

**Stage 1 Archaeological Assessment
Norwich Street Pedestrian Bridge
Part of Lot 2, Broken Front Division F and the Town of Guelph
(Former Township of Guelph)
City of Guelph
County of Wellington, Ontario**

ORIGINAL REPORT

GM BluePlan Engineering Limited
650 Woodlawn Road West
Guelph, ON N1K 1B8

Archaeological Licence #P094 (Merritt)
Ministry of Tourism, Culture and Sport PIF# P094-0212-2016
ASI File: 16EA-107

13 January 2017



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EXECUTIVE SUMMARY

ASI was contracted by GM BluePlan Engineering Limited to conduct a Stage 1 Archaeological Assessment (Background Research and Property Inspection) as part of the reconstruction of Norwich Bridge, an existing pedestrian bridge over the Speed River. The Study Area is located on Norwich Street between Arthur Street North and Cardigan Street in the City of Guelph.

The Stage 1 background study determined that three previously registered archaeological sites are located within one kilometre of the Study Area. The property inspection determined that parts of the Study Area retain archaeological potential and will require Stage 2 assessment.

In light of these results, the following recommendations are made:

1. Parts of the Study Area possess archaeological potential. These lands require Stage 2 archaeological assessment by test pit survey at 5 m intervals prior to any proposed impacts to the property;
2. The remainder of the Study Area does not retain archaeological potential on account of deep and extensive land disturbance or slopes in excess of 20 degrees. These lands do not require further archaeological assessment; and,
3. Should the proposed work extend beyond the current Study Area, further Stage 1 archaeological assessment should be conducted to determine the archaeological potential of the surrounding lands.



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| | |
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1.0 PROJECT CONTEXT

Archaeological Services Inc. (ASI) was contracted by GM BluePlan Engineering Limited to conduct a Stage 1 Archaeological Assessment (Background Research and Property Inspection) as part of the reconstruction of Norwich Bridge, an existing pedestrian bridge over the Speed River. The Study Area is located on Norwich Street between Arthur Street North and Cardigan Street in the City of Guelph (Figure 1).

All activities carried out during this assessment were completed in accordance with the *Ontario Heritage Act* (2005) and the 2011 *Standards and Guidelines for Consultant Archaeologists* (S & G), administered by the Ministry of Tourism, Culture and Sport (MTCS).

In the S & G, Section 1, the objectives of a Stage 1 archaeological assessment are discussed as follows:

- To provide information about the history, current land conditions, geography, and previous archaeological fieldwork of the Study Area;
- To evaluate in detail the archaeological potential of the Study Area that can be used, if necessary, to support recommendations for Stage 2 archaeological assessment for all or parts of the Study Area; and,
- To recommend appropriate strategies for Stage 2 archaeological assessment, if necessary.

This report describes the Stage 1 archaeological assessment that was conducted for this project and is organized as follows: Section 1.0 summarizes the background study that was conducted to provide the historical and archaeological contexts for the project Study Area; Section 2.0 addresses the field methods used for the property inspection that was undertaken to document its general environment, current land use history and conditions of the Study Area; Section 3.0 analyses the characteristics of the project Study Area and evaluates its archaeological potential; Section 4.0 provides recommendations for the next assessment steps; and the remaining sections contain other report information that is required by the S & G, e.g., advice on compliance with legislation, works cited, mapping and photo-documentation.

1.1 Development Context

All work has been undertaken as required by the *Environmental Assessment Act*, RSO (1990) and regulations made under the Act, and are therefore subject to all associated legislation. This project is being conducted in accordance with the Municipal Engineers' Association document *Municipal Class Environmental Assessment* (2000 as amended in 2007 and 2011).

Authorization to carry out the activities necessary for the completion of the Stage 1 archaeological assessment was granted by GM BluePlan Engineering Limited on November 14, 2016.

1.2 Historical Context

The purpose of this section, according to the S & G, Section 7.5.7, Standard 1, is to describe the past and present land use and the settlement history and any other relevant historical information pertaining to the



Study Area. A summary is first presented of the current understanding of the Indigenous land use of the Study Area. This is then followed by a review of the historical Euro-Canadian settlement history.

1.2.1 Indigenous Land Use and Settlement

Southern Ontario has been occupied by human populations since the retreat of the Laurentide glacier approximately 13,000 years before present (BP) (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 BP, the environment had progressively warmed (Edwards and Fritz 1988) and populations now occupied less extensive territories (Ellis and Deller 1990).

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

Between 3,000-2,500 BP, populations continued to practice residential mobility and to harvest seasonally available resources, including spawning fish. Exchange and interaction networks broaden at this time (Spence et al. 1990:136, 138) and by approximately 2,000 BP, evidence exists for macro-band camps, focusing on the seasonal harvesting of resources (Spence et al. 1990:155, 164). It is also during this period that maize was first introduced into southern Ontario, though it would have only supplemented people's diet (Birch and Williamson 2013:13–15). Bands likely retreated to interior camps during the winter. It is generally understood that these populations were Algonquian-speakers during these millennia of settlement and land use.

