

Appendix J

Archeological Assessment

Stage 1-2 Archaeological Assessment for Blatchford Bridge (B032085) Rehabilitation or Replacement on Wellington Road 32 (Parts of Lots 5&6, Concession 5, and Lot 10, Division B South of Waterloo Road, Geographical Townships of Guelph/Eramosa and Puslinch) County of Wellington

Original Report

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Executive Summary

Archaeological Services Inc. was contracted by Gannett Fleming Canada ULC, on behalf of the County of Wellington, to conduct a combined Stage 1 and 2 Archaeological Assessment as part of the Blatchford Bridge (B032085) Rehabilitation or Replacement on Wellington Road 32. This project involves the rehabilitation or replacement of the Blatchford Bridge. The Study Area covers approximately 0.9 hectares, including the bridge itself along Wellington Road 32 and variable widths on either side of the bridge within the existing right-of-way.

The Stage 2 property survey was conducted on June 26, 2024, in accordance with the *Ontario Heritage Act* and the S & G by judgemental test pit survey. Approximately 57.3 percent (0.51 hectares) of the Study Area was determined to have been previously disturbed, as demonstrated by aerial photography, satellite imagery, and field observations. An additional 10.7 percent (0.1 hectares) of the Study Area was acknowledged as permanently low and wet conditions, with low archaeological potential.

Approximately 10.8 percent of the Study Area (0.1 hectares) is represented by the Speed River. If impacted, its marine archaeological potential will be evaluated through a separate process following the *Criteria For Evaluating Marine Archaeological Potential* (MTCS 2016) checklist.

The remaining 21.1 percent of the Study Area (0.19 hectares), comprising grassed areas, was subject to judgmental test pit survey at 10 metre intervals to confirm previous disturbance. No archaeological resources or intact A-horizon (natural topsoil) were encountered during the Stage 2 survey.

Considering these results, the following recommendations are made:

1. The Study Area does not require further archaeological assessment; and
2. Should the proposed work extend beyond the current Study Area or should changes to the project design or temporary workspace requirements result in the inclusion of previously un-surveyed lands, these lands should be subject to a Stage 2 archaeological assessment.



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1.0 Project Context

Archaeological Services Inc. (ASI) was contracted by Gannett Fleming Canada ULC on behalf of the County of Wellington, to conduct a combined Stage 1 and 2 Archaeological Assessment as part of the Blatchford Bridge (B032085) Rehabilitation or Replacement on Wellington Road 32. This project involves the rehabilitation or replacement of the Blatchford Bridge.

The Study Area includes the bridge itself for approximately 250 metres along Wellington Road 32 and variable widths on either side of the bridge within the existing right-of-way. The structure was built circa 1949 and consists of a single 31.7-metre span of half-through (pony) truss bridge with exposed concrete deck and carries one traffic lane per direction of Wellington Road 32 over the Speed River. The Study Area covers approximately 0.9 hectares (Figure 1).

All activities carried out during this assessment were completed in accordance with the *Ontario Heritage Act* (1990, as amended in 2023) and the 2011 *Standards and Guidelines for Consultant Archaeologists* (S & G), currently administered by the Ministry of Citizenship and Multiculturalism (MCM), formerly the Ministry of Tourism and Culture (MTC 2011).

1.1 Development Context

All work has been undertaken as required by the *Environmental Assessment Act*, RSO (Environmental Assessment Act, R.S.O. c. E.18, 1990 as amended 2022) and regulations made under the Act, and are therefore subject to all associated legislation. This project is being conducted in accordance with the Schedule B of the *Municipal Class Environmental Assessment* process (Municipal Engineers Association, 2023).

ASI has been actively engaging with Indigenous communities who have expressed an interest in the archaeological work within the Study Area for this project on behalf of the County of Wellington. A detailed account of all First Nations engagement can be found in the *Supplementary Documentation: Indigenous Engagement* document associated with this report.



Authorization to access and carry out the activities necessary for the completion of the Stage 1-2 archaeological assessment was granted by Gannett Flemming on May 3, 2024.

1.1.1 Treaties and Traditional Territories

The Study Area is within Treaty #3 or The Between the Lakes Purchase, of 1792.

Following the American Revolutionary War, the British Crown needed to find lands on which to settle United Empire Loyalists, including approximately 2,000 members of the Six Nations confederacy who had fought alongside British troops. Led by Sir Frederick Haldimand who was the governor of Quebec at that time, the Crown was initially planning on providing lands for Loyalist settlers in Quebec and Southeastern Ontario, including providing land in the Bay of Quinte for Six Nations refugees. This was not suitable for many of the members of Six Nations and a contingent of approximately 1,800 community members, led by Chief Joseph Brant, requested land north of Lake Erie along the Grand River. Brant felt that the location in the Bay of Quinte was too isolated and that his followers could be better served by being closer to the Six Nations communities that chose to remain in the United States in western New York (Surtees, 1984, p. 21).

Recognizing that under the terms of the Royal Proclamation the land needed to be purchased prior to settlement, Colonel John Butler was sent to negotiate with the Mississaugas of the Credit for lands east of Lake Ontario and north of Lake Erie. On May 22, 1784, the Mississaugas of the Credit agreed to cede approximately 3,000,000 acres (1,214,057 hectares) of land containing all or part of Brant, Elgin, Middlesex, Oxford, and Wellington Counties as well as the Regions of Haldimand-Norfolk, Halton, Hamilton-Wentworth, Niagara, and Waterloo. In exchange for these lands, the Mississaugas received £1180.74 worth of trade goods (Crown-Indigenous Relations and Northern Affairs 2016; Surtees 1984). Of the 3,000,000 acres (1,214,057 hectares), approximately 550,000 acres (222,577 hectares) was set aside for the settlement of Six Nations people.

