of the Burlington West Trunk study area, Township of Flamboro, 1875.
Base Map: Flamboro East Township, 1875 Illustrated Historical Atlas of the County of Wentworth

Table 1: Summary of Historic Features in the Burlington West Trunk Study Area

Concession	Lot	Historic Features
I	3	Church
	7	Aldershot Post Office
	8	School House
	11	School House
BF	5	Church
	6	Blacksmith Shop

3.3.2 Burlington East Trunk Study Area (BE)

Historically, the Burlington East Trunk study area was located on Lots 1 to 19, Concessions III to IV South of Dundas Street (SDS), and Burlington Bay (BB) Concession, in the former Township of Nelson, County of Halton (Figure 3). The atlas depicts several historic features, in addition to farmhouses and orchards, within the Burlington East Trunk Study area (Table 2).

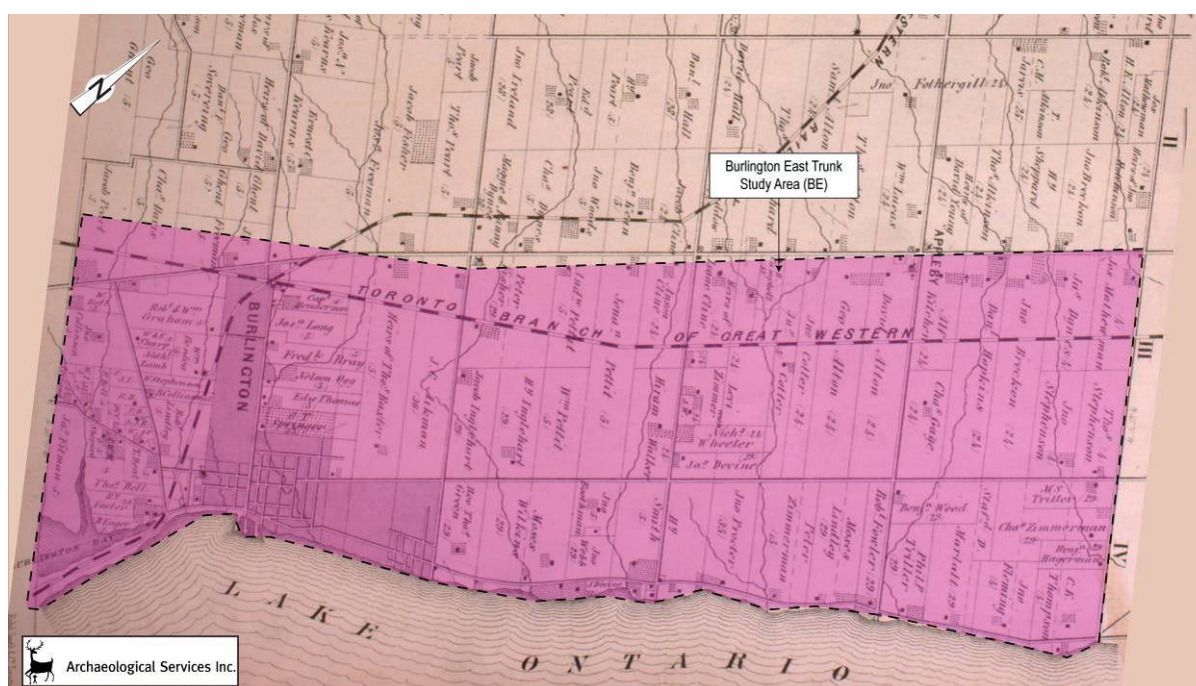


Figure 3: Approximate location of the Burlington East Trunk study area, Township of Nelson, 1877.
Base Map: Nelson Township, 1877 Illustrated Historical Atlas of the County of Halton

Table 2: Summary of Historic Features in the Burlington West Trunk Study Area

Concession	Lot	Historic Features
III	4	Cemetery
	6	Church, Cemetery
	15	School House
BB		Church, Mill, Cemetery

3.3.3 Oakville Southwest West Trunk Study Area (OSWW)

Historically, the Oakville Southwest West Trunk study area was located on Lots 24 to 35, Broken Front Concession and Concession III (SDS), in the former Township of Trafalgar, County of Halton (Figure 4). The atlas depicts several historic features, in addition to farmhouses and orchards, within the Oakville Southwest West Trunk study area (Table 3).

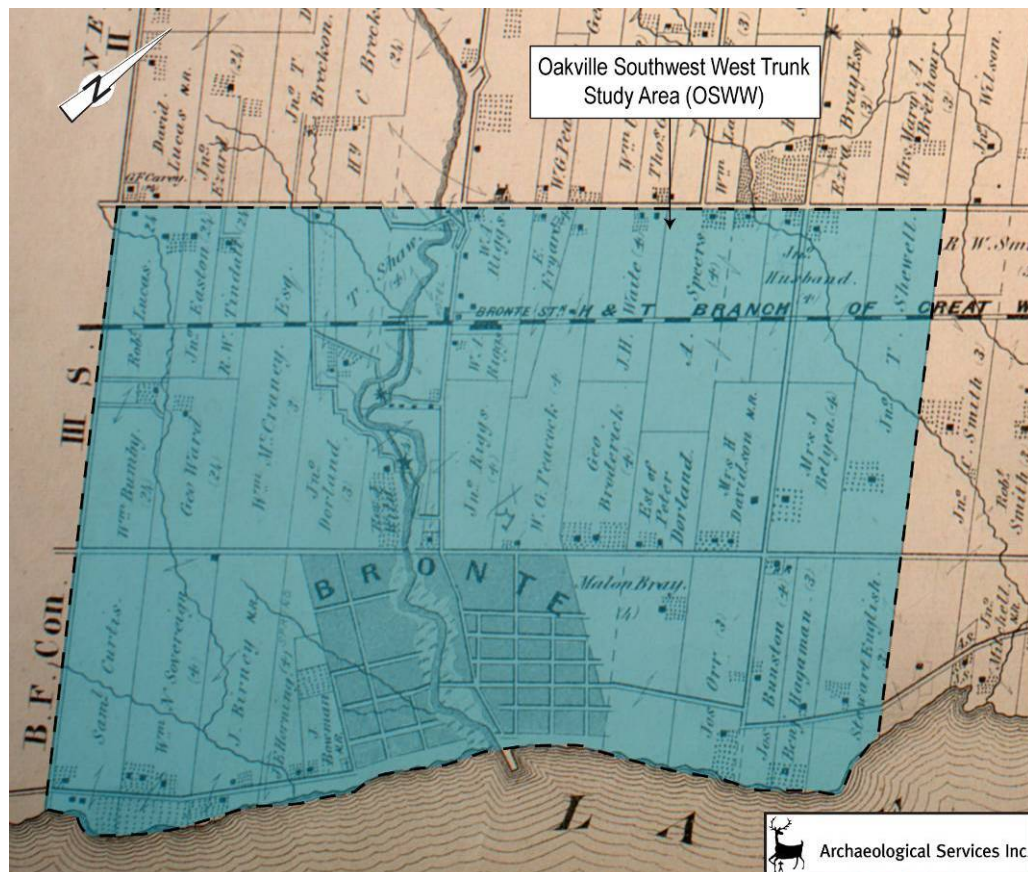


Figure 4: Approximate location of the Oakville Southwest West Trunk study area, Township of Nelson, 1877.

Base Map: Trafalgar Township, 1877 Illustrated Historical Atlas of the County of Halton

Table 3: Summary of Historic Features in the Oakville Southwest West Trunk study area

Concession	Lot	Historic Features
BF	32	Cemetery
III SDS	30	Bronte Station
	31	2 Mills; Hotel

3.3.4 Oakville Southwest East Trunk Study Area (OSWE)

Historically, the Oakville Southwest East Trunk study area was located on Lots 13 to 23, Broken Front Concession and Concession III (SDS), in the former Township of Trafalgar, County of Halton (Figure 5). The atlas depicts several historic features, in addition to farmhouses and orchards, within the Oakville Southwest East Trunk study area (Table 4).

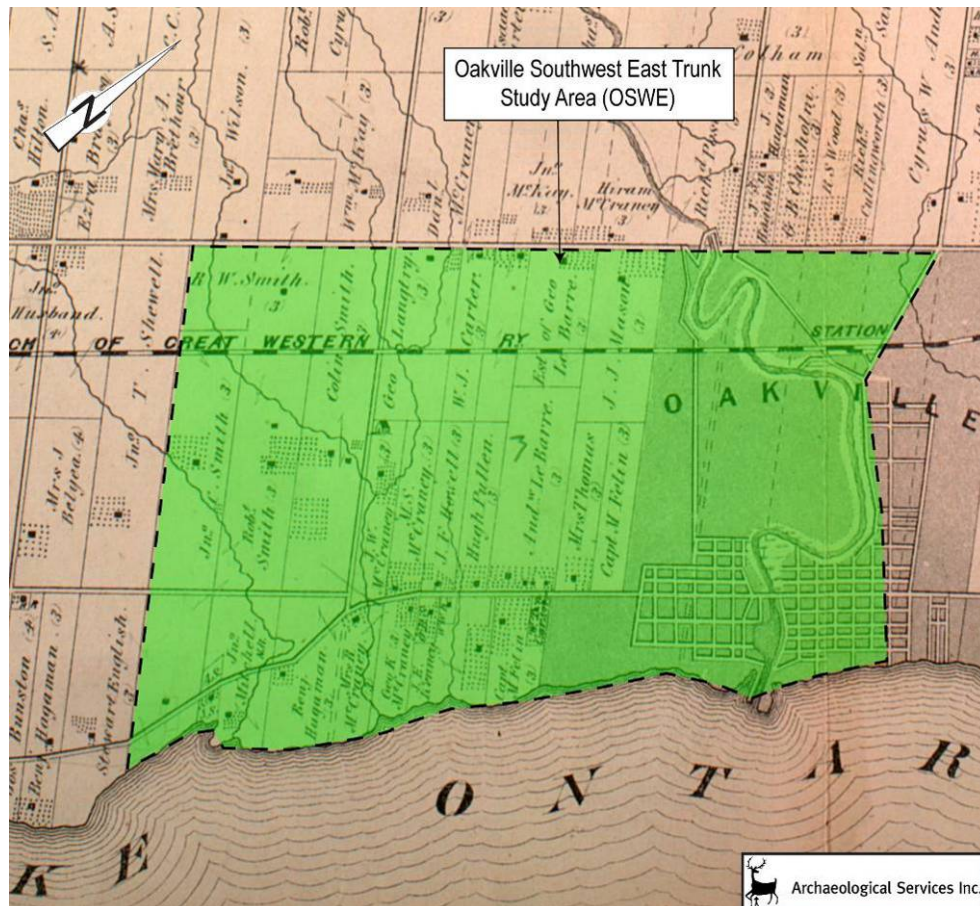


Figure 5: Approximate location of the Oakville Southwest East Trunk study area, Township of Nelson, 1877.

Base Map: Trafalgar Township, 1877 Illustrated Historical Atlas of the County of Halton

Table 4: Summary of Historic Features in the Oakville Southwest East Trunk study area		
Concession	Lot	Historic Features
III SDS	13	Oakville Station
	20	School House

3.3.5 Oakville Southeast Trunk Study Area (OSE)

Historically, the Oakville Southeast Trunk study area was located on Lots 1 to 13, Broken Front Concession and Concession III (SDS), in the former Township of Trafalgar (Figure 6). The atlas depicts

several historic features, in addition to farmhouses and orchards, within the Oakville Southeast Trunk study area (Table 5).

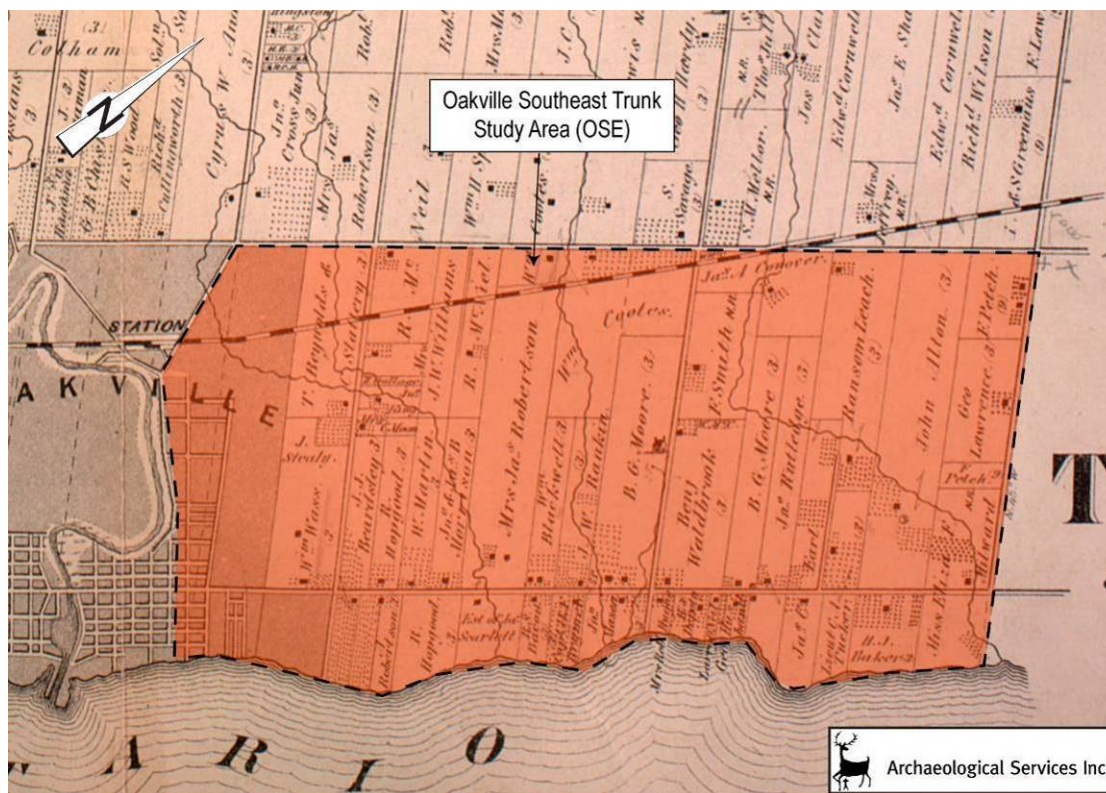


Figure 6: Approximate location of the Oakville Southwest East Trunk study area, Township of Nelson, 1877.

Base Map: Trafalgar Township, 1877 Illustrated Historical Atlas of the County of Halton

Table 5: Summary of Historic Features in the Oakville Southeast Trunk study area

Concession	Lot	Historic Features
III SDS	2	Black Smith Shop
	6	School House

3.4 Desk-top Data Collection Results

In order to make an identification of previously recognized cultural heritage resources within the study areas, municipal heritage inventories, the Ministry of Culture's Ontario Heritage Properties Database, Parks Canada's National Historical Sites Database were consulted. The location of cultural heritage resources located on municipal inventories were determined by reviewing the City of

Burlington’s Heritage Layer, Interactive Mapping resource and the Town of Oakville’s Heritage Layer, Explore Oakville.²).

Table 6 lists previously identified features of cultural heritage interest located in the five study areas. The following data was collected as part of ASIs initial background research and identifies features of cultural heritage interest located along various existing and proposed gravity sewers and forcemains and in the vicinity of existing pumping stations.³ The location of each identified cultural heritage resource (CHR) can be found on study area mapping in Appendix A.

Table 6: Halton Wastewater Station Master Plan - Previously Identified Cultural Heritage Resources (CHRs)		
Feature	Location	Description/Comments
<i>Oakville SW West Trunk</i>		
OSWW-CHR 1	3128 Seneca Dr, Oakville	Part IV Designation; 1919; Residence
OSWW-CHR 2	7 West River St, Oakville	Designated
OSWW-CHR 3	1426 Lakeshore Rd W, Oakville	Listed; Wilson’s Barn; c.1860
OSWW-CHR 4	14 Timber Lane, Oakville	Listed
OSWW-CHR 5	3175 Lakeshore Rd W, Oakville	Listed
OSWW-CHR 6	2500 Lakeshore Rd W, Oakville	Listed
OSWW-CHR 7	2489 Lakeshore Rd W, Oakville	Part IV Designation; Walton Memorial Church; 1914
OSWW-CHR 8	2457 Lakeshore Rd W, Oakville	Listed; Bronte Cenotaph
OSWW-CHR 9	93 Bronte Rd, Oakville	Listed
OSWW-CHR 10	49 Bronte Rd, Oakville	Part IV Designation; Residence; 1840
OSWW-CHR 11	103 Jones St, Oakville	Listed
OSWW-CHR 12	2003 Lakeshore Rd W, Oakville	Listed
OSWW-CHR 13	3073 Seneca Dr, Oakville	Listed
<i>Oakville SW East Trunk</i>		
OSWE-CHR 1	114 Wolfdale Ave, Oakville	Residence; Listed; ca. 1870
OSWE-CHR 2	491 Lakeshore Rd W, Oakville	Residence; Listed; 1970
OSWE-CHR 3	335 Lakeshore Rd W, Oakville	Listed
OSWE-CHR 4	306 Lakeshore Rd W, Oakville	Listed; Shorewood, MR. M.C. Hindermarsh Estate
OSWE-CHR 5	2 Holyrood Avenue, Oakville	Residence; Listed; ca. 1920
OSWE-CHR 6	South of Lakeshore Rd W, between Holyrood Ave and Lakeshore Dr	St. Jude’s Cemetery; Designated
OSWE-CHR 7	90 Chisholm St, Oakville	Listed; ca. 1880; William King – King’s Paving
OSWE-CHR 8	59 Chisholm St, Oakville	Designated; the house was built by Thomas James Cavan, a carpenter who built many fine ships from the Oakville Shipyard; ca. 1874
OSWE-CHR 9	Eastern terminus of Walker St, Oakville	Listed

² During the initial desk-top data collection, the interactive mapping for the Town of Oakville was found at: <http://maps.oakville.ca/eo6/Webpages/map/MapView.aspx>. It can now be found here: <http://explore.oakville.ca/maps/>. Heritage mapping for the City of Burlington can be found at: <http://mapping.burlington.ca/COBmaps/Webpages/map/MapView.aspx>.

³ The collected information is based on mapping found in the March 2010 (Draft 1) “Alternative Solutions for Each Pumping Station” report prepared by R.V. Anderson Associates Limited.



Table 6: Halton Wastewater Station Master Plan - Previously Identified Cultural Heritage Resources (CHRs)		
Feature	Location	Description/Comments
OSWE-CHR 10	Eastern limit at William St, western limit at the Lake, north past Trafalgar Rd, and southern limit at Water St	Old Oakville Heritage Conservation District
OSWE-CHR 11	75 Navy St, Oakville	Part IV Designation
OSWE-CHR 12	85 Navy St, Oakville	Part IV Designation
OSWE-CHR 13	126 Lakeshore Road E, Oakville	Part IV Designation
OSWE-CHR 14	128 Lakeshore Road E, Oakville	Part IV Designation
OSWE-CHR 15	130 Lakeshore Road E, Oakville	Part IV Designation
OSWE-CHR 16	132 Lakeshore Road E, Oakville	Part IV Designation
OSWE-CHR 17	134 Lakeshore Road E, Oakville	Part IV Designation
OSWE-CHR 18	136 Lakeshore Road E, Oakville	Part IV Designation
OSWE-CHR 19	138 Lakeshore Road E, Oakville	Part IV Designation
OSWE-CHR 20	140 Lakeshore Road E, Oakville	Part IV Designation
OSWE-CHR 21	142 Lakeshore Road E, Oakville	Part IV Designation
OSWE-CHR 22	150 Lakeshore Road E, Oakville	Listed
OSWE-CHR 23	152 Lakeshore Road E, Oakville	Listed
OSWE-CHR 24	162 Lakeshore Road E, Oakville	Listed
OSWE-CHR 25 ⁴	First and Second Street HCD; all properties on First Street, south of Lakeshore Road are part of the HCD	First and Second Street Heritage Conservation District
OSWE-CHR 26	1110 Lakeshore Rd W, Oakville	Listed; Remnants of Baillie Estate (cottage)
OSWE-CHR 27	1107 Rebecca St, Oakville	Part IV Designation; 1915; Residence
OSWE-CHR 28	573 Lakeshore Rd W, Oakville	Listed; c. 1910; “The Acadias, Windeat Sisters”
OSWE-CHR 29	540 Lakeshore Rd W, Oakville	Listed
OSWE-CHR 30	549 Lakeshore Rd W, Oakville	Part IV Designations; 1859; Residence
OSWE-CHR 31	417 Lakeshore Rd W, Oakville	Part IV Designation; 1853; cottage
OSWE-CHR 32	372 Lakeshore Rd W, Oakville	Listed
OSWE-CHR 33	369 Lakeshore Rd W, Oakville	Listed
OSWE-CHR 34	355 Rebecca St, Oakville	Listed
OSWE-CHR 35	112 Rebecca St, Oakville	Listed
OSWE-CHR 36	149 Wilson St, Oakville	Listed
OSWE-CHR 37	137 Chisholm St, Oakville	Listed
OSWE-CHR 38	135 Chisholm St, Oakville	Listed
OSWE-CHR 39	131 Chisholm St, Oakville	Listed
OSWE-CHR 40	124 Chisholm St, Oakville	Listed
OSWE-CHR 41	114 Chisholm St, Oakville	Part IV Designation; 1875; Residence associated with Captain John Andrew
OSWE-CHR 42	31 Lakeshore Rd W, Oakville	Listed
OSWE-CHR 43	55 Chisholm St, Oakville	Listed; c. 1870
OSWE-CHR 44	142 Forsythe St, Oakville	Part IV Designation; 1859; Residence
OSWE-CHR 45	150 Forsythe St, Oakville	Listed
OSWE-CHR 46	154 Forsythe St, Oakville	Listed; c. 1860
OSWE-CHR 47	158 Forsythe St, Oakville	Listed; c.1845

⁴ Pumping Station #16, which is located within the First and Second Street Heritage Conservation District, is now considered as part of the Oakville Southeast Trunk study area (OSE) (see Implementation Plan Figures in Appendix B). ASI has retained the identifier OSWE-CHR 25 for the conservation district for continuity. It is however, addressed in the Implementation Plan table for the OSE study area (see Appendix C).