From approximately 1,000 BP until approximately 300 BP, lifeways became more similar to that described in early historical documents. During the Early Iroquoian phase (AD 1000-1300), the communal site is replaced by the village focused on horticulture. Seasonal disintegration of the community for the exploitation of a wider territory and more varied resource base was still practised (Williamson 1990:317). By the second quarter of the first millennium BP, during the Middle Iroquoian phase (AD 1300-1450), this episodic community disintegration was no longer practised and populations now communally occupied sites throughout the year (Dodd et al. 1990:343). In the Late Iroquoian phase (AD 1450-1649) this process continued with the coalescence of these small villages into larger communities (Birch and Williamson 2013). Through this process, the socio-political organization of the First Nations, as described historically by the French and English explorers who first visited southern Ontario, was developed.

Samuel de Champlain in 1615 reported that a group of Iroquoian-speaking people situated between the New York Iroquois and the Huron-Wendat were at peace and remained “la nation neutre”. In subsequent years, the French visited and traded among the Neutral, but the first documented visit was not until 1626, when the Recollet missionary Joseph de la Roche Daillon recorded his visit to the villages of the Attiwandaron, whose name in the Huron-Wendat language meant “those who speak a slightly different



tongue” (the Neutral apparently referred to the Huron-Wendat by the same term). Like the Huron-Wendat, Petun, and New York Iroquois, the Neutral people were settled village agriculturalists. Several discrete settlement clusters have been identified in the lower Grand River, Fairchild-Big Creek, Upper Twenty Mile Creek, Spencer-Bronte Creek drainages, Milton, Grimsby, Eastern Niagara Escarpment and Onondaga Escarpment areas, which are attributed to Iroquoian populations. These settlement clusters are believed by some scholars to have been inhabited by populations of the Neutral Nation or pre- (or ancestral) Neutral Nation (Lennox and Fitzgerald 1990).

Between 1647 and 1651, the Neutral were decimated by epidemics and ultimately dispersed by the New York Iroquois, who subsequently settled along strategic trade routes on the north shore of Lake Ontario for a brief period during the mid seventeenth-century.

Due, in large part, to increased military pressure from the French upon their homelands south of Lake Ontario, the Iroquois abandoned their north shore frontier settlements by the late 1680s, although they did not relinquish their interest in the resources of the area, as they continued to claim the north shore as part of their traditional hunting territory. The territory was immediately occupied or re-occupied by Anishinaabek groups, including the Mississauga, Ojibwa (or Chippewa) and Odawa, who, in the early seventeenth century, occupied the vast area from the east shore of Georgian Bay, and the north shore of Lake Huron, to the northeast shore of Lake Superior and into the upper peninsula of Michigan. Individual bands numbered several hundred people and were politically autonomous. Nevertheless, they shared common cultural traditions and relations with one another and the land. These groups were highly mobile, with a subsistence economy based on hunting, fishing, gathering of wild plants, and garden farming. Their movement southward also brought them into conflict with the Haudenosaunee.

Peace was achieved between the Iroquois and the Anishinaabek Nations in August of 1701 when representatives of more than twenty Anishinaabek Nations assembled in Montreal to participate in peace negotiations (Johnston 2004:10). During these negotiations captives were exchanged and the Iroquois and Anishinaabek agreed to live together in peace. Peace between these nations was confirmed again at council held at Lake Superior when the Iroquois delivered a wampum belt to the Anishinaabek Nations. In 1763, following the fall of Quebec, New France was transferred to British control at the Treaty of Paris. The British government began to pursue major land purchases to the north of Lake Ontario in the early nineteenth century, the Crown acknowledged the Mississaugas as the owners of the lands between Georgian Bay and Lake Simcoe and entered into negotiations for additional tracts of land as the need arose to facilitate European settlement.

During the American Revolution, Mississauga warriors supported the English military. Rebel forces destroyed the villages of the Six Nations Iroquois in New York and many people were forced to move to the Niagara area. When Six Nations Iroquois leaders learned that the English planned to make a peace treaty with the Americans and establish a boundary line that would give away their homelands they were angry. The English government offered to protect Six Nations Iroquois peoples and give them land within their boundaries. On August 8, 1783, Lord North instructed Governor Haldimand to set apart land for the Six Nations Iroquois and ensure that they carried on their hunting and fur trading with the British. On May 22, 1784, a tract of land along the Grand River was purchased by the British government from the Mississaugas who lived in the vicinity (Johnston 1964; Lytwyn 2005). The land set apart is called the Haldimand Tract. Joseph Brant led New York Iroquois loyalists (1600 people) to the Haldimand tract in 1784 and in the fall of 1784, Sir Frederick Haldimand formally awarded the tract to the Mohawks “and others of the Six Nations [Iroquois].” They were authorized to “Settle upon the Banks of the River” and were allotted “for that Purpose six miles [10 km] deep from each Side of [it] beginning at Lake Erie, & extending in the Proportion to [its] Head.” The precise boundaries of the grant were unclear as there was



no survey; for example, the northern boundary of the original deed from the Mississaugas to the Crown stated that the line extended “from the creek that falls from a small lake into...the bay known by the name of Waghquata [Burlington Bay]...until it strikes the river La Tranche [Thames].” The 1790 survey by Augustus Jones intentionally failed to include the headwaters of the Grand, an action made all the more difficult to address given the unclear description of the extent in the original deeds (Johnston 1964; Lytwyn 2005).