However, due to uncertainties with the description of the lands in the original surrender, Treaty #3 was renegotiated on December 7, 1792, to clarify what was ceded. This largely revolved around the northern boundary of the Treaty area and



in particular the area set aside for Six Nations settlement along the Grand River (see Haldimand Tract and Treaty #4). The signees on the side of the British included Lieutenant Governor John Graves Simcoe, John Butler, Robert Kerr, Peter Russell, John McGill, and Davie William Smith. The signees on the side of the Mississauga included Chiefs Wabakayne, Wabanip, Kautabus, Wabaniship and Mottotow (Crown-Indigenous Relations and Northern Affairs, 2016; Mississaugas of the Credit First Nation, 2017; Surtees, 1984).

The original text stipulated that the north-west boundary of the parcel was an imaginary line between Burlington Bay and the Thames River, which is inconsistent with the geography of the area. The boundaries of the parcel were corrected to create a polygon encompassing the Niagara peninsula up to Burlington Bay and then up north to the present-day town of Arthur then south to the present-day town of Woodstock to finally meet Lake Erie at Port Bruce. Treaty #3 lands exclude a corridor along the Grand River set aside for Six Nations (Crown-Indigenous Relations and Northern Affairs, 2016; Native Land Digital, 2018).

1.2 Historical Context

1.2.1 Indigenous Land Use and Settlement

Current archaeological evidence indicates humans were present in southern Ontario approximately 13,000 years before present (B.P.) (Ferris, 2013). Populations at this time would have been highly mobile, inhabiting a boreal-parkland similar to the modern sub-arctic. By approximately 10,000 B.P., the environment had progressively warmed (Edwards & Fritz, 1988) and populations now occupied less extensive territories (Ellis & Deller, 1990).

Between approximately 10,000-5,500 B.P., the Great Lakes basins experienced low-water levels, and many sites which would have been located on those former shorelines are now submerged. This period produces the earliest evidence of heavy woodworking tools, an indication of greater investment of labour in felling trees for fuel, to build shelter, and watercraft production. These activities suggest prolonged seasonal residency at occupation sites. Polished stone and native copper implements were being produced by approximately 8,000 B.P.; the latter was acquired from the north shore of Lake Superior, evidence of extensive



exchange networks throughout the Great Lakes region. The earliest archaeological evidence for cemeteries dates to approximately 4,500-3,000 B.P. and is interpreted by archaeologists to be indicative of increased social organization and the investment of labour into social infrastructure (Brown, 1995, p. 13; Ellis et al., 1990, 2009).

Between 3,000-2,500 B.P., populations continued to practice residential mobility and to harvest seasonally available resources, including spawning fish. The Woodland period begins around 2,500 B.P. and exchange and interaction networks broaden at this time (Spence et al., 1990, pp. 136, 138) and by approximately 2,000 B.P., evidence exists for small community camps, focusing on the seasonal harvesting of resources (Spence et al., 1990, pp. 155, 164). By 1,500 B.P. there is macro botanical evidence for maize in southern Ontario, and it is thought that maize only supplemented people's diet. There is earlier phytolith evidence for maize in central New York State by 2,300 B.P. – it is likely that once similar analyses are conducted on Ontario ceramic vessels of the same period, the same evidence will be found (Birch & Williamson, 2013, pp. 13–15). As is evident in detailed Anishinaabek ethnographies, winter was a period during which some families would depart from the larger group as it was easier to sustain smaller populations (Rogers, 1962). It is generally understood that these populations were Algonquian-speakers during these millennia of settlement and land use.

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



continued to practice residential mobility and to harvest available resources across landscapes they returned to seasonally/annually.

By 1600 C.E., the Confederation of Nations were encountered by the first European explorers and missionaries in Simcoe County. Samuel de Champlain in 1615 reported that a group of Iroquoian-speaking people situated between the Haudenosaunee and the Huron-Wendat were at peace and remained “la nation neutre”. Like the Huron-Wendat, Petun, and Haudenosaunee, the Neutral or Attawandaron people were settled village agriculturalists. By the 1640s, devastating epidemics and the traditional enmity between the Haudenosaunee and the Attawandaron and the Huron-Wendat (and their Algonquian allies such as the Nipissing and Odawa) led to their dispersal from southern Ontario. Shortly afterwards, the Haudenosaunee established a series of settlements at strategic locations along the trade routes inland from the north shore of Lake Ontario. By the 1690s however, the Anishinaabeg were the only communities with a permanent presence in southern Ontario. From the beginning of the eighteenth century to the assertion of British sovereignty in 1763, there was no interruption to Anishinaabeg control and use of southern Ontario.

1.2.2 Post-Contact Settlement

Historically, the Study Area is located in the Geographical Townships of Guelph/Eramosa and Puslinch, County of Wellington, in part of Lots 5&6, Concession 5, and Lot 10, Division B South of Waterloo Road.

The S & G stipulates that areas of early Euro-Canadian settlement (pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches, and early cemeteries are considered to have archaeological potential. Early historical transportation routes (trails, passes, roads, railways, portage routes), properties listed on a municipal register or designated under the *Ontario Heritage Act* or a federal, provincial, or municipal historic landmark or site are also considered to have archaeological potential.

For the Euro-Canadian period, the majority of early nineteenth century farmsteads (i.e., those that are arguably the most potentially significant resources and whose locations are rarely recorded on nineteenth century maps) are likely to



be located in proximity to water. The development of the network of concession roads and railroads through the course of the nineteenth century frequently influenced the siting of farmsteads and businesses. Accordingly, undisturbed lands within 100 metres of an early settlement road are also considered to have potential for the presence of Euro-Canadian archaeological sites.

