## **Appendix C**

Stage 1 Archaeological Assessment Report



# STAGE 1 ARCHAEOLOGICAL ASSESSMENT OF MAVIS ROAD FROM COURTNEYPARK DRIVE WEST TO RAY LAWSON BOULEVARD, LOTS 8 THROUGH 14 CONCESSION 2 WCR, GEOGRAPHIC TOWNSHIP OF TORONTO, PEEL COUNTY, CITY OF MISSISSAUGA, R.M. OF PEEL

#### **Original License Report**

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Project # P018-0776-2016

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#### **EXECUTIVE SUMMARY**

This report discusses the rationale, methods and results of the Stage 1 archaeological assessment for the proposed road improvements to Mavis Road in the City of Mississauga, Regional Municipality of Peel. Triggered by the *Environmental Assessment Act*, this assessment was undertaken as part of the 'Subject Municipal Class Environmental Assessment (Class EA) and Preliminary Design for Mavis Road from Courtneypark Drive West in the City of Mississauga to the Ray Lawson Boulevard in the City of Brampton. The study corridor is located on Lots 8 through 14, Concession II West of Centre Road (WCR) in the Geographic Township of Toronto, Peel County. New Directions Archaeology Ltd. (NDA) was contracted by MMM Group Ltd. on behalf of the City of Mississauga and the Region of Peel to conduct this Stage 1 archaeological assessment. The study corridor measures 3.8 km along Mavis Road which to be widened from four lanes to six, and will coincide with the recent widening of Mavis Road north of Ray Lawson Boulevard completed by the Region of Peel. The general study corridor measures approximately 200 meters in width, and overall measures 100 hectares.

The purpose of this Stage 1 archaeological assessment is to provide information about the property's geography, history, previous archaeological fieldwork, and current land condition in order to determine the property's potential to contain archaeological material. Detailed documentary research was conducted as was a property inspection in order to gain first-hand knowledge of the property's geography, topography, and current condition, and to evaluate and map archaeological potential. The Stage 1 assessment resulted in the identification several features of archaeological potential within the vicinity of the study corridor, including proximity to Fletcher's Creek, the nearby presence of historic roadways and structures, and proximity to previously identified archaeological sites.

However, twentieth century use of the study corridor has led to extensive and deep land alterations that have removed archaeological potential within portions of the study corridor. Specifically, 87% of the study was visually assessed and determined to be disturbed (87 ha). The disturbance to this portion of the study corridor is related to the construction of Mavis road, traffic and utility infrastructure, and subdivisions. The remainder of the study corridor is comprised a mixture of manicured grasslands, overgrown grasslands, and small woodlots. These relatively pristine pockets of potential include: where Fletcher's Creek crosses Mavis Road; two small areas immediately south of Old Derry Road; two small areas east of Mavis Road and south of Highway 407; one small area south of Zinnia Place where a tributary of the Credit River is located; and two areas of overgrown grasslands at the north end of the study corridor, south of Ray Lawson Boulevard. The portion of the study corridor containing archeological potential amounts to 13% of the study corridor (13 ha) and will require further assessment

On the basis of the above information, the following recommendations are made:

1. The portions of the study corridor located along Mavis Road that have been previously disturbed by road construction, and traffic and utility infrastructure do not hold archaeological potential and require no further assessment. Additionally, the portions of the study corridor that are currently comprised of subdivisions and

residential roads no longer hold archaeological potential and require no further assessment.

- 2. The remainder of the study corridor contains archaeological potential and requires a Stage 2 archaeological assessment prior to any ground disturbing activities:
  - a. Since the remainder of the study corridor is located primarily within over grown grasslands and down steep slopes, access by plough is severely restricted and is not feasible. The two small areas of manicured grass located south of Derry Road appear to be small parkettes, and so ploughing is also not feasible within these areas. As a result, it is recommended that the portions of the study corridor containing archaeological potential be subject to a test pit survey as per Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011:31).

However, Should previously unknown or unassessed deeply buried archaeological resources be uncovered during development, 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 archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the *Ontario Heritage Act*.

## TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
TABLE OF CONTENTS	III
LIST OF TABLES	IV
LIST OF IMAGES	IV
LIST OF MAPS	$\mathbf{V}$
LIST OF APPENDICES	$\mathbf{V}$
PERSONNEL	VI
1.0 PROJECT CONTEXT	1
1.1 Development Context	1
1.2 Historical Context	1
1.2.1 Settlement History	2
1.2.1.1 Pre-Contact	2
1.2.1.2 Post-Contact	2
1.2.2 Past and Present Land Use	4
1.3 Archaeological Context	5
1.3.1 Condition of the Property	5
1.3.2 Previous Archaeological Work	6
1.3.3 Registered or Known Archaeological Sites	7
2.0 STAGE 1 BACKGROUND STUDY	9
2.1 Background Study Methods	9
2.2 Property Inspection Field Methods	9
2.3 Analysis and Conclusions	10
3.0 RECOMMENDATIONS	12
4.0 ADVICE ON COMPLIANCE WITH LEGISLATION	13
5.0 IMAGES	14
6.0 MAPS	31
7.0 BIBLIOGRAPHY AND SOURCES	40
APPENDICES	43

## LIST OF TABLES

Table 1: Pre-Contact Settlement History	2
Table 2: Post-Contact Settlement History	3
Table 3: Summary of Historic Ownership of the Study Corridor and Nearby Historic	
Features	4
Table 4: List of Previous Archaeological Work within the Vicinity of the Study Corridor	6
Table 5: Registered or Known Archaeological Sites within 1 km	7
LIST OF IMAGES	
Image 1: Environs facing north, road built up, buried utilities	14
Image 2: Environs facing south, road built up	14
Image 3: Environs facing north, note buried utilities	15
Image 4: Environs facing north, note buried utilities, subdivisions	15
Image 5: Environs facing north	16
Image 6: Environs facing north, note artificial slope	16
Image 7: Environs facing east, overpass over creek, area of potential	17
Image 8: Environs facing east, sewage infrastructure	17
Image 9: Environs facing south, note artificial slope	18
Image 10: Environs facing north	18
Image 11: Environs facing northwest, area of potential at bottom of artificial slope	19
Image 12: Environs facing northwest, note sewage infrastructure	19
Image 13: Environs facing south, note artificial slope	20
Image 14: Environs facing north, note subdivisions	20
Image 15: Environs facing south, note subdivision	21
Image 16: Environs facing northeast, note subdivision	21
Image 17: Environs facing north	22
Image 18: Environs facing north, area of potential	22
Image 19: Environs facing west, area of potential	23
Image 20: Environs facing north	23
Image 21: Environs facing south	24
Image 22: Environs facing north, note subdivisions	24
Image 23: Environs facing south	25
Image 24: Environs facing north	25
Image 25: Environs facing south, note slope, utilities	26
Image 26: Environs facing south, note sewage infrastructure	26
Image 27: Environs facing south	27
Image 28: Environs facing north, area of potential at bottom of slope	27
Image 29: Gas pipeline facing east, note gas pipeline	28
Image 30: Environs facing north	28
Image 31: Environs facing south	29

