

**STAGE 1 & 2 ARCHAEOLOGICAL  
ASSESSMENTS  
PROPOSED COONEY PIT  
PART LOTS 22 AND 23, CONCESSION 3  
GEOGRAPHIC TOWNSHIP OF DARLING  
NOW TOWNSHIP OF LANARK HIGHLANDS  
COUNTY OF LANARK**



**Past Recovery**  
Archaeological Services Inc.

**STAGE 1 & 2 ARCHAEOLOGICAL ASSESSMENTS,  
PROPOSED COONEY PIT,  
PART LOTS 22 AND 23, CONCESSION 3,  
GEOGRAPHIC TOWNSHIP OF DARLING,  
NOW TOWNSHIP OF LANARK HIGHLANDS,  
COUNTY OF LANARK**

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Original Report

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Christopher Bierman from the Kemptville Office of MNRF provided information about the historic aggregate pit on the property.

## PROJECT PERSONNEL

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## EXECUTIVE SUMMARY

Past Recovery Archaeological Services Inc. was retained by Cooney Construction & Landscape Ltd. to undertake Stage 1 and Stage 2 archaeological assessments as part of an application under the *Aggregate Resources Act* for a proposed pit located on parts of Lots 22 and 23, Concession 3 in the geographic Township of Darling, now in the Township of Lanark Highlands, Lanark County (see Maps 1 to 3). The study area for this assessment was defined on the basis of project mapping supplied by the project proponent and consisted of approximately 17.8 ha (43.9 acres) of land (see Map 3).

The purpose of the Stage 1 investigation was to evaluate the archaeological potential of the study area and present recommendations for the mitigation of any significant known or potential archaeological resources. To this end, historical, environmental and archaeological research was conducted in order to make a determination of archaeological potential. The assessment resulted in the identification of areas of archaeological potential, though with factors limiting the potential across much of the study area (see Map 7).

The purpose of the Stage 2 assessment was to determine whether or not the property contained archaeological resources requiring further assessment, and if so to recommend an appropriate Stage 3 assessment strategy. The Stage 2 property survey was completed over a single day – October 28<sup>th</sup>, 2021, by means of a shovel test pit survey conducted at five metre intervals wherever possible. No archaeological resources were discovered.

The report concluded with the following recommendations:

- 1) As the Stage 2 property survey did not result in the identification of any archaeological resources requiring further assessment or mitigation of impacts, no further archaeological assessment of the study area as defined on Map 2 is required.

- 2) If any additional areas are to be impacted (i.e. soil disturbances or other alterations) beyond the limits of the study area as presently defined, further archaeological assessment may be required. It should be noted that impacts include all aspects of the proposed development, including temporary property needs (i.e. access roads, staging/lay down areas, associated works, etc.). Any additional archaeological assessment should be undertaken by a licensed consultant archaeologist, in compliance with *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011).

The following recommendation has been included as per a request by the Algonquins of Ontario:

- 3) Since the potential always exists to miss important information in archaeological surveys, if any artifacts of Indigenous interest or human remains are encountered during the development of the subject property, please contact: Algonquins of Ontario Consultation Office, 31 Riverside Drive, Suite 101, Pembroke, ON, K8A 8R6; Tel: 613-735-3759; Fax: 613-735-6307; E-mail: [algonquins@tanakiwin.com](mailto:algonquins@tanakiwin.com).

The reader is also referred to Section 7.0 below to ensure compliance with relevant provincial legislation as it may relate to this project.

## TABLE OF CONTENTS

	Page No.
Acknowledgments	i
Project Personnel	i
Executive Summary	ii
List of Maps	vi
List of Images	vii
List of Tables	ix
1.0 Introduction	1
2.0 Project Context	2
2.1 Development Context	2
2.2 Property Description	2
2.3 Access Permission	2
3.0 Historical Context	3
3.1 Previous Historical Research	3
3.2 Regional Pre-Contact Cultural Overview	3
3.3 Regional Post-Contact Cultural Overview	7
3.4 Historical Development of the Study Area	13
4.0 Archaeological Context	16
4.1 Previous Archaeological Research	16
4.2 Previously Recorded Archaeological Sites	16
4.3 Identified Local Cultural Heritage Resources	17
4.4 Heritage Plaques and Monuments	17
4.5 Cemeteries	18
4.6 Mineral Resources	18
4.7 Local Environment	20
5.0 Stage 1 Archaeological Assessment	23
5.1 Optional Property Inspection	23
5.2 Determination of Archaeological Potential	24
5.3 Analysis and Conclusions	25
5.4 Stage 1 Recommendations	26
6.0 Stage 2 Archaeological Assessment	27
6.1 Field Methods	27
6.2 Results	28
6.3 Record of Finds	29
6.4 Analysis and Conclusions	29

**TABLE OF CONTENTS** *Continued*

	<b>Page No.</b>
6.5 Stage 2 Recommendations	29
7.0 Advice on Compliance with Legislation	30
8.0 Limitations and Closure	31
9.0 References	32
10.0 Maps	39
11.0 Images	48
APPENDIX 1: Photographic Catalogue	75
APPENDIX 2: Glossary of Archaeological Terms	80
APPENDIX 3: Licensee Qualifications	84

## LIST OF MAPS

<b>Map No.</b>		<b>Page No.</b>
1	Location of the study area	40
2	Recent (2019) orthographic imagery showing the study area	41
3	Plan of the study area showing the proposed licence boundary	42
4	Historical mapping showing the study area	43
5	Topographic mapping and aerial imagery showing the study area	44
6	Environmental mapping showing the study area	45
7	Recent (2019) orthographic imagery of the study area showing archaeological potential and locations and directions of field photographs	46
8	Recent (2019) orthographic imagery of the study area showing Stage 2 field methods and locations and directions of field photographs	47



## LIST OF IMAGES

<b>Image No.</b>		<b>Page No.</b>
1	Photograph of a former extraction area on Lot 22 next to Highway 511 in 1989	48
2	Overview of the reinstated former main pit showing landscaping and recent disturbance, facing south-southeast	48
3	The reinstated former main pit showing recent disturbance and slopes, facing southwest	49
4	The reinstated former main pit showing recent disturbance and slopes, facing northwest	49
5	The reinstated former main pit showing recent disturbance and slopes, facing northeast	50
6	Overview of the reinstated former main pit showing landscaping and slopes, facing west	50
7	The reinstated former main pit showing recent landscaping and slopes, facing west-northwest	51
8	The reinstated former main pit showing recent landscaping and slopes, facing northwest	51
9	The western side of the reinstated former main pit showing disturbance and slopes, facing south-southeast	52
10	The western side of the reinstated former main pit showing disturbance and slopes in the southwest corner of the study area, facing south-southeast	52
11	The western side of the reinstated former main pit showing disturbance and slopes in the southwest corner of the study area, facing south-southeast	53
12	The reinstated smaller pit next to the highway showing disturbance, facing northeast	53
13	The reinstated smaller pit next to the highway showing disturbance, facing northeast	54
14	Former small extraction area immediately south of the road across the north ridge showing disturbance, facing southwest	54
15	Former small extraction area in the southwestern section of the property showing disturbance, facing north	55
16	Former small extraction area immediately north of the camping area showing disturbance, facing north	55
17	Former small extraction area on the north side of the esker showing disturbance, facing east	56
18	Former small extraction area in the northwest corner of the study area showing disturbance, facing south-southeast	56
19	Former small extraction area in the northwest corner of the study area showing disturbance, facing south-southeast	57
20	Former small extraction area immediately north of the camping area showing disturbance, facing north	57

LIST OF IMAGES *continued*

Image No.	Page No.
21 Boulder pile in the centre of the former small extraction area immediately north of the camping area, facing northwest	58
22 Former roadbed along the eastern edge of the study area, facing north-northwest	58
23 Landscaped area near the current entrance to the pit showing disturbance, facing southeast	59
24 Landscaped area near the current entrance to the pit showing disturbance with the reinstated smaller pit in the background, facing north-northwest	59
25 The road near the entrance to the pit with an excavated access route showing disturbance, facing northeast	60
26 The present camping area showing disturbance, facing north	60
27 The present camping area showing disturbance and the steep slope to the south, facing south-southeast	61
28 Steep slope along the western edge of the property, facing southwest	61
29 Steep slope along the western edge of the property, facing northwest	62
30 Steep slope and rock outcrops along the western edge of the property, facing northeast	62
31 Steep slope and rock outcrops along the western edge of the property, facing south-southeast	63
32 Steep slope in the southwestern quadrant of the study area leading down to the wetland to the west, facing southwest	63
33 The wetland immediately west of the study area, facing south	64
34 View of steep slope from the top of the knoll in the western half of the study area, facing south	64
35 View of steep slope from the top of the knoll in the western half of the study area, facing southwest	65
36 Steep slope to the west of the camping area, facing west	65
37 Steep slope to the east of the knoll in the west half of the study area, facing west-southwest	66
38 Road along the southern edge of the study area showing the steep slope to the knoll, facing west	66
39 Steep slope within the western end of the reinstated pit, facing east	67
40 Steep slope and rock outcrops on the north side of the esker in the northern half of the study area, facing east-northeast	67
41 Steep slope and rock outcrops on the north side of the esker in the northern half of the study area, facing west-southwest	68
42 Steep slope and rock outcrops on the esker in the northern half of the study area, facing south	68
43 Small level terrace on the esker in the northern half of the study area, facing east	69
44 Former pasture along the northern edge of the study area, facing east-northeast	69

**LIST OF IMAGES** *continued*

<b>Image No.</b>		<b>Page No.</b>
45	Former pasture along the northern edge of the study area, facing west-southwest	70
46	Top of the ridge in the northern half of the study area with the esker in the background, facing northeast	70
47	Field crew testing a level terrace on the esker in the northern section of the study area at five metre intervals, facing south-southwest	71
48	Field crew testing in the former pasture along the northern edge of the study area at five metre intervals, facing north	71
49	Field crew testing along the top of the ridge next to the current road through the property at five metre intervals, facing east	72
50	Field crew testing the south-eastern section of the study area at five metre intervals, facing northwest	72
51	Sample test pit showing the typical soil stratigraphy on the esker in the northern section of the study area, facing west	73
52	Sample test pit showing the typical soil stratigraphy in the former pasture along the northern edge of the study area, facing south	73
53	Stone foundation for a sugaring-off trough, facing northwest	74
54	Stone foundation for a sugaring-off trough, facing west	74

**LIST OF TABLES**

<b>Table No.</b>		<b>Page No.</b>
1	Inventory of the Stage 1 documentary record	24
2	Estimates of survey coverage during the Stage 2 assessment	28
3	Inventory of the Stage 2 documentary record	28

## 1.0 INTRODUCTION

Past Recovery Archaeological Services Inc. was retained by Cooney Construction & Landscape Ltd. to undertake Stage 1 and Stage 2 archaeological assessments as part of a proposed aggregate pit located on part of Lots 22 and 23, Concession 3 in the geographic Township of Darling, County of Lanark (Maps 1 to 3).

The objectives of the Stage 1 archaeological assessment were as follows:

- To provide information concerning the study area's geography, history, previous archaeological fieldwork, and current land condition;
- To evaluate the study area's archaeological potential; and,
- To recommend appropriate strategies for Stage 2 archaeological assessment in the event further assessment is warranted.

The objectives of the Stage 2 archaeological assessment were as follows:

- To document all archaeological resources on the property;
- To determine whether the property contains archaeological resources requiring further assessment; and,
- In the event that an archaeological site requiring further assessment is discovered, to recommend appropriate Stage 3 assessment strategies.

## 2.0 PROJECT CONTEXT

This section of the report provides the context for the archaeological work undertaken, including a description of the study area, the related legislation or directives triggering the assessment, any additional development-related information, and an acknowledgement of permission to access the study area.

### 2.1 Development Context

The proposed aggregate pit will be located on Part Lots 22 and 23, Concession 3 in the geographic Township of Darling, now in the Township of Lanark Highlands, County of Lanark. A former pit was located in the centre of the study area in the second half of the twentieth century, which has since been rehabilitated. An archaeological assessment was required as part of the proposed pit application for a Class A, Category 3 Pit Above Water under the *Aggregate Resources Act (Ontario)*. The project will also require an amendment to the *Official Plan* for the County of Lanark, an amendment to the *Official Plan* for the Township of Lanark Highlands, and an amendment to the zoning by-law for the Township of Lanark Highlands, all under the *Planning Act*. Approval authority ultimately rests with Lanark County.

### 2.2 Property Description

The study area for this assessment was defined on the basis of project mapping supplied by the project proponent (Map 3). The proposed aggregate pit is located adjacent to the southwest side of Highway 511, and will total 17.8 ha (43.9 acres) in size, forming an irregularly-shaped parcel. The lands are currently comprised of unmanaged former pasture and rolling gravel hills surrounded by mixed conifer and hardwood forests. In addition to the location of the pre-existing pit, there was another small area of disturbance close to Highway 511. An active aggregate license Class A pit borders the south end of the study area.

### 2.3 Access Permission

Permission to access the subject property and complete all aspects of the archaeological assessment, including photography, was granted by property owner.

### 3.0 HISTORICAL CONTEXT

This section of the report is comprised of an overview of human settlement in the region using information derived from background historical and archival research. The purpose of this research is to describe the known settlement history of the local area, with the intention of providing a context for the evaluation of known and potential archaeological sites, as well as a review of property-specific information presenting a record of settlement and land use history within the study area.

#### 3.1 Previous Historical Research

There are numerous histories of Lanark County which offer some insights into the development of the study area. Belden's *Illustrated Historical Atlas of Lanark County* provides a nineteenth century description of the county's geography and settlement and also includes information on Darling Township (Belden 1881). More recent histories of Lanark County include *A Pioneer History of the County of Lanark* (McGill 1968) and *Lanark Legacy* (Brown 1984).

This research was also supplemented by a search of available records held at Library and Archives Canada (LAC) and land records for Darling Township from the Lanark County Land Registry Office (LCLRO).

#### 3.2 Regional Pre-Contact Cultural Overview

The study area falls within the traditional territories of the Anishinabewaki.<sup>1</sup> It also forms part of the Algonquins of Ontario Settlement Area set out by the Agreement-in-Principle.<sup>2</sup> While our understanding of the pre-Contact sequence of human activity in the area is limited, it is possible to provide a general outline of the pre-Contact occupation in the region based on archaeological, historical, and environmental research conducted across

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<sup>1</sup> The Anishinabewaki (referred to later in this report as Anishinaabeg) include the Omàmiwininiwak or Algonquin, Nipissing, Ojibwe, Odawa, Potawatomi, Oji-Cree and Mississauga, groups belonging to the Algonquian language family. Traditional territory refers to the long-standing, reciprocal relationships that Indigenous peoples have and continue to have with a geographic area, and to which their culture is inextricably linked. It includes, but is not limited to, areas of occupation, food acquisition, resource management, travel and trade routes, agricultural and pharmacological importance, as well as educational and spiritual significance.

<sup>2</sup> The Agreement-In-Principle is between the Algonquins of Ontario and the Governments of Ontario and Canada. Algonquins have sought recognition and protection of their traditional territory dating back to 1772 and in 1983 the Algonquins of Pikwàkanagàn First Nation (previously Algonquins of Golden Lake) formally submitted a petition to the Government of Canada, and in 1985 to the Government of Ontario. The claim was accepted for negotiations in 1991 and 1992 and an Agreement-In-Principle was signed in 2016 and negotiations are on-going.

what is now eastern Ontario as well as the oral histories of Indigenous communities who have long-standing relationships with the land in the region.<sup>3</sup>

Across the region, glaciers began to retreat around 15,000 years ago (Munson 2013:1). The earliest human occupation began approximately 13,500 years ago with the arrival of small groups of hunter-gatherers referred to by archaeologists as Palaeo-Indians (a.k.a Paleo-Indians and Paleo-Americans; Ellis 2013:35). These groups gradually moved northward as the glaciers and glacial lakes retreated. While very little is known about their lifestyle, it is likely that Palaeo-Indian groups travelled widely relying on the seasonal migration of caribou as well as small animals and wild plants for subsistence in a sub-arctic environment. They produced a variety of distinctive stone tools including fluted projectile points, scrapers, burins and graters. Their sites are extraordinarily rare, and most Palaeo-Indian sites are quite small (Ellis 2013:35-36). Palaeo-Indian peoples tended to camp along shorelines, and because of the changing environment, today many of these areas are dry land. Indigenous settlement of much of the region was late in comparison to other parts of what is now Ontario as a result of the high-water levels associated with the early stages of glacial Lake Iroquois and the St. Lawrence Marine Embayment of the post-glacial Champlain Sea (Hough 1958:204). In what is now eastern Ontario the ridges of old shorelines of Lake Iroquois, the Champlain Sea and emergent St. Lawrence and Ottawa River<sup>4</sup> channels would be the most likely areas to find evidence of Palaeo-Indian occupation.

During the succeeding Archaic period (c. 10,000 to c. 3,000 B.P.), the environment of the region approached modern conditions and more land became available for occupation as water levels in the glacial lakes dropped (Ellis et al. 1990:69). Populations continued to follow a mobile hunter-gatherer subsistence strategy, although there appears to have been a greater reliance on fishing and gathered food (e.g. plants and nuts) and more diversity between regional groups. The tool kit also became increasingly diversified, reflecting an adaptation to environmental conditions similar to those of today. This included the presence of adzes, gouges and other ground stone tools believed to have been used for heavy woodworking activities such as the construction of dug-out canoes, grinding stones for processing nuts and seeds, specialized fishing gear including net sinkers, and a general reduction in the size of projectile points. The middle and late portions of the Archaic period saw the development of trading networks spanning what are now known as the Great Lakes, and by 6,000 years ago copper was being mined in the Upper Great Lakes and traded into southern Ontario. There was increasing evidence

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<sup>3</sup> Most of the common place names used today were not used by the many Indigenous peoples who lived in the region for thousands of years prior to the arrival of Europeans. Throughout this report pre- and early Contact period place names are prefaced with 'what is now' or 'what is now known as.' Ontario was not formed until 1867 A.D.