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

Township of Guelph

Guelph Township is named after the Royal House of Brunswick, family of the English monarch, George IV. Guelph Township was surveyed by John MacDonald in 1830. The land in the township was purchased by the Canada Company, which consisted of a group of British speculators who acquired more than two million acres of land in Upper Canada for colonization purposes (Mika & Mika, 1981). Many settlers arrived in the township before it was surveyed. The first settler in the township was Samuel Rife, who squatted near the western limits of the township around the year 1825. Waterloo Road, formerly Broad Road, was built by Absalom Shade and was finished around 1827, the year the Town of Guelph was founded (Mika & Mika, 1981). Many settlers arrived in the township between the years 1827 and 1830.

Township of Puslinch

The Township of Puslinch was surveyed between 1828 and 1831 and was named for Puslinch in Devonshire, England. The township is reported to have once been mostly a Clergy Reserve. Settlement begun in or around 1828, and the first clergy reserve lot was sold in 1829. Township lands were not offered for sale until the survey was completed, two years later. Rowland Wingfield was the first to receive a patent in the township in 1832 for Lot 8, Concession 5. He was the first importer



of thoroughbred cattle into Canada. Other early settlers included John MacFarlane, John and William Gordon, Peter Byrn, John Arkell, Thomas Arkell, and F. W. Stone. The township's first school was held in the early 1830's on Lot 18, Concession 8. It was later moved to a log building which also served as a church on Lot 17, Concession 7. From 1840 to 1849 Puslinch was represented on the Wellington District Council. After which its representatives sat on the Waterloo County Council until 1852 when the township was included in the United Counties of Wellington, Waterloo and Grey. In 1853 Puslinch officially became a part of the United Counties of Wellington and Grey. Finally, in 1854, Puslinch became one of the townships that formed the newly independent County of Wellington. During these changes Puslinch elected their first township council in 1849. Until a township hall was built in 1867 the council met at McMeekin's tavern, occasionally meeting at one of the other fifteen or so taverns operating in the township at that time (Mika & Mika, 1983).

1.2.3 Map Review

The 1861 *Historical Map of Wellington County* (Leslie et al., 1861), 1877 *Illustrated Historical Atlas of the County of Wellington* (Walker and Miles, 1877), 1916 topographic map *Galt Sheet* (Department of Militia and Defence, 1916), 1936 topographic map *Galt Sheet* (Department of National Defence, 1936), 1975 topographic Map *Cambridge-Preston Sheet* (Department of Energy, Mines and Resources, 1975), and the 1998 NTS map *Cambridge Sheet* (Natural Resources Canada, 1998) were examined to determine the presence of historic features within the Study Area during the nineteenth and twentieth centuries (Figure 2 - Figure 7).

The 1861 map (Figure 2) shows the Study Area stretching along the limit between the properties of Mrs. Flynn (Lot 5) and W. May (Lot 6), and across the Speed River into Lot 10 marked as Green. No historical structures are shown in relation to the Study Area. No bridge was built at the time, and it is unclear whether the road allowance was open for transit. An unnamed railroad passes approximately 600 metres west of the Study Area.



On the 1877 map (Figure 3), the name Blatchford appears mentioned for the first time, as the owner of Lot 10. A historical house is situated to the northeast and outside the Study Area.

The 1916 topographic map (Figure 4) shows that a road and bridge were already built within the Study Area, but no building appears in immediate vicinity. The same information is repeated on the 1936 topographic map (Figure 5). The nearby railway is still in place on both maps, more than half a kilometre west.

The 1975 topographic map (Figure 6) places most of the Blatchford Bridge within Guelph Township. The Study Area appears undeveloped, with no buildings inside or adjacent to it. The 1998 NTS map (Figure 7) shows the Study Area containing the present road and bridge, with a few small buildings in its proximity.

1.2.4 Aerial and Orthoimagery Review

Aerial photography of the Guelph area from 1954 (City of Toronto Archives, 1954) and available Google satellite imagery were examined to determine the extent and nature of development and land uses within the Study Area.

The 1954 aerial imagery (Figure 8) does not allow for the appreciation of much detail but confirms the presence of a road and a bridge crossing the Speed River within the Study Area that looks undeveloped and without constructions nearby. The southern segment of the Study Area shows open landscape, probably mostly farmland, while the section northwest of the river appears wooded.

A review of available Google satellite imagery between 2012 and 2024 shows no changes in the Study Area over the past twelve years.

1.3 Archaeological Context

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



through *Ontario's Past Portal*; published and unpublished documentary sources; and the files of ASI.

1.3.1 Current Land Use and Field Conditions

The Study Area is mostly defined by the pavement of Wellington Road 32 and its ROW, the built infrastructure of Blatchford Bridge, and several driveway entrances connecting to the mentioned road. There are strips of densely wooded land alongside the road, as well as the riverbed and sloped terrain descending into the river. The Wellington Road 32 is significantly more elevated than the lands in the west-southwest of the Study Area. A hydroelectric power line on concrete poles runs along the eastern ROW. Low metal barriers extend for 27-to-40 metres south and north of the bridge and on both sides of the road.

The Stage 1-2 survey for the Blatchford Bridge Replacement project was conducted on June 26, 2024, under the field direction of Megan Edwards (R1343).