Table 6: Halton Wastewater Station Master Plan - Previously Identified Cultural Heritage Resources (CHRs)		
Feature	Location	Description/Comments
OSWE-CHR 48	166 Forsythe St, Oakville	Listed
OSWE-CHR 49	170 Forsythe St, Oakville	Listed
OSWE-CHR 50	1105 Sixth Line, Oakville	Part IV Designation; 1870s; Residence associated with Jeremiah Hagaman, carriage maker
OSWE-CHR 51	105 Robinson St, Oakville	Part IV Designation; 1855; The Granary (stone warehouse)
OSWE-CHR 52	136 Church St, Oakville	Listed
OSWE-CHR 53	125 Lakeshore Rd E, Oakville	Listed
OSWE-CHR 54	240 Lakeshore Rd E, Oakville	Listed; c.1856; Peter Kelley's Furniture Store
OSWE-CHR 55	245 Lakeshore Rd E, Oakville	Listed; c. 1865; Joseph Mitchell's Grocery
OSWE-CHR 56	250 Lakeshore Rd E, Oakville	Part IV Designation; 1887; Church
OSWE-CHR 57	264-268 Lakeshore Rd E, Oakville	Listed; The Justus Wright Williams Store
OSWE-CHR 58	265 Lakeshore Rd E, Oakville	Listed; part of White Oak Hotel-Garage
OSWE-CHR 59	305 Lakeshore Rd E, Oakville	Listed; c.1900; MacDonald the Blacksmith's House
OSWE-CHR 60	315 Lakeshore Rd E, Oakville	Listed; c. 1900; The Alec Chisholm House
OSWE-CHR 61	321 Lakeshore Rd E, Oakville	Listed; c.1828; The William Uptegrove House
OSWE-CHR 62	326 Lakeshore Rd E, Oakville	Listed; c. 1880; The Fairfiled-Decker House
OSWE-CHR 63	350 Lakeshore Rd E, Oakville	Listed
OSWE-CHR 64	364 Lakeshore Rd E, Oakville	Listed
OSWE-CHR 65	389 Lakeshore Rd E, Oakville	Listed; c. 1804; The Dingle Family House
OSWE-CHR 66	111 Douglas Ave, Oakville	Listed
OSWE-CHR 67	115 Douglas Ave, Oakville	Listed
OSWE-CHR 68	119 Douglas Ave, Oakville	Listed
OSWE-CHR 69	123 Douglas Ave, Oakville	Listed
OSWE-CHR 70	129 Douglas Ave, Oakville	Listed
OSWE-CHR 71	Trafalgar Road HCD: bounded by Sixteen Mile Creek (west), Inglehart St (north), Reynolds St and east of Allan St (east), Randall St/Sumner Ave (south)	Trafalgar Road Heritage Conservation District
OSWE-CHR 72	296 Randall St, Oakville	Listed
OSWE-CHR 73	140 Trafalgar Rd, Oakville	Part IV Designation
OSWE-CHR 74	146 Trafalgar Rd, Oakville	Listed
OSWE-CHR 75	264 Randall St, Oakville	Listed; Part of CHR 77
OSWE-CHR 76	262 Randall St, Oakville	Listed; Part of CHR 77
OSWE-CHR 77	137 Dunn St, Oakville	Listed; c. 1877; St. John's United Church
OSWE-CHR 78	145 Dunn St, Oakville	Listed
OSWE-CHR 79	149 Dunn St, Oakville	Listed; c. 1849
OSWE-CHR 80	164 Trafalgar Rd, Oakville	Part IV Designation; 1891; Residence



Table 6: Halton Wastewater Station Master Plan - Previously Identified Cultural Heritage Resources (CHRs)		
Feature	Location	Description/Comments
OSWE-CHR 81	136 Dunn St, Oakville	Listed
OSWE-CHR 82	220 Randall St, Oakville	Listed
OSWE-CHR 83	217 Randall St, Oakville	Listed
OSWE-CHR 84	213 Randall St, Oakville	Listed
OSWE-CHR 85	210 Randall St, Oakville	Part IV Designation; 1870; Residence
OSWE-CHR 86	139 Thomas St, Oakville	Part IV Designation; 1906
OSWE-CHR 87	165 Randall St, Oakville	Listed; 1926
OSWE-CHR 88	156 Randall St, Oakville	Part IV Designation; 1850
OSWE-CHR 89	134 Thomas St, Oakville	Part IV Designation; 1845
<i>Oakville SE</i>		
OSE-CHR 1	54 Raymar Place, Oakville	Listed
OSE-CHR 2	92 Chartwell Rd, Oakville	Listed; c. 1864; Knightsbridge
OSE-CHR 4	1314 Lakeshore Rd E, Oakville	Listed
OSE-CHR 5	1312 Lakeshore Rd E, Oakville	Listed
OSE-CHR 6	1306 Lakeshore Rd E, Oakville	Part IV Designation; 1923
OSE-CHR 7	32 Ennisclair Dr. W, Oakville	Listed
OSE-CHR 8	1502 Lakeshore Rd E, Oakville	Designated
OSE-CHR 9	Lakeshore Rd E at Raymar Place, Oakville	Listed; Stone entrance gates on Lakeshore Rd E; Raymar Estate Entrance Gates
OSE-CHR 10	114 Balsam Dr, Oakville	Part IV Designation; 1878
OSE-CHR 11	109 Balsam Dr, Oakville	Part IV Designation; 1865
OSE-CHR 12	468 Lakeshore Rd E, Oakville	Listed
OSE-CHR 13	474 Lakeshore Rd E, Oakville	Listed
OSE-CHR 14	492 Lakeshore Rd E, Oakville	Listed
OSE-CHR 15	506 Lakeshore Rd E, Oakville	Listed
OSE-CHR 16	509 Lakeshore Rd E, Oakville	Listed; c. 1870; The W.S. Speers House
OSE-CHR 17	1028 Lakeshore Rd E, Oakville	Part IV Designation; 1832
OSE-CHR 18	1044 Argyle Dr, Oakville	Listed
OSE-CHR 19	1111 Lakeshore Rd E, Oakville	Listed
OSE-CHR 20	1118 Lakeshore Rd E, Oakville	Part IV Designation; 1866
OSE-CHR 21	1167 Lakeshore Rd E, Oakville	Listed; c. 1900; Dearcroft
OSE-CHR 22	1189 Lakeshore Rd E, Oakville	Part IV Designation; 1886
OSE-CHR 23	1208 Lakeshore Rd E, Oakville	Part IV Designation; 1921
OSE-CHR 24	115 Morrison Rd, Oakville	Listed; c. 1912
OSE-CHR 25	148 Morrison Rd, Oakville	Listed; c. 1912; Morrison's Barn at Ray Lawson Park
OSE-CHR 26	222 Morrison Rd, Oakville	Listed
OSE-CHR 27	1248 Lakeshore Rd E, Oakville	Listed; Grenvella Lodge
OSE-CHR 28	1250 Lakeshore Rd E, Oakville	Listed; Grenvella Lodge
OSE-CHR 29	1341 Lakeshore Rd E, Oakville	Part IV Designation; 1820
OSE-CHR 30	1409 Lakeshore Rd E, Oakville	Part IV Designation; 1850
OSE-CHR 31	Wedgewood Dr, Oakville	Wedgewood Cemetery
OSE-CHR 32	Wedgewood Dr, Oakville	Part IV Designation; Cox Estate Cemetery
OSE-CHR 33	1475 Lakeshore Rd E, Oakville	Part IV Designation; 1830
OSE-CHR 34	1493 Lakeshore Rd E, Oakville	Part IV Designation; 1844
OSE-CHR 35	1502 Lakeshore Rd E, Oakville	Part IV Designation; Edgemere Estate; Part of OSE-CHR 8



Table 6: Halton Wastewater Station Master Plan - Previously Identified Cultural Heritage Resources (CHRs)		
Feature	Location	Description/Comments
OSE-CHR 36	2069 Lakeshore Rd E, Oakville	Listed
OSE-CHR 37	2108 Lakeshore Rd E, Oakville	Listed
OSE-CHR 38	Lakeshore Rd E, Oakville	Listed; Stone wall along Lakeshore Rd E, between Charwood Dr and Devon Rd
OSE-CHR 39	77 Ryland Terr, Oakville	Listed
OSE-CHR 40	73 Ryland Terr, Oakville	Listed
OSE-CHR 41	61 Chancery Lane E, Oakville	Listed
OSE-CHR 42	2410 Lakeshore Rd E, Oakville	Part IV Designation; 1917
OSE-CHR 43	2463 Lakeshore Rd E, Oakville	Part IV Designation; 1903
<i>Burlington West Trunk</i>		
BW-CHR 1	1280 Spring Gardens Rd, Burlington	Constructed pre-1903; Grade C
BW-CHR 2	1260 Spring Gardens Rd, Burlington	Constructed pre-1903; Grade C
BW-CHR 3	1092 Unsworth Ave, Burlington	Constructed ca. 1915; Grade B; Botanical Gardens?
BW-CHR 4	1064 Unsworth Ave, Burlington	Constructed ca.1925; Grade B; Botanical Gardens?
BW-CHR 5	680 Plains Rd W, Burlington	Constructed ca. 1931; Grade A; Designated
BW-CHR 6	613 Bayshore Blvd, Burlington	Constructed ca. 1920; Grade C
BW-CHR 7	600 Spring Gardens Rd, Burlington	Dates to ca. 1889; Grade A (Cemetery)
BW-CHR 8	1073 Unsworth Ave, Burlington	Constructed 1920s; Grade C;
BW-CHR 9	50 North Shore Blvd E., Burlington	Constructed 1917; Grade A; Designated
BW-CHR 10	616 Edgewater Cres, Burlington	Constructed 1914; Grade C
BW-CHR 11	526 North Shore Blvd E., Burlington	Constructed 1928; Grade B
BW-CHR 12	552 Allview Ave, Burlington	Constructed 1910; Grade B
BW-CHR 13	1053 Algonquin Rd, Burlington	Constructed 1929; Grade B
BW-CHR 14	1060 Algonquin Rd, Burlington	Constructed 1929; Grade B
BW-CHR 15	737 Spring Gardens Rd, Burlington	Constructed 1920; Grade C
BW-CHR 16	815 Spring Gardens Rd, Burlington	Constructed 1900; Grade C
BW-CHR 17	825 Spring Gardens Rd, Burlington	Constructed 1878; Grade C
BW-CHR 18	708 Spring Gardens Rd, Burlington	Constructed 1900; Grade B
BW-CHR 19	963 Bonnieview Ave, Burlington	Constructed 1919; Grade C
BW-CHR 20	638 Bayshore Blvd, Burlington	Constructed 1920; Grade C
BW-CHR 21	630 Bayshore Blvd, Burlington	Constructed 1920; Grade B; Designated
BW-CHR 22	613 Bayshore Blvd, Burlington	Constructed 1920 (?); Grade C; Part of BW-CHR 6
BW-CHR 23	481 Plains Rd W, Burlington	Constructed 1852; Grade A
BW-CHR 24	473 Plains Rd W, Burlington	Constructed 1919; Grade C
BW-CHR 25	459 Plains Rd W, Burlington	Grade B
BW-CHR 26	340 North Shore Blvd W, Burlington	Constructed 1922; Grade B
BW-CHR 27	903 Unsworth Ave, Burlington	Constructed 1860s; Grade B
BW-CHR 28	909 Unsworth Ave, Burlington	Constructed pre-1875; Grade A
BW-CHR 29	333 Plains Rd W, Burlington	Constructed 1923; Grade B
BW-CHR 30	1023 Unsworth Ave, Burlington	Constructed pre-1882; Grade B
BW-CHR 31	1035 Unsworth Ave, Burlington	Constructed 1860s; Grade D
BW-CHR 32	1175 Unsworth Ave, Burlington	Constructed pre-1875; Grade B
BW-CHR 33	330 Sumach Dr, Burlington	Constructed 1910; Grade C



Table 6: Halton Wastewater Station Master Plan - Previously Identified Cultural Heritage Resources (CHRs)		
Feature	Location	Description/Comments
BW-CHR 34	321 Plains Rd W, Burlington	Constructed 1927; Grade B
BW-CHR 35	300 Plains Rd W, Burlington	Constructed 1925; Grade A
BW-CHR 36	313 Plains Rd W, Burlington	Constructed 1882; Grade B; Designated
BW-CHR 37	299 Plains Rd W, Burlington	Constructed 1923; Grade B; Designated
BW-CHR 38	283 Plains Rd W, Burlington	Constructed 1923; Grade B
BW-CHR 39	280 Plains Rd W, Burlington	Constructed 1916; Grade B
BW-CHR 40	275 Plains Rd W, Burlington	Constructed 1922; Grade B
BW-CHR 41	267 Plains Rd W, Burlington	Constructed 1925; Grade C
BW-CHR 42	976 Lasalle Park Rd, Burlington	Constructed 1927; Grade C
BW-CHR 43	982 Lasalle Park Rd, Burlington	Constructed 1925; Grade B
BW-CHR 44	944 Lasalle Park Rd, Burlington	Constructed 1860; Grade A
BW-CHR 45	938 Lasalle Park Rd, Burlington	Constructed c. 1860; Grade B
BW-CHR 46	928 Lasalle Park Rd, Burlington	Constructed 1860; Grade B
BW-CHR 47	66 Plains Rd E, Burlington	Constructed pre-1910; Grade C
BW-CHR 48	92 Plains Rd E, Burlington	Constructed 1850; Grade C
BW-CHR 49	126 Plains Rd E, Burlington	Constructed 1866/1920; Grade A
BW-CHR 50	150 Plains Rd E, Burlington	Constructed 1912; Grade C
BW-CHR 51	192 Plains Rd E, Burlington	Constructed 1880; Grade A
BW-CHR 52	242 Plains Rd E, Burlington	Constructed 1906; Grade A
BW-CHR 53	241 Plains Rd E, Burlington	Constructed 1880; Grade A
BW-CHR 54	242 Plains Rd E, Burlington	Constructed 1906; Grade A; Part of BW-CHR 52
BW-CHR 55	375 Plains Rd E, Burlington	Constructed 1866/1907; Grade A
BW-CHR 56	444 Plains Rd E, Burlington	Constructed 1890; Grade A
BW-CHR 57	1003 Greenwood Dr, Burlington	Constructed 1868; Grade B
BW-CHR 58	1018 Greenwood Dr, Burlington	Constructed 1906; Grade B
BW-CHR 59	164 Townsend Ave, Burlington	Constructed 1847; Grade A
BW-CHR 60	918 Shadeland Ave, Burlington	Constructed 1870/87; Grade B
BW-CHR 61	327 Townsend Ave, Burlington	Constructed 1895; Grade A
BW-CHR 62	1043 Greenwood Dr, Burlington	Constructed 1896; Grade B
BW-CHR 63	Greenwood Dr, Burlington	Grade A
BW-CHR 64	240 North Shore Blvd E, Burlington	Constructed 1930; Grade B
BW-CHR 65	237 North Shore Blvd E, Burlington	Constructed 1920; Grade A
BW-CHR 66	260 North Shore Blvd E, Burlington	Constructed 1923; Grade B
BW-CHR 67	340 Shoreview Rd, Burlington	Constructed 1910; Grade C
BW-CHR 68	327 North Shore Blvd E, Burlington	Constructed 1920; Grade C
BW-CHR 69	334 North Shore Blvd E, Burlington	Constructed 1938; Grade B
BW-CHR 70	340 North Shore Blvd E, Burlington	Constructed 1938; Grade B
BW-CHR 71	348 North Shore Blvd E, Burlington	Constructed 1938; Grade B
BW-CHR 72	496 North Shore Blvd E, Burlington	Constructed 1942; Grade C
BW-CHR 73	503 North Shore Blvd E, Burlington	Constructed 1925; Grade B
BW-CHR 74	640 Edgewater Cres., Burlington	Constructed 1926; Grade C
BW-CHR 75	518 North Shore Blvd E, Burlington	Constructed 1924; Grade B
BW-CHR 76	563 North Shore Blvd E, Burlington	Constructed 1925; Grade A
BW-CHR 77	585 North Shore Blvd E, Burlington	Constructed 1925; Grade B
BW-CHR 78	590 North Shore Blvd E, Burlington	Constructed 1919; Grade B
BW-CHR 79	608 North Shore Blvd E, Burlington	Constructed 1916; Grade B



Table 6: Halton Wastewater Station Master Plan - Previously Identified Cultural Heritage Resources (CHRs)		
Feature	Location	Description/Comments
BW-CHR 80	682 North Shore Blvd E, Burlington	Constructed 1929; Grade A
BW-CHR 81	694 North Shore Blvd E, Burlington	Constructed 1922; Grade B
BW-CHR 82	594 Stillwater Crt, Burlington	Constructed 1915; Grade C
BW-CHR 83	1007 North Shore Blvd E, Burlington	Constructed 1936; Grade C
BW-CHR 84	1011 North Shore Blvd E, Burlington	Constructed 1918; Grade C
BW-CHR 85	1006 North Shore Blvd E, Burlington	Constructed 1922; Grade C
BW-CHR 86	1012 North Shore Blvd E, Burlington	Constructed 1922; Grade C
BW-CHR 87	1016 North Shore Blvd E, Burlington	Constructed 1922; Grade C
BW-CHR 88	1020 North Shore Blvd E, Burlington	Constructed 1922; Grade B
BW-CHR 89	518 Indian Rd, Burlington	Constructed 1900; Grade A
BW-CHR 90	512 Indian Rd, Burlington	Constructed 1908; Grade B
BW-CHR 91	504 Indian Rd, Burlington	Constructed 1908; Grade A
BW-CHR 92	490 Indian Rd, Burlington	Constructed 1908; Grade A
BW-CHR 93	1041 Mohawk Rd, Burlington	Constructed 1928; Grade B
BW-CHR 94	1053 Mohawk Rd, Burlington	Constructed 1924; Grade A
BW-CHR 95	1050 Mohawk Rd., Burlington	Constructed 1924; Grade B
BW-CHR 96	1060 Mohawk Rd, Burlington	Constructed 1929; Grade A
BW-CHR 97	1065 Algonquin Rd, Burlington	Constructed 1939; Grade B
BW-CHR 98	1070 Algonquin Rd, Burlington	Constructed 1939; Grade C
BW-CHR 99	977 Unsworth Ave, Burlington	Constructed 1932; Grade A
BW-CHR 100	336 Plains Rd W, Burlington	Constructed 1930s; Grade A
Burlington East Trunk		
BE-CHR 1	2137 Lakeshore Rd, Burlington	Constructed 1915; Grade A
BE-CHR 2	2118 Old Lakeshore Rd, Burlington	Constructed 1864; Grade B
BE-CHR 3	2107 Old Lakeshore Rd, Burlington	Constructed ca. 1947; Grade C
BE-CHR 4	4252 Lakeshore Rd, Burlington (4280 Lakeshore Rd, Burlington)	Constructed 1912; Grade A; with BE-CHR 89, forms the Paletta Lakefront Park
BE-CHR 5	5087 Lakeshore Rd, Burlington	Constructed ca. 1918; Grade B
BE-CHR 6	5031 Lakeshore Rd, Burlington	Constructed ca. 1850s; Grade A
BE-CHR 7	1230 Lakeshore Blvd E, Burlington	Constructed 1937; Grade A
BE-CHR 8	1094 Lakeshore Rd, Burlington	Constructed 1909; Grade A; Designated
BE-CHR 9	454 Maple Ave, Burlington	Constructed 1888; Grade B
BE-CHR 10	464 Maple Ave, Burlington	Constructed 1938; Grade B
BE-CHR 11	1254 Bellview St, Burlington	Constructed 1930; Grade C
BE-CHR 12	1249 Bellview St, Burlington	Constructed 1920; Grade C
BE-CHR 13	1244 Bellview St, Burlington	Constructed 1890; Grade C
BE-CHR 14	1198 Bellview St, Burlington	Constructed 1919; Grade C
BE-CHR 15	1188 Bellview St, Burlington	Constructed 1920; Grade C
BE-CHR 16	1187 Bellview St, Burlington	Constructed 1930; Grade C
BE-CHR 17	1382 Ontario St, Burlington	Constructed 1922; Grade B
BE-CHR 18	1407 Lakeshore Rd, Burlington	Constructed 1881-2; Grade C
BE-CHR 19	419 Burlington Ave, Burlington	Constructed 1860s; Grade A; Designated
BE-CHR 20	1421 Lakeshore Rd, Burlington	Constructed 1894; Grade A
BE-CHR 21	2003 Lakeshore Rd, Burlington	Constructed 1947; Grade B
BE-CHR 22	2007 Lakeshore Rd, Burlington	Grade C
BE-CHR 23	2015 Lakeshore Rd, Burlington	Constructed 1881; Grade A
BE-CHR 24	2021 Lakeshore Rd, Burlington	Constructed 1865; Grade B



Table 6: Halton Wastewater Station Master Plan - Previously Identified Cultural Heritage Resources (CHRs)		
Feature	Location	Description/Comments
BE-CHR 25	2027 Lakeshore Rd, Burlington	Grade D
BE-CHR 26	2072 Lakeshore Rd, Burlington	Constructed 1867; Grade B
BE-CHR 27	2096 Lakeshore Rd, Burlington	Constructed 1847; Grade B
BE-CHR 28	2100 Lakeshore Rd, Burlington	Grade C
BE-CHR 29	2101 Old Lakeshore Rd, Burlington	Constructed 1859; Grade A
BE-CHR 30	2159 Lakeshore Rd, Burlington	Constructed pre-1915; Grade B
BE-CHR 31	2177 Lakeshore Rd, Burlington	Constructed 1910; Grade C
BE-CHR 32	2187 Lakeshore Rd, Burlington	Constructed 1880; Grade A
BE-CHR 33	2201 Lakeshore Rd, Burlington	Constructed 1872; Grade A
BE-CHR 34	349 Smith Ave, Burlington	Constructed 1890; Grade A
BE-CHR 35	367 Smith Ave, Burlington	Constructed 1890; Grade A
BE-CHR 36	403 Smith Ave, Burlington	Constructed 1890; Grade A
BE-CHR 37	404 Smith Ave, Burlington	Constructed 1900(?); Grade A
BE-CHR 38	2213 Lakeshore Rd, Burlington	Constructed 1872; Grade B
BE-CHR 39	2222 Lakeshore Rd, Burlington	Constructed 1855/1872; Grade A; Designated
BE-CHR 40	2229 Lakeshore Rd, Burlington	Constructed 1872; Grade B
BE-CHR 41	2230 Lakeshore Rd, Burlington	Constructed 1881; Grade A
BE-CHR 42	2243 Lakeshore Rd, Burlington	Constructed 1920; Grade A
BE-CHR 43	2259 Lakeshore Rd, Burlington	Constructed 1870; Grade B
BE-CHR 114	2277 Lakeshore Rd, Burlington	Constructed 1920; Grade C
BE-CHR 115	2281 Lakeshore Rd, Burlington	Constructed 1920; Grade C
BE-CHR 116	2285 Lakeshore Rd, Burlington	Constructed 1920; Grade C
BE-CHR 117	2288 Lakeshore Rd, Burlington	Constructed 1910; Grade D
BE-CHR 118	2292 Lakeshore Rd, Burlington	Constructed 1910; Grade D
BE-CHR 119	2297 Lakeshore Rd, Burlington	Constructed 1939-Grade B
BE-CHR 120	2320 Lakeshore Rd, Burlington	Constructed 1923; Grade B
BE-CHR 121	2343 Lakeshore Rd, Burlington	Constructed 1881; Grade C
BE-CHR 122	2349 Lakeshore Rd, Burlington	Constructed 1881; Grade B; Designated
BE-CHR 44	2363 Lakeshore Rd, Burlington	Constructed 1920; Grade B
BE-CHR 45	2358 Lakeshore Rd, Burlington	Constructed 1905/07; Grade A; Designated
BE-CHR 46	2375 Lakeshore Rd, Burlington	Constructed c.1874; Grade B
BE-CHR 47	2383 Lakeshore Rd, Burlington	Constructed 1922; Grade C
BE-CHR 48	2408 Lakeshore Rd, Burlington	Constructed 1855; Grade C
BE-CHR 49	2411 Lakeshore Rd, Burlington	Constructed 1890; Grade A; Designated
BE-CHR 50	2419 Lakeshore Rd, Burlington	Constructed 1870; Grade B
BE-CHR 51	2429 Lakeshore Rd, Burlington	Constructed 1840s; Grade A
BE-CHR 52	248 Guelph Line, Burlington	Constructed 1875; Grade A
BE-CHR 53	262 Guelph Line, Burlington	Constructed 1862; Grade B
BE-CHR 54	274 St. Paul St, Burlington	Constructed 1870s; Grade C
BE-CHR 55	282 St. Paul St, Burlington	Constructed 1886; Grade C; Designated
BE-CHR 56	2406 First St, Burlington	Constructed 1846; Grade A
BE-CHR 57	2393 First St, Burlington	Constructed 1885; Grade B
BE-CHR 58	295 Green St, Burlington	Constructed 1921; Grade B; The Alfred and Mildred Thomas House
BE-CHR-59	313 Delaware Ave, Burlington	Constructed 1917; Grade C