<sup>4</sup> The Ottawa River has various different Algonquin names specific to each of its parts. The lower part of the river from Matawang (Mattawa) down to Lake of Two Mountains is traditionally known as the Kichissippi (Morrison 2015:9).

of ceremonialism and elaborate burial practices and a wide variety of non-utilitarian items such as gorgets, pipes and 'birdstones' were being manufactured. By the end of this period populations had increased substantially over the preceding Palaeo-Indian occupation.

More extensive Indigenous settlement of the region began during this period, sometime between 7,500 and 6,500 B.P. (Clermont 1999; Kennedy 1970:61; Ellis et al. 1990:93). Artifacts from Archaic sites suggest a close relationship to the Laurentian Archaic stage peoples who occupied the Canadian biotic province transition zone between the deciduous forests to the south and the boreal forests to the north. The region included what is now northern New York State, the upper St. Lawrence Valley (southern Ontario and Quebec) and the state of Vermont (Ritchie 1969; Clermont 2003). The 'tradition' associated with this period is characterized by a more or less systematic sharing of several technological features, including large, broad bladed, chipped stone and ground slate projectile points, and heavy ground stone tools. This stage is also known for the extensive use of cold-hammered copper tools including "*bevelled spear points, bracelets, pendants, axes, fishhooks and knives*" (Kennedy 1970:59). The sharing of this set of features is generally perceived as a marker of historical relatedness and inclusion in the same interaction network (Clermont et al. 2003:323).

Archaeologists use the appearance of ceramics in the archaeological record to mark the beginning of the Woodland period (c. 3,000 B.P. to c. 350 B.P.). Local populations continued to participate in extensive trade networks that, at their zenith c. 1,700 B.P., spanned much of what is now North America and included the movement of conch shell, fossilized shark teeth, mica, copper and silver. The recent discovery of a cache of charred quinoa seeds, dating to 3,000 B.P. at a site in Brantford, Ontario, indicates that crops were also part of this extensive exchange network, which in this case travelled from what is now the Kentucky-Tennessee region of the United States (Crawford et al. 2019). There is no indication, however, that these seeds were locally grown. Social structure appears to have become increasingly complex, with some status differentiation evident in burials. It was in the Middle Woodland period (c. 2,300 B.P. to c. 1,200 B.P.) that increasingly distinctive trends or 'traditions' evolved in different parts of Ontario for the first time. The Middle Woodland tradition found in what is now eastern and south-central Ontario has come to be referred to as 'Point Peninsula'. Investigations of sites with occupations dating to this time period have allowed archaeologists to develop a better picture of the seasonal round followed in order to exploit a variety of resources within a home territory. Through the late fall and winter, small groups would occupy an inland 'family' hunting area. In the spring, these dispersed families would congregate at specific lakeshore sites to fish, hunt in the surrounding forest, and socialize. This gathering would last through to the late summer when large quantities of food would be stored up for the approaching winter (Spence et al. 1990:157).



Towards the end of the Middle Woodland period (c. 1,200 B.P.) various domesticated plants were introduced in areas south of the Canadian Shield. Initially only a minor addition to the diet, the cultivation of corn, beans, squash, sunflowers and tobacco gained economic importance for some Late Woodland peoples. Along with this shift in subsistence, settlements located adjacent to corn fields began to take on greater permanency as sites with easily tillable farmland became more important. Eventually, semi-permanent and permanent villages were built, many of which were surrounded by palisades, evidence of growing hostilities between neighbouring groups. Late Woodland peoples in much of the area, however, continued to follow a largely mobile hunter-gatherer lifestyle with small-scale horticulture occurring only where soil conditions were favourable within the general shield environment (Pendergast 1999).

What is now eastern Ontario was occupied by distinct Indigenous communities in the final decades prior to the arrival of Europeans. Agricultural villages, dating to c. 550 B.P., of an Iroquoian people referred to as “proto-Huron” have been recorded in southern Hastings and Frontenac Counties (Pendergast 1972). By c. 450 B.P., however, the easternmost settlements of the Huron were located between what is now known as Balsam Lake and Lake Simcoe. The St. Lawrence Iroquois occupied the upper St. Lawrence River valley. The material culture and settlement patterns of the fourteenth and fifteenth century Iroquoian sites found along the upper St. Lawrence in Ontario are directly related to the Iroquoian-speaking groups that Jacques Cartier and his crew encountered in 1535 at Stadacona (Quebec City) and Hochelaga (Montreal Island; Jamieson 1990:386). Following Cartier’s initial voyages, subsequent journeys by Europeans noted only abandoned settlements along the St. Lawrence River. At this time, there was a significant increase in St. Lawrence Iroquoian ceramic vessel types on Huron sites, and segments of the St. Lawrence Iroquois population may have relocated to the north and west either as captives or refugees (Wright 1966:70-71; Sutton 1990:54). Anishinabeg oral histories, which suggest a homeland extending far to the west of Ontario (traditions vary in where the homeland is placed), also include references to a migration to the Atlantic seaboard, as well as a subsequent return via the St. Lawrence River to the Great Lakes region, with the latter having occurred around 500 B.P. (1400 A.D.; Hessel 1993). Living on the Canadian Shield, these groups maintained a more nomadic lifestyle than their agricultural neighbours to the south, and accordingly their presence is less visible in the archaeological record. Finally, while the Haudenosaunee homeland was initially south of what is now Ontario in New York, their oral histories suggest their original hunting grounds extended along the north side of Lake Ontario and the St. Lawrence into what is now southeastern Ontario and Quebec (Hill 2017).

The population shifts of the late sixteenth and early seventeenth centuries were certainly in part a result of the disruption of traditional trade and exchange patterns among all Indigenous peoples brought about by the arrival of the French, Dutch and British along the Atlantic seaboard. Control of the lucrative St. Lawrence River trade became a source

of contention between neighbouring peoples as the benefits of trading with the Europeans became apparent.

### 3.3 Regional Post-Contact Cultural Overview

The first Europeans to travel into eastern Ontario arrived in the early seventeenth century; predominantly French, they included explorers, fur traders and missionaries. While exploring eastern Ontario and the Ottawa River watershed between c. 1610 and 1613, Samuel de Champlain and others documented encounters with different Indigenous groups speaking Anishinaabemowin, including the Matouweskarini along the Madawaska River, the Kichespirini at Morrison Island on the Ottawa River, the Otaguottouemin along the river northwest of Morrison Island, the Weskarini in the Petite Nation River basin, and the Onontchataronon living in the South Nation River basin as far west as the Gananoque River basin (Hanewich 2009; Hessel 1993; Sherman 2015:29). These extended family communities subsisted by hunting, fishing, and gathering, and undertook some horticulture (see also Pendergast 1999; Trigger 1987). The Anishinaabeg living in the Upper Ottawa Valley and northeastward towards the headwaters of the Ottawa River included the Nipissing, Timiskaming, Abitibi (Wahgoshig), and others; however, as the French moved inland, they referred to all these groups who spoke different dialects of Anishinaabemowin as Algonquin (Morrison 2005:18).

At the time of Champlain's travels, the Algonquin were already acting as brokers in the fur trade and exacting tolls from those using the Ottawa River waterway which served as a significant trade route connecting the Upper Great Lakes via Lake Nipissing and Georgian Bay to the west and the St. Maurice and Saguenay via Lake Timiskaming and the Rivières des Outaouais to the east. These northern routes avoided the St. Lawrence River and Lower Great Lakes route and its potential conflict with the Haudenosaunee (Joan Holmes & Associates, Inc. 1993:2-3). The St. Lawrence trade route appears to have been largely controlled by the Haudenosaunee until c. 1609-10 when it was re-opened to other Indigenous groups with French assistance. Access to this route and the extent of settlement in the region fluctuated with the state of hostilities (Joan Holmes & Associates, Inc. 1993:3). In the wake of Champlain's travels, the Ottawa River also became the principal route to the interior for French explorers, missionaries, and fur traders. Since the fur trade in New France was Montreal-based, Ottawa River navigation routes were of strategic importance in the movement of goods inland and furs down to Montreal. The recovery of European trade goods (e.g. iron axes, copper kettle pieces, glass beads, etc.) from sites throughout the Ottawa River drainage basin provides some evidence of the extent of interaction between Indigenous communities and the fur traders during this period.

Following the early Contact period, significant changes occurred in the pattern of settlement for Indigenous populations in the region. The endemic warfare of the age and severe smallpox epidemics in 1623-24 and again between 1634 and 1640 brought about

drastic population decline among all Indigenous peoples (Hessel 1993:63-65). The French, allied with the Huron-Wendat, the Petun, and their Anishinaabeg trading partners, refused entreaties by the Haudenosaunee to trade with them directly. Seeking to expand their territory and disrupt the French fur trade, Haudenosaunee launched raids into the region and established a series of winter hunting bases and trading settlements near the mouths of the major rivers flowing into the north shore of what is now Lake Ontario and the St. Lawrence River.<sup>5</sup> The first recorded Haudenosaunee settlements were two Cayuga villages established at the northeastern end of Lake Ontario (Konrad 1981). Between 1640 and 1650 the success of the Haudenosaunee Confederacy in warfare led to the dispersal of the Anishinaabeg and Huron-Wendat groups who had been occupying much of what is now southern Ontario. Survivors of the various groups often coalesced in settlements to the north and west of what is now known as the Ottawa Valley,<sup>6</sup> and at the French posts of Montreal, Quebec City, Sillery, and Trois Rivières (Joan Holmes & Associates, Inc. 1993:3; Trigger 1987:610, 637-638).

The extent of Indigenous settlement in the Ottawa River watershed through to the end of the seventeenth century is uncertain. The Odawa appear to have been using the river for trade from c. 1654 onward and some Algonquin remained within areas under French influence, possibly having withdrawn to the headwaters of various tributaries in the watershed (Joan Holmes & Associates, Inc. 1993:3). As a result of increased tensions between the Haudenosaunee and the French, and declining population from disease and warfare, the Cayuga villages were abandoned in 1680 (Edwards 1984:17). What remained of the Haudenosaunee settlements along the north shore of Lake Ontario were destroyed by the French military under Denonville in 1687, after which the Mississauga, or Michi Saagiig Anishinaabe, began to move into the region abandoned by the Haudenosaunee, having a presence and influence in the area through much of the eighteenth century (Edwards 1984:10,17; Ripmeester 1995).

The first half of the eighteenth century is another period for which there is limited settlement information for what is now eastern Ontario. Haudenosaunee occupation appears to have been largely restricted to south of the St. Lawrence River while Mississauga and Chippewa settlement was focussed in what is now southern and central Ontario, generally beyond the Ottawa River watershed (Joan Holmes & Associates, Inc. 1993:3). There appear to have been some Algonquin residing along the Ottawa River and its tributaries with a documented presence along the Gatineau River in the period between 1712 and 1716. There were also Algonquin residing on the Rivière du Lièvre and at Lake of Two Mountains, as well as outside the Ottawa River watershed at Trois-Rivières; Nipissing were located north of Lake Nipissing and at Lake Nipigon. Reports

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<sup>5</sup> These settlements included: Quinaouatoua near present day Hamilton, Teiaiaagon on the Humber River, Ganatswekwyagon on the Rouge River, Ganaraske on the Ganaraska River, Kentsio on Rice Lake, Kente on the Bay of Quinte, and Ganneious, near the present site of Napanee.

<sup>6</sup> Some Nipissing, for example, re-located to the Lake Nipigon region (Joan Holmes & Associates, Inc. 1993:3).

from c. 1752 suggest that Algonquin and Nipissing were trading at Lake of Two Mountains during the summer but returning to hunting grounds “*far up the Ottawa River*” for the winter, and there is some indication that they may have permitted those Iroquois who were also associated with the Lake of Two Mountains mission to hunt in their territory (Joan Holmes & Associates, Inc. 1993:3; Heidenreich and Noël 1987:Plate 40).

In 1754, hostilities over trade and the territorial ambitions of the French and British led to the Seven Years’ War, in which many Anishinaabe bands fought on behalf of the French. With the French surrender in 1763, Britain gained control over New France. Later that year, the British government issued the *Royal Proclamation of 1763*, creating a boundary line between the British colonies on the Atlantic coast and the ‘Indian Reserve’ west of the Appalachian Mountains. This line then extended from where the 45th parallel of latitude crossed the St. Lawrence River near Cornwall northwestward to the southeast shore of Lake Nipissing and then northeastward to Lac St. Jean. The proclamation specified that “*Indians should not be molested on their hunting grounds*” (Joan Holmes & Associates, Inc. 1993:4) and outlawed the private purchase of Indigenous land, instead requiring all future land purchases to be made by Crown officials “*at some public Meeting or Assembly of the said Indians*” occupying the land in question (cited in Surtees 1982:9). In 1764, the post at Carillon on the Ottawa River was identified as the point beyond which traders could only pass with a specific licence to trade in “*Indian Territory.*” This also marked the eastern edge of the lands claimed by the Algonquin and Nipissing. Petitions in 1772 and again in 1791 described Algonquin and Nipissing territory as the lands on both sides of the Ottawa River from Long Sault to Lake Nipissing (Joan Holmes & Associates, Inc. 1993:5).

Following the American Revolutionary War, the British sought additional lands on which to settle United Empire Loyalists fleeing the United States, Mohawk who had fought under Thayendanegea (Joseph Brant) and Chief Deserontyon and were therefore displaced from their lands, and disbanded soldiers. To this end, the British government undertook hasty negotiations with Indigenous groups to acquire rights to lands. Initially the focus was the north shore of Lake Ontario and the St. Lawrence River and then further inland, resulting in a series of ‘purchases’ and treaties beginning with the Crawford Purchases of 1783 which covered much of the present eastern Ontario. Notably, these treaties did not include all of the Indigenous peoples with rights to the region, nor did they extinguish Indigenous rights and title to the land once entering into the treaty relationship (Royal Commission on Aboriginal Peoples 1996). Further, the recording of these purchases – including of the boundaries – and their execution were problematic (Joan Holmes & Associates, Inc. 1993:5). The Constitution Act of 1791, which created the provinces of Upper and Lower Canada using the Ottawa River as the dividing line, split administrative authority for the lands claimed by the Algonquins and Nipissings. By 1798, the Algonquin and Nipissing were complaining of squatters encroaching on lands along the Ottawa River (Joan Holmes & Associates, Inc. 1993:5).

Major Samuel Holland, Surveyor General for Canada, began laying out 'purchase' lands in 1784, with such haste that the newly established townships were assigned numbers instead of names. Euro-Canadian settlement along the north bank of the St. Lawrence River and the eastern end of Lake Ontario began in earnest about this time. By the late 1780s the waterfront townships were full, and more land was required to meet both an increase in the size of grants to all Loyalists and grant obligations to the children of Loyalists who were now entitled to 200 acres in their own right upon reaching the age of 21. Furthermore, in 1792 John Graves Simcoe, Lieutenant Governor of the Province of Upper Canada, offered free land grants to anyone who would swear loyalty to the King, a policy aimed at attracting more American settlers. As government policy also dictated the setting aside of one seventh of all land for the Protestant Clergy and another seventh as Crown reserves, pressure mounted to open up more of the interior. As a result, between 1790 and 1800 most of the remainder of the Crawford Purchase was divided into townships.

In 1815, the British government issued a proclamation in Edinburgh to further encourage settlement in British North America. The offer included free passage and 100 acres of land for each head of family with each male child to receive his own 100 acre parcel upon reaching the age of 21 (H. Belden & Co. 1881:16). At the same time, the government was seeking additional land on which to resettle disbanded soldiers from the War of 1812. Demobilized forces, it was theorized, would act as a force-in-being to oppose any possible future incursions from what is now known as the United States. To this end veterans were encouraged to take up residence within a series of newly created 'military settlements' established at Perth (1816) and Richmond (1818).

With the settlement of the region underway, Lieutenant Governor Gore ordered Captain Ferguson, the Resident Agent of Indian Affairs at Kingston, to arrange the purchase of additional lands from the chiefs of the Chippewa and Mississauga Nations. The resulting Rideau Purchase extended from the rear of the earlier Crawford Purchase to the Ottawa River and was signed by the Mississauga in 1819 and confirmed in 1822. The approximately one million hectares acquired corresponded to much of what would become Lanark County, the north-western townships in Carleton County (now part of the City of Ottawa), the southeastern part of Renfrew County as far north as Pembroke, and several townships to the north of the previously acquired lands in the counties of Frontenac, Addington and Hastings (Government of Canada 1891:62; Surtees 1994:115). As this purchase included lands within the Ottawa River watershed, the Algonquin and Nipissing protested in 1836 when they became aware of its terms (Joan Holmes & Associates, Inc. 1993:6).

As Euro-Canadian settlement spread, the Indigenous occupants were increasingly pushed out of the region, generally moving further to the north and west, although some families remained in their traditional lands, at least seasonally. Records relating to the Hudson's Bay Company, the diaries of provincial land surveyors, the reports of

geologists sent in by the Geological Survey of Canada, census returns,<sup>7</sup> store account books and settler's diaries all provide indications of the continued Indigenous settlement in the region, as does Indigenous oral history.

While Algonquin and Nipissing spent part of the summer at Lake of Two Mountains through this period, most of the year appears to have been spent on their traditional hunting grounds, and by the 1830s there were specific claims by individuals such as Mackwa on the Bonnechere River and Constant Pennecy on the Rideau waterway. Records also indicate there was a short-lived Mississauga reserve in what became Bedford Township north of Kingston in the 1830s (Huitema 2001:118; Ripmeester 1995:164-166). Around 1836 some consideration was given to facilitating Algonquin and Nipissing settlement in the Grand Calumet Portage and Allumette Island area, but this was not pursued. In 1842, Shawaniprinessi (who also went by the name of Peter Stephens or Stevens), Chief of an Algonquin group who had long resided near the headwaters of the Rideau and Mississippi Rivers, submitted a petition for a licence of occupation to the Indian Department (Dawber 2000:9; Huitema 2001). A licence of occupation for the 'Bedford Algonquin' was granted in 1844, with, as noted above, Mississauga from Alnwick reportedly also living at Bedford (Joan Holmes & Associates, Inc. 1993:7-8). Eventually, unable to obtain the necessary sustenance from their land, Peter Stephen's group dispersed further north (Huitema 2001:129).

