

Appendix F Stage 1 Archaeological Assessment





Stage 1 Archaeological Assessment: Fullarton Dam Rehabilitation

Part of Lots 16 and 17, Mitchell Road East Side,
and Lot 16, Mitchell Road West Side,
Geographic Township of Fullarton, now
Municipality of West Perth, Perth County,
Ontario

March 9, 2023

Prepared for:
Upper Thames River Conservation Authority
1424 Clarke Road
London, Ontario N5V 5B9

Prepared by:
Stantec Consulting Ltd.
600-171 Queens Avenue
London, Ontario N6A 5J7

Project Number:
160901056

Licensee: Darren Kipping, MA
License Number: P422
Project Information Form Number:
P422-0027-2023
Project Number: 160901056

ORIGINAL REPORT

Executive Summary

Stantec Consulting Ltd. (Stantec) was retained by the Upper Thames River Conservation Authority (UTRCA) (the Client) to conduct a Stage 1 archaeological assessment as part of a Municipal Class Environmental Assessment (EA) to support long term planning for the Fullarton Dam and Fullarton Conservation Area (the Project). The study area for the Project comprises approximately 33.68 hectares located in parts of Lots 16 and 17, Mitchell Road East Side, and Lot 16, Mitchell Road West Side, Geographic Township of Fullarton, now Municipality of West Perth, Perth County, Ontario.

The Stage 1 archaeological assessment was completed under Project Information Form number P422-0027-2022, issued to Darren Kipping, MA by the Ministry of Citizenship and Multiculturalism (the Ministry). A property inspection was conducted on January 11, 2023, by Darren Kipping (P422).

The Stage 1 archaeological assessment of the study area for the Project determined that much of the study area, approximately 77.34%, retains archaeological potential. In accordance with Section 1.3.1 and Section 7.7.4 of the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), **Stage 2 archaeological assessment is required for any portion of the Project's anticipated construction activities which impact an area of archaeological potential.**

The remaining portions of the study area, approximately 22.66%, retain low to no archaeological potential due to deep and extensive modern disturbances from the construction of the Fullarton Dam, areas identified as steeply sloped, or low and permanently wet areas. In accordance with Section 1.3.2, Section 2.1 Standard 2, and Section 7.7.4 of the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), **Stage 2 archaeological assessment is not required for any portion of the Project's anticipated construction activities which impact an area of low to no archaeological potential.**

Full and detailed recommendations are provided in the body of the report.

The Ministry is asked to review the results presented and to accept this report into the *Ontario Public Register of Archaeological Reports*.

The Executive Summary highlights key points from the report only; for complete information and findings, the reader should examine the complete report.



Table of Contents

Executive Summary	i
Project Personnel	iii
1 Project Context	4
1.1 Development Context.....	4
1.1.1 Objectives	4
1.2 Historical Context	5
1.2.1 Pre-Contact Indigenous Resources	5
1.2.2 Post-Contact Indigenous Resources	8
1.2.3 Euro-Canadian Resources	9
1.3 Archaeological Context	12
1.3.1 Natural Environment.....	12
1.3.2 Registered Archaeological Sites and Surveys	14
1.4 Existing Conditions.....	15
2 Field Methods	16
3 Analysis and Conclusions	17
4 Recommendations	20
5 Advice on Compliance with Legislation	22
6 Bibliography and Sources	23
7 Images	28
7.1 Photographs.....	28
8 Maps	37
9 Closure	47

List of Tables

Table 1: Generalized Cultural Chronology of the Study Area.....	5
Table 2: Applicable Landowner Information from the 1879 Map of Fullarton Township	11
Table 3: Registered Archaeological Sites within One Kilometre of the Study Area.....	14
Table 4: Previous Archaeological Assessment Completed near the Study Area	15

List of Figures

Figure 1: Location of the Project	38
Figure 2: Location of Study Area	39
Figure 3: Treaties and Purchases (Adapted from Morris 1943).....	40
Figure 4: Portion of the 1831 Survey Map of Fullarton	41
Figure 5: Portion of the 1879 Map of Fullarton Township	42
Figure 6: Aerial Imagery – 1954 and 1959.....	43
Figure 7: Aerial Imagery – 1963 and 2020.....	44
Figure 8: LiDAR Hillshade Relief Map	45
Figure 9: Stage 1 Results and Recommendations	46



Project Personnel

Licensed Archaeologist:	Darren Kipping, MA (P422)
Project Manager:	Heather Amirault, P.Eng.
Licensed Field Director:	Darren Kipping, MA (P422)
Mapping:	Paul Moser
Report Writer:	Darren Kipping, MA (P422)
Quality Review:	Colin Varley, MA, RPA (P002)
Independent Review:	Parker Dickson, MA (P256)

Acknowledgements

Proponent Contact:	Jillian Smith – Upper Thames River Conservation Authority
Ministry of Citizenship And Multiculturalism:	Robert von Bitter – Archaeological Data Coordinator



1 Project Context

1.1 Development Context

Stantec Consulting Ltd. (Stantec) was retained by the Upper Thames River Conservation Authority (UTRCA) (the Client) to conduct a Stage 1 archaeological assessment as part of a Municipal Class Environmental Assessment (EA) to support long term planning for the Fullarton Dam and Fullarton Conservation Area (the Project) (Figure 1). The study area for the Project comprises approximately 33.68 hectares located in parts of Lots 16 and 17, Mitchell Road East Side, and Lot 16, Mitchell Road West Side, Geographic Township of Fullarton, now Municipality of West Perth, Perth County, Ontario (Figure 2).

The Stage 1 archaeological assessment conducted by Stantec was undertaken in the preliminary planning and design process for the Class EA requirements under the *Ontario Environmental Assessment Act* (Government of Ontario 1990c).

1.1.1 Objectives

In compliance with the provincial standards and guidelines set out in the Ministry of Citizenship and Multiculturalism's (the Ministry) 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), the objectives of the Stage 1 archaeological assessment are as follows:

- To provide information about the study area's geography, history, previous archaeological fieldwork, and current land conditions.
- To evaluate the study area's archaeological potential, which will support recommendations for Stage 2 survey for all or parts of the property.
- To recommend appropriate strategies for Stage 2 survey.

To meet these objectives, Stantec archaeologists employed the following research strategies:

- A review of relevant archaeological, historical, and environmental literature pertaining to the study area.
- A review of the land use history, including pertinent historical maps.
- An examination of the Ministry's *Ontario Archaeological Sites Database* to determine the presence of registered archaeological sites in and around the study area.
- A query of the Ministry's *Ontario Public Register of Archaeological Reports* to identify previous archaeological assessments completed within 50 metres of the study area.
- A property inspection of the study area by a licensed archaeologist.

Permission to enter the study area was provided by the UTRCA.



1.2 Historical Context

“Contact” is typically used as a chronological benchmark when discussing Indigenous archaeology in Canada and describes the contact between Indigenous and European cultures. The precise moment of contact is a constant matter of discussion. Contact in what is now the province of Ontario is broadly assigned to the 16th century (Loewen and Chapdelaine 2016).

1.2.1 Pre-Contact Indigenous Resources

This portion of southwestern Ontario has been occupied by Indigenous peoples since the retreat of the Wisconsin glacier approximately 11,000 years ago. Much of what is understood about the lifeways of Indigenous peoples is derived from archaeological evidence and ethnographic analogy. In Ontario, Indigenous culture prior to the period of contact with European peoples has been distinguished into cultural periods based on observed changes in material culture. These cultural periods are largely based on observed changes in formal lithic tools and separated into the Early Paleo, Late Paleo, Early Archaic, Middle Archaic, and Late Archaic periods. Following the advent of ceramic technology in the Indigenous archaeological record, cultural periods are separated into the Early Woodland, Middle Woodland, and Late Woodland periods, based primarily on observed changes in formal ceramic decoration. It should be noted that these cultural periods do not necessarily represent specific cultural identities but are a useful paradigm for understanding changes in Indigenous culture through time. Table 1 provides a general outline of the cultural chronology of the study area, summarized from Ellis and Ferris (1990). The provided time periods are based on the “Common Era” calendar notation system: Before Common Era (BCE) and Common Era (CE).

Table 1: Generalized Cultural Chronology of the Study Area

Period	Characteristics	Time	Comments
Early Paleo	Fluted Projectiles	9000 – 8400 BCE	Spruce parkland, caribou hunters
Late Paleo	Hi-Lo Projectiles	8400 – 8000 BCE	Smaller but more numerous sites
Early Archaic	Kirk and Bifurcate Base Points	8000 – 6000 BCE	Slow population growth
Middle Archaic	Brewerton-like Points	6000 – 2500 BCE	Environment similar to present
Late Archaic	Narrow Point	2000 – 1800 BCE	Increasing site size
	Broad Point	1800 – 1500 BCE	Large chipped lithic tools
	Small Point	1500 – 1100 BCE	Introduction of bow hunting
Terminal Archaic	Hind Points	1100 – 950 BCE	Emergence of true cemeteries
Early Woodland	Meadowood Points	950 – 400 BCE	Introduction of pottery
Middle Woodland	Dentate/Pseudo-Scallop Pottery	400 BCE – CE 500	Increased sedentism
	Princess Point	CE 550 – 900	Seasonal hunting and gathering
Late Woodland	Early Ontario	CE 900 – 1300	Incipient agriculture
	Middle Ontario	CE 1300 – 1400	Agricultural villages
	Late Ontario	CE 1400 – 1650	Earth worked villages, warfare



Stage 1 Archaeological Assessment: Fullarton Dam Rehabilitation
Project Context
 March 9, 2023

Period	Characteristics	Time	Comments
Contact Indigenous	Various Algonkian and Iroquoian Groups	1600 – 1875 CE	Early written records and treaties
Historical	French/Euro-Canadian	1749 CE – present	European settlement

Local environmental conditions during the Paleo period were significantly different from what they are today. Ontario’s first peoples would have crossed the landscape in small groups in search of food, particularly migratory game species. In this area, caribou may have been a Paleo diet staple, supplemented by wild plants, small game, birds, and fish. Given the low density of populations on the landscape at this time and their mobile nature, Paleo sites are small and ephemeral. They are sometimes identified by the presence of fluted points. Sites are frequently located adjacent to the shorelines of large glacial lakes. Between 9000 and 8000 BCE, Indigenous populations were sustained by hunting, fishing, and foraging and lived a relatively mobile existence across an extensive geographic territory. Despite these wide territories, social ties were maintained between groups. One method to maintain social ties between distant groups was through gift exchange, evident through exotic lithic material documented on many sites (Ellis 2013:35-40).

Archaeological records indicate subsistence changes around 8000 BCE at the start of the Archaic Period in southwestern Ontario. Since the large mammal species that formed the basis of the Paleo diet became extinct or moved north with the warming of the climate, Archaic populations had a more varied diet, exploiting a range of plants and bird, mammal, and fish species. Reliance on specific food resources like fish, deer, and several nut species became more noticeable through the Archaic Period and the presence of warmer, more hospitable environs led to expansion of group and family sizes. In the archaeological record this is evident in the presence of larger sites.