In 1841, Samuel P. Jarvis (Indian Superintendent) informed the Six Nations Iroquois that the only way to keep white intruders off their land would be for them to surrender it to the Crown, to be administered for their sole benefit. With this plan, the Six Nations Iroquois would retain lands that they actually occupied and a reserve of approximately 8,094 ha. The surrender of land was made by the Confederacy in January, 1841 (Johnston 1964; Lytwyn 2005). Today, this history and those surrenders are still contested and there are numerous specific land claims that have been filed by the Six Nations Iroquois with the federal government in regard to lands within the Haldimand Tract (Johnston 1964; Lytwyn 2005).

The eighteenth century saw the ethnogenesis in Ontario of the Métis when Métis people began to identify as a separate group, rather than as extensions of their typically maternal First Nations and paternal European ancestry (Métis National Council n.d.). Living in both Euro-Canadian and Indigenous societies, the Métis acted as agents and subagents in the fur trade but also as surveyors and interpreters. Métis populations were predominantly located north and west of Lake Superior, however, communities were located throughout Ontario (MNC n.d.; Stone and Chaput 1978:607,608). During the early nineteenth century, many Métis families moved towards locales around southern Lake Huron and Georgian Bay, including Kincardine, Owen Sound, Penetanguishene, and Parry Sound (MNC n.d.). By the mid-twentieth century, Indigenous communities, including the Métis, began to advance their rights within Ontario and across Canada, and in 1982, the Métis were recognized as one of the distinct Indigenous peoples in Canada. Recent decisions by the Supreme Court of Canada (Supreme Court of Canada 2003, 2016) have reaffirmed that Métis people have full rights as one of the Indigenous people of Canada under subsection 91(24) of the Constitution Act, 1867.

1.2.2 Euro-Canadian Land Use: Township Survey and Settlement

Historically, the Study Area is located in the Former Township of Guelph, Wellington County in part of Lot 2, Broken Front Division F and The Town of Guelph.

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 m of an early settlement road are also considered to have potential for the presence of Euro-Canadian archaeological sites.



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

Guelph Township

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 and 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 and Mika 1983:186). A large number of 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 and Mika 1983:186). Many settlers arrived in the township between the years 1827 and 1830.

City of Guelph

While the present boundaries for the City of Guelph fall within the former Townships of Puslinch and Guelph, the historic community of Guelph was situated on the River Speed in Guelph Township. Guelph was founded by a novelist named John Galt, secretary to the Canada Company, in 1827. The original plan for the town depicted lots reserved for the company offices, a saw mill, a market square, two churches and a burial ground. Registered plans of subdivision for this village date from 1847-1865. The first settlers were attracted here in the next few years. By the late 1840s, the population of Guelph had reached 1,480, and it was incorporated as a town in 1850. It was also selected as the capital of Wellington County, and it was also deemed to be an inland port of entry. The population had reached 6,878 by 1873. By April 1879, the population exceeded 10,000 and Guelph was incorporated as a city. Guelph contained a wide variety of trades and professions by the 1840s (Johnson 1977:83). By the 1870s, Guelph contained churches, banks, insurance agencies, a library, two newspapers, telegraph offices, hotels, stores, flour, saw, and planing mills, woollen factories, foundries, machinery works, sewing machine works, musical instrument manufacturers, tanneries, soap and candle factories, shoemakers, wooden ware manufacturers, and two breweries. It was a station for both the Grand Trunk and Canadian Pacific Railways. Guelph was built on a number of hills which gives it a picturesque appearance, and a number of fine heritage structures in the city were built out of native limestone (Crossby 1873:134; Rayburn 1997:145; Winearls 1991:680–684; Cameron 1967; Fischer and Harris 2007:132; Scott 1997:94–95).

Historically, the subject bridge crossing is located in part of Bridge Street, Part of the Island at the foot of Norwich Street, in the River Speed, Registered Plan 8 and Part of the Bed of the River Speed, in the City of Guelph, Ontario. A review of existing materials held at the City of Guelph, as well as historic mapping, archival records, council minutes, and periodicals confirmed that an earlier, wooden bridge was originally constructed in the location of present structure. This earlier structure was removed when the current structure was erected in 1882. The Norwich Street Bridge is a single span, riveted Pratt pony truss bridge carrying pedestrian traffic over the Speed River in a generally east-west orientation. According to available documentation, the bridge was designed and constructed in 1882 by the Hamilton Bridge Works Company Ltd. In the spring of 1948, heavy flood waters eroded the stone foundations of the west bank, causing the west end of the bridge to sink and the bridge to be impassible.