In addition to their interactions with the Algonquin who remained in the area, the nineteenth century settlers found evidence of the former extent of Indigenous occupation, particularly as they began to clear the land. In 1819, Andrew Bell wrote from Perth:

*All the country hereabouts has evidently been once inhabited by the Indians, and for a vast number of years too. The remains of fires, with the bones and horns of deers (sic) round them, have often been found under the black mound... A large pot made of burnt clay and highly ornamented was lately found near the banks of the Mississippi, under a large maple tree, probably two or three hundred years old. Stone axes have been found in different parts of the settlement.*

(cited in Brown 1984:8)

Indigenous land claims in eastern Ontario continued to be unresolved through the late nineteenth and twentieth century. A licence of occupation for Algonquin and Nipissing in Lawrence Township near the headwaters of the York branch of the Madawaska River was issued in 1866 but then lapsed and repeated attempts to secure another location in the area were finally rejected in 1897. Land for the Golden Lake Reserve was purchased in 1873 (Joan Holmes & Associates, Inc. 1993:9).

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<sup>7</sup> While Indigenous peoples were clearly still residing in the area and making use of the land, they often do not appear in the 1851 to 1871 census records. Huitema (2001:129) notes that Algonquin were sometimes listed in these records as 'frenchmen' or 'halfbreeds' because they had utilized the mission at Lake of Two Mountains as their summer gathering place and were therefore thought of as being French.

Beginning in 1869, the Mississauga and Chippewa had begun petitioning for unceded land north of the 45th parallel, including lands within the Ottawa River watershed. These claims were reiterated in the early twentieth century and, ultimately, led to the signing of the Williams Treaties of 1923. As such, the Williams Treaties covered the reserve already established for the Algonquin at Golden Lake and failed to consider outstanding Algonquin claims for lands in the Ottawa River watershed (Joan Holmes & Associates, Inc. 1993:10).

Through the early twentieth century, off-reserve Algonquin and Nipissing were told to move to established reserves at Golden Lake (Pikwàkanagàn), Maniwaki (Desert River) and at Gibson on Georgian Bay (which had been established for the re-settlement of both Algonquin and Mohawk from Lake of Two Mountains), but many remained in their traditional hunting territories (Joan Holmes & Associates, Inc. 1993:10). There is also evidence to suggest that St. Regis Mohawk trapped and hunted north of their reserve as far as Smiths Falls and Rideau Ferry between c. 1924 and 1948 (Joan Holmes & Associates, Inc. 1993:11). On-going issues with late eighteenth century purchases and nineteenth and early twentieth century treaties were numerous and have resulted in continued land claims by Indigenous groups.

### *Darling Township*

Darling Township was first surveyed in 1822 by Reuben Sherwood in anticipation of an influx of Scottish lowland settlers, who came to be known as the Lanark Society Settlers (Winearls 1991:485). The township was named for Major General H.C. Darling, who was serving in a senior post in Quebec City as military secretary to the Governor General (Bennett 1982). The adjoining townships of Lanark and Darling were established in 1820 and 1822 respectively, and for official purposes were grouped together. They remained so until 1853 when a separate administration for Darling was begun. One of the early settlers was named Andrew Hill, who operated the township's first licensed inn in 1825 (McGill 1968:76). Another early settler, Daniel Hall, who arrived in Darling Township in 1828, established a farm at the southern end of the tract (Lanark Highlands 2020). Although the township was soon opened for settlement, the pace of development was slow. By the time of the first census of Canada West, the population for this area was reported as 271. Four years later, *Smith's Canadian Gazetteer* reported that while 5,049 acres of land had been taken up, only 1,257 were under cultivation (Smith 1846:42).

The 1863 H.F. Walling map of Lanark and Renfrew Counties provides some insight into the extent of Euro-Canadian settlement in Darling Township in the middle of the nineteenth century. The map shows that the majority of the pioneering families had settled in the southern half of the township, in proximity to the Lanark Road, the mining concerns around Tatlock, the Clyde River and the Indian River. By contrast, settlement in the northern portion of the township remained sparse (LAC NMC 11476).

The 'Historical Sketch' of Darling contained within the 1881 *Illustrated Atlas of the County of Lanark* provides a contemporary view of the prospects for the township:

*Besides being one of the most northerly, it is one of the most sparsely settled and roughest townships in the county; the predominant characteristics of its topography being a prevalence of hills, rocks and boulders, which constitute something more extreme than a merely 'rolling' surface, and impart a decidedly broken and uneven aspect, while rendering the township generally of quite indifferent agricultural merit. The soil, even in the most favoured localities, is of a rather light quality, and liberally interspersed with boulders and limestone rock.*

(H. Belden & Co. 1881:21)

The only land that proved useful for agriculture was that located in floodplains, along rivers or adjacent to lakes. Consequently, most settlers opted to undertake timber-related activities to supplement their livelihoods (Lanark Highlands 2020). The 1880 *Atlas* also reports that as of the 1871 census, 20,594 of the 52,000 acres making up the township were returned as 'occupied,' though only 8,107 acres were described as improved and the acreage under crop was only about 4,481 (H. Belden & Co. 1881:21).

The townships of Lanark, Darling, Lavant, Dalhousie and North Sherbrooke amalgamated to form Lanark Highlands in 1997.

### **3.4 Historical Development of the Study Area**

Archival research was conducted in order to develop a general picture of land use history for the study area through the nineteenth and twentieth centuries particularly as it relates to the archaeological potential of the study area. Information was compiled from a variety of sources, including land registry abstract indices from the Lanark County Land Registry Office (LCLRO), the 1863 Walling map of Lanark and Renfrew Counties, twentieth century topographic maps and aerial photographs, as well as available nineteenth and twentieth century local histories.

#### *Lot 22, Concession 3, Darling Township*

The Crown patent for the 200 acres of Lot 22, Concession 3, was assumed by the Canada Company in 1846. This was a business contracted by the fledgeling Upper Canada government to purchase Crown reserves and other lands for the purposes of settlement and to prevent private purchase for speculation (McGill 1968:110). A patent plan of Darling Township, based on a survey completed in 1823, shows the Canada Company as the original owner of the lot (Map 4). The western half also contains the name "M. James" followed by "MIN RTS," indicating that this individual had obtained the right to explore for minerals on this part of the property. On Walling's 1863 plan of Darling Township, the lot is illustrated as vacant, although the road presently known as Highway 511,



previously the Lanark to Calabogie Road, is shown as having been built by this time (see Map 4).

In 1869 the Canada Company sold the west half of the property (100 acres) to Daniel Wilson (LCLRO Instrument A144). Three years later Wilson and his wife sold the lands to John Wilson, who took out a mortgage from William Croft in 1877 but was clearly unable to meet payments on it as the property passed to Croft the following year (LCLRO Instruments A146, B226 and B287). The Belden map, dating to 1881, unfortunately offers little information, as the majority of the lots are illustrated as vacant, though this had more to do with the subscription fee required for a farm to appear on the map, rather than an actual lack of settlement at this time (see Map 4). A series of transactions occurred in the mid-1880s, though the Croft family, described as merchants, appears to have maintained ownership of the property, selling it to Thomas Elliott in 1903 (LCLRO Instrument C728). The west half was seized in the mid-1930s as a result of tax arrears and sold to John Allan, who turned it over to Melville James in 1939 (LCLRO Instruments D1314 and D1399). That same year the Canada Company released its interest in the east half of the lot to Ernest James, and the entire property apart from small portions acquired for Highway 511 remained in the James family until 1989 (LCLRO Instrument 100067).

*Lot 23, Concession 3, Darling Township*

In 1869 the Crown patent for the 100 acres of the southwestern half of Lot 23, Concession 3, was awarded to Duncan McKinley; the eastern half was not awarded until 1881, to William Croft (LCLRO). The patent plan for the township described confirms the original owners, containing the name 'Duncan Kinley' on the western half of the property and 'William L. Croft' on the eastern half (see Map 4). Despite Walling's 1863 plan of Darling Township predating the awarding of the patent for the southwest half by six years, two structures are illustrated within this part of Lot 23 (see Map 4). The houses of D. McKinley and D. Nicol are both shown along the western side of the travelled highway between Lanark and Calabogie which, as stated above, had been constructed by this time. The provincial census taken two years earlier in 1861 indicates that both families were on the property by that time. Duncan McKinley was living with his wife Ann and six children in a one-storey shanty and had cleared 42 of 100 acres which included pasture for ten cattle, twelve sheep and two pigs. David and Jane Nicol were similarly residing in a one-storey shanty with their six children, had cleared 40 of 100 acres and owned eight cattle, two sheep and two pigs. Both farms likely extended to the east of the travelled road to account for the total acreage (LAC microfilm reels C-1042 and C-1043).

Duncan McKinley sold the southwest half of the lot to John Wilson in 1870 (LCLRO Instrument A145). In the 1871 census Wilson and his wife Jane are listed as the sole owners of Lot 23, perhaps an indication that the Nicols shanty had been abandoned. The Wilson family, which included three young children, appears to have been fairly well off, holding a total of 400 acres with 100 acres improved, a house, four barns or stables, eight wagons or sleds, four horses, 15 cattle and three pigs (LAC microfilm reel C-10019).

Wilson sold his property to William Croft in 1877, who, as stated above, also received the Crown patent for the east half four years later. Croft appears to have purchased the east half in 1878 (LCLRO Instruments B186 and B287).

The lot was sold to James Trail in 1891, and then to Robert James in 1903 (LCLRO Instruments B475 and C711). Robert divided the property between sons Melville (southwest half) and Ernest (east half) in 1939 (LCLRO Instruments D1489 and D1490). As with Lot 22, most of this lot remained in the James family through the mid-twentieth century.

#### *Twentieth Century Developments*

The first edition one-inch-to-one-mile topographic map dating to 1948 depicts the study area as vacant, confirming that the Nicols farm had been removed (Map 5). The former McKinley farm to the north, however, was still present, and there was a sawmill on the opposite side of the road. Land was acquired by the provincial Department of Highways from both parcels in 1962 for the creation of a right-of-way for Highway 511, allowing the existing road to be brought up to secondary highway standard (LCLRO Instrument 13455). This involved shifting the road slightly to the east, leaving the former road bed within the current study area. By 1974 the former McKinley farm was unchanged, but a new residence had been constructed next to the highway on the east side of the drumlin to the south (see Map 5).

There was a gravel pit in the centre of the study area in the second half of the twentieth century, though the dates of operation are uncertain. A 1:10,000 topographic map published in 2002 shows the conjectured outline of the main former pit at that time, as well as the structures and fence lines immediately to the north of the study area (see Map 5). Though not delineated on the map, there was also a smaller extraction area next to the highway, as photographed in 1989 (Image 1). By 2008 the former pits had been reinstated (see Map 5). The same aerial image shows the original McKinley/Wilson farmhouse next to the highway (the southernmost of the northern cluster of buildings), though it had been abandoned as a residence with a new house having been erected further to the north. The early residence had been demolished by 2015.

## 4.0 ARCHAEOLOGICAL CONTEXT

This section describes the environmental and archaeological context of the study area which, combined with the historical context outlined above, provides the necessary information to assess the archaeological potential of the property.

### 4.1 Previous Archaeological Research

In order to determine whether any previous archaeological fieldwork has been conducted within or in the immediate vicinity of the present study area, a search of the titles of reports in the *Public Register of Archaeological Reports* maintained by the Ministry of Heritage, Sport, Tourism, and Culture Industries (MHSTCI) was undertaken. To augment these results, a search of the Past Recovery corporate library was conducted, and a network of professional contacts was consulted, including other licensed archaeologists working in the area. The search revealed that no previous assessments have been undertaken within or immediately adjacent to the study area and that only a limited amount of systematic archaeological work had been conducted within the former Township of Darling.

In the late nineteenth and early twentieth centuries, archaeological research in southern Ontario was conducted by a variety of researchers, such as David Boyle, William Wintemberg, Col. G.E. Laidlaw, and Andrew F. Hunter, as well as a number of amateur collectors. Records of this research and of the donation of artifacts to the provincial museum (now the Royal Ontario Museum) appeared in the *Annual Archaeological Reports* included as an appendix in the reports to Ontario's Minister of Education between 1888 and 1928.

### 4.2 Previously Recorded Archaeological Sites

The primary source for information regarding known archaeological sites is the *Archaeological Sites Database* maintained in Ontario by the Ministry of Heritage, Sport and Tourism Culture Industries (MHSTCI). The database largely consists of archaeological sites discovered by professional archaeologists conducting archaeological assessments required by legislated processes under land use development planning (mostly since the late 1980s). A search of the database for all registered sites located within a one-kilometre radius of the study area was made and no sites were found.

It should also be noted that Ontario has a long history of amateur archaeologists and private collectors having discovered and collected artifacts from sites that have never been adequately reported to MHSTCI, and which, as a result, may not appear in the Archaeological Sites Database. For this reason, the background research conducted as part of this assessment included a search of the Past Recovery corporate library, with the goal of identifying published information on archaeological sites or findspots discovered in the vicinity of the present study area. No additional information was found.

The absence of registered pre-Contact archaeological sites in this area should not be taken as evidence of an absence of pre-nineteenth century human occupation. The relative paucity of known sites, rather, is almost certainly a result of the limited amount of systematic archaeological research that has been undertaken in the region.

### **4.3 Identified Local Cultural Heritage Resources**

The recognition or designation of cultural heritage resources (here referring only to built heritage features and cultural heritage landscapes) may provide valuable insight into aspects of local heritage, whether identified at a local, provincial, national, or international level. Some of these cultural heritage resources may be associated with significant archaeological features or deposits. Accordingly, the Stage 1 archaeological assessment included the compilation of a list of cultural heritage resources that have previously been identified within or immediately adjacent to the current study area.

The following sources were consulted:

- Federal Heritage Buildings Review Office online Directory of Heritage Designations (<http://www.pc.gc.ca/eng/progs/beefp-fhbro/index.aspx>);
- Canada's Historic Places website (<http://www.historicplaces.ca/en/home/accueil.aspx>);
- Ontario Heritage Properties Database (<http://www.hpd.mcl.gov.on.ca/scripts/hpdsearch/english/default.asp>);
- Ministry of Heritage, Sport, Tourism and Culture Industries' List of Heritage Conservation Districts ([http://www.mtc.gov.on.ca/en/heritage/heritage\\_conserving\\_list.shtml](http://www.mtc.gov.on.ca/en/heritage/heritage_conserving_list.shtml)); and,
- Ontario Heritage Trust website (<https://www.heritagetrust.on.ca/en/index.php/online-plaque-guide>).

No cultural heritage resources associated with historically significant places, persons, or events were noted within or immediately adjacent to the study area.

### **4.4 Heritage Plaques and Monuments**

The recognition of a place, person, or event through the erection of a plaque or monument may also provide valuable insight into aspects of local history, given that these markers typically indicate some level of heritage recognition. As with cultural heritage resources (built heritage features and/or cultural heritage landscapes), some of these places, persons, or events may be associated with significant archaeological features or deposits. Accordingly, this study included the compilation of a list of heritage plaques and/or markers in the vicinity of the study area. The following sources were consulted:

- The Ontario Heritage Trust Online Plaque Guide (<https://www.heritagetrust.on.ca/en/index.php/online-plaque-guide>);

- Parks Canada Directory of Federal Heritage Designations ([https://www.pc.gc.ca/apps/dfhd/default\\_eng.aspx](https://www.pc.gc.ca/apps/dfhd/default_eng.aspx)); and,
- A listing of historical plaques of Ontario maintained by Sarah J. McCabe (<https://ontarioplaques.omeka.net/>).

No plaques or monuments associated with historically significant places, persons, or events were noted within or immediately adjacent to the study area.

#### 4.5 Cemeteries

The presence of historical cemeteries in proximity to a parcel undergoing archaeological assessment can pose archaeological concerns in two respects. First, cemeteries may be associated with related structures or activities that may have become part of the archaeological record, and thus may be considered features indicating archaeological potential. Second, the boundaries of historical cemeteries may have been altered over time, as all or portions may have fallen out of use and been forgotten, leaving potential for the presence of unmarked graves. For these reasons, the background research conducted for this assessment included a search of available sources of information regarding historical cemeteries. For this study, the following sources were consulted:

- A complete listing of all registered cemeteries in the province of Ontario maintained by the Consumer Protection Branch of the Ministry of Consumer Services (last updated 06/07/2011);
- Field of Stones website (<http://freepages.history.rootsweb.ancestry.com/~clifford/>);
- Ontario Cemetery Locator website maintained by the Ontario Genealogical Society (<https://vitacollections.ca/ogscollections/2818487/data?g=d>);
- Ontario Headstones Photo Project website (<https://canadianheadstones.ca/wp/cemetery-lookup/>); and,
- Available historical mapping and aerial photography.