By approximately 8000 BCE, evidence exists, and becomes more common, for the production of ground-stone tools such as axes, chisels, and adzes. These tools are believed to be indicative specifically of woodworking. This evidence can be extended to indicate an increase in craft production and, arguably, craft specialization. This latter statement is also supported by evidence, dating to approximately 7000 BCE, of ornately carved stone objects, which would be laborious to produce and have explicit aesthetic qualities (Ellis 2013:41). This is indirectly indicative of changes in social organization that permitted individuals to devote time and effort to craft specialization. Starting around 8000 BCE, the Great Lakes basin experienced a low-water phase, with shorelines significantly below modern lake levels (Stewart 2013: Figure 1.1.C). It is presumed that the majority of settlements would have been focused along these former shorelines. At approximately 6500 BCE the climate had warmed considerably since the recession of the glaciers and the environment had grown more similar to the present day. By approximately 4500 BCE, evidence exists from southern Ontario for the utilization of native copper, i.e., naturally occurring pure copper metal (Ellis 2013:42). The recorded origin of this material along the north shore of Lake Superior indicates the existence of extensive exchange networks across the Great Lakes basin.

The coniferous forests of earlier times were replaced by stands of mixed coniferous and deciduous trees by about 4000 BCE. The transition to more productive environmental circumstances led to a rise in population density. As a result, Archaic sites become more abundant over time. Artifacts typical of these occupations include a variety of stemmed and notched projectile points; chipped stone scrapers; ground



Stage 1 Archaeological Assessment: Fullarton Dam Rehabilitation

Project Context

March 9, 2023

stone tools (i.e., celts, adzes) and ornaments (i.e., bannerstones, gorgets); bifaces or tool blanks; animal bone; and chert waste flakes, a by-product of the tool making process (Ellis *et al.* 1990).

At approximately 3500 BCE, the isostatic rebound of the North American plate following the melt of the Laurentide glacier had reached a point which significantly affected the watershed of the Great Lakes basin. Prior to this, the Upper Great Lakes had drained down the Ottawa Valley via the French River and Mattawa River valleys. Following this shift in the watershed, the drainage course of the Great Lakes basin had changed to its present course. This also prompted a significant increase in water-level to approximately modern levels (with a brief high-water period); this change in water levels is believed to have occurred catastrophically (Stewart 2013:28-30). This change in geography coincides with the earliest evidence for cemeteries (Ellis 2013:46). By 2900 to 2500 BCE, the earliest evidence exists for the construction of fishing weirs (Ellis *et al.* 1990: Figure 4.1; Stevens 2004). There is some evidence to suggest that fishing weirs had been constructed much earlier. A radiocarbon sample from a weir site in Lovesick Lake along the Trent-Severn Waterway provided a date of 4600 BCE (Stevens 2004). Construction of these weirs would have required a large amount of communal labour and are indicative of the continued development of social organization and communal identity. The large-scale procurement of food at a single location also has significant implications for permanence of settlement within the landscape. This period is also marked by further population increase and by 1500 BCE evidence exists for substantial permanent structures (Ellis 2013:45-46).

By approximately 950 BCE, the earliest evidence exists for populations using ceramics. Populations are understood to have continued to seasonally exploit natural resources. This advent of ceramic technology correlated, however, with the intensive exploitation of seed foods such as goosefoot and knotweed as well as mast such as nuts (Williamson 2013:48). The use of ceramics implies changes in the social organization of food storage as well as in the cooking of food and changes in diet. Fish also continued to be an important facet of the economy at this time. Evidence continues to exist for the expansion of social organization (including hierarchy), group identity, ceremonialism (particularly in burial), interregional exchange throughout the Great Lakes basin and beyond, and craft production (Williamson 2013:48-54).

By approximately 550 CE, evidence emerges for the introduction of maize into southern Ontario. This crop would have initially only supplemented Indigenous peoples' diet and economy (Birch and Williamson 2013:13-14). Maize-based agriculture gradually became more important to societies and by approximately 900 CE permanent communities emerge which are primarily focused on agriculture and the storage of crops, with satellite locations oriented toward the procurement of other resources via hunting, fishing, and foraging. By approximately 1250 CE, evidence exists for the common cultivation of historic Indigenous cultigens, including maize, beans, squash, sunflower and tobacco. The cultural affiliation of populations within the region of the study area at this time period is debated, whether they may have spoken a form of Iroquoian language or Algonquian (Murphy and Ferris 1990). The extent archaeological record demonstrates many cultural traits similar to historical Indigenous nations (Williamson 2013:55).



1.2.2 Post-Contact Indigenous Resources

The post-Contact Indigenous occupation of southern Ontario was heavily influenced by the dispersal of various Iroquoian-speaking communities by the New York State Iroquois and the subsequent arrival of Algonkian-speaking groups from northern Ontario at the end of the 17th century and beginning of the 18th century (Konrad 1981; Schmalz 1991).

From the mid-16th century until the turn of the 17th century, the region of the study area was within the extended political territory of Iroquoian populations who were probably ancestral to those historically described as the *Neutre* (by the French), the *Neutral* (in English) or the *Atawandaron* (by the Huron-Wendat); their autonym is not conclusively known (Birch 2015). Following the turn of the 17th century, the region of the study area seems to have been abandoned by permanent settlement and constituted a liminal territory between the Atawandaron and the Fire Nation, an Algonquian group occupying the western end of Lake Erie. It is argued, however, that at this time the Atawandaron expanded extensively westward, displacing the Fire Nation, and occupying the region of modern Chatham-Kent (Lennox and Fitzgerald 1990:418-419).

By 1690, Algonkian speakers from the north appear to have begun to repopulate Bruce County (Rogers 1978:761). This is the period in which the Mississaugas are known to have moved into southern Ontario and the lower Great Lakes watersheds (Konrad 1981). In southwestern Ontario, however, members of the Three Fires Confederacy (Chippewa, Ottawa, and Pottawatomi) were immigrating from Ohio and Michigan in the late 1700s (Feest and Feest 1978:778-779). At approximately 1790, the study area was occupied by populations of Ottawa, Chippewa, Pottawatomi, and Wyandot (Feest and Feest 1978:777, 779).

Despite the differentiation of Indigenous groups in Euro-Canadian sources, there was a considerably different view by Indigenous nations concerning their self-identification during the first few centuries of European contact. These peoples relied upon kinship ties that cut across European notions of nation identity (Bohaker 2006:277-283). Many of the British-imposed names, such as Chippewa, Odawa, Pottawatomi, or Mississauga, artificially separated how self-identified Anishinaabeg classified themselves (Bohaker 2006:1-8) and as a result, a number of these groups were culturally and socially more alike than contemporary European documentation might indicate.

The expansion of the fur trade led to increased interaction between European and Indigenous people, and ultimately intermarriage between European men and Indigenous women. During the 18th century the progeny of these marriages began to identify as Métis and no longer directly identified with either their paternal or maternal. The ethnogenesis of the Métis progressed with the establishment of distinct Métis communities along the major waterways in the Great Lakes of Ontario. Métis communities were primarily focused around the upper Great Lakes and along Georgian Bay, however, Métis people have historically lived throughout Ontario (Métis Nation of Ontario 2023; Stone and Chaput 1978:607-608).

The nature of Indigenous settlement size, population distribution, and material culture shifted as European settlers encroached upon their territory. Despite this shift, “written accounts of material life and livelihood, the correlation of historically recorded villages to their archaeological manifestations, and the similarities of those sites to more ancient sites have revealed an antiquity to documented cultural



expressions that confirms a deep historical continuity to...systems of ideology and thought” (Ferris 2009:114). As a result, Indigenous peoples have left behind archaeological resources throughout southern Ontario which show continuity with past peoples, even if they have not been recorded in Euro-Canadian documentation.

Since contact with European explorers and immigrants, and, later, with the establishment of provincial and federal governments (the Crown), the lands within Ontario and the Geographic Township of Fullarton have been included in various treaties, land claims, and land cessions. The study area, and Perth County generally, is located on land covered under Treaty 29, also known as the Huron Tract Purchase. This treaty was signed in 1827 between the Crown and certain Anishinaabe peoples. The treaty covered approximately 2.2 million acres of land in southwestern Ontario (Government of Canada 2016). Though not an exhaustive list, Morris (1943) provides a general outline of some of the treaties within the Province of Ontario from 1783 to 1923. While it is difficult to exactly delineate treaty boundaries today, Figure 3 provides an approximate outline of the limits of Treaty Number 29 or Huron Tract Purchase (identified by the letter “T”).

1.2.3 Euro-Canadian Resources

1.2.3.1 Perth County

Present day Perth County was originally a part of the District of Hesse, one of four districts founded in 1788 after the British came into possession of most of North America. The District of Hesse comprised all British territories west of Long Point, which makes up most of Western Ontario. In 1792, Upper Canada re-organized into 19 counties. The District of Hesse was renamed the Western District and contained two counties, Kent and Essex, which spanned the region now referred to as southwestern Ontario. In 1827, the Canada Company, formed by British investors, purchased one million acres of land from the Crown with intentions to sell plots for settlement. The land bought by the Canada Company became known as the Huron Tract or Huron District, which included the area of land bordered by Lake Huron to the west, the historical Township of Bosanquet to the south, the historical Township of Colborne to the north and the historical Townships of North and South Easthope to the east, including much of the present-day Perth County (Johnston and Johnston 1967:4). By 1849, the district system had been abolished; Perth County was established in January 1850 and included 11 townships (Johnston and Johnston 1967:56).

Settlement in Perth County began as early as 1829 as European settlers began living in the central townships of the county. Large scale settlement, however, did not begin until the 1840s (Johnston and Johnston 1967:15). The 11 townships in Perth County were laid out and surveyed as early as 1850. The majority of surveyed lots were assigned to European settlers from Germany, Ireland, and Scotland (Johnston and Johnston 1967:14-15).

The Township of Fullarton was originally part of a large land grant to the Canada Company known as the Huron Tract. The Canada Company was formed in 1826 to assist in the improvement, settlement, and administration of land holdings in Upper Canada (Karr 1974:3). The privately owned company was organized under the leadership of John Galt with financial backing from merchants in London, England (Karr 1974:7). The Canada Company was modeled on similar settlement programs in Australia and New York State (Karr 1974:8-9). While the company originally intended to purchase all the Crown Reserves



and half the Clergy Reserves of the colony, this was met with opposition by John Strachan, Anglican Bishop of Toronto, and his allies in Britain. After several rounds of negotiation, the Canada Company forewent the purchase of Clergy Reserves and instead opted to purchase a one-million-acre tract in the London and Western District known as the Huron Tract (Karr 1974:12). In 1827, the boundaries of Huron Tract were finalized, and William Dunlop was dispatched to explore the area (Karr 1974:30). To facilitate settlement, the Canada Company placed agents in the British Isles and the United States to advertise lands for sale and work started on the Huron Road to connect Guelph to the edge of the Huron Tract (Karr 1974:25; 33).

1.2.3.2 Township of Fullarton

The baseline of the survey for Fullarton Township was laid out along the south side of the Huron Road by Dunlop and his exploration party in 1829. The townships of South Easthope, Downie, and Ellice also contain baselines along the south side of the Huron Road (Johnston and Johnston 1967:6). Many of the townships in Perth County were named in honour of Canada Company officials (Gardiner 1899:350); Fullarton Township was named in honour of John Fullarton, a director of the Canada Company (Gardiner 1899:351).

