

Appendix E

Archaeological Investigation

Stage 1 Archaeological Assessment Main & Whitney (HD17A) Water Pumping Station Class Environmental Assessment and Conceptual Design (Part of Lots 48-56, Concession 2 and Lots 49-56, Concession 1, 1st and 2nd Gore, Ancaster Township, Wentworth County) City of Hamilton

Original Report

Prepared for:

Arcadis Professional Services (Canada) Inc.

8133 Warden Ave, Unit 300

Markham, ON L6G 1B3

Archaeological Licence: P1066 (Lytle)

PIF P1066-0330-2022

Archaeological Services Inc. File: 21EA-130

October 11, 2023



Executive Summary

Archaeological Services Inc. was contracted by Arcadis Professional Services (Canada) Inc., on behalf of the City of Hamilton, to conduct a Stage 1 Archaeological Assessment (AA) (Background Research and Property Inspection) as part of the Main & Whitney (HD17A) Water Pumping Station (WPS) Municipal Class Environmental Assessment (EA) and Conceptual Design.

The project is intended to develop and assess alternative solutions to replace the existing WPS HD17A located at Main Street West and Whitney Avenue with a new WPS at a new site near its current location. Doing so will improve water service and enhance water system security and reliability for residents in Pressure District 17. The Class EA area consists of parts of Pressure Districts 2, 11, and 17. The original Class EA area was expanded in November 2022 to include additional lands adjacent to the intersection of Rifle Range Road and Iona Avenue. The seven Short-Listed Alternatives include land adjacent to the existing Osler (HD011) WPS and six alternative sites.

The Stage 1 AA Background Research will assess the entirety of the Class EA Study Area. The Property Inspection and recommendations will only focus on the seven Short-Listed Alternative Sites.

The Stage 1 AA Background Research determined 22 previously registered archaeological sites are located within one kilometre of the Study Area, none of which are within 50 metres of the Short-Listed Alternative Sites. The property inspection determined that parts of the Short-Listed Alternative Sites 4 and 9, and the entirety of Site 12 exhibit archaeological potential and will require Stage 2 survey. The remainder of the Short-Listed Alternative Sites exhibit no archaeological potential.

The following recommendations are made:



- 1) Short-Listed Alternative Sites 4, 9, and 12 exhibit archaeological potential. These lands require Stage 2 test pit survey at five metre intervals , prior to any proposed construction activities on these lands;
- 2) The remainder of the Short-Listed Alternative Sites exhibit no archaeological potential on account of deep and extensive land disturbance. These lands do not require further archaeological assessment; and,
- 3) Should the proposed work extend beyond the current Study Area, further archaeological assessment should be conducted to determine the archaeological potential of the surrounding lands.



Project Personnel

- **Senior Project Manager:** Lisa Merritt, MSc. (P094) Partner, Director, Environmental Assessment Division
- **Project Manager:** Eliza Brandy, MA (R1109), Associate Archaeologist, Project Manager, Environmental Assessment Division
- **Project Director:** Jessica Lytle, MSc (P1066), Lead Archaeologist, Technical Writer and Fieldwork Coordinator, Environmental Assessment Division
- **Division Coordinator:** Katrina Thach, BA Hons. (R1225), Associate Archaeologist, Division Coordinator, Environmental Assessment Division
- **Project Administrator:** Catherine Kitchen, BA, Archaeologist, Project Administrator, Environmental Assessment Division
- **Field Director:** Eliza Brandy
- **Field Assistance:** Danielle Bella, BA Hons., Archaeologist, Technical Writer, Environmental Assessment Division
- **Report Preparation:** Eliza Brandy
- **Graphics:** Jonas Fernandez, MSc (R281), Lead Archaeologist, Manager - Geomatics, Operations Division
- **Report Review:** Lisa Merritt



Table of Contents

Executive Summary	2
Project Personnel	4
Table of Contents	5
1.0 Project Context	8
1.1 Development Context	9
1.1.1 Treaties	9
1.2 Historical Context	10
1.2.1 Indigenous Land Use and Settlement	10
1.2.2 Post-Contact Settlement	12
1.2.3 Map Review	13
1.2.4 Aerial and Orthoimagery Review	15
1.3 Archaeological Context	16
1.3.1 Geography	16
1.3.2 Previously Registered Archaeological Sites	18
1.3.3 Previous Archaeological Assessments	22
2.0 Property Inspection	23
2.1 Field Methods	23
2.2 Current Land Use and Field Conditions	24
3.0 Analysis of Archaeological Potential	25
3.1 Conclusions	26
4.0 Recommendations	26
5.0 Legislation Compliance Advice	27
6.0 Bibliography and Sources	28
7.0 Images	33
7.1 Field Photography	33



7.2 Historical Imagery	40
8.0 Maps	44

List of Tables

Table 1: Registered Sites within One Kilometre of the Study Area	19
--	----

List of Images

Image 1: Site 1 – area is disturbed, no Stage 2 required	33
Image 2: Site 1 – area is disturbed, no Stage 2 required	33
Image 3: Site 4 – land up to the fence is disturbed, no Stage 2 required.....	34
Image 4: Site 4 – private lawn requires Stage 2 test pit survey	34
Image 5: Site 6 – area is disturbed, no Stage 2 required	35
Image 6: Site 6 – area is disturbed, no Stage 2 required	35
Image 7: Site 8 – area is disturbed, no Stage 2 required	36
Image 8: Site 8 – area is disturbed, no Stage 2 required	36
Image 9: Site 9 – area is disturbed, no Stage 2 required	37
Image 10: Site 9 – parking lot requires Stage 2 test pit survey	37
Image 11: Site 9 – parking lot requires Stage 2 test pit survey	38
Image 12: Site 12 – area requires Stage 2 test pit survey	38
Image 13: Site 19 – area is disturbed, no Stage 2 required	39
Image 14: Site 1 area in 1954 showing historical Osler Road alignment.....	40
Image 15: Site 1 area in 1967 after construction of the present Osler Road and channelization of the creek below (Photo 12).....	41
Image 16: Sites 6, 8, and 9 area in 1954 showing the development of commercial properties along Main Street West and the construction of Whitney Avenue. (Flightline 4311-Photo 155)	42
Image 17: Sites 12 and 19 area showing the lands being cleared prior to construction of the extant building at Site 19.	43

List of Figures

Figure 1: Location of the Study Area and Short-Listed Alternatives	44
--	----



Figure 2: Study Area (Approximate Location) Overlaid on the 1859 <i>Map of the County of Wentworth</i>	45
Figure 3: Study Area (Approximate Location) Overlaid on the 1875 <i>Illustrated Historical Atlas of the County of Wentworth</i>	46
Figure 4: Study Area (Approximate Location) Overlaid on the 1909 Topographic Mapping	47
Figure 5: Study Area (Approximate Location) Overlaid on the 1938 Topographic Mapping	48
Figure 6: Study Area (Approximate Location) Overlaid on the 1972/1973 Topographic Mapping	49
Figure 7: Study Area (Approximate Location) Overlaid on the 1994 Topographic Mapping	50
Figure 8: Study Area (Approximate Location) Overlaid on 1954 Aerial Photography	51
Figure 9: Study Area – Surficial Geology.....	52
Figure 10: Stage 1 Results – Key Map.....	53
Figure 11: Stage 1 Results – Site 1 (Sheet 1).....	54
Figure 12: Stage 1 Results – Site 4 (Sheet 2).....	55
Figure 13: Stage 1 Results – Sites 6, 8, and 9 (Sheet 3).....	56
Figure 14: Stage 1 Results – Sites 12 and 19 (Sheet 4)	57

1.0 Project Context

Archaeological Services Inc. (ASI) was contracted by Arcadis Professional Services (Canada) Inc., on behalf of the City of Hamilton, to conduct a Stage 1 AA (Background Research and Property Inspection) as part of the Main & Whitney (HD17A) WPS Municipal Class EA and Conceptual Design.

The project is intended to develop and assess alternative solutions to replace the existing WPS HD17A located at Main Street West and Whitney Avenue with a new WPS at a new site near its current location. Doing so will improve water service and enhance water system security and reliability for residents in Pressure District 17. The Class EA Study Area consists of parts of Pressure Districts 2, 11, and 17 (Figure 1 areas outlined in red). The original Class EA was expanded in November 2022 to include additional lands adjacent to the intersection of Rifle Range Road and Iona Avenue. The seven Short-Listed Alternatives include land adjacent to the existing Osler WPS and six alternative sites (Figure 1 areas outlined in blue):

- Site 1 – adjacent to the existing Osler (HD011) WPS on the north side of Osler Drive east of Grant Boulevard
- Site 4 – 88 Ofield Road
- Site 6 – 1845 Main Street West
- Site 8 – 1870 Main Street West
- Site 9 – 1872 Main Street West
- Site 12 – 125 Rifle Range Road
- Site 19 – 161 Rifle Range Road

The Stage 1 AA Background Research will assess the entirety of the Class EA Study Area. The Property Inspection and recommendations will only focus on the seven Short-Listed Alternative Sites.

All activities carried out during this assessment were completed in accordance with the *Ontario Heritage Act* (Ontario Heritage Act, R.S.O. c. O.18, 1990, as amended in 2019) and the 2011 *Standards and Guidelines for Consultant*



Archaeologists (S & G), administered by the Ministry of Citizenship and Multiculturalism (MCM 2011).

1.1 Development Context

All work has been undertaken as required by the *Environmental Assessment Act* (Environmental Assessment Act, R.S.O. 1990 as amended 2022) and regulations made under the Act, and are therefore subject to all associated legislation.

This project is being conducted in accordance with the Municipal Engineers' Association document *Municipal Class Environmental Assessment* (Municipal Engineers Association, 2023).