1.3.2 Geography

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

The S & G stipulates that primary water sources (lakes, rivers, streams, creeks, etc.), secondary water sources (intermittent streams and creeks, springs, marshes, swamps, etc.), ancient water sources (glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, cobble beaches, etc.), as well as accessible or inaccessible shorelines (high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh, etc.) are characteristics that indicate archaeological potential.

Water has been identified as the major determinant of site selection and the presence of potable water is the single most important resource necessary for any extended human occupation or settlement. Since water sources have remained relatively stable in Ontario since 5,000 BP (Karrow & Warner, 1990, p. Figure



2.16), proximity to water can be regarded as a useful index for the evaluation of archaeological site potential. Indeed, distance from water has been one of the most commonly used variables for predictive modeling of site location.

Other geographic characteristics that can indicate archaeological potential include elevated topography (eskers, drumlins, large knolls, and plateaux), pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground, distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings. Resource areas, including food or medicinal plants (migratory routes, spawning areas) are also considered characteristics that indicate archaeological potential (S & G, Section 1.3.1).

The study area is situated within the Guelph Drumlin Field physiographic region of southern Ontario in a former spillway (Chapman & Putnam, 1984) (Figure 9).

The Guelph Drumlin Field physiographic region (Chapman & Putnam, 1984) centres upon the City of Guelph and Guelph Township and occupies roughly 830 km². Within the Guelph Drumlin Field, there are approximately 300 drumlins of varying sizes. For the most part these hills are of the broad oval type with slopes less steep than those of the Peterborough drumlins and are not as closely grouped as those in some other areas. The till in these drumlins is loamy and calcareous and was derived mostly from dolostone of the Amabel Formation that can be found exposed below the Niagara Escarpment. Spillways are the former glacial meltwater channels. They are often found in association with moraines but in opposition are entrenched rather than elevated landforms. They are often, though not always, occupied by stream courses, the fact of which raises the debate of their glacial origin. Spillways are typically broad troughs floored wholly or in part by gravel beds and are typically vegetated by cedar swamps in the lowest beds (Chapman & Putnam, 1984).

Figure 10 depicts surficial geology for the Study Area. The surficial geology mapping demonstrates that the Study Area is underlain mostly by modern alluvial deposits as part of the Speed River bed, and secondarily by gravelly glaciofluvial deposits (Ontario Geological Survey, 2010).



Soils within the Study Area include Burford loam, a grey-brown podzolic with good drainage (Ontario Agricultural College, 1962) (Figure 11).

The Study Area is located within the Ellis Creek – Speed River watershed and is crossed by the Speed River in a northeast–southwest direction, with a heavily wooded, unmodified riverbed.

1.3.3 Previously Registered Archaeological Sites

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database maintained by the MCM. This database contains archaeological sites registered within the Borden system. Under the Borden system, Canada has been divided into grid blocks based on latitude and longitude. A Borden block is approximately 13 kilometres east to west, and approximately 18.5 kilometres north to south. Each Borden block is referenced by a four-letter designator, and sites within a block are numbered sequentially as they are found. The Study Area under review is located in Borden block *AiHb*.

According to the Ontario Archaeological Sites Database, two previously registered archaeological sites are located within one kilometre of the Study Area, none of which are located within 50 metres (MCM, 2024). A summary of the sites is provided below.

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

Borden Number	Site Name	Temporal/ Cultural Affiliation	Site Type	Researcher	CHVI
AiHb-111	Cowbrough 1	Pre-Contact	Artifact scatter	MTO, 1993	N/A
AiHb-113	Van Soelen	Pre-Contact	Artifact scatter	MTO, 1994	N/A



1.3.4 Previous Archaeological Assessments

ASI's review found no previous archaeological assessments detailing fieldwork within 50 metres of the Study Area.

1.3.5 Analysis of Archaeological Potential

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

- Previously identified archaeological sites (see Table 1);
- Water sources: primary, secondary, or past water source (Speed River);
- Well-drained soils (Burford loam);
- Proximity to early settlements (homesteads); and
- Early historic transportation routes (historically surveyed roads, bridge).

According to the S & G, Section 1.4 Standard 1.e, no areas within a property containing locations listed or designated by a municipality can be recommended for exemption from further assessment unless the area can be documented as disturbed. The Heritage Registers of the Townships of Puslinch and Guelph Eramosa were consulted and no properties within the Study Area are Listed or Designated under the *Ontario Heritage Act*.

These criteria are indicative of potential for the identification of archaeological resources, depending on soil conditions and the degree to which soils have been subject to deep disturbance.

2.0 Field Methods

The Stage 1-2 Study Area comprises the Blatchford Bridge itself for approximately 250 metres along Wellington Road 32 and variable widths on either side of the bridge within the existing right-of-way. The bridge structure was built circa 1949 and consists of a single 31.7-metre span of half-through (pony) truss bridge with



exposed concrete deck and carries one traffic lane per direction of Wellington Road 32 over the Speed River. The Study Area covers approximately 0.91 hectares (Figure 1).

The Stage 2 property survey was conducted under the field direction of Megan Edwards (R1343) on June 26, 2024, in accordance with the *Ontario Heritage Act* and the S & G, Section 2. During the field assessments, weather and lighting conditions permitted good visibility and were in accordance with the S & G, Section 2.1, Standard 3. During the time of survey, conditions were seasonal with partly sunny skies and temperatures reaching a high of 27 degrees Celsius. Photographs of all field conditions were taken (Image 1-Image 14), and the location and direction of each photograph is mapped in Figure 12.