Stage 1 Archaeological Assessment of Mavis Road, Courtneypark Dr to Ray Lawson Blvd	V
Image 32: Environs facing southeast, area of potential	29
Image 33: Environs facing south	30
Image 34: Environs facing southeast	30
LIST OF MAPS	
Map 1: Location of the Study Corridor on Topographic Map	31
Map 2: Location of the Study Corridor on 1859 Tremaine Map of Toronto Township	32
Map 3: Location of the Study Corridor on 1877 Walker and Miles Atlas of Toronto	
Township	33
Map 4: Location of the Study Corridor on 1954 Aerial Imagery	34
Map 5: Location of the Study Corridor on 2015 Aerial Imagery	35
Map 6: Features of Potential within Study Corridor - North	36
Map 7: Features of Potential within Study Corridor - Central	37
Map 8: Features of Potential within Study Corridor - South	38
Map 9: Stage 1 Assessment Results	39

### LIST OF APPENDICES

APPENDIX I: Unaltered Development Plans	44
APPENDIX II: Document Inventory	45

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#### 1.0 PROJECT CONTEXT

#### 1.1 Development Context

This report discusses the rationale, methods and results of the Stage 1 archaeological assessment for the proposed road improvements to Mavis Road in the City of Mississauga, Regional Municipality of Peel. (Map 1). Triggered by the *Environmental Assessment Act*, this assessment was undertaken as part of the 'Subject C' Municipal Class Environmental Assessment (Class EA) and Preliminary Design for Mavis Road from Courtneypark Drive West in the City of Mississauga to the Ray Lawson Boulevard in the City of Brampton (APPENDIX I). The study corridor is located on Lots 8 through 14, Concession II West of Centre Road (WCR) in the Geographic Township of Toronto, Peel County. New Directions Archaeology Ltd. (NDA) was contracted by MMM Group Ltd. on behalf of the City of Mississauga and the Region of Peel to conduct this Stage 1 archaeological assessment. The study corridor measures 3.8 km along Mavis Road which will be widened from four lanes to six, and will coincide with the recent widening of Mavis Road north of Ray Lawson completed by the Region of Peel. The study corridor measures approximately 200 meters in width, and overall measures 100 hectares.

The purpose of this Stage 1 archaeological assessment is to provide information about the property's geography, history, previous archaeological fieldwork, and current land condition in order to determine the property's potential to contain archaeological material. Detailed documentary research was conducted as part of this study and provides a record of the property's archaeological and land use history, as well as its present condition. This research is presented in the historical and archaeological context sections of this report (Sections 1.2 and 1.3). A property inspection was also completed to gain first-hand knowledge of the property's geography, topography, and current condition, and to evaluate and map archaeological potential (Section 2.2). Permission to access the property was granted to New Directions Archaeology Ltd. by the property owner, and photos were taken from publically accessible lands.

Assessment activities were conducted in accordance with the provisions of the *Ontario Heritage Act* (R.S.O. 1990, c.o. 18) in compliance with the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011) under an archaeological consulting license (#P018) issued to Phillip Woodley of New Directions Archaeology Ltd. The field notes, photos and related documents will be curated at the office of New Directions Archaeology Ltd. (APPENDIX II).

#### 1.2 Historical Context

After a century of archaeological work in southern Ontario, scholarly understanding of the historic usage of lands in the Regional Municipality of Peel has become very well-developed. With occupation beginning in the Palaeo-Indian period approximately 11,000 years ago, the greater vicinity of the study corridor comprises a complex chronology of Pre-Contact and Euro-Canadian histories. Section 1.2.1 provides an overview of the region's settlement history, and Section 1.2.2 summarizes the past and present land use of the study corridor.

#### 1.2.1 Settlement History

#### 1.2.1.1 Pre-Contact

The Pre-Contact history of the region is both lengthy and rich, and a variety of Aboriginal groups inhabited the landscape. Archaeologists generally divide this complex history into three main periods: Palaeo-Indian, Archaic and Woodland. Each of these periods comprises a range of discrete sub-periods characterized by specific material culture, settlement patterns and lifeways. The principal archaeological horizons/cultures of the region are summarized in Table 1.

Table 1: Pre-Contact Settlement History (Wright 1972; Ellis and Ferris 1990; Warrick 2000; Munson and Jamieson 2013)

Sub-Period	Timeframe	Characteristics	
Early Palaeo-Indian	9000-8400 BC	Gainey, Barnes and Crowfield traditions; Small bands; Mobile hunters and gatherers; Utilization of seasonal resources and large territories;  Fluted projectiles	
Late Palaeo-Indian	8400–7500 BC	Holcombe, Hi-Lo and Lanceolate biface traditions; Continuing mobility; Campsite/Way-Station sites; Smaller territories are utilized; Non-fluted projectiles	
Early Archaic	7500–6000 BC	Side-notched, Corner-notched (Nettling, Thebes) and Birfurcate Base traditions; Growing diversity of stone tool types; Heavy woodworking tools appear (e.g., ground stone axes and chisels)	
Middle Archaic	6000–2500 BC	Stemmed (Kirk, Stanly/Neville), Brewerton side- and corner-notched traditions; Reliance on local resources; Populations increasing; More ritual activities; Fully ground and polished tools; Net-sinkers common; Earliest copper tools	
Late Archaic	2500–900 BC	Narrow Point (Lamoka), Broad Point (Genesee) and Small Point (Crawford Knoll) traditions; Less mobility; Use of fish-weirs; True cemeteries appear; Stone pipes emerge; Long-distance trade (marine shells and galena)	
Early Woodland	900–400 BC	Meadowood tradition; Crude cord-roughened ceramics emerge; Meadowood cache blades and side-notched points; Bands of up to 35 people	
Middle Woodland	400 BC-AD 600	Saugeen tradition; Stamped ceramics appear; Saugeen projectile points; Cobble spall scrapers; Seasonal settlements and resource utilization; Post holes, hearths, middens, cemeteries and rectangular structures identified	
Middle/Late Woodland Transition	AD 600–900	Princess Point tradition; Cord roughening, impressed lines and punctate designs on pottery; Adoption of maize horticulture at the western end of Lake Ontario; Oval houses and 'incipient' longhouses; First palisades; Villages with 75 people	
Late Woodland (Early Iroquoian)	AD 900–1300	Glen Meyer tradition; Settled village-life based on agriculture; Small villages (0.4 ha) with 75–200 people and 4–5 longhouses; Semi-permanent settlements	
Late Woodland (Middle Iroquoian)	AD 1300–1400	Uren and Middleport traditions; Classic longhouses emerge; Larger villages (1.2 ha) with up to 600 people; More permanent settlements (30 years)	
Late Woodland (Late Iroquoian)	AD 1400–1600	Pre-Contact Neutral tradition; Larger villages (1.7 ha); Examples up to 5 ha with 2,500 people; Extensive croplands; Also hamlets, cabins, camps and cemeteries; Potential tribal units; Fur trade begins ca. 1580; European trade goods appear	

#### 1.2.1.2 Post-Contact

The arrival of the European explorers and traders at the beginning of the 17<sup>th</sup> century triggered widespread shifts in Aboriginal lifeways and set the stage for the ensuing Euro-Canadian settlement process. Documentation for this period is abundant, ranging from the first sketches of Upper Canada and the written accounts of early explorers to detailed township maps and lengthy histories. The Post-Contact period can be effectively discussed in terms of major historical events, and the principal characteristics associated with these events are summarized in Table 2.