The survey of Fullarton Township was completed in 1835 by John McDonald (Association of Ontario Land Surveyors [AOLS] 1997; Canada Company 1835). The township was surveyed using a special variant used to survey Canada Company lands (AOLS 1997). This system of survey was first used by the Canada Company to survey the Huron Tract and created 100-acre lots that measured 20 chains by 50 chains (1,320 feet by 3,300 feet). Road allowances were located every alternate concession and every fifth lot. Survey lines were located in the centre of road allowances and this created sections of 1,000 acres with ten lots of 100 acres each. In 1850, this survey system was adopted for use in Crown surveys and much of Ontario between Georgian Bay and the Ottawa River was surveyed using this system (Weaver 1968:16). The 1831 survey of Fullarton Township (McDonald 1835) does not illustrate landowners on the lots (Figure 4). The map shows the existing road network, including what would become Mitchell Road, the north branch of the Thames River, and Black Creek to the southeast of the study area. The southwest corner of Lot 16 is shown to be marsh, indicated by the green stippling (Figure 4).

The first recorded European settler in Fullarton Township was Hugh Kennedy Junck, who settled on Lot 20, Concession 1. Junck built a sawmill on Whorl Creek in what would become the Town of Mitchell. Settlement in the township was slow until 1843, when an influx of European settlers arrived. The most important roadway in Fullarton Township during the mid-19th century was Mitchell Road (present-day County Road 163 and County Road 163A), which is partially located within the study area. The road was opened in 1844 to connect St. Mary's and Mitchell. However, conditions on this roadway remained rudimentary and consisted of a narrow strip of land mostly cleared of trees with no bridges over water courses. This road was the last road financed by the Canada Company in present-day Perth County (Johnston and Johnston 1967:183). Mitchell Road was improved in the 1850s by private efforts (Johnston and Johnston 1967:188).



In 1857, the Buffalo and Lake Huron Railway was completed through Fullarton Township and reached Mitchell. The community became an important shipping point and grew to become Fullarton Township's most significant community. As a result, Mitchell was incorporated as a village (Johnston and Johnston 1967:78). Other hamlets in the township included Fullarton, Russeldale, and Carlingford (Belden & Co. 1879). During the 1850s, the township's population grew rapidly and increased from 1,750 in 1851 to 2,890 in 1861 (Census of the Canadas 1853; Census of the Canadas 1861). In 1861, the township contained 405 farmsteads on 36,566 acres of land. A total of 14,006 acres of land was under cultivation (Census of the Canadas 1864). The population of Fullarton Township reached a peak of 2,903 in 1871 (Johnston and Johnston 1967). For the remainder of the 19th century and into the mid-20th century the township entered into a period of population decline.

The *Illustrated Historical Atlas of the County of Perth, Ontario* (Belden & Co. 1879) notes that Fullarton Township was widely occupied by 1879, with landowners listed for most lots (Figure 5). Table 2 provides a summary of the landowners associated with Lots 16 and 17, Mitchell Road East Side, and Lot 16, Mitchell Road West Side.

Table 2: Applicable Landowner Information from the 1879 Map of Fullarton Township

Lot	Concession	Landowner	Comment
16	Mitchell Road East Side	R. Sandercook	One structure is illustrated in the northwest portion of the lot, within the study area. The lot abuts north branch of the Thames River.
16	Mitchell Road West Side	E. Haynes	One structure is illustrated in the northern portion of the lot, northwest of the study area.
17	Mitchell Road East Side	W. Porteous	One structure is illustrated in the northwest portion of the lot, south of the study area. The lot abuts the north branch of the Thames River.

Historical county atlases were produced primarily to identify factories, offices, residences, and landholdings of subscribers, and were funded by subscription fees. Landowners who did not subscribe were not always listed on the maps (Caston 1997:100). As such, structures were not necessarily depicted or placed accurately (Gentilcore and Head 1984). Further, review of historical mapping, including treaty maps, also has inherent accuracy difficulties due to potential error in geo-referencing. Geo-referencing is conducted by assigning spatial coordinates to fixed locations and using these points to spatially reference the remainder of the map. Due to changes in "fixed" locations over time (e.g., road intersections, road alignments, watercourses, etc.), errors/difficulties of scale and the relative idealism of historical cartography, historical maps may not translate accurately into real space points. This may provide obvious inconsistencies during historical map review. Nonetheless, the majority of the region surrounding the study area has been subject to European-style agricultural practices for over 150 years, having been settled by Euro-Canadian farmers by the late 19th century. Much of the region today continues to be used for agricultural purposes.



1.2.3.3 Fullarton Dam and Conservation Area

The UTRCA was formed in 1947 to implement flood control measures in the upper watershed of the Thames River (UTRCA 2023b). In 1953, 77 acres of Lot 16 Mitchell Road East Side and four acres of Lot 17, Mitchell Road East Side were sold to the UTRCA by Alonzo Hart and Ernest Rogers, respectively, in preparation of the construction of an earthen dam (OnLand 2023a). In 1955, the UTRCA built a nine-foot high and 300-foot long earthen dam on the Neil Drain to create a recreational lake or reservoir. This dam was primarily recreational in purpose but served a secondary purpose as part of wider floor control measures in the Upper Thames watershed (UTRCA 2023c; UTRCA 2023d). The Fullarton Dam was one of several recreational earth dams built or reconstructed by UTRCA in the 1950s. Other earth dams completed by UTRCA in the 1950s include the Shakespeare Dam (built 1954), Embro Dam (reconstructed 1959), and the Dorchester Dam (built 1958) (UTRCA 2023e; UTRCA 2023f; UTRCA 2015).

A historical aerial photo from 1954 depicts the surrounding topography of the Neil Drain and its course through the study area prior to construction of the dam (Figure 6). The 1954 aerial photo also depicts a structure on the northwest portion of the study area, which is likely the structure illustrated on the 1879 historical atlas on Lot 16, Mitchell Road East Side (see Figure 5 and Figure 6). The 1959 historical aerial photo depicts the study area four years after the construction of the earthen dam and reservoir. The area still shows signs of disturbance following construction of the dam, including areas around the reservoir, likely from grading, and the channel of Neil Drain that has been significantly altered west of Mitchell Road (now 163A Road) prior to the dam construction (Figure 6). The structure in the northwest portion of the study area was also removed sometime between 1954 and 1959. The 1963 historical aerial photo does not show any significant changes for the area surrounding the dam and reservoir. However, at some point between 1959 and 1963, Mitchell Road (now Perth Road 163) was routed south over Neil Drain just west of the study area (Figure 7). Between 1962 and 1966, the area around the dam owned by UTRCA was developed into a public park (UTRCA 2023c). In 1967, Norman Clarke sold, for \$1, an unspecified amount of land in Lot 16, Mitchell Road West Side to complete the acquisition of the present-day footprint of UTRCA lands within the study area (OnLand 2023b). Based on aerial imagery, the only significant alteration to the study area between 1963 and 2020 is the construction of the baseball diamonds and associated infrastructure in the northwest portion of the study area as well as the planting of trees surrounding the dam and reservoir (Figure 7).

1.3 Archaeological Context

1.3.1 Natural Environment

The study area is situated within the Stratford Till Plain physiographic region of southern Ontario (Chapman and Putnam 1984:133). The Stratford Till Plain is described as a:

...broad clay plain of 1,370 square miles, extending from London in the south to Blyth and Listowel in the north with a projection toward Arthur and Grand Valley. It is an area of ground moraine interrupted by several terminal moraines. The moraines are more closely spaced in the southwestern portion of the region; consequently that part resembles the Mount Elgin Ridges.... Throughout this area the till is fairly uniform, being a brown



Stage 1 Archaeological Assessment: Fullarton Dam Rehabilitation

Project Context

March 9, 2023

calcareous silty clay whether on the ridges or the more level ground moraine. It is a product of the Huron ice lobe. Some of the silt and clay is calcareous rock flour, probably a good deal of it coming from previously deposited varved clays of the Lake Huron Basin.

(Chapman and Putnam 1984:133)

Soils within the study area comprise Huron clay loam, Burford loam, and bottom land (Hoffman and Richards 1952). Huron clay loam, which has rolling topography, is relatively stone free, and has good drainage. Burford loam is level to undulating, moderately stony, and has good drainage. Bottom land is level and associated with alluvial deposits from waterways. Maize was the most important subsistence crop for pre-Contact Indigenous agriculture. Soil variability can account for significant difference in bushel yield per acre for corn agriculture (Government of Ontario 2022). The ideal soil texture and drainage for corn cultivation is well-drained silt. Despite this, both Huron clay loam and Burford loam may have been suitable for Indigenous maize cultivation.

To highlight the topography of the study area, Figure 8 illustrates a hillshade relief map of the surrounding region. The hillshade relief map was developed using Ontario's Light Detection and Ranging (LiDAR) Digital Terrain Model (DTM) which comprises a 50-centimetre resolution dataset representing bare-earth terrain developed from a LiDAR point cloud (Government of Ontario 2017). The Ontario LiDAR DTM was overlaid on the study area and rendered using a hillshade relief to enhance slope and changes in topography. Figure 8 highlights the low-lying topography for portions of the area (mainly related to creeks, drainages, and the North Branch of the Thames River) in relation to elevated topography adjacent to the waterways, as well as the sloped areas between the high and low areas of elevation.

The closest potable water source is the former Neil Drain, now part of the Fullarton Dam system, which is located within the study area. The North Branch of the Thames River abuts the northern and eastern portion of the study area. The Thames River is part of the Canadian Heritage River Systems and is 273 kilometres in length. The three branches of the Thames River begin near Mitchell, Hickson, and Tavistock. The upper parts of the Thames River are located in a former glacial spillway. This area contains rocky riverbeds and steep valleys. The north and south branches of the Thames River confluence near downtown London. West of London, the Thames River is located in a shallow channel that was carved by the river. The river empties into Lake St. Clair at Lighthouse Cove (Canadian Heritage Rivers System 2023). The Thames River was historically known as the *Deshkan Zibi* (Antler River) to the Anishinaabe, *Askunessippi* (Antlered River) to the Neutral, and *La Tranche* to French explorers. In 1793, it was named the Thames River by Lieutenant Governor John Graves Simcoe (UTRCA 2023a). Use of the Thames River has evolved over time from being a transportation route used by early Indigenous inhabitants and Euro-Canadian explorers and settlers, to an industrial power source to support the early mills of the area, and finally to a water course used for recreational purposes throughout the 20th and 21st centuries. The Thames River is designated as a Canadian Heritage River on the merit of its over 11,000 years of Indigenous occupation and its importance in Canada's post-contact history (Canadian Heritage Rivers System 2023).



1.3.2 Registered Archaeological Sites and Surveys

In Canada, archaeological sites are registered within the Borden system, a national grid system designed by Charles Borden in 1952 (Borden 1952). The grid covers the entire surface area of Canada and is divided into major units containing an area that is two degrees in latitude by four degrees in longitude. Major units are designated by upper case letters. Each major unit is subdivided into 288 basic unit areas, each containing an area of 10 minutes in latitude by 10 minutes in longitude. The width of basic units reduces as one moves north due to the curvature of the earth. In southern Ontario, each basic unit measures approximately 13.5 kilometres east-west by 18.5 kilometres north-south. In northern Ontario, adjacent to Hudson Bay, each basic unit measures approximately 10.2 kilometres east-west by 18.5 kilometres north-south. Basic units are designated by lower case letters. Individual sites are assigned a unique, sequential number as they are registered. These sequential numbers are issued by the Ministry who maintain the *Ontario Archaeological Sites Database*. The study area under review is located within Borden Block AiHh.

Information concerning specific site locations is protected by provincial policy and is not fully subject to the *Freedom of Information and Protection of Privacy Act* (Government of Ontario 1990a). The release of such information in the past has led to looting or various forms of illegally conducted site destruction. Confidentiality extends to media capable of conveying location, including maps, drawings, or textual descriptions of a site location. The Ministry will provide information concerning site location to the party or an agent of the party holding title to a property, or to a licensed archaeologist with relevant cultural resource management interests.