Table 6: Halton Wastewater Station Master Plan - Previously Identified Cultural Heritage Resources (CHRs)		
Feature	Location	Description/Comments
BE-CHR 60	314 Delaware Ave, Burlington	Constructed 1890; Grade C
BE-CHR 61	316 Delaware Ave, Burlington	Constructed 1923; Grade C
BE-CHR 62	315 Delaware Ave, Burlington	Constructed 1926; Grade C
BE-CHR 63	329 Delaware Ave, Burlington	Constructed 1917; Grade C
BE-CHR 64	3030 Lakeshore Rd, Burlington	Constructed 1922; Grade B
BE-CHR 65	3044 Lakeshore Rd, Burlington	Constructed 1921; Grade A
BE-CHR 66	3050 Lakeshore Rd, Burlington	Constructed 1921; Grade B
BE-CHR 67	3064 Lakeshore Rd, Burlington	Constructed 1910; Grade A; Designated
BE-CHR 68	3057 Lakeshore Rd, Burlington	Constructed 1910; Grade A
BE-CHR 69	3065 Lakeshore Rd, Burlington	Constructed 1919 Grade B
BE-CHR 70	3072 Lakeshore Rd, Burlington	Constructed 1910; Grade A; Designated
BE-CHR 71	3077 Lakeshore Rd, Burlington	Constructed 1910; Grade A; Designated
BE-CHR 72	3080 Lakeshore Rd, Burlington	Constructed 1910; Grade A; Designated
BE-CHR 73	3083 Lakeshore Rd, Burlington	Constructed 1910; Grade A; Designated
BE-CHR 74	3088 Lakeshore Rd, Burlington	Constructed 1910; Grade A; Designated
BE-CHR 75	3093 Lakeshore Rd, Burlington	Constructed 1919; Grade A
BE-CHR 76	3109 Lakeshore Rd, Burlington	Constructed 1925; Grade C
BE-CHR 77	3132 Lakeshore Rd, Burlington	Constructed 1924; Grade C
BE-CHR 78	3144 Lakeshore Rd, Burlington	Constructed 1916; Grade A
BE-CHR 79	3162 Lakeshore Rd, Burlington	Constructed 1924; Grade D
BE-CHR 80	3166 Lakeshore Rd, Burlington	Constructed 1924; Grade C
BE-CHR 81	3318 Lakeshore Rd, Burlington	Constructed 1860/78; Grade A
BE-CHR 82	3420 Lakeshore Rd, Burlington	Constructed 1913; Grade C
BE-CHR 83	496 Walker's Line, Burlington	Constructed 1908/13; Grade B; Designated
BE-CHR 84	4026 Lakeshore Rd, Burlington	Constructed 1917; Grade C
BE-CHR 85	4078 Lakeshore Rd, Burlington	Constructed 1925; Grade C
BE-CHR 86	4100 Lakeshore Rd, Burlington	Constructed 1931; Grade B
BE-CHR 87	4133 Inglewood Drive, Burlington	Constructed 1954; Grade C
BE-CHR 88	4210 Inglewood Drive, Burlington	Constructed 1926; Grade A; Designated
BE-CHR 89	4250 Lakeshore Rd, Burlington (4280 Lakeshore Rd, Burlington)	Constructed 1930; Grade A; Designated; with BE-CHR 4, forms the Paletta Lakefront Park
BE-CHR 90	4338 Lakeshore Rd, Burlington	Constructed 1925; Grade C
BE-CHR 91	4367 Lakeshore Rd, Burlington	Constructed 1931; Grade C
BE-CHR 92	5006 Lakeshore Rd, Burlington	Constructed 1921; Grade B
BE-CHR 93	296 Appleby Line, Burlington	Constructed 1840s; Grade B
BE-CHR 94	4225 New St, Burlington (aka 4183 New St.)	Constructed 1908; Grade B
BE-CHR 95	511 Woodview Rd, Burlington	Constructed 1920; Grade B
BE-CHR 96	3360 New St, Burlington	Constructed 1904; Grade B
BE-CHR 97	3292 New St, Burlington	Constructed 1908; Grade B
BE-CHR 98	3276 New St, Burlington	Constructed 1908; Grade B



Table 6: Halton Wastewater Station Master Plan - Previously Identified Cultural Heritage Resources (CHRs)		
Feature	Location	Description/Comments
BE-CHR 99	435 Pompona Ave, Burlington	Constructed 1910; Grade B
BE-CHR 100	415 Smith Ave, Burlington	Constructed 1920; Grade B
BE-CHR 101	431 Peart St, Burlington	Constructed c.1860; Grade B
BE-CHR 102	437 Elizabeth St, Burlington	Constructed 1855; Grade B
BE-CHR 103	416 Pearl St, Burlington	Constructed 1875; Grade A
BE-CHR 104	400 Brant St, Burlington	Constructed 1860; Grade A
BE-CHR 105	426 Brant St, Burlington	Constructed 1912; Grade B
BE-CHR 106	1437 Elgin St, Burlington	Constructed 1860s; Grade A
BE-CHR 107	455 Burlington Ave, Burlington	Constructed 1927; Grade C
BE-CHR 108	454 Burlington Ave, Burlington	Constructed 1942; Grade C
BE-CHR 109	436 Burlington Ave, Burlington	Constructed 1914; Grade A
BE-CHR 110	1376 Elgin St, Burlington	Constructed 1930; Grade C
BE-CHR 111	445 Nelson Ave, Burlington	Constructed 1886; Grade A; Designated
BE-CHR 112	451 Nelson Ave, Burlington	Constructed 1894; Grade A; Designated
BE-CHR 113	431 Brock Ave, Burlington	Constructed 1875/77; Grade A

3.5 Evaluation of Alternatives and Implementation Plans

As part of the process of evaluating alternatives for the proposed undertaking, three options were considered and which included: (1) maintain all pumping stations; (2) construct new trunk sewer and replace some pumping stations; and (3) construct new trunk sewer and replace all pumping stations. To evaluate the potential impacts of these three alternatives on cultural heritage resources, desk-top data was analyzed to identify if pumping stations proposed for replacement, upgrading, or decommissioning and construction of proposed trunk sewers would have the potential to impact cultural heritage resources. GIS data was used to highlight previously identified cultural heritage resources located adjacent to proposed trunk sewer corridors and adjacent to pumping stations recommended for replacement, upgrading, or decommissioning. The results of this analysis were assembled within a tabular format and then weighted as part of a evaluation workshop for the subject project that considered all environmental factors. Following weighting of environmental factors, a preferred alternative was identified and which includes construction of new gravity sewers and forcemains and upgrading and/or elimination/decommissioning of select pumping stations.

Implementation plans to address mitigation of potential impacts of the preferred alternative (See Appendix B)⁵ have been created for each drainage area (Appendix C). Each plan identifies proposed work for the various pumping stations and associated trunk/gravity sewers and forcemains located within the individual drainage areas. Pumping stations will be upgraded, decommissioned, or left as is. However, it should be noted that at this time, the extent and type of upgrading and/or decommissioning and specific construction methods for proposed gravity sewers and forcemains are not known. The implementation plans identify potential impacts of the undertaking on identified cultural heritage resources within each study area and propose various mitigation measures and recommend additional work that should be undertaken as the project advances into the preliminary design stage. Findings for each drainage area are summarized in Appendix C.

⁵ The Implementation Plans are dated November, 2010.



4.0 CONCLUSIONS

Based on historical research and a review of previously identified above ground cultural heritage resources on the Ministry of Culture's Heritage Properties Database and listed on local municipal heritage inventories, the Burlington East, Burlington West, Oakville Southeast, Oakville Southwest East, and Oakville Southwest West study areas retain numerous cultural heritage resources associated with early settlement patterns and early twentieth century development themes. Evaluation of alternatives and the preferred alternative within each study area revealed that a number of identified cultural heritage resources have the potential to be impacted by the proposed work for the various pumping stations. Tables contained within Appendix C provide a summary of potential impacts of the preferred alternative on known cultural heritage resources. The following section provides a summary of previously identified heritage resources located in the study areas:

Burlington West Trunk:

- A total of 100 cultural heritage resources have been previously identified within the general Burlington West Trunk (BW) study area;
- No previously identified CHRs are expected to be impacted by proposed work at Pumping Stations #57, #48, #74, #38, #54, #40, #41, #71, #73, #77, #92, #68, #70, #72, and #37.

Burlington East Trunk:

- A total of 113 cultural heritage resources have been previously identified within the general Burlington East Trunk (BE) study area;
- The proposed work at Pumping Station #32 has the potential to directly or indirectly impact a municipally-listed cultural heritage resource (BE-CHR 6);
- The proposed work at Pumping Station #69 has the potential to directly or indirectly impact a municipally-listed cultural heritage resource (BE-CHR 14);
- No previously identified CHRs are expected to be impacted by proposed work at Pumping Stations #35, #31, #67, #34, #30, #33.

Oakville Southwest West Trunk:

- A total of 13 cultural heritage resources have been previously identified within the general Oakville Southwest West Trunk (OSWW) study area;
- The proposed work at Pumping Station #65 has the potential to directly or indirectly impact a municipally-listed cultural heritage resource (OSWW-CHR 3);
- No previously identified CHRs are expected to be impacted by proposed work at Pumping Stations #66, #64, #27, #50, #28, #29, and #26.

Oakville Southwest East Trunk:

- A total of 89 cultural heritage resources have been previously identified within the general Oakville Southwest East Trunk (OSWE) study area;
- The proposed work at Pumping Station #18 has the potential to directly or indirectly impact cultural heritage resource Designated under the *Ontario Heritage Act* (OSWE-CHR 10);
- No previously identified CHRs are expected to be impacted by proposed work at Pumping Stations #47, #46, #7, 24, #23, #52, #20, #21, #75, #81, and #56.

Oakville Southeast Trunk:



- A total of 43 cultural heritage resources have been previously identified within the general Oakville Southeast Trunk (OSE) study area;
- The proposed work at Pumping Station #12 has the potential to directly or indirectly impact cultural heritage resource Designated under the *Ontario Heritage Act* (OSE-CHR 8);
- The proposed work at Pumping Station #17 has the potential to directly or indirectly impact cultural heritage resource Designated under the *Ontario Heritage Act* (OSE-CHR 6);
- The proposed work at Pumping Station #13 has the potential to directly or indirectly impact cultural heritage resource Designated under the *Ontario Heritage Act* (OSE-CHR 23);
- The proposed work at Pumping Station #16 has the potential to directly or indirectly impact cultural heritage resource Designated under *Ontario Heritage Act* (OSWE-CHR 25);
- The proposed work at Pumping Station #15 has the potential to directly or indirectly impact a municipally-listed cultural heritage resource (OSE-CHR 1);
- No previously identified CHRs are expected to be impacted by proposed work at Pumping Stations #8, #9, #10, #11, #14, #42, #45, #43, #99, #44.

5.0 RECOMMENDATIONS

The results of background historic research and a review of secondary source material, including the Ontario Ministry of Culture's Heritage Properties Database and the Town of Oakville and the City of Burlington's Heritage Registers and heritage inventories, revealed a study area with a long history of Euro-Canadian occupation containing a number of previously identified heritage properties. As such, the proposed upgrading or replacement of waste water pumping stations in the five study areas can have a variety of impacts upon these identified cultural heritage resources. These include the loss or displacement of resources through removal or demolition and the disruption of resources by introducing physical, visual, audible or atmospheric elements that are not in keeping with the resources and/or their setting.

Based on information provided to date, the following recommendations are provided:

1. Proposed waste water pumping station infrastructure and preferred alternative designs within the study areas should be suitably planned in a manner that avoids any identified, above ground, cultural heritage resources. Upgrading and decommissioning plans for select pumping stations and installation of new gravity trunk sewers and forcemains should be developed to avoid cultural heritage resources.
2. When preliminary or conceptual designs for proposed upgrading and/or decommissioning plans for select pumping stations and installation of new gravity trunk sewers and forcemains are developed, data presented in this report should be reviewed and updated, a field survey should be conducted to identify cultural heritage resources potentially impacted by the undertaking, and mitigation measures should be developed.

6.0 REFERENCES

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APPENDIX A: Cultural Heritage Resource Mapping





Burlington West Trunk - Location of Cultural Heritage Resources (CHR) Sheet 1



Burlington West Trunk - Location of Cultural Heritage Resources (CHR) Sheet 2



Burlington East Trunk - Location of Cultural Heritage Resources (CHR) Sheet 1



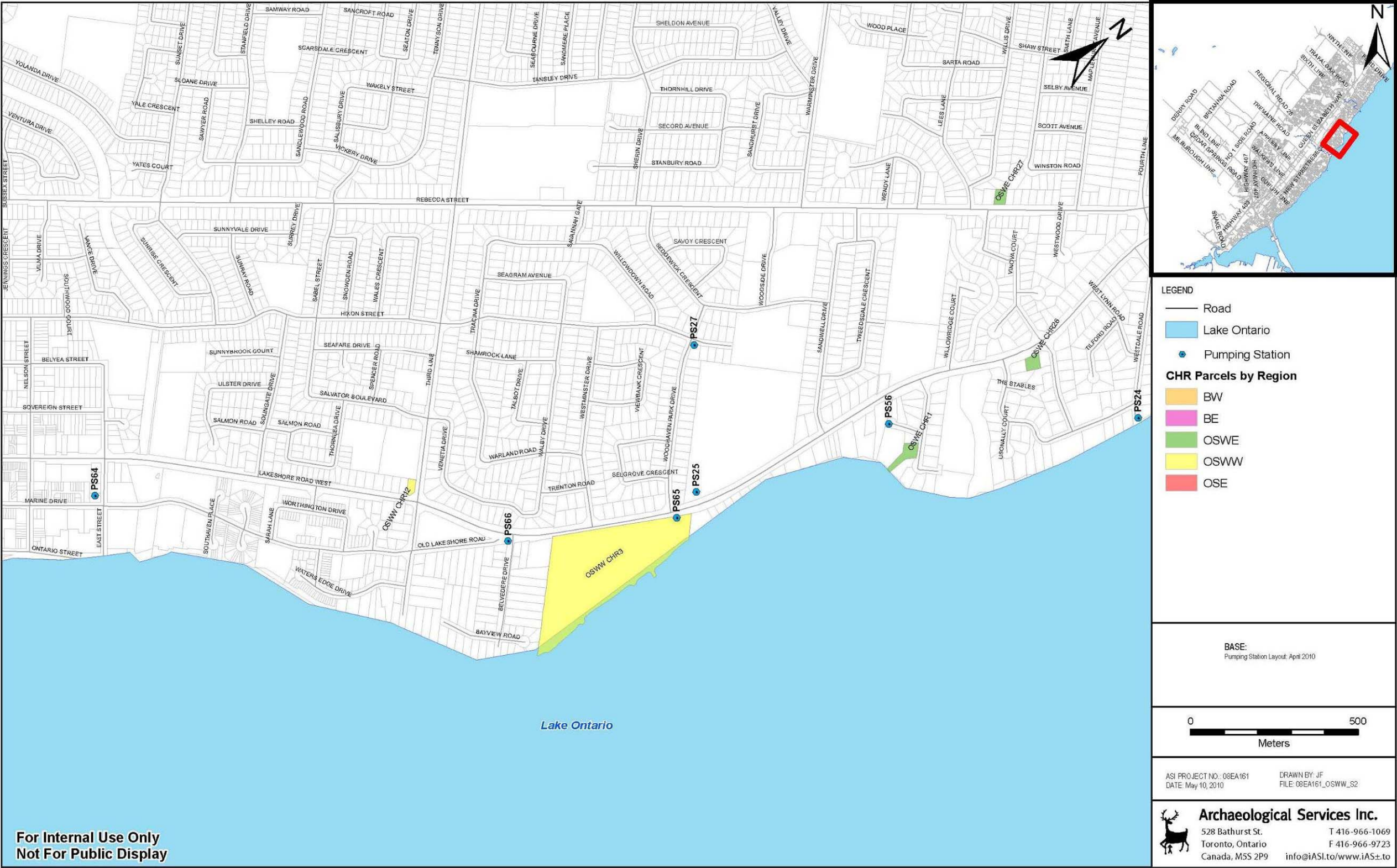
Burlington East Trunk - Location of Cultural Heritage Resources (CHR) Sheet 2



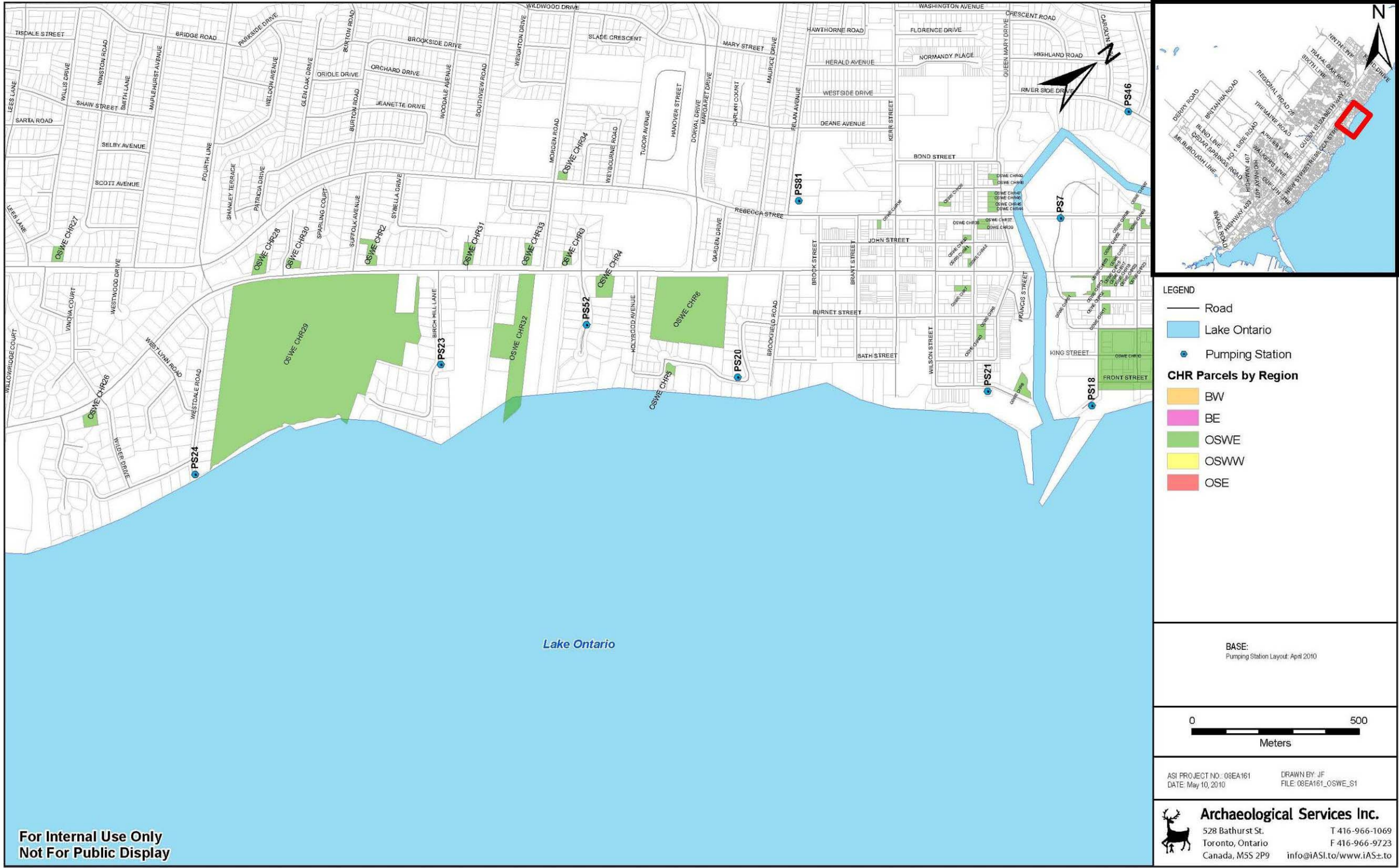
Burlington East Trunk - Location of Cultural Heritage Resources (CHR) Sheet 3