Authorization to carry out the activities necessary for the completion of the Stage 1 AA and property inspection was granted by Arcadis Professional Services (Canada) Inc. on December 16, 2021.

1.1.1 Treaties

The Study Area is within Treaty 3, the Between the Lakes Purchase. Following the 1764 Niagara Peace Treaty and the follow-up treaties with Pontiac, the English colonial government considered the Mississaugas to be their allies since they had accepted the Covenant Chain. The English administrators followed the terms of the Royal Proclamation and ensured that no settlements were made in the hunting grounds that had been reserved for their use (Johnston, 1964; Lytwyn, 2005). In 1784, under the terms of the "Between the Lakes Purchase" signed by Sir Frederick Haldimand and the Mississaugas, the Crown acquired over one million acres of land in-part spanning westward from near modern day Niagara-on-the-Lake along the south shore of Lake Ontario to modern day Burlington (Aboriginal Affairs and Northern Development Canada, 2016).



1.2 Historical Context

1.2.1 Indigenous Land Use and Settlement

Southern Ontario has been occupied by human populations since the retreat of the Laurentide glacier approximately 13,000 years before present (B.P.) (Ferris, 2013). Populations at this time would have been highly mobile, inhabiting a boreal-parkland similar to the modern sub-arctic. By approximately 10,000 B.P., the environment had progressively warmed (Edwards & Fritz, 1988) and populations now occupied less extensive territories (Ellis & Deller, 1990).

Between approximately 10,000-5,500 B.P., the Great Lakes basins experienced low-water levels, and many sites which would have been located on those former shorelines are now submerged. This period produces the earliest evidence of heavy wood working tools, an indication of greater investment of labour in felling trees for fuel, to build shelter, and watercraft production. These activities suggest prolonged seasonal residency at occupation sites. Polished stone and native copper implements were being produced by approximately 8,000 B.P.; the latter was acquired from the north shore of Lake Superior, evidence of extensive exchange networks throughout the Great Lakes region. The earliest evidence for cemeteries dates to approximately 4,500-3,000 B.P. and is indicative of increased social organization, investment of labour into social infrastructure, and the establishment of socially prescribed territories (Brown, 1995, p. 13; Ellis et al., 1990, 2009).

Between 3,000-2,500 B.P., populations continued to practice residential mobility and to harvest seasonally available resources, including spawning fish. The Woodland period begins around 2,500 B.P. and exchange and interaction networks broaden at this time (Spence et al., 1990, pp. 136, 138) and by approximately 2,000 B.P., evidence exists for small community camps, focusing on the seasonal harvesting of resources (Spence et al., 1990, pp. 155, 164). By 1,500 B.P. there is macro botanical evidence for maize in southern Ontario, and it is thought that maize only supplemented people's diet. There is earlier phytolithic evidence for maize in central New York State by 2,300 B.P. - it is likely



that once similar analyses are conducted on Ontario ceramic vessels of the same period, the same evidence will be found (Birch & Williamson, 2013, pp. 13–15). As is evident in detailed Anishinaabek ethnographies, winter was a period during which some families would depart from the larger group as it was easier to sustain smaller populations (Rogers, 1962). It is generally understood that these populations were Algonquian-speakers during these millennia of settlement and land use.

From the beginning of the Late Woodland period at approximately 1,000 B.P., lifeways became more similar to that described in early historical documents. Between approximately 1000-1300 Common Era (C.E.), the communal site is replaced by the village focused on horticulture. Seasonal disintegration of the community for the exploitation of a wider territory and more varied resource base was still practised (Williamson, 1990, p. 317). By 1300-1450 C.E., this episodic community disintegration was no longer practised and populations now communally occupied sites throughout the year (Dodd et al., 1990, p. 343). By the mid-sixteenth century these small villages had coalesced into larger communities (Birch et al., 2021). Through this process, the socio-political organization of the First Nations, as described historically by the French and English explorers who first visited southern Ontario, was developed.

By 1600 C.E., the Huron-Wendat communities within Simcoe County had formed the Confederation of Nations encountered by the first European explorers and missionaries. Samuel de Champlain in 1615 reported that a group of Iroquoian-speaking people situated between the Haudenosaunee and the Huron-Wendat were at peace and remained “la nation neutre”. Like the Huron-Wendat, Petun, and Haudenosaunee, the Neutral or Attawandaron people were settled village agriculturalists. In the 1640s, the Attawandaron and the Huron-Wendat (and their Algonquian allies such as the Nipissing and Odawa) were decimated by epidemics and ultimately dispersed from southern Ontario by the Haudenosaunee. Shortly afterwards, the Haudenosaunee established a series of settlements at strategic locations along the trade routes inland from the north shore of Lake Ontario. By the 1690s however, the Anishinaabeg were the only communities with a permanent presence in southern Ontario. From the



beginning of the eighteenth century to the assertion of British sovereignty in 1763, there was no interruption to Anishinaabeg control and use of southern Ontario.

1.2.2 Post-Contact Settlement

Historically, the Study Area is in the former Ancaster Township, Wentworth County, in part of Lots 49-56, Concession 1, Lots 48-56, Concession 2, and 1st and 2nd Gore.

The S & G stipulates 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. 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 are also considered to have archaeological potential.

For the Euro-Canadian period, the majority of early nineteenth century farmsteads (i.e., those that are arguably the most potentially significant resources and whose locations are rarely recorded on nineteenth century maps) are likely to be located in proximity to water. The development of the network of concession roads and railroads through the course of the nineteenth century frequently influenced the siting of farmsteads and businesses. Accordingly, undisturbed lands within 100 metres of an early settlement road are also considered to have potential for the presence of Euro-Canadian archaeological sites.

The first Europeans to arrive in the area were transient merchants and traders from France and England, who followed Indigenous pathways and set up trading posts at strategic locations along the well-traveled river routes. All of these occupations occurred at sites that afforded both natural landfalls and convenient access, by means of the various waterways and overland trails, into the hinterlands. Early transportation routes followed existing Indigenous trails, both along the lakeshore and adjacent to various creeks and rivers (ASI 2006).



Township of Ancaster

The land within Ancaster Township was acquired by the British from the Mississaugas in 1784. The first township survey was undertaken in 1793, and the first legal settlers occupied their land holdings two years later. The township is said to have been named after a town in Lincolnshire, England. Ancaster was initially settled by disbanded soldiers, mainly Butler's Rangers, and other Loyalists following the end of the American Revolutionary War. In 1805, Boulton noted that this township contained both excellent and indifferent soils. By the 1840s, the township was noted for its fine farms (Boulton 1805:79; Armstrong 1985:141; Rayburn 1997:11; Smith 1846:6).

City of Hamilton

The City of Hamilton was surveyed and established by 1820 through the combined efforts of George Hamilton, James Durand and Nathaniel Hughson. The first courthouse and jail, a log and-frame building, was constructed in 1817, which was replaced with a stone building in 1827/28. The settlement became a port in 1827, at which point Hamilton became the commercial centre of the District of Gore, in addition to serving as its administrative centre (Gentilcore, 1987:101-103). Hamilton was incorporated as a City in 1846.

1.2.3 Map Review

The 1859 *Map of the County of Wentworth* (Surtees, 1859) and the 1875 *Illustrated Historical Atlas of the County of Wentworth* (Page & Smith, 1875) were examined to determine the presence of historical features within the Study Area during the nineteenth century (Figure 2 through Figure 7)

The 1875 *Illustrated Historical Atlas of the County of Wentworth* continues to show the Study Area in a rural context, with large properties, residences, and orchards adjacent to what is now Main Street West. Various members of the Binkley family are the dominant landowners in the Study Area. The ridge of the escarpment forms a prominent natural boundary on the landscape, and one that is reinforced by the southern boundary of the subject Study Area. A few



unnamed creeks cross through the Study Area, as do some unnamed roadways, though they appear to be well-travelled routes given the number of residences that line the road, especially to the east of the Study Area.

In addition to nineteenth-century mapping, historical topographic mapping and aerial photographs from the twentieth century were examined. This report presents maps and aerial photographs from 1909, 1938, 1954, 1972/1973, and 1994. These do not represent the full range of maps consulted for the purpose of this study but were judged to cover the full range of land uses that occurred in the area during this period.

The 1909 topographic map depicts the Study Area in a largely rural and forested context between Dundas to the northwest and West Hamilton Station/Osealey to the east. Among the major features include the Brantford and Hamilton Stone Road (now Main Street West) which has several houses, including many made of brick, found along the road. The Horning Mountain Road is also visible, running north-south from just below the major intersection of the Brantford and Hamilton Stone Road and what is now Osler Road. An unnamed creek (now called Coldwater Creek) runs along a generally east-west axis through the Study Area before splitting into multiple smaller creeks to the west. The Toronto, Hamilton and Buffalo Railway (T.H.&B.) has been built, and it too runs along an east-west axis through the Study Area. A rifle range, a school, and a few small cemeteries are depicted. The major natural feature continues to be the escarpment along the southern boundary of the Study Area.

The 1938 topographic map illustrates the Study Area in much the same way as in 1909. It continues to be a primarily rural wooded area, albeit with major roadways running through, including Highway 8 between Dundas and West Hamilton, Highway 2 between Ancaster and West Hamilton, and Highway 2-8, that runs between West Hamilton and the city of Hamilton to the east. The communities of West Hamilton and Westdale are named for the first time in this mapping package and are located east of the Study Area, as is McMaster University. Power lines of the Hydro-Electric Power Commission of Ontario (H.E.P.C.) run along a north-south axis at the eastern edge of the Study Area.