An examination of the *Ontario Archaeological Sites Database* has shown that there are three registered archaeological sites located within a one-kilometre radius of the study area (Government Ontario 2023a). Table 3 provides a summary of the registered archaeological sites within one kilometre of the study area. None of the registered archaeological sites are within 50 metres of the study area.

Table 3: Registered Archaeological Sites within One Kilometre of the Study Area

Borden #	Site Name	Cultural Affiliation	Site Type
AiHh-1	Morris	Indigenous, Late Archaic	Findspot
AiHh-2	Wiebe 2	Indigenous, Early Archaic	Scatter; workshop
AiHh-3	Wiebe 1	Indigenous	Findspot

A query of the *Ontario Public Register of Archaeological Reports* was completed to identify any previous archaeological assessment completed within, or adjacent to, the study area. Based on the query, two previous archaeological assessments have been completed within the study area or within 50 metres of the current study area (Government of Ontario 2023b). A summary of the previous assessments in relation to the study area is presented in Table 4 and discussed further below.



Table 4: Previous Archaeological Assessment Completed near the Study Area

Year	Report	Author	Project Information Form (PIF) #
1979a	<i>Assessment of the Prehistoric and Historic Cultural Resources within the Glengowan Dam Project Area Phase I</i>	Scarlett Janusas	Not applicable (n/a)
1979b	<i>Archaeological Survey of the Glengowan Dam Project Area Phase II.</i>	Scarlett Janusas	n/a

On behalf of the UTRCA, the former Museum of Indian Archaeology, now Museum of Ontario Archaeology, at the University of Western Ontario conducted an archaeological assessment (Phase I) in 1979 to determine the potential cultural resources that may be impacted by the proposed Glengowan Dam and provide recommendations for further research (Janusas 1979a). The proposed Glengowan Dam was to be constructed north of St. Mary’s, near the confluence of the North Branch of the Thames River and the Avon River (approximately 13 kilometres southeast of the study area), which would have created a large narrow reservoir covering approximately 728 hectares (Janusas 1979a). Background research in conjunction with landowner interviews about artifact collections and approximate collection areas, were conducted to provide an overview of potential archaeological site locations and determine the archaeological potential of the area. The Phase I study determined that the probability of archaeological sites existing within the Glengowan Dam impact area was high and that an archaeological field survey be conducted in the form of Phase II (Janusas 1979a).

The archaeological survey, or Phase II, was conducted over eight weeks in 1979 as part of the Glengowan Environmental Assessment for the proposed Glengowan Dam project (Janusas 1979b). The in-field archaeological assessment consisted of pedestrian survey and test pit survey at varying intervals depending on the archaeological potential of the field or area (Janusas 1979b). Fifteen archaeological sites were identified during the Phase II survey, including the three archaeological sites identified within one kilometre of the study area for this project: Morris (AiHh-1), Wiebe 2 (AiHh-2), Wiebe 1 (AiHh-3). All three archaeological sites were identified within agricultural fields adjacent to the North Branch of the Thames River. From the mapping in the Phase II report, it appears as though the Fullarton Conservation Area property was assessed by a combination of test pit survey at five to nine metre intervals (for the Neil Drain, dam, reservoir areas) and pedestrian survey at five to nine metre intervals (surrounding agricultural fields) (Janusas 1979b: Figure 1). No archaeological resources were identified within the Fullarton Conservation Area.

The proposed Glengowan Dam was never constructed, and the project was officially cancelled by UTRCA in 2018 (The Londoner 2018).

1.4 Existing Conditions

The study area consists of approximately 33.68 hectares of the Fullarton Conservation Area which includes trails, wetland, manicured lawn, mixed deciduous and pine wood woodlots and managed forests, agricultural fields, baseball diamonds, a creek, an earthen dam, and associated dam reservoir.



2 Field Methods

Prior to the start of the Stage 1 archaeological assessment, the UTRCA provided preliminary mapping for the Project, the Fullarton Conservation Area (i.e., the study area). This mapping was geo-referenced by Stantec's Geographical Information Services (GIS) team and a digital file (i.e., a shape file) was created of the study area. The digital file of the study area was uploaded to ArcGIS Field Maps powered by ESRI, customized by Stantec for archaeological survey and assessment, for digital data recording in the field. Data was recorded in the field on a handheld mobile device paired with a Trimble R1 Global Navigation Satellite System (GNSS) receiver to an accuracy of less than one metre.

Initial background research compiled information concerning registered and/or potential archaeological resources within the study area. A property inspection was conducted on January 11, 2023, by Darren Kipping (P422) under PIF number P422-0027-2022, issued to Darren Kipping, MA by the Ministry. The property inspection involved spot-checking the entirety of the study area to identify the presence or absence of features of archaeological potential in accordance with Section 1.2 of the Ministry's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

During the property inspection on January 11, 2023, the weather was overcast and cold. At no time were field, lighting, or weather conditions detrimental to the identification of features of archaeological potential. The photography from the property inspection is presented in Section 7.1 and confirms that the requirements for a Stage 1 property inspection were met, as per Section 1.2 and Section 7.7.2 Standard 1 of the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Figure 9 illustrates photo locations from the property inspection of the study area.

Based on the results of the property inspection, approximately 77.34% of the study area consists of agricultural fields, scrubland, and woodlots (Photos 1 to 8).

Approximately 7.04% of the study area consists of modern disturbances from the construction and grading associated with the existing dam, asphalt and gravel laneways, and structures. Photos 7 to 12 illustrate typical examples of existing disturbance identified throughout the study area.

Approximately 9.00% of the study area consists of areas of steep slope. Photos 13 to 15 illustrate areas of steeply sloped terrain throughout the study area.

The remainder of the study area, approximately 6.62%. consists of low and permanently wet areas, mainly the Neil Drain and associated marshlands. Photos 16 and 17 illustrate examples of low and permanently wet areas throughout the study area.



3 Analysis and Conclusions

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. Stantec applied archaeological potential criteria commonly used by the Ministry (Government of Ontario 2011) to determine areas of archaeological potential within the region under study. These variables include proximity to previously identified archaeological sites, distance to various types of water sources, soil texture and drainage, glacial geomorphology, elevated topography, and the general topographic variability of the area. However, it is worth noting that extensive land disturbance can eradicate archaeological potential (Government of Ontario 2011).

Potable water is the single most important resource for any extended human occupation or settlement and since water sources in Ontario have remained relatively stable over time, proximity to drinkable water is regarded as a useful index for the evaluation of archaeological site potential. In fact, distance to water is one of the most commonly used variables for predictive modeling of archaeological site locations. Distance to modern or ancient water sources is generally accepted as the most important determinant past human settlement patterns and considered alone, may result in a determination of archaeological potential. However, any combination of two or more other criteria, such as well-drained soils or topographic variability, may also indicate archaeological potential.

As discussed above, distance to water is an essential factor in archaeological potential modeling. When evaluating distance to water it is important to distinguish between water and shoreline, as well as natural and artificial water sources, as these features affect site location and type to varying degrees. The Ministry categorizes water sources in the following manner:

- Primary water sources: lakes, rivers, streams, and creeks.
- Secondary water sources: intermittent streams and creeks, springs, marshes, and swamps.
- Past water sources: glacial lake shorelines, relic river or stream channels, cobble beaches, and shorelines of drained lakes or marshes.
- Accessible or inaccessible shorelines: high bluffs, swamp or marshy lake edges, and sandbars stretching into marsh.

As stated in Section 1.3.1, the dammed Neil Drain runs southwest to northeast through the study area and the North Branch of the Thames River runs northwest to southeast along the eastern edge of the study area. Ancient and/or relic tributaries of other primary and secondary water sources may have existed but are not identifiable today and are not indicated on historical mapping. Soil texture can also be an important determinant of past settlement, usually in combination of other factors such as topography. As stated previously, soils within the study area consist of Huron clay loam, Burford loam, and alluvial deposits. Both Huron clay loam and Burford loam have good natural drainage and would have been suitable for Indigenous agriculture, especially in areas of elevated topography as illustrated on Figure 8.

A review of the *Ontario Archaeological Sites Database* identified three registered Indigenous archaeological sites within one kilometre of the study area, each identified within similar environmental



Stage 1 Archaeological Assessment: Fullarton Dam Rehabilitation
Analysis and Conclusions
March 9, 2023

contexts as the study area (Government of Ontario 2023a; Janusas 1979b). Two of the Indigenous archaeological sites were dated to the Archaic period (approximately 8000 BCE to 1100 BCE), suggesting a long period of use of the area by Indigenous peoples. It should also be noted that the paucity of assessments and registered archaeological sites may be due to the relatively undeveloped landscape surrounding the study area and is not necessarily reflective of an absence of archaeological resources or potential.

Archaeological potential can be extended to areas of early Euro-Canadian settlement, including places of military or pioneer settlements; early transportation routes; and properties listed on the municipal register or designated under the *Ontario Heritage Act* (Government of Ontario 1990b) or property that local histories or informants have identified with possible historical events, activities, or occupations. Historical mapping demonstrates that the study area was occupied as early as the mid-to-late 19th century. The 1831 survey of Fullarton Township does not list any landowners or structures. Much of the established road and rail networks and agricultural settlement from the 19th century is still visible today. The 1879 map of Fullarton Township demonstrates that the study area follows early interior roads and concessions with structures illustrated as fronting these roads. A structure is illustrated on the 1879 map within the study area. Based on aerial imagery reviewed for this assessment, the structure was demolished sometime between 1954 and 1959. Structures depicted on the historical atlases and maps within the study area are no longer extant, however, the foundations, features, and cultural material associated with these habitations may exist in subsurface deposits of areas not subject to extensive or deep land alteration within the study area. There are no registered Euro-Canadian archaeological sites within one kilometre of the study area. However, similar to the few Indigenous sites, the paucity of assessments and registered archaeological sites may be due to the relatively undeveloped landscape surrounding the study area and is not necessarily reflective of an absence of archaeological resources or potential.

Background and archival research have determined that the study area for the Project retains archaeological potential. The 1979 Phase 1 study for the proposed Glengowan Dam project also supports the area retaining archaeological potential (Janusas 1979a). The Phase II archaeological survey for the proposed Glengowan Dam project overlapped with portions of the study area for this Project, and no archaeological resources were identified (Janusas 1979b). However, based on the Phase II report and its associated mapping (Janusas 1979b), it is difficult to determine the extent of the archaeological survey within the study area for this Project. Thus, it was not feasible to illustrate any previous area of assessment on Figure 9. In addition, the 1979 archaeological survey was not completed to the current archaeological methods outlined in the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011) and therefore these areas still retain archaeological potential.

The Stage 1 property inspection determined that portions of the study area, particularly sports infrastructure, driveways, and the lands impacted by the construction of the dam itself, have been subject to deep and extensive land disturbance which has removed archaeological potential. The Stage 1 property inspection also determined that portions of the study area are steeply sloped and low and permanently wet, these areas do not retain archaeological potential. The Stage 1 property inspection determined the remaining portions of the study area comprises manicured lawn, agricultural fields,



Stage 1 Archaeological Assessment: Fullarton Dam Rehabilitation
Analysis and Conclusions
March 9, 2023

scrublands, and woodlots/managed forests and these areas are determined to retain archaeological potential.