Oakville SW West Trunk - Location of Cultural Heritage Resources (CHR) Sheet 1



Oakville SW West Trunk - Location of Cultural Heritage Resources (CHR) Sheet 2



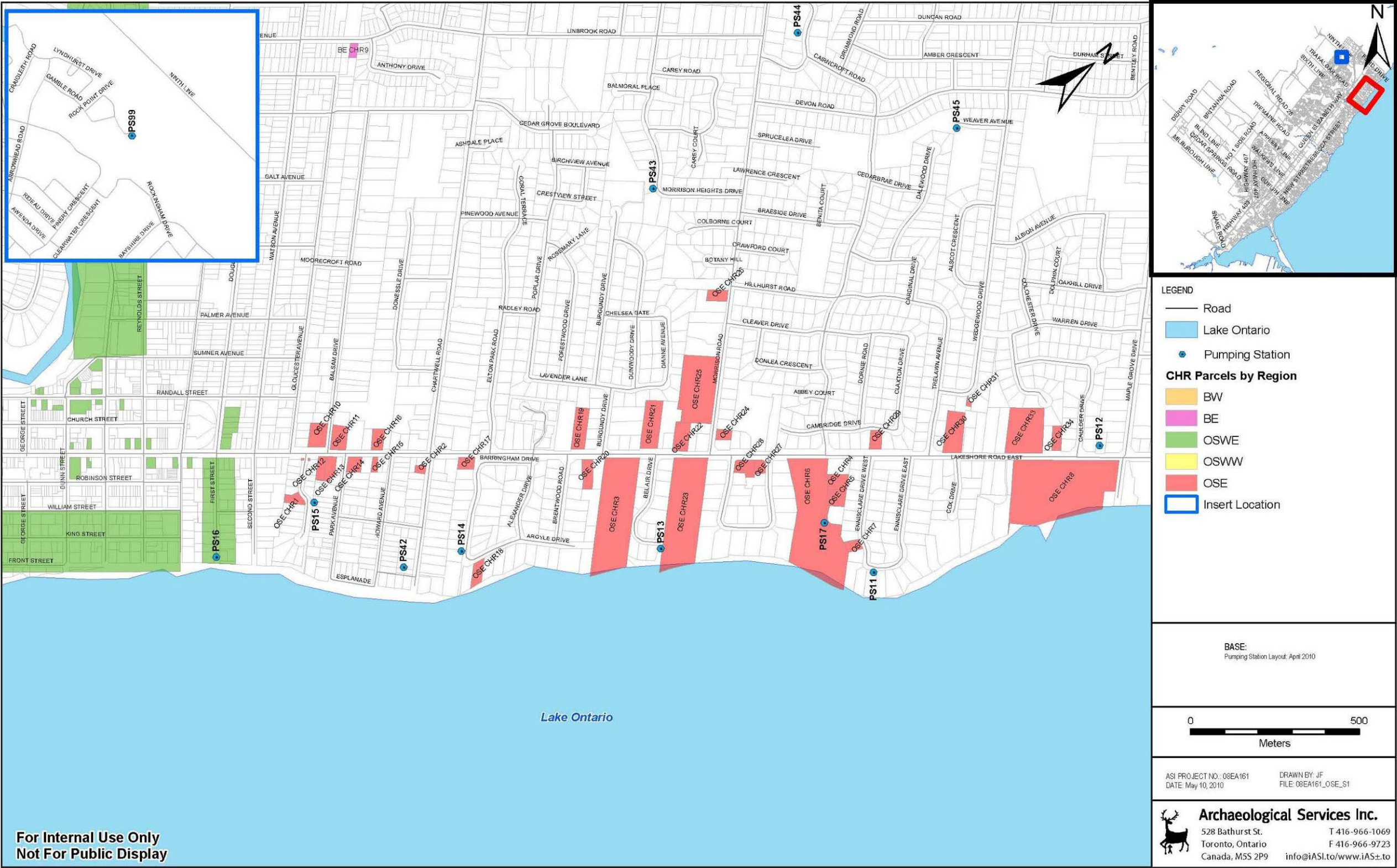
Oakville SW East Trunk - Location of Cultural Heritage Resources (CHR) Sheet 1



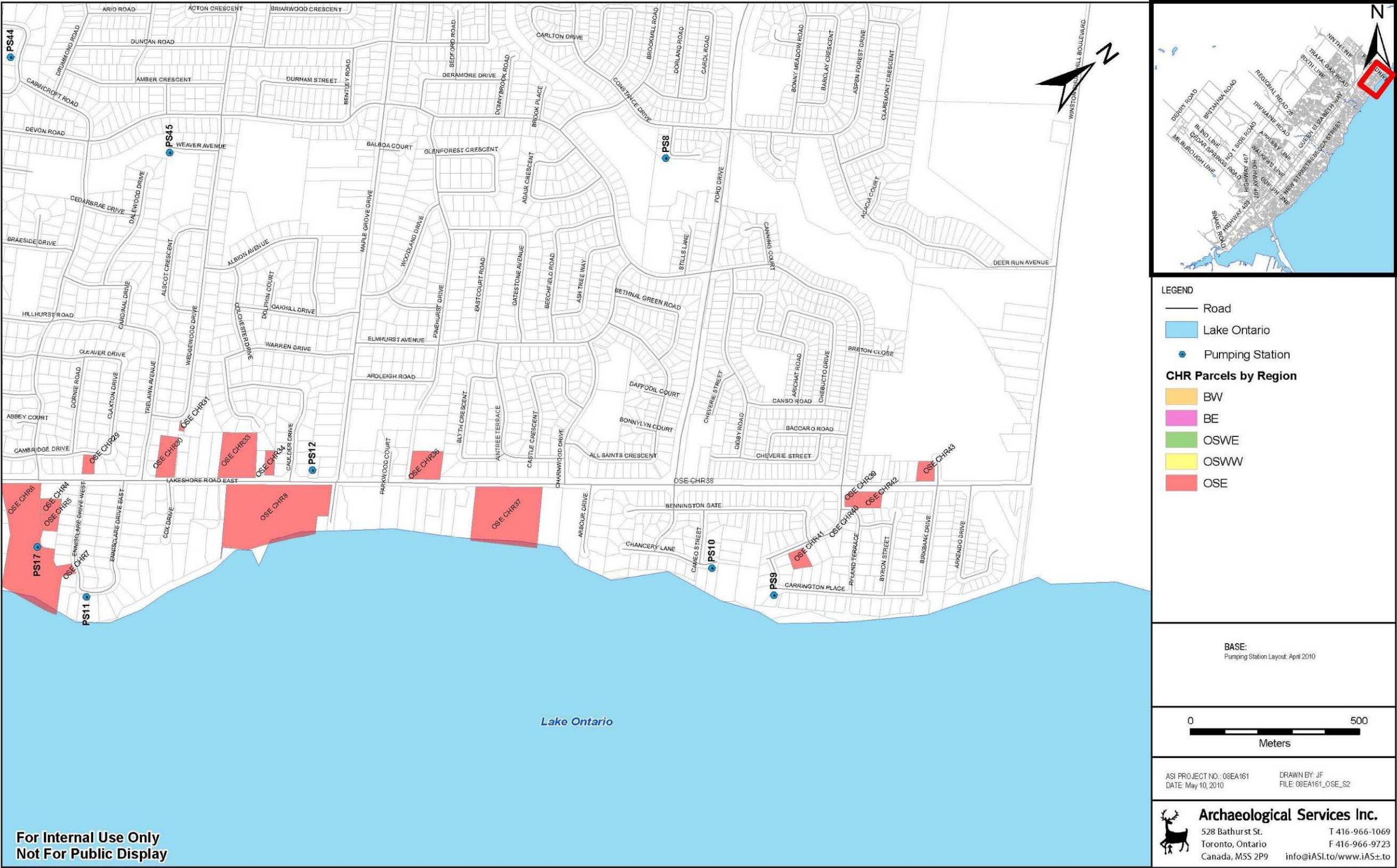
Oakville SW East Trunk - Location of Cultural Heritage Resources (CHR) Sheet 2



Oakville SW East Trunk - Location of Cultural Heritage Resources (CHR) Sheet 3



Oakville SE Trunk - Location of Cultural Heritage Resources (CHR) Sheet 1



Oakville SE Trunk - Location of Cultural Heritage Resources (CHR) Sheet 2

APPENDIX B: Implementation Plan Figures





Date: November, 2010









APPENDIX C: Implementation Plan Tables



Burlington West Implementation Plan – Cultural Heritage Resources (CHR)

PS	Proposed Work	Impacts on Cultural Heritage Resources	Mitigation Measure/Additional Work
#57, #48	0.5 km of new local sewer, eliminate PS #48, upgrade PS #57	No impacts at PS #57 and #48 on known cultural heritage resources.	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.• Confirm impacts of decommissioning and upgrading on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#74, #38	0.1 km of new local sewer, eliminate PS #38, upgrade PS #74	No impacts at PS #74 and #38 on known cultural heritage resources.	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.• Confirm impacts of decommissioning and upgrading on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#54, #40	0.1 km of new local sewer, eliminate PS #40, upgrade PS #54, upgrade FM	No impacts at PS #54 and #40 on known cultural heritage resources.	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.• Confirm impacts of decommissioning and upgrading on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#41, #71, #73, #77, #92	No proposed work at this time	No impacts	<ul style="list-style-type: none">• No further work required
#68, #70, #72, #37	No proposed work at this time	No impacts	<ul style="list-style-type: none">• No further work required

Burlington East Implementation Plan – Cultural Heritage Resources (CHR)

PS	Proposed Work	Impacts on Cultural Heritage Resources	Mitigation Measure/Additional Work
#35	Upgrade PS, 2.9km of new trunk sewer, new FM	No impacts at PS #35 on known cultural heritage resources.	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.• Confirm impacts of upgrading on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#31	Decommission PS, 0.1 km of new local sewer	No impacts at PS #31 on known cultural heritage resources.	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known• Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#32	Decommission PS, 0.1 km of new local sewer	Potential for direct or indirect impacts to a municipally-listed cultural heritage resource dependent on the extant of decommissioning plans.	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.• Confirm impacts of decommissioning on BE-CHR 6 and other potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#69	Decommission PS, 0.3 km of new local sewer	Potential for direct or indirect impacts to a municipally-listed cultural heritage resource dependent on the extant of decommissioning plans.	<ul style="list-style-type: none">• Confirm impacts of decommissioning on BE-CHR 14 and other potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.• Impacts of shaft sites for the proposed new local sewer are to be confirmed once shaft locations are known.
#67	Decommission PS, 0.1 km of new local sewer	No impacts at PS #67 on known cultural heritage resources.	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known• Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.

PS	Proposed Work	Impacts on Cultural Heritage Resources	Mitigation Measure/Additional Work
#34	Decommission PS, 2.2 km of new local sewer	No impacts at PS #34 on known cultural heritage resources.	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known• Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#30	Decommission PS, 1.1 km of new local sewer	No impacts at PS #30 on known cultural heritage resources.	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known• Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#33	No proposed work at this time	No impacts	<ul style="list-style-type: none">• No further work required

Oakville Southwest West Implementation Plan – Cultural Heritage Resources (CHR)

PS	Proposed Work	Impacts on Cultural Heritage Resources	Mitigation Measure/Additional Work
None	2.0 km of new trunk sewer	Potential for direct and indirect impacts on known and unknown cultural heritage resources.	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new trunk sewer on cultural heritage resources are to be confirmed once shaft locations are known.
#65, #66, #64	0.1 km of new local sewer, eliminate PSs	<ul style="list-style-type: none">• No impacts at PS #66 and #64 on known cultural heritage resources.• Potential for direct and/or indirect impacts to a municipally-listed cultural heritage resource at PS #65	<ul style="list-style-type: none">• Confirm impacts of decommissioning on OSWW CHR 3and other potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.
#27	25 m of new local sewer, eliminate PS	No impacts at PS #27 on known cultural heritage resources.	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known• Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#50	1.5 km of new local sewer, eliminate PS	No impacts at PS #50 on known cultural heritage resources.	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.• Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#28	No proposed work at this time	No impacts	<ul style="list-style-type: none">• No further work required
#29	No proposed work at this time	No impacts	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.
#26	0.3 km of new local sewer; eliminate PS	No impacts at PS #26 on known cultural heritage resources.	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.• Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.

Oakville Southwest East Implementation Plan – Cultural Heritage Resources (CHR)

PS	Proposed Work	Impacts on Cultural Heritage Resources	Mitigation Measures/Additional Work
#47	0.1 km of new local sewer, eliminate PS	No impacts to PS #47 to known cultural heritage resources.	<ul style="list-style-type: none">Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#46	0.8 km of new local sewer, eliminate PS	No impacts to PS #46 on known cultural heritage resources.	<ul style="list-style-type: none">Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#7, #18,	0.3 km of new local sewer; eliminate PS#18 and divert flows to PS#7; upgrade pumps and force mains at PS#7	<ul style="list-style-type: none">No impacts to PS #7 on known cultural heritage resources.Potential for direct and indirect impacts to a cultural heritage resource Designated under Part V of the <i>Ontario Heritage Act</i> at PS #18.	<ul style="list-style-type: none">Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.Confirm impacts of decommissioning PS# 18 on OSWE-CHR 10 (Old Oakville Heritage Conservation District) and other potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#24, #23, #52, #20, #21, #75, #81	No proposed work at this time	No impacts	<ul style="list-style-type: none">No further work required
#56	0.3 km of new local sewer; eliminate PS	No impacts to PS #56 on known cultural heritage resources.	<ul style="list-style-type: none">Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate

Oakville Southeast Implementation Plan – Cultural Heritage Resources (CHR)

PS	Proposed Work	Impacts on Cultural Heritage Resources	Mitigation Measures/Additional Work
#8	0.1 km of new local sewer, eliminate PS	No impacts at PS #8 on known cultural heritage resources.	<ul style="list-style-type: none">Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known .Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessments where appropriate.
#9, 10	0.8 km of new local sewer, eliminate PS#10 and upgrade PS# 9	No impacts at PS #9 and #10 on known cultural heritage resources.	<ul style="list-style-type: none">Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known .Confirm impacts of decommissioning and upgrading on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessments where appropriate. .
#12	3.0 km of new trunk sewer, upgrade PS	Potential direct and/or indirect impacts of upgrading PS #12 on a resource designated under the <i>Ontario Heritage Act</i> .	<ul style="list-style-type: none">Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.Confirm impacts of upgrading on OSE-CHR 8 (designated under the <i>Ontario Heritage Act</i>) and other potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#11, #17, #13, #14, #42, #15, #16	1.8 km of new local sewer, eliminate PSs	<ul style="list-style-type: none">No impacts at PS #11, #14, and #42Potential for direct and indirect impacts to a municipally-listed cultural heritage resource at PS #15	<ul style="list-style-type: none">Confirm impacts of decommissioning of PS #17, #13, #16, and # 15 on OSE CHR 6 (designated under the <i>Ontario Heritage Act</i>), OSE CHR 23 (designated under the <i>Ontario Heritage Act</i>), OSWE-CHR 25 (designated under the <i>Ontario Heritage Act</i>) and OSE CHR 1 (municipally-listed) respectively and other potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.

PS	Proposed Work	Impacts on Cultural Heritage Resources	Mitigation Measures/Additional Work
		<ul style="list-style-type: none">• Potential for direct and indirect impacts to cultural heritage resources that are Designated under Part IV of the <i>Ontario Heritage Act</i> at PS #17, #13, and #16	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.
#45	0.2 km of new local sewer, eliminate PS	No impacts at PS #45 on known cultural heritage resources.	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known• Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessments where appropriate.
#43	0.3 km of new local sewer, eliminate PS	No impacts at PS #43 on known cultural heritage resources.	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known• Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessments where appropriate.
#99	0.2 km of new local sewer, eliminate PS	No impacts at PS #99 on known cultural heritage resources.	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known• Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessments where appropriate.
#44	0.2 km of new local sewer, eliminate PS	No impacts at PS #44 on known cultural heritage resources.	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known• Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessments where appropriate.

**Stage 1 Archaeological Assessment
(Background Research)**

**Wastewater Pumping Station Capital Needs Assessment
and Master Plan Class Environmental Assessment,
Regional Municipality of Halton, Ontario**

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Stage 1 Archaeological Assessment (Background Research)

Wastewater Pumping Station Capital Needs Assessment and Master Plan Class Environmental Assessment, Regional Municipality of Halton, Ontario

EXECUTIVE SUMMARY

Archaeological Services Inc. (ASI) was contracted by R.V. Anderson Associates Limited, Toronto, on behalf of Halton Region, to conduct a Stage 1 Archaeological Assessment (Background Research) as part of the proposed Wastewater Pumping Stations Capital Needs Assessment and Master Plan Class Environmental Assessment in the City of Burlington and the Town of Oakville, Regional Municipality of Halton, Ontario. The project will examine the Waste Water Treatment Plants (WWTP) for five drainage areas including:

- Burlington East Trunk (BE);
- Burlington West Trunk (BW);
- Oakville Southeast Trunk (OSE);
- Oakville Southwest East Trunk (OSWE); and,
- Oakville Southwest West Trunk (OSWW).

Background research focused on the five drainage areas. The Stage 1 Archaeological Assessment (Background Research) determined that 138 archaeological sites have been registered within 1 km of the overall project area. Three of these sites are situated adjacent to a pumping station involved in this EA. A review of the geography and local nineteenth century land use of the study area suggested that it has potential for the identification of Aboriginal and Euro-Canadian archaeological sites.

An evaluation of archaeological potential confirmed that per Section 1.3.1 of the Ministry of Tourism and Culture's guidelines, the study area meets six of the criteria used for determining archaeological potential:

- Previously identified archaeological sites ;
- Water sources: primary water source, secondary water source; or a past water source (i.e. Bronte Creek, Fourteen Mile Creek, Sixteen Mile Creek, Glacial Lake Iroquois);
- Areas of well-drained soil;
- Indications of Early Euro-Canadian settlement (i.e. historic settlements of Burlington, Bronte, and Oakville);
- Areas of early Euro-Canadian settlement (i.e. Lakeshore Road, Bronte Road); and
- Contains property designated under the Ontario Heritage Act (i.e. 4252 Lakeshore Road, Burlington; 59 Chisholm Street, Oakville).

GIS mapping for the study area was produced in order to construct a model of archaeological potential based on the Ministry of Tourism and Culture's (MTC) criteria used for determining archaeological potential.

Based on the results of the background research and evaluation of archaeological potential, it has been determined that the five drainage areas contain archaeological potential.

In light of these results, the following recommendations are made:



1. A property inspection of the pumping stations to be affected by the proposed undertaking must be undertaken to confirm the presence of areas exhibiting archaeological site potential. The property inspection should be undertaken once the scope of work has been finalized; and
2. A Stage 2 property assessment is recommended in advance of any proposed construction impact on any lands within the study area where there is potential for archaeological sites (to be determined during the property inspection). This work will be conducted in accordance with Ministry of Tourism and Culture's *Standards and Guidelines for Consultant Archaeologists*.



**ARCHAEOLOGICAL SERVICES INC.
ENVIRONMENTAL ASSESSMENT DIVISION**

PROJECT PERSONNEL

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
PROJECT PERSONNEL	ii
1.0 INTRODUCTION	1
2.0 BACKGROUND RESEARCH.....	1
2.1 Previous Archaeological Research	1
2.2 Geography	6
2.3 Land-Use History	9
2.3.1 After European Contact - The Post-Contact Period.....	9
2.3.2 Township Survey and Settlement	9
2.3.3 Historic Map Review	11
3.0 ANALYSIS: ARCHAEOLOGICAL POTENTIAL EVALUATION	15
4.0 IMPLEMENTATION PLAN	16
5.0 RECOMMENDATIONS AND COMPLIANCE ADVICE.....	16
6.0 REFERENCES CITED	17
APPENDIX A: Oversized Graphics.....	19
APPENDIX B: Implementation Plans.....	27

LIST OF TABLES

Table 1: List of registered sites within the Burlington Skyway WWTP drainage area.	3
Table 2: Summary of Historic Features in the Burlington West Trunk Study Area	11
Table 3: Summary of Historic Features in the Burlington West Trunk Study Area	12
Table 4: Summary of Historic Features in the Oakville Southwest West Trunk study area.....	13
Table 5: Summary of Historic Features in the Oakville Southwest East Trunk study area	14

LIST OF FIGURES

Figure 1: Location of the study area.	2
Figure 2: Soil drainage within the study area.	8
Figure 3: Approximate location of the Burlington West Trunk study area, Township of Flamboro.....	11
Figure 4: Approximate location of the Burlington East Trunk study area, Township of Nelson	12
Figure 5: Approximate location of the Oakville Southwest West Trunk study area, Township of Nelson	13
Figure 6: Approximate location of the Oakville Southwest East Trunk study area, Township of Nelson.....	14



1.0 INTRODUCTION

Archaeological Services Inc. (ASI) was contracted by R.V. Anderson Associates Limited, Toronto, on behalf of Halton Region, to conduct a Stage 1 Archaeological Assessment (Background Research) as part of the proposed Wastewater Pumping Stations Capital Needs Assessment and Master Plan Class Environmental Assessment in the City of Burlington and the Town of Oakville, Regional Municipality of Halton, Ontario (Figure 1). The project will examine the Waste Water Treatment Plants (WWTP) for five drainage areas including:

- Burlington East Trunk (BE);
- Burlington West Trunk (BW);
- Oakville Southeast Trunk (OSE);
- Oakville Southwest East Trunk (OSWE); and,
- Oakville Southwest West Trunk (OSWW).

Authorization to carry out the activities necessary for the completion of the Stage 1 assessment was granted to ASI by R.V. Anderson Associates Limited on April 13, 2009.

The objectives of this report are:

- To provide information about the geography, history, previous archaeological fieldwork and current land condition of the study area;
- To evaluate in detail the archaeological potential of the study area which can be used, if necessary, to support recommendations for Stage 2 Archaeological Assessment for all or parts of the property; and
- To recommend appropriate strategies for Stage 2 Archaeological Assessment, if necessary.

2.0 BACKGROUND RESEARCH

The Stage 1 Archaeological Assessment of the general study area was conducted in accordance with the *Ontario Heritage Act* (2005) and the Ontario Ministry of Tourism and Culture's (MTC) *Standards and Guidelines for Consultant Archaeologists* (2010). A Stage 1 Archaeological Assessment involves a background study to provide detailed documentary research on the archaeological and land use history and present conditions of the study area. Specifically, the background study provides information about previous archaeological fieldwork within and around the study area, its geography and history, and current land conditions.

2.1 Previous Archaeological Research

In order that an inventory of archaeological resources could be compiled for the study area, three sources of information were consulted: the site record forms for registered sites housed at the MTC; published and unpublished documentary sources; and the files of ASI.