There are no known cemeteries or isolated burials within or immediately adjacent to the present study area.<sup>8</sup>

#### 4.6 Mineral Resources

The presence of scarce mineral resources on or near to a property may indicate potential for archaeological resources associated with both pre-Contact and post-Contact exploration and exploitation. For this reason, the background research conducted for the assessment includes a search of available sources of information on the locations of

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<sup>8</sup> It should be noted that the research undertaken as part of this Stage 1 archaeological assessment is unlikely to identify the potential for the presence of unrecorded burial plots, such as those of individual families on rural properties. See Section 7.0 of this report for information regarding compliance with provincial legislation in the event that human remains are identified during future development.

outcrops of rare and highly valued minerals, such as quartz, chert, ochre, copper and soapstone, as well as minerals sought out by post-Contact prospectors and miners for more industrial-scale exploitation (i.e. gold, copper, iron, mica, etc.). Useful tools in this search are provided by databases maintained by the Ontario Geological Survey and the Ministry of Northern Development and Mines, including:

- *The Abandoned Mines Information System (AMIS)* which contains a list of all known abandoned and inactive mine sites and associated features in the province;
- *Mining Claims* which contain a list of all active claims, alienations, and dispositions; and,
- *Mineral Deposits Inventory* which contains a list of known mineral occurrences of economic value in the province.

A review of the above-mentioned databases uncovered a rich history of mineral exploration and production within Darling Township dating back to the 1880s. The first geological exploration in the area was closely related to the construction and opening of the Kingston and Pembroke Railway. This initial work was conducted by Ingall (1899) of the Geological Survey of Canada (GSC), who studied the iron ore deposits along the proposed railway corridor (Easton 1988:6). Following this in the 1890s magnetic ore was extracted from the Darling, Radenhurst-Caldwell and Yuill Iron deposits. The Darling Mine, located across Lots 20 to 22, Concessions 4 and 5, and Lots 21 and 22, Concession 3, operated between 1889 and 1905, consisted of several scattered mineralized zones marked by small pits (Easton 1988:148, 170). There are two AMIS sites located within Lot 22, Concession 3, immediately to the south of the study area, recorded as Files 07459 and 07464, both referring to the Minnow Lake Mine, a trenching operation to extract iron ore.

Numerous gold-copper deposits have also been explored and mapped, located along the Roberston Lake Myonite Zone in the general vicinity. These include areas close to Little Green Lake, Darling Creek and Bradford's Creek, which have been explored sporadically by various mining companies since 1957 (Easton 1988:2). Additionally, Copper-Anitmony-Gold-Silver deposits have also been mapped at the following locations:

Deposit Name	Deposit Location
Darling Deposit	Lot 23, Concession 4, Darling Township
Little Green Lake Deposit	Lot 22, Concession 2, Darling Township
Gleeson-Rampton Deposit #1	Lot 22, Concession 6, Darling Township
Gleeson-Rampton Deposit #2	Lot 21, Concession 2, Darling Township

Since 1984, Gleeson-Rampton Explorations Limited have explored extensively within this zone and have identified a number of additional gold prospects within the general area

(Easton 1988:3). The mineral rights for the property are privately owned, with eight active mining claims and two occurrences of gold within 1,000 metres.

The property located immediately to the south of the study area includes an active aggregate extraction area, presently licenced as Class A (Licence MXQ), owned by Thomas Cavanagh Construction Limited and known as the Madden Pit. A small abandoned/historical gravel pit was also located in the central portion of the study area (see Map 4). It is likely that this pit was in operation prior to the implementation of the *Former Pits and Quarries Control Act* coming into effect in eastern Ontario (c. 1979), as the only records held at the Ontario Ministry of Natural Resources and Forestry National Resources Information Centre refer to it as 'unlicensed,' and it was not listed on the Township of Darling zoning map of 1980. As the records for this pit are sparse, it is likely that it was also never formally rehabilitated, though a sign currently on the property indicates that the landscape was reinstated (Christopher Bierman, personal communication 2021).

#### **4.7 Local Environment**

The assessment of present and past environmental conditions in the study area is a necessary component in determining the potential for past occupation of the property. Factors such as nearness to water, soil types, forest cover and topography all contribute to the suitability of the site for the production of food sources for pre-Contact peoples. As well, an examination of the geophysical evolution of the study area provides an indication of the possible range in age of pre-Contact sites that could be found on the property.

The physiography and distribution of surficial material in this area are largely the result of glacial activity that took place in the Late Wisconsinan (Bajc 1994). This period, which lasted from approximately 23,000 to 11,000 years before present, was marked by the repeated advance and retreat of the massive Laurentide Ice Sheet. As the ice advanced, debris from the underlying sediments and bedrock accumulated within and beneath the ice. The debris, a mixture of stones, sand, silt, and clay, was deposited over large areas as till plains, drumlins, and moraines. During deglaciation, as the Late Wisconsinan ice margin receded to the north, massive inflows of glacial meltwater into the Huron-Georgian Bay-Lake Simcoe basin flooded adjacent lands, which had been depressed by the weight of the continental ice sheet, forming glacial Lake Algonquin by 11,500 years ago (Eshman and Karrow 1985 in Gao 2010). These waters created shoreline features that, with isostatic rebound, are now as much as 100 to 150 metres above the present water level in Georgian Bay. Where the northern limit of glacial Lake Algonquin was formed by the retreating ice sheet, new lake outlets developed as progressively lower sills were exposed, and water levels dropped to successively lower levels. About 10,100 B.P., during the Ottawa-Marquette Low Stand, Glacial Lake Algonquin drained away and a series of smaller lakes (called Hough and Stanley) occupied depressions in the Huron Basin below the present-day water level. While low-water conditions continued in the

former Laurentide Lake basis for millennia, only c. 500 years later water volumes increased rapidly in the French-Nipissing-Mattawa basin. These changing conditions resulted in much higher water levels in the Mattawa Lowlands and Ottawa River Valley, creating a series of raised post-Algonquin relic shorelines. Modern water levels in the Great Lakes basins only developed sometime after 3,000 years ago, with only minor climate-related fluctuations since that time.

The study area is situated within the Algonquin Highlands physiographic region (Chapman and Putnam 1984:113). This region is characterized by the rough, rounded bedrock knobs and ridges made up of granite and other hard Precambrian rocks belonging to the Canadian Shield, standing between 15 metres and 60 metres in height (Chapman and Putnam 1984:211). Outcrops of bare rock are frequent, and soils are reported to be generally shallow. Owing to the stony, sandy and acid nature of the soils, they are described as submarginal for agriculture. In addition, many of the valleys are floored with outwash sand and gravel. Surficial geology mapping indicates that the study area lies within an area of bedrock-drift complex in Precambrian terrain, with small areas of ice contact stratified deposits containing sand and gravel with minor silt, clay and till (Kettles 1992b; Map 6). The central portion of the proposed extraction area contains a drumlin running in a northeast/southwest direction (von Rosen, 2020a, 2020b, 2019, 2013). Soil mapping indicates that the study area falls within a region of White Lake sandy loam, a podzol comprised of sand and gravel that is generally well-drained (see Map 6; Hoffman, Miller and Wicklund 1967).

The property lies within the Middle Ottawa Sub-region of the Great Lakes-St. Lawrence Forest Region, characterized by a mix of coniferous and deciduous tree species. The upland forest of this region is comprised of sugar maple, beech, yellow birch, red maple and eastern hemlock, almost always accompanied by eastern white and red pines. There are also smaller amounts of white spruce, balsam fir, trembling aspen, white birch, red oak, and basswood present throughout. Rather common are hardwood and mixed wood swamps in which eastern white cedar, tamarack, black spruce, black ash, red maple and elm thrive. Much less common are a number of more southerly species, including butternut, bitternut, hickory, bur oak, white ash and black cherry (Rowe 1972:94). Most of the original growth forest within the study area would have been removed through logging in the early to mid-nineteenth century. Currently deciduous trees are found in and around the property.

The property is located within the White Lake/Waba Creek sub-watershed, which is part of the Lower Madawaska watershed. Craig's Creek with its associated lakes (Clay Lake and Little Minnow Lake) skirts the southwestern edge of the study area. This waterway is a cold-water recharge source for a brook trout fishery (von Rosen, 2020a, 2020b, 2019, 2013). Ontario base mapping at 1:10,000 scale illustrates a wetland area to the west of the study area, which is also associated with Craig's Creek (see Map 5). Much of this area has been officially designated by the Government of Ontario as a provincially significant



*Area of Natural Scientific Interest (ANSI)*, known as the *Darling Township Forest*. This designation is awarded to a region exhibiting ecological features representative of the biodiversity of the area which have not been affected by human development. The Craig's Creek complex, represented by the line of creeks, lakes and marshes located to the west of the study area, also makes up part of the Lavant/Darling Spillway. This linear feature, comprised of meltwater channels and eskers, was created by glacial meltwaters approximately 10,000 years ago and flowed northeastward through what is now White Lake into the Champlain Sea (Chapman and Putnam 1984; Keddy 1999:54).

## 5.0 STAGE 1 ARCHAEOLOGICAL ASSESSMENT

This section of the report includes an evaluation of the archaeological potential within the study area, in which the results of the background research described above are synthesized to determine the likelihood of the property to contain significant archaeological resources.

### 5.1 Optional Property Inspection

In addition to the above research, Past Recovery completed an optional site inspection on September 30<sup>th</sup>, 2021, supplemented by additional photographs taken during the subsequent Stage 2 assessment on October 28<sup>th</sup>, 2021. The weather was overcast the first day with a temperature of 15° C, and sunny the second with a temperature of 10° C. This inspection was conducted according to the archaeological fieldwork standards outlined in *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011), with field conditions and features influencing archaeological potential documented through digital photography. The property inspection has been used to supplement the background information to help inform the archaeological potential model developed below.

An inventory of the records generated by the property inspection is provided below in Table 1. The complete Stage 1 photographic catalogue is included as part of Appendix 1 and the locations and orientations of all photographs used in this report are shown on Map 7. As per the *Terms and Conditions for Archaeological Licences in Ontario*, curation of all photographs generated during the Stage 1 archaeological assessment is being provided by Past Recovery pending the identification of a suitable repository.

The site visit confirmed the current property conditions visible in the 2019 satellite image of the property including variable terrain, evidence of shallow bedrock, steep slope and disturbances within the study area (see Map 2). The rehabilitated former pits were fairly evident by the topography and current plant growth, though the property inspection revealed that there had been much more extensive disturbance within the southern half of the property than had been evident from available aerial photographs and satellite images (Images 2 to 13). Much of this area had been stripped of topsoil or sculpted during the reinstatement effort, including the large central knoll where more recent disturbance was also evident. In the area close to where the main pit had been situated, the original grade could be seen in isolated pockets of large trees left standing within ground higher than the surrounding terrain (see Image 2). As well, there were several smaller pits that had been excavated across the property, either for short-term use or to investigate the soils in these areas (Images 14 to 19). Some dips in the landscape had piles of large rocks in the centre indicating previous sand excavation (Images 20 and 21). Further disturbance was evident in the form of the previous roadbed extending through the eastern edge of the study area, in the landscaping and bull-dozing that had recently been completed in the vicinity of the entrance gates, and in the landscaping that had occurred near the highest hilltop to create a flat area for a trailer and camping site (Images 22 to 27).

Much of the property was also steeply sloped, and included changes in elevation of approximately 20 m across the study area. The entire western edge was very steep with frequent bedrock outcrops; in the south-western corner steep slope led down to a large low and wet area beyond the proposed licence boundary (Images 28 to 33). Slopes were also quite steep down from the highest knoll in the western half of the study area and along the southern edge (Images 34 to 39). The ridge/esker in the northern part of the study area similarly had sizeable areas with steep slope and/or rocky outcrops, though there were sporadic level terraces with archaeological potential (Images 40 to 43). Other sections of the property either did not appear to have been as disturbed as the remainder or were fairly level, thus retaining archaeological potential, such as the low valley consisting of former pasture along the northern edge of the study area, the top of the highest knoll, along the ridge currently being used as a road on the south side of the esker or along the ridge in the southeast corner (Images 44 to 46).

**Table 1. Inventory of the Stage 1 Documentary Record.**

Type of Document	Description	Number of Records	Location
Photographs	Digital photographs documenting the subject property and conditions at the time of the property survey	147 digital photographs	On Past Recovery computer network - file PR20-034

## 5.2 Determination of Archaeological Potential

A number of factors are used to determine archaeological site potential. For pre-Contact sites criteria are principally focused on topographical features such as the distance from the nearest source of water and the nature of that water body or stream, areas of elevated topography including features such as ridges, knolls and eskers, and the types of soils found within the area being assessed. For post-Contact sites, the assessment of archaeological site potential is more reliant on historical research (land registry records, census and assessment rolls, etc.), cartographic and aerial photographic evidence, and the inspection of the study area for possible above ground remains or other evidence of a demolished historical structure. Also considered in determining archaeological potential are known archaeological sites within or in the vicinity of the study area.

Archaeological assessment standards established by MHSTCI (*Standards and Guidelines for Consultant Archaeologists* 2011) specify factors to be considered when evaluating archaeological potential. Licensed consultant archaeologists are required to incorporate these factors into potential determinations and account for all features on the property that can indicate archaeological potential. If this evaluation indicates that any part of the

subject property exhibits potential for archaeological resources, the completion of a Stage 2 archaeological assessment is required prior to any planned development in these areas.

The archaeological assessment standards also establish minimum distances to be tested from features in the landscape indicating archaeological potential. Areas that are considered to have pre-Contact site potential requiring testing include lands within 300 metres of water sources, wetlands or elevated features in the landscape including former river scarps. Areas of historic archaeological site potential requiring testing include locations within 300 metres of sites of early settlement and within 100 metres of historic transportation corridors. Further, areas within 300 metres of registered archaeological sites, designated heritage buildings or structures/ locations of local historical significance are considered to have archaeological potential requiring testing. Finally, areas immediately adjacent to a cemetery with cultural heritage value or interest require a Stage 3 cemetery investigation to confirm whether that cemetery extends into the subject property. These guidelines were refined and applied to the study area after the research and site inspection described above, generating the Stage 1 recommendations presented below in Section 3.3.2.

### **5.3 Analysis and Conclusions**

In general, the study area exhibits characteristics that indicate potential for the presence of archaeological resources associated with pre-Contact Indigenous settlement and/or land uses. Specifically:

- Portions of the study area are located within 300 metres of an unevaluated wetland to the southwest of the proposed licence boundary – a potential source of potable water and food resources;
- The study area contains well-drained sandy loam which would have been suitable for temporary campsites; and,
- The study area contains a drumlin and areas of higher elevation that would have become habitable dry land as glacial meltwaters receded.

The study area also exhibits characteristics that indicate potential for the presence of archaeological resources associated with post-Contact Indigenous and Euro-Canadian settlement and/or land uses. Specifically:

- The factors noted above would have made the study area suitable for continued occupation by Indigenous groups through the post-Contact period;
- Portions of the study area lie within 100 metres of a nineteenth century transportation corridor as the predecessor to Highway 511, previously known as the Lanark to Calabogie Road, was in place by 1863;

- Two nineteenth century structures appear on the 1863 Walling map in the vicinity of the study area, one (the Nicol farm) likely being within the study area boundary and potentially having been abandoned/removed by 1871 (see Map 4); and,
- There is a well-documented history of early mining/prospecting in the vicinity of the study area.

Given the number of features of archaeological potential identified within or in the immediate vicinity of the study area, the evaluation of potential began from the assumption that all portions of the study area had archaeological potential. The background research and site inspection has indicated, however, that there have been extensive areas where deep soil disturbance has taken place on the property. The most obvious is the location of the now remediated former aggregate pit, shown towards the centre of the property on the 2002 1:10,000 topographic map, though the site visit confirmed that the disturbance was much more extensive than shown on this map (see Map 5). The other main area of disturbance has been noted on a 2013 survey plan in the northeast corner of the property next to the travelled highway, corresponding to the smaller pit photographed in 1989 (see Image 1). This lay in approximately the same location as the Nicol farm illustrated on the 1863 Walling map. There were also several other areas of smaller disturbance noted across the property. Elsewhere within the study area were pockets of steep slope (>20 degrees), such as the sides of the esker or the approaches to the higher ground along the west side of the property that could be considered to have low archaeological potential and not require Stage 2 assessment.

The areas determined to retain archaeological potential have been shaded purple on Map 7 and should be the subject of a Stage 2 archaeological assessment to determine whether or/not archaeological resources are present and/or to confirm disturbance in advance of any planned development.

#### 5.4 Stage 1 Recommendations

The results of the Stage 1 assessment have formed the basis for the following recommendations:

- 1) The portions of the study area shown as retaining archaeological potential on Map 7 should be subjected to Stage 2 archaeological assessment in advance of the proposed pit development.
- 2) Any future Stage 2 archaeological assessment should be undertaken by a licensed consultant archaeologist, in compliance with *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011), prior to any planned excavation below the current grade. The preferred testing strategy would be a shovel test pit survey at five metre intervals.

## 6.0 STAGE 2 ARCHAEOLOGICAL ASSESSMENT

This section of the report describes the methodology used and results of the Stage 2 property survey conducted in order to determine whether the subject property contains significant archaeological resources.

### 6.1 Field Methods

The archaeological fieldwork for the Stage 2 property assessment was completed on the 28<sup>th</sup> of October, 2021, by a crew consisting of a licensed field director and five experienced field technicians. All fieldwork was conducted according to criteria outlined in *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011). Over the course of the assessment, the weather was sunny with a temperature of 10° C. Visibility and field conditions were good to excellent for the identification, documentation, and recovery of any archaeological resources during the course of the fieldwork.

In order to ensure full coverage during the Stage 2 property survey, the Past Recovery field crew used 'Mapit Pro' GIS software on a tablet loaded with detailed satellite imagery overlain with the study area. This digital mapping interface, along with a high accuracy, GIS-mapping-grade Global Navigation Satellite System (GNSS) receiver, allowed the field crew to accurately delimit the study area in relation to their 'real time' position. The GNSS unit employed for this purpose was a Trimble Catalyst DA1 antennae connected to a Samsung tablet running Trimble Mobile Manager software and receiving Trimble RTX corrections. While in use, the receiver reported accuracies within the range of plus or minus 2 m.

