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Paterson Group Inc.

Consulting Engineers 154 Colonnade Road South Ottawa (Nepean), Ontario Canada K2E 7J5

Tel: (613) 226-7381 Fax: (613) 226-6344 www.patersongroup.ca

patersongroup

REPORT

Stage 1 Archaeological Assessment:

180 Metcalfe Street, Part Lot C, Concession D, Geographic Township of Nepean City of Ottawa, Ontario

Prepared For

Simon Labelle Jadco Corporation 345 Samson Blvd, Suite 100 Laval, Quebec H7X 2Z7

Phone: (613) 791-1970 Email: slabelle@jadcogroup.com

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Ben Mortimer (Licence Number P369)

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1.0 Executive Summary

Paterson Group was contracted by Jadco Corporation to conduct a Stage 1 archaeological assessment of 180 Metcalfe Street, Part Lot C Concession D in the Geographic Township of Nepean, City of Ottawa, Ontario (Map 1). A high-rise redevelopment is planned for the subject property and the archaeological assessment process was triggered during the site plan application in accordance with the Planning Act (Map 2). This assessment is in accordance with the Ministry of Tourism, Culture and Sport's Standards and Guidelines for Consultant Archaeologists (2011).

The Stage 1 assessment included a review of updated Ontario Ministry of Tourism, Culture and Sport (MTCS) archaeological site databases, a review of relevant environmental, historical and archaeological literature, and primary historical research, including: historical maps and aerial photographs.

While the property is indicated as having potential on the City of Ottawa archaeological management plan map (1999), it was determined to have low archaeological potential, based on the late development of the area and distance to notable topographic features (i.e., proximity to water sources). Furthermore, bore holes from a 2018 Phase II Environmental Assessment indicate that modern gravel fill and parking lot structure overlie the natural sterile subsoil. As such no archaeological potential exists for the study area.

Based on the results of this investigation it is recommended:

1. No further archaeological study is required for the study property as delineated in Map 1.

and

Should potential archaeological resources be encountered during excavation activities, all work in the area must stop immediately and a provincially licensed archaeologist must be contacted.



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3.0 Project Personnel

Report Preparation Nadine Kopp, MA (P378)

Archival Research Nadine Kopp, MA (P378)

Field Director Ben Mortimer, MA (P369)

GIS and Mapping Ben Mortimer, MA (P369)



4.0 Project Context

4.1 Development Context

Paterson Group was contracted by Jadco Corporation to conduct a Stage 1 archaeological assessment of 180 Metcalfe Street, Part Lot C Concession D in the Geographic Township of Nepean, City of Ottawa, Ontario (Map 1). A high-rise redevelopment is planned for the subject property that will incorporate the current historic Medical Arts Building and the archaeological assessment process was triggered during the site plan application in accordance with the Planning Act (Map 2). This assessment is in accordance with the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (2011).

The City of Ottawa has an archaeological management plan which was developed in 1999, *The Archaeological Resource Potential Mapping Study of the Regional Municipality of Ottawa-Carleton*. The management plan covers the Township of Nepean (Archaeological Services Inc. and Geomatics International Inc. 1999). According to the management plan, the entire study property has archaeological potential.

At the time of the archaeological assessment the study area was owned by Jadco Corporation.

4.2 Historical Context

4.2.1 Historic Documentation

The investigation area is located in the geographic township of Nepean, former County of Carleton.

Nepean was one of the first townships in the country to be surveyed (Belden 1879). The early history of Nepean is best described in Bruce Elliot's *The City Beyond: A History of Nepean, Birthplace of Canada's Capital* (1991). Other useful resources include Sara Craig's *Hello Nepean* (1974), *The Carleton Saga* by Harry and Olive Walker (1968), Courtney Bond's *The Ottawa Country* (1968), and Belden's *Illustrated Historical Atlas of Carleton County* (1879).

Books discussing the early days of Ottawa include: Lowertown Ottawa (Newton 1981); Bytown, the Early Days of Ottawa (Mika and Mika 1982); and The Other Side of the Hill (Nixon 2012). Additionally, there have been a number of publications regarding the Rideau Canal, a small sample includes: From War to Winterlude: 150 years on the Rideau Canal (Peck 1982); For King & Country (Andrews 1998); Building the Rideau Canal: A Pictorial History (Passfield 1982); and most notably, Legget's Rideau Waterway (1986).