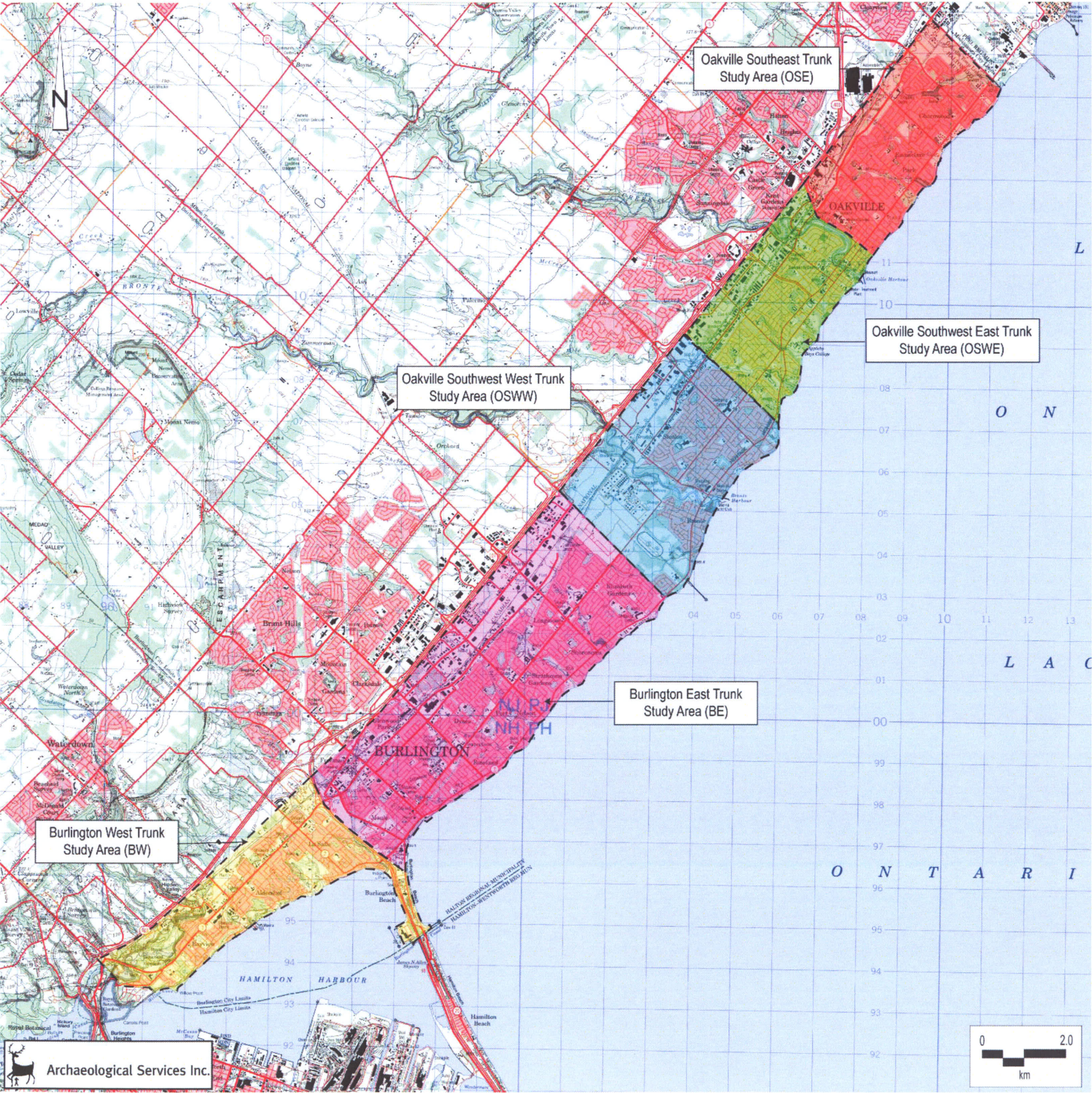


Figure 1: Location of the study area.

Base Map: NTS Sheet 30 M/05 (Hamilton-Burlington)

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database (OASD) maintained by the MTC. This database contains archaeological sites registered within the Borden system. Under the Borden system, Canada has been divided into grid blocks based on latitude and longitude. A Borden block is approximately 13 km east to west, and approximately 18.5 km north to south. Each Borden block is referenced by a four-letter designator, and sites within a block are numbered sequentially as they are found. The drainage areas are located within Borden blocks *AhGx*, *AhGw*, *AiGv* and *AiGw*.

According to the OASD (email communication, Robert von Bitter, MTC Data Coordinator, July 17, 2009), 138 archaeological sites have been registered within a 1 km radius of the five drainage areas (Table 1), three of which are adjacent to a pumping station.

Table 1: List of registered sites within the Burlington Skyway WWTP drainage area.

Borden #	Site Name	Cultural Affiliation	Site Type	Researcher
AhGx-6	Lilac Gardens	Aboriginal – Woodland	Campsite Burial	ARA 1984
AhGx-31	Jobs Lane	Aboriginal – Archaic	Undetermined	MIA 1983
AhGx-362	Little Cumis	Aboriginal	Lithic Scatter	D.R. Poulton 1996
AhGx-503		Aboriginal	Campsite	J. Wilson
AhGx-504		Aboriginal – Late Archaic	Campsite	J. Wilson 2003
AhGx-505		Aboriginal	Campsite	J. Wilson
AhGw-3	Burlington Mounds	Aboriginal – Woodland	Ossuary	A.F. Hunter 1976
AhGw-4	Thorpe 1	Aboriginal – Archaic	Campsite	A. Roberts 1975
AhGw-5	Almas N	Aboriginal – Archaic	Isolated Find	A. Roberts 1975
AhGw-6	Almas S	Aboriginal – Archaic	Isolated Find	A. Roberts 1975
AhGw-7	Thorpe 2	Aboriginal – Archaic	Campsite	A. Roberts 1975
AhGw-8	Thorpe 4	Aboriginal – Archaic	Isolated Find	A. Roberts 1975
AhGw-9	Thorpe 3	Aboriginal – Archaic	Isolated Find	A. Roberts 1975
AhGw-10	Marshy Pond	Aboriginal – Archaic	Isolated Find	A. Roberts 1975
AhGw-11	Chain Gate	Aboriginal – multi-component	Campsite	A. Roberts 1975; M. Ambrose 1981, 1982
AhGw-12	Alan Thorpe	Aboriginal – Archaic	Campsite	A. Roberts 1975
AhGw-13	Murry Thorpe 2	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AhGw-14	Murry Thorpe 1	Aboriginal – Archaic	Campsite	A. Roberts 1975
AhGw-15	Treguno	Aboriginal – Archaic	Campsite	A. Roberts 1975
AhGw-16	South of Treguno	Aboriginal – Archaic	Isolated Find	A. Roberts 1975
AhGw-17	David Davidson	Aboriginal – Archaic	Campsite	A. Roberts 1975
AhGw-18	Rene Bridgeman	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AhGw-19	Cestnik	Aboriginal – Archaic	Isolated Find	A. Roberts 1975; M. Ambrose 1983
AhGw-20	Indian Point	Aboriginal	Undetermined	A. Roberts 1975
AhGw-21	C. Bell 1	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AhGw-22	S. Atkins	Aboriginal – Archaic	Campsite	A. Roberts 1975
AhGw-23	John Blair	Aboriginal – Archaic	Campsite	A. Roberts 1975
AhGw-24	Bell 2	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AhGw-25	St. Luke's Church	Aboriginal	Burial	A. Roberts 1975
AhGw-26	Maple Avenue	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AhGw-33	Borfield	Aboriginal – Archaic	Undetermined	M. Ambrose 1981, 1982
AhGw-34	Lockhart Road	Aboriginal – Archaic	Campsite	M. Ambrose 1982



Borden #	Site Name	Cultural Affiliation	Site Type	Researcher
AhGw-35		Aboriginal – Archaic	Undetermined	A. Roberts 1979
AhGw-36		Aboriginal	Undetermined	A. Roberts 1979
AhGw-37		Aboriginal	Undetermined	A. Roberts 1979
AhGw-38		Aboriginal	Undetermined	A. Roberts 1979
AhGw-39		Aboriginal – Early Woodland	Isolated Find	A. Roberts 1979
AhGw-40	Riverfield	Aboriginal – multi-component	Lithic Scatter	A. Roberts 1979; ASI 1994
AhGw-41		Aboriginal	Undetermined	A. Roberts 1979
AhGw-42		Aboriginal	Undetermined	A. Roberts 1979
AhGw-43		Aboriginal	Undetermined	A. Roberts 1979
AhGw-44		Aboriginal	Undetermined	A. Roberts 1979
AhGw-45		Aboriginal	Undetermined	A. Roberts 1979
AhGw-46		Aboriginal- Early Archaic	Undetermined	A. Roberts 1979
AhGw-47		Aboriginal	Undetermined	A. Roberts 1979
AhGw-48		Aboriginal	Undetermined	A. Roberts 1979
AhGw-49		Aboriginal	Undetermined	A. Roberts 1979
AhGw-50		Aboriginal	Undetermined	A. Roberts 1979
AhGw-51		Aboriginal	Undetermined	A. Roberts 1979
AhGw-52		Aboriginal	Undetermined	A. Roberts 1979
AhGw-53		Aboriginal – Archaic	Undetermined	A. Roberts 1979
AhGw-54		Aboriginal	Undetermined	A. Roberts 1979
AhGw-55		Aboriginal	Undetermined	A. Roberts 1979
AhGw-56		Aboriginal - Archaic	Undetermined	A. Roberts 1979
AhGw-57		Aboriginal	Undetermined	A. Roberts 1979
AhGw-58		Aboriginal	Undetermined	A. Roberts 1979
AhGw-59		Aboriginal	Undetermined	A. Roberts 1979
AhGw-60		Aboriginal	Undetermined	A. Roberts 1979
AhGw-61		Aboriginal	Undetermined	A. Roberts 1979
AhGw-62		Aboriginal	Undetermined	A. Roberts 1979
AhGw-63		Aboriginal	Undetermined	A. Roberts 1979, 1982
AhGw-64		Aboriginal – Paleo-Indian	Undetermined	A. Roberts 1979
AhGw-65		Aboriginal	Undetermined	A. Roberts 1979
AhGw-99	Brant Hotel Complex	Euro-Canadian	Hotel	ARA 1994
AiGw-3	Burkholder 3	Aboriginal – Archaic	Campsite	N. Emerson 1972
AiGw-22	Stelco Ltd.	Undetermined	Undetermined	A. Roberts 1974
AiGw-27	Rosehouse	Aboriginal – Woodland	Campsite	S. Jamieson 1960
AiGw-53	Extreme	Aboriginal – Early Archaic	Campsite	S. Thomas 1973
AiGw-77	Stanley Blair	Aboriginal – multi-component	Campsite	A. Roberts 1975
AiGw-78	Hopkins	Undetermined	Undetermined	A. Roberts 1975
AiGw-79	Fisher	Aboriginal – Archaic	Campsite	A. Roberts 1975
AiGw-80	Old Fisher	Aboriginal – Archaic	Campsite	A. Roberts 1975
AiGw-81	Cockshutt	Aboriginal – Archaic	Campsite	A. Roberts 1975
AiGw-82	George Alton	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AiGw-83	Ross Segsworth	Aboriginal	Isolated Find	A. Roberts 1975
AiGw-84	Mount	Aboriginal – Archaic	Campsite	A. Roberts 1975
AiGw-87	George Richardson	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AiGw-88	Appleby Line	Aboriginal – multi-component	Undetermined	A. Roberts 1975
AiGw-89	Tree Stump	Aboriginal – Archaic	Isolated Find	A. Roberts 1975



Borden #	Site Name	Cultural Affiliation	Site Type	Researcher
AiGw-90	Baseball Diamond	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AiGw-91	Misfit Creek Valley 1	Aboriginal – Archaic	Campsite	A. Roberts 1975
AiGw-92	Misfit Creek Valley 2	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AiGw-93	West Misfit Bank	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AiGw-107	Huey Telford's Flint Field	Undetermined	Undetermined	A. Roberts 1975
AiGw-116	Burloak	Undetermined	Undetermined	A. Roberts 1975
AiGw-118	Skeet Field	Undetermined	Undetermined	A. Roberts 1975
AiGw-198	Reimer 2	Aboriginal	Isolated Find	ASI 1988
AiGw-2	Burkholder 2	Aboriginal – Archaic	Campsite	N. Emerson 1972
AiGw-5	Burkholder 1	Aboriginal – Archaic	Campsite	N. Emerson 1972
AiGw-10	Snedden	Aboriginal	Isolated Find	N. Emerson 1972
AiGw-12	Watercourse	Aboriginal	Undetermined	N/A
AiGw-17	North Service Road	Aboriginal	Undetermined	S. Thomas 1973
AiGw-18		Undetermined	Undetermined	A. Roberts 1974
AiGw-19	Asparagus Patch	Undetermined	Undetermined	A. Roberts 1974
AiGw-20	Petty Pavish	Undetermined	Undetermined	A. Roberts 1974
AiGw-23	North Service	Undetermined	Undetermined	J. Chisholm
AiGw-25	BCPP	Undetermined	Undetermined	S. Thomas 1973
AiGw-28	Bronte Road North	Undetermined	Undetermined	S. Thomas 1973
AiGw-29	Mercedes	Aboriginal – Archaic	Undetermined	A. Roberts 1974
AiGw-34	Field 3	Aboriginal – Woodland	Isolated Find	S. Thomas 1973
AiGw-43	Core Development	Aboriginal – Archaic	Isolated Find	S. Thomas 1973
AiGw-45	The Playing Field	Aboriginal	Isolated Find	S. Thomas 1973
AiGw-50	East of 50	Aboriginal	Undetermined	K. Ryan 1975
AiGw-54	Perry	Aboriginal – Archaic	Undetermined	S. Thomas 1973
AiGw-57	Fence Line	Aboriginal	Undetermined	T. Hutchinson 1975
AiGw-58	Centre of Field 1	Aboriginal	Isolated Find	T. Hutchinson 1975
AiGw-59	Centre of Field 2	Aboriginal	Isolated Find	T. Hutchinson 1975
AiGw-62	West of Fence	Undetermined	Undetermined	J. Chisholm 1975
AiGw-64	Cherry Orchard	Undetermined	Undetermined	J. Chisholm 1975
AiGw-73	Farm Lane	Aboriginal – Archaic	Undetermined	T. Hutchinson 1975
AiGw-74	Ontario Sports	Aboriginal – Woodland	Campsite	S. Thomas 1975
AiGw-108	Fred Fell	Aboriginal – Late Archaic	Undetermined	A. Roberts 1975
AiGw-109	Flummerfelt	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AiGw-110	Subdivision	Undetermined	Undetermined	A. Roberts 1975
AiGw-111	Walmsley	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AiGw-112	Atkins	Undetermined	Undetermined	A. Roberts 1975
AiGw-113	George Atkins	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AiGw-115	Cudmore	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AiGw-117	Lynn Timbers	Aboriginal	Isolated Find	A. Roberts 1974
AiGw-118	Skeet Field	Undetermined	Undetermined	A. Roberts 1975
AiGw-258	Lisonally Farm	Euro-Canadian	Homestead	ASI 1994
AiGw-262		Euro-Canadian	Homestead	S. Janusas 1994
AiGw-338	Rebecca	Aboriginal	Lithic Scatter	ASI 1999
AiGw-364		Aboriginal – Early Woodland	Isolated Find	C. Theriault 2000
AiGw-365		Aboriginal – Archaic	Isolated Find	C. Theriault 2000



Borden #	Site Name	Cultural Affiliation	Site Type	Researcher
AiGw-366		Aboriginal	Isolated Find	C. Theriault 2000
AiGw-367	Nancy Sovereign	Euro-Canadian	Homestead	C. Theriault 2000
AiGw-459		Aboriginal	Isolated Find	ASI 2007
AiGw-460		Euro-Canadian Aboriginal	Homestead Isolated Find	ASI 2007
AiGv-1	Buch 1	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AiGv-2	Sheridan Nurseries 1	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AiGv-3	Sheridan Nurseries 2	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AiGv-4	Sheridan Nurseries 3	Aboriginal – Archaic	Undetermined	A. Roberts 1975
AiGv-5	Broken Thermos	Aboriginal – Woodland	Undetermined	A. Roberts 1975
AiGv-6	South of Tracks 1	Aboriginal	Undetermined	A. Roberts 1975
AiGv-7	South of Tracks 2	Aboriginal	Undetermined	A. Roberts 1975
AiGv-8	South of Tracks 3	Aboriginal	Undetermined	A. Roberts 1975
AiGv-9	South of Tracks 4	Aboriginal	Undetermined	A. Roberts 1975

**** Sites in bold are within a drainage area**

The Burlington Mounds site, AhGw-3, is situated approximately 100-200 m southeast of pumping station 69. The site was reported as early as 1820 by Rev. Dr. Reed and consisted of a square mound measuring approximately 10 m by 10 m. Excavations at the site revealed that the soil was mingled with vast quantities of human bone, stones, projectile points, etc. One or two other mounds stood near by but have been demolished (AARO 1896-97). The current state of the Burlington Mounds site is unknown and the area should be avoided.

The Indian Point site, AhGw-20, is situated approximately 250 m southeast of pumping station 68. While no artifacts were located, numerous reports from local residents indicated that a considerable amount of material had been located here. At the time of the survey the site was reported as being partially destroyed (Roberts 1976).

The Subdivision site, AiGw-110, is situated approximately 250 m southwest of pumping station 66. The site was reported as being partially destroyed, but local residents noted that cultural material, such as projectile points and debitage, had been collected in the vicinity (Roberts 1976).

In summary, 86% of the previously registered archaeological sites represent Aboriginal sites, 3% represent Euro-Canadian sites, and 12% are undetermined.

2.2 Geography

The study area is situated within the Iroquois Plain physiographic region of southern Ontario, which is a lowland region bordering Lake Ontario. This region is characteristically flat and formed by lacustrine deposits laid down by the inundation of Lake Iroquois, a body of water that existed during the late Pleistocene. This region extends from the Trent River, around the western part of Lake Ontario, to the Niagara River, spanning a distance of approximately 300 km (Chapman and Putnam 1984:190). The old shorelines of Lake Iroquois include cliffs, bars, beaches and boulder pavements.

Glacial Lake Iroquois came into existence by about 12,000 B.P. as the Ontario lobe of the Wisconsin glacier retreated from the Lake Ontario basin. Isostatic uplift of its outlet, combined with blockage of



subsequent lower outlets by glacial ice, produced a water plain substantially higher than modern Lake Ontario. Beginning around 12,000 B.P., water levels dropped stepwise during the next few centuries in response to sill elevations at the changing outlet. By about 11,500 B.P., when the St. Lawrence River outlet became established, the initial phase of Lake Ontario began, and this low water phase appears to have lasted until at least 10,500 B.P. At this time the waters stood as much as 100 m below current levels. However, isostatic uplift was already raising the outlet at Kingston so that by 10,000 B.P., the water level had risen to about 80 m below present. Since then uplift has continued to tilt Lake Ontario upward to the northeast, propagating a gradual transgressive expansion throughout the basin (Anderson and Lewis 1985; Karrow 1967:49; Karrow and Warner 1988, 1990).

The old sandbars in the Iroquois Plain are good aquifers that supply water to farms and villages. The gravel bars are quarried for road and building material, while the clays of the old lake bed have been used for the manufacture of bricks (Chapman and Putnam 1984:196). This narrow strip is the most densely inhabited area in Ontario because of its proximity to Lake Ontario and its climatic influences, as well as its favourable soil conditions.

Soils within the study area range from well drained to very poorly drained (Figure 2). Pockets of well-drained loam or sandy loam are particularly notable in that these soils are widely known to have been attractive to Late Woodland peoples (AD 1200-1650) for their ease of horticultural workability. Thus areas with these soils have potential for Late Woodland village settlements, in particular.

The *Standards and Guidelines for Consultant Archaeologists* (MTC 2010: 4-5) stipulates that primary water sources (lakes, rivers, streams, creeks, etc.), secondary water sources (intermittent streams and creeks, springs, marshes, swamps, etc.), ancient water sources (glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, cobble beaches, etc.), as well as accessible or inaccessible shorelines (high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh, etc.) are characteristics that indicate archaeological potential. Bronte Creek, Fourteen Mile Creek, Sixteen Mile Creek and numerous smaller streams, creeks and tributaries bisect the study area. The Glacial Lake Iroquois shoreline is also visible within the study area.

Other geographic characteristics that can indicate archaeological potential include: 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 (migratory routes, spawning areas, prairie) and scarce raw materials (quartz, copper, ochre, or outcrops of chert) are also considered characteristics that indicate archaeological potential (MTC 2010: 5). As mentioned above, areas of well-drained sandy soil are present throughout the study area (Figure 2).

Therefore, due to the proximity of numerous water sources, pockets of well-drained soil, the glacial lake shoreline, and the high number of registered sites that have been discovered, it may be concluded that there is potential for the recovery of Aboriginal cultural material within the study area.



Figure 2: Soil drainage within the study area.



2.3 Land-Use History

The study area has a cultural history which begins approximately 11,000 years ago and continues to the present.

2.3.1 After European Contact - The Post-Contact Period

The first record of a European visit to southern Ontario was made in 1615 by Samuel de Champlain, who reported that a group of Iroquoian-speaking people situated between the New York Iroquois and the Huron were at peace and remained “la nation neutre”. In subsequent years the French visited and traded among the Neutral, but the first documented visit was not until 1626, when the Recollet missionary Joseph de la Roche Daillon recorded his visit to the villages of the Attiwandaron, whose name in the Huron language meant “those who speak a slightly different tongue” (the Neutral apparently referred to the Huron by the same term). Like the Huron, Petun and New York Iroquois, the Neutral people were settled village horticulturalists. The Neutral territory included discrete settlement clusters in the lower Grand River, Fairchild-Big Creek, Upper Twenty Mile Creek, Spencer-Bronte Creek drainages, Milton, Grimsby, Eastern Niagara Escarpment and Onondaga Escarpment areas.

Between 1647 and 1651, the villages of the Neutral were destroyed by the New York Iroquois, who subsequently settled along strategic trade routes on the north shore of Lake Ontario for a brief period during the late 17th-century. One French explorer who is known to have entered the Burlington Bay area during this period was Rene-Robert Cavalier de La Salle, who left Montreal with a flotilla of nine canoes and eventually reached the head of Lake Ontario in September of 1669. After landing, de La Salle’s group travelled to the Seneca village of Tinaouataoua, the exact location of which is open to speculation (ASI 2004:13-14), and his explorations in the area may have utilized the Humber Trail (MPP 1986: 42)

During the late 17th and early 18th centuries, the former Neutral territory came to be occupied by the Mississauga, an Algonquian-speaking southeastern Ojibwa people whose subsistence economy was based on garden farming, as well as hunting, fishing and gathering wild plants. The Mississauga and other Ojibwa groups began expanding southward from their homelands in the upper Great Lakes in the late 17th century, coming into occasional conflict with the New York Iroquois who had established themselves in southern Ontario (although alliances between the two groups were occasionally established as well). The colonial government recognized the Mississauga as the “owners” of the north shore of Lake Ontario and entered into negotiations for additional tracts of land as the need arose to facilitate European settlement (ASI 2004:14).

The Aboriginal occupation in the study area undoubtedly overlapped with the influx of Euro-Canadian settlers, although the evidence is largely anecdotal.

2.3.2 Township Survey and Settlement

Township of Flamboro East

The township of Flamboro East was originally surveyed by John Stegmann in 1797 in the single front system. This was preceded by Augustus Jones’ survey of a line through the area that was to become the Dundas or Governor’s Road (present day Highway 5). Land grants were made in the township as early as



1796 in an attempt to establish settlements along the Dundas Road. Few pioneers took up their land at that time—the first arrived the following year when both East and West Flamborough were surveyed. The township developed slowly at first and by 1817 there were only 360 people. However, owing largely to intensified settlement in the Crooks Hollow area, by 1832, Flamborough had more mills and stores than any other township in the county—although most of this activity was in the south west. It also had the largest tax assessment of improved and unimproved lands. By 1846, the combined population of East and West Flamborough had reached 3,769 (2,428 in the west and 1341 in the east), supported by a grist mill, sawmills, a distillery, a paper mill, a woollen factory, and a tannery. Flamborough was subdivided in 1854.