The study area was assessed by means of a shovel test pit survey across all areas indicated by the Stage 1 assessment as retaining archaeological potential (Map 8; Images 47 to 50). This was mostly undertaken at 5 m intervals, though within the northern ridge/esker the survey was more judgemental, with test pits excavated wherever level terraces more than a few metres in length could be found. A second assessment of areas determined to have steep slope as a result of the initial site visit was also made to determine that there were no large level terraces where shovel testing could be undertaken. All test pits were hand excavated by shovel and trowel with the backdirt screened through 6 mm mesh. Shovel test pits were at least 30 cm in diameter and excavation was continued 5 cm into sterile subsoil or until bedrock was encountered. Testing was continued to within one metre of standing or ruined structures. All pits were examined for soil stratigraphy, cultural features and artifacts, as well as evidence of disturbance, before being backfilled once any recording had been completed. As no archaeological resources were found, there was no need for test pit intensification. Estimates of survey coverage by method are provided in Table 2 below.

Field activities were recorded digitally through the use of field notes and digital photographs generated within MapIt GIS. A catalogue of the material generated during

the Stage 2 property survey is included below in Table 3. The complete photographic catalogue is included as part of Appendix 1, and the locations and orientations of all photographs referenced in this section of the report are shown on Map 8. As per the *Terms and Conditions for Archaeological Licences* in Ontario, curation of all photographs and field notes generated during the Stage 2 archaeological assessment is being provided by Past Recovery pending the identification of a suitable repository.

**Table 2. Estimates of Survey Coverage during the Stage 2 Assessment.**

Landscape Unit	Survey Method & Interval Used	Area Covered	Percentage of Study Area
Wooded terrain and open abandoned pasture	Shovel test pit survey at 5 m intervals	5.57 hectares/ 13.77 acres	31.46%
Steep slope, >20 degrees	Not tested	3.98 hectares/ 9.83 acres	22.46%
Previous roadway	Not tested	0.10 hectares/ 0.24 acres	0.55%
Deep and extensively disturbed land including the former pits	Not tested	8.07 hectares / 19.93 acres	45.53%

**Table 3. Inventory of the Stage 2 Documentary Record.**

Type of Document	Description	Number/Type of Records	Location
Photographs	Digital photographs documenting the Stage 2 fieldwork	12 photographs	On Past Recovery computer network – file PR21-048
Mapping data	Shapefiles (*.shp)	1 “Study area.gpkg”	On Past Recovery computer network – file PR21-048
Field Notes	Scanned and digital notes on the Stage 2 fieldwork; test pit forms	3 pages (3 *.pdf files)	On Past Recovery computer network – file PR21-048

## 6.2 Results

As indicated by the soils mapping, areas across the property that had not been previously disturbed contained sandy loam topsoil of varying depths. Test pits excavated where possible across the esker, for example, contained 15 cm to 20 cm of loose dark brown sandy loam over brown or orange/brown sand subsoil or bedrock (Image 51). Test pits in the former pasture along the northern edge of the property, however, had up to 35 cm

of topsoil over subsoil, the topsoil being slightly denser given a higher water content (Image 52). Nevertheless, the soil stratigraphy was fairly consistent in all locations tested. No artifacts or significant archaeological features were encountered, though loose rocks forming a rectangle measuring approximately 2.7 m northwest-southeast by 1.9 m northeast-southwest were found at the edge of a level terrace towards the western end of the wooded esker (Images 53 and 54). The rocks consisted of very rough fieldstones and had only been set one course high. No other construction material was encountered in the vicinity of the feature, which was clearly the base for a sugaring-off trough used in maple syrup production. A number of large maple trees were noted in the vicinity. As nothing else was found, this feature can be considered to have been sufficiently documented and does not require further archaeological work.

### **6.3 Record of Finds**

No archaeological resources were identified during the Stage 2 property survey.

### **6.4 Analysis and Conclusions**

The Stage 2 archaeological assessment involved a shovel test pit survey at five metre intervals across all portions of the study area determined to exhibit archaeological potential; the remaining sections were not tested, having been determined to be disturbed or steeply sloped with exposed bedrock (see Map 8). As mentioned above, no archaeological resources were discovered in the course of this assessment.

### **6.5 Stage 2 Recommendations**

On the basis of the results of the Stage 2 property survey discussed above, this report concludes with the following recommendations:

- 1) As the Stage 2 property survey did not result in the identification of any archaeological resources requiring further assessment or mitigation of impacts, no further archaeological assessment of the study area as defined on Map 2 is required.
- 2) If any additional areas are to be impacted (i.e. soil disturbances or other alterations) beyond the limits of the study area as presently defined, further archaeological assessment may be required. It should be noted that impacts include all aspects of the proposed development, including temporary property needs (i.e. access roads, staging/lay down areas, associated works, etc.). Any additional archaeological assessment should be undertaken by a licensed consultant archaeologist, in compliance with *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011).

The reader is also referred to Section 7.0 below to ensure compliance with relevant provincial legislation as it may relate to this project.



## 7.0 ADVICE ON COMPLIANCE WITH LEGISLATION

In order to ensure compliance with the *Ontario Heritage Act*, the reader is advised of the following:

- 1) This report is submitted to the Minister of Heritage, Sport, Tourism and Culture Industries 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 Heritage, Sport, Tourism and Culture Industries, a letter will be issued by the Ministry stating that there are no further concerns with regard to alterations 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 time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the *Ontario Heritage Act*.
- 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 *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.
- 5) Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

## 8.0 LIMITATIONS AND CLOSURE

Past Recovery Archaeological Services Inc. has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the archaeological profession currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied, is made.

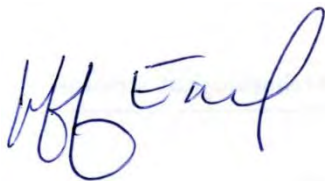
This report has been prepared for the specific site, design objective, developments and purpose prescribed in the client proposal and subsequent agreed upon changes to the contract. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the client in the design of the specific project.

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

The documentation related to this archaeological assessment will be curated by Past Recovery Archaeological Services Inc. until such a time that arrangements for their ultimate transfer to an approved and suitable repository can be made to the satisfaction of the project owner(s), the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries and any other legitimate interest group.

We trust that this report meets your current needs. If you have any questions or if we may be of further assistance, please do not hesitate to contact the undersigned.



Jeff Earl, M.Soc.Sc.  
Principal  
Past Recovery Archaeological Services Inc.

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**Land Registry Abstract Indices:**

Lot 22, Concession 3, Darling Township

Lot 23, Concession 3, Darling Township

**Library and Archives Canada (LAC):**

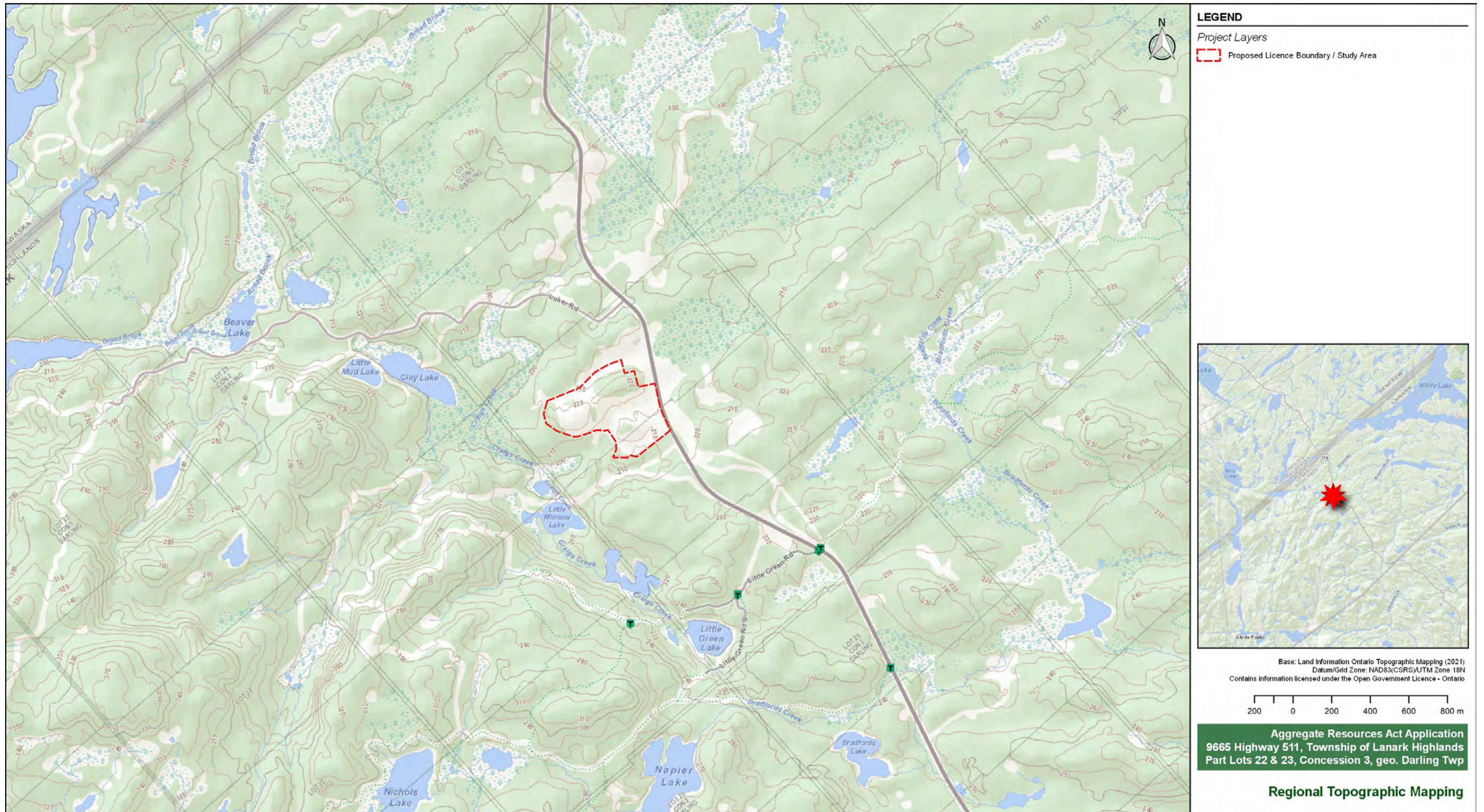
**National Map Collection (NMC):**

NMC 11476 *Map of the Lanark County, Canada West*, by H. F. Walling, 1863

**Natural Resources Canada (NRCAN):**

National Topographic Series (NTS): 31F/02 - Clyde (1948)

## 10.0 MAPS

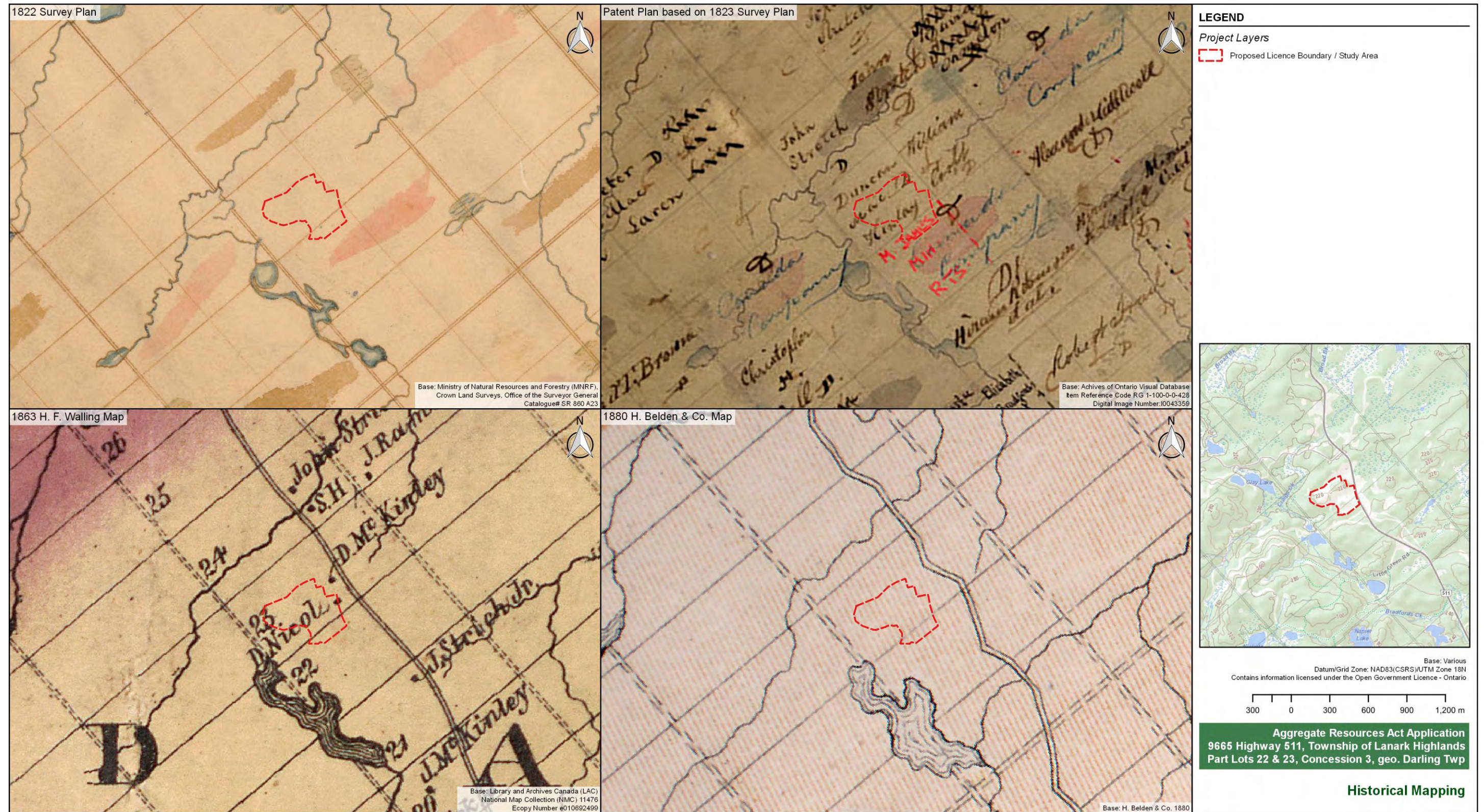


Map 1. Location of the study area.

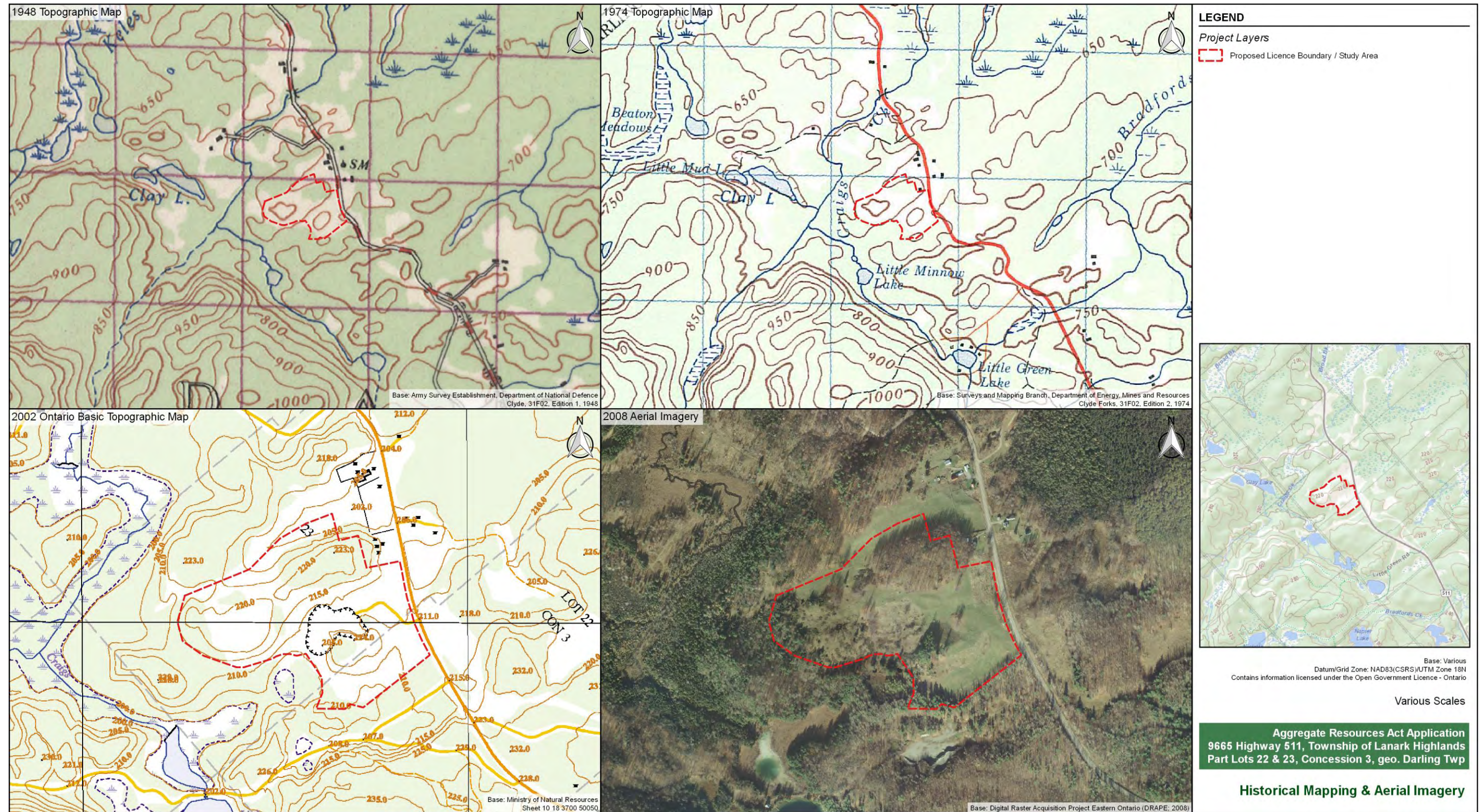


Map 2. Recent (2019) orthographic imagery showing the study area.