Guelph Junction Railway

In 1884, the Guelph Junction Railway (GJR) began construction on a rail line to connect from south of the Grand Trunk Railway in Guelph with the Credit Valley Railway (later Canadian Pacific Railway) near Campbellville. At the time, the only railway operating out of Guelph was the Great Western Railway (later Grand Trunk Railway). The population of Guelph was concerned that rates and service could be improved by removing the GTR monopoly. Work commenced on the line by the fall of 1886, with the company agreeing to lease the line to Canadian Pacific upon completion, and the line opened in September 1888. The new junction point with the former CVR tracks became known as Guelph Junction (Hughes 1997).

1.2.3 Historical Map Review

The 1868 *Map of the City of Guelph* (Hobson 1868) and the 1881 *Illustrated Historical Atlas of the Township of Guelph* (H. Parsell & Co. 1881) were examined to determine the presence of historic features within the Study Area during the nineteenth century (Figures 2 and 3). While neither of the maps illustrated land tenure within the Study Area, they do illustrate that Norwich Street is a historically surveyed road. Significant development is visible on either side of the bridge by 1868 and the street crosses the Speed River and turns to the north just northeast of the city centre.

It should be noted, however, that not all features of interest were mapped systematically in the Ontario series of historical atlases, given that they were financed by subscription, and subscribers were given preference with regard to the level of detail provided on the maps. Moreover, not every feature of interest would have been within the scope of the atlases.

In addition, the use of historical map sources to reconstruct/predict the location of former features within the modern landscape generally proceeds by using common reference points between the various sources. These sources are then geo-referenced in order to provide the most accurate determination of the location of any property on historic mapping sources. The results of such exercises are often imprecise or even contradictory, as there are numerous potential sources of error inherent in such a process, including the vagaries of map production (both past and present), the need to resolve differences of scale and resolution, and distortions introduced by reproduction of the sources. To a large degree, the significance of such margins of error is dependent on the size of the feature one is attempting to plot, the constancy of reference points, the distances between them, and the consistency with which both they and the target feature are depicted on the period mapping.

1.2.4 Twentieth-Century Mapping Review

The 1906 *Map of the City of Guelph* (Lloyd 1906) and the 1935 National Topographic System Guelph sheet (Department of National Defence 1935) were examined to determine the extent and nature of development and land uses within the Study Area (Figures 4 and 5). In 1906, the Study Area is illustrated within St. George's Ward along the present alignment of Norwich Street over the Speed River. The railway and surrounding roads are also illustrated in their current alignments. Town plots are indicated to the south of the bridge on both banks of the river. The 1935 map indicates that a high degree of commercial and industrial development had occurred on the banks of the Speed River to the north and south of the subject bridge.



A review of available Google satellite imagery since 2006 shows that the Study Area is located on Norwich Street and has remained relatively unchanged, surrounded by residential development adjacent to the Speed River in the City of Guelph.

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 MTCS through “Ontario’s Past Portal”; published and unpublished documentary sources; and the files of ASI.

1.3.1 Current Land Use and Field Conditions

A Stage 1 property inspection was conducted on November 23, 2016 that noted the Study Area is located on Norwich Street East and West, including an existing multi-use path over the existing Norwich Pedestrian Bridge. The Study Area is surrounded by residential development on the banks of the Speed River, in the City of Guelph. The Downtown Trail crosses the Study Area on the west bank of the river. There is existing sewer infrastructure visible adjacent to the southeast corner of the bridge within an artificial berm.

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 and Warner 1990: 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 and Putnam 1984). The Guelph Drumlin Field physiographic region (Chapman and Putnam 1984: 137-139) 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 and Putnam 1984:15).

Figure 6 depicts surficial geology for the Study Area, which is underlain by glaciofluvial deposits (Ontario Geological Survey 2010). Soils in the Study Area consist of Burford Loam, a grey-brown podzolic with good drainage (Figure 7).

The Study Area crosses the Speed River, a tributary of the Grand River in Wellington County. The Speed River originates near Orton and runs through Guelph where it merges with the Eramosa River which drains into the Grand River in Cambridge. In 1974 the Speed River was dammed just north of Guelph, creating the artificial reservoir of Guelph Lake (Grand River Conservation Authority 2016). The Grand River, which drains an area of approximately 673,397 ha, begins northeast of Dundalk at 526 m above sea level and flows for approximately 290 km to Lake Erie at Port Maitland (Chapman and Putnam 1984:95). It was an important transportation route and a critical resource extraction area for generations of Indigenous people. Historically, the Grand River has been utilized as a navigable waterway, as a power source (such power sites served as settlement nuclei), and above Brantford as a course for driving logs (Chapman and Putnam 1984:98). It is also the focus of the Haldimand Tract; Joseph Brant was awarded six miles (10 km) on either side of the river (Johnston 1964:35–38; Lytwyn 2005). The Grand River (and its tributaries the Nith, Conestogo, Speed and Eramosa Rivers) was designated as a Canadian Heritage River in 1994 for its cultural history and recreation (Canadian Heritage Rivers System 2016).