Table 2: Post-Contact Settlement History

(Smith 1846; Coyne 1895; Lajeunesse 1960; Cumming 1972; Smith 1987; Ellis and Ferris 1990; Surtees 1994; NRC 2010; AO 2011; PHC 2000)

Historical Event	Timeframe	Characteristics
Early Contact	Early 17 <sup>th</sup> century	Brûlé explores the area in 1610; Champlain visits in 1613 and 1615/1616; Iroquoian-speakers (Huron, Petun and Neutral) and Algonkian-speakers (Anishinabeg) encountered; European goods begin to replace traditional tools
Five Nations Invasion	Mid-17 <sup>th</sup> century	Haudenosaunee (Five Nations) invade ca. 1650; Neutral, Huron and Petun Nations are defeated/removed; vast Iroquoian hunting territory established in the second half of the 17 <sup>th</sup> century; Explorers continue to document the area
Anishnabeg Influx	Late 17 <sup>th</sup> and early 18 <sup>th</sup> century	Ojibway, Odawa and Potawatomi expand into Haudenosaunee lands in the late 17th century; Nanfan Treaty between Haudenosaunee and British in 1701; Anishnabeg occupy the area and trade directly with the French and English
Fur Trade Development	Early and mid- 18 <sup>th</sup> century	Growth and spread of the fur trade; Peace between the French and English with the Treaty of Utrecht in 1713; Ethnogenesis of the Métis; Hostilities between French and British lead to the Seven Years' War in 1754; French surrender in 1760
British Control	Mid-18 <sup>th</sup> century	Royal Proclamation of 1763 recognizes the title of the First Nations to the land; Numerous treaties arranged by the Crown; First acquisition is the Seneca surrender of the west side of the Niagara River in August 1764
Loyalist Influx	Late 18th century	United Empire Loyalist influx after the American Revolutionary War (1775–1783); British develop interior communication routes and acquire additional lands; 'Between the Lakes Purchase' in 1784 orchestrated by Haldimand to obtain lands for Six Nations; <i>Constitutional Act</i> of 1791 creates Upper and Lower Canada
County Development	Late 18 <sup>th</sup> and early 19 <sup>th</sup> century	The area that would eventually become Peel County was initially part of York County's West Riding, composed of lands acquired in the 1805 First Purchase, and 1818 Second Purchase. In the 1830's and early 1840's York's 'Second Riding' was created, following the creation of new townships. Peel County as an administrative unit was created in 1849 following the abolition of the district system. Created at the western end of York County, this new division consisted of the townships of Caledon, Albion, Chinguacousy, Toronto and Toronto Gore.
Township Formation	Early 19th century	The historic Township of Toronto was the southernmost region of Peel County, and was divided into two parts: the southern 1806 Old Survey (Toronto South) and the northern 1819 New Survey (Toronto North). The first settler was Colonel Thomas Ingersoll, who ran the Government House and a Ferry at Port Credit even prior to 1806. Seven families settled in the township in 1808, all along Dundas Street in the Old Survey. Most of the settlers who arrived following the New Survey in 1819 were Irish from New York, having left America due to pressure and persecution associated with the War of 1812. Joseph Graham and Thomas Reid evaluated the land, and subsequently 26 Irish families relocated to the area in May of 1819. By 1821 the township had a population of 803 and 1,183 ha of land cleared for agriculture.
Township Development	Mid-19 <sup>th</sup> and early 20 <sup>th</sup> century	Remained one of the most well settled areas in Southern Ontario, due to excellent land and being well timbered with both pine and high quality hardwoods. 11,521 ha were under cultivation by the mid-19 <sup>th</sup> century. In 1842, there were 21 saw mills and 4 grist mills with a population approx. 5,377. By 1851, this grew to 7,539, but dropped to 5,974 by 1871. The principle village was Streetsville, which by the mid-19 <sup>th</sup> century had a population of approx. 550 and possessed three churches, a court house, two doctors, two grist mills, three saw mills, one cloth factory, four stores, 45 other businesses, and a daily stage run to Toronto. In addition, Port Credit was well located at the mouth of the Credit River in a natural harbor and became a prominent shipping node for the area, primarily in farming produce with more limited activity in pork, wool and whiskey. Port Credit was home to five schooners in 1846 along with 150 inhabitants, two stores, two taverns and four other businesses.

#### 1.2.2 Past and Present Land Use

The study corridor is located on Lots 8 through 14, Concession II WCR in the Geographic Township of Toronto, Peel County. In an attempt to reconstruct the historic land use of the study corridor, NDA conducted a review of nineteenth century maps and twentieth century aerial photographs focused on the study corridor. This was completed in order to provide insight in to the past and present land use and settlement history of the property.

The nineteenth century maps reviewed include G.R. and G.M. Tremaine's *Tremaine's Map of the County of Peel, Canada West* (1859) (Map 2) and Walker and Miles' *Illustrated Historical Atlas of the County of Peel, Ont.* (1877) (Map 3). The ownership and settlement features of Lots 8 through 14, Concession II WCR are documented in Table 3.

Table 3: Summary of Historic Ownership of the Study Corridor and Nearby Historic Features

(Tremaine 18	859;	Walker	and	Miles	1877)
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	1859 (Tremaine's)				1877 (Walker and Miles)		
Lot	Acres	Owner(s)	Feat.	Acres	Owner(s)	Feat.	
8	N100	Joseph Chester	ı	N100	Joseph Mathews	1 Structure	
8	S100	Thomas O'Shaughnessy	1 Structure	S100	Thomas O'Shaughnessy	1 Structure	
9	N100	Thomas O'Shaughnessy	-	N60	Edward Trainer	1 Structure	
9	S100	Thomas O'Shaughnessy	-	S140	Alex Scott	2 Structures, 1 Orchard	
10	N100	Samuel Brown	-	NE10	Edward Trainer	-	
10	S100	Edward	-	190	Samuel Brown	3 Structures, 2 Orchards	
11	N100	Robert Bell	1 Structure	N100	George Love	1 Structure, 1 Orchard	
11	S100	Hugh Bell	1 Structure	S100	Gooderham & Worts	1 Structure, 1 Orchard	
12	N100	Thomas Whitehead	-	N100	Samuel McKillip	1 Structure, 1 Orchard	
12	S100	Francis Silverthorn	-	S100	Gooderham & Worts	2 Structures, 1 Orchard	
13	N100	David Cumming	1 Structure	N100	William Tilt	1 Structure, 1 Orchard	
13	S100	William Elliot	1 Structure	S100	William Elliot	1 Structure, 1 Orchard	
14	N100	Henry Pearson	-	N100	Henry Pearson	1 Structure, 1 Orchard	
14	S100	William Elliot	-	S100	Thomas Davidson	**1 Structure, 1 Orchard	

<sup>\*\*</sup> Historic features are located within study corridor boundaries

The nineteenth century map review has demonstrated that while numerous historic structures were located within the vicinity of the study corridor, only a single historic house and an associated orchard were documented within the boundaries of the study corridor. The structure and orchard are shown on Lot 14 Concession II WCR on the 1877 Atlas (Map 3). However, it is noted that not all structures were illustrated on historic maps and as a result, additional structures such as outbuildings may be present on the property.

Nineteenth century mapping also indicates the study corridor is located in close proximity to two small towns. The town of Meadowvale was located west of the study corridor and in 1859 occupied parts of Lots 10 and 11 Concession III WCR. By 1877, Meadowvale had expanded to include parts of Lots 10 through Lot 12, Concession III WCR. The town of Churchville was also nearby, located in the southern portions of Lots 14 and 15 Concession III WCR.

Given the proximity of the study corridor to documented historic roadways (Ray Lawson Boulevard, Old Derry Road), structures, and villages, there is a significant possibility of locating

historic materials within the study corridor. However, a review of 20th century demonstrates that there have been significant alterations to the study corridor. Imagery from 1954 shows that the study corridor and its general surroundings were primarily utilized for agricultural purposes, with some areas of woodlot also present (Map 4). The towns of Meadowvale and Churchville were still extant at that time. Imagery from 2015 (Map 5) displays significant changes to the landscape that occurred following 1954, including the re-routing of Mavis Road, the development of numerous subdivisions, and the construction of Highway 401 and Highway 407, all of which have likely removed archaeological potential within the study corridor.