Township of Nelson

The land within Nelson Township was acquired by the British from the Mississaugas in 1795. The first township survey was undertaken in 1806, and the first legal settlers occupied their land holdings in the same year. The township was first named “Alexander Township” in honour of Alexander Grant the administrator of Upper Canada. In 1806, it was renamed in honour of Viscount Horatio Nelson, after his victory at Cabo Trafalgar in Spain the previous year. Nelson was initially settled by the children of Loyalists, soldiers who served during the War of 1812, and by immigrants from England, Scotland and Ireland. By the 1840s, the township was noted for its good land and excellent farms (Smith 1846:121; Armstrong 1985:143; Rayburn 1997:237).

Township of Trafalgar

The land within Trafalgar Township was acquired by the British from the Mississaugas in 1795. In 1806, Samuel Wilmot surveyed the townships of Nelson, Trafalgar and Toronto from land obtained in this purchase, using Dundas Street (Highway 5) as a baseline from which to survey two concessions north and four concessions south. Dundas Street had been surveyed in 1793 as a military road.

Trafalgar Township was first named “Grant Township” in honour of Alexander Grant, who was the administrator of Upper Canada. In 1806, it was renamed in honour of the victory by Viscount Horatio Nelson at Cabo Trafalgar in Spain the previous year. Trafalgar was initially settled by the children of Loyalists, soldiers who served during the War of 1812, and by immigrants from England, Scotland and Ireland. By the 1840s, the township was noted for its well cultivated farms (Smith 1846:197; Armstrong 1985:148; Rayburn 1997:348).

The earliest families to settle within the township included those of Sovereign, Proudfoot, Katting, Freeman, Post, Biggar, Mulholland, Kenney, Chalmer, Albertson, Chisholms, Sproat, Brown and Hagar. According to the 1877 atlas, it contained 548 inhabitants with one grist mill and four saw mills in 1817.

Early settlement was often influenced by the presence of watercourses. The development of the network of concession roads and railroads through the course of the 19th century also frequently influenced the siting of farmsteads and early industries.

Dundas Street, the baseline survey road in Trafalgar Township had been surveyed in 1793 as a military road connecting Lake Ontario, Lake Erie, Lake St. Clair and Lake Huron, as well as a road to aid Loyalist settlement and deter expansionist claims in Upper Canada. After the two concessions south of Dundas St. were opened up, two new east-west concession line access roads, the Upper Middle Road and the Lower



Middle Road, were surveyed. These early east-west roads were later complemented in 1832 by the Lakeshore Road, which was constructed nearby and parallel to an aboriginal pathway skirting Lake Ontario. The concession roads of the 1806 survey, and the line roads running perpendicular, blocked out the township in areas a mile and quarter square with five 200-acre lots to a square. Between every five lots ran a line road (Mathews 1953:45).

2.3.3 Historic Map Review

The 1875 *Illustrated Historical Atlas of the County of Wentworth, Ontario* and the 1877 *Illustrated Historical Atlas of the County of Halton, Ontario* were reviewed to determine the potential for the presence of historical archaeological remains within the study area during the nineteenth century.

Historically, the Burlington West Trunk study area was located on part of Lots 1 to 13, Broken Front Concession and Concession I, in the former Township of Flamboro East, County of Wentworth (Figure 3). The atlas depicts several historic features, in addition to farmhouses and orchards, within the Burlington West Trunk study area (Table 2). Brown's Wharf can also be seen in Burlington Bay, off Lot 6.

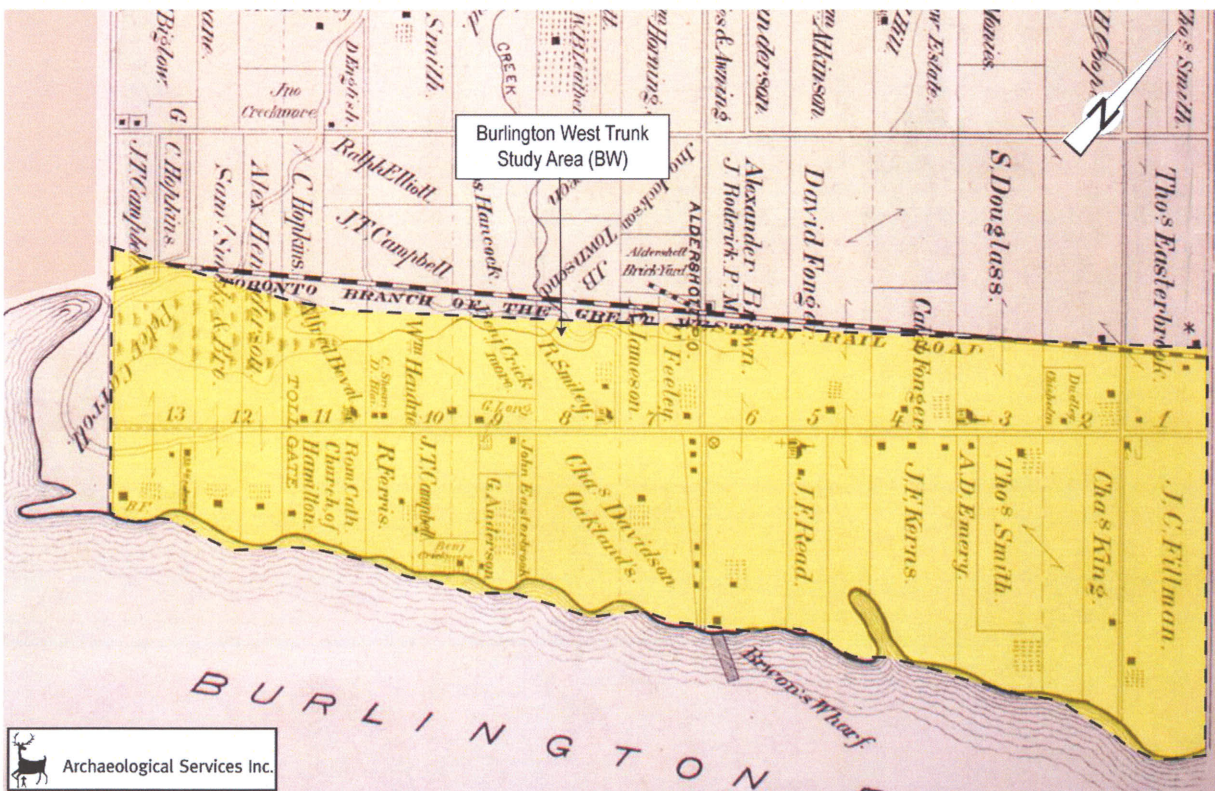


Figure 3: Approximate location of the Burlington West Trunk study area, Township of Flamboro
Base Map: 1875 *Illustrated Historical Atlas of the County of Wentworth*

Table 2: Summary of Historic Features in the Burlington West Trunk Study Area

Concession	Lot	Historic Features
	3	Church

Concession	Lot	Historic Features
I	7	Aldershot Post Office
	8	School House
	11	School House
BF	5	Church
	6	Cemetery Blacksmith Shop

Historically, the Burlington East Trunk study area was located on part of Lots 1 to 24, Concessions III to IV South of Dundas Street (SDS), and Lot O, Burlington Bay (BB) Concession, in the former Township of Nelson, County of Halton (Figure 4). The atlas depicts several historic features, in addition to farmhouses and orchards, within the Burlington East Trunk Study area (Table 3).

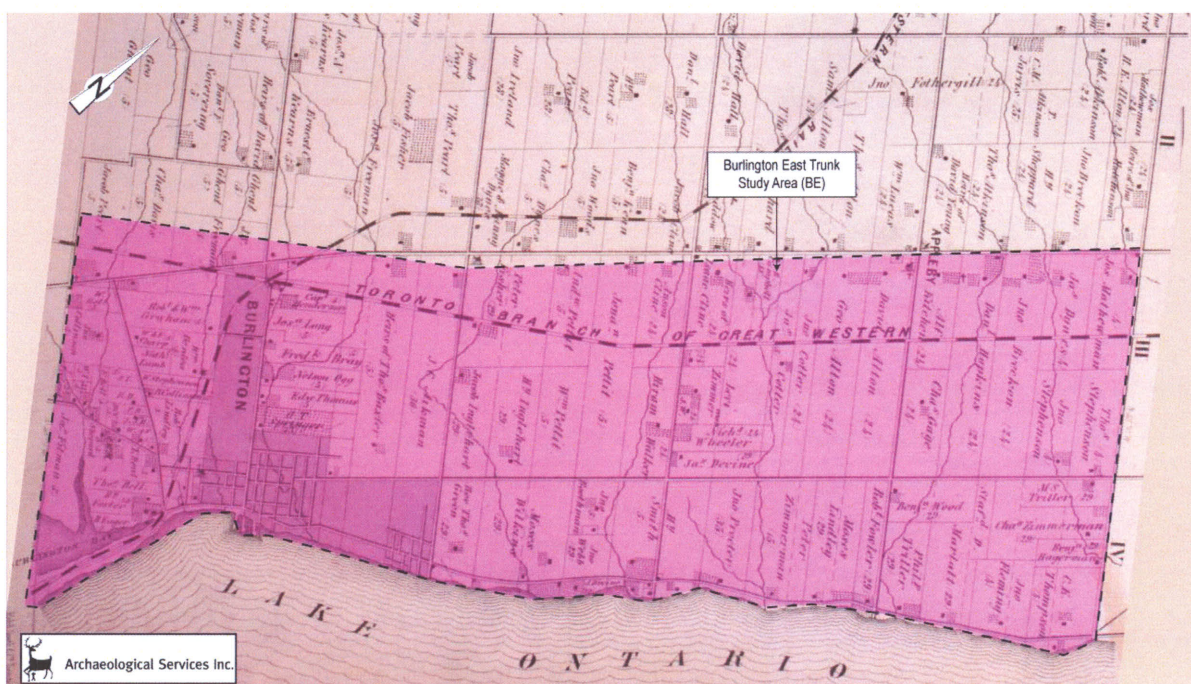


Figure 4: Approximate location of the Burlington East Trunk study area, Township of Nelson
Base Map: 1877 *Illustrated Historical Atlas of the County of Halton*

Table 3: Summary of Historic Features in the Burlington West Trunk Study Area

Concession	Lot	Historic Features
III	4	Cemetery
	6	Church, Cemetery
	15	School House
BB	0	Cemetery
		Church, Cemetery
		Saw Mill

Historically, the Oakville Southwest West Trunk study area was located on part of Lots 24 to 35, Broken Front Concession and Concession III (SDS), in the former Township of Trafalgar, County of Halton (Figure 5). The atlas depicts several historic features, in addition to farmhouses and orchards, within the Oakville Southwest West Trunk study area (Table 4).

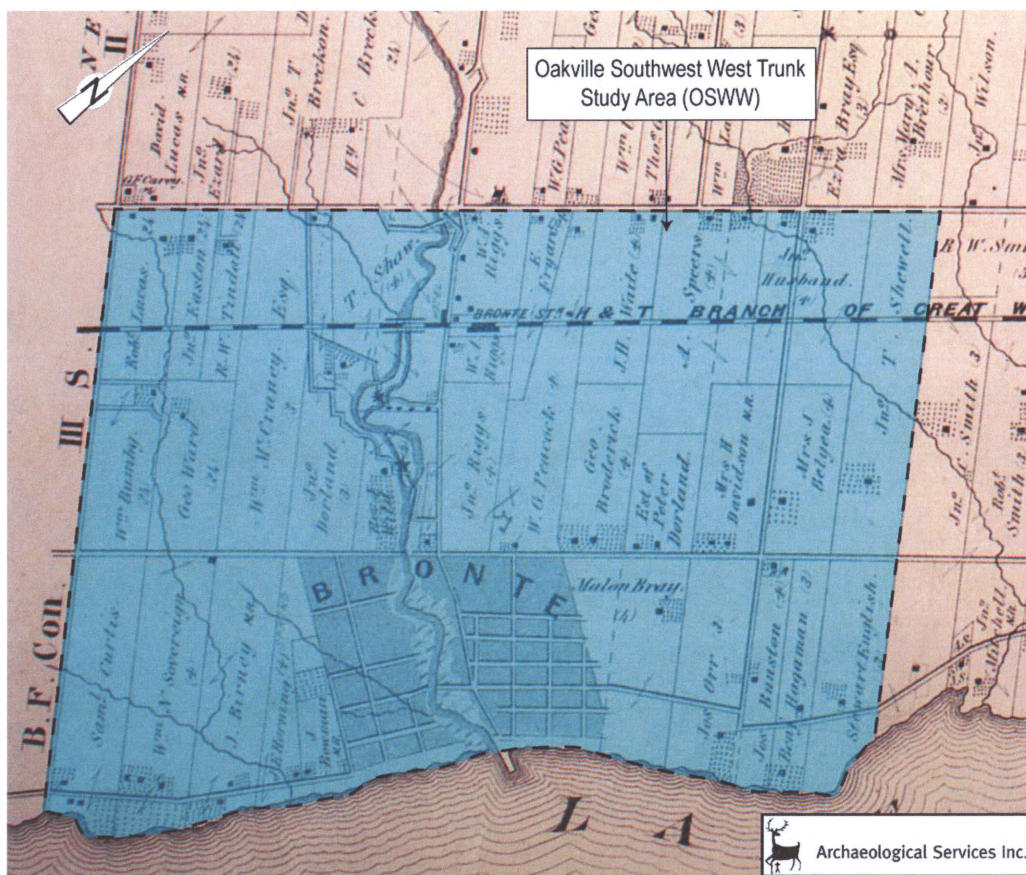


Figure 5: Approximate location of the Oakville Southwest West Trunk study area, Township of Nelson

Base Map: 1877 *Illustrated Historical Atlas of the County of Halton*

Table 4: Summary of Historic Features in the Oakville Southwest West Trunk study area

Concession	Lot	Historic Features
BF	32	Cemetery
III SDS	30	Bronte Station
	31	2 Mills; Hotel

Historically, the Oakville Southwest East Trunk study area was located on part of Lots 13 to 23, Broken Front Concession and Concession III (SDS), in the former Township of Trafalgar, County of Halton (Figure 6). The atlas depicts several historic features, in addition to farmhouses and orchards, within the Oakville Southwest East Trunk study area (Table 5).

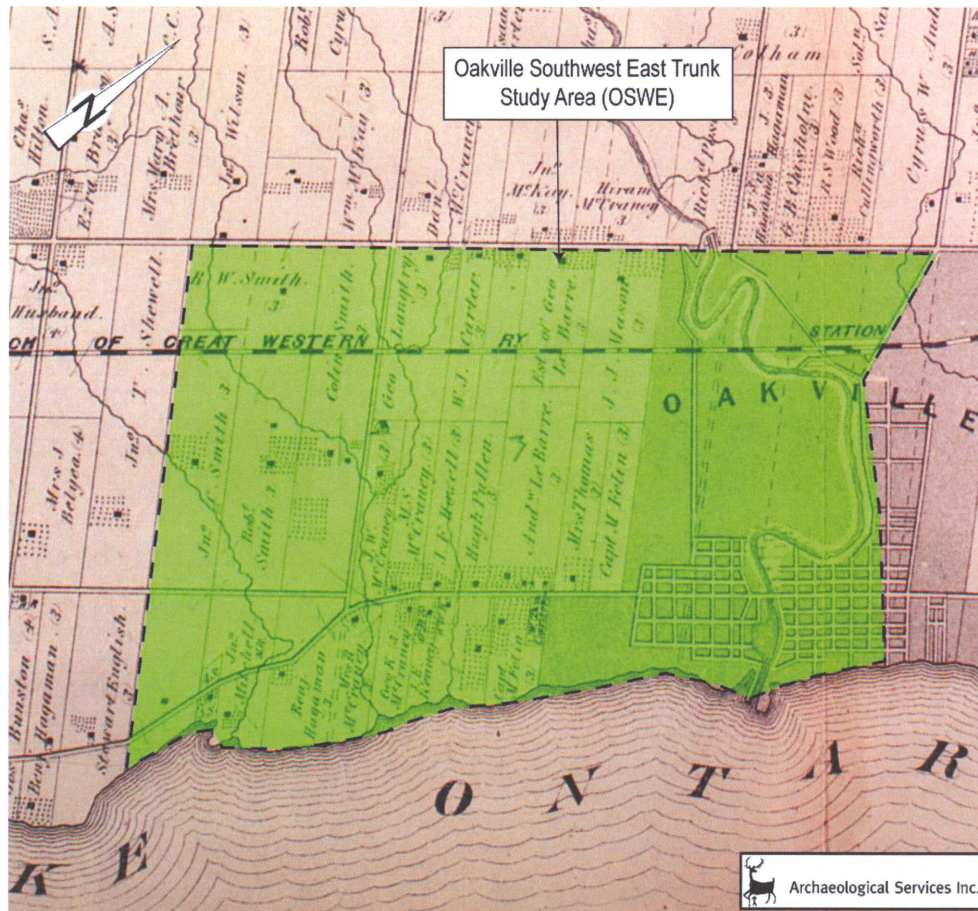


Figure 6: Approximate location of the Oakville Southwest East Trunk study area, Township of Nelson

Base Map: 1877 *Illustrated Historical Atlas of the County of Halton*

Table 5: Summary of Historic Features in the Oakville Southwest East Trunk study area

Concession	Lot	Historic Features
III SDS	13	Oakville Station
	20	School House

It should be noted, however, that not all features of interest were mapped systematically in the Ontario series of historical atlases, given that they were financed by subscription, and subscribers were given preference with regard to the level of detail provided on the maps. Moreover, not every feature of interest would have been within the scope of the atlases.

For the Euro-Canadian period, the majority of early nineteenth century farmsteads (i.e., those which are arguably the most potentially significant resources and whose locations are rarely recorded on nineteenth century maps) are likely to be captured by the basic proximity to the water model outlined in Section 2.2, since these occupations were subject to similar environmental constraints. An added factor, however, is the development of the network of concession roads and railroads through the course of the nineteenth century. These transportation routes frequently influenced the siting of farmsteads and businesses. Accordingly, undisturbed lands within 100 m of an early settlement road, such as Lakeshore Road, Third

Line, Bronte Road, and Walker's Line, are also considered to have potential for the presence of Euro-Canadian archaeological sites.

The *Standards and Guidelines for Consultant Archaeologists* (MTC 2010: 5) stipulates that that areas of early Euro-Canadian settlement (pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries, are considered to have archaeological potential. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks. Early historical transportation routes (trails, passes, roads, railways, portage routes), properties listed on a municipal register or designated under the *Ontario Heritage Act* or a federal, provincial, or municipal historic landmark or site, and properties that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations are also considered to have archaeological potential. A large number of properties within each drainage area have been designated under the *Ontario Heritage Act* or are listed on a municipal register. Details concerning these properties can be found in the Cultural Heritage Assessment Report prepared for this project (ASI 2010).

Therefore, based on the proximity to early Euro-Canadian settlements – an early wharf, several churches and cemeteries, early historical transportation routes, and listed/designated properties, it may be concluded that there is potential for the recovery of historic cultural material within the study area.

3.0 ANALYSIS: ARCHAEOLOGICAL POTENTIAL EVALUATION

The *Standards and Guidelines for Consultant Archaeologists* list characteristics that indicate where archaeological resources are most likely to be found (MTC 2010: 4-5). Archaeological potential is confirmed when one or more feature of archaeological potential is present.

Per Section 1.3.1 of the standards and guidelines, the study area meets six of the criteria used for determining archaeological potential:

- Previously identified archaeological sites (see bold sites in Table 1) ;
- Water sources: primary water source, secondary water source; or a past water source (i.e. Bronte Creek, Fourteen Mile Creek, Sixteen Mile Creek, Glacial Lake Iroquois);
- Areas of well-drained soil;
- Indications of Early Euro-Canadian settlement (i.e. historic settlements of Burlington, Bronte, and Oakville);
- Area of early Euro-Canadian settlement (i.e. Lakeshore Road, Bronte Road); and
- Contains property designated under the *Ontario Heritage Act* (i.e. see ASI 2010).

These criteria characterize the study area as having potential for the identification of Aboriginal and Euro-Canadian archaeological sites.

GIS mapping for the study area was produced in order to construct a model of archaeological potential based on the criteria used for determining archaeological potential and using the Master Plan of Archaeological Resources of the Regional Municipality of Halton (ASI 1998a, ASI 1998b). Portions of the study area with any of these attributes are indicated on Figures 7 to 14 (Appendix A).



The evaluation of archaeological potential, therefore, supports the findings of the background research that the study area contains archaeological site potential.

4.0 IMPLEMENTATION PLAN

An implementation plan was created for each drainage area based on the existing conditions of each pumping station, current capacity issues, current development pressures, and future capacity needs. Each plan includes specific works that are proposed at the various pumping stations, including new/upgraded pumping stations, new forcemains, new local sewers, new trunk sewers. Potential impacts to archaeological resources were evaluated and proposed mitigation measures/additional work was recommended for each pumping station. Findings for each drainage area are summarized in Appendix B.

5.0 RECOMMENDATIONS AND COMPLIANCE ADVICE

The Stage 1 Archaeological Assessment is being conducted to assist with the proposed Wastewater Pumping Stations Capital Needs Assessment and Master Plan Class EA in the City of Burlington and the Town of Oakville, Regional Municipality of Halton, Ontario. The assessment determined that 138 archaeological sites have been registered within 1 km of the overall project area. Three of these sites are situated adjacent to a pumping station involved in this EA. A review of the geography and local nineteenth century land use of the study area suggested that it has potential for the identification of Aboriginal and Euro-Canadian archaeological sites.

Based on the results of the background research and evaluation of archaeological potential, it has been determined that the five drainage areas contain archaeological potential.

In light of these results, the following recommendations are made:

1. A property inspection of the pumping stations to be effected by the proposed undertaken must be undertaken to confirm the presence of areas exhibiting archaeological site potential. The property inspection should be undertaken once the scope of work has been finalized; and
2. A Stage 2 property assessment is recommended in advance of any proposed construction impact on any lands within the study area where there is potential for archaeological sites (to be determined during the property inspection). This work will be conducted in accordance with Ministry of Tourism and Culture's *Standards and Guidelines for Consultant Archaeologists* (MTC 2010).

ASI advises compliance with the following 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*, RSO 1990, c 0.18. The report is reviewed to ensure that the licensed consultant archaeologist has met the terms and conditions of their archaeological licence, and that the archaeological fieldwork and report recommendations ensure the conservation, preservation and protection of the cultural heritage of Ontario;



- 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 sec. 48 (1) of the *Ontario Heritage Act*;
- The *Cemeteries Act* requires that any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Consumer Services.

The documentation related to this archaeological assessment will be curated by Archaeological Services Inc. until such a time that arrangements for their ultimate transfer to Her Majesty the Queen in right of Ontario, or other public institution, can be made to the satisfaction of the project owner(s), the Ontario Ministry of Tourism and Culture, and any other legitimate interest groups.

