DRAFT REPORT

Stage 1-2 Archaeological Assessment

Riverside Campus, Parking Lot C and Parking Lot D, Part of Lots 16, Gore, former Township of Gloucester, Carleton County, now 1967 Riverside Drive, City of Ottawa, Ontario

Licensee: Henry Cary (P327)
PIF Number: P327-0081-2024; P327-0084-2024

Submitted to:

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Distribution List

One PDF - Parsons Inc.

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One PDF - WSP E & I Canada Limited

Executive Summary

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

WSP E & I Canada Limited (WSP) was retained by Parsons Inc. (the Client), on behalf of The Ottawa Hospital (TOH), to complete a Stage 1-2 Archaeological Assessment (AA) in support of two proposed surface parking lots (Lot C and Lot D; the Project) at 1967 Riverside Drive in the City of Ottawa, Ontario (the north and south Study Areas). The Study Areas total approximately 1.71 hectares (ha) historically described as part of Lot 16, Gore, in the former Township of Gloucester, Carleton County (Figures 1 and 2). Development plans are provided in Figure 3 and Figure 4.

This archaeological assessment was completed as part of the Client's due diligence process for the Project and was carried out according to the Ministry of Citizenship and Multiculturalism (MCM) *Standards and Guidelines for Consultant Archaeologists* (MCM, 2011) under Project Information Form (PIF) number P327-0081-2024 and P327-0084-2024. TOH granted WSP permission to enter the Study Areas to conduct all required archaeological field activities.

The Stage 1-2 AA included a review of historical maps, aerial photography, land registry documents, local histories, and previous archaeological assessment reports, which determined the Study Areas to have general potential for pre- and post-contact archaeological resources based on several criteria. However, analysis of topographic maps and aerial imagery, supplemented by a property inspection by Field Director Joel Bush (P1192) on October 18, 2024, revealed that some portions of the Study Areas were subject to previous deep and extensive disturbance over the second half of the 20th century.

A Stage 2 test pit survey was conducted at 5 m intervals on November 29, 2024 under Field Director Joel Bush (P1192) in the portions of the north Study Area identified to retain archaeological potential, to determine whether the Study Area contained archaeological resources requiring further assessment. No archaeological resources were identified during the Stage 2 test pit survey of the north Study Area.

Based on the findings of the Stage 1-2 AA of the Study Areas, the following recommendations are made, subject to the conditions outlined below and in Section 7:

1) No further archaeological assessment is recommended the Study Areas (Figure 13).

The MCM is asked to review the results and recommendations presented herein, accept this report into the Ontario Public Register of Archaeological Reports and issue a standard letter of compliance with the MCM's 2011 *Standards and Guidelines for Consultant Archaeologists* and the terms and conditions for archaeological licencing.

It should be noted that the results of this report are not considered final until the MCM has reviewed the above-stated recommendations, and the report has been entered into the Ontario Public Register of Archaeological Reports.

PROJECT PERSONNEL

Project Manager	Joel Bush, MA (P1192)
Project Director	Henry Cary, PhD, CAHP, RPA (P327)
Senior Review	Henry Cary, PhD, CAHP, RPA
Field Director	Joel Bush, MA
Field Crew	Mackenzie Litwin, MA (R1367)
Report Preparation	Joel Bush, MA
GIS/Mapping	Becky Remmer, MA, CAHP (R1252)
Administration	Mona Patel

ABBREVIATIONS

BP	Before Present, taken to mean years before 1950, and used as an alternative to BC/AD
CHVI	Cultural Heritage Value or Interest
cm	Centimetre(s)
km	Kilometre(s)
m	Metre(s)
MCM	Ministry of Citizenship and Multiculturalism
PIF	Project Information Form
WSP	WSP E & I Canada Limited

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1 PROJECT CONTEXT

1.1 Development Context

WSP E & I Canada Limited (WSP) was retained by Parsons Inc. (the Client), on behalf of The Ottawa Hospital (TOH), to complete a Stage 1-2 Archaeological Assessment (AA) in support of two proposed surface parking lots (Lot C and Lot D; the Project) at 1967 Riverside Drive in the City of Ottawa, Ontario (the north and south Study Areas). The Study Areas total approximately 1.71 hectares (ha) historically described as part of Lot 16, Gore, in the former Township of Gloucester, Carleton County (Figures 1 and 2). Development plans are provided in Figure 3 and Figure 4.

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The Stage 1-2 AA included a review of historical maps, aerial photography, land registry documents, local histories, and previous archaeological assessment reports. A Stage 2 test pit survey was completed in portions of the north Study Area identified to have archaeological potential to determine whether the Study Area contained archaeological resources requiring further assessment. The Stage 1 AA site inspection and Stage 2 test pit survey were led by Field Director Joel Bush (P1192) on October 18 and November 29, 2024, respectively.

1.2 Objectives

The objectives of the Stage 1 AA were to:

- Provide information regarding the geography, history, previous archaeological fieldwork, and current land condition of the Study Areas;
- Provide a detailed evaluation of the Study Areas' archaeological potential;
- Determine whether the Study Areas contain archaeological potential requiring further assessment; and,
- Recommend appropriate Stage 2 assessment strategies, if required.

The objectives of the Stage 2 AA were to:

- Determine whether the north Study Area contained archaeological resources requiring further assessment;
- Document archaeological resources in the Study Area (if identified); and,
- Recommend appropriate Stage 3 assessment strategies for archaeological sites identified (if necessary).

2 HISTORICAL CONTEXT

The following historical narrative is intended to provide a general overview of the interpreted land use during the "Pre-Contact Period" and "Early Contact Period" within the vicinity of the current study area. This historical overview is based on archaeological and historical interpretations inferred over the past 100 years, and generally reflect inferences and interpretations made by non-Indigenous representatives. The text below is not intended to provide a comprehensive historical overview of the occupation and landscape prior to and following the arrival of Europeans to the modern-day area of eastern Ontario, but rather provide a general overview context that can be referenced when determining the potential for archaeological resources within the current project study area.

The text and comments below, including the cited references, may reflect archaeological literature within general publications, but are not suggested to represent the opinions of those Indigenous communities whose history it is purported to reflect.

2.1 Regional Indigenous History

Paleo Period (11,000 BP to 10,000 BP)

The Ottawa Valley was covered by the Laurentide ice sheet until approximately 11,000 years before present (BP). Following the period of deglaciation, the Ottawa Valley was inundated by the Champlain Sea which is interpreted to have extended from the Rideau Lakes in the south, along the Ottawa Valley and St. Lawrence areas and terminating in the vicinity of Petawawa in the west. The exact western boundary is unconfirmed as current elevation levels reflect the isostatic adjustment of the land following the melting of the glaciers which has obscured definitive traces of the Champlain Sea shoreline at the time of its existence. The eastern portion of the sea extended into the Atlantic Ocean.

During the much of the Paleo Period (11,000 BP - ca. 10,000 BP), the National Capital Region would have remained inundated by the Champlain Sea, although as the Champlain Sea receded towards the end of this period it is possible that people migrated along the changing waterfront landscape eventually moving into the Ottawa Valley (Watson 1999a).

Identifying the location and dates of the ancient Champlain Sea shorelines and the possible Paleo Period archaeological sites that may been associated with this evolving landscape has proven challenging. These boundaries are not marked by a continuous identifiable shoreline, especially on the west extent where rocky conditions were not favourable to the formation of beaches (Chapman and Putnam 1973). Attempts to use deposits of marine mollusk shells as a source for radiocarbon dates to delineate the transgression of the shorelines have proved unreliable as shells absorb carbon at different rates according to their depth below the surface and geological location (Robinson 2012). Additionally, earlier interpretations showing discrete stages of regression (see Chapman 1937) have proven not to be supported by the geological record. Unlike the catastrophic flood events during the Younger Dryas climatic event that led to the rapid formation of the Champlain Sea, its regression was a slow process occurring as sea waters drained during isostatic rebound (Robinson 2012). The interpretation of the presence of shorelines is further complicated by the fact that isostatic rebound may have raised the Ottawa region above its current elevation before it receded to its current level (Fulton and Richard 1987). Flooding resulting from the overflow of glacial Lake Agassiz also eroded and manipulated topographic landforms within the evolving landscape (Fulton et al. 1987). As a consequence, only the margins of the Champlain Sea at its maximum extent, a time when the National Capital region would have been fully submerged, have been reliably mapped due to the rapid inundation creating pronounced shoreline features (Loring 1980). Although recent studies using various dating techniques that do not rely upon deposits of mollusk

shells have provided some favourable results (Tremblay 2008), considerable work remains in developing the chronology of the Champlain Sea's regression.

Human settlement in the National Capital Region would have occurred following the recession of the Champlain Sea when the vegetation and wildlife had the opportunity to develop within the area and enable the sustainability of humans (Watson 1999a). The ridges and old shorelines of the Champlain Sea and early Ottawa River channels reflect areas most likely to contain evidence of Paleo Period occupation in the region. Archaeological and geological investigations in the Ottawa Valley have suggested these early sites may be identified within the 550 foot (167.6 metre) or higher contour topography, although additional research may be required to confidently assess this correlation (Kennedy 1976).

The identification of Paleo Period sites in the National Capital Region has been hindered by the erosion of accessible locations during the environmental changes associated with the transition from the Late Paleo Period to the succeeding Archaic Period (10,000 - 2900 BP). The potential use of watercraft by Paleo Period peoples (Engelbrecht and Seyfert 1995; Jodry 2005) and evidence for the abundance of marine resources (Loring 1980; Robinson 2012) raises the possibility of occupation sites situated on accessible landforms such as those exposed as isolated islands above the 167-metre elevation contours. As the Ottawa River delta prograded eastward during the regression of the Champlain Sea (Fulton et al. 1987), these isolated exposed landscapes would have been impacted by periods of overflow from glacial Lake Agassiz. The inundation of flood waters from the glacial lake may have caused significant erosion, with another possibility being that the sediment transport facilitated by the moving water may have buried archaeological remains within these potential occupation areas.

Evidence of human occupation during this period has been documented by a variety of archaeological discoveries including two bi-facially fluted projectile points (laurel leaf shaped points with a channel flake scar extending from the base of the point) recorded in the Rideau Lakes area (Watson 1982; 1999b). Although very few Paleo Period sites have been documented in eastern Ontario, discoveries in the Ottawa area, including sites interpreted to have produced Paleo Period material near Greenbank Road (Swayze 2003), Albion Road and Rideau Road (Swayze 2004), suggests evidence of early occupation although the lack of diagnostic material represented at these sites and the inferred climatic environment suggests these sites may rather be reflective of Archaic Period occupation following the recession of the Champlain Sea.

Archaic Period (10,000 BP to 2,900 BP)

During the succeeding Archaic Period (ca. 10,000 to 2,800 BP), the environment of eastern Ontario began to approach modern conditions. The jack and red pine forests that characterized the Late Paleo Period landscape were eventually replaced by forests dominated by white pine with some associated deciduous trees (Ellis et al. 1990). Occupation within the National Capital Region developed as the environment became inhabitable, with an Early Archaic Period Dovetail projectile point recovered in Ottawa South around 1918 or 1920 (Pilon and Fox 2015) potentially representing the earliest diagnostic evidence of human interaction within the local landscape.

An assemblage of lithic tools interpreted to date between approximately 11,000 and 9,000 BP was recovered from a cluster of sites southwest of Parliament Hill in March Township (Swayze and McGhee 2011), although the lack of diagnostic tools recovered from the site prevents the ability for uniform acceptance of the chronological and contextual aspects of the site and the associated materials (Butler 2011). It is anticipated future investigations of contemporary sites with similar artifact assemblages may provide further insight and evidence of human occupation in the National Capital Region dating to the Early Archaic Period.

Populations occupying Ontario and Quebec during the Early Archaic Period primarily used large base camps on islands, near river mouths, and on the shores of embayments where a variety of flora, fish, and wildfowl resources could be obtained during the spring, summer and fall seasons. Smaller hunting and specialized campsites were established in the uplands and along smaller watercourses. Access to these shoreline occupation areas, would have been facilitated by a variety of Indigenous watercrafts such as bark canoes, skin boats and dugout canoes (Monk 1999).

The Indigenous peoples travelling along the Ottawa River are believed to have preferred a canoe that had high ends, similar to later European traders who adopted this construction technique. These canoes were easily paddled and designed to carry a heavy load with a narrow-flat bottom and flaring sides (Adney and Chapelle 2014).

Indigenous peoples utilized a variety of vessels to travel down navigable waterways such as the Ottawa, Gatineau and Rideau River systems to meet, trade and exchange information. Several portages were required along the Ottawa River, for example at the Chaudière Falls, Chats Falls and the Deschênes Rapids, with the primary portage routes traversing the northern shoreline of the Ottawa River to avoid the marshy bayous and limestone cliffs prominent on the south side of the river (ASI and GII 1999). Pre-contact period Indigenous artifacts recovered near the Deschênes Rapids on the north side of the Ottawa River may reflect evidence of a former encampment associated with this portage route (GRAO 2012; Pilon 2010) and another site interpreted to represent seasonal occupation during the Archaic, Woodland and post-contact periods may also be associated with the former portage route utilized to bypass the Chaudière Falls along the northern shoreline of the Ottawa River (Arkeos 1993).

These waterways represent the historical highways facilitating the movement of both people and goods through the general vicinity of the Study Areas. Archaeological discoveries made in the area around the National Capital Region illustrate the existence of an extensive, continent-scale network of communication and trade with the discovery of a variety of raw materials used for stone tool production including Ramah Chert from the tip of Labrador, Mistassini Quartzite from the centre of Québec, Hudson's Bay Lowland Chert from the region bordering Hudson Bay, abundant Onondaga Chert obtained from the Onondaga Escarpment region south and west of Lake Ontario, as well as distinctive Mercer and Burlington Formation cherts from Ohio and Illinois respectively (Pilon and Boswell 2015).

The National Capital Region was also an important route for the movement of copper, either through direct trade between individual groups, or through trips to Lake Superior to exploit the native copper deposits located there. Copper artifacts similar to those documented on Allumette Island in the Ottawa River have been discovered in Wisconsin, Michigan, New York State and Manitoba (Kennedy 1970). This commodity, as well as other tradable goods, was presumably transported by canoes and other vessels along the navigable waterways including the Ottawa River.

Sites with Archaic Period components that demonstrate this expanding trade network include in the Rideau Lakes area (Watson 1982) and Morrison Island and Allumette Island in the Outaouais region of the Ottawa River (Chapdelaine et al. 2001; Clermont 1999). The Gatineau River also represents a significant waterway transportation route during this period, with a complex of sites identified near this junction at Lake Leamy (Laliberté 1997) and the site registered as BiFw-172, located on the south shore of the Gatineau River near the confluence with the Ottawa River. The copper artifacts recovered from the BiFw-172 site may reflect contemporary trade occurring along the Gatineau and Ottawa waterways and the strategic importance of this site. Seven charcoal samples collected from the BiFw-172 site were radiocarbon dated indicating an occupation

between 6320 (+/- 25) and 2660 (+/- 30) years BP. Although this occupation was likely seasonal, it suggests this site was visited and occupied over a period of almost 4,000 years, and likely longer (Archéotec 2015). Additional significant occupation sites producing Archaic Period artifacts along Ottawa Valley waterways include Jessup Falls near the intersection of the South Nation River and the Ottawa River and at Spencerville near the source of the South Nation River (Daechsel 1980).

The National Capital Region was also one of the primary corridors where early technological information and techniques were transmitted (Kennedy 1970). One of the more notable changes during the Early Archaic Period was the appearance of side and corner-notched projectile points.

During the Middle Archaic Period (8,000 BP - 4,000 BP) the trend towards more diverse toolkits continued, as the presence of net-sinkers and fish weirs suggest that fishing was becoming an important component of the subsistence strategy. It was also during this period that stone tools specifically designed for the preparation of wild plant foods were crafted and when “bannerstones” were first manufactured, which are carefully crafted ground stone devices that may have served as a counterbalance for *atlatls* or spear-throwers. An example of a bannerstone was recovered from Leamy Lake Park on the north side of the Ottawa River (Ian Badgley, pers. comm.).