1.3.3 Previous Archaeological Research

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database (OASD) maintained by the MTCS. 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 km east to west, and approximately 18.5 km 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 *AjHb*.



According to the OASD, three previously registered archaeological sites are located within one kilometre of the Study Area (Ministry of Tourism, Culture and Sport 2016). A summary of the sites is provided below.

Table 1: List of previously registered sites within one kilometre of the Study Area

| Borden # | Site Name | Cultural Affiliation | Site Type | Researcher |
|----------|-----------------------------|----------------------|--------------|---------------------------------------|
| AjHb-71 | Guelph Public Burial Ground | Euro-Canadian | Cemetery | Neill 2012; Pearce 2010; Poulton 2005 |
| AjHb-83 | n/a | Euro-Canadian | House | Grimes 2014 |
| AjHb-84 | n/a | Euro-Canadian | Agricultural | Grimes 2014 |

According to the background research, no previous reports detail fieldwork within 50 m of the Study Area.

2.0 FIELD METHODS: PROPERTY INSPECTION

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

The Stage 1 archaeological assessment property inspection was conducted under the field direction of Robert Pihl (P057) of ASI, on November 23, 2016, in order to gain first-hand knowledge of the geography, topography, and current conditions and to evaluate and map archaeological potential of the Study Area. It was a visual inspection only and did not include excavation or collection of archaeological resources. Fieldwork was only conducted when weather conditions were deemed suitable, per S&G Section 2. Previously identified features of archaeological potential were examined; additional features of archaeological potential not visible on mapping were identified and documented as well as any features that will affect assessment strategies. Field observations are compiled onto the existing conditions of the Study Area in Section 7.0 (Figure 8) and associated photographic plates are presented in Section 8.0 (Plates 1-6).

3.0 ANALYSIS AND CONCLUSIONS

The historical and archaeological contexts have been analyzed to help determine the archaeological potential of the Study Area. These data are presented below in Section 3.1. Results of the analysis of the Study Area property inspection are presented in Section 3.2.



3.1 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 (AjHb-71, AjHb-83, AjHb-84);
- Water sources: primary, secondary, or past water source (Speed River);
- Early historic transportation routes (Norwich Street, GJR);
- Proximity to early settlements (Town of Guelph); and
- Well-drained soils (Burford Loam)

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

3.2 Analysis of Property Inspection Results

The property inspection determined that parts of the Study Area have been subjected to deep soil disturbance events from the construction of the existing bridge, right-of-way, and sewer infrastructure, and according to the S & G Section 1.3.2 do not possess archaeological potential (Plates 1, 2, 4, 6; Figure 8: areas highlighted in yellow). Some lands within the Study Area adjacent to the river are sloped in excess of 20 degrees, and according to the S& G Section 2.1 do not possess archaeological potential (Plates 2, 5, 6; Figure 8: areas highlighted in purple). These areas do not require further assessment.

The remainder of the Study Area retains archaeological potential (Plates 1 and 3; Figure 8: areas highlighted in green). These areas will require Stage 2 archaeological assessment by test pit survey at five metre intervals prior to any development. According to the S & G Section 2.1.2, test pit survey is required on terrain where ploughing is not viable, such as wooded areas, properties where existing landscaping or infrastructure would be damaged, overgrown farmland with heavy brush or rocky pasture, and narrow linear corridors up to 10 metres wide.

3.3 Conclusions

The Stage 1 background study determined that three previously registered archaeological sites are located within one kilometre of the Study Area. The property inspection determined that parts of the Study Area retain archaeological potential and will require Stage 2 assessment.



4.0 RECOMMENDATIONS

In light of these results, the following recommendations are made:

1. Parts of the Study Area possess archaeological potential. These lands require Stage 2 archaeological assessment by test pit survey at 5 m intervals prior to any proposed impacts to the property;
2. The remainder of the Study Area does not retain archaeological potential on account of deep and extensive land disturbance or slopes in excess of 20 degrees. These lands do not require further archaeological assessment; and,
3. Should the proposed work extend beyond the current Study Area, further Stage 1 archaeological assessment should be conducted to determine the archaeological potential of the surrounding lands.

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



5.0 ADVISE ON COMPLIANCE WITH LEGISLATION

ASI also advises compliance with the following legislation:

- This report is submitted to the Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, RSO 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological 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 Tourism, Culture and Sport, 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* 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 *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.