As per Section 2.1 of the S & G, all lands were within areas where ploughing was not possible or viable and therefore subject to test pit survey. According to Section 2.1.2, Standard 2 of the S & G, any undisturbed areas requiring test pit survey within 300 metres of any feature of archaeological potential must be subject to systematic assessment at five metre intervals. No intact soil profiles were encountered during the test pit survey, therefore judgmental ten- and twenty-metre intervals were employed to confirm previous disturbance as per S & G Section 2.1.8b. All test pits were excavated following the S & G Section 2.1.2 Standards 5-9. All test pits were excavated by hand to a minimum of 30 centimetres in diameter and into the first five centimetres of subsoil. Each test pit was examined for stratigraphy, cultural features, and evidence of fill. Test pit fill was screened through six-millimetre mesh to facilitate artifact recovery. Afterwards, all test pits were backfilled, and their locations were recorded on field maps. Any factors that precluded the excavation of test pits (e.g., excessive slope, drainage, exposed bedrock, previous disturbance) were noted, and the areas were mapped and photographed.

Fieldwork was conducted using a Samsung Galaxy S4 tablet running Esri Collector software equipped with a sub-metre Trimble Catalyst Global Navigation Satellite System in conjunction with project mapping provided by the County of Wellington to ensure the assessment remained within the Study Area limits.



2.1 Areas of No Archaeological Potential

Visual assessment determined that a significant portion of the Study Area did not retain archaeological potential. Approximately 57.3 percent of the Study Area (0.51 hectares) had been previously subject to deep and extensive ground disturbance and was not subject to Stage 2 survey, as per S & G Section 2.1, Standard 2.b. The lands documented as being previously disturbed have no archaeological potential and include Wellington Road 32 and right-of-way (ROW), driveways, dug out ditches, built-up slopes, berms, culverts, and buried utilities (Figure 12: areas highlighted in yellow; Image 1, Image 2, Image 4, Image 8, Image 9, Image 14).

Approximately 10.7 percent of the Study Area (0.1 hectares) was documented as being permanently low and wet and was not subject to Stage 2 survey, as per S & G Section 2.1, Standard 2.a.i. The areas documented as being permanently low and wet have low archaeological potential and include swampy areas on the northwest bank of Speed River (Figure 12: areas highlighted in light blue; Image 12, Image 13).

2.2 Test Pit Survey

Approximately 21.1 percent of the Study Area (0.19 hectares) did not contain natural topsoil (A-horizon) and was subject to judgmental test pit survey at ten- and twenty-metre intervals to confirm previous disturbance following S & G Section 2.1.8, Standards 1-2. The areas subject to judgmental test pit survey include manicured lawned areas alongside the road (Figure 12: areas highlighted in light green; Image 3, Image 5, Image 6, Image 7, Image 11).

Disturbed stratigraphy in the Study Area is characterized by 20 centimetres of dark yellowish brown (10YR 3/4) sandy loam on top of disturbed layers with pebble and cobble intrusions (Image 3, Image 5, Image 7).

2.3 Watercourse

Approximately 10.8 percent of the Study Area (0.1 hectares) is represented by the course of Speed River (Figure 12: areas highlighted in dark blue; Image 10). The



potential for marine archaeological resources has not been evaluated through this land-based archaeological assessment.

2.4 Stage 1-2 Assessment Results Summary

A summary of the Stage 1-2 assessment results for the Blatchford Bridge Replacement Project can be found in Table 2 below.

Table 2: Stage 1-2 Survey Results Summary

Survey Method	Area	Description	Images
Visually assessed as being previously disturbed; no archaeological potential	0.51 hectares (57.3 percent)	Wellington Road 32 and ROW, engineered slopes, berm, driveways, culverts, buried utilities	1, 2, 4, 8, 9, 14
Visually assessed as having permanently low and wet conditions; low archaeological potential	0.1 hectares (10.7 percent)	Swampy areas near Speed River	12, 13
Judgmental test pit survey; 10 metre intervals	0.19 hectares (21.1 percent)	Wellington Rd. ROW, lawned areas	3, 5, 6, 7, 11
Marine archaeological potential will be evaluated through <i>Criteria for Evaluating Marine Archaeological Potential</i> (MTCS 2016).	0.1 hectares (10.8 percent)	Speed River	10



3.0 Record of Finds

No archaeological resources were encountered during the Stage 1-2 Archaeological Assessment for the Blatchford Bridge Replacement Project.

3.1 Inventory of Documentary and Material Record

The documentation related to this archaeological assessment will be curated by ASI until such a time that arrangements for their ultimate transfer to His Majesty the King in right of Ontario, or other public institution, can be made to the satisfaction of the project owner(s), the MCM, and any other legitimate interest groups.

Table 3 provides an inventory and location of the documentary and material record for the project in accordance with the S & G, Sections 6.7 and 7.8.2.3.

Table 3: Inventory of Documentary and Material Record

Material	Location	Comments
Digital field notes, field maps, GPS logs, etc.	Archaeological Services Inc., 528 Bathurst Street, Toronto, Ontario, M5S 2P9	Stored in ASI project folder 23EA-119; GPS and digital information stored on ASI network servers
Digital field photography	Same as above	Files stored on ASI network servers
Digital research, analysis, and reporting materials	Same as above	Files stored on ASI network servers



4.0 Analysis and Conclusions

ASI was contracted by Gannett Fleming Canada ULC, on behalf of the County of Wellington, to conduct a combined Stage 1-2 Archaeological Assessment as part of the Blatchford Bridge (B032085) Rehabilitation or Replacement on Wellington Road 32. This project involves the rehabilitation or replacement of the Blatchford Bridge. The Study Area includes the bridge itself for approximately 250 metres along Wellington Road 32 and variable widths on either side of the bridge within the existing right-of-way. The structure was built circa 1949 and consists of a single 31.7-metre span of half-through (pony) truss bridge with exposed concrete deck and carries one traffic lane per direction of Wellington Road 32 over the Speed River. The Study Area covers approximately 0.91 hectares (Figure 1).