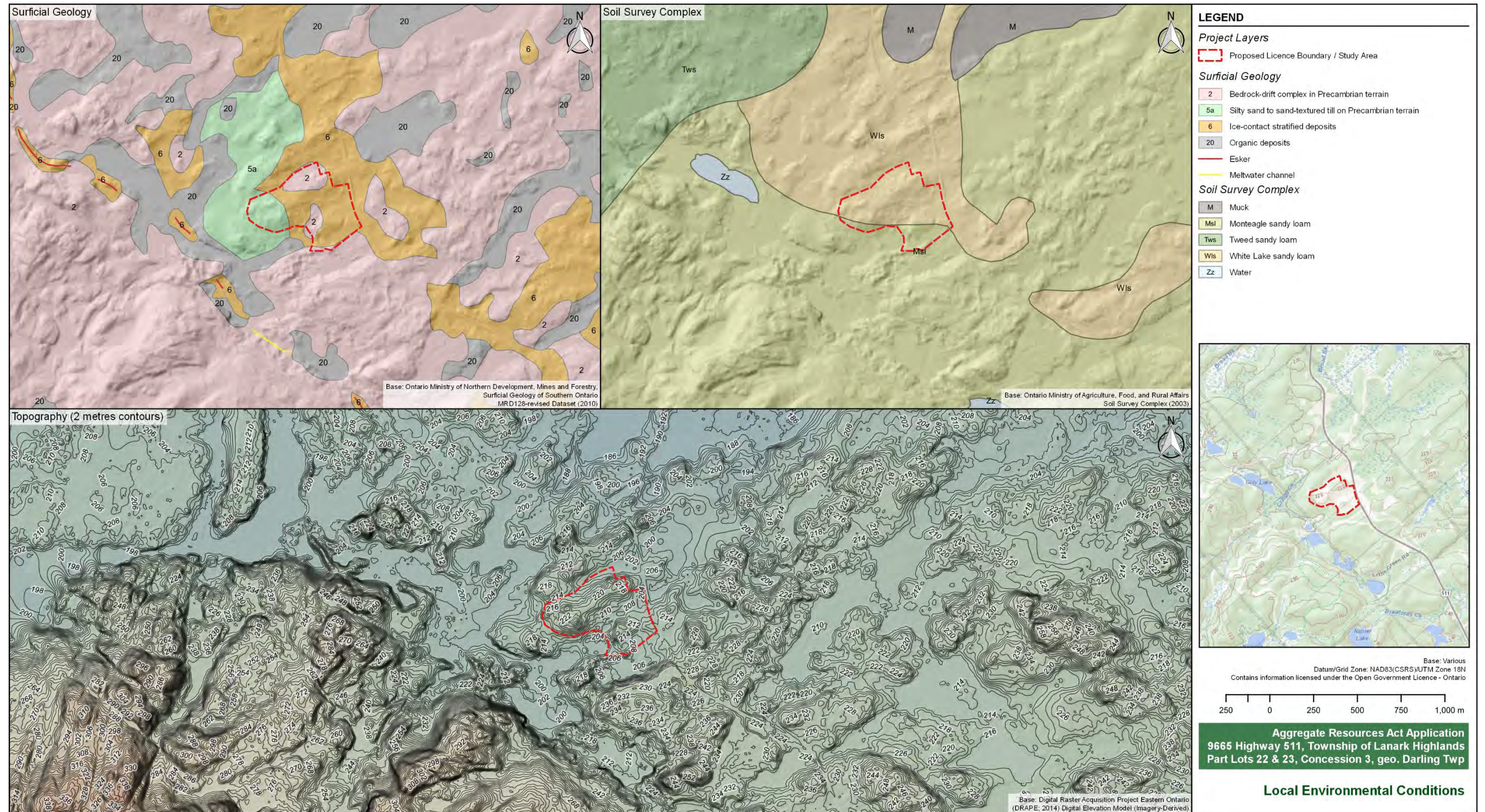




Map 4. Historical mapping showing the study area.



Map 5. Topographic mapping and aerial imagery showing the study area.

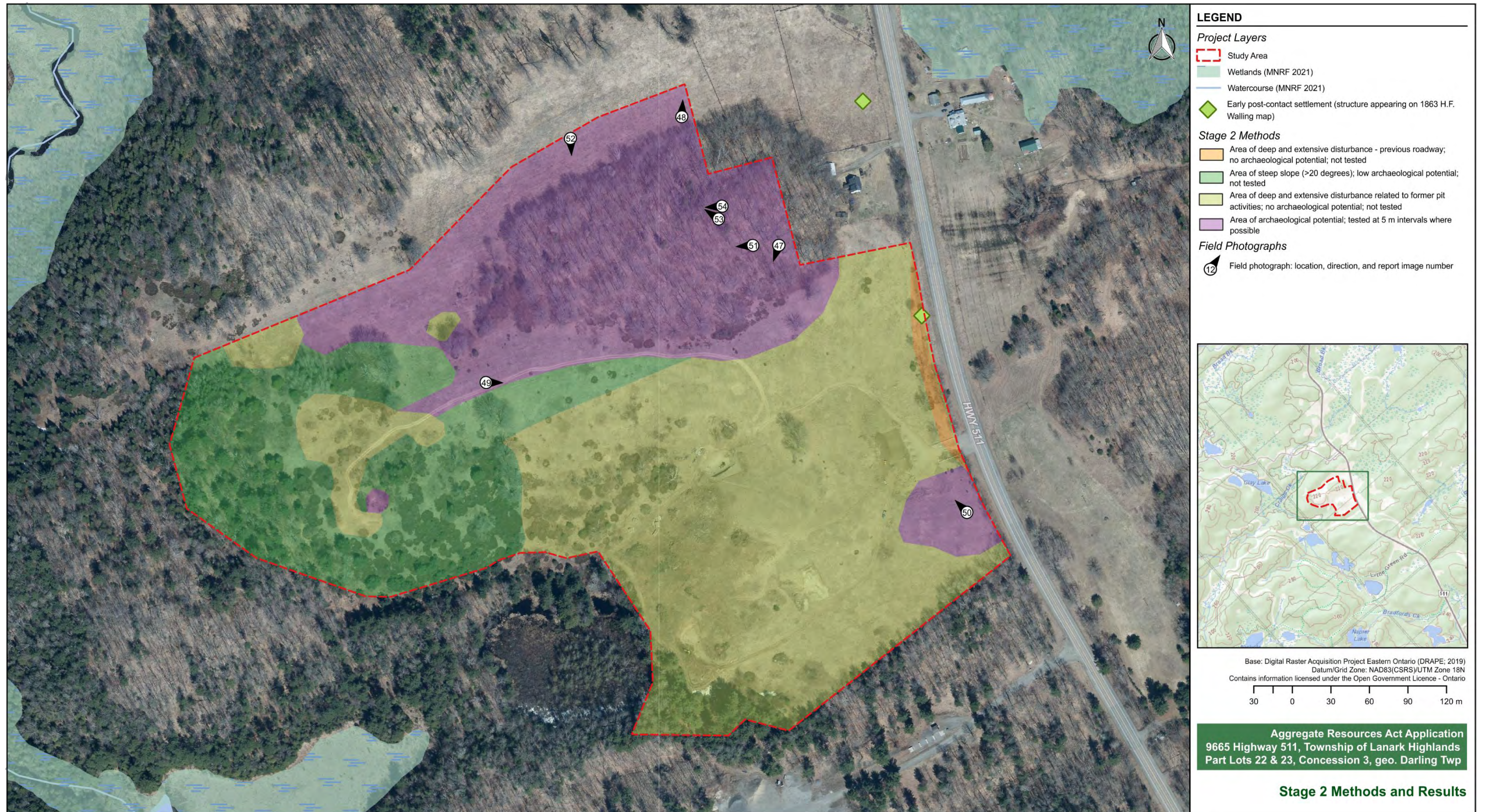


Map 6. Environmental mapping showing the study area.





Map 7. Recent (2019) orthographic imagery of the study area showing archaeological potential and locations and directions of field photographs.



Map 8. Recent (2019) orthographic imagery of the study area showing Stage 2 field methods and locations and directions of field photographs.

## 11.0 IMAGES



**Image 1. Photograph of a former extraction area on Lot 22 next to Highway 511 in 1989.**  
(courtesy of the client)



**Image 2. Overview of the reinstated former main pit showing landscaping and recent disturbance, facing south-southeast.** (PR21-034D025) Note the former ground surface elevation in the immediate vicinity of the stand of mature trees.



**Image 3. The reinstated former main pit showing recent disturbance and slopes, facing southwest. (PR21-034D018)**



**Image 4. The reinstated former main pit showing recent disturbance and slopes, facing northwest. (PR21-034D009)**



**Image 5. The reinstated former main pit showing recent disturbance and slopes, facing northeast. (PR21-034D128)**



**Image 6. Overview of the reinstated former main pit showing landscaping and slopes, facing west. (PR21-034D137)**



**Image 7. The reinstated former main pit showing recent landscaping and slopes, facing west-northwest. (PR21-034D019)**



**Image 8. The reinstated former main pit showing recent landscaping and slopes, facing northwest. (PR21-034D020)**



**Image 9. The western side of the reinstated former main pit showing disturbance and slopes, facing south-southeast. (PR21-034D014)**



**Image 10. The western side of the reinstated former main pit showing disturbance and slopes in the southwest corner of the study area, facing south-southeast. (PR21-034D122)**



**Image 11. The western side of the reinstated former main pit showing disturbance and slopes in the southwest corner of the study area, facing south-southeast. (PR21-034D008)**



**Image 12. The reinstated smaller pit next to the highway showing disturbance, facing northeast. (PR21-034D135)**





**Image 13. The reinstated smaller pit next to the highway showing disturbance, facing northeast. (PR21-034D072)**



**Image 14. Former small extraction area immediately south of the road across the north ridge showing disturbance, facing southwest. (PR21-034D031)**



**Image 15. Former small extraction area in the southwestern section of the property showing disturbance, facing north. (PR21-034D119)**



**Image 16. Former small extraction area immediately north of the camping area showing disturbance, facing north. (PR21-034D044)**



**Image 17. Former small extraction area on the north side of the esker showing disturbance, facing east. (PR21-034D059)**



**Image 18. Former small extraction area in the northwest corner of the study area showing disturbance, facing south-southeast. (PR21-034D140)**



**Image 19. Former small extraction area in the northwest corner of the study area showing disturbance, facing south-southeast. (PR21-034D051)**



**Image 20. Former small extraction area immediately north of the camping area showing disturbance, facing north. (PR21-034D095)**



**Image 21. Boulder pile in the centre of the former small extraction area immediately north of the camping area, facing northwest. (PR21-034D045)**



**Image 22. Former roadbed along the eastern edge of the study area, facing north-northwest. (PR21-034D001)**



**Image 23. Landscaped area near the current entrance to the pit showing disturbance, facing southeast. (PR21-034D134)**



**Image 24. Landscaped area near the current entrance to the pit showing disturbance with the reinstated smaller pit in the background, facing north-northwest. (PR21-034D130)**



**Image 25. The road near the entrance to the pit with an excavated access route showing disturbance, facing northeast. (PR21-034D129)**



**Image 26. The present camping area showing disturbance, facing north. (PR21-034D094)**



**Image 27. The present camping area showing disturbance and the steep slope to the south, facing south-southeast. (PR21-034D089)**



**Image 28. Steep slope along the western edge of the property, facing southwest. (PR21-034D147)**





**Image 29. Steep slope along the western edge of the property, facing northwest. (PR21-034D148)**



**Image 30. Steep slope and rock outcrops along the western edge of the property, facing northeast. (PR21-034D143)**



**Image 31. Steep slope and rock outcrops along the western edge of the property, facing south-southeast. (PR21-034D151)**



**Image 32. Steep slope in the southwestern quadrant of the study area leading down to the wetland to the west, facing southwest. (PR21-034D011)**



**Image 33. The wetland immediately west of the study area, facing south. (PR21-034D117)**



**Image 34. View of steep slope from the top of the knoll in the western half of the study area, facing south. (PR21-034D090)**



**Image 35. View of steep slope from the top of the knoll in the western half of the study area, facing southwest. (PR21-034D091)**



**Image 36. Steep slope to the west of the camping area, facing west. (PR21-034D097)**



**Image 37. Steep slope to the east of the knoll in the west half of the study area, facing southwest. (PR21-034D102) The knoll is in the right background.**



**Image 38. Road along the southern edge of the study area showing the steep slope to the knoll, facing west. (PR21-034D112) The knoll is in the right background.**



**Image 39. Steep slope within the western end of the reinstated pit, facing east. (PR21-034D109)**



**Image 40. Steep slope and rock outcrops on the north side of the esker in the northern half of the study area, facing east-northeast. (PR21-034D062)**



**Image 41. Steep slope and rock outcrops on the north side of the esker in the northern half of the study area, facing west-southwest. (PR21-034D064)**



**Image 42. Steep slope and rock outcrops on the esker in the northern half of the study area, facing south. (PR21-034D066)**



**Image 43. Small level terrace on the esker in the northern half of the study area, facing east. (PR21-034D067)**



**Image 44. Former pasture along the northern edge of the study area, facing east-northeast. (PR21-034D060)**





**Image 45. Former pasture along the northern edge of the study area, facing west-southwest. (PR21-034D086)**



**Image 46. Top of the ridge in the northern half of the study area with the esker in the background, facing northeast. (PR21-034D033)**



**Image 47. Field crew testing a level terrace on the esker in the northern section of the study area at five metre intervals, facing south-southwest. (PR21-034D076)**



**Image 48. Field crew testing in the former pasture along the northern edge of the study area at five metre intervals, facing north. (PR21-034D084)**



**Image 49. Field crew testing along the top of the ridge next to the current road through the property at five metre intervals, facing east. (PR21-034D154)**



**Image 50. Field crew testing the south-eastern section of the study area at five metre intervals, facing northwest. (PR21-034D159)**



**Image 51. Sample test pit showing the typical soil stratigraphy on the esker in the northern section of the study area, facing west. (PR21-034D077)**



**Image 52. Sample test pit showing the typical soil stratigraphy in the former pasture along the northern edge of the study area, facing south. (PR21-034D087)**



**Image 53. Stone foundation for a sugaring-off trough, facing northwest. (PR21-034D079)**



**Image 54. Stone foundation for a sugaring-off trough, facing west. (PR21-034D080)**

## APPENDIX 1: Photographic Catalogue

Camera: Samsung SM-T397U

Catalogue No.	Description	Dir.
PR21-048D001	Location of the previous road showing disturbance	NNW
PR21-048D002	Stripped trees and topsoil along the southern edge of the property	SW
PR21-048D003	Sculpted reinstatement along the southern edge of the property	ESE
PR21-048D004	Sculpted reinstatement along the southern edge of the property	NE
PR21-048D005	Recent disturbance in the central reinstated mound	NNE
PR21-048D006	Stripped trees and topsoil along the southern edge of the property	SW
PR21-048D007	Stripped trees and topsoil along the southern edge of the property	SSW
PR21-048D008	Stripped trees and topsoil along the southern edge of the property	SSE
PR21-048D009	Recent disturbance in the central reinstated mound	NW
PR21-048D010	Current road through the property showing disturbance	W
PR21-048D011	Steep slope leading down to a wetland	SW
PR21-048D012	Reinstated pit showing road and disturbance	NE
PR21-048D013	Steep slope and disturbance caused by the road and reinstatement	N
PR21-048D014	Current road through the property and reinstated mound showing disturbance	SSE
PR21-048D015	Current road through the west end of the property showing disturbance and steep slope	W
PR21-048D016	Current road through the west end of the property showing disturbance and steep slope	W
PR21-048D017	Stand of trees within the reinstated area showing the original grade	E
PR21-048D018	Recent disturbance in the central reinstated mound	SW
PR21-048D019	Reinstatement disturbance visible with steep slopes in the background	WNW
PR21-048D020	Reinstatement disturbance	NW
PR21-048D021	Current road across the ridge running through the northern part of the study area	W
PR21-048D022	Current road across the ridge running through the northern part of the study area	ESE
PR21-048D023	Reinstated area with sloped terrain south of the road along the northern ridge	WSW
PR21-048D024	Reinstated area with sloped terrain south of the road along the northern ridge	S
PR21-048D025	Reinstated area with sloped terrain south of the road along the northern ridge showing recent disturbance in the central mound	SSE
PR21-048D026	Wooded area to the north of the ridge and central gravel road	NE
PR21-048D027	Reinstated area with sloped terrain south of the road along the northern ridge showing recent disturbance in the central mound	E
PR21-048D028	Forested area to the north of the ridge/gravel road with road disturbance visible	ENE
PR21-048D029	Stand of trees south of the ridge/gravel road showing sloped topography	SW
PR21-048D030	Stand of trees south of the ridge/gravel road showing sloped topography	SW
PR21-048D031	Small former pit south of the ridge/gravel road showing disturbance	SW