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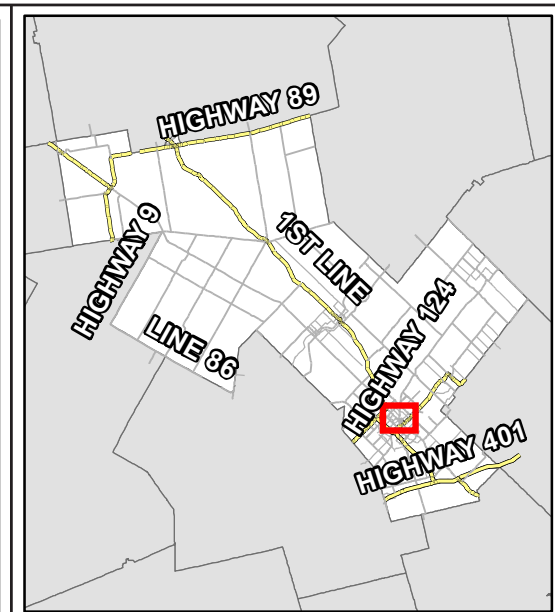
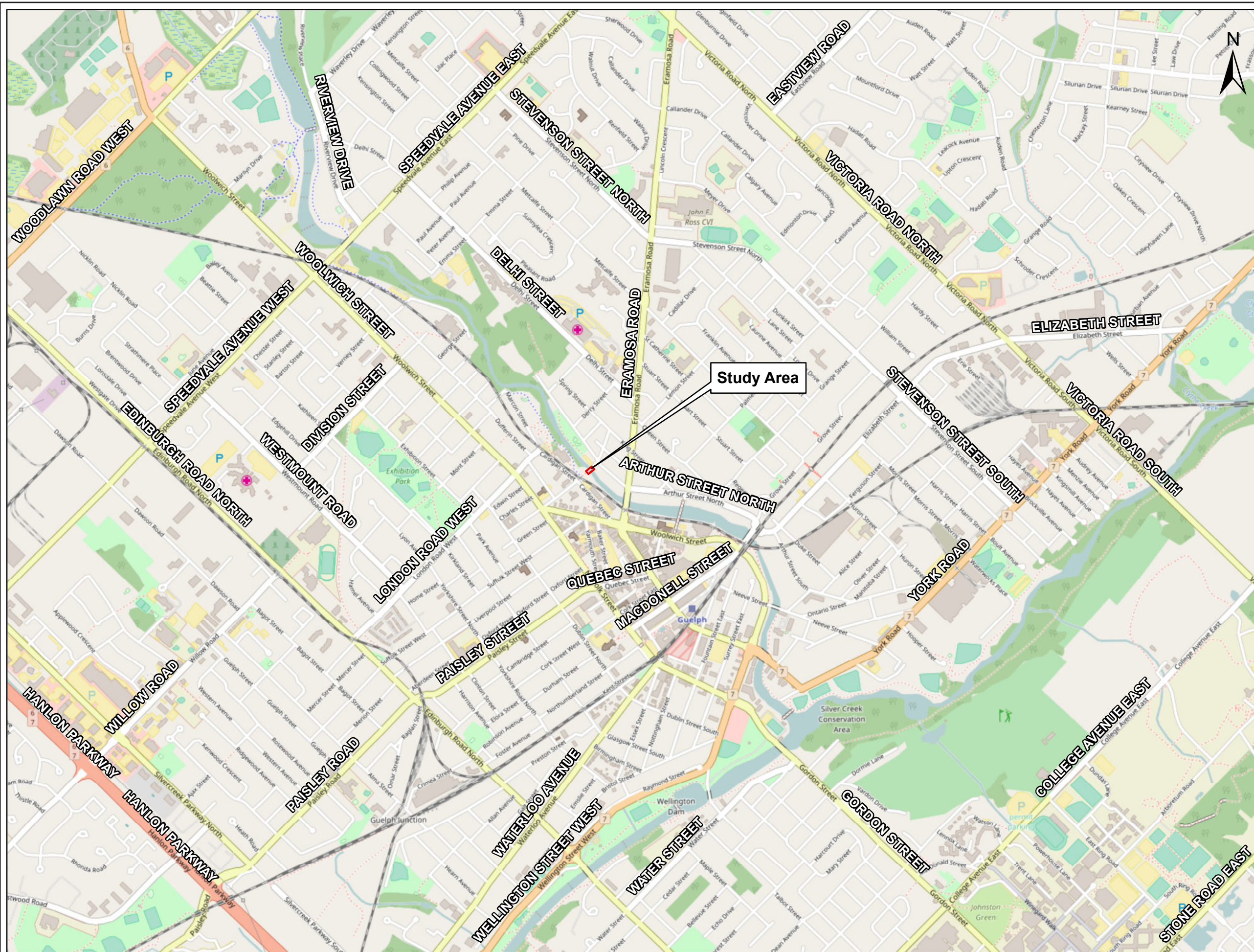
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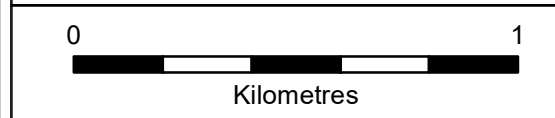
7.0 MAPS





 Study Area

BASE:
 (c) OpenStreetMap and contributors,
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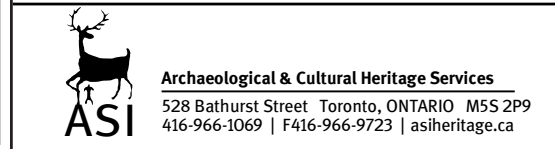