The Stage 2 property survey was conducted on June 26, 2024, in accordance with the *Ontario Heritage Act* and the S & G by judgemental test pit survey. Approximately 57.3 percent (0.51 hectares) of the Study Area was determined to have been previously disturbed by constructions, as demonstrated by aerial photography, satellite imagery, and field observations (Figure 12: areas highlighted in yellow; Image 1, Image 2, Image 4, Image 8, Image 9, Image 14). These areas were not subject to Stage 2 property survey. An additional 10.7 percent (0.1 hectares) of the Study Area was acknowledged to present permanently low and wet conditions, hence with low archaeological potential, and was not subject to Stage 2 test pit survey (Figure 12: areas highlighted in light blue; Image 12, Image 13).

Approximately 10.8 percent of the Study Area (0.1 hectares) is represented by the course of the Speed River (Figure 12: areas highlighted in dark blue; Image 10). If impacted, its marine archaeological potential will be evaluated through a separate process following the *Criteria For Evaluating Marine Archaeological Potential* (MTCS 2016) checklist.

The remaining 21.1 percent of the Study Area (0.19 hectares), comprising grassed areas, was subject to judgmental test pit survey at 10 metre intervals to confirm previous disturbance (Figure 12: areas highlighted in light green; Image 3, Image 5, Image 6, Image 7, Image 11). No archaeological resources or intact A-horizon



(natural topsoil) were encountered during the Stage 2 survey, and no further archaeological assessment is recommended.

5.0 Recommendations

Considering these results, the following recommendations are made:

1. The Study Area does not require further archaeological assessment; and
2. Should the proposed work extend beyond the current Study Area or should changes to the project design or temporary workspace requirements result in the inclusion of previously un-surveyed lands, these lands should be subject to a Stage 2 archaeological assessment.

NOTWITHSTANDING the results and recommendations presented in this study, ASI notes that no archaeological assessment, no matter how thorough or carefully completed, can necessarily predict, account for, or identify every form of isolated or deeply buried archaeological deposit. If archaeological remains are found during subsequent construction activities, the consultant archaeologist, approval authority, and the Archaeology Programs Unit of the MCM should be immediately notified.

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

6.0 Legislation Compliance Advice

ASI advises compliance with the following legislation:

- This report is submitted to the Ministry of Citizenship and Multiculturalism as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, RSO 2005, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister,



and that the archaeological field work and report recommendations ensure the conservation, preservation, and protection of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Citizenship and Multiculturalism, a letter will be issued by the Ministry stating that there are no further concerns with regards to alterations to archaeological sites by the proposed development.

- It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological field work on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.
- Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the *Ontario Heritage Act*.
- The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33, requires that any person discovering or having knowledge of a burial site shall immediately notify the police or coroner. It is recommended that the Registrar of Cemeteries at the Ministry of Consumer Services is also immediately notified.
- Archaeological sites recommended for further archaeological field work or protection remain subject to Section 48(1) of the *Ontario Heritage Act* and may not be altered, nor may artifacts be removed from them, except by a person holding an archaeological license.



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8.0 Images



Image 1: Study Area – disturbed: road, driveway, dug out ditch.



Image 2: Study Area – disturbed: right-of-way, buried fiber optics.



Image 3: Study Area – test pit demonstrating disturbed stratigraphy.



Image 4: Study Area – disturbed: culvert.



Image 5: Study Area – test pit demonstrating disturbed stratigraphy.



Image 6: Study Area – test pit survey at 10 metre intervals.



Image 7: Study Area – test pit demonstrating disturbed stratigraphy.



Image 8: Study Area – disturbed: built-up slope.



Image 9: Study Area – disturbed: engineered slope.



Image 10: Study Area – watercourse: Speed River.



Image 11: Study Area - test pit demonstrating disturbed stratigraphy.



Image 12: Study Area – permanently low and wet conditions.



Image 13: Study Area – permanently low and wet conditions.



Image 14: Study Area – disturbed: driveway.