The T.H.&B. continues to be the most prominent built piece of infrastructure while the unnamed creek (Coldwater Creek) and the escarpment continue to be the most prominent natural features.

The 1972/1973 National Topographic System map shows the east half of the Study Area in an entirely urban environment, with residential neighbourhoods, schools, a shopping centre, motel, pumping station, and other unnamed buildings. The west half of the Study Area continues to be a mix of agricultural and forested lands, albeit with many residences lining Highway 2, the major roadway through the Study Area.

The 1994 National Topographic System map shows the Study Area in a largely urban and residential setting, albeit with significant greenspace along the shoreline of what is now labelled as Coldwater Creek and forested and agricultural lands in the western-most portions of the Study Area. Among the key structures are churches, schools, and businesses along Main Street West. The power lines continue to remain as a key feature on the landscape.

1.2.4 Aerial and Orthoimagery Review

The 1954 aerial photograph (Hunting Survey Corporation Limited, 1954) shows the Study Area to be a mix of urban and rural settings (Figure 8). The rural area includes both farmland (especially in the southwestern portion of the Study Area) and forested areas (especially adjacent to the waterways to the west of Highway 2 and along the escarpment). The urban area includes the southeastern part of Dundas in the northwestern portion of the Study Area and the expansion of West Hamilton onto the east side of Highway 2. The primary roadways and railway remain as they were on earlier mapping, although the roadways are built up more significantly.

Additional review of historical aerial imagery (*Regional Municipality of Hamilton-Wentworth and Surrounding Area, 1954: [Flightline 4311-Photo 154], 1954; Wentworth County, Excluding Most of the City of Hamilton, 1960-05-21: [Flightline 60134-Photo 124, 1960; Spartan Air Services, Ltd, 1967]*) shows some of the Short-Listed Alternative Sites in detail (see Section 7.2).



The area around Site 1 is shown to have been located on the former alignment of Osler Road until it was realigned in the 1960s, involving the channelization of Ancaster Creek (Image 14, Image 15). The area around Sites 6, 8 and 9 is shown to have had commercial development along Main Street West by 1954, and Whitney Avenue is shown under construction, including the property at 1845 Main Street West. The area around Sites 12 and 19 is shown to have been undeveloped before 1954 (Image 17).

A review of available Google satellite imagery shows the Study Area has remained relatively unchanged since 2004.

1.3 Archaeological Context

This section provides background research pertaining to previous archaeological fieldwork conducted within and in the vicinity of the Study Area, its environmental characteristics (including drainage, soils or surficial geology and topography, etc.), and current land use and field conditions. Three sources of information were consulted to provide information about previous archaeological research: the site record forms for registered sites available online from the MCM through “Ontario’s Past Portal”; published and unpublished documentary sources; and the files of ASI.

1.3.1 Geography

In addition to the known archaeological sites, the state of the natural environment is a helpful indicator of archaeological potential. Accordingly, a description of the physiography and soils are briefly discussed for the Study Area.

The S & G 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.

Water has been identified as the major determinant of site selection and the presence of potable water is the single most important resource necessary for any extended human occupation or settlement. Since water sources have remained relatively stable in Ontario since 5,000 B.P. (Karrow & Warner, 1990, fig. 2.16), proximity to water can be regarded as a useful index for the evaluation of archaeological site potential. Indeed, distance from water has been one of the most commonly used variables for predictive modeling of site location.

Other geographic characteristics that can indicate archaeological potential include elevated topography (eskers, drumlins, large knolls, and 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 (i.e., in the form of migratory routes or spawning areas) or medicinal plants are also considered characteristics that indicate archaeological potential (S & G, Section 1.3.1).

The Study Area is situated on sand plains, kame moraines, escarpments, and within the Iroquois Plain physiographic region of southern Ontario, which is a lowland region bordering Lake Ontario. The Short-Listed Alternative Sites are within sand plains.

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 300 km (Chapman & Putnam, 1984). The old shorelines of Lake Iroquois include cliffs, bars,



beaches, and boulder pavements. The old sandbars in this region 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 & Putnam, 1984).

Surficial geology within the Study Area (Figure 9) includes clay to silt-textured till deposits; fine-textured and coarse-textured glaciolacustrine deposits; Paleozoic bedrock; and modern alluvial deposits (Ontario Geological Survey, 2010). Shore bluff and beach ridge features are shown to cross through the Study Area, passing by Short-Listed Alternative Sites 8 and 9.

Soil drainage within the Study Area could not be mapped due to the nature of urban development over time (Presant et al., 1965).

The Study Area is adjacent to Coldwater Creek, also known as Ancaster Creek. The Ancaster Creek subwatershed is 13.7 square kilometres and includes six catchment basins within Ancaster, Dundas and Hamilton, which eventually drain north over the Niagara Escarpment into its outlet in the main branch of Spencer Creek and Cootes Paradise/Dundas Marsh (Hamilton Conservation Authority, 2008).

1.3.2 Previously Registered Archaeological Sites

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database maintained by the MCM. 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 kilometres east to west, and approximately 18.5 kilometres 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 Study Area under review is located in Borden block AhGx.

According to the Ontario Archaeological Sites Database, 22 previously registered archaeological sites are located within one kilometre of the Study Area, none of



which are located within 50 metres of the Short-Listed Alternative Sites (MCM 2022). A summary of the sites is provided below in Table 1.

Table 1: Registered Sites within One Kilometre of the Study Area

Borden number	Site Name	Temporal/ Cultural Affiliation	Site type	Researcher
AhGx-29	Kamermans	Archaic	Camp	Fox 1983
AhGx-33	James- Ferrie- Simcoe Streets	Euro- Canadian	Homestead	Michael Archaeological Services 1985
AhGx-34	Swindle Redware Pottery	Euro- Canadian	Kiln	Michael Archaeological Services 1985
AhGx-278	Ofield Road 1	Pre- Contact; Woodland, Late	Camp	Mayer, Poulton & Associates Inc., 1991
AhGx-279	Ofield Road 2	Pre-Contact Indigenous	Findspot	Mayer, Poulton & Associates Inc., 1991
AhGx-280	Coldwater Creek	Woodland, Late; Woodland, Middle	Camp	Mayer, Poulton & Associates Inc., 1991

Borden number	Site Name	Temporal/ Cultural Affiliation	Site type	Researcher
AhGx-286	Whitney Avenue	Pre-Contact Indigenous	Camp	Mayer, Poulton & Associates Inc., 1991
AhGx-287		Woodland, Late	Findspot	Unknown 1991
AhGx-397	Chedmac	Archaic, Late	Scatter	ASI 1997
AhGx-398		Archaic, Late	Findspot	ASI 1997
AhGx-407	Scenic Park South 6	Pre-Contact Indigenous	Scatter	New Directions Archaeology Ltd. 1999
AhGx-408	Scenic Park South 9	Pre-Contact Indigenous	Scatter	New Directions Archaeology Ltd. 1999
AhGx-567	Cooley Cemetery	Euro-Canadian	Cemetery	AMICK Consultants Limited 2007
AhGx-637	Chedoke 1	Woodland, Early	Scatter	New Directions Archaeology Ltd. 2006

Borden number	Site Name	Temporal/ Cultural Affiliation	Site type	Researcher
AhGx-638	Chedoke 2	Archaic, Late	Camp	New Directions Archaeology Ltd. 2006
AhGx-644	Chedoke 2	Archaic, Late	Camp	New Directions Archaeology Ltd. 2007
AhGx-685	Grande Site	Pre-Contact Indigenous	Scatter	Fisher Archaeological Consulting 2011
AhGx-771	H1	Euro- Canadian	Mill	AMICK Consultants Limited 2008
AhGx-772	H2	Euro- Canadian	House	Detritus Consulting 2018
AhGx-773	Main Street West Site	Euro- Canadian	Unknown	AMICK Consulting 2018

Borden number	Site Name	Temporal/ Cultural Affiliation	Site type	Researcher
AhGx-780	Morden-Hare Site	Euro-Canadian; Indigenous	Farmstead; homestead; residential; scatter	CRM Lab Archaeological Services 2018 Archaeological Research Associates Ltd. 2018
AhGx-795		Euro-Canadian	Residential	Detritus Consulting 2020

1.3.3 Previous Archaeological Assessments

ASI reviewed previous archaeological assessments that detail fieldwork within 50 metres of the Short-Listed Alternative Sites. Only those specific archaeological assessments of direct relevance to the present undertaking other will be included here.

(Archaeological Services Inc., 2009) Stage 1 AA Rapid Transit Initiative, City of Hamilton, Ontario [P264-077-2009]

Stage 1 AA was conducted along 16 kilometres along the Main Street/King Street corridor, including parts of Main Street West and Osler Drive within the current Study Area. The field review concluded that several areas adjacent to the disturbed road right-of-ways indicated archaeological potential, including Site 1 of the Short-Listed Alternative Sites. This 2009 report was conducted prior to the release of the 2011 Standards and Guidelines and these areas have been re-evaluated under the current Stage 1 AA to ensure compliance.



2.0 Property Inspection

2.1 Field Methods

A Stage 1 AA Property Inspection must adhere to the S & G, Section 1.2, Standards 1-6, which are discussed below. The entire property and its periphery must be inspected. The inspection may be either systematic or random. Coverage must be sufficient to identify the presence or absence of any features of archaeological potential. The inspection must be conducted when weather conditions permit good visibility of land features. Natural landforms and watercourses are to be confirmed if previously identified. Additional features such as elevated topography, relic water channels, glacial shorelines, well-drained soils within heavy soils and slightly elevated areas within low and wet areas should be identified and documented, if present. Features affecting assessment strategies should be identified and documented such as woodlots, bogs or other permanently wet areas, areas of steeper grade than indicated on topographic mapping, areas of overgrown vegetation, areas of heavy soil, and recent land disturbance such as grading, fill deposits and vegetation clearing. The inspection should also identify and document structures and built features that will affect assessment strategies, such as heritage structures or landscapes, cairns, monuments or plaques, and cemeteries.