Figure 1: The Ward to Downtown Pedestrian Bridges - Location of the Study Area



Figure 2: The Ward to Downtown Pedestrian Bridges Study Area (Approximate Location) Overlaid on the 1868 James Hobson Map of the Town of Guelph



Figure 3: The Ward to Downtown Pedestrian Bridges Study Area (Approximate Location) Overlaid on the 1881 Illustrated Historical Atlas of the Township of Guelph

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|  <p>Archaeological & Cultural Heritage Services 528 Bathurst Street Toronto, ONTARIO M5S 2P9 416-966-1069 F416-966-9723 asih heritage.ca</p> |  Study Area | <p>Datum and Projection NAD 83 UTM 17N</p> | <p>0 250</p>  <p>Metres</p> |
| | | | <p>ASI PROJECT NO.: 16EA-109 DATE: 12/15/2016</p> |

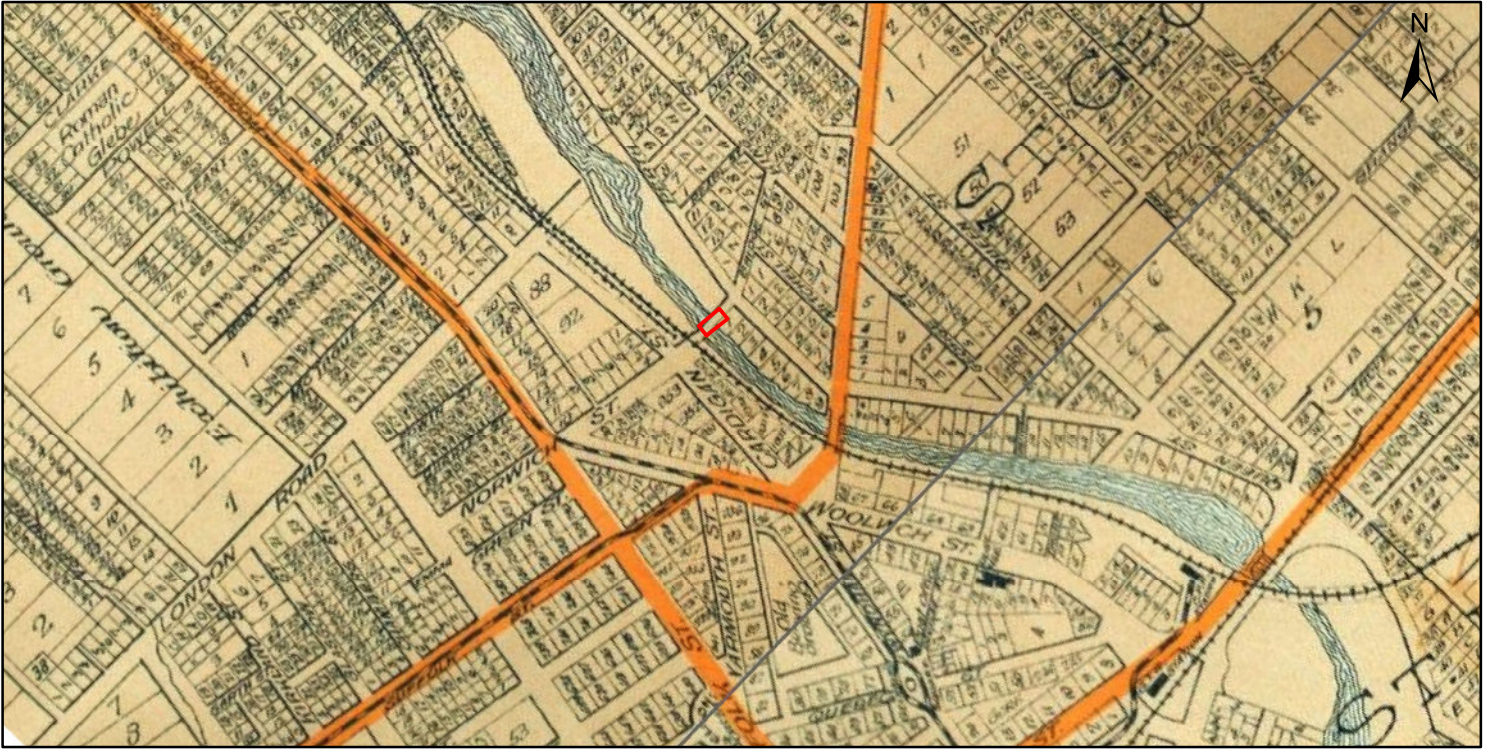


Figure 4: The Ward to Downtown Pedestrian Bridges Study Area (Approximate Location) Overlaid on the 1906 Map of the City of Guelph



Figure 5: The Ward to Downtown Pedestrian Bridges Study Area (Approximate Location) Overlaid on the 1935 NTS Guelph Sheet

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Figure 6: The Ward to Downtown Pedestrian Bridges - Surficial Geology