In summary, the Stage 1 archaeological assessment of the Project, involving background research and a property inspection, determined that much of the study area retains archaeological potential. However, the property inspection also indicated that approximately 7.04% of the study area consists of modern disturbances, approximately 9.00% of the study area consists of areas of steep slope, and approximately 6.62% consists of low and permanently wet areas, mainly the Neil Drain and associated marshlands (Figure 9). These areas, cumulatively 22.66% of the study area, are considered to retain low to no archaeological potential. The remaining 77.34% of the study area is considered to retain archaeological potential.



4 Recommendations

The Stage 1 archaeological assessment of the study area for the Project determined that much of the study area, approximately 77.34%, retains archaeological potential. In accordance with Section 1.3.1 and Section 7.7.4 of the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), **Stage 2 archaeological assessment is required for any portion of the Project's anticipated construction activities which impact an area of archaeological potential (Figure 9).**

The objective of the Stage 2 archaeological assessment is to document archaeological resources within the portions of the study area still retaining archaeological potential and to determine whether these archaeological resources require further assessment. The Stage 2 archaeological assessment will include the systematic walking of open ploughed fields as outlined in Section 2.1.1 of the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The Ministry standards require that all agricultural land, both active and inactive, be recently ploughed and sufficiently weathered to improve the visibility of archaeological resources. Ploughing must be deep enough to provide total topsoil exposure, but not deeper than previous ploughing, and must provide at least 80% ground surface visibility.

For areas inaccessible for ploughing, the Stage 2 archaeological assessment will include a test pit survey as outlined in Section 2.1.2 of the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The Ministry standards require that each test pit be at least 30 centimetres in diameter, excavated to at least five centimetres into subsoil, and have excavated soil screened through six-millimetre hardware cloth to facilitate the recovery of any cultural material that may be present. Prior to backfilling, each test pit will be examined for stratigraphy, cultural features, or evidence of fill.

If the archaeological field team determines any additional lands to be low and permanently wet, steeply sloped, or disturbed during the Stage 2 field work, those areas will not require survey, but will be photographically documented in accordance with Section 2.1 of the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

It is further recommended that Stage 2 archaeological assessment of the study area for the Project include engagement with interested Indigenous communities. Indigenous engagement practices conducted during the Stage 2 archaeological assessment will be completed in accordance with the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011) and the Ministry's draft technical bulletin on *Engaging Aboriginal Communities in Archaeology*.

The remaining portions of the study area, approximately 22.66%, retain low to no archaeological potential due to deep and extensive modern disturbances from the construction of the Fullarton Dam, areas identified as steeply sloped, and low and permanently wet areas. In accordance with Section 1.3.2, Section 2.1 Standard 2, and Section 7.7.4 of the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), **Stage 2 archaeological assessment is not required for**



Stage 1 Archaeological Assessment: Fullarton Dam Rehabilitation

Recommendations

March 9, 2023

any portion of the Project's anticipated construction activities which impact an area of low to no archaeological potential (Figure 9).

The Ministry is asked to review the results presented and to accept this report into the *Ontario Public Register of Archaeological Reports*.



5 Advice on Compliance with Legislation

In accordance with Section 7.5.9 of the Ministry's 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011), the following standard statements are a required component of archaeological reporting and are provided from the Ministry's 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011).

This report is submitted to the Minister of Citizenship and Multiculturalism as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c.0.18 (Government of Ontario 1990b). The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Citizenship and Multiculturalism, 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.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* (Government of Ontario 1990b) 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 fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the *Ontario Public Register of Archaeological Reports* referred to in Section 65.1 of the *Ontario Heritage Act* (Government of Ontario 1990b).

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990b). The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990b).

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (Government of Ontario 2002) requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Public and Business Service Delivery.

Archaeological sites recommended for further archaeological fieldwork remain subject to Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990b) and may not be altered, or have artifacts removed, except by a person holding an archaeological license.



6 Bibliography and Sources

- Association of Ontario Land Surveyors [AOLS]. 1997. List of Subdivided Townships in the Province of Ontario with Dates and Systems of Survey. On File at Stantec.
- Belden & Co. 1879. *Historical Atlas of the County of Perth, Ontario*. Toronto: Belden.
- Birch, Jennifer. 2015. Current Research on the Historical Development of Northern Iroquoian Societies. *Journal of Archaeological Research* 22(4):263-323.
- Birch, Jennifer and Ronald F. Williamson. 2013. *The Mantle Site: An Archaeological History of an Ancestral Huron Wendat Community*. Lanham: Altamira Press.
- Bohaker, Heidi Rosemary. 2006. *Nindoodemag: Anishinaabe Identities in the Eastern Great Lakes Region, 1600 to 1900*. Unpublished Ph.D. dissertation. Toronto: University of Toronto.
- Borden, Charles E. 1952. *A Uniform Site Designation Scheme for Canada*. *Anthropology in British Columbia* 3:44-48.
- Canada Company. 1835. *Map of the Township of Fullarton*. Toronto: Canada Company.
- Canadian Heritage Rivers System. 2023. *Thames River*. Electronic document: <https://chrs.ca/en/rivers/thames-river>. Last accessed on February 8, 2023.
- Caston, Wayne A. 1997. *Evolution in the Mapping of Southern Ontario and Wellington County*. *Wellington County History* 10:91-106.
- Census of the Canadas. 1853. *Census of the Canadas 1851-2, Personal Census, Vol. I*. Quebec: John Lovell.
- Census of the Canadas. 1861. *Census of the Canadas 1860-61, Personal Census, Vol. I*. Quebec: S.B. Foote.
- Census of the Canadas. 1864. *Census of the Canadas, 1860-61, Agricultural Produce, Mills, Manufactories, Houses, Schools, Public Buildings, Place of Worship*. Quebec: S.B. Foote.
- Ellis, Chris J. 2013. Before Pottery: Paleoindian and Archaic Hunter-Gatherers. In *Before Ontario: The Archaeology of a Province*, edited by Marit K. Munson and Susan M. Jamieson, pp. 35-47. Montreal and Kingston: McGill-Queen's University Press.
- Ellis, Chris J. and Neal Ferris (editors). 1990. *The Archaeology of Southern Ontario to A.D. 1650*. Occasional Publication of the London Chapter, Ontario Archaeological Society, Number 5.
- Ellis, Chris J., Ian T. Kenyon, and Michael W. Spence. 1990. The Archaic. In Ellis and Ferris 1990, pp. 65-124.



Stage 1 Archaeological Assessment: Fullarton Dam Rehabilitation
Bibliography and Sources
March 9, 2023

- Feest, Johanna E. and Christian F. Feest 1978. The Ottawa. In *Handbook of North American Indians*. Volume 15, Northeast, edited by Bruce G. Trigger, pp. 772-786. Washington: Smithsonian Institution Press.
- Ferris, Neal. 2009. *The Archaeology of Native-Lived Colonialism: Challenging History in the Great Lakes*. Tucson: University of Arizona Press.
- Gardiner, Herbert F. 1899. *Nothing But Names*. Toronto: George N. Morang and Company Limited.
- Gentilcore, Louis R. and C. Grant Head. 1984. *Ontario's History in Maps*. Toronto: University of Toronto Press.
- Government of Canada. 2016. *Treaty Texts – Upper Canada Land Surrenders*. Electronic document: <https://www.rcaanc-cirnac.gc.ca/eng/1370372152585/1581293792285#ucls23>. Last accessed on January 19, 2023.
- Government of Ontario. 1990a. Freedom of Information and Protection of Privacy Act, R.S.O. 1990, CHAPTER F.31. Electronic document: <https://www.ontario.ca/laws/statute/90f31>. Last accessed on February 8, 2023.
- Government of Ontario. 1990b. Ontario Heritage Act, R.S.O. 1990, CHAPTER O.18. Electronic document: <http://www.ontario.ca/laws/statute/90o18>. Last accessed on February 8, 2023.
- Government of Ontario. 1990c. Ontario Environmental Assessment Act, R.S.O. 1990, CHAPTER E.18. Electronic document: <https://www.ontario.ca/laws/statute/90e18?search=environment+assessment+act>. Last accessed on February 8, 2023.
- Government of Ontario. 2002. Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c. 33. Electronic document: <https://www.ontario.ca/laws/statute/02f33>. Last accessed on February 8, 2023.
- Government of Ontario. 2011. *Standards and Guidelines for Consultant Archaeologists*. Toronto: Ministry of Tourism, Culture and Sport.
- Government of Ontario. 2017. *LiDAR Digital Terrain Model*. Ministry of Natural Resources and Forestry.
- Government of Ontario. 2020. Provincial Policy Statement, 2020, Under the Planning Act. Electronic document: <https://files.ontario.ca/mmah-provincial-policy-statement-2020-accessible-final-en-2020-02-14.pdf>. Last accessed on January 13, 2023.
- Government of Ontario. 2022. Agronomy Guide for Field Crops – Publication 811. Available online: [Agronomy Guide for Field Crops | ontario.ca](https://www.ontario.ca/agronomy-guide-for-field-crops). Last accessed on February 8, 2023.
- Government of Ontario. 2023a. Ontario Archaeological Sites Database Files. Ministry of Tourism, Culture and Sport. Past Portal. Last accessed June 1, 2022.



Stage 1 Archaeological Assessment: Fullarton Dam Rehabilitation
Bibliography and Sources
March 9, 2023

- Government of Ontario. 2023b. Ontario Public Register of Archaeological Reports. Ministry of Tourism, Culture and Sport. Past Portal. Last accessed June 1, 2022.
- Hoffman, D.W., and N.R. Richards. 1952. *Soil Survey of Perth County*. Report No. 15 of the Ontario Soil Survey. Guelph: Experimental Farms Service, Canada Department of Agriculture and the Ontario Agricultural College.
- Janusas, Scarlett. 1979a. *Assessment of the Prehistoric and Historic Cultural Resources within the Glengowan Dam Project Area Phase I*. London: Museum of Indian Archaeology at the University of Western Ontario.
- Janusas, Scarlett. 1979b. *Archaeological Survey of the Glengowan Dam Project Area Phase II*. London: Museum of Indian Archaeology at the University of Western Ontario.
- Johnston, W.S. and H.J.M. Johnston. 1967. *History of Perth County to 1967*. Stratford: Municipal Corporation of the County of Perth.
- Karr, Clarence. 1974. *The Canada Land Company: The Early Years*. Ottawa: Ontario Historical Society, Love Printing Service Ltd.
- Konrad, Victor. 1981. An Iroquois Frontier: The North Shore of Lake Ontario during the Late Seventeenth Century. *Journal of Historical Geography* 7(2): 129-144.
- Lennox, Paul A. and William R. Fitzgerald. 1990. The Culture History and Archaeology of the Neutral Iroquoians. In Ellis and Ferris 1990, pp. 405-456.
- Loewen, Brad and Claude Chapdelaine (editors). 2016. *Contact in the 16th Century: Networks among Fishers, Foragers and Farmers*. Mercury Series Archaeology Paper 176. Ottawa: University of Ottawa Press.
- McDonald, John. 1835. *Map of the Township of Fullarton*. Map on file with the Ontario Ministry of Natural Resources and Forestry. Peterborough.
- Métis Nation of Ontario. 2023. Métis Historic Timeline. Electronic document: <http://www.metisnation.org/culture-heritage/m%C3%A9tis-timeline/>. Last accessed on February 8, 2023.
- Morris, J.L. 1943. *Indians of Ontario*. 1964 reprint. Toronto: Department of Lands and Forests.
- Murphy, Carl and Neal Ferris. 1990. The Late Woodland Western Basin Tradition in Southwestern Ontario. In Ellis and Ferris 1990, pp. 189-278.
- OnLand. 2023a. Perth (44), Fullarton, Book 199, East Mitchell Road Concession. Electronic Document: <https://www.onland.ca/ui/44/books/63898/viewer/579537059?page=32>. Last Accessed on January 27, 2023.