4.2.2 Pre-Contact Period

The Ottawa Valley was not hospitable to human occupation until the retreat of glaciers and the draining of the Champlain Sea, some 10,000 years ago. The Laurentide Ice Sheet of the Wisconsinian glacier blanketed the Ottawa area until about 11,000 B.P. At this time the receding glacial terminus was north of the Ottawa Valley, and water from the Atlantic Ocean flooded the region to create the Champlain Sea. The Champlain Sea encompassed the lowlands of Quebec on the north shore of the Ottawa River and most of Ontario east of Petawawa, including the Ottawa Valley and Rideau Lakes. However, by 10,000 B.P. the Champlain Sea was receding and within 1,000 years was gone from Eastern Ontario (Watson 1990:9).

By circa 11,000 B.P., when the Ottawa area was emerging from glaciations and being flooded by the Champlain Sea, northeastern North America was home to what are commonly referred to as the Paleo-Indian people. For Ontario the Paleo-Indian period is divided into the Early Paleo-Indian period (11,000 - 10,400 B.P.) and the Late Paleo-Indian period (10,500-9,400 B.P.), based on changes in tool technology (Ellis and Deller 1990). The Paleo people, who had moved into hospitable areas of southwest Ontario (Ellis and Deller 1990), likely consisted of small groups of exogamous hunter-gatherers relying on a variety of plants and animals who ranged over large territories (Jamieson 1999). The few possible Paleo-Indian period artifacts found, as surface finds or poorly documented finds, in the broader region are from the Rideau Lakes area (Watson 1990) and Thompson's Island near Cornwall (Ritchie 1969:18). In comparison, little evidence exists for Paleo-Indian occupations in the immediate Ottawa Valley, as can be expected given the

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environmental changes the region underwent, and the recent exposure of the area from glaciations and sea. However, as Watson (1999:38) suggests, it is possible Paleo-Indian people followed the changing shoreline of the Champlain Sea, moving into the Ottawa Valley in the late Paleo-Indian Period, although archaeological evidence is absent.

As the climate continued to warm, the ice sheet receded further allowing areas of the Ottawa Valley to be travelled and occupied in what is known as the Archaic Period (9,500-2,900 B.P.). This period is generally characterized by increasing populations, developments in lithic technology (e.g., ground stone tools), and emerging trade networks. Archaic populations remained hunter-gatherers with an increasing emphasis on fishing. Sites from this period in the region include Morrison's Island-2 (BkGg-10), Morrison's Island-6 (BkGg-12) and Allumette Island-1 (BkGg-11) near Pembroke, and the Lamoureaux site (BiFs-2) in the floodplain of the South Nation River (Clermont 1999).

The Woodland Period is characterized by the introduction of ceramics. Populations continued to participate in extensive trade networks that extended across much of North America. Social structure appears to have become increasingly complex with some status differentiation recognized in burials. Towards the end of this period domesticated plants were gradually introduced to the region. This coincided with other changes including the development of semi-permanent villages. The Woodland period is commonly divided into the Early Woodland (1000 – 300 B.C.), Middle Woodland (400 B.C. to A.D. 1000), and the Late Woodland (A.D. 900 – European Contact) periods.

The Early Woodland is typically noted via lithic point styles (i.e., Meadowood bifaces) and pottery types (i.e., Vinette I). Early Woodland sites in the Ottawa Valley region include Deep River (CaGi-1) (Mitchell 1963), Constance Bay I (BiGa-2) (Watson 1972), and Wyght (BfGa-11) (Watson 1980). The Middle Woodland period is identified primarily via changes in pottery style (e.g., the addition of decoration). Some of the best documented Middle Woodland Period sites from the region are from Leamy Lake Park (BiFw-6, BiFw-16) (Laliberté 1999).

The identification of pottery traditions or complexes (Laurel, Point Peninsula, Saugeen) within the Northeast Middle Woodland, the identifiers for the temporal and social organizational changes signifying the Late Woodland Period, subsequent phases within in the Late Woodland, and the overall 'simple' culture history model assumed for Ontario at this time (e.g., Ritchie 1969; Wright 1966, 2004) are much debated in light of newer evidence and improved interpretive models (Engelbrecht 1999; Ferris 1999; Hart 2012; Hart and Brumbach 2003, 2005, 2009; Hart and Englebrecht 2012; Martin 2008; Mortimer 2012). Thus the shift into the period held as the Late Woodland is extremely fuzzy. Needless to say there are general trends for increasingly sedentary populations, the gradual introduction of agriculture, and changing pottery and lithic styles. However, nearing the time of contact, Ontario was populated with somewhat distinct regional populations that broadly shared many traits. In the southwest, in good cropland areas, groups were practicing corn-bean-squash agriculture in semi-permanent, often palisaded villages which are commonly assigned to Iroquoian peoples (Wright 2004:1297-1304). On the shield and in other non-arable environments, including portions of the Ottawa Valley, there seems to remain a less sedentary lifestyle often associated with the Algonquian groups noted in the region at contact (Wright 2004:1485-1486).