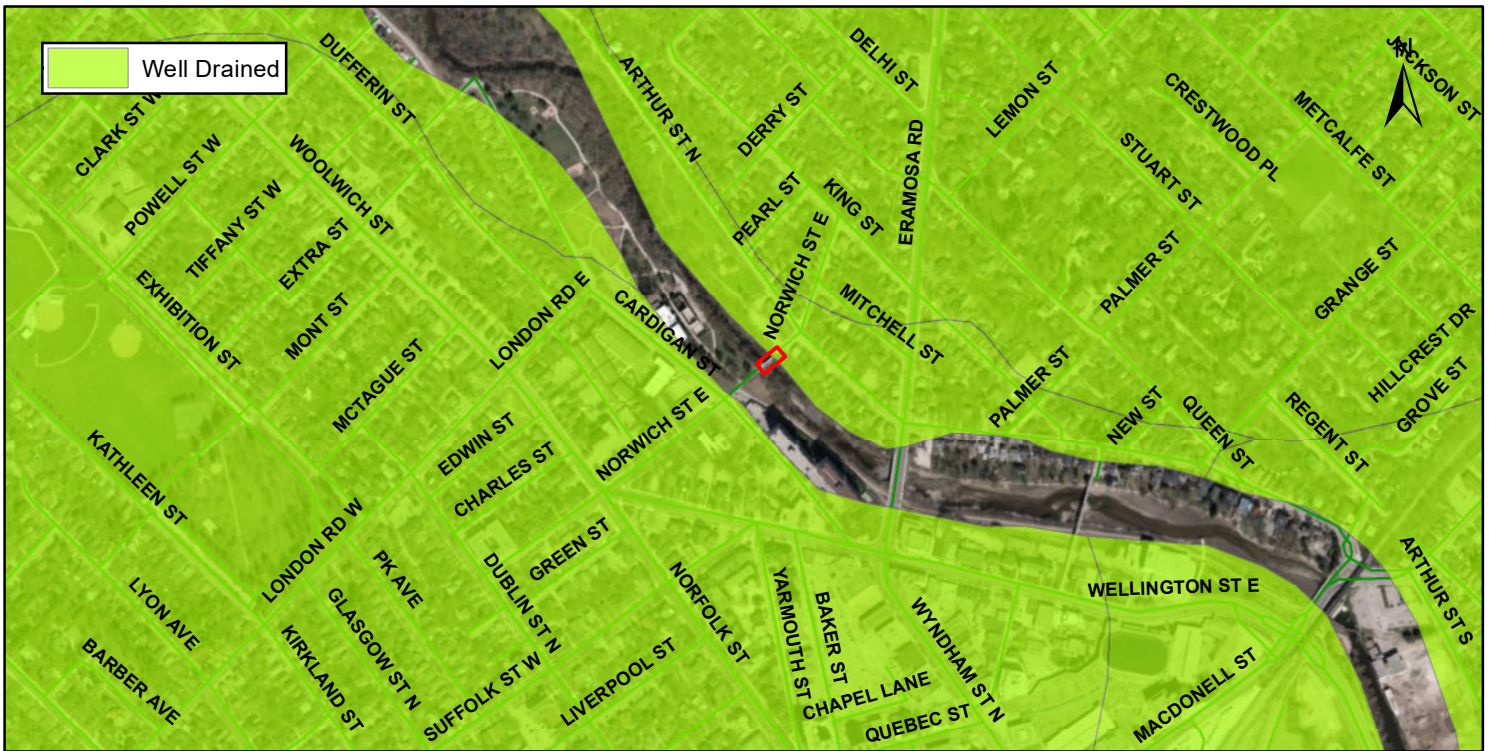


Figure 7: The Ward to Downtown Pedestrian Bridges - Soil Drainage

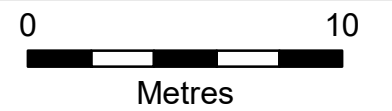
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- Study Area
- Archaeological Potential
- Disturbed - No Potential
- Slope - No Potential
- Photo

BASE:
 Ortho
 Esri, DigitalGlobe, GeoEye, i-cubed, USDA,
 USGS, AEX, Getmapping, Aerogrid, IGN,
 IGP, swisstopo, and the GIS User Community



ASI PROJECT NO.: 16EA-107
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Figure 8: Norwich Street Pedestrian Bridge - Results of the Property Inspection

8.0 IMAGES



Plate 1: Northeast view of the Study Area; Areas north of the ROW up to the bridge retain potential, require Stage 2 survey. Areas southeast of the ROW are disturbed, no potential



Plate 2: Southeast view of the Study Area; Sewer infrastructure is disturbed and area beyond is sloped, no potential



Plate 3: Northwest view of the Study Area; Area retains potential, requires Stage 2 survey



Plate 4: North view of existing bridges; Area is disturbed, no potential



Plate 5: East view of Study Area; Area is sloped, no potential



Plate 6: Northwest view of Study Area; Existing bridge footing is disturbed, areas beyond are sloped, no potential