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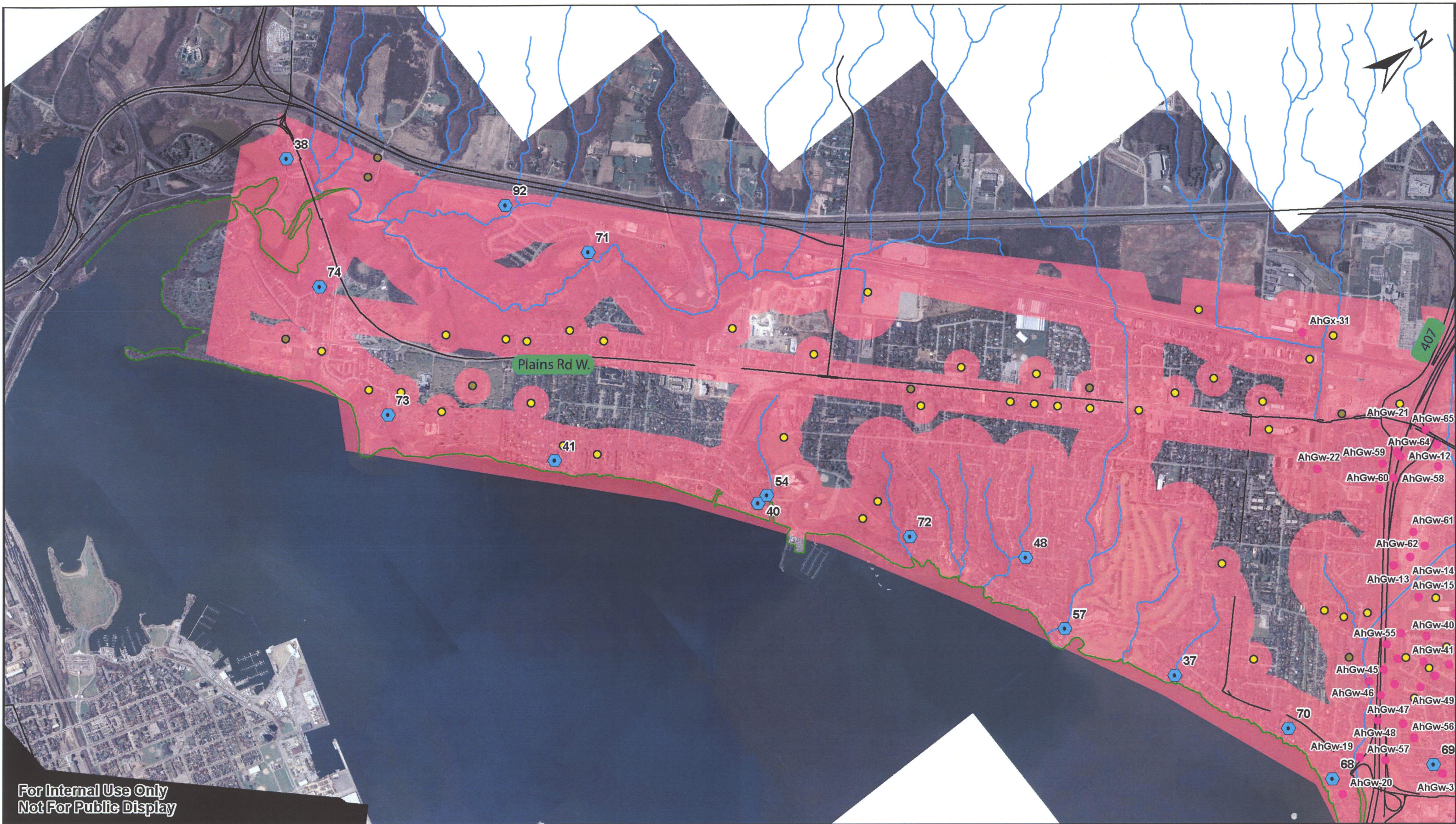
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APPENDIX A: Oversized Graphics





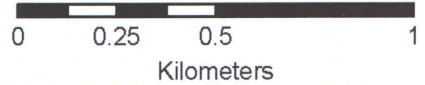
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LEGEND

- Known Archaeological Sites
- Historic Homestead
- Areas of Archaeological Potential
- Cemeteries
- ⬡ Pumping Station



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Figure 7: Areas of Archaeological Potential (Burlington Sheet 1)



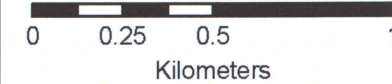
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Figure 8: Areas of Archaeological Potential (Burlington Sheet 2)

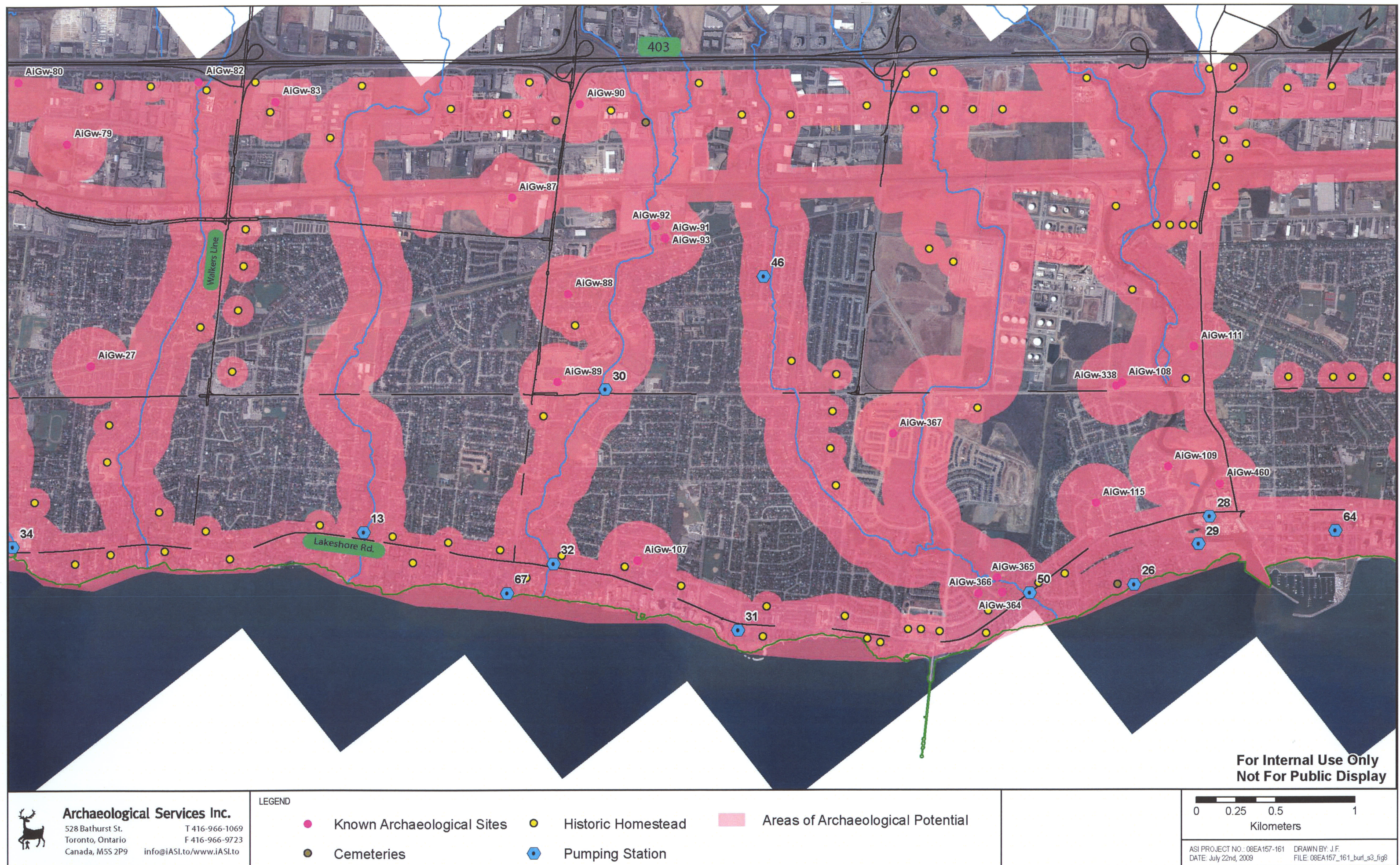
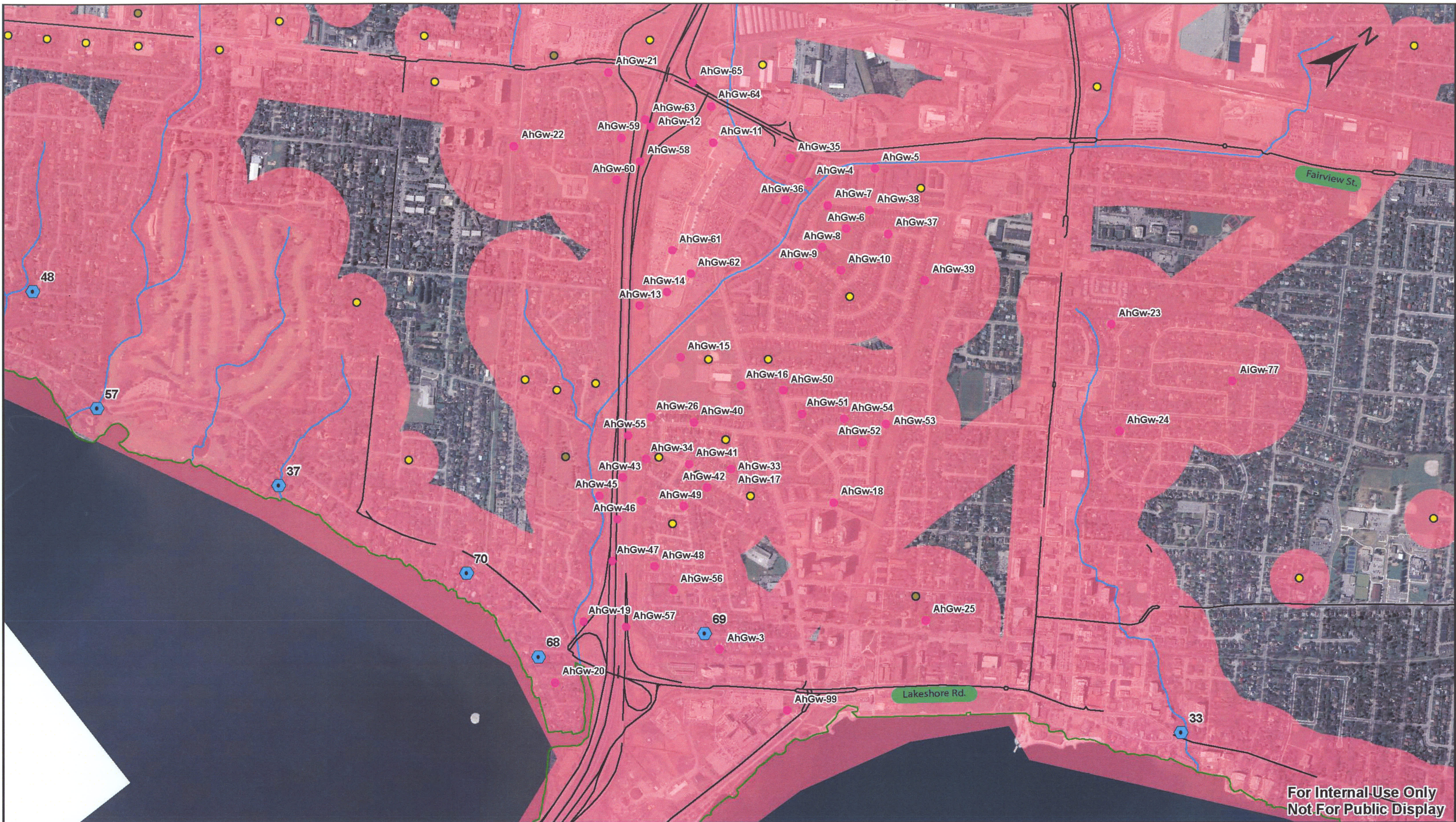


Figure 9: Areas of Archaeological Potential (Burlington Sheet 3)



<p>Archaeological Services Inc. 528 Bathurst St. Toronto, Ontario Canada, M5S 2P9 T 416-966-1069 F 416-966-9723 info@iasl.to/www.iasl.to</p>	<p>LEGEND</p> <ul style="list-style-type: none"> Known Archaeological Sites Historic Homestead Cemeteries Pumping Station Areas of Archaeological Potential 	<p>0 0.15 0.3 0.6 Kilometers</p> <p>ASI PROJECT NO.: 08EA157-161 DATE: July 22nd, 2009</p> <p>DRAWN BY: J.F. FILE: 08EA157_161_fig_9_high_con</p>
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Figure 10: Areas With High Concentration of Archaeological Sites



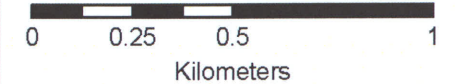
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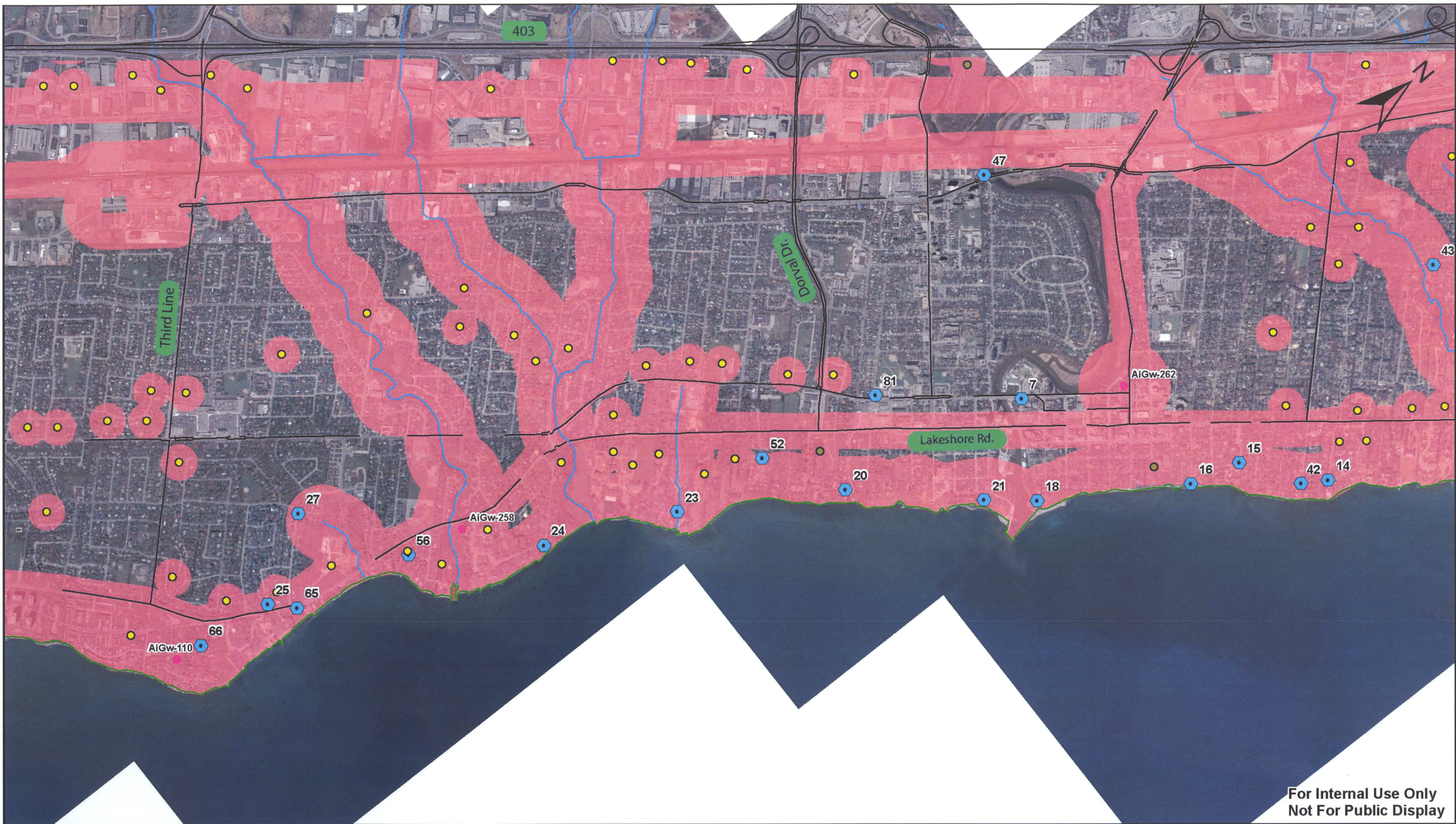
LEGEND

- Known Archaeological Sites
- Historic Homestead
- Cemeteries
- Pumping Station
- Areas of Archaeological Potential



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Figure 11: Areas of Archaeological Potential (Oakville Southwest)



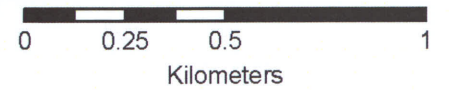
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LEGEND

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- ⬡ Pumping Station
- Areas of Archaeological Potential



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Figure 12: Areas of Archaeological Potential (Oakville Southwest)

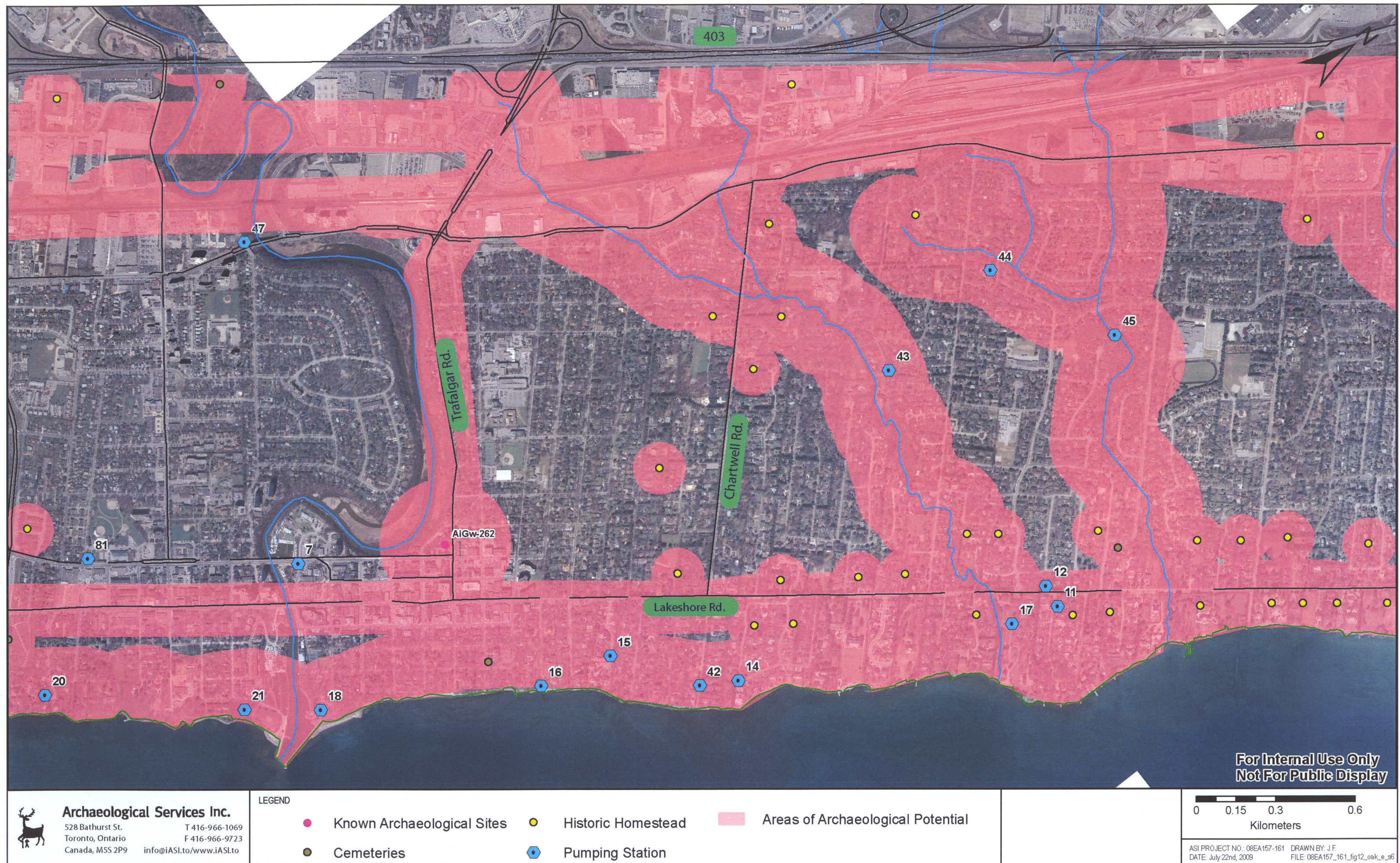


Figure 13: Areas of Archaeological Potential (Oakville East)

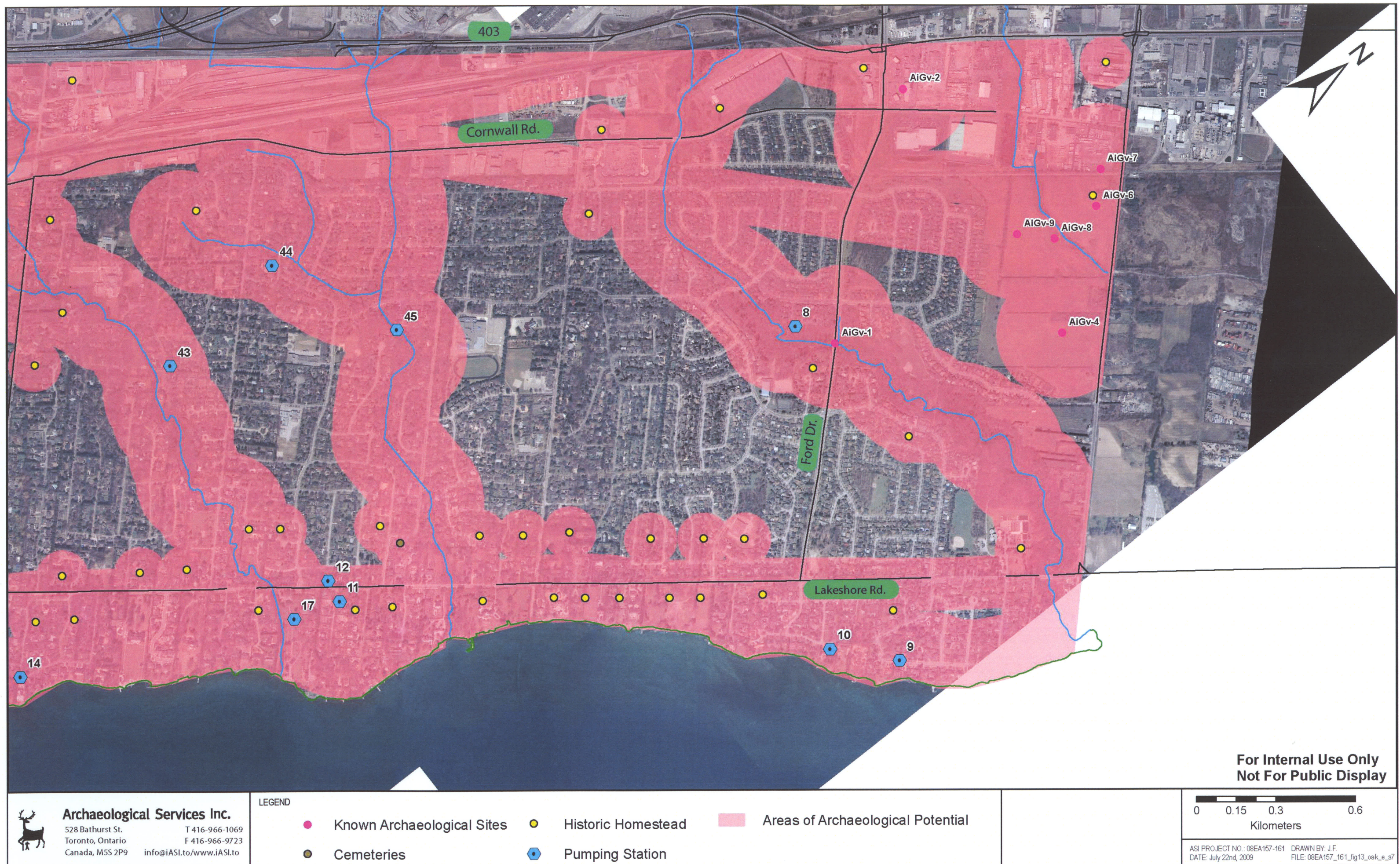


Figure 14: Areas of Archaeological Potential (Oakville East)

APPENDIX B: Implementation Plans



Burlington East Implementation Plan – Cultural Heritage Resources (CHR)

PS	Proposed Work	Impacts to Cultural Heritage Resources		Mitigation Measures/Additional Work	
		Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes ¹	Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes
#35	Upgrade PS, 2.9km of new trunk sewer, new FM	Potential for displacement or disruption of archaeological resources	No impacts at PS on known cultural heritage resources.	<ul style="list-style-type: none">• Stage 2 Archaeological Assessment required, if upgrades extend beyond the current PS footprint• Shaft sites for new trunk sewer, new FM should be reviewed	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.• Confirm impacts of upgrading on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#31	Decommission PS, 0.1 km of new local sewer	Potential for displacement or disruption of archaeological resources	No impacts at PS on known cultural heritage resources.	<ul style="list-style-type: none">• No further work required at PS, if decommissioning activities are contained within the existing PS footprint• Shaft sites for new local sewer should be reviewed	<ul style="list-style-type: none">• Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known• Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.