Stage 1 Archaeological Assessment: Fullarton Dam Rehabilitation
Bibliography and Sources
March 9, 2023

- OnLand. 2023b. Perth (44), Fullarton, Book 199, West Mitchell Concession. Electronic Document: <https://www.onland.ca/ui/44/books/65184/viewer/547957377?page=55>. Last Accessed on January 27, 2023.
- Rogers, E.S. 1978. Southeastern Ojibwa. In Handbook of North American Indians, Volume 15 Northeast, edited by Bruce G. Trigger, pp. 760-771. Washington: Smithsonian Institution Press.
- Schmalz, Peter S. 1991. The Ojibwa of Southern Ontario. Toronto: University of Toronto Press.
- Stevens, E. W. 2004. First Nations underwater archaeology of the Trent-Severn Waterway. Copy on file at Parks Canada, Ottawa.
- Stewart, Andrew M. 2013. Water and Land. In Before Ontario: The Archaeology of a Province, edited by Marit K. Munson and Susan M. Jamieson, pp. 24-34. Montreal and Kingston: McGill-Queen's University Press.
- Stone, Lyle M. and Donald Chaput. 1978. Southeastern Ojibwa. In Handbook of North American Indians. Volume 15, Northeast, edited by Bruce G. Trigger, pp. 602-609. Washington: Smithsonian Institution Press.
- The Londoner. 2018. *Conservation authority cancels Glengowan Dam and Reservoir project*. Electronic document: <https://www.thelondoner.ca/news/local-news/conservation-authority-cancels-glengowan-dam-and-reservoir-project-2/wcm/323650ce-0484-45ce-800f-f3d9a4beb68c/amp/>. Last accessed on February 13, 2023.
- UTRCA. 2015. Embro Dam Class Environmental Assessment, Public Information Centre #1. Electronic Document: <https://thamesriver.on.ca/wp-content/uploads/FloodStructures/OtherStructures/EmbroDam-display-PublicInfoCentre-June2015.pdf>. Last accessed on January 30, 2023.
- UTRCA. 2023a. The Thames River Watershed and Traditional Territory. Electronic Document: <https://thamesriver.on.ca/about-us/thames-river-watershed-and-traditional-territory/#:~:text=The%20Upper%20Thames%20River%20watershed,and%20region%20of%20southwestern%20Ontario>. Last accessed on January 26, 2023.
- UTRCA. 2023b. Flooding on the Thames River. Electronic Document: <https://thamesriver.on.ca/water-management/flooding-on-the-thames-river/#:~:text=In%201947%2C%20the%20Upper%20Thames,watershed%20of%20the%20Thames%20River>. Last accessed on January 30, 2023.
- UTRCA. 2023c. Fullarton CA. Electronic Document: <https://thamesriver.on.ca/parks-recreation-natural-areas/day-use-cas-and-tracts/fullarton-ca/>. Last accessed on January 30, 2023.
- UTRCA. 2023d. Other Dams. Electronic Document: <https://thamesriver.on.ca/water-management/recreational-dams/>. Last accessed on January 30, 2023.



Stage 1 Archaeological Assessment: Fullarton Dam Rehabilitation
Bibliography and Sources
March 9, 2023

UTRCA. 2023e. Dorchester CA. Electronic Document: <https://thamesriver.on.ca/parks-recreation-natural-areas/day-use-cas-and-tracts/dorchester-ca/>. Last accessed on January 30, 2023.

UTRCA. 2023f. Shakespeare CA. Electronic Document: <https://thamesriver.on.ca/parks-recreation-natural-areas/day-use-cas-and-tracts/shakespeare-ca/>. Last accessed on January 30, 2023.

Weaver, W.F. 1968. *Crown Surveys in Ontario*. Toronto: Department of Lands and Forests.

Williamson, Ronald F. 2013. The Woodland Period, 900 BCE to 1700 CE. In *Before Ontario: The Archaeology of a Province*, edited by Marit K. Munson and Susan M. Jamieson, pp. 48-61. Montreal and Kingston: McGill-Queen's University Press.



7 Images

7.1 Photographs

Photo 1: Area retaining archaeological potential, agricultural field in distance and scrubland in foreground, facing east



Photo 2: Area retaining archaeological potential, manicured lawn, facing south-southwest



Photo 3: Area retaining archaeological potential, woodlot/managed forest, facing south-southeast



Photo 4: Area retaining archaeological potential, woodlot/managed forest, facing north



Stage 1 Archaeological Assessment: Fullarton Dam Rehabilitation

Images

March 9, 2023

Photo 5: Area retaining archaeological potential on left, area of low and permanently wet ground at right, facing north



Photo 6: Area retaining archaeological potential, woodlot, facing southwest



Photo 7: Area retaining archaeological potential, woodlot, facing south-southwest



Photo 8: Area retaining archaeological potential, woodlot, facing north



Stage 1 Archaeological Assessment: Fullarton Dam Rehabilitation

Images

March 9, 2023

Photo 9: Area of previous disturbance, sports infrastructure and asphalt driveway, facing east



Photo 10: Area of previous disturbance, sports infrastructure and asphalt driveway, facing northwest



Photo 11: Area of previous disturbance, earthen dam, facing east



Photo 12: Area of previous disturbance, dam and reservoir, facing south



Photo 13: Area of steep slope, facing northeast



Photo 14: Area of steep slope, facing south



Photo 15: Area of steep slope, facing north-northeast



Photo 16: Low and permanently wet area, facing north-northeast



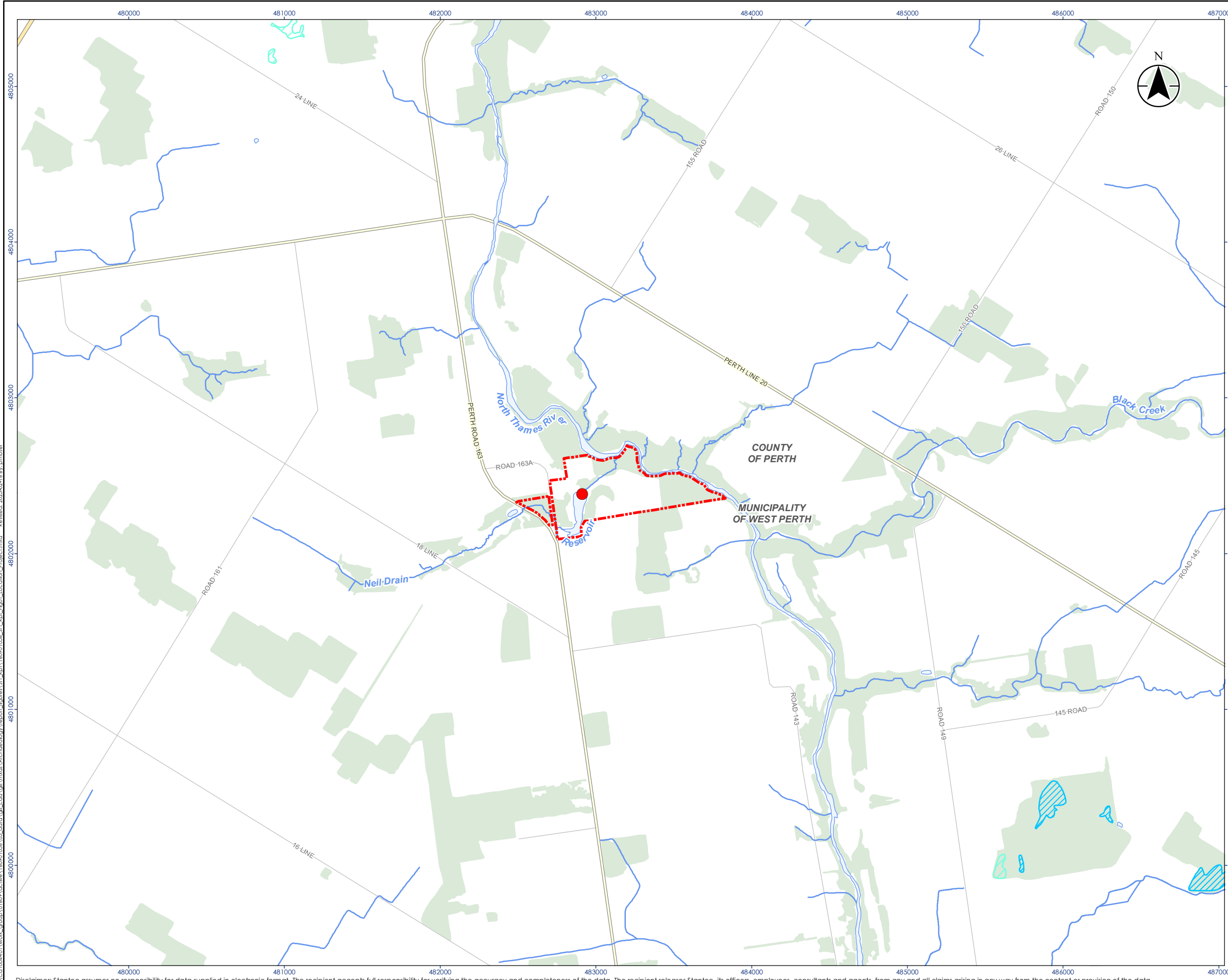
Photo 17: Low and permanently wet area, facing east



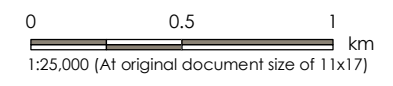
8 Maps

Maps of the study area for the Stage 1 archaeological assessment follow on succeeding pages.

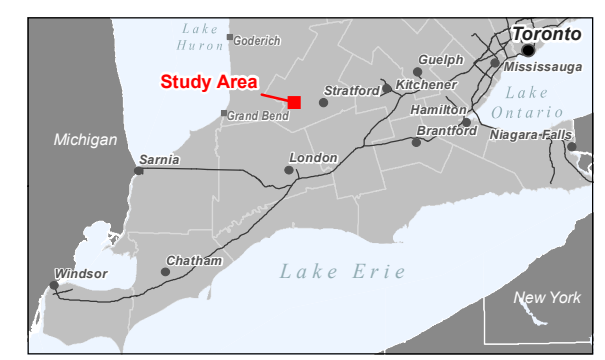




- Legend**
- Fullarton Dam
 - Expressway / Highway
 - Major Road
 - Minor Road
 - Regulated Watercourse (UTRCA)
 - Waterbody
 - Wetland - Evaluated (Other)
 - Wetland - Not evaluated per Ontario Wetland Evaluation System
 - Wooded Area
 - Study Area



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2023.