The Stage 1 AA property inspection was conducted under the field direction of Eliza Brandy (R1109), with the assistance of Danielle Bella, on November 22, 2022, in order to gain first-hand knowledge of the geography, topography, and current conditions and to evaluate and map archaeological potential of the Short-Listed Alternative Sites 1, 4, 6, 8, 9, 12 and 19. It was a systematic visual inspection from publicly accessible lands/public right-of-ways only and did not include excavation or collection of archaeological resources. Fieldwork was conducted when weather conditions were deemed clear with good visibility (Partly cloudy and 6° Celsius), per S & G Section 1.2., Standard 2. Field photography is presented in Section 7.1 (Image 1 to Image 13), and field observations are overlaid onto the existing conditions of the Study Area in Section 8.0 (Figure 10 to Figure 14).



2.2 Current Land Use and Field Conditions

The Short-Listed Alternatives include the area adjacent to the existing Osler (HD011) WPS and six alternate sites:

- Site 1 – adjacent to the existing Osler (HD011) WPS: A gravel access road and a grassy area with young trees and sloping from the road towards the Osler (HD011) WPS on the north side of Osler Drive east of Grant Boulevard. A series of shafts covered with grates run along the existing watermain alignment.
- Site 4 – 88 Ofield Road: a single storey early-mid twentieth century brick residence surrounded by a level grassy lawn. A wooden fence follows the western property line at the top of the road cut for Main Street West.
- Site 6 – 1845 Main Street West: a commercial retail context at the southeast corner of Main Street West and Whitney Avenue. The proposed site is currently a parking lot.
- Site 8 – 1870 Main Street West: a commercial retail context set back from Main Street West at the top of a ravine. The site includes a parking lot and part of a structure that operates as the Haven Inn, as well as a proposed easement connecting the site to Main Street West which is currently along a small garden.
- Site 9 – 1872 Main Street West: a commercial retail context associated with C.K. Westdale Car Service set back from Main Street at the top of a ravine. The site includes a gravel parking lot which does not appear to have been graded. A proposed connecting the site to Main Street West runs along a paved parking lot which also does not appear to have been graded.
- Site 12 – 125 Rifle Range Road: a grassy level area with no structures within a recreational park setting.

- Site 19 – 161 Rifle Range Rd: a single storey church and paved driveway and parking lot surrounded by a chain-link fence adjacent to a recreational park with a baseball diamonds associated with Alexander Park.

3.0 Analysis of Archaeological Potential

The S & G, Section 1.3.1, lists criteria that are indicative of archaeological potential. The Study Area meets the following criteria indicative of archaeological potential:

- Previously identified archaeological sites (See Table 1);
- Water sources: primary, secondary, or past water source (Ancaster Creek); and
- Early historic transportation routes (Main Street West, Osler Road)

According to the S & G, Section 1.4 Standard 1e, no areas within a property containing locations listed or designated by a municipality can be recommended for exemption from further assessment unless the area can be documented as disturbed. The City of Hamilton's Cultural Heritage Resources Interactive Map (City of Hamilton, 2022) was consulted and no property within the Short-Listed Alternative Sites is Listed or Designated under the *Ontario Heritage Act*.

The property inspection determined that parts of the Site 4 (Figure 12) and Site 9 (Figure 13), and the entirety of Site 12 (Figure 14), exhibit archaeological potential. These areas will require Stage 2 survey prior to any construction activities or other proposed impacts. According to the S & G Section 2.1.2, test pit survey is required on terrain where ploughing is not viable, such as wooded areas, properties where existing landscaping or infrastructure would be damaged, overgrown farmland with heavy brush or rocky pasture, and narrow linear corridors up to 10 metres wide (Image 4, Image 10, Image 11, Image 12; Figure 12, Figure 13 and Figure 14: areas highlighted in green).

Sites 1, 6, 8, 19 and parts of Sites 4 and 9 have been subjected to deep soil disturbance events due to past development of these properties as well as the



existing Osler (HD011) WPS infrastructure. According to the S & G Section 1.3.2 these areas exhibit no archaeological potential (Image 1 to Image 3, Image 5 to Image 9, Image 13; Figure 11 through Figure 14: areas highlighted in yellow) and do not require further survey.

3.1 Conclusions

The Stage 1 AA Background Research determined 22 previously registered archaeological sites are located within one kilometre of the Study Area, none of which are within 50 metres of the Short-Listed Alternative Sites. The property inspection determined that parts of the Short-Listed Alternative Sites 4 and 9, and the entirety of Site 12 exhibit archaeological potential and will require Stage 2 survey. The remainder of the Short-Listed Alternative Sites exhibit no archaeological potential.

4.0 Recommendations

The following recommendations are made:

- 1) Short-Listed Alternative Sites 4, 9, and 12 exhibit archaeological potential (Figure 12, Figure 13 and Figure 14: areas highlighted in green). These lands require Stage 2 test pit survey at five metre intervals , prior to any proposed construction activities on these lands;
- 2) The remainder of the Short-Listed Alternative Sites exhibit no archaeological potential on account of deep and extensive land disturbance. These lands do not require further archaeological assessment; and,
- 3) Should the proposed work extend beyond the current Study Area, further archaeological assessment should be conducted to determine the archaeological potential of the surrounding lands.

NOTWITHSTANDING the results and recommendations presented in this study, ASI notes that no archaeological assessment, no matter how thorough or



carefully completed, can necessarily predict, account for, or identify every form of isolated or deeply buried archaeological deposit. In the event that archaeological remains are found during subsequent construction activities, the consultant archaeologist, approval authority, and the Archaeology Programs Unit of the Ministry of Citizenship and Multiculturalism should be immediately notified.

The above recommendations are subject to Ministry approval, and it is an offence to alter any archaeological site without Ministry of Citizenship and Multiculturalism concurrence. No grading or other activities that may result in the destruction or disturbance of any archaeological sites are permitted until notice of MCM approval has been received.

5.0 Legislation Compliance Advice

ASI advises compliance with the following legislation:

- This report is submitted to the Ministry of Citizenship and Multiculturalism as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, RSO 2005, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological field work and report recommendations ensure the conservation, preservation, and protection of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Citizenship and Multiculturalism, a letter will be issued by the Ministry stating that there are no further concerns with regards to alterations to archaeological sites by the proposed development.
- It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological field work on the site, submitted a report to the Minister stating that the site has no further



cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

- 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 *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33, requires that any person discovering or having knowledge of a burial site shall immediately notify the police or coroner. It is recommended that the Registrar of Cemeteries at the Ministry of Consumer Services is also immediately notified.
- Archaeological sites recommended for further archaeological field work or protection remain subject to Section 48(1) of the *Ontario Heritage Act* and may not be altered, nor may artifacts be removed from them, except by a person holding an archaeological license.

6.0 Bibliography and Sources

Aboriginal Affairs and Northern Development Canada. (2016). *Between the Lakes Purchase and Collins Purchase, No. 3*. Treaty Texts – Upper Canada Land Surrenders. <https://www.aadnc-aandc.gc.ca/eng/1370372152585/1370372222012#ucls5>

Archaeological Services Inc. (2006). *Historical Overview and Assessment of Archaeological Potential Don River Watershed, City of Toronto*. Report on file with the Ontario Ministry of Tourism, Culture and Sport.



Archaeological Services Inc. (2009). *Stage 1 Archaeological Assessment Rapid Transit Initiative, City of Hamilton, Ontario [P264-077-2009]*. Report on file with the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries.

Armstrong, F. H. (1985). *Handbook of Upper Canadian Chronology*. Dundurn Press.

Birch, J., Manning, S. W., Sanft, S., & Conger, M. A. (2021). Refined Radiocarbon Chronologies for Northern Iroquoian Site Sequences: Implications for Coalescence, Conflict, and the Reception of European Goods. *American Antiquity*, 86(1), 61–89.

Birch, J., & Williamson, R. F. (2013). *The Mantle Site: An Archaeological History of an Ancestral Wendat Community*. Rowman & Littlefield Publishers, Inc.

Boulton, D. (1805). *Sketch of His Majesty's Province of Upper Canada* (Reprinted in Toronto by the Baxter Publishing Company, 1961). C. Rickaby.

Brown, J. (1995). On Mortuary Analysis – with Special Reference to the Saxe-Binford Research Program. In L. A. Beck (Ed.), *Regional Approaches to Mortuary Analysis* (pp. 3–23). Plenum Press.

Chapman, L. J., & Putnam, F. (1984). *The Physiography of Southern Ontario* (Vol. 2). Ontario Ministry of Natural Resources.

City of Hamilton. (2022). *City of Hamilton: Cultural Heritage Resources Interactive Map*.

<https://spatialolutions.maps.arcgis.com/apps/webappviewer/index.html?id=ef361312714b4caa863016bba9e6e68f>

Dodd, C. F., Poulton, D. R., Lennox, P. A., Smith, D. G., & Warrick, G. A. (1990). The Middle Ontario Iroquoian Stage. In C. J. Ellis & N. Ferris (Eds.), *The Archaeology of Southern Ontario to A.D. 1650* (pp. 321–360). Ontario Archaeological Society Inc.



Edwards, T. W. D., & Fritz, P. (1988). Stable-Isotope Paleoclimate Records from Southern Ontario, Canada: Comparison of Results from Marl and Wood. *Canadian Journal of Earth Sciences*, 25, 1397–1406.