Currently, the study corridor is comprised of Mavis Road, its right-of-way (ROW), and residential and commercial properties.

#### 1.3 Archaeological Context

The archaeological context of any given study corridor must be informed by the general condition of the property (Section 1.3.1), summaries of any previous archaeological work conducted within 50 m of the study corridor (Section 1.3.2) and whether there are any registered or known archaeological sites located within 1 km of the study corridor (Section 1.3.3). The Stage 1 property inspection was carried out on April 19, 2016, and the specific weather and lighting conditions are summarized in Section 2.2.

#### 1.3.1 Condition of the Property

The study corridor is located within the deciduous forest region of southern Ontario, which is dominated by agricultural and urban areas. In terms of physiography, this study corridor is located within both the South Slope and Peel Plain regions. The South Slope is situated between Lake Ontario and the Oak Ridges Moraine. It is higher than the glacial Lake Iroquois Plain and extends from the Niagara Escarpment to the Trent River (Chapman and Putnam 1984: 172-174). The South Slope region is characterized as a primarily ground moraine with irregular knolls and hollows containing Chinguacousy clay loam soil (Chapman and Putnam 1984: 174).

The Peel Plain physiographic region comprises a clay tract covering an area of approximately 300 square miles over the central areas of the Regional Municipalities of York, Peel and Halton (Chapman and Putnam 1984: 174-175). The area is fairly well drained due to a number of large rivers and streams having cut deep valleys across the plain. This region consists primarily of shale and limestone covered in a heavy, usually red, clay although bands of sand have been observed near streams (Chapman and Putnam 1984: 174-175).

The study corridor is located within the Fletcher's Creek subwatershed of the Credit River Watershed (CVC 2016). Fletcher's Creek meanders through the southern portion of the study corridor, and Lake Ontario is situated 13 km to the south. A tributary of the Credit River traverses the study corridor in the north end near Zinnia Place. The soils within the study corridor consist of Chinguacousy clay loam, Oneida clay loam, and Bottom Land. Chinguacousy clay loam is a greybrown podzolic comprised of dark greyish brown clay loam that has imperfect drainage (Hoffman and Richards 1953). Oneida clay loam is a grey-brown podzolic comprised of dark greyish brown clay loam with good drainage. Bottom Land is an alluvial soil located in low lying lands and along

stream courses, and has variable drainage. The general topography of the area is gently undulating (Map 1).

More specifically, the study corridor stretches 3.8 km along the current alignment of Mavis Road and measures approximately 200 metres in width. Much of the study corridor is located within previously developed lands. The Mavis Road ROW has been subject to significant disturbance related to the construction of the road, utility installation, and residential and commercial development. The ROW has clearly been landscaped, built up, or ditched. Sidewalks are present on both sides of the road, and traffic lights and telephone poles have been installed. Furthermore, a large portion of the study corridor has been previously disturbed by the construction of multiple subdivisions.

#### 1.3.2 Previous Archaeological Work

The MTCS's Ontario Archaeological Sites Database was consulted to determine whether any archaeological assessments had been previously conducted within the limits of, or immediately adjacent to the study corridor. Several studies may have been completed within 50 metres of the study corridor and are displayed in **Table 4**. While only two reports were available for review, the majority of the studies appear to have been completed in advance of the realignment of Mavis Road and the construction of the adjacent subdivisions. The available reports were reviewed and are described below.

Table 4: List of Previous Archaeological Work within the Vicinity of the Study Corridor

PIF	Title	Reference	Status
97-61-LIC-	Archaeological Clearance, Mavis Road Extension from	Poulton 1998	Unavailable
1998-010	Britannia Road to north of Fletchers Creek, City of		
	Mississauga, RM of Peel (Poulton 1998).		
1989-160B	Archaeological Assessment of Seven Properties in	MIA 1989	Unavailable
	Meadowvale		
1999-021-011	A.A. of Draft Plan of Subdiv. 21T-96008M, Mississauga	Pearce 1999	Unavailable
	(Meadowvale), Part Lot 11, Con. 2, W.H.S., City of		
	Mississauga, Region of Peel		
1999-021-012	A.A. of the Southern Half of Draft Plan of Subdiv. 21T-	Pearce 1999	Unavailable
	93015M, Mississauga (Meadowvale), Part Lots 9 & 10, Con.		
	3, W.H.S., City of Mississauga, Region of Peel		
96-016-15-LIC-	A.A. of Draft Plan of Subdiv. 21T-87012M, Mississauga	Pearce 1996	Unavailable
1996-016	(Meadowvale) - Part Lot 10, Con. 2, W.H.S., City of		
	Mississauga, Region of Peel		
96-016-19-LIC-	A.A. of the Northern Half of Draft Plan of Subdiv. 21T-	Pearce 1996	Unavailable
1996-016	93015M, Mississauga (Meadowvale), Part Lot 10, Con. 3,		
	W.H.S., City of Mississauga, Region of Peel		
P064-250-2009	Stage 1 Archaeological Assessment Class EA Mavis Road	TMHC 2009	Available
	(Regional Road 18) Steeles Avenue to Highway 407 City of		
	Brampton, Region of Peel		
P96-016-20-	A.A. of Draft Plan of Subdiv. 21T-95041M, Mississauga	Pearce 1996	Unavailable
LIC-1996-016	(Meadowvale) - Part Lot 11, Con. 3, W.H.S., City of		
	Mississauga Region of Peel		
P96-019	Archaeological Assessment of Proposed Subdivision 21T-	ASI 1996	Available
	94024M Part of West Half of Lot 11, Concession 2, W.H.S.		

Township of Toronto, Now in the City of Mississauga	
Regional Municipality of Peel	

Stage 1 Archaeological Assessment Class EA Mavis Road (Regional Road 18) Steeles Avenue to Highway 407 City of Brampton, Region of Peel [PIF #P064-250-2009] (TMHC 2009)

A Stage 1 archaeological assessment was conducted by Timmins Martelle Heritage Consultants Inc. in March of 2009 along Mavis Road from just north of Steeles Avenue to Highway 407 in City of Brampton (TMHC 2009). This assessment was completed as part of a Class Environmental Assessment for the proposed-widening and reconstruction of Mavis Road. While the background research indicated that much of the study corridor had potential for archaeological material to be discovered, the field inspection determined that the possible areas of impact had already been extensively disturbed by previous utility installation and both commercial and residential construction. A Stage 2 was not recommended for this project; however, it was noted that there were pristine lands beyond the projected impact areas that would require a Stage 2 assessment should the project extend into these lands (TMHC 2009).

Archaeological Assessment of Proposed Subdivision 21T-94024M Part of West Half of Lot 11, Concession 2, W.H.S. Township of Toronto, Now in the City of Mississauga Regional Municipality of Peel [P96-019] (Archaeological Services Inc. 1996)

This Stage 1-2 archaeological assessment was undertaken by Archaeological Services Inc. (ASI) in 1996 in advance of the construction of a subdivision in the City of Mississauga. The property assessed is located immediately west of the current alignment of Mavis Road and north of Highway 401, outside the study corridor. Two pre-contact sites, two Euro-Canadian sites, and two findspots were encountered. None of these sites is within 50 metres of the current study corridor.