4.2.3 Contact Period

Initial contact between the Ottawa Valley Algonquian groups and European explorers occurred during Champlain's travels in 1613. At this time the Algonquian people along the Ottawa River Valley, an important and long-standing trade route to the interior, were middle-men in the rapidly expanding fur-trade industry and alliances were formed or reinforced with the French. Early historical accounts note many different Algonquian speaking groups in the region at the time. Of note for the lower Ottawa Valley area were the Kichesipirini (focused around Morrison Island); Matouweskarini (upstream from Ottawa, along the Madawaska River); Weskarini (around the Petite Nation, Lièvre, and Rouge rivers west of Montreal), Kinounchepirini (in the Bonnechere River drainage); and the Onontchataronon, (along the South Nation River) (Joan Holmes & Associates 1993; Morrison 2005; Pilon 2005). However, little archaeological work has been undertaken of contact period Algonquins (Pilon 2005).

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Starting in the 1630s and continuing into the 1700s, European disease spread among the Algonquian groups along the Ottawa River, bringing widespread death (Trigger 1986:230). Additionally, up to 1650 warfare and raiding into the lower Ottawa Valley by the Five Nation Iroquois forced the various Algonquin groups from the area (Morrison 2005:26). By 1701 the Iroquois had been driven from most of southern Ontario and the Ottawa Valley was occupied by the Algonquin Nation (Morrison 2005:27-28).

A traditional lifeway was continued by many of the Algonquian groups in the lower Ottawa Valley above Montreal through to the influx of European settlement in the late 1700s and early 1800s. This included bands noted to be living along the Gatineau River and other rivers flowing into the Ottawa. These traditional bands maintained a seasonal round focused on harvesting activities into the 1800s when development pressures and assimilation policies implemented by the colonial government saw Algonquian lands taken up, albeit under increasing protest and without consideration for native claims, for settlement and industry.

4.2.4 Post-Contact Period

The Township of Nepean was first surveyed in 1794, and was named for Sir Evan Nepean, a British Administrator (Elliot 1991). It was laid out in the typical mile and a quarter concessions, but had two fronts: one facing the Ottawa River, and one facing the Rideau River (Belden & Co. 1971:207). Settlement during the first 30 years after survey was slow, as absentee speculators held most of the land.

The township was granted to George Hamilton an Irish veteran of the Revolutionary War on October 2, 1792. Hamilton claimed a group of 143 settlers would arrive in 1794, however, the group would not settle in Nepean due to the isolation of the area without a road to the St. Lawrence River. Upon Hamilton's death, the land was left to his relatives in Ireland. With the promise of land grants for the children of United Empire Loyalists once they became adults, 200 grants (accounting for half the township) were given between 1800 and 1812 (Nepean Museum 2015). Of the remaining land one-seventh was reserved for the Crown and one-seventh as a clergy reserve, originally known as the glebe lands of St. Andrew's Presbyterian Church.

Few Loyalists settled in Nepean, preferring the rich farmlands along the St. Lawrence River and Lake Ontario (Elliot 1991:6). Nepean remained largely unpopulated until 1810 when Ira Honeywell built a cabin on the Ottawa River (Elliot 1991:9). Ira was given 1,000 acres (five U.E.L. claims) that his father Rice Honeywell of Prescott had acquired from Loyalists that had not settled but instead sold off their claims (Belden & Co. 1971:207). In 1814, Jerard Chapman became Nepean's second settler, establishing himself near the Jock River (Elliot 1991:10). Road surveys in the late 1820s and early 1830s led to some settlement in the interior of Nepean.

By 1820, the land along the Ottawa River was occupied by American lumbermen such as Philemon Wright of Massachusetts who settled the first community in the area when he established Wrightsville (modern day Gatineau) on the north side of the Ottawa River at Chaudiére Falls in 1800. By 1822, Nepean's population was only 191, divided between 35 families (Elliot 1991:13). The population of Nepean did not see major increases until influxes of immigrants and settlers began with the construction of the Rideau Canal in 1827. By 1851, the Township of Nepean had grown to 3,800 inhabitants. At this time there were 21 stone houses, 21 frame houses, 306 log cabins and 238 shanties. By 1861, 4,410 people called Nepean home, living in 36 stone houses, 45 frames houses, and 539 log cabins (Bond 1968:22-24). By 1878, Nepean was the wealthiest township of Carleton County. It had a population of 7,031. The 60,774 acres that encompassed the township held 2,540 head of cattle, 2,504 sheep, 1,399 horses, and 1,117 pigs (Belden & Co. 1971:105).