Ellis, C. J., & Deller, D. B. (1990). Paleo-Indians. In C. J. Ellis & N. Ferris (Eds.), *The Archaeology of Southern Ontario to A.D. 1650* (pp. 37–64). Ontario Archaeological Society Inc.

Ellis, C. J., Kenyon, I. T., & Spence, M. W. (1990). The Archaic. In C. J. Ellis & N. Ferris (Eds.), *The Archaeology of Southern Ontario to A.D. 1650* (pp. 65–124). Ontario Archaeological Society Inc.

Ellis, C. J., Timmins, P. A., & Martelle, H. (2009). At the Crossroads and Periphery: The Archaic Archaeological Record of Southern Ontario. In T. D. Emerson, D. L. McElrath, & A. C. Fortier (Eds.), *Archaic Societies: Diversity and Complexity across the Midcontinent*. (pp. 787–837). State University of New York Press.

Ferris, N. (2013). Place, Space, and Dwelling in the Late Woodland. In M. K. Munson & S. M. Jamieson (Eds.), *Before Ontario: The Archaeology of a Province* (pp. 99–111). McGill-Queen's University Press.
<http://www.jstor.org/stable/j.ctt32b7n5.15>

Gentilcore, R. L. (1987). The Beginnings: Hamilton in the Nineteenth Century. In M. J. Dear, J. J. Drake, & L. G. Reeds (Eds.), *Steel City. Hamilton and Region* (pp. 99–118). University of Toronto Press.

Hamilton Conservation Authority. (2008). *Ancaster Creek Subwatershed Stewardship Action Plan*.

Hunting Survey Corporation Limited. (1954). *Digital Aerial Photographs, Southern Ontario 1954*.
http://maps.library.utoronto.ca/data/on/AP_1954/index.html



Johnston, C. E. (1964). *The Valley of the Six Nations: A Collection of Documents on the Indian Lands of the Grand River*. The Champlain Society.

Karrow, P. F., & Warner, B. G. (1990). The Geological and Biological Environment for Human Occupation in Southern Ontario. In *The Archaeology of Ontario to A.D. 1650* (pp. 5–36). London Chapter, Ontario Archaeological Society.

Lytwyn, V. P. (2005). *Historical research report: Aboriginal Settlement and Use of the North Pickering Development Planning Area and Adjacent Lands, 1690-1923*.

Ministry of Citizenship and Multiculturalism. (2022). *Ontario's Past Portal*. PastPortal. <https://www.pastport.mtc.gov.on.ca>

Environmental Assessment Act, R.S.O. c. E.18, (1990).

Ministry of Tourism and Culture. (2011). *Standards and Guidelines for Consultant Archaeologists*. Cultural Programs Branch, Ontario Ministry of Tourism and Culture.

Ontario Heritage Act, R.S.O. c. O.18, (1990).

Municipal Engineers Association. (2023). *Municipal Class Environmental Assessment*.

Ontario Geological Survey. (2010). *Surficial geology of Southern Ontario. Miscellaneous Release—Data 128 – Revised*. [Map].
http://www.geologyontario.mndm.gov.on.ca/mndmaccess/mndm_dir.asp?type=pub&id=MRD128-REV

Page & Smith. (1875). *Illustrated historical atlas of the county of Wentworth, Ont* [Map].

Presant, E. W., Wicklund, R. E., & Matthews, B. C. (1965). *The Soils of Wentworth County* (No. 32; Ontario Soil Survey). Ontario Department of Agriculture, Toronto, and Canada Department of Agriculture, Ottawa.
http://sis.agr.gc.ca/cansis/publications/surveys/on/on32/on32_report.pdf



Rayburn, A. (1997). *Place Names of Ontario*. University of Toronto Press.

Regional Municipality of Hamilton-Wentworth and surrounding area, 1954: [Flightline 4311-Photo 154]. (1954). [Aerial Photograph]. Published Unknown; McMaster University Library Digital Archive.
<https://digitalarchive.mcmaster.ca/islandora/object/macrepo%3A73130>

Rogers, E. S. (1962). *The Round Lake Ojibwa* (Occasional Paper 5). Royal Ontario Museum.

Smith, W. H. (1846). *Smith's Canadian Gazetteer*.

Spartan Air Services, Ltd. (1967). *City of Hamilton: [Photo 12]* [Aerial Photograph]. City of Hamilton; McMaster University Library Digital Archive.
<https://digitalarchive.mcmaster.ca/islandora/object/macrepo%3A81902>

Spence, M. W., Pihl, R. H., & Murphy, C. (1990). Cultural Complexes of the Early and Middle Woodland Periods. In C. J. Ellis & N. Ferris (Eds.), *The Archaeology of Southern Ontario to A.D. 1650*. Ontario Archaeological Society Inc.

Surtees, R. (1859). *Map of the County of Wentworth, Canada West* [Map]. Hardy Gregory Lithographer & Engraver.

Wentworth County, excluding most of the City of Hamilton, 1960-05-21: [Flightline 60134-Photo 124]. (1960). [Aerial Photograph]. Canadian Aero Service Ltd; McMaster University Library Digital Archive.
<https://digitalarchive.mcmaster.ca/islandora/object/macrepo%3A77681>

Williamson, R. F. (1990). The Early Iroquoian Period of Southern Ontario. In C. J. Ellis & N. Ferris (Eds.), *The Archaeology of Southern Ontario to A.D. 1650* (pp. 291–320). Ontario Archaeological Society Inc.



7.0 Images

7.1 Field Photography



Image 1: Site 1 – area is disturbed, no Stage 2 required



Image 2: Site 1 – area is disturbed, no Stage 2 required



Image 3: Site 4 – land up to the fence is disturbed, no Stage 2 required



Image 4: Site 4 – private lawn requires Stage 2 test pit survey



Image 5: Site 6 – area is disturbed, no Stage 2 required



Image 6: Site 6 – area is disturbed, no Stage 2 required



Image 7: Site 8 – area is disturbed, no Stage 2 required



Image 8: Site 8 – area is disturbed, no Stage 2 required



Image 9: Site 9 – area is disturbed, no Stage 2 required



Image 10: Site 9 – parking lot requires Stage 2 test pit survey



Image 11: Site 9 – parking lot requires Stage 2 test pit survey



Image 12: Site 12 – area requires Stage 2 test pit survey



Image 13: Site 19 – area is disturbed, no Stage 2 required

7.2 Historical Imagery



Image 14: Site 1 area in 1954 showing historical Osler Road alignment



Image 15: Site 1 area in 1967 after construction of the present Osler Road and channelization of the creek below (Photo 12)



Image 16: Sites 6, 8, and 9 area in 1954 showing the development of commercial properties along Main Street West and the construction of Whitney Avenue. (Flightline 4311-Photo 155)



Image 17: Sites 12 and 19 area showing the lands being cleared prior to construction of the extant building at Site 19.