Catalogue No.	Description	Dir.
PR21-048D032	Sloped gap between forested edges of the esker/ridge to the north of the gravel road	N
PR21-048D033	Ridge/gravel road showing forested areas on the esker	NE
PR21-048D034	Sloped gap between forested edges of the esker/ridge to the north of the gravel road	NE
PR21-048D035	Disturbed camping area in the west of the property, with steep slope to the south	WSW
PR21-048D036	Disturbed former extraction area to the north of the camp site	W
PR21-048D037	Disturbed campsite with sloped terrain	S
PR21-048D038	Disturbed former extraction area to the north of the camp site	N
PR21-048D039	Disturbed campsite with sloped terrain	S
PR21-048D040	Disturbed campsite with sloped terrain	SE
PR21-048D041	Disturbed camping area in the west of the property with a sloping path leading to the top of the knoll	E
PR21-048D042	View from the top of the knoll showing steep slope	S
PR21-048D043	View from the top of the knoll showing steep slope	SW
PR21-048D044	Sloped and disturbed former extraction area to the north of the camp site	N
PR21-048D045	Collection of boulders at the centre of the former extraction area	NW
PR21-048D046	Sloped and disturbed former extraction area to the north of the camp site	WSW
PR21-048D047	Sloped and disturbed area to the north of the camp site	S
PR21-048D048	Collapsed former twentieth century shed and piled debris on the northern edge of the property	NW
PR21-048D049	Sloping terrain on the northern edge of the ridge/esker	SE
PR21-048D050	Sloped and disturbed area on the northern side of the esker/ridge	SW
PR21-048D051	Disturbed area on the northern side of the esker/ridge	SSE
PR21-048D052	Former pasture along the northern edge of the property	ESE
PR21-048D053	Sloping terrain on the northern edge of the ridge/esker	SW
PR21-048D054	Former pasture along the northern edge of the property	WSW
PR21-048D055	Sloping terrain on the northern edge of the ridge/esker	SE
PR21-048D056	Sloping terrain on the northern edge of the ridge/esker	S
PR21-048D057	Former pasture along the northern edge of the property	WSW
PR21-048D058	Former pasture along the northern edge of the property	E
PR21-048D059	Disturbed area on the north side of the esker	E
PR21-048D060	Former pasture along the northern edge of the property	ENE
PR21-048D061	Rocky terrain on the north side of the esker	WSW
PR21-048D062	Rocky terrain on the north side of the esker	ENE
PR21-048D063	Rocky terrain on the north side of the esker	SE
PR21-048D064	Rocky terrain on the north side of the esker	WSW
PR21-048D065	Sloped and rocky terrain on the esker	ENE
PR21-048D066	Sloped and rocky terrain on the esker	S
PR21-048D067	Sloped and rocky terrain on the esker with a level plateau	E

Catalogue No.	Description	Dir.
PR21-048D068	Sloped and rocky terrain on the esker	SW
PR21-048D069	Sloped and rocky terrain on the esker	E
PR21-048D070	Sloped and rocky terrain on the esker	S
PR21-048D071	Sloped and rocky terrain on the esker	SE
PR21-048D072	Disturbance from the previous pit excavation near the road	NE
PR21-048D073	Reinstated area and new entrance construction	SE
PR21-048D074	Reinstated area with sloped terrain showing recent disturbance in the central mound	SW
PR21-048D075	Ridge running through the northern part of the property with disturbed gravel road and reinstated area to the south	W
PR21-048D076	Crew testing at 5 m intervals on the wooded esker	SSW
PR21-048D077	Typical soil stratigraphy of the esker	W
PR21-048D078	Sloped and rocky terrain within the esker	NW
PR21-048D079	Foundation for a sugaring-off trough for maple syrup	NW
PR21-048D080	Foundation for a sugaring-off trough for maple syrup	W
PR21-048D081	Foundation for a sugaring-off trough for maple syrup	E
PR21-048D082	Foundation for a sugaring-off trough for maple syrup	ENE
PR21-048D083	Sloped and rocky terrain within the esker	W
PR21-048D084	Crew testing at 5 m intervals in the former pasture along the north edge of the property	N
PR21-048D085	Crew testing at 5 m intervals in the former pasture along the north edge of the property	S
PR21-048D086	Former pasture along the northern edge of the property	WSW
PR21-048D087	Typical soil stratigraphy in the former pasture	S
PR21-048D088	Former pasture along the northern edge of the property and monitoring well	N
PR21-048D089	Disturbed campsite with sloped terrain	SSE
PR21-048D090	View from the top of the knoll showing sloped terrain	S
PR21-048D091	View from the top of the knoll showing sloped terrain	SW
PR21-048D092	View from the top of the knoll showing sloped terrain	SSW
PR21-048D093	View from the top of the knoll showing sloped terrain	SE
PR21-048D094	Disturbed Campsite in western section of the property	N
PR21-048D095	Sloped and disturbed former extraction area to the north of the camp site	N
PR21-048D096	Sloped and disturbed former extraction area to the north of the camp site	NNW
PR21-048D097	Disturbed and sloped area to the north of campsite	W
PR21-048D098	Former small extraction pit along the northern ridge	S
PR21-048D099	Sloped and reinstated terrain with gravel road disturbance along the ridge	E
PR21-048D100	Crew testing at 5 m intervals at the bottom of a slope in the former pasture at the north end of the property	N
PR21-048D101	Sloping topography and reinstated former pit with recent disturbance	SE
PR21-048D102	Steep slope east of the high knoll	SW



Catalogue No.	Description	Dir.
PR21-048D103	Reinstated section of the property with steep slope	S
PR21-048D104	Sloping topography and reinstated former pit with recent disturbance	ESE
PR21-048D105	Steep slope east of the high knoll	W
PR21-048D106	Reinstated section of the property with steep slope	ENE
PR21-048D107	Steep slope east of the high knoll	WNW
PR21-048D108	Sloped and disturbed terrain in the center of the property looking towards the central ridge	N
PR21-048D109	Sloped and disturbed terrain in center of the property	E
PR21-048D110	Disturbed roadway at the west end of the property and sloping terrain	SW
PR21-048D111	Disturbed roadway and sloping terrain in the centre of the property	NE
PR21-048D112	Disturbed roadway and sloping terrain	W
PR21-048D113	Sloped terrain leading to the wetland at the western edge of the property	S
PR21-048D114	Disturbed roadway and sloping terrain along the southwestern edge of the property	W
PR21-048D115	Steeply sloped area leading to the wetland west of property	S
PR21-048D116	Disturbed roadway and sloping terrain	E
PR21-048D117	Wetland at the western edge of the property	S
PR21-048D118	Wooded and sloped area in the western end of property	SW
PR21-048D119	Small former extraction area in the western end of the property	N
PR21-048D120	Disturbed roadway and sloping terrain	NE
PR21-048D121	Wooded and sloped area in south-western corner of property leading to the wetland	SW
PR21-048D122	Disturbed roadway and former extraction area in the south-western corner of the property	SSE
PR21-048D123	Recent disturbance in the central reinstated mound	N
PR21-048D124	Disturbed roadway, sloping terrain and former extraction area in the south-western corner of the property	ENE
PR21-048D125	Cleared trees in the former extraction area in the south-western corner of the property	SE
PR21-048D126	Recent disturbance in the central reinstated mound	NE
PR21-048D127	Cleared trees in the former extraction area in the south-western corner of the property	SW
PR21-048D128	Recent disturbance in the central reinstated mound	NE
PR21-048D129	Disturbed gravel roadway through a cut in the ridge	NE
PR21-048D130	Disturbed gravel road and entrance looking towards the reinstated smaller pit next to the road	NNW
PR21-048D131	Previous roadway with the reinstated smaller pit in the background	NNW
PR21-048D132	Disturbed entrance area looking towards the reinstated pit	W
PR21-048D133	Disturbed gravel road and the reinstated smaller pit	N
PR21-048D134	Disturbed gravel road and entrance area	SE
PR21-048D135	Reinstated smaller extraction area	NE
PR21-048D136	Reinstated former pit	WSW
PR21-048D137	Reinstated former pit	W

Catalogue No.	Description	Dir.
PR21-048D138	Sloping terrain on the esker	N
PR21-048D139	Disturbance in the former pasture along the northern edge of the property	NW
PR21-048D140	Small extraction pit in the northwestern part of the property	SSE
PR21-048D141	Disturbance in the northwest corner of the property	WSW
PR21-048D142	Disturbance in the northwest corner of the property	W
PR21-048D143	Rocky and sloping terrain in the western end of the property	NE
PR21-048D144	Rocky and sloping terrain in the western end of the property	NE
PR21-048D145	Rocky and sloping terrain in the western end of the property	SW
PR21-048D146	Rocky and sloping terrain in the western end of the property	S
PR21-048D147	Rocky and sloping terrain in the western end of the property	SW
PR21-048D148	Rocky and sloping terrain in the western end of the property	NW
PR21-048D149	Rocky and sloping terrain in the western end of the property	NW
PR21-048D150	Rocky and sloping terrain in the western end of the property	W
PR21-048D151	Rocky and sloping terrain in the western end of the property	SSE
PR21-048D152	Rocky and sloping terrain in the western end of the property	SE
PR21-048D153	Rocky and sloping terrain in the western end of the property	N
PR21-048D154	Crew testing to the south of the disturbed roadway along the ridge at 5 m intervals	E
PR21-048D155	Wooded and sloped area on the esker	NE
PR21-048D156	Wooded and sloped area from the top of the esker	N
PR21-048D157	Wooded and sloped area from the top of the esker	NNE
PR21-048D158	Crew testing the open area near the modern road in the southeast corner of the property at 5 m intervals	W
PR21-048D159	Crew testing the open area near the modern road in the southeast corner of the property at 5 m intervals	NW

## APPENDIX 2: Glossary of Archaeological Terms

**Archaeology:**

The study of human past by excavation of cultural material.

**Archaeological Sites:**

The physical remains of any building, structure, cultural feature, object, human event or activity which, because of the passage of time, are on or below the surface of the land or water.

**Archaic:**

A term used by archaeologists to designate a distinctive cultural period dating between 8000 and 1000 B.C. in eastern North America. The period is divided into Early (8000 to 6000 B.C.), Middle (6000 to 2500 B.C.) and Late (2500 to 1000 B.C.). It is characterized by hunting, gathering and fishing.

**Artifact:**

An object manufactured, modified or used by humans.

**B.P.:**

Before Present. Often used for archaeological dates instead of B.C. or A.D. Present is taken to be 1951, the date from which radiocarbon assays are calculated.

**Backdirt:**

The soil excavated from an archaeological site. It is usually removed by shovel or trowel and then screened to ensure maximum recovery of artifacts.

**Chert:**

A type of silica rich stone often used for making chipped stone tools. A number of chert sources are known from southern Ontario. These sources include outcrops and nodules.

**Contact Period:**

The period of initial contact between Indigenous and European populations. In Ontario, this generally corresponds to the seventeenth and eighteen centuries depending on the specific area.

**Cultural Resource / Heritage Resource:**

Any resource (archaeological, historical, architectural, artifactual, archival) that pertains to the development of our cultural past.

**Cultural Heritage Landscapes:**

Cultural heritage landscapes are groups of features made by people. The arrangement of features illustrates noteworthy relationships between people and their surrounding environment. They can provide information necessary to preserve, interpret or reinforce the understanding of important historical settings and changes to past patterns of land use. Cultural landscapes include neighbourhoods, townscapes and farmscapes.

**Diagnostic:**

An artifact, decorative technique or feature that is distinctive of a particular culture or time period.

**Disturbed:**

In an archaeological context, this term is used when the cultural deposit of a certain time period has been intruded upon by a later occupation.

**Excavation:**

The uncovering or extraction of cultural remains by digging.

**Feature:**

This term is used to designate modifications to the physical environment by human activity. Archaeological features include the remains of buildings or walls, storage pits, hearths, post moulds and artifact concentrations.

**Flake:**

A thin piece of stone (usually chert, chalcedony, etc.) detached during the manufacture of a chipped stone tool. A flake can also be modified into another artifact form such as a scraper.

**Fluted:**

A lanceolate shaped projectile point with a central channel extending from the base approximately one third of the way up the blade. One of the most diagnostic Palaeo-Indian artifacts.

**Lithic:**

Stone. Lithic artifacts would include projectile points, scrapers, ground stone adzes, gun flints, etc.

**Lot:**

The smallest provenience designation used to locate an artifact or feature.

**Midden:**

An archaeological term for a garbage dump.

**Mitigation:**

To reduce the severity of development impact on an archaeological or other heritage resource through preservation or excavation. The process for minimizing the adverse impacts of an undertaking on identified cultural heritage resources within an affected area of a development project.

**Multicomponent:**

An archaeological site which has seen repeated occupation over a period of time. Ideally, each occupation layer is separated by a sterile soil deposit that accumulated during a period when the site was not occupied. In other cases, later occupations will be directly on top of earlier ones or will even intrude upon them.

**Operation:**

The primary division of an archaeological site serving as part of the provenience system. The operation usually represents a culturally or geographically significant unit within the site area.

**Palaeo-Indian:**

The earliest human occupation of Ontario designated by archaeologists. The period dates between 9000 and 8000 B.C. and is characterized by small mobile groups of hunter-gatherers.

**Profile:**

The profile is the soil stratigraphy that shows up in the cross-section of an archaeological excavation. Profiles are important in understanding the relationship between different occupations of a site.

**Projectile Point:**

A point used to tip a projectile such as an arrow, spear or harpoon. Projectile points may be made of stone (either chipped or ground), bone, ivory, antler or metal.

**Provenience:**

Place of origin. In archaeology this refers to the location where an artifact or feature was found. This may be a general location or a very specific horizontal and vertical point.

**Salvage:**

To rescue an archaeological site or heritage resource from development impact through excavation or recording.

**Stratigraphy:**

The sequence of layers in an archaeological site. The stratigraphy usually includes natural soil deposits and cultural deposits.

**Sub-operation:**

A division of an operation unit in the provenience system.

**Survey:**

To examine the extent and nature of a potential site area. Survey may include surface examination of ploughed or eroded areas and sub-surface testing.

**Test Pit:**

A small pit, usually excavated by hand, used to determine the stratigraphy and presence of cultural material. Test pits are often used to survey a property and are usually spaced on a grid system.

**Woodland:**

The most recent major division in the pre-Contact cultural sequence of Ontario. The Woodland period dates from between 1000 B.C. and A.D. 1550. The period is characterized by the introduction of ceramics and the beginning of agriculture in southern Ontario. The period is generally divided into Early (1000 B.C. to A.D. 0), Middle (A.D. 0 to A.D. 900) and Late (A.D. 900 to A.D. 1550).

## **APPENDIX 3: Licensee Qualifications**



**STEPHANIE CLELAND, M.A.**  
*Staff Archaeologist*

Stephanie Cleland is a staff archaeologist with Past Recovery Archaeological Services Inc. Over the past fifteen years Stephanie has participated in archaeological research and cultural resource management projects (Stages 1 through 4) throughout eastern Ontario, in addition to her field school experiences in Belize. She has worked on over 50 Stage 1 through 4 archaeological assessments in the province. Stephanie has an extensive knowledge of both the pre-Contact and historical period cultural chronology of eastern Ontario, expertise in the interpretation of archaeological sites and is proficient in the interpretation and implementation of the 2011 *Standards and Guidelines for Consultant Archaeologists* (Ontario Ministry of Citizenship and Multiculturalism).

**EDUCATION**

M.A. Anthropology with a special emphasis on Bioarchaeology, University of Western Ontario, 2006  
B.Sc. (Hons.), Anthropology/Archaeology, Trent University, 2004

**Ontario Ministry of Citizenship and Multiculturalism Professional Licence: P1201**  
Licensed since 2011

**ARCHAEOLOGICAL EXPERIENCE**

**STAFF ARCHAEOLOGIST, Past Recovery Archaeological Services Inc., 2009-present**

- Directed and supervised fieldwork and prepared reports for Stage 1 through 4 archaeological assessments in Eastern Ontario, for clients including private developers, engineering firms, the National Capital Commission, the City of Kingston, the Ontario Ministry of Transportation, and the Ontario Ministry of Natural Resources and Forestry.
- Engagement with Indigenous communities.
- Field Archaeologist on numerous other projects.
- Historical research.
- Laboratory assistant.

**ARCHAEOLOGICAL TECHNICIAN, Golder Associates Ltd., 2008-2009**

- Field archaeologist for a variety of Stage 2 to 4 archaeological assessments in Eastern Ontario for private developments, the National Capital Commission, green energy projects, infrastructure and municipal development.
- Historical research.
- Laboratory assistant.

**VOLUNTEER, 2007**

- Archaeo Apprentice Program, Murphy's Point Provincial Park, Ontario.

**ANTHROPOLOGY TEACHING ASSISTANT, University of Western Ontario, 2004-2006**

Courses included: Mesoamerican Archaeology, Biological Anthropology, Introduction to Physical Anthropology and Introduction to Archaeology. Teaching Assistant Award Nominee (2006).