#### 1.3.3 Registered or Known Archaeological Sites

The MTCS's Ontario Archaeological Sites Database was consulted to determine whether any registered or known archaeological resources are located within 1 km of the study corridor. Three archaeological sites have been documented within 50 metres of the study corridor, and 33 sites have been registered within 1 km (Table 5).

Table 5: Registered or Known Archaeological Sites within 1 km

Borden No.	Site Name	Researcher (s)	Cultural Affiliation	Site Type
AjGw-001	Rowancroft	NA, 1967	Post-Contact	Camp/Campsite
AjGw-005	Lightfoot	Konrad 1971	Woodland	Camp/Campsite
AjGw-084	Fletcher's Creek	Williamson 1987	Post-Contact	Homestead
AjGw-085		Williamson 1987	Pre-Contact	Findspot
AjGw-141	Sharp	Williamson 1988	Post-Contact	Homestead
AjGw-146		Pearce 1988	Other	Findspot
AjGw-147		Pearce 1989	Other	Findspot
AjGw-148		Museum of Indian	Other	Findspot
		Archaeology (MIA) 1988		
AjGw-149		MIA 1988	Other	Findspot
AjGw-150		MIA 1988	Post-Contact	Midden
AjGw-151		Pearce 1988	Post-Contact	Undetermined

Borden No.	Site Name	Researcher (s)	Cultural Affiliation	Site Type
AjGw-152		Pearce 1988	Pre-Contact	Findspot
AjGw-160		MIA 1989	Post-Contact	Homestead
AjGw-161		MIA 1988	Other	Findspot
AjGw-162		MIA 1989	Post-Contact	Undetermined
AjGw-163		Pearce 2005	Post-Contact	Undetermined
AjGw-164		MIA 1988	Post-Contact	Findspot
AjGw-165		Pearce 1988	Post-Contact	Undetermined
AjGw-166		Pearce 1989	Post-Contact	Homestead
AjGw-167		MIA 1988	Post-Contact	Undetermined
AjGw-219	Manhattan #5	MIA 1999	Pre-Contact	Findspot
AjGw-220	Manhattan #6	MIA 1999	Pre-Contact	Findspot
AjGw-250	Tilt	Stewart 1996	Post-Contact	Homestead
AjGw-255	McKillip	Mayer 1996	Post-Contact	Homestead; Midden
AjGw-256	Meadowvale	Williamson 1996	Woodland, Late	Findspot
AjGw-257	Gooderham	Williamson 1996	Archaic, Middle	Findspot
AjGw-258	Ulsterman	Williamson 1996	Post-Contact	Homestead
AjGw-259	Rose Villa	Williamson 1996	Post-Contact	Homestead
AjGw-262		Pearce 1996	Pre-Contact	Findspot
AjGw-280	River Knoll	Stewart 1995	Archaic, Late; Post-	Cabin
			Contact	
AjGw-290		Williamson 1998	Archaic, Middle	Findspot
AjGw-294	Heartland 4	Mayer 1998	Archaic, Middle	Findspot
AjGw-295	Heartland 5	Mayer 1998	Archaic, Early;	Findspot
			Archaic, Early	
AjGw-298		Williamson 1998	Archaic, Late	Findspot
AjGw-319		Woodley 2001	Archaic, Early	Scatter
AjGw-452		Cornies 2007	Post-Contact	Undetermined

Of the three nearby sites, one was identified within the study corridor boundaries and two were identified within 50 metres of the study corridor. The AjGw-150 site was identified in 1989 by the Museum of Indian Archaeology and Robert Pearce, and is located with the project boundaries. Euro-Canadian materials were encountered during a test pit survey of the property, with 156 artifacts recovered in total. The site was interpreted as a Post-Contact midden. While no further information could be obtained about this site, given its location within a current subdivision, it is likely the site was deemed to have no further cultural heritage value or interest, and no further assessment was completed.

AjGw-151 was located within 50 metres of the study corridor. Identified in 1989 by the Museum of Indian Archaeology and Robert Pearce, 16 Euro-Canadian artifacts were encountered during a pedestrian survey. This site did not hold cultural heritage value or interest, and no further assessment was conducted. Similar to AjGw-150, a subdivision has been constructed at the location of this site.

AjGw-165 was located within 50 metres of the study corridor. Identified in 1989 by the Museum of Indian Archaeology and Robert Pearce, 75 Euro-Canadian artifacts were collected during a pedestrian survey. This site did not hold cultural heritage value or interest, and no further assessment was conducted. A commercial building now stands at the location of the site.

#### 2.0 STAGE 1 BACKGROUND STUDY

#### 2.1 Background Study Methods

The Stage 1 background study was completed as per Section 1.1 of the *Standards and Guidelines* for Consultant Archaeologists (MTCS 2011:14). The background study involved an examination of the archaeology, history, geography and current land condition of the vicinity of the study corridor and is detailed in the Historical and Archaeological Context sections above. The research includes information from the following sources:

- Historic settlement maps
- Aerial photographs
- Commemorative plaques or monuments (none present)
- The most up-to-date listing of sites from the Ministry of Tourism, Culture and Sport's archaeological sites database within 1km of the study corridor
- Reports of previous field work within 50 metres of the study corridor
- Topographic maps at 1:10,000 (recent and historical) or the most detailed scale available

The highest quality and most detailed mapping available was utilized. The background study has demonstrated the past and present land use and settlement history of the property, and has provided information sufficient to evaluate the presence of archaeological potential within the study corridor.

#### 2.2 Property Inspection Field Methods

In order to gain first-hand knowledge of the geography, topography and current condition of the study corridor, a property inspection was conducted on April 19, 2016. The study corridor was subject to random spot checking in accordance with the requirements set out in Section 1.2 of the S&Gs (MTCS 2011:15–17). Fieldwork was carried out under weather and lighting conditions that met the requirements set out in Section 1.2 Standard 2 of the S&Gs (MTCS 2011:16). Environmental conditions were ideal during the inspection, with overcast skies, a high of 16 °C, and excellent lighting. The study corridor was extensively documented with photographs (Image 1 to Image 34).

The property inspection confirmed that all features of archaeological potential (e.g., historically-surveyed roadways, watercourse, etc.) were present where they were previously identified, and did not result in the identification of any additional features of archaeological potential not visible on mapping (e.g., relic water channels, patches of well-drained soils, etc.). No culturally-significant structures or built features that would affect assessment strategies were identified (MTCS 2011:16–17). The property inspection demonstrated that the majority of the study corridor has been subject to extensive and deep land alterations related to the construction of Mavis Road, the creation of subdivisions, and related traffic and utility infrastructure. These extensive and deep alterations have removed archaeological potential throughout the majority of the study corridor. Mavis Road has clearly been built up throughout the subject corridor (Image 1, Image 2, Image 6, Image 9, Image 25, and Image 33). Sidewalks (Image 3 and Image 14), traffic infrastructure (Image 3, Image 14 and Image 16), hydro poles and towers (Image 21 and Image 27), and water

and sewage infrastructure (Image 4, Image 8, and Image 12) were all evident within the corridor boundaries. The subdivisions built on the east and west side of Mavis Road are rather extensive, and have caused deep and extensive disturbance (Image 14 to Image 24).