9.0 Maps

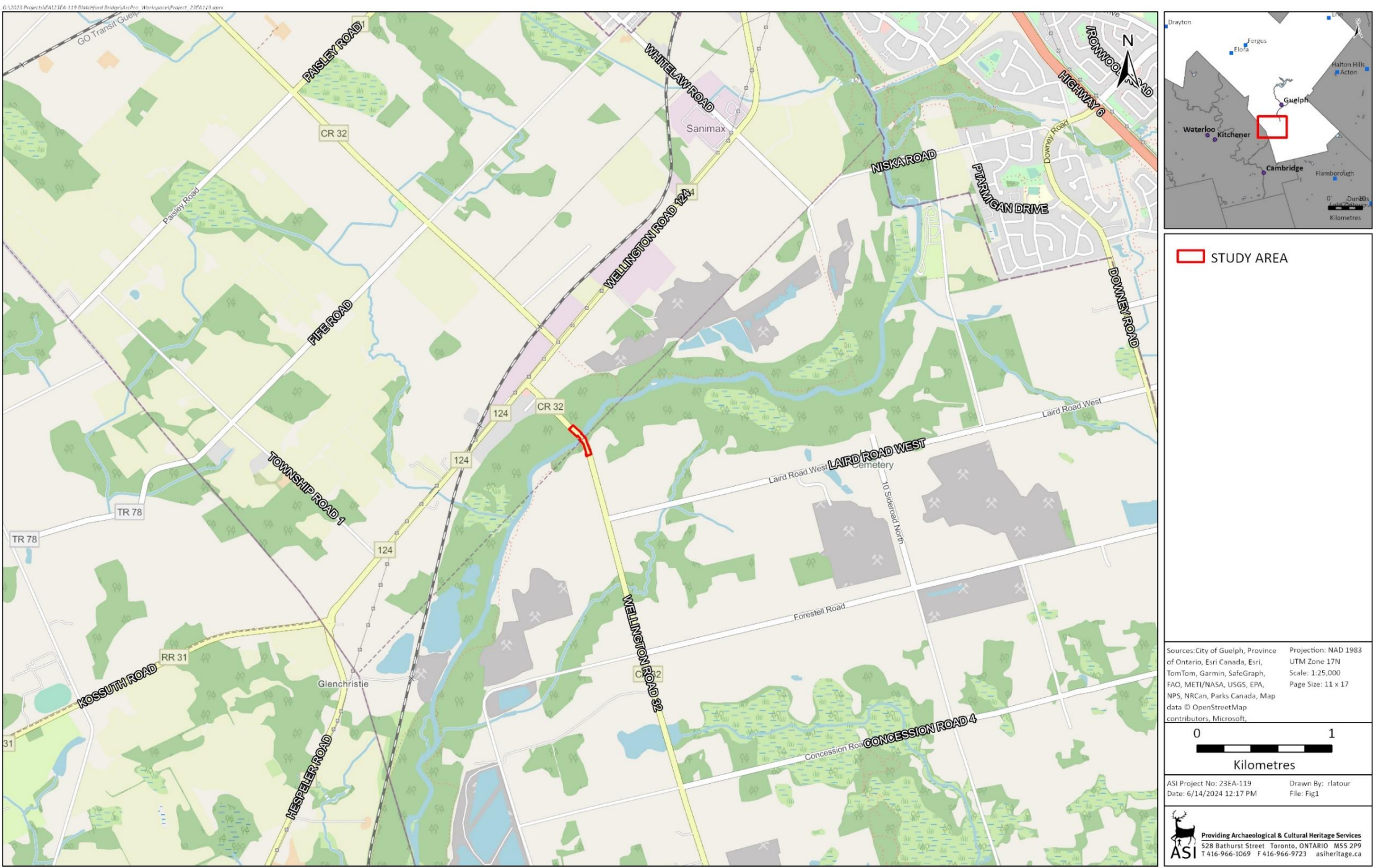


Figure 1: Location of the Study Area.





Figure 2: Study Area (Approximate Location) Overlaid on the 1861 Map of Wellington County.





Figure 3: Study Area (Approximate Location) Overlaid on the 1877 Illustrated Atlas of the County of Wellington.





Figure 4: Study Area (Approximate Location) Overlaid on the 1916 Topographic Galt Sheet.