During the last quarter of the 19th century, some new construction of large suburban residences occurred throughout Besserer Estate. North of Rideau in Lowertown, streets were densely lined with residences, but the streets of the former Besserer Estate comprised generously scaled suburban villas with moderate private grounds surrounding them. In contrast, the partnership of James McLaren, Charles Magee and Robert Blackburn purchased the entire By property in 1876 from the By estate and resurveyed it, with the intension of selling many lots. Attractive pricing and demand allowed for the construction of a number of houses in this area. Although still at a gradual rate, by 1901 new construction existed on every street in the area south of Laurier.

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It was finally in the beginning of the 20th century that Sandy Hill transitioned from a suburb dependant on the city, to a neighbourhood. The construction of bridges over the canal and the introduction of automobiles and streetcars made the area much more accessible to downtown. There had been a wooden bridge crossing the Rideau River at the end of Rideau Street since 1836, but the replacement with the concrete Cummings Bridge in 1893 made this a thoroughfare to downtown. Likewise, the establishment of Strathcona Park in 1900 allowed for a locale for recreational activities (Stovel and Johnson 2010:18-21).

Following the First World War, the neighbourhood began to decline as the very wealthy moved to Rockcliffe Park, the Glebe, or off Queen Elizabeth Drive as the choice locations for extravagant new residences. The area saw much growth at the end of the Second World War as the baby boom increased the population and the nearby federal government began hiring. Many of the once grand mansions became embassies. Today, here are many students living in the area due to its proximity to the University of Ottawa.

4.2.5 Study Area Specific History

The study area, located on Lot C Concession D, is located on part of the 124 acre Besserer Estate that was granted to Lieutenant René-Leonard Besserer in 1828 by Colonel By and was one of the original military grants in Bytown. Besserer died suddenly in 1831 and his brother, Louis Besserer, inherited his estate. Louis, a veteran of the War of 1812 and a notary in Quebec City, took little interest in his property but appointed an agent, a Mr. Corbin, in Bytown to lease his property. Corbin did his best to lease lots to farmers and market gardeners, but failed to collect rents, discourage stealing of timber stands, and control squatters. In 1838, Besserer appointed William Stewart, a local businessman, as his new agent, and a power of attorney is recorded in the land registry record in 1840. Stewart initially concentrated on the property area in what is now Sandy Hill, which was surveyed and the north-south streets of Lowertown were extended south into the property, this area became known as the Besserer Estate. Stewart then laid out five new east-west streets, one of which was named for Besserer (LaFranchise and Lowell 2015:3-5).

Besserer's property on the west side of the canal was divided much later. As can be seen from the 1857 plan, Metcalfe Street had not yet been extended as far south as the study area, nor had Nepean Street been extended to the east (Map 3). It is quite likely that these lots were not subdivided at this time, and therefore not occupied as development of Besserer's land was slow until after Ottawa was named the capital of Canada in 1857. It was not until the completion of the Parliament Buildings in 1865 that Besserer's property in Sandy Hill was populated with an influx of politicians, civil servants, and well-to-do merchants. In 1845, Louis Besserer retired to his estate in Sandy Hill, and later passed away in 1861.

Following his death, much of his property was divided. The property at 180 Metcalfe Street eventually became what is now legally described as Lots 47, 48, and 49 (South Nepean Street) Registered Plan 2996 City of Ottawa. The property was divided evenly with Lot 47 on the west, 48 in the centre, and 49 on the west. Below is the chain of title for Lots 47, 48 and 49 from 1865 through 1984 (Table 1), excerpted from the Phase I Environmental Site Assessment (Exp Services Inc. 2013:4).

The 1875 City Directory has no listing for this location, likely indicating that it remained unoccupied. By 1978, the modern street grid of downtown Ottawa had been established, and Metcalfe and Nepean Streets extended past the study area (Map 3). The Fire Insurance Plan for that year also indicates that a brick semi-detached building was located on the western side of the study area with the civic address of 84 and 86 Nepean Street (Map 4). By 1881, the City Directory indicates that Mrs. W.A. Geddes lived at 84 Nepean Street and 86 Nepean Street was occupied by Thomas Ridout, a civil engineer for the Department of Railways and Canals.