The increased trade relationships may have also influenced the transition from nomadic lifestyles across large areas to more centralized occupation within smaller areas that provided the opportunity to facilitate interaction with those conducting trade, whether it was “down-the-line” or controlled by individuals interacting directly with different groups. This development of a less-nomadic lifestyle is also reflected in the adaptation of ground stone tools such as celts and axes, which suggest the beginning of a simple woodworking industry. The presence of these often large, and not easily portable, tools also imply there may have been some reduction in the degree of seasonal movement. Another noticeable attribute during the Middle Archaic Period was the increased reliance on local, often poor quality, chert resources for manufacturing projectile points. While groups occupied larger territories during the Paleo and Early Archaic Periods and were able to visit primary outcrops of high-quality chert at least once during their seasonal round, during the Middle Archaic Period groups travelled within comparatively smaller territories that did not always possess a source of high-quality raw materials. In these instances, lower quality resources that had been previously deposited by the glaciers in the local till and river gravels were utilized.

This reduction in territory size may also be representative of a gradual region-wide population growth that led to infilling of the landscape. This process resulted in a reorganization of Indigenous subsistence strategies, as more people had to be supported from the resources extracted from a smaller area.

Representative burial and interment practices during the Archaic Period can also reflect patterns in land use and the importance of specific landscape attributes to the contemporary populations. The oldest known human burial in the general region has been documented at Coteau-du-Lac, located east of the Study Areas within the St. Lawrence River region less than 15 kilometres from the mouth of the Ottawa River. The diagnostic artifacts recovered within this burial deposit were consistent with a Vergennes Focus of the Laurentian Archaic cultural attribution (Pilon and Young 2009).

Several burials dating to the Archaic Period have also been documented on the north side of the Ottawa River, just east of the Chaudière Falls. Many of these burials were observed during the mid-19th century, with upwards of twenty individuals documented along the northern shore of the Ottawa River between the Chaudière Falls and the Gatineau River. Many of these interments were associated with red ochre deposits, although there does not appear to be a consistent deposition positional pattern to those recorded (Pilon and Boswell 2015).

Archaic Period burial deposits have also been recorded within the vicinity of the Ottawa River west of the Study Areas. Edwin Sowter has provided an account of assisting with the exhumation of several skeletons on Aylmer Island (also known as Lighthouse Island) and describes the assortment of artifacts associated with these features (Sowter 1915; Sowter 1900). Upwards of 17 individuals (exact number cannot be confirmed) may have been found on Aylmer Island within the vicinity of the lighthouse, with many either found during the lighthouse construction in the early 19th century or discovered later eroding from the sand. The artifacts and grave context suggest this area was utilized as a burial ground during the Archaic Period and continued through to the post-contact period (Pilon and Young 2009).

A single Late Archaic Period burial deposit was identified on the south side of the Ottawa River near the shoreline just east of Arnprior. This single feature was associated with a red ochre deposit, although the context was significantly disturbed when it was originally discovered during construction activities in the area (MCM 2024), and it cannot be confirmed if additional burials are located in the vicinity.

Significant burial deposits have also been documented on both Morrison Island and Allumette Island, which are situated within the Ottawa River near Pembroke, west of the Study Areas. As many as 54 individuals are known from burial contexts dated to the Archaic Period on Allumette Island, although disturbances from 20th century ploughing activities have impacted the burial context and made it difficult to infer additional information (Pilon and Young 2009).

Although there are some discrepancies in the field notes and documentation regarding the number of Archaic Period burials on Morrison Island, conservative accounts indicate upwards of twenty individuals from twenty-two burial features (Pilon and Young 2009). Twelve of the burials yielded copper objects, which are considerably rare (Clermont and Chapdelaine 2009) and may reflect the importance of trade relationships and the strategic location of Morrison Island within the Ottawa River.

All these Archaic Period burial sites are situated along waterways, and all are located either near the shoreline or on islands within the Ottawa River. Another common attribute is that many are situated within strategic locations or within proximity to waterfalls or rapids, which may represent the importance of these natural features within the Archaic Period maritime cultural landscape.

Similar to the spatial distribution of known burial sites, the majority of Archaic Period occupation sites have been documented along navigable waterways. In addition to the inferred burial locations on the north side of the Ottawa River on the grounds of the Canadian Museum of History, several sites investigated within Leamy Lake Park have yielded evidence of Late Archaic Period occupation. Archaeological sites with Late Archaic Period components have also been recorded across the Ottawa River from Leamy Lake Park at Portage Bay and Rockcliffe Park (Cardieux 2005; Pilon and Boswell 2015).

Sites with Archaic Period resources documented along the Ottawa River include Allumette and Morrison Islands (Clermont and Chapdelaine 2009), the Sawdust Bay 2 site located near Arnprior (Daechsel 1981) and a site at Constance Bay which was observed to be “partially submerged” with material interpreted to be “possibly Late Archaic” (MCM 2024).

Woodland Period (2,900 BP to 400 BP)

The Early Woodland Period (2,900 - 2,150 BP) is distinguished from the Late Archaic Period primarily by the addition of ceramic technology. The first ceramic pots were thick walled, and friable and may have initially been utilized in the processing of nut oils by boiling crushed nut fragments in water and skimming off the oil (Spence et

al. 1990). These vessels were not easily portable, and their fragile nature suggests they may have required regular replacement. One example of this type of ceramic pot was located along the Ottawa River at registered site CaGi-1 in Gatineau, Québec (Watson 1999b) and several Vinette sherds have also been recovered from a site in Leamy Lake Park (Ian Badgley, pers. comm.). Over time, pottery became more refined and began to incorporate elaborate decorative patterns and distinctive styles representative of specific regional populations as well as specific date ranges (Laliberté 1999).

Middle Woodland Period inhabitants continued to rely on ceramic technology, with vessels dating to this period often decorated with impressed designs covering the entire exterior surface and upper portion of the vessel interior (Martin 2004; Crawford et al. 1997; Bursey 1995; Ferris and Spence 1995; Spence et al.1990; Williamson 1990; Ritchie 1971). These stylistic variations provide the ability to easily identify Middle Woodland Period vessel fragments from those manufactured during other periods.

The thin, well-made projectile points that were produced during the terminal part of the Archaic Period continued in use, although the Early Woodland Period variants were side-notched rather than corner-notched, giving them a slightly altered and distinctive appearance. Through the last 200 years of the Early Woodland Period, projectile points manufactured from high-quality raw materials from the American Midwest begin to appear in southern Ontario, potentially reflecting long-distance commodity trading (Spence et al. 1990).

The evolution of artifact manufacturing during the Woodland Period is partially reflective of settlement patterns and provides additional insight into the transition of technological developments likely disseminated from the interaction between different communities and trade partners.

While Middle Woodland Period inhabitants continued to rely on hunting and gathering to meet their subsistence requirements, an increased consumption of fish became an important component of the contemporary diet. Some Middle Woodland Period sites have produced thousands of bones from spring spawning species such as walleye and sucker. Food sources such as shellfish, tree nuts and a proliferation of plant greens and seeds began to be exploited and the seasonal variety and relative dependability of these foods encouraged population increases in many areas.

Towards the end of the Middle Woodland Period (approximately 1,500 years ago) agriculture was introduced and developed into a significant role in subsistence strategies. Beginning with the cultivation of corn, beans and tobacco, agricultural production eventually influenced the development of semi-permanent and permanent villages in southern Ontario. Many of these villages were surrounded by defensive palisades, suggesting increased hostilities between neighbouring groups, which was more common in regions with arable land such as southern Ontario. An example of a palisaded village dating to the Woodland Period has been documented south of the National Capital Region at the Beckstead site (Pendergast 1984).

The increased population and semi-nomadic lifestyle prevalent within the National Capital Region during the Woodland Period are reflected in the distribution of sites documented during archaeological investigations. Within the general Ottawa Valley, Woodland Period sites have been recorded within the South Nation Drainage Basin (Daechsel 1980), near Casselman (Clark 1905) and within the City of Ottawa near Bank Street (Golder 2014). Two sites (BhFx-46 and BhFx-66) located southwest of the Study Areas (MCM 2024) are situated inland and may represent strategic subsistence or resource extraction sites prevalent during this period.

The majority of known archaeological sites dating to the Woodland Period in the general vicinity of the Study Areas are situated along navigable waterways, with the Rideau and Ottawa Rivers representing the two primary transportation corridors. At least six sites with Woodland Period components have been documented along the

Rideau River between the Ottawa River and Manotick including BiFw-3 (Jamieson 1989), BiFw-101 (MCM 2024), BiFw-1 (MCM 2024), BhFw-6 (MCM 2024), BhFw-110 and BhFw-112 (Golder 2017).

The importance of the Ottawa River as a navigable transportation route, as well as an area of resource and subsistence extraction, through this period is reflected in the number of known archaeological sites documented on both sides of the river to the east and west of the Study Areas.

Woodland Period sites north of the Study Areas on the north side of the Ottawa River include those recorded by Edwin Sowter near the former Gilmour Mill site and another just east of the Alexandra Bridge (Sowter 1915), a small seasonally occupied site dating to the Middle to Late Woodland Period in Jacques Cartier Park (Laliberté 2002), another registered as BiFw-23 in Jacques Cartier Park (GRAO 2013) and a complex of sites investigated at Leamy Lake Park, with many indicating a continued, likely seasonal, presence spanning the Late Archaic Period to the Late Woodland Period (Pilon 2006; Pilon 2005; Laliberté 1997). Sites with a Woodland Period component have also been located across from Leamy Lake Park on the south side of the Ottawa River at Rockcliffe Park (Pilon and Boswell 2015). Two small undiagnostic ceramic sherds dating to the Woodland Period were recovered during excavations on Parliament Hill (CARF 1992), as well as a red-ochre stained ceramic sherd, a shell bead and a piece of red ochre recovered from a previously disturbed context in the vicinity of Centre Block (Heritage Quest 1996).

Several sites have been documented west of the Study Areas along the north shore of the Ottawa river including one near Aylmer (Sowter 1915), another just west of the Champlain Bridge registered as BiFw-39 (Laliberté 1998a; Laliberté 1998b), at Indian Point in the Pembroke area (Pilon 2005) and near the convergence of the Schvan and Ottawa Rivers (Kennedy 1964).

Sites investigated along the south side of the Ottawa River provide additional insight into the settlement distribution and land use during the Woodland Period. Evidence of Woodland Period occupation near the southern Ottawa River shoreline includes discoveries across from Aylmer at Raymond Point (Sowter 1915; Sowter 1901; Sowter 1900), near Shirleys Bay and Rocky Point (Jamieson 1989), Constance Bay (Watson 1972; Savage 1972), Marshall's and Sawdust Bays (Daechsel 1981) and on Morrison Island (Pilon and Boswell 2015; Pilon and Young 2009; Kennedy 1966).

Post-Contact Period (c. 1600-present)

By the end of the Late Woodland Period, distinct regional populations occupied specific areas of Ontario separated by vast stretches of largely unoccupied land, including the Huron along the north shore of Lake Ontario, the Algonquins along the Ottawa River and the St. Lawrence Iroquois along the St. Lawrence River. Facing persistent hostilities with Iroquoian populations based in what is now New York State, the Huron moved from the north shore of Lake Ontario to the Lake Simcoe and Georgian Bay region and the St. Lawrence Iroquois relocated sometime in the late 16th century with refugees possibly dispersing among the Algonquin populations in the Ottawa Valley region (Pendergast 1999).

The Algonquins, who occupied the lands north of the Huron, had historical hunting territories in the Ottawa Valley that may have extended as far east as the St. Maurice River in Quebec. They also claimed the lowlands south of the St. Lawrence River after the disappearance of the St. Lawrence Iroquois in the late 16th century (Trigger and Day 1994). At the time of initial contact, the French documented several Algonquin groups residing in the vicinity of the general vicinity of the Study Areas (Heidenreich and Wright 1987). These included the Kichesipirini of Morrison Island, the Matouweskarini along the Madawaska River to the west, the Onontchataronon in the

Gananoque River basin to the southwest, and the Weskarini, the largest of the three, situated in the Petite Nation River basin to the northeast.

Though it is often difficult to link archaeological sites to specific historical Indigenous groups, the Highland Lake site (BiGh-1), located west of Ottawa, may be an Algonquin site associated with the Matouweskarini (von Gernet 1992). Ottawa Valley Algonquin sites typically consist of shallow deposits characteristic of seasonal occupation by small family groups within family or band territorial limits and are typically located on the headwaters of major tributaries (Pendergast 1999). Exceptions include a number of summer camps identified at Morrison Island and Leamy Lake where larger groups came together (Pilon and Boswell 2015).

The Algonquins' location along the same river networks used for transportation by early French traders positioned them to monopolize the early fur trade with the two communities becoming close allies following Champlain's expedition in 1603. Competition for furs increased existing tensions between the Algonquin communities and their neighbours including the Haudenosaunee Nations, such as the Mohawk, residing to the south in what is now southern Ontario and upper New York State. The 17th century saw a period of conflict known as the Beaver Wars between the Algonquin and the Haudenosaunee that resulted in the significant disruption of life. Mohawk raids against Algonquin villages in the Upper Ottawa and St. Lawrence Valleys resulted in the abandonment or destruction of many Algonquin settlements in these areas (Trigger and Day 1994). Some Algonquins found refuge in French settlements such as Trois-Rivières, Quebec City, Sillery, and Montreal while others may have retreated to interior locations along the Ottawa River's tributaries (Holmes 1993). At the end of the 17th century, the Haudenosaunee were driven out of much of southern Ontario by the Mississaugas though they continued to occupy parts of eastern Ontario on a seasonal basis.

The French brokered a peace treaty in 1701 at Montreal with the Algonquin and Haudenosaunee agreeing to peacefully share the lands around the Great Lakes (INAC 2011). In exchange for peace, the Algonquin gave the Haudenosaunee secure access to furs which the Haudenosaunee used to secure their alliance with the British. Between 1712 and 1716, Algonquins were noted as living along the Gatineau River with the Haudenosaunee occupation located south of the St. Lawrence River (Holmes 1993). By 1740, Algonquin communities were present in the vicinity of Trois-Rivières, Riviere Lievre and Mohawk community members were residing near Lake of Two Mountains (Holmes 1993).

Following the Seven Years' War (1756-1763), the defeat of the French, Algonquin, and their allies by the British and the Haudenosaunee resulted in the further loss of Algonquin hunting territories in southern Quebec and eastern Ontario as the British seized France's colonies. The extension of Quebec's boundaries in 1774 through the *Quebec Act* and the use of the Ottawa River as the boundary of Upper and Lower Canada following the 1791 *Constitution Act* separated the Algonquins between two government administrations (AOP n.d.).

Britain's colonial policy differed from the French in that the Crown was much more interested in securing land surrenders from the Indigenous populations for settlement by Europeans. The Royal Proclamation of 1763 issued by King George III enabled the Crown to monopolize the purchase of Indigenous lands west of Quebec. Although the Proclamation recognized Indigenous rights to their land and hunting grounds, it also provided a way through which these rights could be taken away (Surtees 1994). Land cession agreements between Indigenous groups and the Crown increased following the War of 1812 as a new wave of settlers arrived in Upper Canada primarily from Britain. The Crown implemented annuity systems in the purchase of lands from Indigenous peoples where the interest payments of settlers on the land would cover the cost of the annuity rather than pay a one-time lump sum. By the 1850s, Indigenous Nations and communities had become cautious of these agreements and began to demand the retention of reserved land and preservation of hunting and fishing rights (Surtees 1994).