However, small pockets of archaeological potential remain within the study corridor. Specifically, archaeological potential is present in the south portions of the study corridor where Fletcher's Creek crosses beneath Mavis Road (Image 6 to Image 13). Potential begins at the bottom of the artificial slope built during the realignment of Mavis Road. Potential also exists on the east and west sides of Mavis Road, south of Derry Road West, with the environs described as manicured grasslands (Image 18 and Image 19). These manicured grasslands appear to be utilized as small parkettes. Potential may also exist in two small areas southeast of Highway 407 and Mavis Road, though some disturbance is to be expected given the presence of a gas pipeline, sewer infrastructure, and the construction of the Highway (Image 28). The environs of this area are described as a mixture of overgrown grasslands and woodlots. Another area of potential is located west of Mavis Road and south of Zinnia Place where a tributary of the Credit River is located. Finally, two small pockets of potential were identified at the north end of the study, south of Ray Lawson Boulevard. These areas are described as overgrown grasslands with high rock content, with some manicured residential lawn also present (Image 32). No other features that would affect assessment strategies were identified (e.g., permanently wet areas, overgrown vegetation, heavier soils than expected, etc.). No unusual physical features were encountered that affected the results of the Stage 1 assessment.

#### 2.3 Analysis and Conclusions

In addition to relevant historical sources and the results of past archaeological assessments, the archaeological potential of a property can be assessed using its soils, hydrology and landforms as considerations. Section 1.3.1 of the S&Gs (MTCS 2011:17–18) recognizes the following features or characteristics as indicators of archaeological potential: previously identified sites, water sources (past and present), elevated topography, pockets of well-drained sandy soil, distinctive land formations, resource areas, areas of Euro-Canadian settlement, early transportation routes, listed or designated properties, historic landmarks or sites, and areas that local histories or informants have identified with possible sites, events, activities or occupations. Also taken into consideration is the presence and extent of deep land alterations that have severely damaged the integrity of any archaeological resources.

The Stage 1 assessment resulted in the identification several features of archaeological potential within the vicinity of the study corridor (Map 6 to Map 8). Most prominent is Fletcher's Creek, with traverses the south half of the study corridor. Other historic watercourses have also been identified as having once crossed the study corridor. Additionally, nineteenth century mapping demonstrates that at least one historic homestead was identified within the property boundaries, though it appears this area has been recently developed (Map 5). Furthermore, a number of nineteenth century residences and agricultural industries were in operation in the surrounding area. Finally, one site has been previously identified within the study corridor, and two additional sites were identified within 50 metres of the study corridor boundaries. All three sites did not require further assessment.

However, twentieth century use of the study corridor has led to extensive and deep land alterations that have removed archaeological potential within portions of the study corridor. Specifically, 87% of the study was visually assessed and determined to have been disturbed (87 ha). The disturbance observed within the study corridor is related to the construction of Mavis road, traffic and utility infrastructure, and subdivisions (Map 9). The remainder of the study corridor is comprised a mixture of manicured grasslands, overgrown grasslands, and small woodlots. These relatively pristine pockets of potential include: where Fletcher's Creek crosses Mavis Road (Image 7 and Image 11); two small areas of manicured grass immediately south of Derry Road West (Image 18 and Image 19); two small areas east of Mavis Road and south of Highway 407 (Image 28 and Image 29); one small area south of Zinnia Place where a tributary of the Credit River is located (Image 25); and two areas of overgrown grasslands at the north end of the study corridor, south of Ray Lawson Boulevard (Image 32). The portion of the study corridor containing archeological potential amounts to 13% of the study corridor (13 ha) and will require further assessment.

#### 3.0 RECOMMENDATIONS

On the basis of the above information, the following recommendations are made (Map 9):

- 1. The portions of the study corridor located along Mavis Road that have been previously disturbed by road work and traffic and utility infrastructure do not hold archaeological potential and require no further assessment. Additionally, the portions of the study corridor that are currently comprised of subdivisions and residential roads no longer hold archaeological potential and require no further assessment.
- 2. The remainder of the study corridor contains archaeological potential and requires a Stage 2 archaeological assessment prior to any ground disturbing activities:
  - a. Since the remainder of the study corridor is located primarily within over grown grasslands and down steep slopes, access by plough is severely restricted and is not feasible. The two small areas of manicured grass located south of Derry Road appear to be small parkettes, and so ploughing is also not feasible within these areas. Finally, manicured lawn of a residential property is located west of Mavis Road, and south of Ray Lawson Boulevard, and cannot be ploughed. As a result, it is recommended that the portions of the study corridor containing archaeological potential be subject to a test pit survey as per Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011:31).

However, Should previously unknown or unassessed deeply buried archaeological resources be uncovered during development, 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 archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the *Ontario Heritage Act*.

Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Services. Contacts: Culture Unit, Programs and Services, Ministry of Tourism, Culture and Sport: (416) 212-4019 and Registrar of Cemeteries, Cemeteries Regulation Unit: Michael D'Mello (416) 326-8404 or (416)-326-8393

Finally, development should not proceed before receiving confirmation that the Ministry of Tourism, Culture and Sport has entered the report into the provincial register of reports. This report is filed with the Minister of Tourism, Culture and Sport in compliance with sec. 65 (1) of the *Ontario Heritage Act*. The ministry reviews reports to ensure that the licensee has met the terms and conditions of the licensee and archaeological resources have been identified and documented according to the standards and guidelines set by the ministry, ensuring the conservation, protection and preservation of the heritage of Ontario.

#### 4.0 ADVICE ON COMPLIANCE WITH LEGISLATION

Section 7.5.9 of the *S&Gs* requires that the following information be provided for the benefit of the proponent and approval authority in the land use planning and development process (MTCS 2011:126–127):

- 1. This report is submitted to the *Minister of Tourism, Culture and Sport* as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the *Ministry of Tourism, Culture and Sport*, a letter will be issued by the ministry stating that there are no further concerns with regard to alteration to archaeological sites by the proposed development.
- 2. It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such times as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the *Ontario Public Register of Archaeology Reports* referred to in Section 65.1 of the *Ontario Heritage Act*.
- 3. Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.
- 4. The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the *Ministry of Consumer Services*.

## **5.0 IMAGES**



Image 1: Environs facing north, road built up, buried utilities



Image 2: Environs facing south, road built up



Image 3: Environs facing north, note buried utilities



Image 4: Environs facing north, note buried utilities, subdivisions



Image 5: Environs facing north



Image 6: Environs facing north, note artificial slope



Image 7: Environs facing east, overpass over creek, area of potential



Image 8: Environs facing east, sewage infrastructure



Image 9: Environs facing south, note artificial slope



**Image 10: Environs facing north** 



Image 11: Environs facing northwest, area of potential at bottom of artificial slope