8.0 Maps

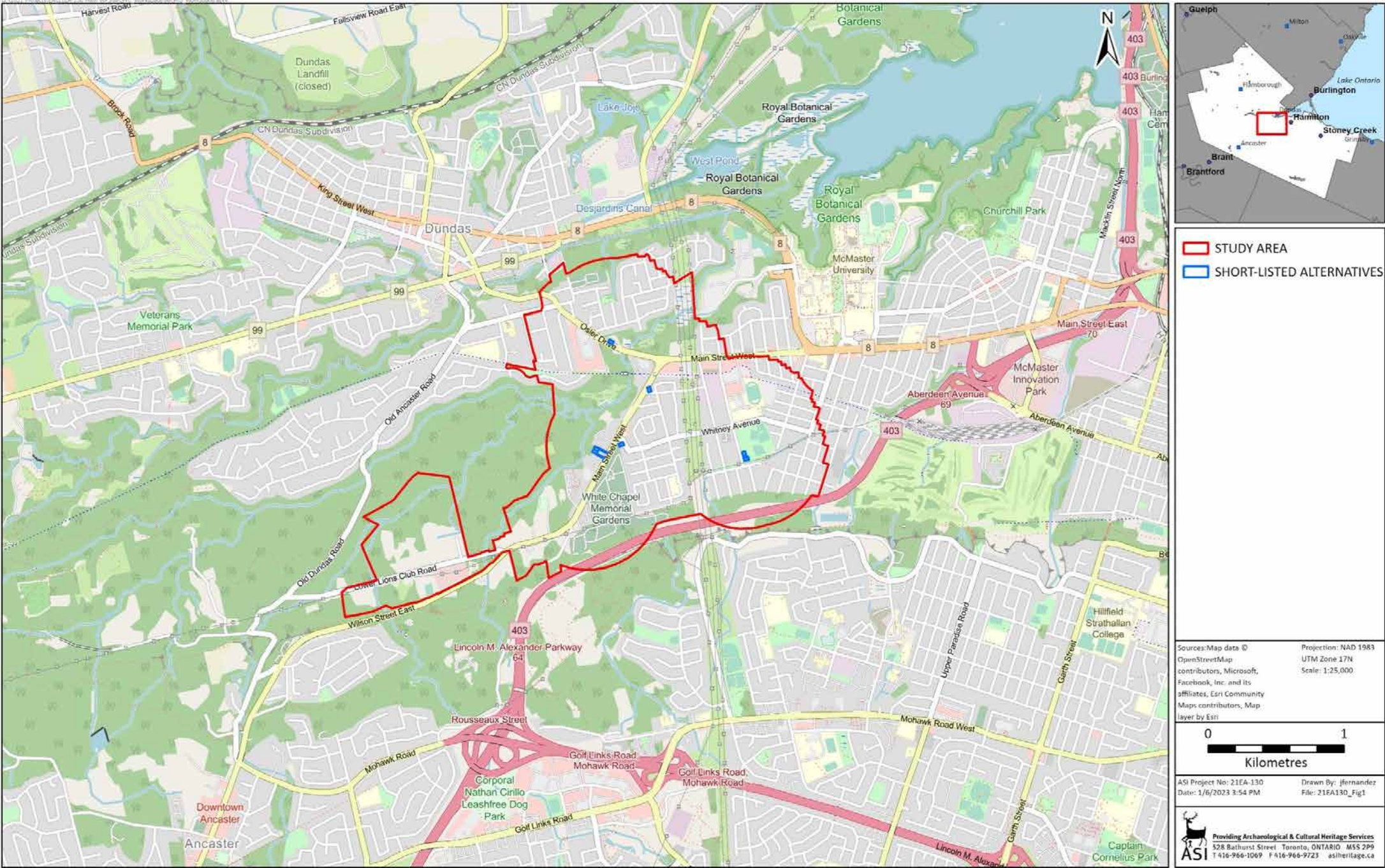


Figure 1: Location of the Study Area and Short-Listed Alternatives









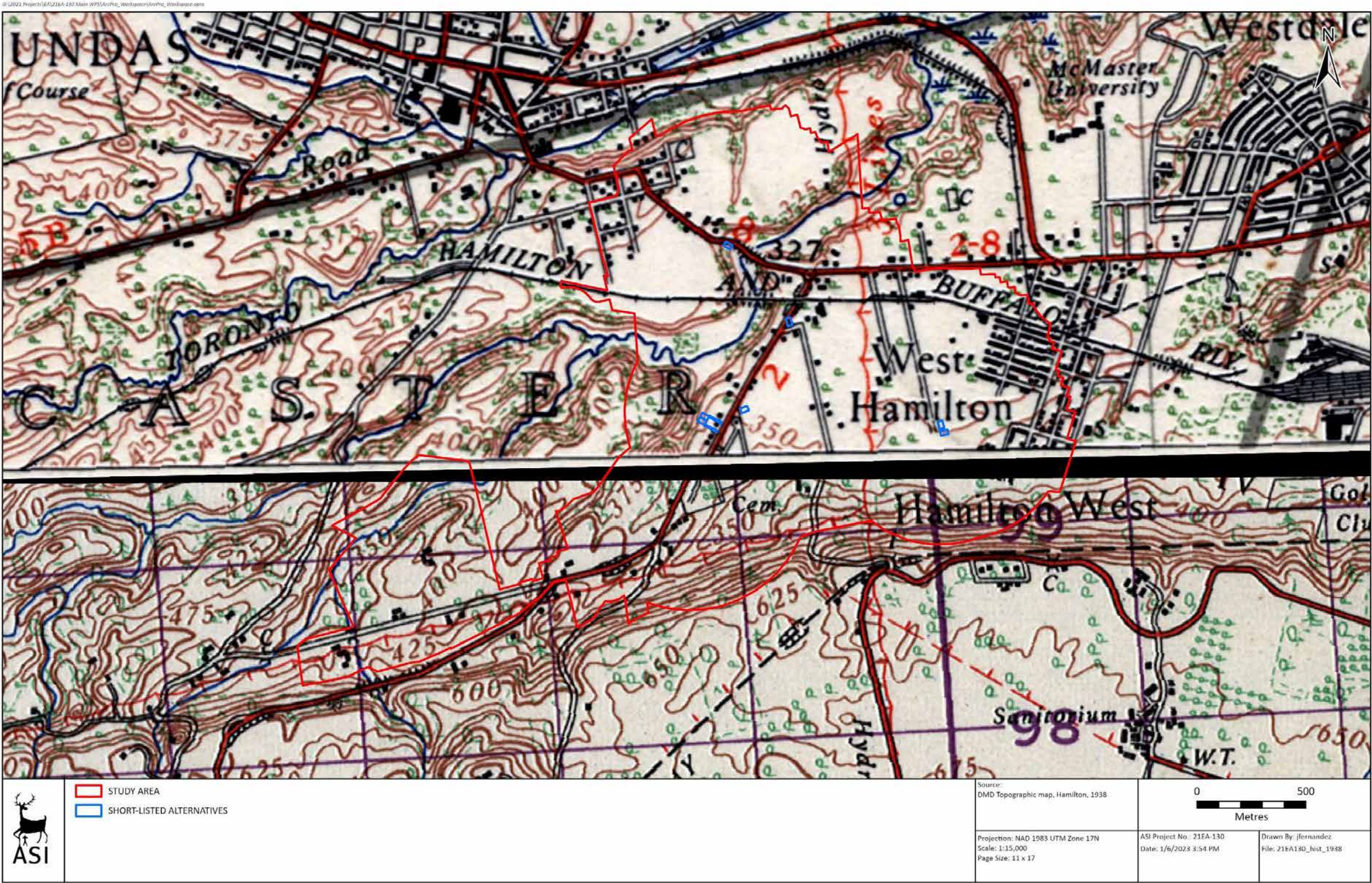


Figure 5: Study Area (Approximate Location) Overlaid on the 1938 Topographic Mapping



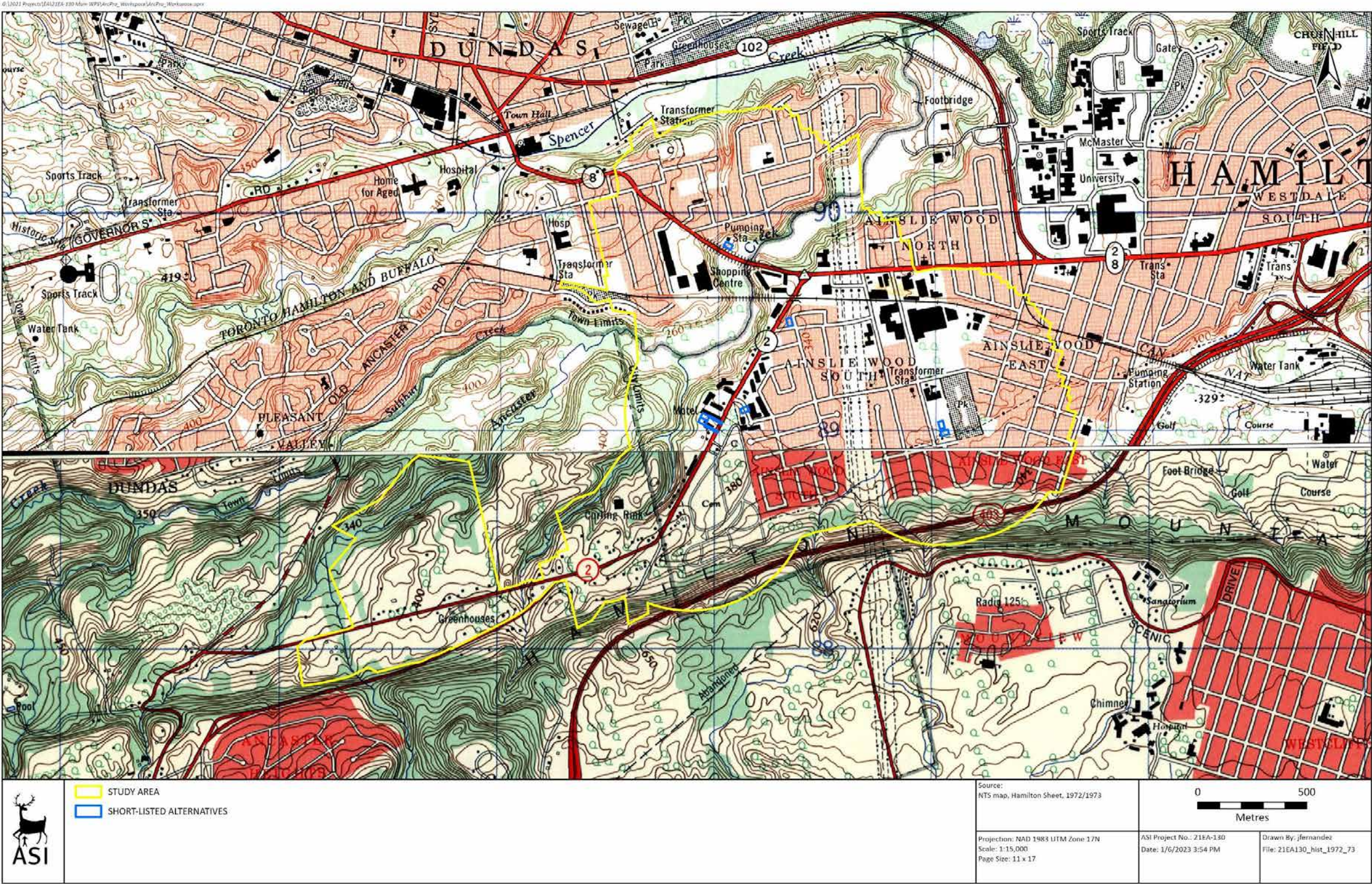


Figure 6: Study Area (Approximate Location) Overlaid on the 1972/1973 Topographic Mapping