Between 1783 and 1784, Captain William Redford Crawford negotiated on behalf of the Crown with the Mississauga chiefs living in the Bay of Quinte region. In the so-called “Crawford Purchase,” Crawford negotiated for the lands located east of the Bay of Quinte to the Trent River. This agreement was intended to provide land to the United Empire Loyalists and Indigenous allies following the American Revolution (Ontario 2020). The lands covered by the Crawford Purchase now include the communities of Kingston and Brockville. The Crown again negotiated with the Mississauga of the Bay of Quinte and Kingston areas during the Rideau Purchase (1819/1822) which included a portion of Algonquin territory in the Ottawa Valley (Surtees 1994). The Algonquin and Nipissing, who were left out of the talks, protested the purchase, but were largely ignored (Holmes 1993).

The *Indian Act* of 1876 framed the relationship between the Canadian government and Canada’s Indigenous peoples as a paternalistic one where the government served as their guardian until their cultures were able to integrate into Canadian society (INAC 2011). The Department of Indian Affairs was granted the authority to make policy decisions such as determine who was classified as Indigenous, manage their lands, resources and money, and promote “civilization”. The consequence was the further erosion of Indigenous rights to autonomy and self-governance. The implementation of residential schools and adoption of Algonquin children by non-Indigenous families in the mid-20th century reflected further discrimination and the disregard of rights (AOP ND).

2.2 Post-Contact Regional History along the Ottawa River

Étienne Brûlé is reported to have been the first European to pass through what is now the Ottawa area when he portaged at the Rideau Falls in 1610, followed by Nicholas de Vignau in 1611. In 1613, Samuel de Champlain paddled from Montreal to Morrison Island along the Ottawa River (Croft 2006), which was commonly known as the Grand River (*Kichi Sibi* in Algonquin) or the River of the Algoumequin (Pilon 2005).

Champlain’s party made the trip up the Ottawa River in bark canoes, which were likely similar to those used by the Indigenous Peoples on the same river before him and the European traders who followed. Due to the falls at Asticou (Chaudière), Champlain’s party would have been forced to portage to the upper part of the Ottawa River and likely followed the same route utilized by the Indigenous communities along the north side of the river. Champlain’s party continued until they reached Morrison Island in the Ottawa River, near present-day Pembroke, where he interacted with Chief Tessoüat, and following several conversations decided to return towards Montreal via the Ottawa River (Fischer 2008). Representing one of the first Europeans to travel the Ottawa River, Champlain is credited with creating the first map of the area, as well as naming many topographic features within the Ottawa River landscape (Fletcher 2004).

The Ottawa River continued to serve as a major transportation corridor following Champlain’s voyage, with the waterway becoming a principal route for succeeding explorers, missionaries and traders travelling from the St. Lawrence River to the interior and towards Georgian Bay.

Following the dispersal of the St. Lawrence Iroquois in the late 16th century, the Algonquin historical hunting territory may have extended as far east as the St. Maurice River in Quebec and into the lowlands south of the St. Lawrence River. Following European contact, the French established a relationship with the Algonquin community members along the Ottawa River that provided an opportunity to monopolize the early fur trade as the two groups developed close relations throughout the 17th century (Trigger and Day 1994).

A French seigneury was established at L’Orignal and became one of the three oldest villages on the Ottawa River and the only seigneury granted in what later became Upper Canada (McCann 2005). This early French settlement may correlate to the one suggested to have been established in an area known as Butternut Grove where a French count, his wife, and three or four canoe men including one named Perault, settled in an area with the

intention to promote trade with the local Indigenous population (Serre 2005). The seigneury and associated property are reported to have been sold to François Provost in 1674 and later passed to the Soulange family, with Joseph de Longueuil gaining ownership in 1791. The travels of Alexander Henry along the Ottawa River soon after the British victory in 1763 suggests the small French trading post formerly established near L'Orignal or Rockland appeared to have been recently abandoned (Bond 1968), with the occupants likely dispersing following the loss of French influence in the area. It was later sold to American Nathaniel Treadwell in 1796, who divided it among his family and friends (McCann 2005).

Another French trading post was established at the convergence of the Coulonge and Ottawa Rivers around 1670 by the Ailleboust family. This settlement, located west of the Study Areas, would later become known as the Fort Coulonge trading post (Lorrain 1978).The economic wealth stimulated by the French fur trade in the early 17th century promoted the rapid expansion northward, with the Ottawa River providing the opportunity to transport goods to the western trading posts on the lakes by canoe, which could not be accomplished by the larger sailing vessels operating on Lake Ontario (Adney and Chapelle 2014).

James Fox represents one of early British subjects who settled along the Ottawa River in the 18th century. Fox was a Revolutionary soldier originally from Ireland who arrived in the area known as Foxes Point, near present-day Clarence Point and Thurso, soon after marrying his wife in Quebec. After initially establishing a relationship with the local Indigenous community members through the fur trade, Fox later abandoned his commercial enterprise and lived a more sedentary lifestyle, with both he and his wife staying in the area until their deaths and are believed to be buried at Foxes Point (Serre 2005).

Another trading post was established on the Ottawa River downstream from Chats Falls, near modern-day Fitzroy Harbour, by Joseph Mondion around 1786 (Reid 1990). Mondion sold the post around 1800 to the North-West Company and a list of materials associated with the sale includes a timber house on a stone foundation, a barn, and stables, as well as an "Indian cemetery" (Lorrain 1978).

In the early 19th century, the Ottawa River represented the primary transportation corridor for vessels transporting people and goods to the rural area of Bytown (Ottawa) and Wrightstown (Hull), and also provided the ability to ship products to Montreal and Quebec City where they could be sold to American and European interests.

Settlement in the National Capital Region was not actively encouraged by the colonial government until the late 18th century. Within two years following the 1791 division of the Province of Quebec into Upper and Lower Canada, John Stegmann, the Deputy Surveyor for the Province of Upper Canada, surveyed four townships (Nepean, North Gower, Osgoode and Gloucester) straddling the Rideau River near its junction with the Ottawa River. This survey was initiated under the ascendancy instituted by John Graves Simcoe, Lieutenant Governor of the Province of Upper Canada, and associated with his proclamation aimed at attracting new settlers to the region.

Philemon Wright, a native of Massachusetts, began making exploratory trips up the Ottawa River in 1796 looking for a suitable location for a settlement. In 1800, he led a party of thirty settlers, including their supplies, horses, and oxen, up the frozen Ottawa River ice in covered sleighs. Wright originally established his settlement near the Chaudière Falls and later moved to the present site of Hull. The party led by Wright is considered to be the earliest settlement of people of European descent in the National Capital Region (Bond 1984; Guillet 1969).

By 1815 there were only scattered pockets of settlement along the Ottawa River, or on its major tributary, the Rideau (Reid 1990). Many of these early settlers were required to travel by canoe to Montreal for supplies, which were required to maintain settlement within the contemporary rural landscape (Guillet 1969). More settlers slowly

started to immigrate to the Ottawa area following the “Rideau Purchase” in 1819 (Surtees 1994), although the lack of roads significantly hindered settlement within the region. By July 1819, the settlers along the Ottawa River were given a regular postal service with the mail leaving Montreal every Tuesday morning and travelling to Hull along the Ottawa River and Richmond by way of St. Eustache, St. Andrews, and Grenville (Guillet 1969).

Permanent settlement along the south shore of the Ottawa River near the Chaudière Falls was slow through the early nineteenth century. Firth’s tavern was established near the Chaudière Falls in 1819, with Captain John LeBreton and Levius Sherwood purchasing the land along the south side of the Ottawa River in the vicinity of the Chaudière Falls through an auction held in Brockville in December 1820. LeBreton and Sherwood partitioned their purchase in July 1822 and laid out a village site on the Flats, which they called the Town of Sherwood (Elliott 1991), although settlement of the village was impeded by the dispute over title to the land and political opposition of Dalhousie and Colonel By (Elliott 1991).

While the Ottawa River represented a primary transportation route for people and goods travelling onboard vessels in the 19th century, it also served as a major passageway to facilitate the lucrative timber industry that developed in the National Capital Region. The National Capital Region contained a vast wealth of white pine that was sought by merchants across Canada, Britain and the United States due to its strong, yet flexible, composition. The white pine found within the Ottawa Valley was particularly large, with some measuring upwards of 180 feet in height and 16 feet diameter. Shipbuilders, particularly those of the British Royal Navy, relied on the white pine for use as masts and ship framing as it was easy to form and unlikely to warp (Lee 2006).

Philemon Wright is considered the first to realize the potential of timber resources available within the National Capital Region. Following disappointing agricultural production from the initial few annual harvests, and the necessity of developing economic stability for the fledging community, Wright shifted focus to capitalizing on the vast amount of timber accessible around the Ottawa River.

In 1806, Wright examined the rapids along the river in preparation for transporting his first shipment to market in Quebec City (Guillet 1969) and in June 1807 loaded a raft of 700 logs with over 9,000 boards and 6,000 oak staves (Bond 1984). The journey along the Ottawa River from Gatineau to Quebec lasted thirty-five days (Guillet 1969) and marked the beginning of the lucrative Ottawa Valley lumber industry that would continue for another hundred years (Walker and Walker 1975).

The economic potential of the timber trade attracted several new settlers to the National Capital Region such as Bradish Billings, who initially worked with Wright before developing his own timber commodities in the Bytown (Ottawa) area. In 1823, over 300 rafts of timber were sent from Bytown/Hull to the Quebec markets and by 1835 lumbermen had penetrated almost 400 miles up the Ottawa River to Lake Timiskaming to capitalize on the timber resources further north (Guillet 1969). An indication of the growing timber industry in the National Capital Region is provided by the number of timber rafts transported down the Ottawa River, with 8,310 in 1840 and 14,131 by 1846. Each crib would hold at least 200 large timbers, with an average almost 2 million timbers being transported along the Ottawa River each year (Legget 1988). As timber commodities became depleted and access to inland resources were difficult, the timber industry began to decline in the early 20th century. Although there was still a demand for wood, metal provided an alternative construction material. By 1904, only about 16 percent of the total exports were associated with timber (Guillet 1969), which represented a significant decline compared to the 19th century in the Ottawa/Hull area.

2.3 Gloucester Township

Gloucester Township was established in 1772 as Township B. It was originally part of Russell County but became part of Carleton County in 1838 and was incorporated as Gloucester Township in 1850. Gloucester Township is bounded by the Rideau River to the west, the Ottawa River to the north, Osgoode on the south and Russell County on the east.

Land registry records indicate that patents for some of the lots in Gloucester Township were issued as early as 1802 but most of these were granted to United Empire Loyalists or their family members who never actually settled on the lots. The first documented permanent settler in the township was Braddish Billings who settled on Lot 17 in the Gore Junction in 1812. The earliest available assessment roll for Gloucester Township dates to 1823 and notes three families on lots immediately to the south of the Billings property: James Doxey on Lot 19, Junction Gore, Duncan McKenzie on Lot 20, Junction Gore, and Captain Andrew Wilson on Lot 2, Concession I, Rideau Front (Kemp 1991).

Although most of the early settlers travelled by water as much as possible, roads soon became a necessity both to reach inland lots and to travel economically between developing settlements. Perhaps the earliest road in the region ran through Nepean Township from the Ottawa River to the Rideau River shore opposite Captain Andrew Wilson's property in Gloucester Township. This may have been a trail established before the arrival or Europeans or possibly bushed out by Ira Honeywell in 1814 to bring supplies from Prescott to his new homestead in Nepean Township. As early as 1815, a rough road had been cut from the Hull settlement on the north shore of the Ottawa River across the Chaudière and then southeast through Nepean Township to cross into Gloucester Township near Dow's swamp. This road then followed the east bank of the Rideau River to Black Rapids where it crossed back into Nepean Township and continued south to Merrickville (Elliott 1991, p. 19). River Road follows part of this early alignment. Another early forced road was built along a ridge from the Rideau River crossing on Captain Wilson's property through Bowesville and southeast to Johnston's Corners. Although the exact date of construction for this road is unknown, John Cunningham appears to have been operating an inn along the road by 1825 and the Bytown & Prescott Stage was also using the road in the 1820s.

The construction of the Rideau Canal (1826-1832) accelerated settlement in the region with additional roads constructed to connect outlying communities. In 1828, Braddish Billings initiated the construction of a bridge across the Rideau River to facilitate travel along the old 1815 road from the Chaudière which, up until then, had required a ferry crossing. Subsequently, the Metcalfe Road (Bank Street) was built from this bridge through the Rideau Front lots of Gloucester Township to the village of Metcalfe and on to the St. Lawrence River. The Rideau River Road (River Road/Riverside Drive) was also extended north along the east bank of the Rideau River to the Ottawa River. Other roads developed in a rough grid pattern along the lot and concession lines as settlement expanded through the township during the 19th century.

The transportation network of the region, initially focussed on the waterways (the Rideau Canal) and the early road system, changed again with the construction of the Bytown and Prescott Railway, which began operation in 1854; in 1867 it was renamed the St. Lawrence and Ottawa Railway (Ontario Railway Map Collection, n.d.). It passes within 100 m of the south Study Area. This line was later twinned with the Canadian National Railway (CNR) line in 1913, also within 100 m of the south Study Area.

2.4 Study Area History

2.4.1 Review of Historical Records

The Study Areas fall within the west portion of Lot 16, Gore, former geographic Township of Gloucester, Carleton County. Though largely illegible, the Abstract Index Books digitized by Service Ontario's ONLand database (Land Registry Office I.D. # 04, *Ottawa-Carleton, Gloucester, Book 6)*, of Gloucester Township appear to indicate that the Crown sold 500 acres of Lot 15 and 16 to a Thomas Fraser in 1802. By May 5, 1852, Fraser sold all 100 acres of Lot 16 to Braddish Billings, mentioned above. The following land transactions show that Billings severed portions of the lot to a C. Billings on June 27, 1852, and February 21, 1853.

The 1863 *Historical County Map of Carleton* indicates ownership of the Study Areas by Sarah and C. Billings (Figure 5). Historical transportation routes (Riverside Drive, Smyth Road, Bytown and Prescott Railway) pass within 100 m of the Study Areas and a structure on W. and J. Smith's property is within 300 m of the north Study Area. Within 300 m of the west portion of the south Study Area is what is presumed to be the Sarah and C. Billings homestead, while across the rail line to the southeast of the south Study Area is a structure annotated with "TH".

Increased development of the general area is shown in Belden's 1879 *Illustrated Atlas of Carleton County* (Figure 5). By then, Lot 16 was sectioned with ownership of the north half bestowed to an E. Billings. Within 300 m of the north Study Area are two structures on the John J. Smith property, and a structure is within 300 m of the north boundary of the south Study Area on the Charles Billings property. The Bytown and Prescott Railway (by this date the St. Lawrence and Ottawa Railway) is depicted as further east of the Study Area, but this is a mapping error given the known location of the line adjacent to the south Study Area.

2.4.2 Recent Land Use History

To chart recent land use in the study area, 20th century aerial imagery and topographic maps were reviewed. A summary of the aerial photo and topographic map analysis is provided in Table 1 and a representative selection of aerial images and topographic maps reproduced Figure 6 and Figure 7.