Image 12: Environs facing northwest, note sewage infrastructure



Image 13: Environs facing south, note artificial slope



Image 14: Environs facing north, note subdivisions



Image 15: Environs facing south, note subdivision



Image 16: Environs facing northeast, note subdivision



Image 17: Environs facing north



Image 18: Environs facing north, area of potential



Image 19: Environs facing west, area of potential



Image 20: Environs facing north



Image 21: Environs facing south



Image 22: Environs facing north, note subdivisions



Image 23: Environs facing south



**Image 24: Environs facing north** 



Image 25: Environs facing south, note slope, utilities



Image 26: Environs facing south, note sewage infrastructure



Image 27: Environs facing south



Image 28: Environs facing north, area of potential at bottom of slope



Image 29: Gas pipeline facing east, note gas pipeline



Image 30: Environs facing north



Image 31: Environs facing south



Image 32: Environs facing southeast, area of potential

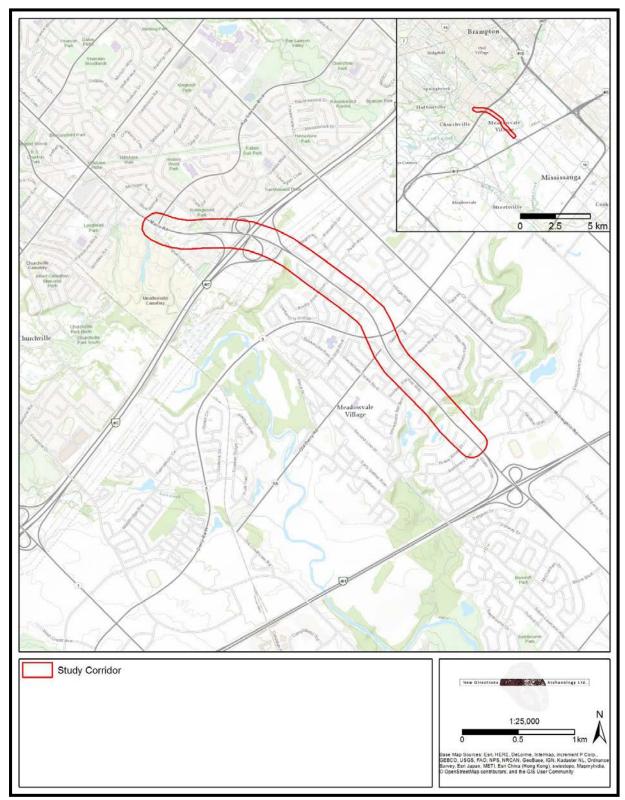


Image 33: Environs facing south

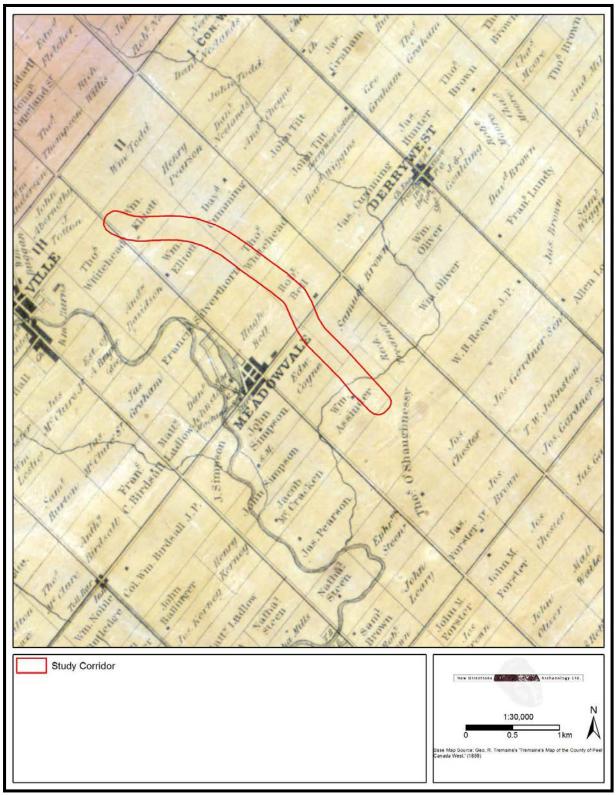


Image 34: Environs facing southeast

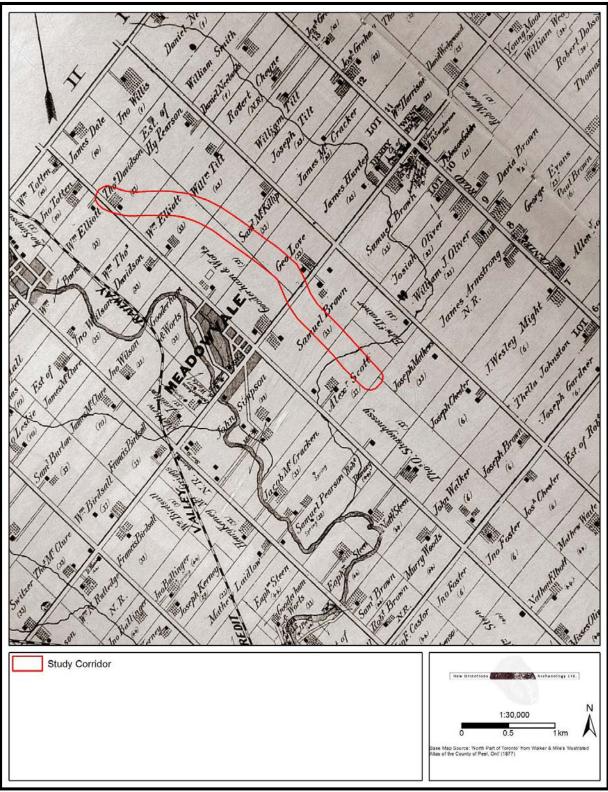
# **6.0 MAPS**



Map 1: Location of the Study Corridor on Topographic Map



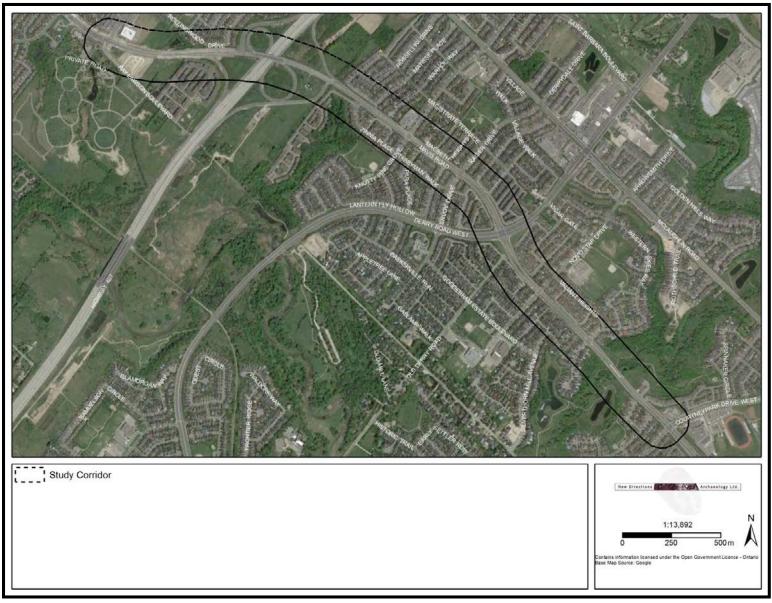
Map 2: Location of the Study Corridor on 1859 Tremaine Map of Toronto Township



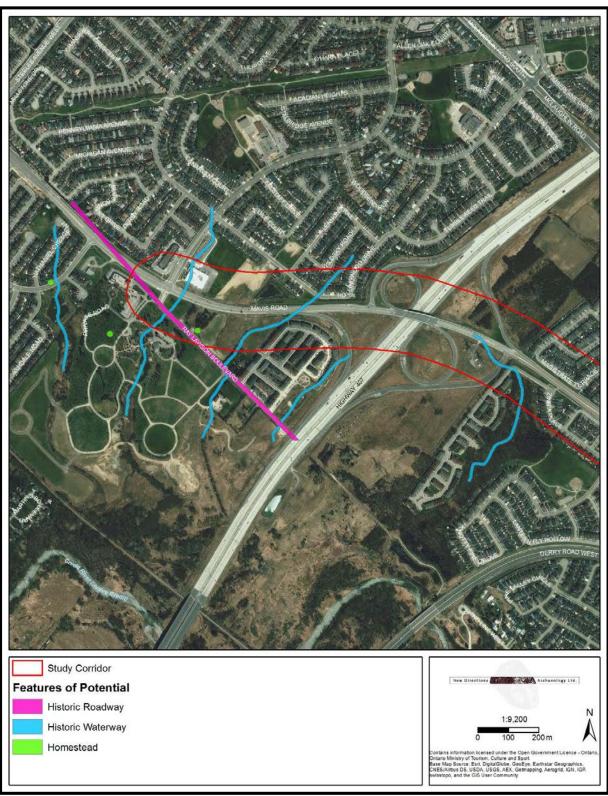
**Map 3: Location of the Study Corridor on 1877 Walker and Miles Atlas of Toronto Township** 