Project Location: County of Perth
 Prepared by PRM on 2023-02-16
 Technical Review by DK on 2023-02-16

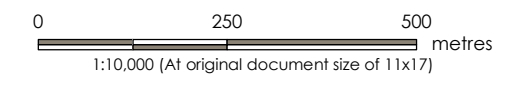
Client/Project: UPPER THAMES RIVER CONSERVATION AUTHORITY
 FULLARTON DAM REHABILITATION
 STAGE 1 ARCHAEOLOGICAL ASSESSMENT

Figure No.: **1**
 Title: **Location of the Project**

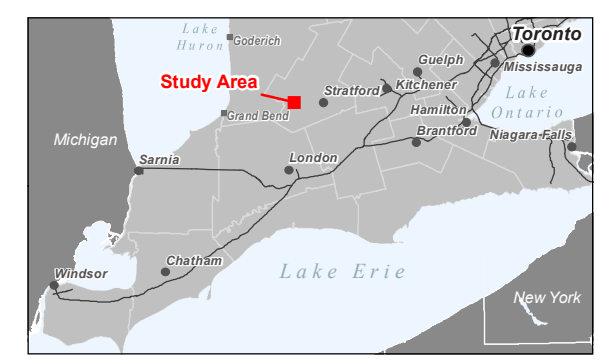


Legend

- Fullarton Dam
- Major Road
- Minor Road
- Regulated Watercourse (UTRCA)
- Waterbody
- Study Area



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2023.
 3. Orthoimagery © SWOOP UTRCA 2023. Imagery date 2020.



Project Location: County of Perth
 Prepared by PRM on 2023-02-16
 Technical Review by DK on 2023-02-16

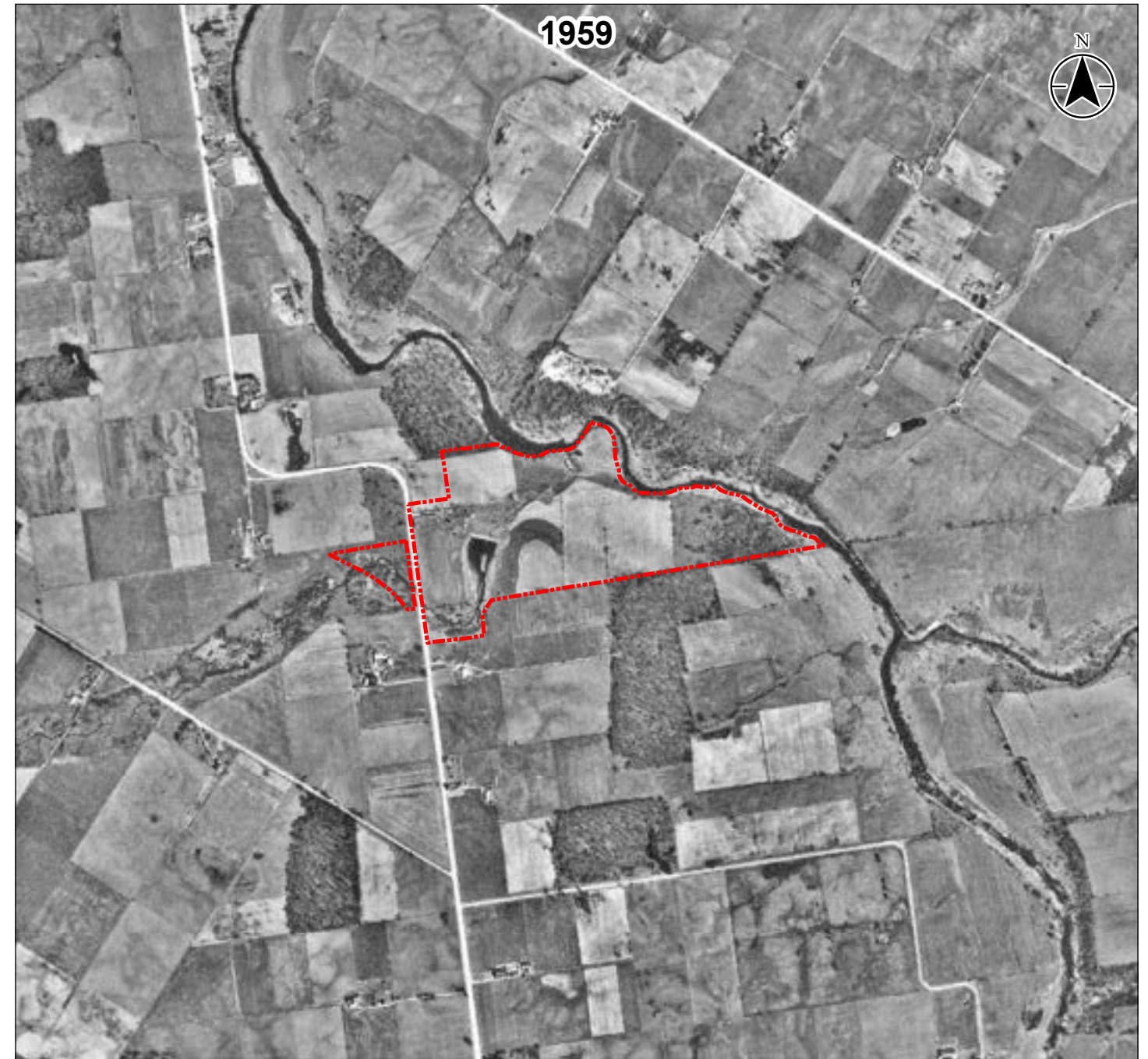
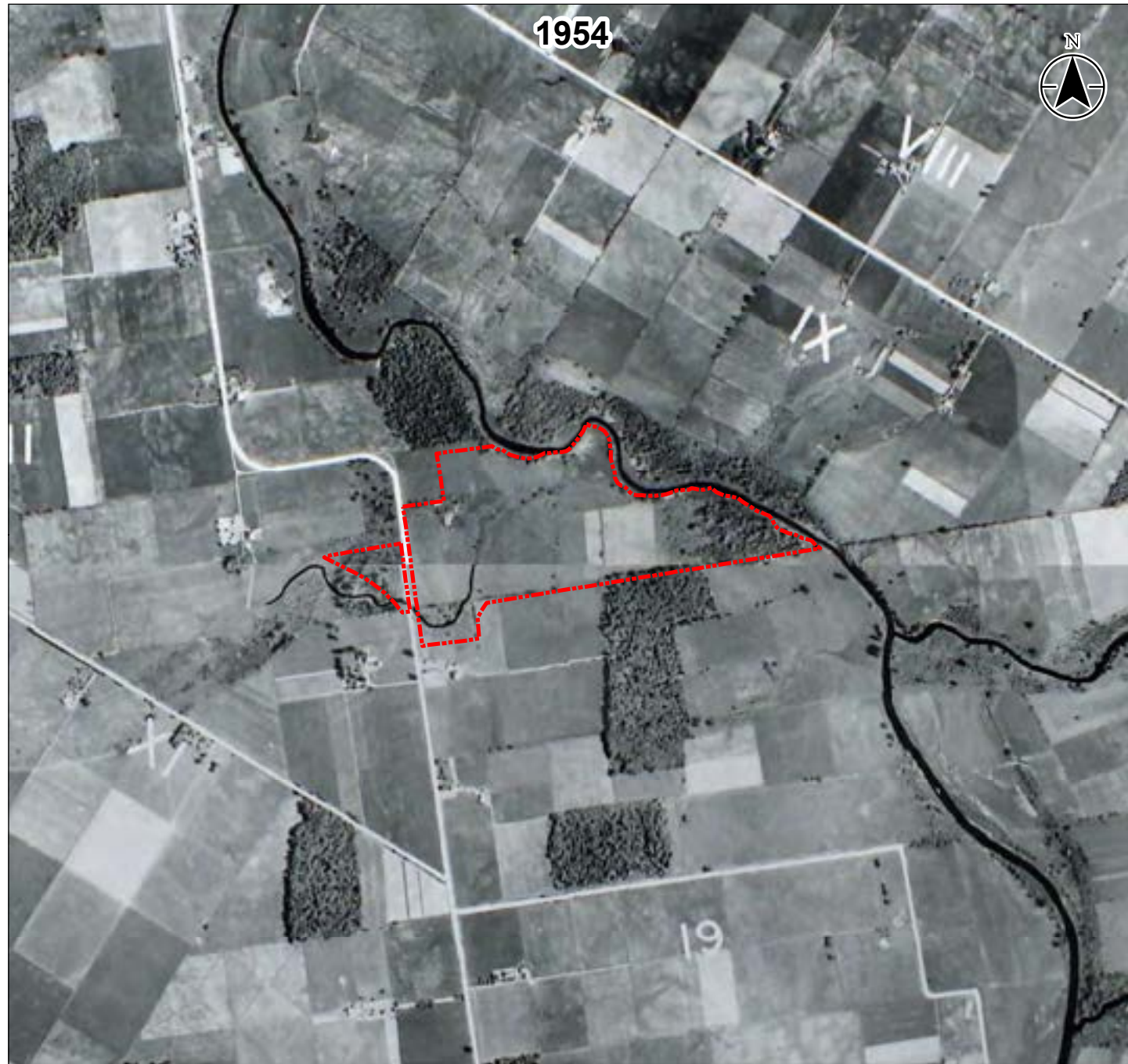
Client/Project:
 UPPER THAMES RIVER CONSERVATION AUTHORITY
 FULLARTON DAM REHABILITATION
 STAGE 1 ARCHAEOLOGICAL ASSESSMENT


Figure No.

2

Title
Location of Study Area

C:\001\001401\work_group\01\699\activa\16991056\03_data\dk_cord\k\mxd\Archaeology\repor_figures\311_Pol_Fig02_Locallor_Study_Area.mxd Revise: 2023-02-16 By: emeyer



Legend
 Study Area

Notes
 1. University of Toronto Map and Data Library. 1954 Air Photos of Southern Ontario. 434.811.
 2. National Air Photo Library. 1959. A 16447_071

Figure Not to Scale



Project Location 160901056 REVA
 Township of Puslinch Prepared by PRM on 2023-02-16
 Technical Review by DK on 2023-02-16

Client/Project
 UPPER THAMES RIVER CONSERVATION AUTHORITY
 FULLARTON DAM REHABILITATION
 STAGE 1 ARCHAEOLOGICAL ASSESSMENT