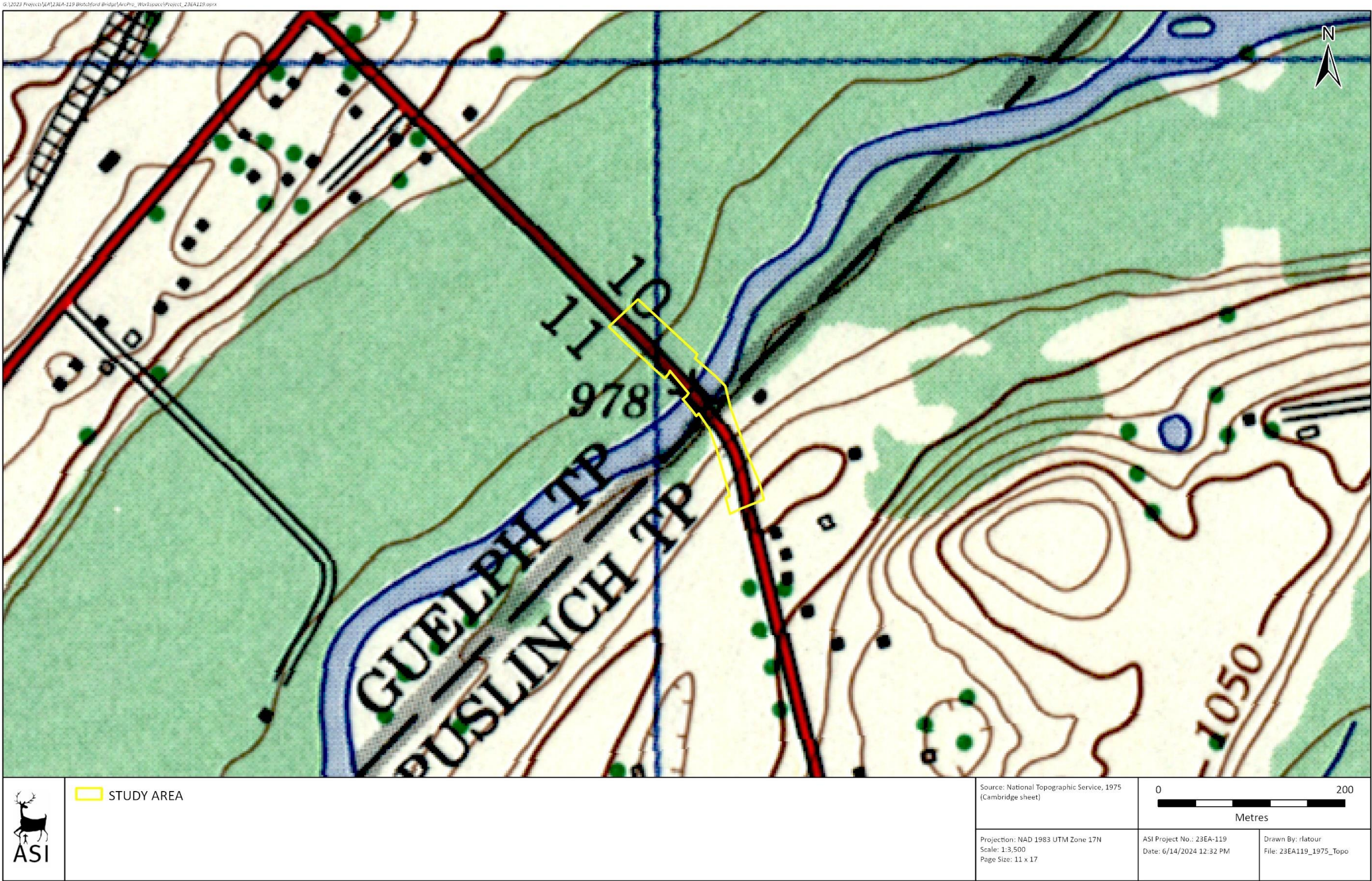


Figure 6: Study Area (Approximate Location) Overlaid on the 1975 Topographic Cambridge-Preston Sheet.



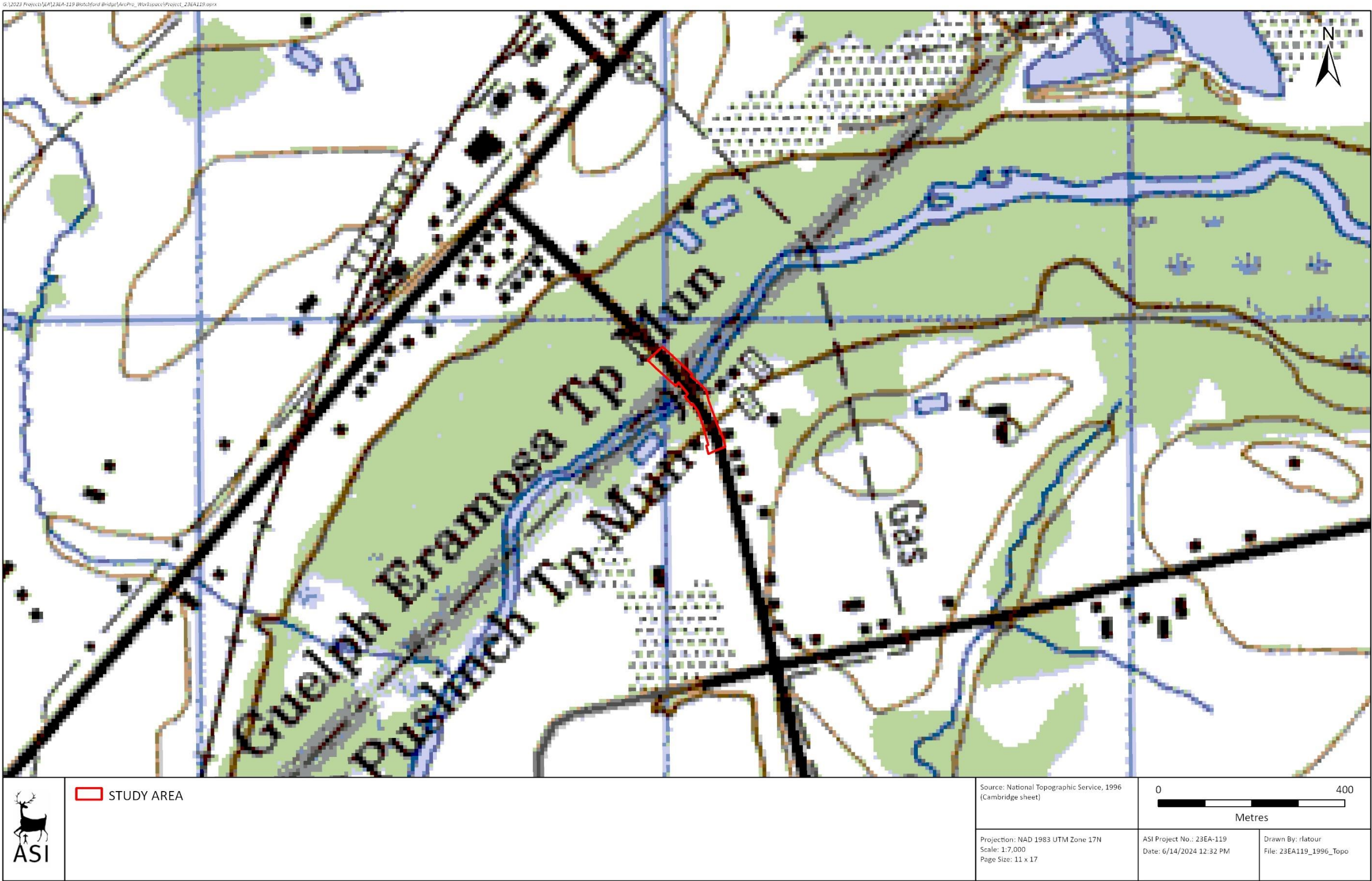


Figure 7: Study Area (Approximate Location) Overlaid on the 1998 NTS Cambridge Sheet.





Figure 8: Study Area (Approximate Location) Overlaid on the 1954 Aerial Photograph of the Guelph-Cambridge Area.





Figure 9: Study Area – Physiographic Landforms.





Figure 10: Study Area – Surficial Geology.





Figure 11: Study Area – Soil Drainage.





Figure 12: Results of the Stage 1-2 Archaeological Assessment.