**Map 4: Location of the Study Corridor on 1954 Aerial Imagery** 



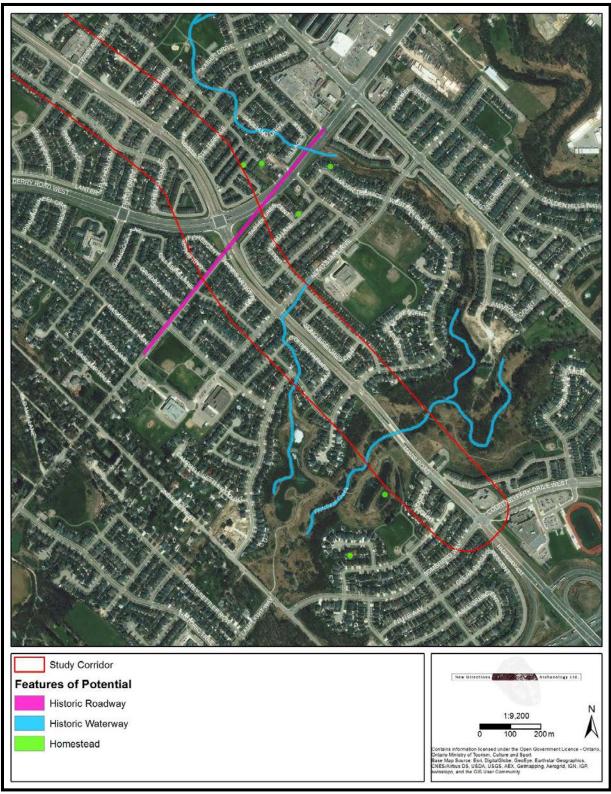
Map 5: Location of the Study Corridor on 2015 Aerial Imagery



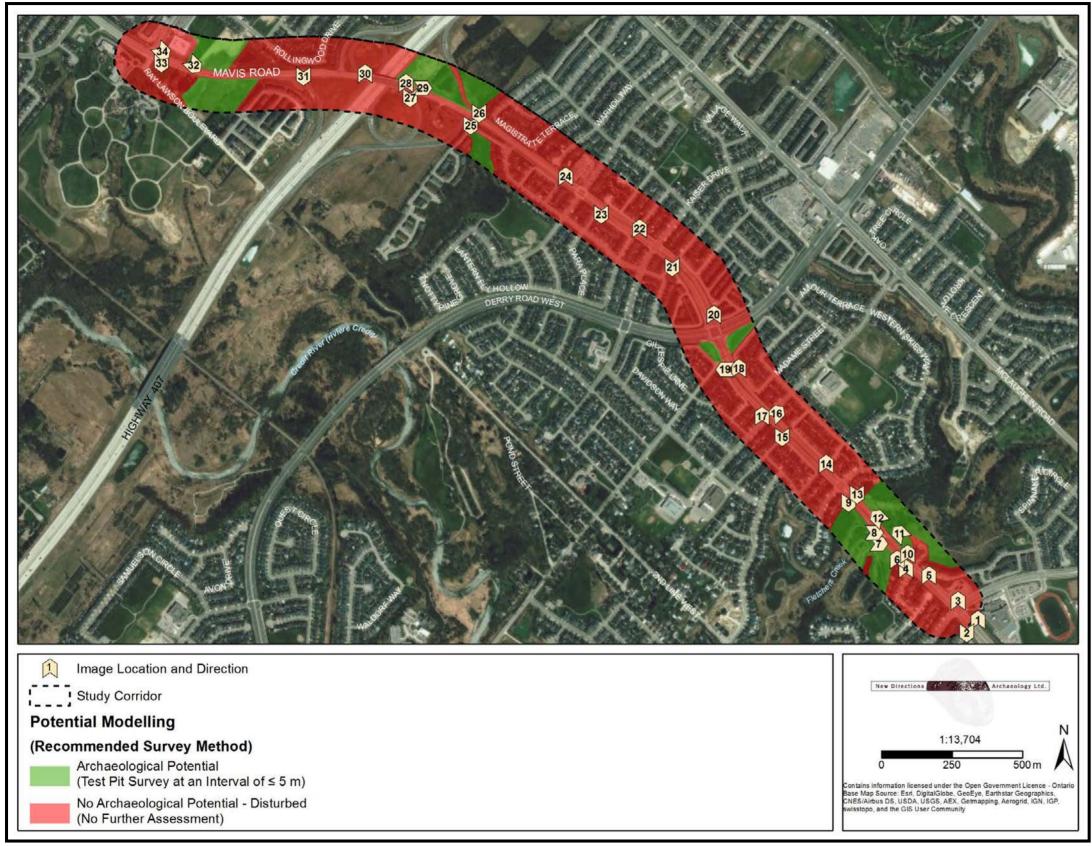
**Map 6: Features of Potential within Study Corridor - North** 



**Map 7: Features of Potential within Study Corridor - Central** 



**Map 8: Features of Potential within Study Corridor - South** 



**Map 9: Stage 1 Assessment Results** 

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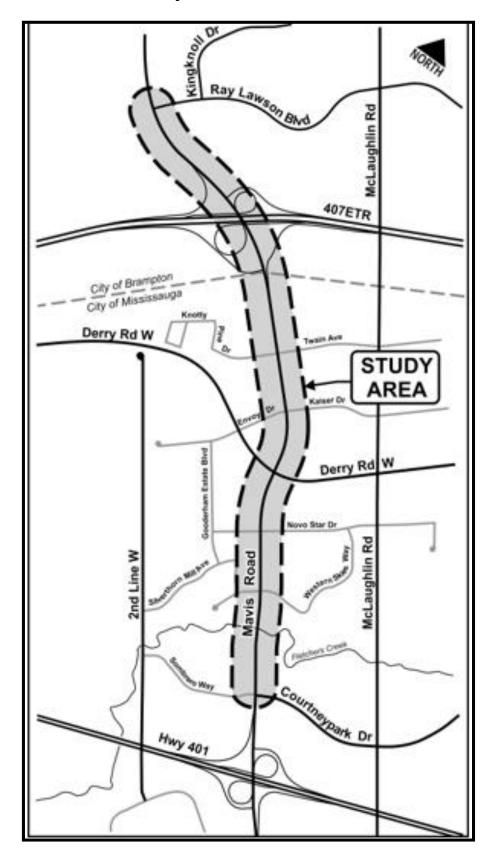
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## **APPENDICES**

**APPENDIX I: Unaltered Development Plans** 



# **APPENDIX II: Document Inventory**

Assessment	Field Documents	Total	Nature	Location
Stage 1 A.A. of	Photographs	97	Digital	On server at 1480 Sandhill
Mavis Road,				Drive, Unit 3, Ancaster;
Mississauga				Folder P018-0776-2016
	Field Notes	2	Digital and	On server and on file at 1480
			hard copy	Sandhill Drive, Unit 3,
				Ancaster; Folder P018-0776-
				2016
	Field Maps	3	Digital and	On server and on file at 1480
			hard copy	Sandhill Drive, Unit 3,
				Ancaster; Folder P018-0776-
				2016