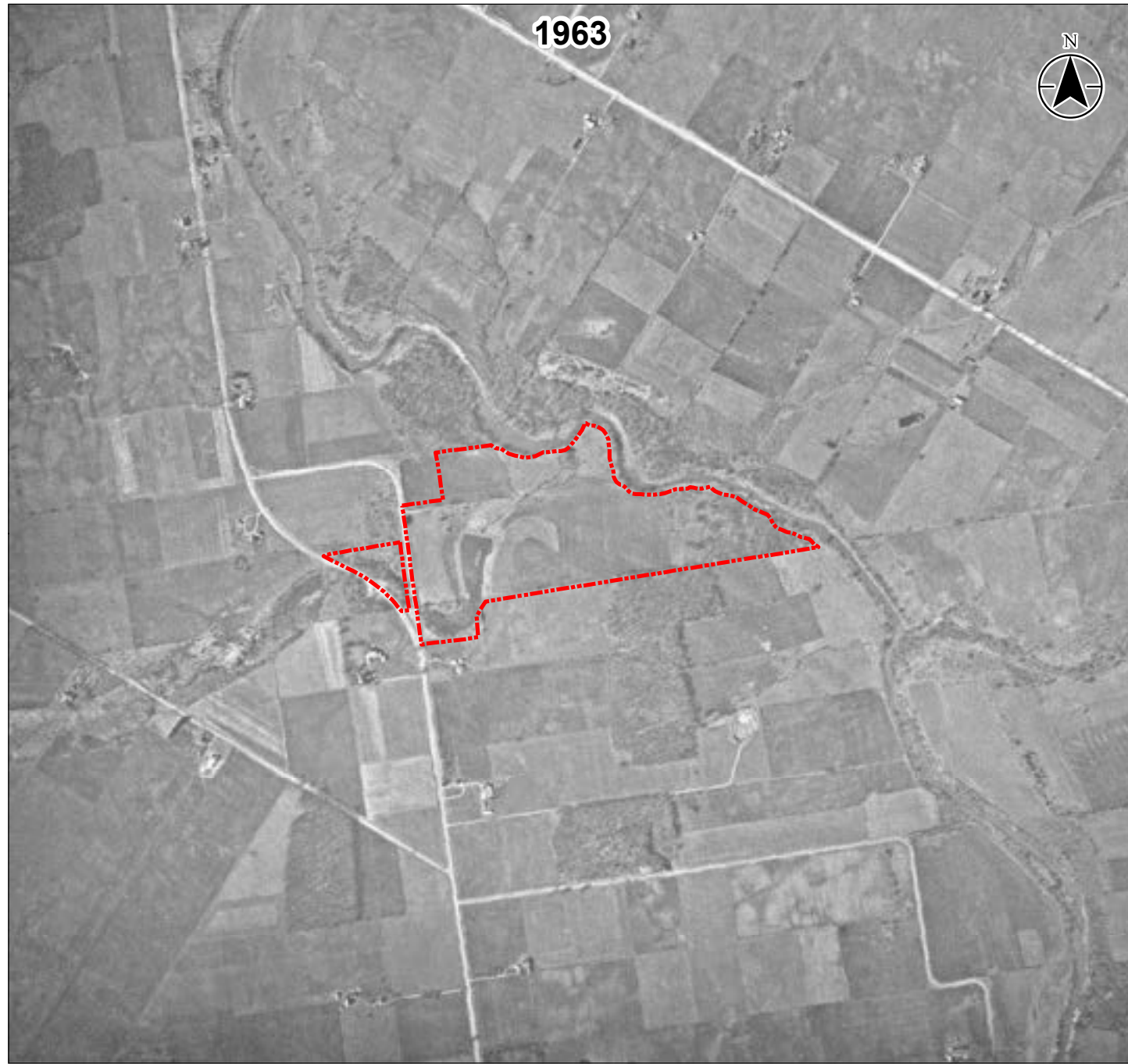
Figure No.


6

Title

**Aerial Imagery -
 1954 and 1959**

\\Cd\004401\work_group\160901056\03_data\gk_cad\gk_cad\gk_cad\Archaeology\report_figures\1_Pol_Fig06_Aerial_1954_and_1959.mxd Releed: 2023-02-16 By: pmoser



Legend
 Study Area

Notes
 1. National Air Photo Library. 1963. A17970_152.

Figure Not to Scale



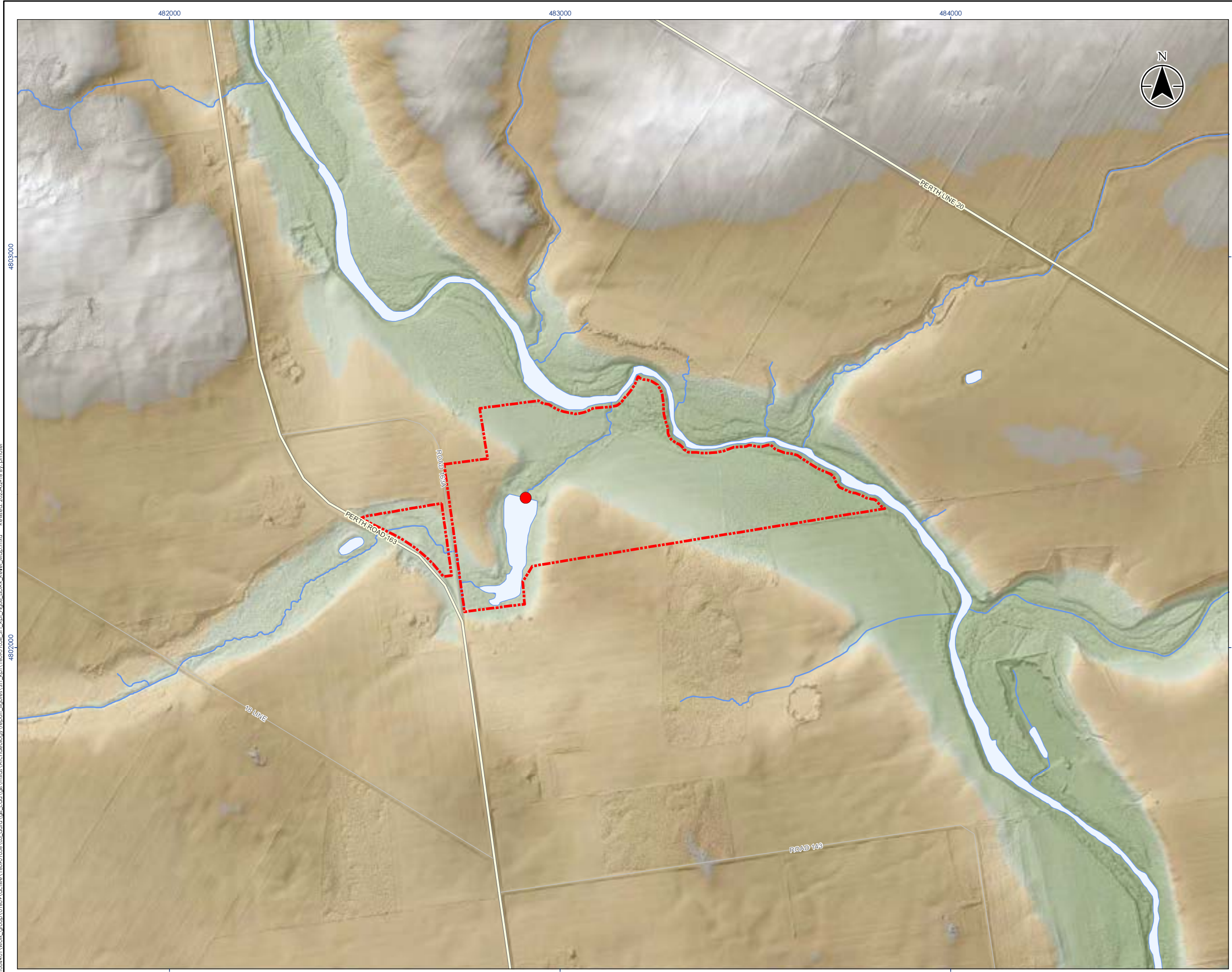
Project Location: Township of Puslinch
 Prepared by PRM on 2023-02-16
 Technical Review by DK on 2023-02-16

Client/Project: UPPER THAMES RIVER CONSERVATION AUTHORITY
 FULLARTON DAM REHABILITATION
 STAGE 1 ARCHAEOLOGICAL ASSESSMENT

Figure No.
7

Title
**Aerial Imagery -
 1963 and 2020**

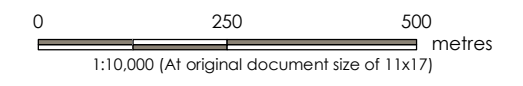
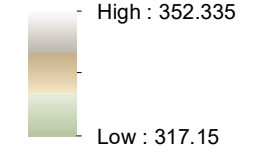
\\Cd\004401\work_group\160901056\03_data\gfc_cod\gfc_cod\mxd\Archaeology\Report_Figures\31_Pol_Pig07_Aerial_1963_and_2020.mxd Releed: 2023-02-16 By: pmoxer



Legend

- Fullarton Dam
- Major Road
- Minor Road
- Regulated Watercourse (UTRCA)
- Waterbody
- Study Area

Ground Surface Elevation



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2023.
3. Ground Surface Elevation: SWOOP 2017 (UTRCA).



Project Location: County of Perth
 160901056 REVA
 Prepared by PRM on 2023-02-16
 Technical Review by DK on 2023-02-16

Client/Project:
 UPPER THAMES RIVER CONSERVATION AUTHORITY
 FULLARTON DAM REHABILITATION
 STAGE 1 ARCHAEOLOGICAL ASSESSMENT

Figure No.

8

Title
LIDAR Hillshade Relief Map

C:\cd\1001401\work_group\01\6901056\160901056_S11_P01\160901056_S11_P01_Fig08_LIDAR_Hillshade_Map.mxd
 Revised: 2023-02-16 By: pmover



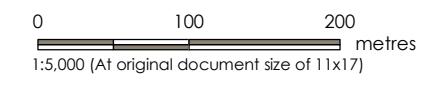
Legend

- Fullarton Dam
- Archaeology Photo Log
- Major Road
- Minor Road
- Study Area

Archaeological Assessment

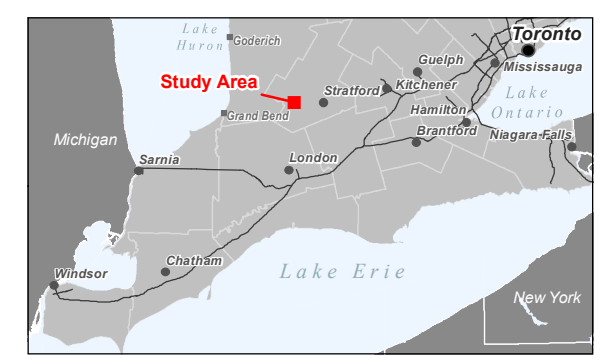
Assessment Method

- Area of Archaeological Potential - Further Archaeological Work Required (Stage 1)
- Area of Steep Slope, Low to No Archaeological Potential - No Further Archaeological Work
- Low and Permanently Wet Area, Low to No Archaeological Potential - No Further Archaeological Work Required
- Previously Disturbed, Low to No Archaeological Potential - No Further Archaeological Work Required



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2023.
3. Orthoimagery © SWOOP UTRCA 2023. Imagery date 2020.



Project Location: County of Perth
 Prepared by PRM on 2023-02-16
 Technical Review by DK on 2023-02-16

Client/Project:
 UPPER THAMES RIVER CONSERVATION AUTHORITY
 FULLARTON DAM REHABILITATION
 STAGE 1 ARCHAEOLOGICAL ASSESSMENT

Figure No.

9

Title

Stage 1 Results and Recommendations

\\Cd\1004\401\work_group\01\699\act\wa\169901056\03_data\skf_cad\skf_cad\mxd\Archaeology\report_figures\1_Pol_Fig09_Stage1_Results.mxd
 Reviewed: 2023-02-16 By: tomoxer
 4802000
 4802000
 4802000

9 Closure

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential archaeological resources associated with the identified property.

All information received from the client or third parties in the preparation of this report has been assumed by Stantec to be correct. Stantec assumes no responsibility for any deficiency or inaccuracy in information received from others.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report and are based solely on the scope of work described in the report, the limited data available and the results of the work. The conclusions are based on the conditions encountered by Stantec at the time the work was performed. Due to the nature of archaeological assessment, which consists of systematic sampling, Stantec does not warrant against undiscovered environmental liabilities nor that the sampling results are indicative of the condition of the entire property.

This report has been prepared for the exclusive use of the client identified herein and any use by any third party is prohibited. Stantec assumes no responsibility for losses, damages, liabilities, or claims, howsoever arising, from third party use of this report. We trust this report meets your current requirements. Please do not hesitate to contact us should you require further information or have additional questions about any facet of this report.

Quality Review _____

Colin Varley – Senior Archaeologist, Senior Associate

Independent Review _____

Parker Dickson – Senior Associate, Senior Archaeologist