Table 1: Review of 20th Century Aerial Photographs and Topographic Maps

Year & Type	Description
1908 topographic map	▪ North Study Area depicted as forested. ▪ Two wood structures are located north and south of the north Study Area ▪ A creek runs through the west portion of the south Study Area ▪ A structure and a bridge are adjacent to the west boundary of the south Study Area. ▪ Structures and the St. Lawrence and Ottawa Railway line are south and east of the south Study Area, respectively
1922 topographic map	▪ Little change from 1908 topographic map except that the St. Lawrence and Ottawa Railway line and CNR line are now twinned east of the south Study Area
1933 aerial photograph	▪ North extent of the north Study Area has been cleared ▪ Structures, a farmyard, cultivated fields and rail right-of-way can be seen in the south Study Area ▪ Creek near the south Study Area appears to have been channelled
1940 topographic map	▪ North Study Area appears to have been cleared of vegetation ▪ Structures depicted north and west of the south Study Area, and one structure drawn within the south portion of the south Study Area ▪ Creek near the south Study Area no longer depicted

Year & Type	Description
1965 aerial photograph	▪ A northeast-southwest running roadway has been cut through the north Study Area ▪ Structures seen near and within the south Study Area in the 1933 aerial photograph have been demolished and evidence of ground disturbance in the southwest portion of the south Study Area
1971 topographic map	▪ Cloverleaf access to Smyth Road constructed north of the north Study Area. ▪ Turning circle for TOH extends into south portion of the north Study Area. This feature can also be seen in a 1976 aerial photograph with associated east-west running access route cutting across the southern half of the north Study Area. ▪ One structure depicted outside the west boundary of the south Study Area ▪ East-west running access road from Riverside Drive extends into south Study Area
1991 Aerial Photograph	▪ Retaining wall and footpath (and associated ground disturbance), and artificial plantings in north Study Area by this date ▪ West addition of TOH and associated paved area extends into southeast portion of the north study area ▪ In south Study Area, access road from Riverside Drive curves south to cross northwest-southeast running Transitway line, then under construction ▪ Evidence for ground disturbance in south Study Area in southeast portion and where construction underway for Transitway line

As shown on Figure 8, several public and private utilities were installed through the Study Areas including sanitary and storm water. It is significant to note that a public storm water drainage conduit was installed on a roughly east to west axis through the centre of the south Study Area.

2.4.3 Commemorative Plaques and Heritage Properties

Section 1.3.1 of the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011) notes that features or characteristics of archaeological potential can be identified through the presence of: commemorative markers, monuments, or heritage parks; properties listed on a municipal register or designated under the Ontario Heritage Act; federal, provincial, or municipal historic landmarks or sites; and properties that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations.

A review of the City of Ottawa's Heritage Register indicates that ten listed (not designated) heritage properties and one designated heritage property are within 300 m of the Study Areas. None of the heritage properties are within the Study Areas.

3 ARCHAEOLOGICAL CONTEXT

3.1 Current Conditions

The north and south Study Areas are located adjacent to TOH at 1967 Riverside Drive. In total, the Study Areas measure approximately 1.74 hectares (ha). The north Study Area (1.1 ha) is bounded by Riverside Drive and its connection to Smyth Road on the northwest, and Transitway routes on the north, east and south. The south Study Area (0.64 ha) is immediately adjacent to TOH's south parking lot and bordered on the southwest by a Transitway line. It is bounded on the east by the single-line Beachburg Rail Corridor. Within the north Study Area is lawn, artificial plantings, and a footpath while in the south Study Area is the curved east-west running TOH access road, the Transitway line, a footpath and lawns.

3.2 Environment

The study area is located within the Ottawa Valley Clay Plains physiographic region. The physiographic region covers the area from Pembroke to Hawkesbury and is interrupted by ridges of sand and rock (Chapman and Putnam 1984, pp. 205-208). Shells of ancient saltwater marine creatures have been identified within the region confirming this low-lying area was submerged under the Champlain Sea during and immediately after the recession of the glaciers.

The soil mapped in the Study Areas is Rideau Clay Sand-Spot Phase, which is a heavy clay with underlying patches of sand and moderately drained stone-free soil, and land lying along stream courses assigned "Bottom Land" (Hills & Richards 1944, pp. 54-55). In profile, Rideau Clay Sand-Spot Phase is similar to Rideau Clay, which has an A horizon of grey brown to light yellow brown clay up to 28 cm thick that overlies a B horizon of moderate yellow-brown clay (Hills & Richards 1944, p. 53).

The Study Areas' surficial geology illustrated in Figure 9 indicates a combination of fine sand, silt, organics and muck and fine textured glaciomarine deposits consisting of silt and clay with minor sand and gravel (Figure 9; Ontario Geological Survey 2010). The topography within the north Study Area is generally flat while the southwest portion of the south Study Area has a steep artificial slope that descends southward to the bus transitway.

The Study Areas are also within the Upper St. Lawrence sub-region of the Great Lakes-St. Lawrence Forest Region. Trees found in this region are a mix of coniferous and deciduous tree species and include sugar maple, beech, yellow birch, red maple, hemlock, white, red and jack pine. There are also smaller amounts of white spruce, balsam fir, aspen, white birch, red oak, and basswood. Rather common are hardwood and mixed wood swamps in which cedars, tamaracks, black spruce, black ash, red maple, and elm thrive. Much less common are butternut, burr oak, white ash and red cherry (Rowe 1977, p.94). Most of the Study Areas were cleared of original forest cover during the 19th century through both lumbering and agricultural activities.

The closest extant water source is the Rideau River, located approximately 150 m west of the north Study Area and 260 m west of the south Study Area. A creek is illustrated on the 1908 and 1922 topographic mapping that ran from the west limit of the south Study Area to the Rideau River. The north Study Area is bisected by a ridgeline at 60.9 masl that overlooks the Rideau River (Figure 4).

3.3 Previous Archaeological Assessments

A search of the *Ontario Public Register of Archaeological Reports* and a review of previous archaeological reports indicates that one previous archaeological assessment has been conducted within, and within 50 m, of the south Study Area (Table 2). Figure 10 depicts the location of the previous assessment.

Table 2: Previous Archaeological Assessment within, and within 50 m, of the South Study Area

Year	Title	Author	PIF
2001	*A Stage 1&2 Archaeological Assessment of the Riverside Watermain Interconnect 914 Corridor in the City of Ottawa*	Ken Swayze	CIF 2001-046-08

In 2001, Ken Swayze conducted Stage 1 and 2 AA in advance of an approximately 3 km long water main project within Lots 11-18 Concession Junction Gore. Three sections of the 2001 assessment area (Riverside Hospital Transect and two divisions of the Riverside Hospital – Irregular Parcel) were within and within 50 m of the south Study Area (Figure 10). After determining through Stage 1 background study that the three sections had archaeological potential, Swayze (2001:13-15) conducted Stage 2 survey by digging 40-cm square test pits at 10 m intervals. The survey encountered evidence of disturbance in all three sections, including in the south-west division of the Riverside Hospital – Irregular Parcel where post-contact artifacts were recovered from secondary deposits (Swayze 2001:17-18). Despite their context, Swayze registered the finds from the south-west division of the Riverside Hospital – Irregular Parcel as archaeological site BiFw-50, though stated that BiFw-50 "is not a significant archaeological site because it lacks contextual integrity and has poor historical association" (Swayze 2001:18). Although Swayze's assessment was conducted prior to the 2011 *Standards and Guidelines for Consultant Archaeologists* (MCM 2011), the Stage 2 test pit survey conducted at 10 m intervals to confirm disturbance in the Riverside Hospital Transect and two divisions of the Riverside Hospital – Irregular Parcel follows the same method outlined in Section 2.1.8 Standard 2 of the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011). At the time of writing the MCM has not confirmed this report complies with the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011).

3.4 Registered Archaeological Sites

A search of the Ontario Archaeological Sites Database provided by the MCM on 17 October 2024 identified seven registered archaeological sites within 1 km of the Study Areas (MCM 2024) (Table 2). However, since two of the sites have been assigned new numbers (BiFw-49/ BiFw-75 and BiFw-50/ BiFw-74), only five archaeological site locations are within 1 km of the Study Areas. The two combined sites are located within 300 m of the Study Area (presented in bold in Table 3).

Table 3: Registered Archaeological Sites within 1 km of the Study Area

Borden	Site Name	Time Period & Cultural Affinity	Site Type	Distance to Study Areas	Current Development Status
BiFw-49/ BiFw-75	Billinga Midden/ Billings Midden/ Riverside Hospital	Post-contact Euro-Canadian	Midden, pit, ash pit, refuse; kitchen; house	<300 m	Further Cultural Heritage Value or Interest (CHVI)
BiFw-50/ BiFw-74	Riverside/ Riverside Hospital/	Post-contact Euro-Canadian	Unknown/ Homestead	<300 m	No Further CHVI
BiFw-10	--	Pre-contact Indigenous	Unknown; Findspot	>300 m, <1 km	Further CHVI
BiFw-6	Billings Site	Post-contact Euro-Canadian	Cemetery	>300 m, <1 km	N/A
BiFw-103	Lansdowne Park	Post-contact Euro-Canadian	House	>300 m, <1 km	Further CHVI

- **BiFw-49/BiFw-75** is a midden site identified south of the south Study Area during Swayze's 2001 assessment for the Watermain Interconnect 914 project. The midden is a buried deposit of household refuse (green and blue transfer ware, bottle glass, crockery sherds, a shell button) in a matrix of ash and clinker. Swayze concluded the site may be associated with the first Billings family homestead, dating to before 1829, or with a kitchen from the later Billings manor. The Billings Midden is considered to have further CHVI "because it has depositional integrity, good faunal preservation, and good artifact density and representativeness" (Swayze 2001:18).
- **BiFw-50/BiFw-74** was found approximately 50 m west of the south Study Area during Swayze's 2001 test pit survey of the southwest division of the Riverside Hospital – Irregular Parcel. It was identified from a scatter of 19th and 20th-century post-contact material, including fragments of glass, ceramics, and metal found within a secondary deposit ("graded, landscaped"). The site is considered to have no further CHVI because of its secondary context and since "it lacks contextual integrity and has poor historical association" (Swayze 2001:18).

3.5 City of Ottawa Archaeological Management Plan

The City of Ottawa Archaeological Management Plan, developed by Archaeological Services Inc. in 1999, indicates the north Study Area and west portion of the south Study Area to have archaeological potential (Figure 11).

3.6 Archaeological Potential

Archaeological potential is defined in the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011:163) as the likelihood a study area contains archaeological resources. In land use planning, identifying archaeological potential is used to determine where sites may be found within a study area, and indicate whether time and resources will need to be allocated for archaeological survey and mitigation.

The features and characteristics indicating archaeological potential are listed in Section 1.3.1 of the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011):

- Previously identified archaeological sites
- Water sources:
  - Primary water sources (e.g., lakes, rivers, streams, creeks)
  - Secondary water sources (e.g., intermittent streams and creeks, springs, marshes, swamps)
  - Features indicating past water sources (e.g., glacial lake shorelines indicated by the presence of raised gravel, sand, or beach ridges; relic river or stream channels indicated by clear dip or swale in the topography; shorelines of drained lakes or marshes; and cobble beaches)
  - Accessible or inaccessible shoreline (e.g., high bluffs, swamps or marsh fields by the edge of a lake; sandbars stretching into marsh)
- Elevated topography (e.g., eskers, drumlins, large knolls, 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 (e.g., migratory routes, spawning areas, prairie)
  - Scarce raw minerals (e.g., quartz, copper, ochre or outcrops of chert).
  - Early Euro-Canadian industry (e.g., fur trade, mining, prospecting, logging).
- Areas of Euro-Canadian settlement. These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and cemeteries. There may be commemorative markers of their history, such as local provincial, or federal monuments or heritage parks.
- Early historical transportation routes (e.g., trails, passes, roads, railways, portages)
- property listed on a municipal register or designated under the *Ontario Heritage Act* or that is a federal, provincial or municipal historic landmark or
- property that local histories, or informants have identified with possible archaeological sites, historical events, activities or occupations.

The *Standards and Guidelines for Consultant Archaeologists* (MCM 2011) also outline indicators for low or no archaeological potential. These can include areas that are permanently wet or have exposed bedrock or steep slopes, as well as where an area that has undergone extensive and deep land alterations that may have severely damaged the integrity of any archaeological resources (Section 1.3.2, MCM 2011:18, 28). These latter areas have often been "disturbed" through:

- quarrying;
- major landscaping involving grading below topsoil;
- building footprints; and
- sewage and infrastructure development.

However, activities such as agricultural cultivation, gardening, minor grading, and landscaping do not necessarily affect archaeological potential.

Table 4 summarizes the potential for archaeological resources in the study area based on the results of the background study and the criteria listed above.

Table 4: Summary of Archaeological Potential for the Study Area

Features of Archaeological Potential	Yes/No	Description
1. Are archaeological sites located within, or within 300 m, of the study area?	Yes	▪ Two archaeological sites were registered within 300 m of the south Study Area (BiFw-49/ BiFw-75 and BiFw-50/ BiFw-74).
2. Is there an extant or formerly mapped primary or secondary water source within the study area or within 300 m of the study area?	Yes	▪ The Rideau River is within 300 m of the Study Areas and a creek is within 300 m of the south Study Area.
3. Are there areas of elevated natural topography within the study area?	Yes	▪ There is an area of elevated natural topography in the north Study Area (ridgeline overlooking the Rideau River).
4. Are there pockets of well drained sandy soil in the study area?	Yes	▪ The Rideau Clay Sand-Spot Phase mapped in the Study Area may have pockets of well-drained sandy soil.
5. Are there distinctive land formations in the study area that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases?	No	▪ The Study Areas are not known to be associated with any distinctive land formation that might have been a special or spiritual place.
6. Are there natural **resource areas in the study area** (e.g., food or medicinal plants, scarce raw materials, or post-contact industries)**?**	No	▪ There are no known natural resource areas in the study area.
7. Are there areas of early post-contact settlement in the study area or within 300 m of the study area?	Yes	▪ The Study Areas are within 300 m of early post-contact settlement (numerous homesteads depicted in 1863 and 1879 historical atlases).
8. Are there early historic transportation routes in the study area or within 100 m of the study area?	Yes	▪ Early historic transportation routes (Riverside Drive, Smyth Road, Ottawa-St. Lawrence Railway) are within 100 m of the Study Areas.
9. Is there municipally, provincially, or federally listed or designated heritage property or landmarks in the study area?	No	▪ No municipally, provincially, or federally listed or designated heritage property or landmarks are within the Study Areas.

Features of Archaeological Potential	Yes/No	Description
10. Is the study area identified in an Archaeological Management Plan as having general archaeological potential?	Yes	▪ The City's Archaeological Management Plan identifies the north Study Area and west portion of the south Study Area to have archaeological potential.
11. Are there areas within the study area that are permanently wet, have exposed bedrock, or steep slopes?	No	▪ No areas within the study area are permanently wet, have exposed bedrock, or naturally steep slopes.
12. Are there areas in the study area that have undergone extensive and deep land alterations that may have severely damaged the integrity of any archaeological resources?	Yes	▪ Review of post-1960 aerial imagery and topographic mapping indicates that the portions of the Study Areas have undergone extensive and deep land alterations that would have severely damaged the integrity of any archaeological resources.
13. Has the study area, or portions of the study area, been previously assessed?	No	▪ Although portions of the south Study Area were previously assessed (Swayze 2001), this assessment predates the 2011 *Standards and Guidelines for Consultant Archaeologists* (MCM 2011).
14. Has previous assessment of the study area fully mitigated archaeological resources within the study area?	N/A	▪ Not applicable.
15. Does the study area require additional archaeological assessment?		▪ Portions of the north Study Area were determined to retain archaeological potential and require Stage 2 AA (see Section 4).

4 FIELD METHODS

4.1 Stage 1 Site Inspection

Per Sections 1.2 and 1.4.2 of the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011), a Stage 1 property inspection was conducted under PIF# P327-0084-2024 issued to WSP Principal Archaeologist Henry Cary. The Stage 1 property inspection was carried out to gain first-hand knowledge of the Study Areas' geography, topography, and current conditions, and to evaluate and map archaeological potential. The objectives of the inspection were to confirm previously identified features of archaeological potential or areas of disturbance, identify and document additional features of archaeological potential or areas of disturbance, and identify and document features, structures, or built features that will affect future assessment strategies.

WSP Field Director and Project Archaeologist Joel Bush (P1192) inspected the entire Study Areas and their periphery on October 18, 2024. Weather conditions during the fieldwork were sunny and clear with some clouds and temperatures ranging from 12-15˚ Celsius. These conditions permitted good visibility of land features per Section 1.2 Standard 2 of the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011). Access to the Study Area was granted by TOH with no limitations.

Field observations were recorded using the ESRI ArcGIS Field Maps program on a Samsung Tab Active3 tablet connected via Bluetooth to a Garmin GLO2 device, achieving an average GPS accuracy of 3 m. The Study Areas were also extensively photo-documented (Figure 12; Images 1-28).