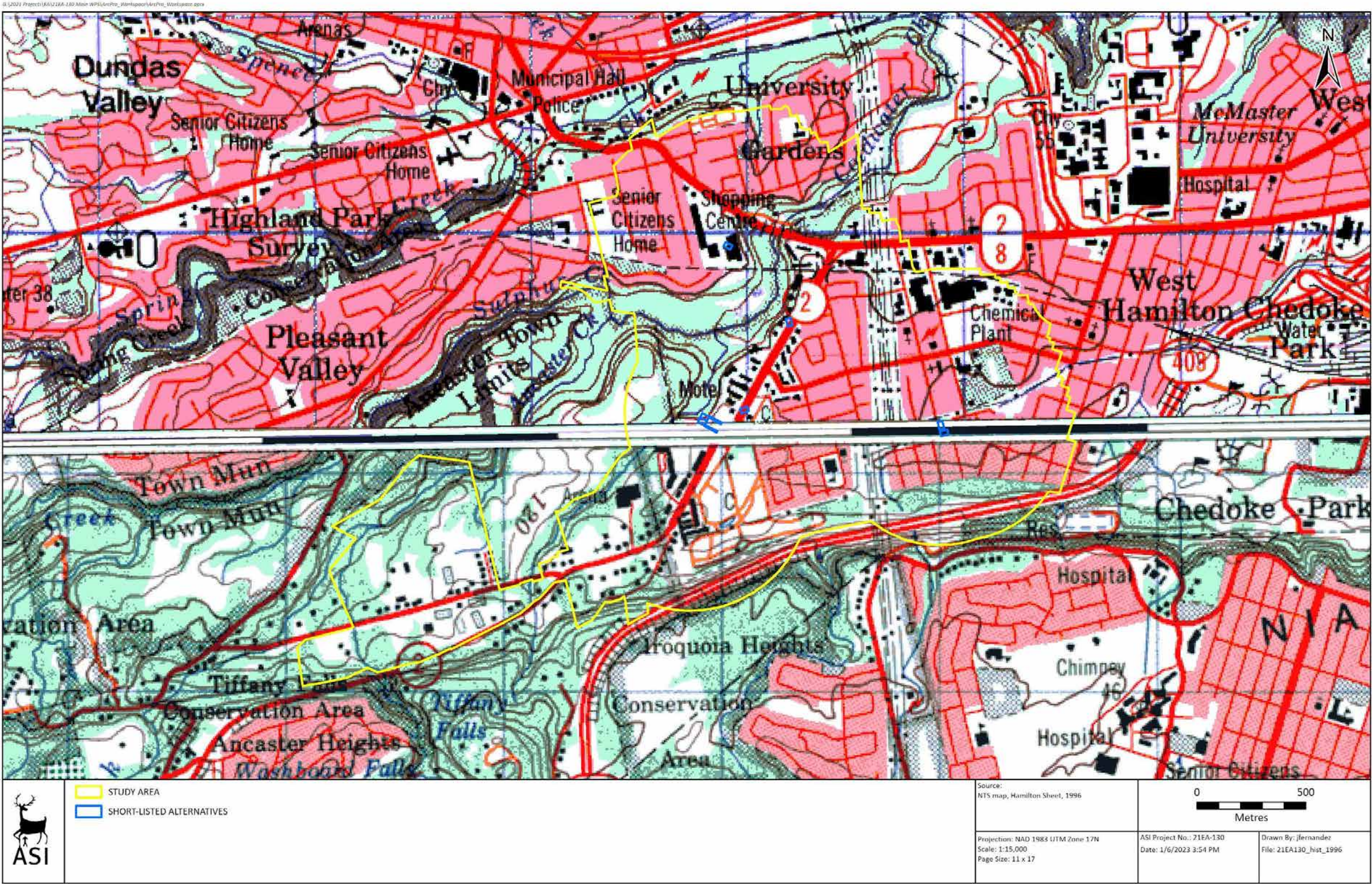


Figure 7: Study Area (Approximate Location) Overlaid on the 1994 Topographic Mapping