¹ See Cultural Heritage Assessment Report: Built Heritage Resources and Cultural Heritage Landscapes, Desktop Data Collection Results, Wastewater Pumping Station Capital Needs Assessment and Master Plan Class Environmental Assessment Study, City of Burlington and Town of Oakville, Region of Halton, Ontario (ASI 2010)

PS	Proposed Work	Impacts to Cultural Heritage Resources		Mitigation Measures/Additional Work	
		Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes ¹	Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes
#32	Decommission PS, 0.1 km of new local sewer	Potential for displacement or disruption of archaeological resources	Potential for direct or indirect impacts to a municipally-listed cultural heritage resource dependent on the extant of decommissioning plans.	<ul style="list-style-type: none"> No further work required at PS, if decommissioning activities are contained within the existing PS footprint Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known. Confirm impacts of decommissioning on BE-CHR 6 and other potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#69	Decommission PS, 0.3 km of new local sewer	Potential for direct impacts to known archaeological site	Potential for direct or indirect impacts to a municipally-listed cultural heritage resource dependent on the extant of decommissioning plans.	<ul style="list-style-type: none"> Given the proximity to the Burlington Mounds site (AhGw-3), a monitoring strategy should be developed for the duration of any proposed construction activities Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> Confirm impacts of decommissioning on BE-CHR 14 and other potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate. Impacts of shaft sites for the proposed new local sewer are to be confirmed once shaft locations are known.
#67	Decommission PS, 0.1 km of new local sewer	Potential for displacement or disruption of archaeological resources	No impacts at PS on known cultural heritage resources.	<ul style="list-style-type: none"> No further work required at PS, if decommissioning activities are contained within the existing PS footprint 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft

PS	Proposed Work	Impacts to Cultural Heritage Resources		Mitigation Measures/Additional Work	
		Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes ¹	Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes
				<ul style="list-style-type: none"> • Shaft sites for new local sewer should be reviewed 	locations are known <ul style="list-style-type: none"> • Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#34	Decommission PS, 2.2 km of new local sewer	Potential for displacement or disruption of archaeological resources	No impacts at PS on known cultural heritage resources.	<ul style="list-style-type: none"> • No further work required at PS, if decommissioning activities are contained within the existing PS footprint • Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> • Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known • Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#30	Decommission PS, 1.1 km of new local sewer	Potential for displacement or disruption of archaeological resources	No impacts at PS on known cultural heritage resources.	<ul style="list-style-type: none"> • No further work required at PS, if decommissioning activities are contained within the existing PS footprint 	<ul style="list-style-type: none"> • Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known • Confirm impacts of decommissioning on potentially

PS	Proposed Work	Impacts to Cultural Heritage Resources		Mitigation Measures/Additional Work	
		Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes ¹	Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes
					impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#33	No proposed work at this time	No Impacts	No impacts	<ul style="list-style-type: none">No further work required	<ul style="list-style-type: none">Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known

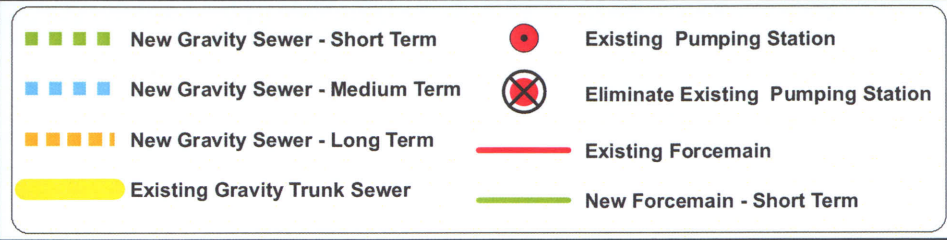


Figure 8.2 - Implementation Plan
Burlington East Trunk

0 250 500 1,000
Meters

Burlington West Implementation Plan – Cultural Heritage Resources (CHR)

PS	Proposed Work	Impacts to Cultural Heritage Resources		Mitigation Measures/Additional Work	
		Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes	Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes
#57, #48	0.5 km of new local sewer, eliminate PS #48, upgrade PS #57	Potential for displacement or disruption of archaeological resources	No impacts at PS #57 and #48 on known cultural heritage resources.	<ul style="list-style-type: none"> • Stage 2 Archaeological Assessment required, if upgrades to PS #57 extend beyond the current PS footprint • No further work required at PS #48, if decommissioning activities are contained within the existing PS footprint • Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> • Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known. • Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#74, #38	0.1 km of new local sewer, eliminate PS #38, upgrade PS #74	Potential for displacement or disruption of archaeological resources	No impacts at PS #74 and #38 on known cultural heritage resources.	<ul style="list-style-type: none"> • Stage 2 Archaeological Assessment required, if upgrades to PS #74 extend beyond the current PS footprint • No further work required at PS #38, if decommissioning activities are contained within the existing PS footprint • Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> • Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known. • Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#54, #40	0.1 km of new local sewer, eliminate PS #40, upgrade PS #54, upgrade FM	Potential for displacement or disruption of archaeological resources	No impacts at PS #54 and #40 on known cultural heritage resources.	<ul style="list-style-type: none"> • Stage 2 Archaeological Assessment required, if upgrades to PS #54 extend beyond the current PS footprint 	<ul style="list-style-type: none"> • Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft

PS	Proposed Work	Impacts to Cultural Heritage Resources		Mitigation Measures/Additional Work	
		Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes	Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes
				<ul style="list-style-type: none"> No further work required at PS #40, if decommissioning activities are contained within the existing PS footprint Shaft sites for new local sewer and proposed upgrades to forcemain should be reviewed 	<ul style="list-style-type: none"> Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#41, #71, #73, #77, #92	No proposed work at this time	No Impacts	No impacts	<ul style="list-style-type: none"> No further work required 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.
#68, #70, #72, #37	No proposed work at this time	No Impacts	No impacts	<ul style="list-style-type: none"> No further work required 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.



Figure 8.1 - Implementation Plan
Burlington West Trunk

- Existing Pumping Station
- Eliminate Existing Pumping Station
- Existing Forcemain
- New Gravity Sewer - Short Term
- New Gravity Sewer - Medium Term
- New Gravity Sewer - Long Term
- Existing Gravity Trunk Sewer

0 250 500 1,000
Meters

Oakville Southeast Implementation Plan – Cultural Heritage Resources (CHR)

PS	Proposed Work	Impacts to Cultural Heritage Resources		Mitigation Measures/Additional Work	
		Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes	Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes
#8	0.1 km of new local sewer, eliminate PS	Potential for displacement or disruption of archaeological resources	No impacts at PS #8 on known cultural heritage resources.	<ul style="list-style-type: none"> No further work required at PS, if decommissioning activities are contained within the existing PS footprint Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessments where appropriate.
#9, 10	0.8 km of new local sewer, eliminate PS#10 and upgrade PS# 9	Potential for displacement or disruption of archaeological resources	No impacts at PS #9 and #10 on known cultural heritage resources.	<ul style="list-style-type: none"> Stage 2 Archaeological Assessment required, if upgrades extend beyond the current PS #9 footprint No further work required at PS #10, if decommissioning activities are contained within the existing PS footprint Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known Confirm impacts of decommissioning and upgrading on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessments where appropriate.
#12	3.0 km of new trunk sewer,	Potential for displacement or disruption of archaeological resources	Potential direct and/or indirect impacts of upgrading PS #12 on a resource designated under the	<ul style="list-style-type: none"> Stage 2 Archaeological Assessment required, if upgrades 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on

PS	Proposed Work	Impacts to Cultural Heritage Resources		Mitigation Measures/Additional Work	
		Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes	Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes
	upgrade PS		<i>Ontario Heritage Act.</i>	extend beyond the current PS footprint <ul style="list-style-type: none"> • Shaft sites for new trunk sewer should be reviewed 	cultural heritage resources are to be confirmed once shaft locations are known. <ul style="list-style-type: none"> • Confirm impacts of decommissioning on OSE-CHR 8 (designated under the <i>Ontario Heritage Act</i>) and other potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#11, #17, #13, #14, #42, #15, #16	1.8 km of new local sewer, eliminate PSs	Potential for displacement or disruption of archaeological resources	<ul style="list-style-type: none"> • No impacts at PS #11, #14, and #42 • Potential for direct and indirect impacts to a municipally-listed cultural heritage resource at PS #15 • Potential for direct and indirect impacts to cultural heritage resources that are Designated under Part IV of the <i>Ontario Heritage Act</i> at PS #17, #13, and #16 	<ul style="list-style-type: none"> • No further work required at PSs, if decommissioning activities are contained within the existing PS footprint • Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> • Confirm impacts of decommissioning of PS #17, #13, #16, and # 15 on OSE CHR 6 (designated under the <i>Ontario Heritage Act</i>), OSE CHR 23 (designated under the <i>Ontario Heritage Act</i>), OSWE-CHR 25 (designated under the <i>Ontario Heritage Act</i>) and OSE CHR 1 (municipally-listed) respectively and other potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate. • Impacts of shaft sites for the proposed new local sewer on

PS	Proposed Work	Impacts to Cultural Heritage Resources		Mitigation Measures/Additional Work	
		Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes	Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes
					cultural heritage resources are to be confirmed once shaft locations are known.
#45	0.2 km of new local sewer, eliminate PS	Potential for displacement or disruption of archaeological resources	No impacts at PS #45 on known cultural heritage resources.	<ul style="list-style-type: none"> No further work required at PS, if decommissioning activities are contained within the existing PS footprint Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessments where appropriate.
#43	0.3 km of new local sewer, eliminate PS	Potential for displacement or disruption of archaeological resources	No impacts at PS #43 on known cultural heritage resources.	<ul style="list-style-type: none"> No further work required at PS, if decommissioning activities are contained within the existing PS footprint Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessments where appropriate.

PS	Proposed Work	Impacts to Cultural Heritage Resources		Mitigation Measures/Additional Work	
		Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes	Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes
#99	0.2 km of new local sewer, eliminate PS	Potential for displacement or disruption of archaeological resources	No impacts at PS #99 on known cultural heritage resources.	<ul style="list-style-type: none"> No further work required at PS, if decommissioning activities are contained within the existing PS footprint Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessments where appropriate.
#44	0.2 km of new local sewer, eliminate PS	Potential for displacement or disruption of archaeological resources	No impacts at PS #44 on known cultural heritage resources.	<ul style="list-style-type: none"> No further work required at PS, if decommissioning activities are contained within the existing PS footprint Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessments where appropriate.

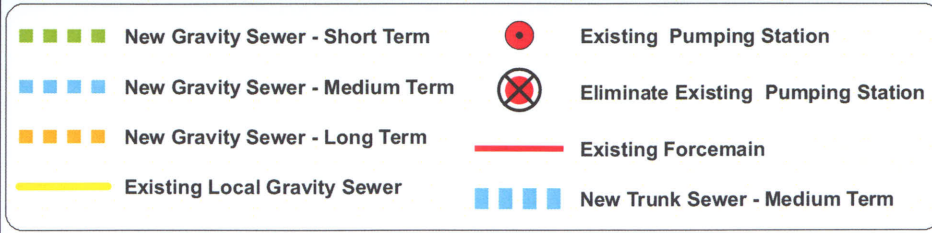


Figure 8.5 - Implementation Plan
Oakville SE

0 125 250 500
Meters

Oakville Southwest East Implementation Plan – Cultural Heritage Resources (CHR)

PS	Proposed Work	Impacts to Cultural Heritage Resources		Mitigation Measures/Additional Work	
		Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes	Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes
#47	0.1 km of new local sewer, eliminate PS	Potential for displacement or disruption of archaeological resources	No impacts to PS #47 to known cultural heritage resources.	<ul style="list-style-type: none"> No further work required at PS, if decommissioning activities are contained within the existing PS footprint Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known. Confirm impacts of upgrading on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#46	0.8 km of new local sewer, eliminate PS	Potential for displacement or disruption of archaeological resources	No impacts to PS #46 on known cultural heritage resources.	<ul style="list-style-type: none"> No further work required at PS, if decommissioning activities are contained within the existing PS footprint Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known. Confirm impacts of upgrading on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#7, #18,	0.3 km of new local sewer; eliminate PS#18 and divert flows to PS#7; upgrade pumps and	Potential for displacement or disruption of archaeological resources	<ul style="list-style-type: none"> No impacts to PS #7 on known cultural heritage resources. Potential for direct and indirect impacts to a cultural heritage 	<ul style="list-style-type: none"> No further work required at PS #18 if decommissioning activities are contained within the existing PS footprint 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft

PS	Proposed Work	Impacts to Cultural Heritage Resources		Mitigation Measures/Additional Work	
		Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes	Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes
	force mains at PS#7		resource Designated under Part V of the <i>Ontario Heritage Act</i> at PS #18.	<ul style="list-style-type: none"> • Shaft sites for new local sewer should be reviewed • No further work required at PS #7 	locations are known. <ul style="list-style-type: none"> • Confirm impacts of decommissioning PS# 18 on OSWE-CHR 10 (Old Oakville Heritage Conservation District) and other potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#24, #23, #52, #20, #21, #75, #81	No proposed work at this time	No impacts	No impacts	<ul style="list-style-type: none"> • No further work required 	<ul style="list-style-type: none"> • No further work required
#56	0.3 km of new local sewer; eliminate PS	Potential for displacement or disruption of archaeological resources	No impacts to PS #56 on known cultural heritage resources.	<ul style="list-style-type: none"> • No further work required at PS, if decommissioning activities are contained within the existing PS footprint • Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> • Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known. • Confirm impacts of upgrading on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate

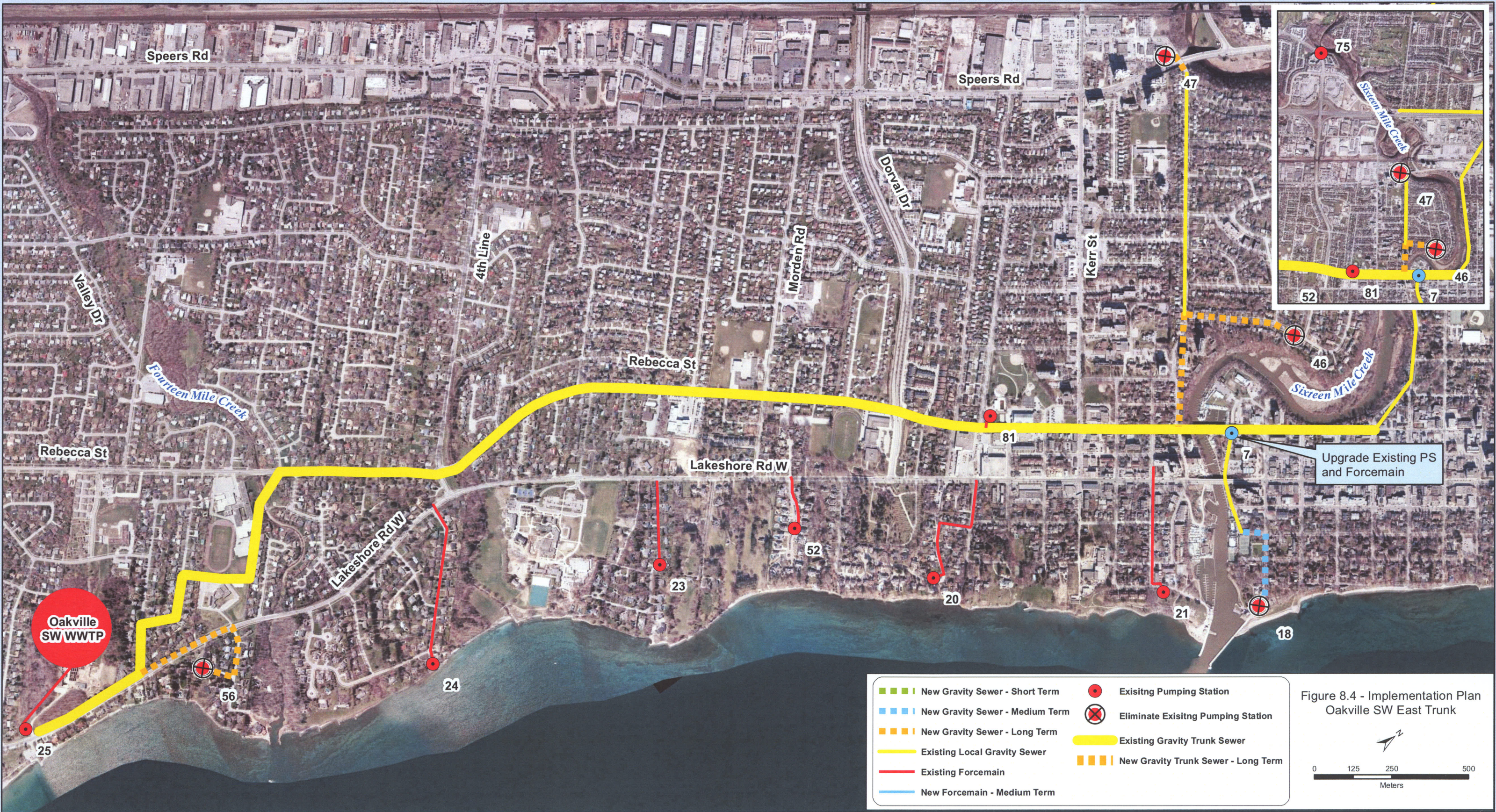
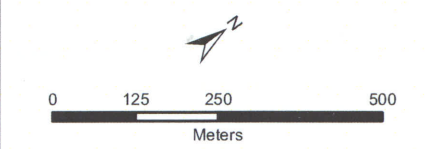


Figure 8.4 - Implementation Plan
Oakville SW East Trunk



Oakville Southwest West Implementation Plan – Cultural Heritage Resources (CHR)

PS	Proposed Work	Impacts		Mitigation Measures/Additional Work	
		Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes	Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes
None	2.0 km of new trunk sewer	Potential for displacement or disruption of archaeological resources	Potential for direct and indirect impacts on known and unknown cultural heritage resources.	<ul style="list-style-type: none"> Shaft sites for new trunk sewer should be reviewed 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new trunk sewer on cultural heritage resources are to be confirmed once shaft locations are known.
#65, #66, #64	0.1 km of new local sewer, eliminate PSs	Potential for displacement or disruption of archaeological resources	<ul style="list-style-type: none"> No impacts at PS #66 and #64 on known cultural heritage resources. Potential for direct and/or indirect impacts to a municipally-listed cultural heritage resource at PS #65 	<ul style="list-style-type: none"> No further work required at PSs, if decommissioning activities are contained within the existing PS footprint Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> Confirm impacts of decommissioning on OSWW CHR 3 and other potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate. Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.
#27	25 m of new local sewer, eliminate PS	Potential for displacement or disruption of archaeological resources	No impacts at PS #27 on known cultural heritage resources.	<ul style="list-style-type: none"> No further work required at PS, if decommissioning activities are contained within the existing PS footprint Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known Confirm impacts of decommissioning on potentially impacted heritage

PS	Proposed Work	Impacts		Mitigation Measures/Additional Work	
		Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes	Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes
					resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#50	1.5 km of new local sewer, eliminate PS	Potential for displacement or disruption of archaeological resources	No impacts at PS #50 on known cultural heritage resources.	<ul style="list-style-type: none"> No further work required at PS, if decommissioning activities are contained within the existing PS footprint Shaft sites for new local sewer should be reviewed 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known. Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.
#28	No proposed work at this time	No Impacts	No impacts	<ul style="list-style-type: none"> No further work required 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.
#29	No proposed work at this time	No Impacts	No impacts	<ul style="list-style-type: none"> No further work required 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on cultural heritage resources are to be confirmed once shaft locations are known.
#26	0.3 km of new local sewer; eliminate PS	Potential for displacement or disruption of archaeological	No impacts at PS #26 on known cultural heritage resources.	<ul style="list-style-type: none"> No further work required at PS, if decommissioning activities are 	<ul style="list-style-type: none"> Impacts of shaft sites for the proposed new local sewer on

PS	Proposed Work	Impacts		Mitigation Measures/Additional Work	
		Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes	Archaeological Resources	Built Heritage Resources and Cultural Heritage Landscapes
		resources		contained within the existing PS footprint <ul style="list-style-type: none">• Shaft sites for new local sewer should be reviewed	cultural heritage resources are to be confirmed once shaft locations are known. <ul style="list-style-type: none">• Confirm impacts of decommissioning on potentially impacted heritage resources not previously identified and therefore not captured in background data collection and undertake property-specific heritage impact assessment where appropriate.



Figure 8.3 - Implementation Plan
Oakville SW West Trunk