At the periphery of the north Study Area are areas of extensive and deep disturbance indicated on the surface by utilities and light stands (Images 2 and 5), and footpaths, roads and curbs (Images 3, 5, 9, 11, 12). Other portions of the north Study Area, covering approximately 0.45 ha, were considered to have archaeological potential and are covered in lawns with low lying shrubs and some foliage (Images 1, 4, 6, 7, 8, and 10).

In the south Study Area, evidence of extensive and deep disturbance is evident throughout, such as through roadways, curbs, landscaping, and recent vegetation growth (Images 12-18, 23, 25), steep artificial slope cuts (Images 19-22, 24 and 28), and utilities (Images 26-27).

4.2 Stage 2 Test Pit Survey

Based on the results of the Stage 1 AA background study and property inspection, WSP determined that Stage 2 AA was required for approximately 0.45 ha of the north Study Area. Stage 2 AA for the north Study Area was conducted under PIF# P327-0084-2024 issued to WSP Principal Archaeologist Henry Cary and, per Section 2.1 of the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011), was to systematically document and inventory all archaeological resources and identify areas that may be exempt from Stage 2 AA survey.

WSP Project Archaeologist Joel Bush (P1192) directed all fieldwork in the north Study Area on November 29, 2024. The weather and lighting conditions (0-5°Celsius and mostly sunny) permitted good visibility of land features, per Section 2.1 Standard 3 of the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011). Access to the Study Area was granted by TOH with no limitations.

The Stage 2 fieldwork complied with the general and specific standards for property survey and test pit survey outlined in Sections 2.1 and 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011). Since the terrain in the study area is land where ploughing for Stage 2 pedestrian survey is not possible or viable, the fieldwork involved shovel test pit survey at 5 m intervals in the areas identified to have archaeological potential, with test pits advanced to within 1 m of built structures, surface disturbances, or buried utilities. Each test pit was a minimum of 30 cm diameter and dug at least 5 cm into the surface of the natural subsoil. Soils and

sediments excavated from each test pit were screened through 6-mm wire mesh screen to recover artifacts and each test pit examined for stratigraphy, cultural features, and evidence of fill before being backfilled to level grade.

Topographic features and the extent of the survey were recorded using the ESRI ArcGIS Field Maps program on a Samsung Tab Active3 tablet connected via Bluetooth to a Garmin GLO2 device; the average GPS accuracy was recorded as ± 3 m.

The supervising field director documented the fieldwork, archaeological findings, conditions that affected the field strategy or identification of artifacts or cultural features, and unusual or challenging situations through written notes and logs, maps, and photographs (Figure 13; Images 29-31). Per Section 2.1 Standard 2 of the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011), portions of the Study Area evaluated to have no or low archaeological potential due to extensive and deep land alterations were not subjected to Stage 2 survey but were photo-documented and mapped as per Section 2.1.8 Standard 1 and Section 7.8.1 of the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011).

The Stage 2 test pit survey encountered natural stratigraphy within the south section of the north Study Area. A representative profile consists of 14-17 cm thick and moderately compact medium brown sandy loam, with 10% rootlet inclusions, that capped the loosely compacted, light brown sandy clay subsoil. This sequence is similar to the Rideau Clay profile recorded in the 1944 soil survey (see Section 3.2). Most of the Study Area, however, was found to be a deeply and extensively disturbed context comprised of fill with inclusions of recent material (plastic, etc.) up to 1 m thick and lying directly over the natural subsoil. A typical profile in the west limit of the north Study Area, adjacent to the sidewalk, had a 12-15 cm thick deposit of moderately compact medium brown sandy loam over a 16-19 cm thick fill of very compact mottled light brown and gray clay with 20% gravel inclusions. This covered an 18 cm thick loose medium brown sand with 10% inclusion of angular pebbles (>5cm) that lay directly over the light brown sand clay subsoil. A similar disturbed context was found in the north section of the north Study Area, with a representative profile having a 12 cm thick moderately compact medium brown sandy loam topsoil covering a 70-90 cm thick fill of light brown sandy clay and gravel. This fill directly covered the natural subsoil. These profiles indicate that these portions of the north Study Area had been graded to subsoil, then raised in elevation through successive fill events.

4.3 Inventory of Documentary Record

The following represents all the documentation taken in the field relating to this project and is being retained by WSP:

- 6 pages of field notes.
- 36 digital photographs in JPG format and GPS coordinates.

Documentation related to this archaeological assessment will be curated by WSP until such 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, the MCM and any other legitimate interest groups.

5 ANALYSIS AND CONCLUSIONS

5.1 Analysis & Conclusions

The Stage 1 background study indicated that the Study Areas have general archaeological potential for the following reasons:

- Two archaeological sites were registered within 300 m of the south Study Area (BiFw-49/ BiFw-75 and BiFw-50/ BiFw-74)
- The Rideau River is within 300 m of the Study Areas and a creek is within 300 m of the south Study Area
- There may be pockets of well-drained sandy soil in the Study Areas
- There is an area of elevated natural topography in the north Study Area (ridgeline overlooking the Rideau River)
- The Study Areas are within 300 m of early post-contact settlement (numerous homesteads depicted in 1863 and 1879 historical atlases)
- Early historic transportation routes (Riverside Drive, Smyth Road, Ottawa-St. Lawrence Railway) are within 100 m of the Study Areas, and
- The City's Archaeological Management Plan identifies the north Study Area and west portion of the south Study Area to have archaeological potential

Despite this general archaeological potential, analysis of aerial imagery and topographic mapping determined that activities within approximately 0.61 ha (56%) of the north Study Area and 0.65 ha (100%) of the south Study Area during the second half of the 20th century have involved extensive and deep land alterations that would have severely damaged the integrity of any archaeological resources (Figure 12). In the north Study Area, these land alterations included construction of a road cut and turning circle between 1965 and 1980, then subsequent installation of roads, curbs, footpaths, and utilities since 1990. In the south Study Area, disturbance was caused by demolition and grading of the farm property in the mid-1960s, installation of utilities, then cuts and grading for the access roads, Transitway, and rail right-of-way. The Stage 1 property inspection further confirmed that archaeological potential in these portions of the Study Areas had been removed by extensive and deep land disturbance.

However, approximately 0.45 ha (44%) of the north Study Area was determined to retain archaeological potential and require Stage 2 AA (Figure 12). These areas, which are currently covered in lawn or ornamental plantings, could not be feasibly ploughed for Stage 2 AA pedestrian survey, so were assessed through test pit survey at 5 m intervals. While a natural stratigraphic sequence was recorded within a limited portion of the south section of the north Study Area, in the remainder of the area identified to have archaeological potential was evidence of extensive and deep land alterations that had extended into the natural subsoil. No archaeological resources were identified during the Stage 2 AA.

6 RECOMMENDATIONS

Based on the findings of the Stage 1-2 AA of the Study Areas, the following recommendations are made, subject to the conditions outlined below and in Section 7:

1) No further archaeological assessment is recommended within the Study Areas (Figure 13).

The Ontario MCM is asked to review the results and recommendations presented herein, accept this report into the Ontario Public Register of Archaeological Reports and issue a standard letter of compliance with the MCM's 2011 *Standards and Guidelines for Consultant Archaeologists* and the terms and conditions for archaeological licencing.

It should be noted that the results of this report are not considered final until the MCM has reviewed the above-stated recommendations, and the report has been entered into the Ontario Public Register of Archaeological Reports.

7 ADVICE ON COMPLIANCE WITH LEGISLATION

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. 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* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

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

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

8 IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

WSP E & I Canada Limited (WSP) has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the archaeological profession currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied, is made.

This report has been prepared for the specific site, design objective, developments and purpose described to WSP by Parsons Inc. (the Client). The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location.

The information, recommendations and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without WSP's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the client, WSP may authorize in writing the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to WSP. The report, all plans, data, drawings and other documents as well as all electronic media prepared by WSP are considered its professional work product and shall remain the copyright property of WSP, who authorizes only the Client and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report by those parties. The Client and Approved Users may not give, lend, sell, or otherwise make available the report or any portion thereof to any other party without the express written permission of WSP. The Client acknowledges the electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore the Client cannot rely upon the electronic media versions of WSP's report or other work products.

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

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

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10 IMAGES

Image 1: Conditions within the north Study Area generally consist of lawn with artificial plantings. Facing north.

Image 2: Utilities at south limit of north Study Area fronted by bus lane. Facing south.

Image 3: Bus lane and infrastructure within east limit of north Study Area. Facing northeast.

Image 4: Low lying shrubs and Balsam Fir within southeast area of north Study Area. Facing east.

Image 5: East/west oriented asphalt pathway bisecting north Study Area, with Riverside Drive in background. Facing west.

Image 6: Conditions within north Study Area generally consist of lawn (TOH Riverside Campus in background). Facing east.

Image 7: Conditions within north Study Area - lawn fronted by Riverside Drive. Facing west.

Image 8: North Study Area where fronted by Smyth Road. Facing north.

Image 9: Bus lane and infrastructure along east limit of north Study Area. Facing north.

Image 10: Conditions within north Study Area generally consist of lawn with artificial plantings. Facing south.

Image 11: Bus lane to Smyth Road within north limit of north Study Area. Facing west.

Image 12: Asphalt roadway along north boundary of south Study Area. Facing south.

Image 13: Landscaped area in south Study Area. Facing south.

Image 14: Landscaped area between parking lot and rail right-of-way within south Study Area. Facing south.

Image 15: Recent vegetation growth adjacent to rail right-of-way in south Study Area. Facing south.

Image 16: Recent vegetation growth adjacent to rail right-of-way in south Study Area. Facing south.

Image 17: Asphalt parking lot within south Study Area. Facing southwest.

Image 18: Asphalt parking lot, pathway, and adjacent wooded area within south Study Area. Facing northwest.

Image 19: Road cut descending toward Transitway lane. Facing southwest.

Image 20: Road cut descending toward Transitway lane. Facing south.

Image 21: View of road cut descending toward Transitway lane from overpass. Facing east.

Image 22: Road cut descending toward Transitway lane. Facing north.

Image 23: Bus lane within south Study Area. Facing northwest.

Image 24: Road cut descending toward Transitway lane. Facing west.

Image 25: Study Area conditions within south section showing roadways and TOH in background. Facing east.

Image 26: Landscaped area with light standards in south Study Area. Facing west.

Image 27: Landscaped area with light standards in south Study Area. Facing east.

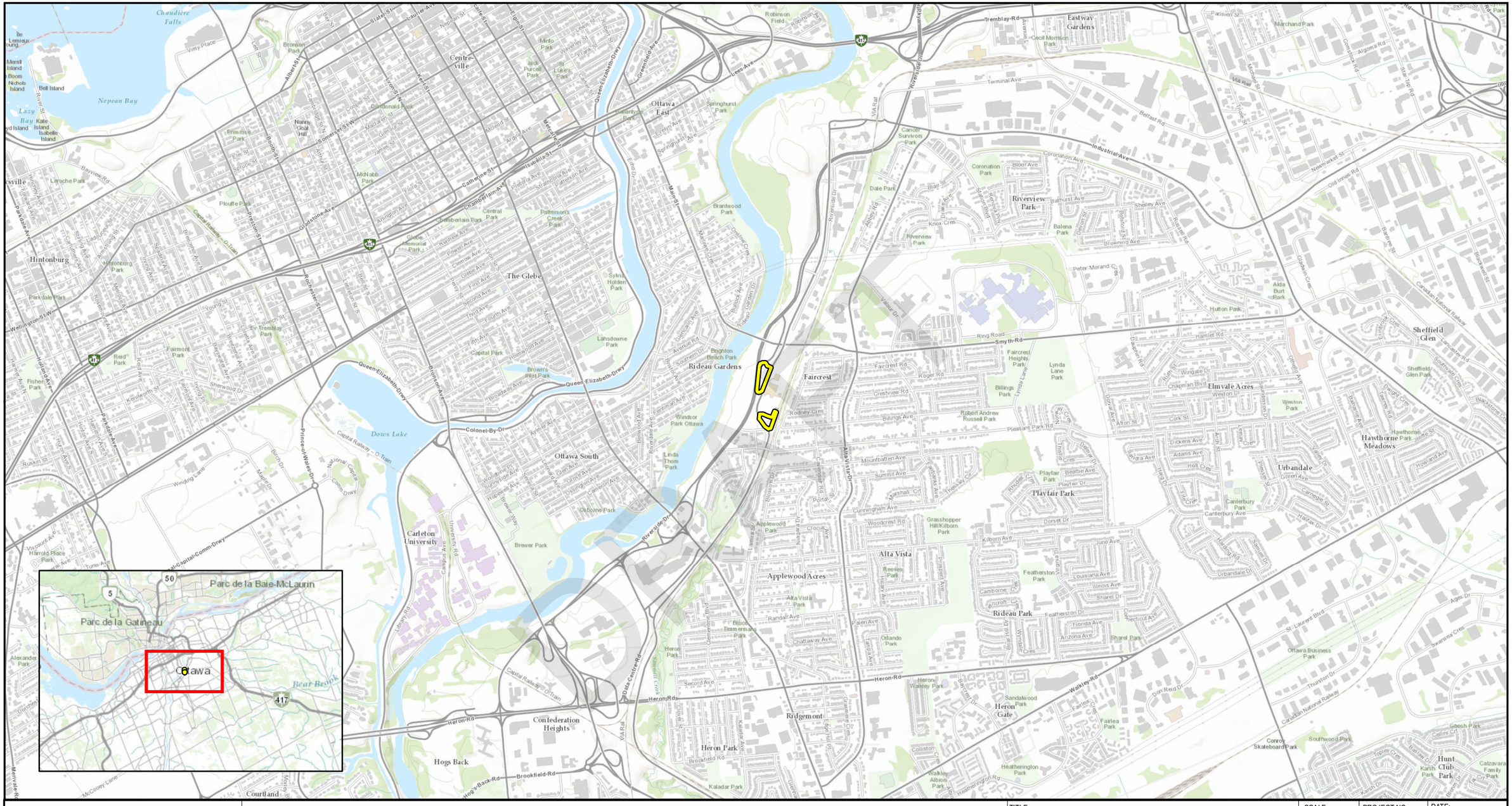
Image 28: Road cut descending toward Transitway lane. Facing southwest.

Image 29: Crew test pitting at 5 m intervals in portion of north Study area identified to have archaeological potential. Facing north.

Image 30: Crew test pitting at 5 m intervals in portion of north Study area identified to have archaeological potential. Facing southwest.

Image 31: Crew test pitting at 5 m intervals in portion of north Study area identified to have archaeological potential. Facing south.