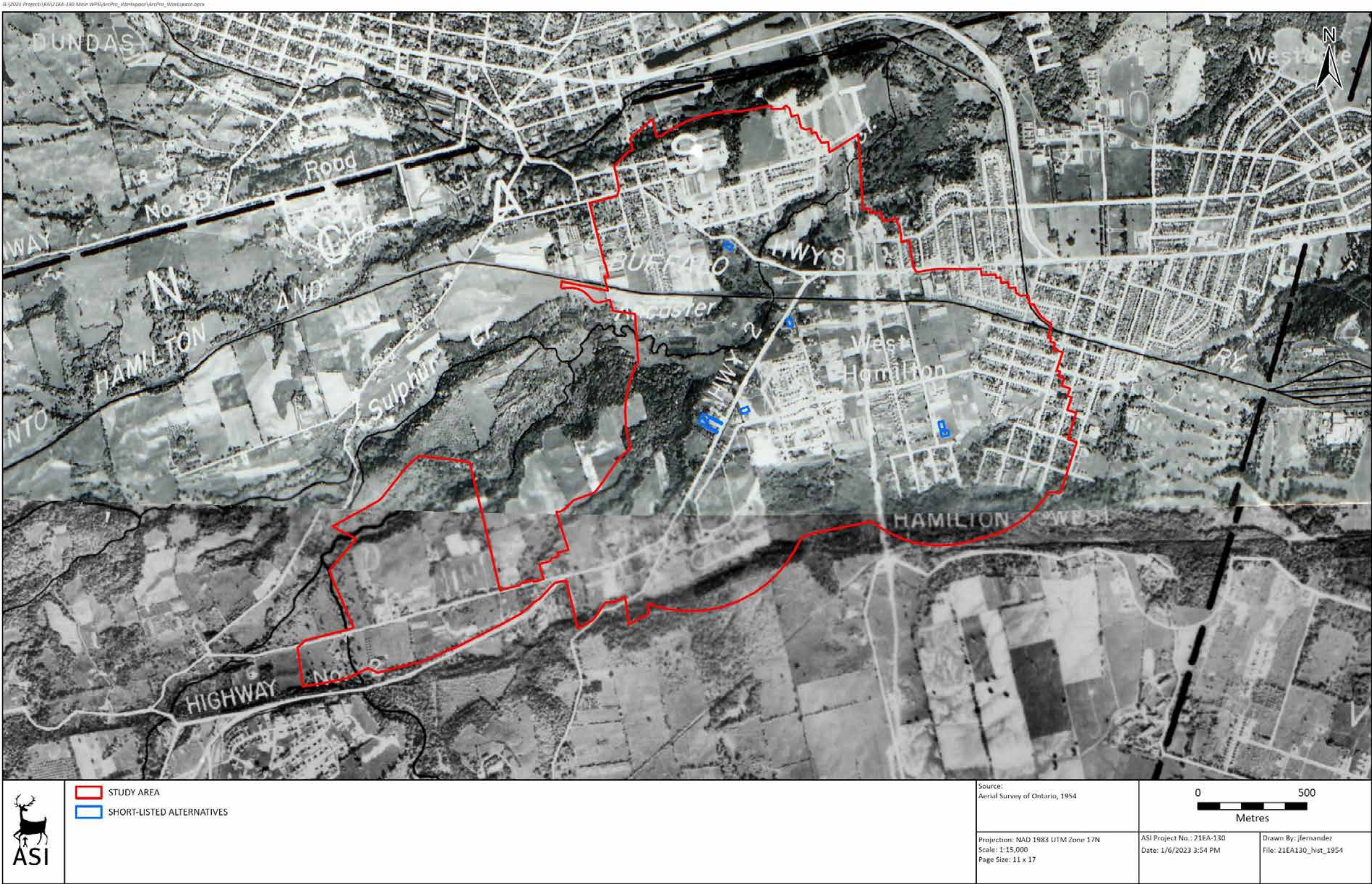


Figure 8: Study Area (Approximate Location) Overlaid on 1954 Aerial Photography



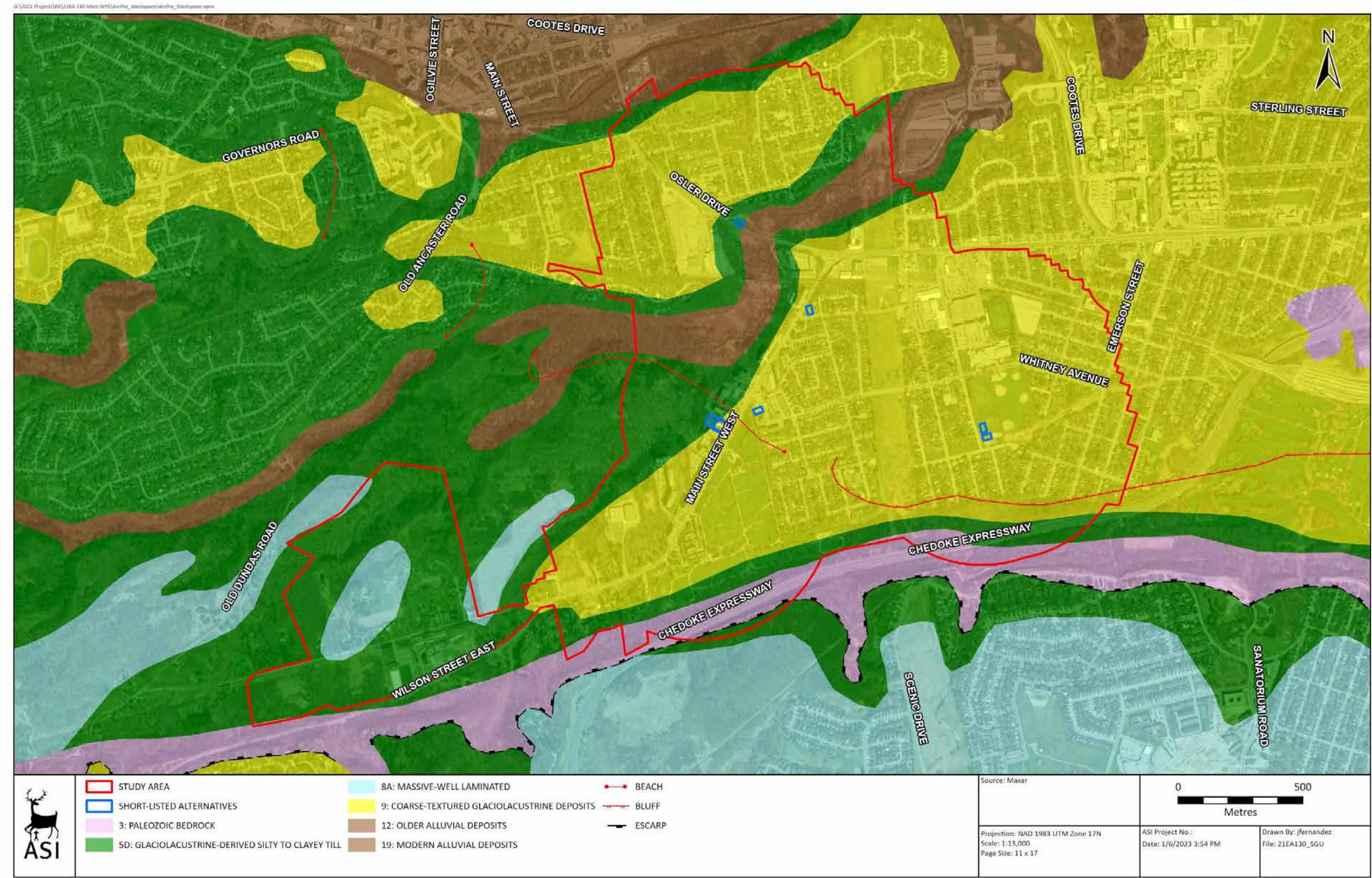


Figure 9: Study Area – Surficial Geology



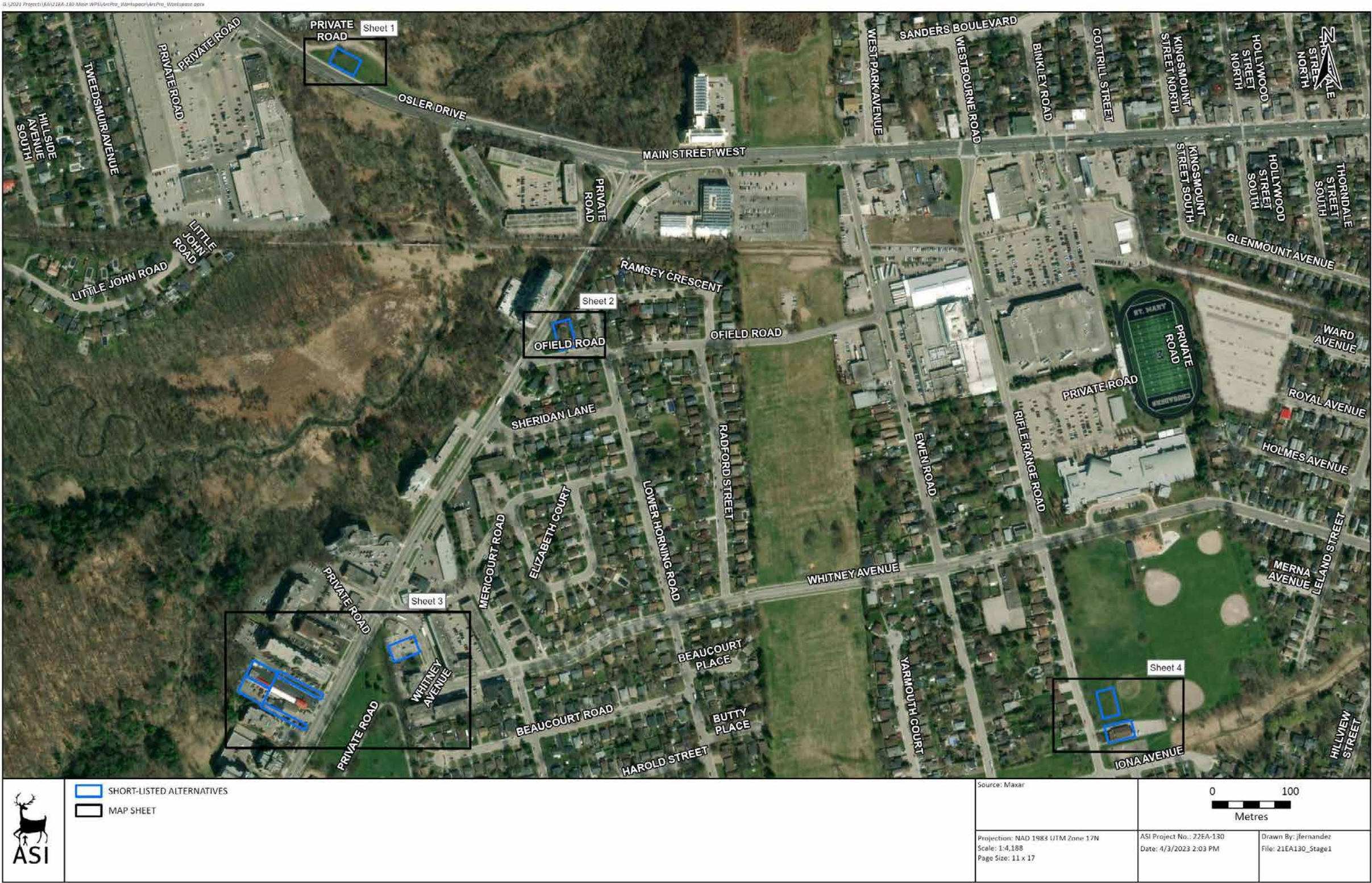


Figure 10: Stage 1 Results – Key Map





Figure 11: Stage 1 Results – Site 1 (Sheet 1)





Figure 12: Stage 1 Results – Site 4 (Sheet 2)



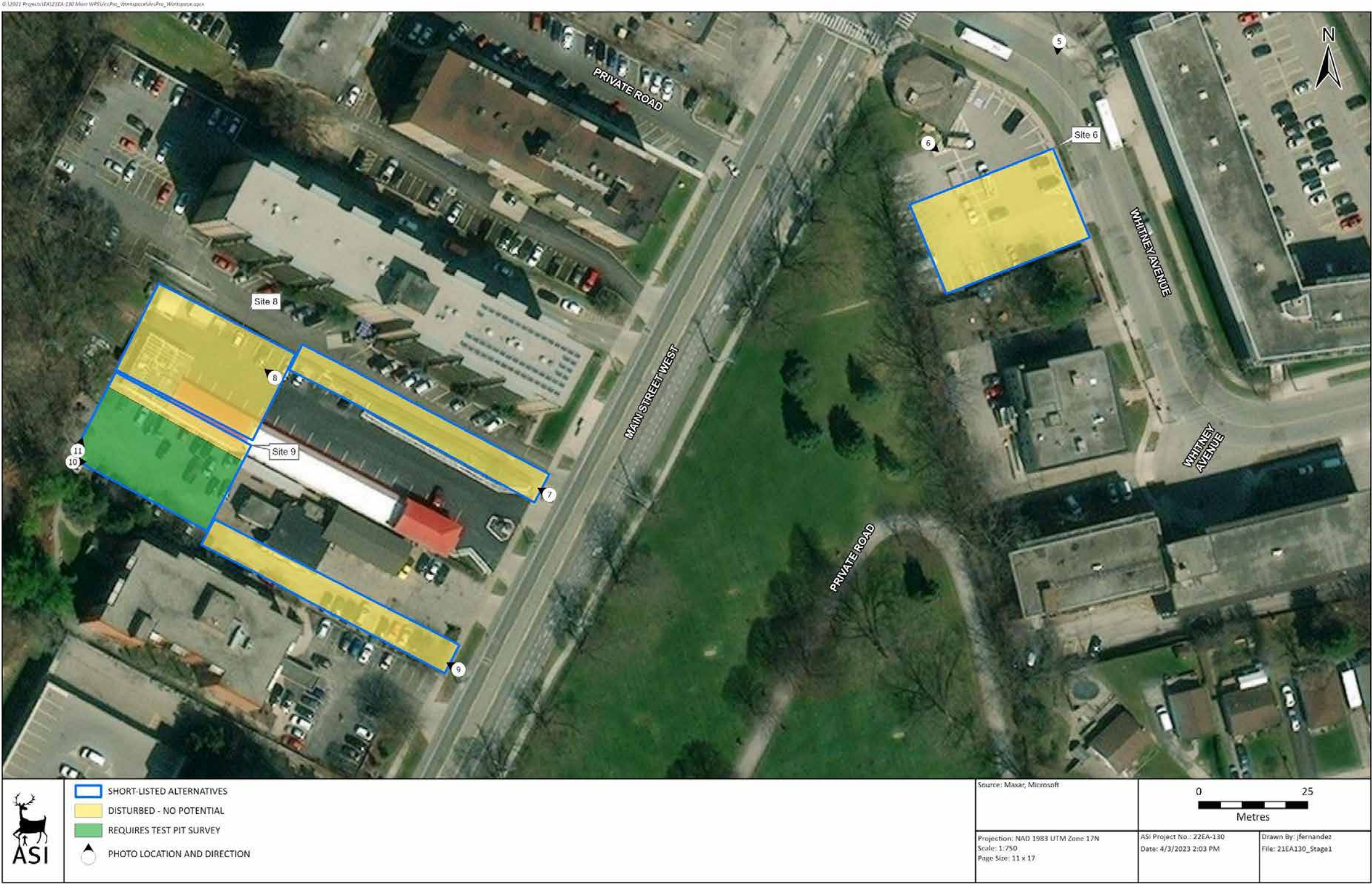


Figure 13: Stage 1 Results – Sites 6, 8, and 9 (Sheet 3)





Figure 14: Stage 1 Results – Sites 12 and 19 (Sheet 4)