**JUNIOR STAFF ARCHAEOLOGIST, 2003**

Social Archaeology Research Project (SARP) Field School, Cayo District Belize

**FIELD SCHOOL STUDENT, 2002**

SARP Field School, Cayo District Belize





**STEPHANIE CLELAND, M.A.**

**PUBLICATIONS AND REPORTS**

**Past Recovery Archaeological Services:**

- 2022 Stage 1 Archaeological Assessment Point Crescent Open Space, Lot 9, Broken Front, Geographic Township of Kingston, City of Kingston, Ontario. *Prepared for the City of Kingston.*
- 2022 Stage 1 & 2 Archaeological Assessments, 100 Foot Park, Part Lots 14 and 15, Concession East of the Cataraqui River, Geographic Township of Pittsburgh, City of Kingston, Ontario. *Prepared for the City of Kingston*
- 2021 Stage 1 & 2 Archaeological Assessments, Proposed Cooney Pit, Part Lots 22 and 23, Concession 3, Geographic Township of Darling, Now Township of Lanark Highlands, County of Lanark. *Prepared for Cooney Construction & Landscape Ltd.*
- 2021 Stage 1&2 Archaeological Assessments for the Proposed Houchaimi Subdivision, Part Lot 14, Concession 10, Geographic Township of Ramsay, Now Municipality of Mississippi Mills, County of Lanark.
- 2021 Stage 1 Archaeological Assessment, Proposed Cooney Pit, Part Lots 22 and 23, Concession 3, Geographic Township of Lanark Highlands, County of Lanark. *Prepared for Cooney Construction and Landscape Ltd.*
- 2020 Stage 1 and 2 Archaeological Assessments of Bellwood Ridge Subdivision, Part Lots 8 and 9, Concession 2, Geographic Township of Cornwall, Now City of Cornwall, Ontario. *Prepared for Cornwall Gravel Co. Ltd.*
- 2020 Stage 2 Archaeological Assessment for a Proposed Campsite Electrification Project and Canoe Rack Installation, Lake St. Peter Provincial Park, Part Lots 5 and 6, Concession 12, Geographic Township of McClure, Now Municipality of Hastings Highlands, Hastings County, Ontario. *Prepared for Ontario Parks.*
- 2020 Stage 1 Archaeological Assessment Bassile Subdivision, Part Lots 7 and 8, Concession A, Geographic Township of Wolford, Now in the Village of Merrickville-Wolford, United Counties of Leeds and Grenville. *Prepared for Zander Plan Inc.*
- 2019 Stage 1 and 2 Archaeological Assessments, 'Earnscliffe' - 140 Sussex Drive, Part Lot o, Broken Front C, Geographic Township of Nepean, City of Ottawa, Ontario. *Prepared for Gemtec Consulting Engineers and Scientists.*
- 2019 Stage 1 and 2 Archaeological Assessments for the Replacement of the Laronde Creek Bridge and the Little Cache Creek Culvert, Highway 17 (GWP 5198-13-00), Part of the Nipissing Nation Lands and Part Lot 8, Concession 1, Geographic Township of Beauceage, and Part of Lots 10 and 11, Concession 2, Geographic Township of Springer, Nipissing District. *Prepared for McIntosh Perry Consulting Engineers Ltd.*
- 2019 Stage 2 Archaeological Assessment for Five Ottawa River Outfalls (Package 2 Locations), Various Los, Geographic Townships of Nepean and Gloucester, City of Ottawa, Ontario. *Prepared for Parsons Inc.*
- 2019 Stage 1 Archaeological Assessment 7913 Flewellyn Road (Area 6), Part Lots 8 and 10, all of Lot 9, Concession 9, Geographic Township of Goulbourn, City of Ottawa, Ontario. *Prepared for CDCI Research.*
- 2018 Stage 1 Archaeological Assessment of the Maple Ridge Subdivision (Phases 2 and 3), Part Lot 3, Concession 3, Geographic Township of South Elmsley, Town of Smiths Falls, Ontario. *Prepared for Zander Plan Inc.*
- 2018 Stage 1 Archaeological Assessment, Class EA for Bell Boulevard Widening Project, Part of Lots 37 and 38, Concession 2, Geographic Township of Sidney, Now City of Belleville, County of Hastings. *Prepared for the City of Belleville.*



- 2018 Stage 1 Archaeological Assessment of Brockville Long Swamp Fen Provincial Park, Various Lots, Concession 6, Geographic Township of Elizabethtown, Now Township of Elizabethtown-Kitley, United Counties of Leeds and Grenville, Ontario. *Prepared for Ontario Parks.*
- 2018 Stage 1 Archaeological Assessment of 910 Montreal Road, Part Lot 5, Concession 1, Geographic Township of Cornwall, City of Cornwall, Ontario.
- 2018 Stage 1 & 2 Archaeological Assessments for the Detail Design Study for the Replacement of Structures on Highway 400 at Innisfil Beach Road and the Barrie-Collingwood Railway and Reconstruction of Innisfil Beach Road I/C and Associated Works (GWP 2493-15-00; Assignment 2017-E-0030), Part Lots 6 and 7, Concessions 6 to 9, Geographic Township of Innisfil, New Town of Innisfil, County of Simcoe. *Prepared for McIntosh Perry Consulting Engineers Ltd.*
- 2018 Stage 2 Archaeological Assessment for Eleven Ottawa River Outfalls (Package 1 Locations), Various Lots, Geographic Townships of Nepean and Gloucester, City of Ottawa, Ontario. *Prepared for Parsons Inc.*
- 2018 Stage 1 and 2 Archaeological Assessments, Wellington Road Realignment, Kemptville, Part Lots 28 and 28, Concession 3, Geographic Township of Oxford on Rideau, Municipality of North Grenville. *Prepared for the Municipality of North Grenville.*
- 2018 Stage 1 and 2 Archaeological Assessment, for 6012 Garvin Road, Ottawa Hydro Substation Class EA, Part Lot 25, Concession 4, Geographic Township of Goulbourn, Village of Richmond, City of Ottawa, Ontario. *Prepared for exp Services Inc.*
- 2017 Stage 1 Archaeological Assessment, Woodbine Park, Part Lots 3 and 4, Concession 3, Geographic Township of Kingston, City of Kingston, Ontario. *Prepared for the City of Kingston.*
- 2017 Stage 1 Archaeological Assessment, West Park, Part Lot 4, Concession 1, Geographic Township of Kingston, City of Kingston, Ontario. *Prepared for the City of Kingston.*
- 2017 Stage 1 Archaeological Assessment, Springer Park, Part Lot 17, Concession 2, Geographic Township of Kingston, City of Kingston, Ontario. *Prepared for City of Kingston.*
- 2017 Stage 1 Archaeological Assessment, Meadowbrook Park, Part Lots 14 and 15, Concession 2, Geographic Township of Kingston, City of Kingston, Ontario. *Prepared for City of Kingston.*
- 2017 Stage 1 Archaeological Assessment, Queen Mary to Parkway Pathway, Part Lot 16, Concession 2, Geographic Township of Kingston, City of Kingston, Ontario. *Prepared for City of Kingston.*
- 2017 Stage 1 and 2 Archaeological Assessments for the McBean Street Bridge Replacement, Part Lot 24, Concession 3, Geographic Township of Goulbourn, Village of Richmond, City of Ottawa, Ontario. *Prepared for Morrison Hershfield Ltd.*
- 2017 Stage 1 and 2 Archaeological Assessment, for the Proposed Mallorytown Carpool Lot, County Road 5, Part Lot 20, Broken Front Concession, Geographic Township of Yonge, Now Township of Front of Yonge, United Counties of Leeds and Grenville. *Prepared for McIntosh Perry Consulting Engineers Ltd.*
- 2017 Stage 2 Archaeological Assessment of Proposed Infrastructure Projects at the Lally Homestead Site (BeGb-15), Murphy's Point Provincial Park, Part Lot 14, Concessions 4&5, Geographic Township of North Burgess, Now Tay Valley Township, Lanark County, Ontario. *Prepared for Ontario Parks.*
- 2017 Stage 1 & 2 Archaeological Assessments, Carp River Erosion Control Project, Part Lot 32, Concession 11, Geographic Township of Goulbourn, Carleton County, Now City of Ottawa, Ontario. *Prepared for McIntosh Perry Consulting Engineers Ltd.*
- 2017 Stage 1 Archaeological Assessment for Seven Ottawa River Outfalls (Package 2 Locations), Various Lots, Geographic Townships of Nepean and Gloucester, City of Ottawa, Ontario. *Prepared for Parsons Inc.*
- 2017 Stage 1 Archaeological Assessment for Thirteen Ottawa River Outfalls (Package 1 Locations), Various Lots, Geographic Townships of Nepean and Gloucester, City of Ottawa, Ontario. *Prepared for Parsons Inc.*



- 2017 Stage 1 Archaeological Assessment of 840 Princess Street, Pat Farm Lot 21, Concession 1, Geographic Township of Kingston, City of Kingston, Ontario. *Prepared for API Development Consultants Inc.*
- 2017 Stage 1 Archaeological Assessment, Proposed Shea Road, Community, Part Lot 25, Concession 10, Geographic Township of Goulbourn, Carleton County, Now City of Ottawa, Ontario.
- 2017 Stage 1 Archaeological Assessment Proposed Pinery Estates Subdivision, Part Lots 1 & 2, Concession 6, Geographic Township of Huntley, Carleton County, Now City of Ottawa, Ontario.
- 2017 Stage 1 & 2 Archaeological Assessment of 7771/7775 Snake Island Road, Part Lot 20, Concession 6, Geographic Township of Osgoode, Carleton County, Now City of Ottawa, Ontario. *Prepared for McIntosh Perry Consulting Engineers Ltd.*
- 2017 Stage 1 Archaeological Assessment for the Main Street Reconstruction Project, Highway 15 to Summers Road, Village of Elgin, Geographic Township of South Crosby, Now Township of Rideau Lakes, United Counties of Leeds and Grenville, Ontario. *Prepared for Public Works, United Counties of Leeds and Grenville.*
- 2017 Stage 1 Archaeological Assessment, 2175 Prince of Wales Drive, Part Lot 26, Concession A, Geographic Township of Nepean, Carleton County, Now City of Ottawa, Ontario. *Prepared for Myers Automotive Group.*
- 2017 Stage 1 and 2 Archaeological Assessments, of the Proposed South Gower Pit, Part Lots 5 and 6, Concession 5, Geographic Township of South Gower, Municipality of North Grenville. *Prepared for Cornwall Gravel Co. Ltd.*
- 2017 Stage 1 Archaeological Assessment, 2113-2125 Carp Road, Part Lot 2, Concession 3, Geographic Township of Huntley, Carleton County, Now City of Ottawa, Ontario. *Prepared for Myers Automotive Group.*
- 2017 Stage 1 Archaeological Assessment, 5639 Bank Street, Part Lot 1, Concession 5, Geographic Township of Osgoode, Carleton County, Now City of Ottawa, Ontario. *Prepared for Myers Automotive Group.*
- 2013 Stage 1 Archaeological Assessment of the Stonebridge Phase 14 Property, Part Lot 7, Concession 2, Rideau Front, Geographic Township of Nepean, Carleton County, Now in the City of Ottawa. *Prepared for Monarch Corporation.*
- 2012 Stage 1 & 2 of the Longfields Community Church Property, Part of Lot 13, Concession II, Rideau Front, Geographic Township of Nepean, Carleton County, Now in the City of Ottawa. *Prepared for Vandenberg & Wildeboer Architects Inc.*
- 2012 Stage 1 Archaeological Assessment for the North Glengarry Regional Water Supply Project Class EA, Various Lots, Geographic Townships of Kenyon and Charlottenburg, Now in the Townships of North and South Glengarry, Current United Counties of Stormont, Dundas and Glengarry. *Prepared for CH2M Hill Canada Limited*
- 2012 Stage 1 Archaeological Assessment of the Proposed Hammond Pit, Part Lot 2, Concession 5, Geographic Township of Leeds, Now the Township of Leeds and the Thousand Islands, United Counties of Leeds and Grenville, Ontario. *Prepared for ZanderPlan Inc.*
- 2012 Stage 1 Archaeological Assessment of the Proposed Redeemer Christian Highschool Expansion, Part Lot 30, Concession A, Rideau Front, Geographic Township of Nepean, Carleton County, Now in the City of Ottawa. *Prepared for Kollaard Associates*
- 2012 Stage 1 & 2 Archaeological Assessment of the Bernard Property, Township of Central Frontenac, Official Plan Amendment, Part Lots 1 and 2, Concession X, Geographic Township of Olden, Frontenac County. *Prepared for Robert Bernard, property owner*
- 2011 Stage 1 & 2 Archaeological Assessment, the Proposed Shames Subdivision, Part Lot 4, Concession 8, Geographic Township of Petawawa, Town of Petawawa, Renfrew County, Ontario. *Prepared for Novatech Engineering Consultants Ltd.*
- 2011 Stage 1 & 2 Archaeological Assessment of the J.W. Southwell Property, Part Lot 12, Concession XII, Geographic Township of Beckwith, Lanark County. *Prepared for Carlgate Development Inc.*



- 2011 Stage 1 Archaeological Assessment of Intersection Modifications at Bank Street/Conroy Road/Kemp Drive, Part Lot 14, Concessions IV and V, Geographic Township of Gloucester, City of Ottawa, Ontario. *Prepared for Morrison Hershfield.*
- 2011 Stage 1 Archaeological Assessment of the Proposed McNabb Single Family Home, Part Town Lot 67 within Lot 14, Concession XII, Geographic Township of Beckwith, Lanark County. *Prepared for Ruth and Brooke McNabb*
- 2011 Stage 2 Archaeological Assessment of Two Proposed Severances for S&A Developing, Part Lot 6, Concession V, Geographic Township of Pittsburgh, City of Kingston, Frontenac County. *Prepared for S&A Developing.*
- 2011 Stage 1 & 2 Archaeological Assessment of the Proposed Cronk Severance, Lot 27, Concession VII, Geographic Township of Hinchinbrooke, Frontenac County. *Prepared for Mr. Lynn Cronk.*
- 2011 Stage 1 Archaeological Assessment of 318 and 320 Alfred Street and 1, 11 and 15 Mack Street, City of Kingston, Ontario. *Prepared for Podium Development.*
- 2011 Stage 1 & 2 Archaeological Assessment of 505, 513 Albert Street and 605 Princess Street, City of Kingston, Ontario. *Prepared for Podium Development.*
- 2010 Stage 1 and 2 Archaeological Assessments of the Proposed Ralph Shaw – Townline Road Subdivision, Part Lot 11, Concession XII, Geographic Township of Beckwith, Lanark County.
- 2011 Stage 1, 2 & 3 Archaeological Assessment of the Proposed Badger Daylighting Services, Carp Road Property, Part Lot 7, Concession 2, Geographic Township of Huntley, City of Ottawa, Ontario. *Prepared for McIntosh Perry Consulting Engineers Ltd.*
- 2010 Stage 1 & 2 Archaeological Assessment of the Proposed Kennedy Severance, Part Lots 1 & 2, Concession VII, Geographic Township of Oso, Frontenac County, Ontario. *Prepared for Mr. L. Kennedy.*
- 2010 Stage 1 & 2 Archaeological Assessment of the Ennis Road Bridge Replacement, Tay Valley Township, Lanark County, Ontario. *Prepared for McIntosh Perry Consulting Engineers Ltd.*
- 2010 Stage 2 Archaeological Assessment of the Joe’s Lake Bridge Replacement, Part Lot 14, Concession III, Geographic Township of Lavant, Lanark County. *Prepared for AECOM & The Township of Lanark Highlands.*
- 2010 Stage 2 Archaeological Assessment of the Southwest Transitway Extension Proposed Pinecrest Creek Outfall Sewer (North of Baseline Road), City of Ottawa. *Prepared for MMM Group Limited.*
- 2010 Stage 3 Archaeological Assessment Rock Island Site (BdFx-2), Rock Island Camp Senior’s Resort Property, Lot 9, Front of Yonge Township, United Counties of Leeds and Grenville. *Prepared for Mr. Bill Hallett and Mr. Bob Race, Rock Island Camp.*
- 2010 Stage 1 Archaeological Assessment of the Proposed Don Cooney Gravel Pit, Part Lot 9, Concession VI, Geographic Township of Sidney, Hastings County. *Prepared for G.D. Jewell Engineering Inc.*
- 2010 Stage 1 Archaeological Assessment of the Dobbs Subdivision, Part Lots 22 and 23, Concession I, Geographic Township of Pembroke, Renfrew County, Ontario. *Prepared for Zander Plan Inc.*
- 2010 Stage 2 Archaeological Assessment of the Dobbs Subdivision, Part Lots 22 and 23, Concession I, Geographic Township of Pembroke, Renfrew County, Ontario. *Prepared for Zander Plan Inc.*
- 2009 Stage 1 Archaeological Assessment of the North Grenville Public Library, Lot 27, Concession III, Geographic Township of Oxford, Kemptville, Ontario. *Prepared for MHPM Project Managers Inc.*
- 2009 Stage 1 Archaeological Assessment of the Proposed Kennebec Lake Development, Part Lots 18 & 19, Concession IX, Geographic Township of Kennebec, Frontenac County, Ontario. *Prepared for McIntosh Perry Consulting Engineers Ltd.*
- 2009 Stage 2 Archaeological Assessment of the Town of Mississippi Mills Almonte Ward Communal Sewage System Pumping and Treatment Plant Location, Part Lot 16, Concession VIII, , Geographic Township of Ramsay, Lanark County. *Prepared for The Thompson Rosemount Group Inc.*



- 2009 Stage 1 Archaeological Assessment of the Proposed Russell Pumping Station Sites, Lot 11, Concession III, Geographic Township of Russell, Russell, Ontario. *Prepared for AECOM.*
- 2009 Stage 2 Archaeological Assessment of the Proposed Russell Pumping Station Sites, Lot 11, Concession III, Geographic Township of Russell, Russell, Ontario. *Prepared for AECOM.*

**Golder Associates:**

- 2009 Stage 1 Archaeological Assessment of the Longfields-Jockvale Connecting Link, Strandherd Drive to Jockvale Road, Lots 13, 14, 15, Concession 2, Rideau Front, Geographic Township of Nepean.

**Academic:**

Primary Author:

- 2006 Dental Microwear Analysis at Altun Ha, Belize. M.A. Thesis, University of Western Ontario.

Co-Author:

- 2014 Human Dedicatory Burials from Altun Ha, Belize: Exploring Residential History Through Enamel Microwear and Tissue Isotopic Compositions. In, *The Bioarcheology of Space and Place: Ideology, Power, and Meaning in Maya Mortuary Contexts*. Pages 169-192. Springer, New York.
- 2009 Human Dedicatory Burials from Altun Ha, Belize: Exploring Residential History through Enamel Microwear and Isotopic Analysis. Article submitted to *Latin American Antiquity*, review pending.
- 2008 Examining Sacrifice: The Symbolic Roles of 'the other' and the Ideological Role of the Warrior. Presented by Karyn Olsen at the 73<sup>rd</sup> Annual Meeting of the Society for American Archaeology, Symposium on the Meaning of Violence in Ancient Societies, Vancouver B.C.
- 2007 Exploring Residential History of Dedicatory Burials at Altun Ha, Belize Using Enamel Microwear and Isotopic Analysis. Presented by Karyn Olsen at the 72<sup>nd</sup> Annual Meeting of the Society for American Archaeology, Symposium on Maya Archaeology in Belize, Austin TX.
- 2005 Bioarchaeology Redux: A Holistic Approach to the Study of Biological Material. Presented by Lana Williams at the Annual Meeting of the Canadian Association for Physical Anthropology, London ON.