11 FIGURES



LEGEND

Study Area

TITLE:
FIGURE 1: PROJECT LOCATION

SCALE:	PROJECT NO:	DATE:
1:25,000	CA-GLD-23606896	OCT 2024
DRAWN BY: BR	CLIENT: PARSONS INC	

PROJECT:
STAGE 1 ARCHAEOLOGICAL ASSESSMENT, RIVERSIDE CAMPUS, PARKING LOT C AND PARKING LOT D, 1967 RIVERSIDE DRIVE, PART OF LOT 16, GORE, FORMER GEOGRAPHIP TOWNSHIP OF GLOUCESTER, CARLETON COUNTY, OTTAWA, ONTARIO

0 500 1,000 m

N

CREDITS:
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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wsp

LEGEND

Study Area

TITLE: FIGURE 2: STUDY AREAS

SCALE:	PROJECT NO:	DATE:
1:2,500	CA-GLD-23606896	OCT 2024
DRAWN BY: BR	CLIENT: PARSONS INC	

PROJECT: STAGE 1 ARCHAEOLOGICAL ASSESSMENT, RIVERSIDE CAMPUS, PARKING LOT C AND PARKING LOT D, 1967 RIVERSIDE DRIVE, PART OF LOT 16, GORE, FORMER GEOGRAPHIP TOWNSHIP OF GLOUCESTER, CARLETON COUNTY, OTTAWA, ONTARIO

0 50 100 m

N

CREDITS: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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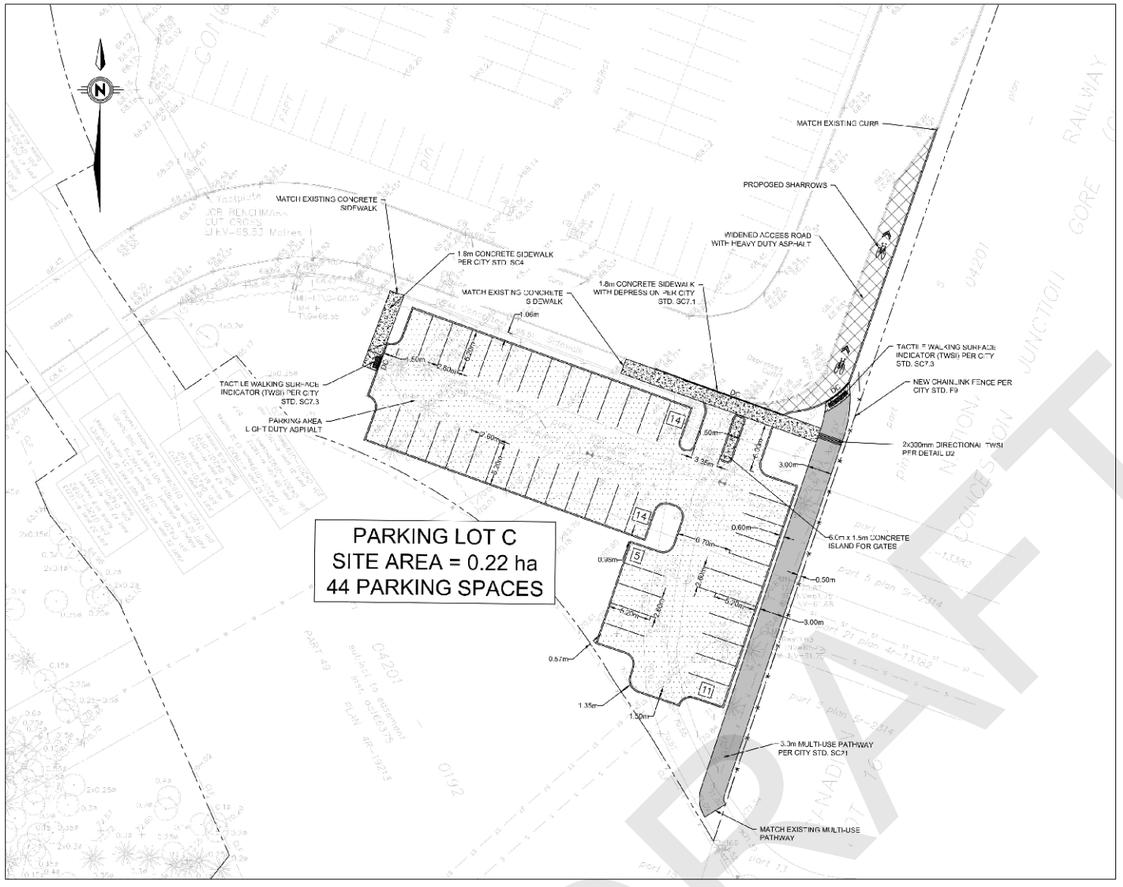

LEGEND:

- EXISTING PROPERTY LINE
- EXISTING GRADE
- PROPOSED LIGHT DUTY PAVEMENT
- PROPOSED HEAVY DUTY PAVEMENT
- PROPOSED CONCRETE
- PROPOSED MULTI-USE PATHWAY
- PROPOSED CONCRETE CURB PER CITY STD. SC1.1
- PROPOSED DEPRESSED CONCRETE CURB WITH TWSI PER CITY STD. SC7.3
- EXISTING CHAINLINK FENCE
- PROPOSED CHAINLINK FENCE PER CITY STD. F9

KEY PLAN

PARSONS

No.	Revision	By	Date (yyyy/mm/dd)
1	ISSUED FOR COORDINATION	HV	2024/10/01

Scale: 0 2 4 6 10m

Project title:

THE OTTAWA HOSPITAL
RIVERSIDE CAMPUS
PARKING LOT

Drawing Title:

PARKING LOT C - SITE PLAN

Designed by: SV	Initials
Drawn by: HV	
Approved by: NA	
Project No. 479008	Drawing No. SP

wsp

TITLE:
FIGURE 3: DEVELOPMENT PLAN - PARKING LOT C SITE PLAN

SCALE:	PROJECT NO:	DATE:
1:2,500	CA-GLD-23606896	NOV 2024
DRAWN BY: BR	CLIENT: PARSONS INC	

PROJECT:
STAGE 1 ARCHAEOLOGICAL ASSESSMENT, RIVERSIDE CAMPUS, PARKING LOT C AND PARKING LOT D, 1967 RIVERSIDE DRIVE, PART OF LOT 16, GORE, FORMER GEOGRAPHIP TOWNSHIP OF GLOUCESTER, CARLETON COUNTY, OTTAWA, ONTARIO

0 50 100 m N

CREDITS:
Parsons. The Ottawa Hospital Riverside Campus Parling lot. Parking Lot C Site Plan

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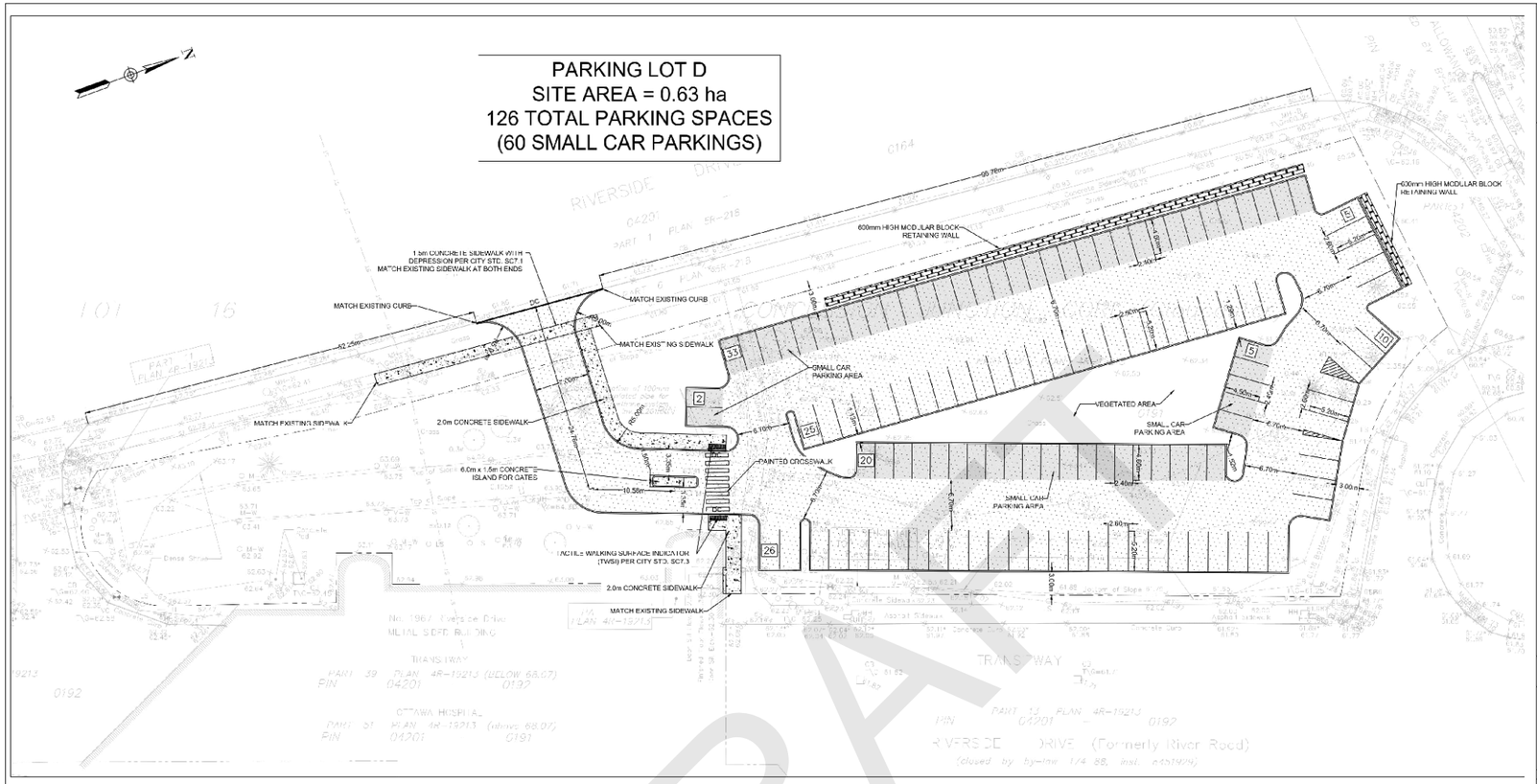

KEY PLAN

NOT TO SCALE

PARSONS

No	Revision	By	Date (yyyy-mm-dd)
1	ISSUED FOR COORDINATION	BV	2024-10-24

Notes

THE OTTAWA HOSPITAL
RIVERSIDE CAMPUS
PARKING LOT

Drawing Title:
PARKING LOT D
SITE PLAN

Designed by: HV
Drawn by: BV
Approved by: M
Project No.: 479008
Drawing No.: SP

wsp

TITLE:
FIGURE 4: DEVELOPMENT PLAN - PARKING LOT D SITE PLAN

SCALE: 1:2,500
PROJECT NO: CA-GLD-23606896
DATE: NOV 2024
DRAWN BY: BR
CLIENT: PARSONS INC

PROJECT:
STAGE 1 ARCHAEOLOGICAL ASSESSMENT, RIVERSIDE CAMPUS, PARKING LOT C AND PARKING LOT D, 1967 RIVERSIDE DRIVE, PART OF LOT 16, GORE, FORMER GEOGRAPHIP TOWNSHIP OF GLOUCESTER, CARLETON COUNTY, OTTAWA, ONTARIO

CREDITS:
Parsons. The Ottawa Hospital Riverside Campus Parling lot. Parking Lot D Site Plan

0 50 100 m

N

Document Path: P:\Archaeology and Heritage\1) ARCHAEOLOGY\1) Projects\GIS\Riverside TOH\Riverside_Fig4_DevPlan2.mxd

1863

1879

wsp

LEGEND

Study Area

TITLE: FIGURE 5: HISTORICAL MAPPING

SCALE:	PROJECT NO:	DATE:
1:15,000	CA-GLD-23606896	NOV 2024
DRAWN BY:	CLIENT:	
BR	PARSONS INC	

PROJECT: STAGE 1 ARCHAEOLOGICAL ASSESSMENT, RIVERSIDE CAMPUS, PARKING LOT C AND PARKING LOT D, 1967 RIVERSIDE DRIVE, PART OF LOT 16, GORE, FORMER GEOGRAPHIP TOWNSHIP OF GLOUCESTER, CARLETON COUNTY, OTTAWA, ONTARIO

0 315 630 m

N

CREDITS:

Historical Country Map of Carleton County. D.P. Putnam. 1863

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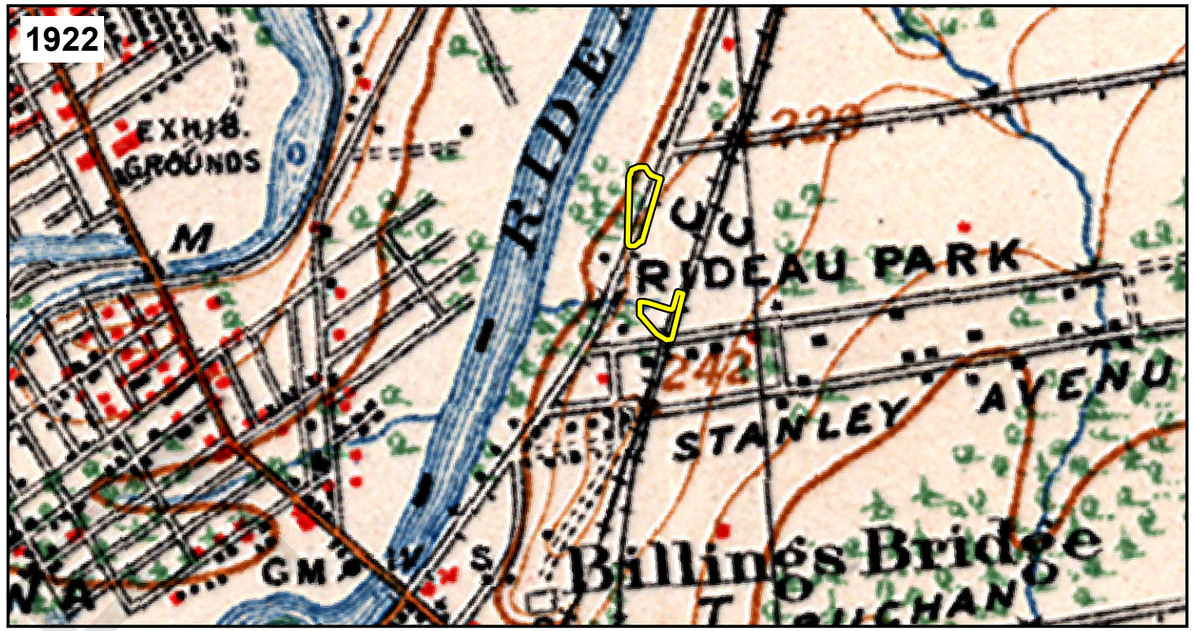

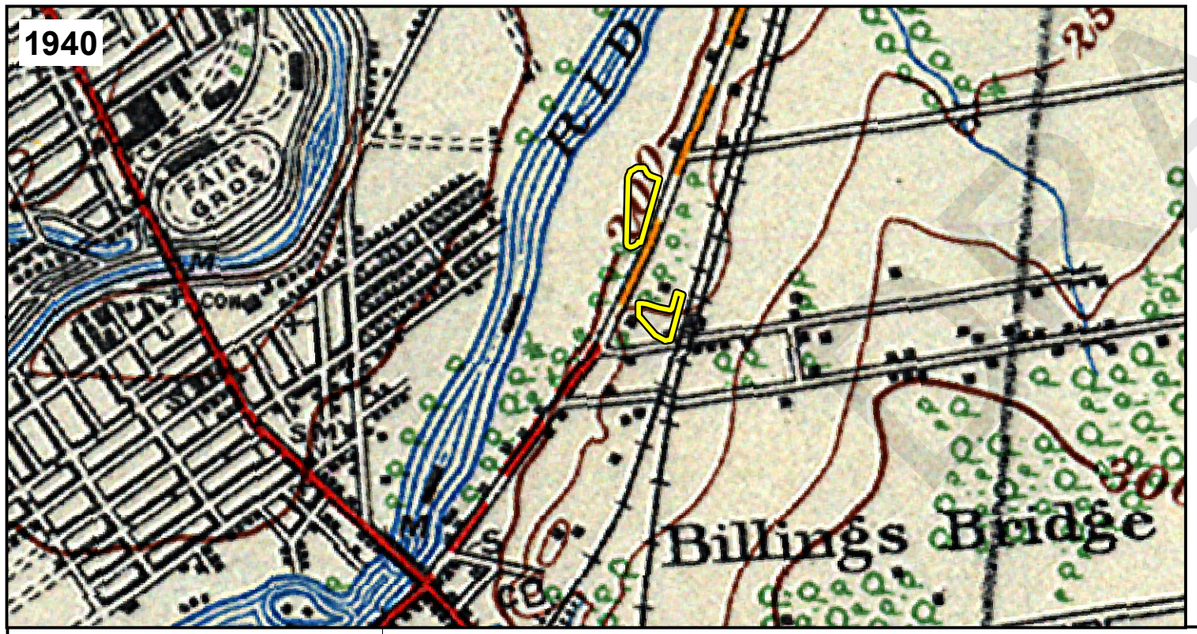

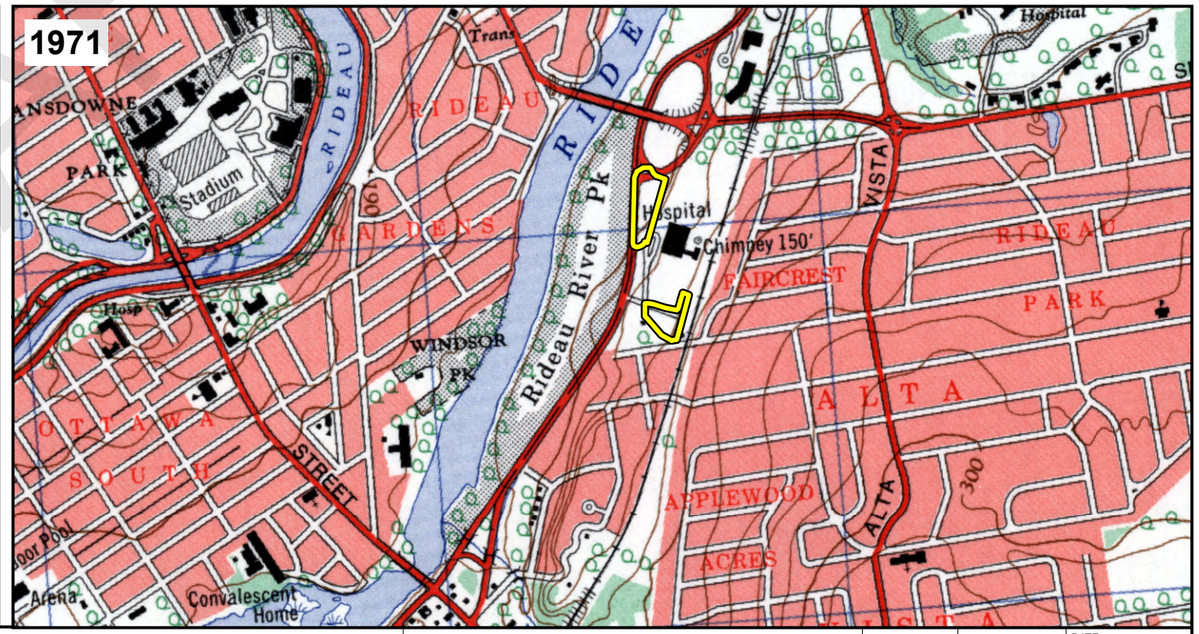

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LEGEND

Study Area

TITLE: FIGURE 6: TOPOGRAPHIC MAPPING

SCALE:	PROJECT NO:	DATE:
1:15,000	CA-GLD-23606896	NOV 2024
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0 315 630 m

N

CREDITS: Survey Division, Department of Militia and Defence. Historical Topographic Maps of Canada (1908, 1922, 1940 & 1971)

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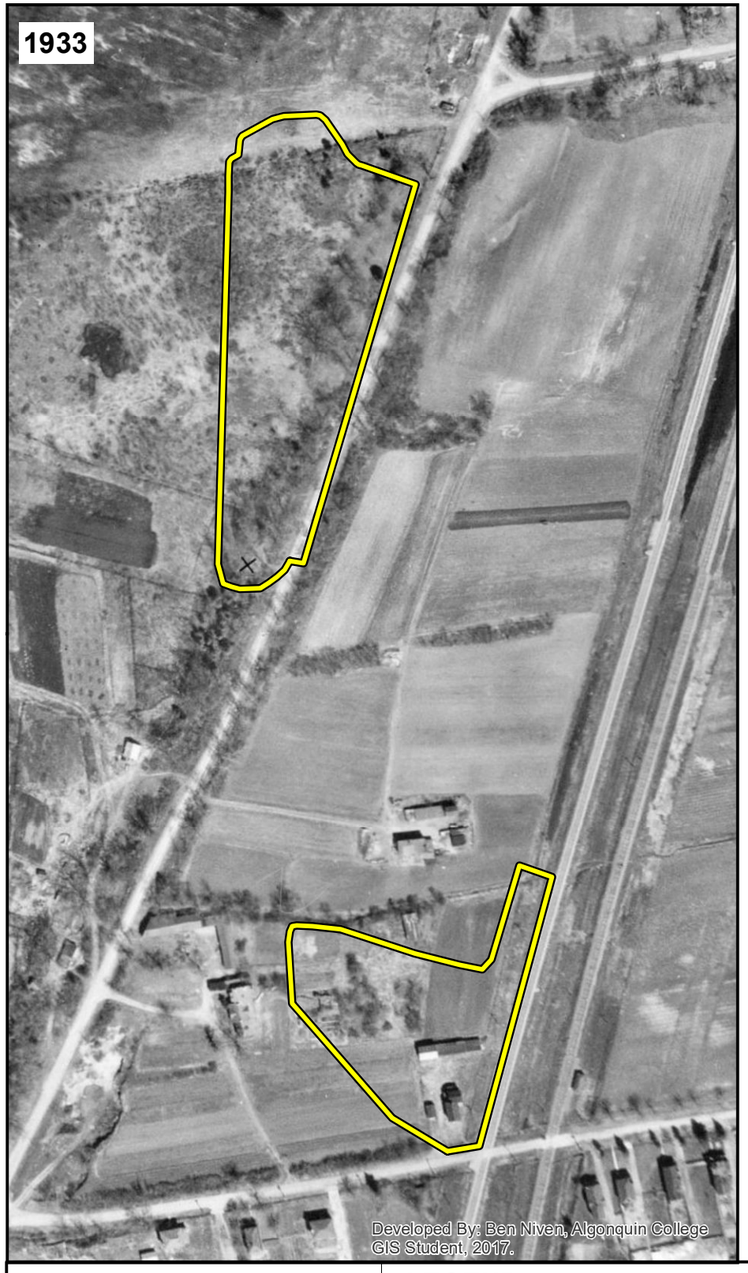

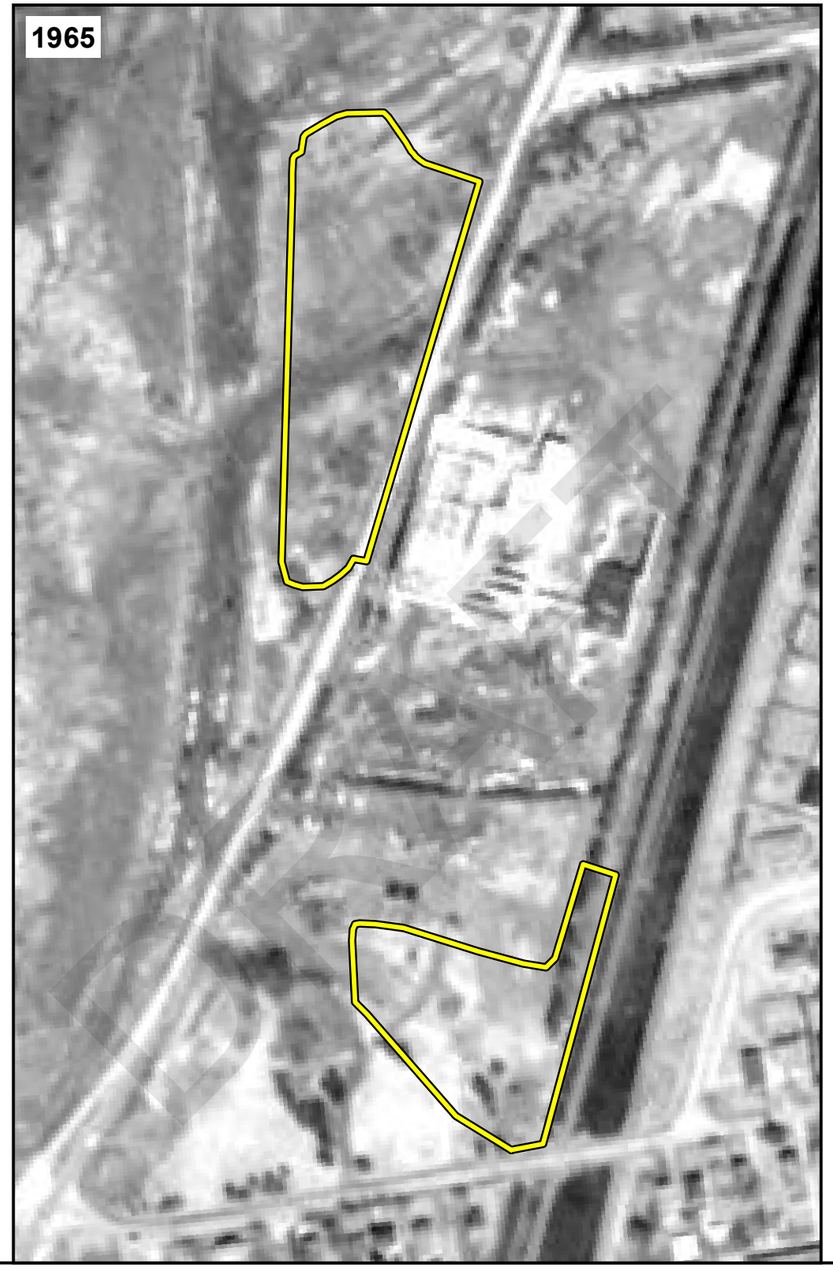

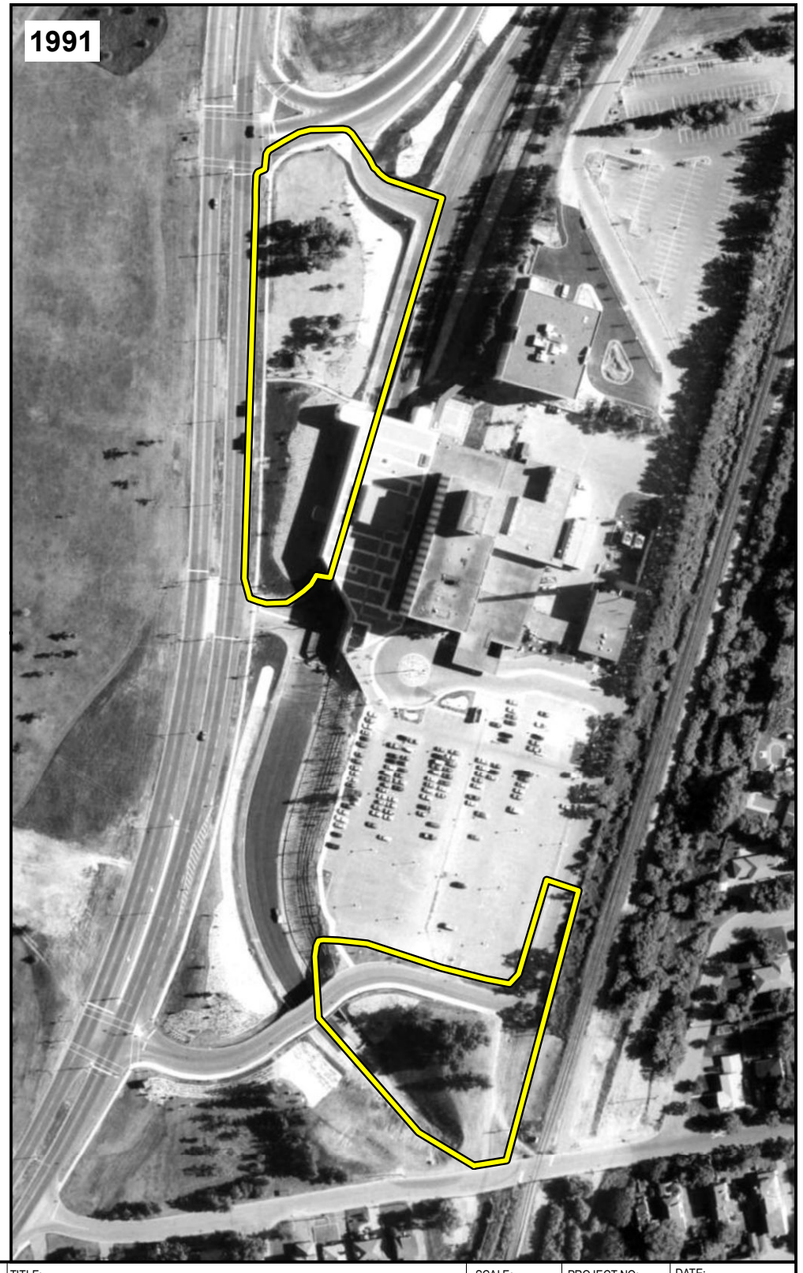

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LEGEND

Study Area

TITLE: FIGURE 7: AERIAL IMAGERY

SCALE:	PROJECT NO:	DATE:
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DRAWN BY:	CLIENT:	
BR	PARSONS INC	

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STAGE 1 ARCHAEOLOGICAL ASSESSMENT, RIVERSIDE CAMPUS, PARKING LOT C AND PARKING LOT D, 1967 RIVERSIDE DRIVE, PART OF LOT 16, GORE, FORMER GEOGRAPHIP TOWNSHIP OF GLOUCESTER, CARLETON COUNTY, OTTAWA, ONTARIO

0 50 100 m

N

CREDITS:
City of Ottawa, GeoOttawa
1933, 1965 and 1991

Document Path: P:\Archaeology and Heritage\1) ARCHAEOLOGY\1) Projects\GIS\Riverside TOH\Riverside_Fig7_Aerial Imagery.mxd

wsp

LEGEND

- Study Area
- Sanitary Manholes / Regards d'égout domestique
- Sanitary
- Public / Branchement public
- Private / Branchement privé
- Storm Inlets / Prises d'entrée des eaux pluviales
- Storm Outlets / Prises de sortie des eaux pluviales
- Storm Manholes / Regards de conduites d'eaux pluviales
- Storm Inlet Leads / Avaloirs des prises d'entrée des eaux pluviales
- Storm
- Public / Branchement public
- Private / Branchement privé
- Public / Branchement public
- Private / Branchement privé
- Public / Branchement public
- Private / Branchement privé
- Public / Branchement public
- Private / Branchement privé

TITLE:
FIGURE 8: UTILITIES PLAN

SCALE:	PROJECT NO:	DATE:
1:2,500	CA-GLD-23606896	NOV 2024
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PROJECT:
STAGE 1 ARCHAEOLOGICAL ASSESSMENT, RIVERSIDE CAMPUS, PARKING LOT C AND PARKING LOT D, 1967 RIVERSIDE DRIVE, PART OF LOT 16, GORE, FORMER GEOGRAPHIP TOWNSHIP OF GLOUCESTER, CARLETON COUNTY, OTTAWA, ONTARIO

CREDITS:
City of Ottawa

0 50 100 m

N

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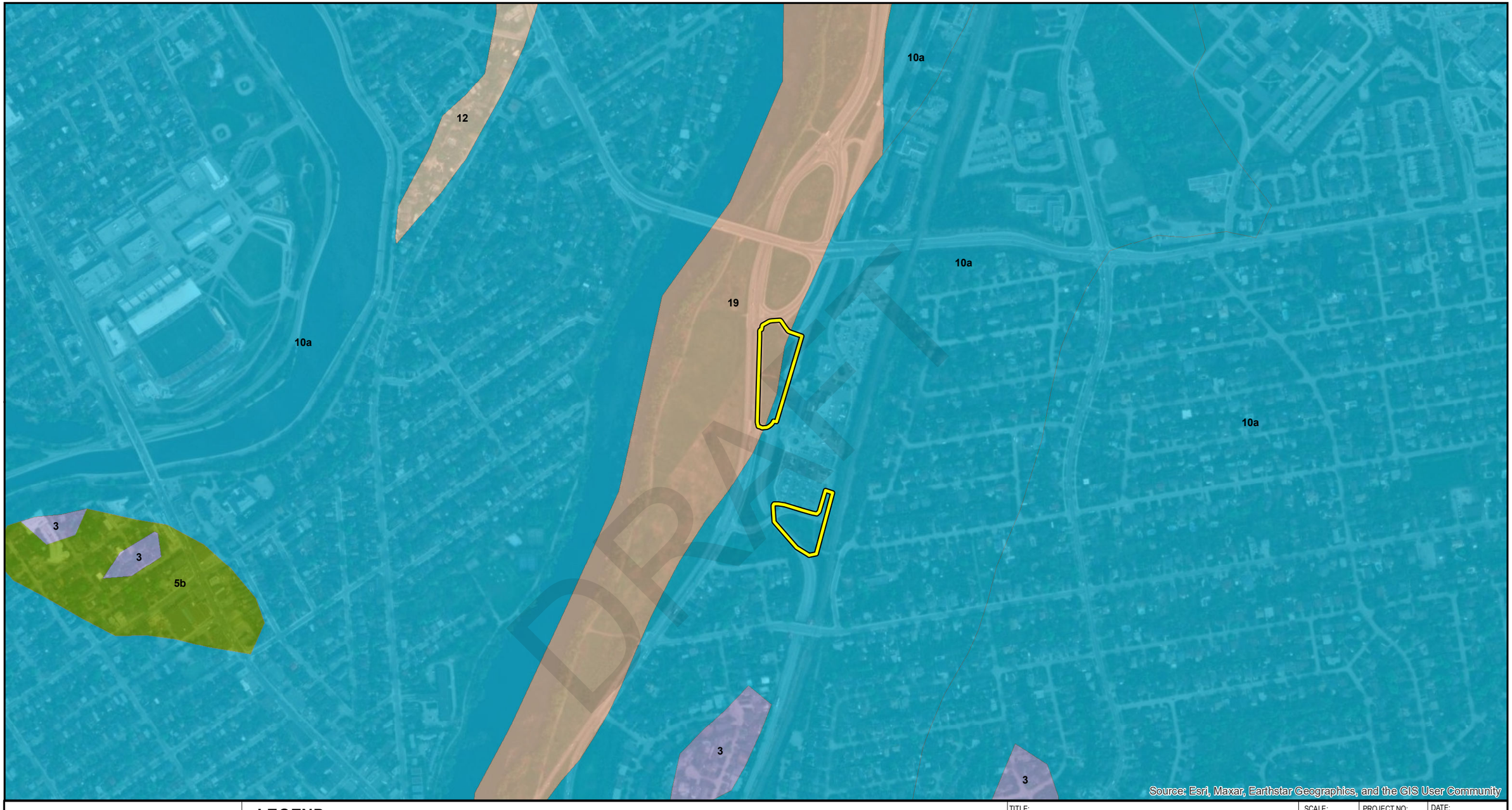

LEGEND

- Study Area
- 10a. FINE TEXTURED GLACIOMARINE DEPOSITS. SILT AND CLAY. MINOR SAND AND GRAVEL. MASSIVE TO WELL LAMINATED
- 12 MEDIUM TO COARSE GRAVEL IN ABANDONED RIVER TERRACES. INCLUDES SOME SAND AND MINOT BANDED SILT DEPOSITS
- 19 FINE SAND, SILT, ORGANICS, MUCK
- 3 LIMESTONE, DOLOMITE, SANDSTONE AND LOCAL SHALE
- 5b. TILL: STONE. POOR. SANDY SILT TO SILTY SAND TEXTURED TILL ON PALEOZOIC TERRAIN

TITLE: FIGURE 9: SURFICIAL GEOLOGY

SCALE:	PROJECT NO:	DATE:
1:7,000	CA-GLD-23606896	NOV 2024
DRAWN BY: BR	CLIENT: PARSONS INC	

PROJECT: STAGE 1 ARCHAEOLOGICAL ASSESSMENT, RIVERSIDE CAMPUS, PARKING LOT C AND PARKING LOT D, 1967 RIVERSIDE DRIVE, PART OF LOT 16, GORE, FORMER GEOGRAPHIP TOWNSHIP OF GLOUCESTER, CARLETON COUNTY, OTTAWA, ONTARIO

0 145 290 m

N

CREDITS: ONTARIO GEOLOGICAL SURVEY 2010. SURFICIAL GEOLOGY OF SOUTHERN ONTARIO.

Document Path: P:\Archaeology and Heritage\1) ARCHAEOLOGY\1) Projects\GIS\Riverside TOH\Riverside_Fig9_SurfGeo.mxd

LEGEND

- Study Area
- Ken Swayze (CIF 2001-046-08)

TITLE:
FIGURE 10: PREVIOUS INVESTIGATIONS

SCALE:	PROJECT NO:	DATE:
1:2,500	CA-GLD-23606896	NOV 2024
DRAWN BY: BR	CLIENT: PARSONS INC	

PROJECT:
STAGE 1 ARCHAEOLOGICAL ASSESSMENT, RIVERSIDE CAMPUS, PARKING LOT C AND PARKING LOT D, 1967 RIVERSIDE DRIVE, PART OF LOT 16, GORE, FORMER GEOGRAPHIP TOWNSHIP OF GLOUCESTER, CARLETON COUNTY, OTTAWA, ONTARIO

0 50 100 m

N

CREDITS:
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Document Path: P:\Archaeology and Heritage\1) ARCHAEOLOGY\1) Projects\GIS\Riverside TOH\Riverside_Fig10_PrevInv.mxd

LEGEND

- Study Area
- Archaeological Potential / Potentiel archéologique

TITLE: FIGURE 11: ARCHAEOLOGICAL POTENTIAL

SCALE:	PROJECT NO:	DATE:
1:2,500	CA-GLD-23606896	NOV 2024
DRAWN BY: BR	CLIENT: PARSONS INC	

PROJECT: STAGE 1 ARCHAEOLOGICAL ASSESSMENT, RIVERSIDE CAMPUS, PARKING LOT C AND PARKING LOT D, 1967 RIVERSIDE DRIVE, PART OF LOT 16, GORE, FORMER GEOGRAPHIP TOWNSHIP OF GLOUCESTER, CARLETON COUNTY, OTTAWA, ONTARIO

CREDITS: City of Ottawa

0 50 100 m

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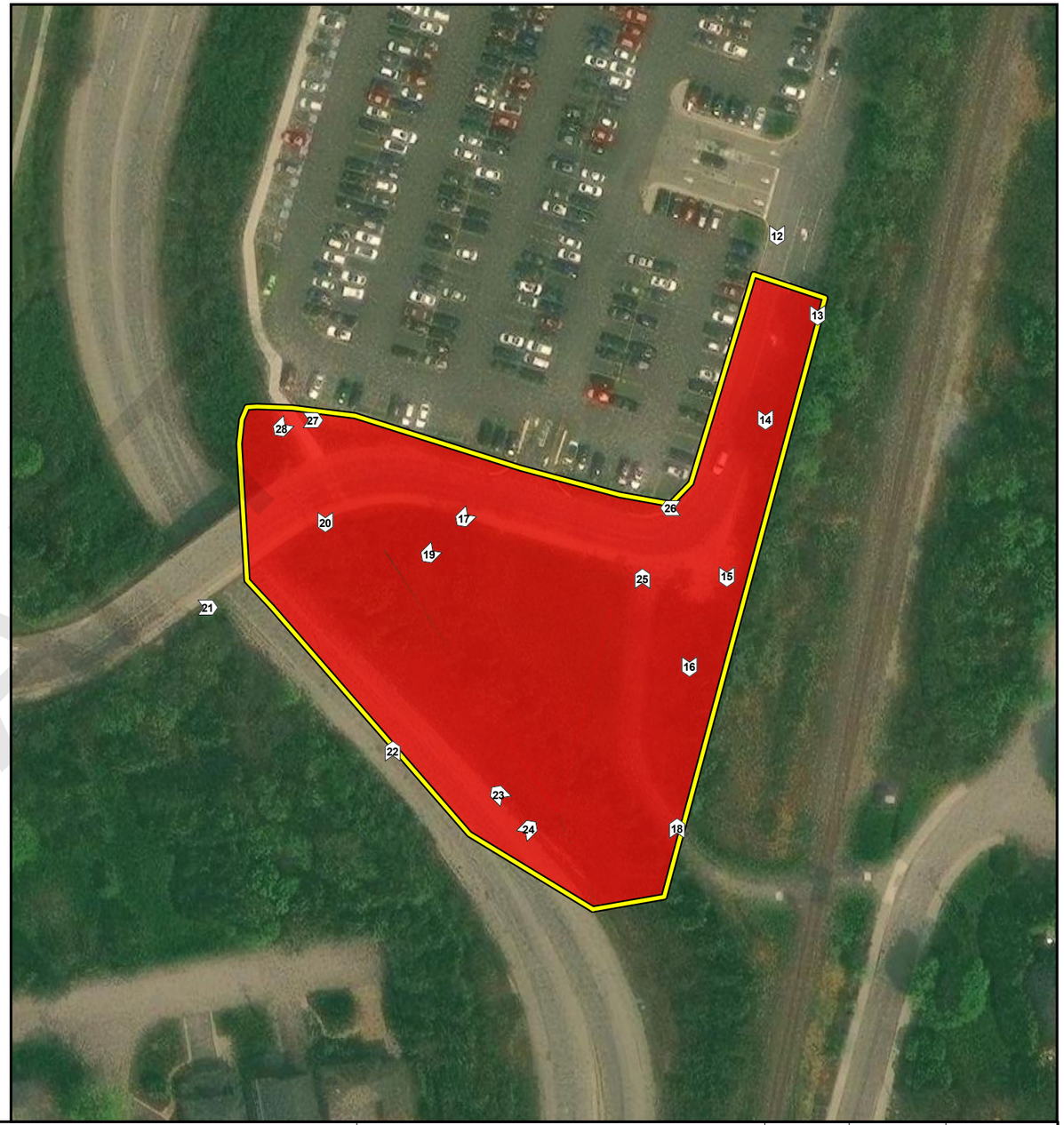

LEGEND

- Study Area
- Photo Locations
- Visually Confirmed Disturbance
- Stage 2 Archaeological Assessment Recommended

TITLE:
FIGURE 12: STAGE 1 AA RESULTS

SCALE:	PROJECT NO:	DATE:
1:1,000	CA-GLD-23606896	NOV 2024
DRAWN BY:	CLIENT:	
BR	PARSONS INC	

PROJECT:
STAGE 1 ARCHAEOLOGICAL ASSESSMENT, RIVERSIDE CAMPUS, PARKING LOT C AND PARKING LOT D, 1967 RIVERSIDE DRIVE, PART OF LOT 16, GORE, FORMER GEOGRAPHIP TOWNSHIP OF GLOUCESTER, CARLETON COUNTY, OTTAWA, ONTARIO

CREDITS:
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

0 20 40 m

N

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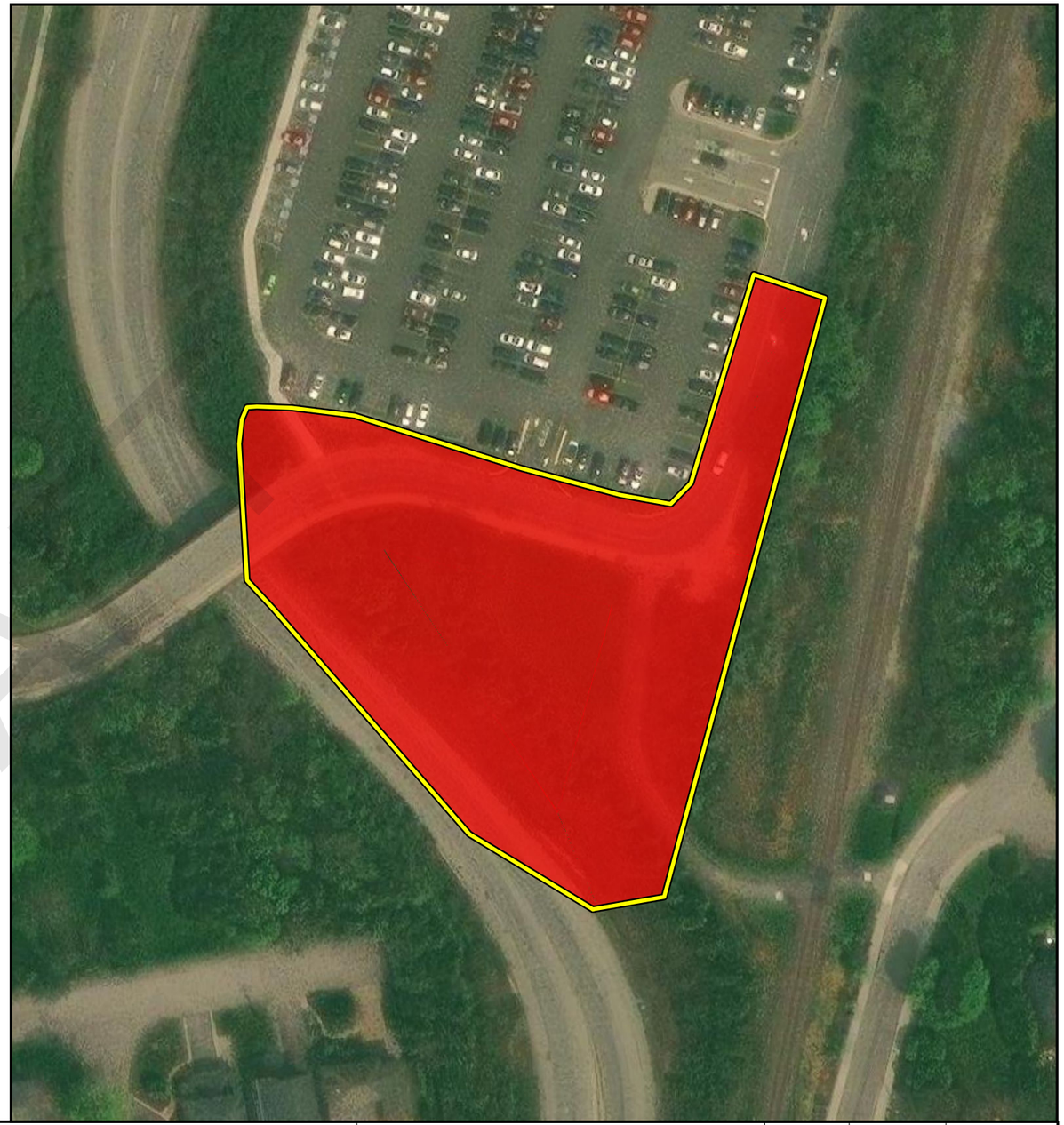

LEGEND

- Study Area
- Photo Locations
- Visually Confirmed Disturbance
- Test Pit Survey at 5m Intervals

TITLE: FIGURE 13: STAGE 2 AA RESULTS

SCALE:	PROJECT NO:	DATE:
1:1,000	CA-GLD-23606896	DEC 2024
DRAWN BY: BR	CLIENT: PARSONS INC	

PROJECT: STAGE 1 ARCHAEOLOGICAL ASSESSMENT, RIVERSIDE CAMPUS, PARKING LOT C AND PARKING LOT D, 1967 RIVERSIDE DRIVE, PART OF LOT 16, GORE, FORMER GEOGRAPHIP TOWNSHIP OF GLOUCESTER, CARLETON COUNTY, OTTAWA, ONTARIO

CREDITS: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

0 20 40 m

N

Document Path: P:\Archaeology and Heritage\1) ARCHAEOLOGY\1) Projects\GIS\Riverside TOH\Riverside_Fig13_Stg2Results.mxd

Signature Page

We trust that this report meets your current needs. If you have any questions, or if we may be of further assistance, please contact the undersigned.

WSP E & I Canada Limited

DRAFT

Joel Bush, MA
Staff Archaeologist

DRAFT

Henry Cary, PhD, CAHP, RPA
Principal Archaeologist

JB/HC/mp/dlw

https://wsponlinecan.sharepoint.com/sites/ca-23606896/shared documents/06. deliverables/phase 9000 - archaeology/client submission/stage 1-2 aa/p327-0081-2024;p327-0084-2024_22jan2025_draft.docx

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