The 1885 City Directory indicates that a building also existed on the other portion of the study, with the civic address 180 Metcalfe Street, as the directory lists Thomas Birkett, a hardware merchant at that location. In September 1883, Birkett purchased Lot 48 and 49 of Plan 2996. Thomas Ridout still resides at 86 Nepean Street, but 84 Nepean Street is now occupied by Thomas Fuller, the Chief Architect for Public Works. No changes in residency take place by the 1889-1890 City Directory, with all Thomas' still living on the study area.

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Date Registered	Registered From	Registered To
	Lot 49 Plan 2996	
December 1865	Charles and Charlotte Henderson	Ed Tylee and Ed Maberly
August 1873	Ed Tylee and Ed Maberly	Daniel O'Connor
May 1882	Daniel O'Connor	William Hodgson
September 1883	William Hodgson	Thomas Birkett
March 1895	Thomas Birkett	Alexander Fraser
October 1910	Estate of Alexander Fraser	William H. A. Fraser
July 1921	Estate of William H. A. Fraser	Fleming B. McCurdy
June 1928	Fleming B. McCurdy	Ottawa Medical Arts Building Ltd.
February 1984	Ottawa Medical Arts Building Ltd.	Toth Holdings Limited
	Lot 48 Plan 2996	
December 1865	Charles and Charlotte Henderson	Ed Tylee and Ed Maberly
June 1873	Ed Tylee and Ed Maberly	Margret Hilliard
June 1882	Margret Hilliard	William Hodgson
September 1883	William Hodgson	Thomas Birkett
March 1895	Thomas Birkett	Alexander Fraser
October 1910	Alexander Fraser	William H. A. Fraser
July 1921	William H. A. Fraser	Fleming B. McCurdy
June 1928	Fleming B. McCurdy	Ottawa Medical Arts Building Ltd.
February 1984	Ottawa Medical Arts Building Ltd.	Toth Holdings Limited
	Lot 47 Plan 2996	
December 1865	Charles and Charlotte Henderson	Ed Tylee and Ed Maberly
June 1873	Ed Tylee and Ed Maberly	John Bowes
November 1894	Estate of John Bowes	Elizabeth F. McHugh
December 1894	Estate of John Bowes	Alexander P. Bowes
February 1896	Elizabeth F. McHugh and John McHugh	Alexander P. Bowes
February 1896	Alexander P. Bowes	John R. Allan
November 1910	John R. Allan	Elizabeth F. McHugh
July 1917	Elizabeth F. McHugh	Kathleen McHugh
August 1927	Kathleen McHugh	Capital Trust Corporation Ltd.
July 1928	Capital Trust Corporation Ltd.	Ottawa Medical Arts Building Ltd.
February 1984	Ottawa Medical Arts Building Ltd.	Toth Holdings Limited

Table 1: Chain of Title for Lots 47, 48 and 49 (South Nepean Street) Registered Plan 2996 City of Ottawa.

The 1902 (revised in 1912) Fire Insurance plan indicates that the semi-detached brick home at 84-86 Nepean Street has had a frame addition on the back as well as a fire proof addition (Map 4). The building addressed as 180 Metcalfe is a large residence of mostly brick with framed verandah or entrance. The 1922 Fire Insurance Plan shows the site and surrounding area remain largely unchanged. The 1955 Fire Insurance Plan shows the residential buildings are no longer present on the site, and the medical arts

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building, that was constructed in 1928, is now visible on the site along with surface parking, forming the layout present to today.

4.3 Archaeological Context

4.3.1 Current Conditions

The study area at 180 Metcalfe Street consists of 0.81 hectares (Map 5). The property currently consists of six-storey brick office building located at the southwest corner of the intersection of Metcalfe Street and Nepean Street backed by an asphalt parking lot that covers the remainder of the property. The building known as the Medical Arts Building was constructed in 1928 and is representative of the Art Deco style that was popular at the time of construction. It is designated as a Category 2 Heritage Structure under Part IV of the Ontario Heritage Act in 2001.

The lot is located in the downtown core of Ottawa, with the immediate surroundings being a mix of mid-rise and high-rise residential, mixed use, and commercial buildings.

4.3.2 Physiography

The study area lies within a Limestone Plain of the larger Ottawa Valley Clay Plain which includes some undrumlinized till plains. The broader region is characterized by poorly drained topography of clay plains interrupted by ridges of rock or sand that offer moderately better drainage. This topography was influenced by the post glacial sequence Champlain Sea (*ca.* 10,500 to 8,000 B.C.) that deposited these clay soils and were subsequently covered by sand deposits from the emerging fresh water drainage. Some of these sands were eroded to the underlying clay deposits by later channels of the developing Ottawa River (Chapman and Putnam 2007:205-208).

4.3.3 Previous Archaeological Assessments

Archaeological work in the region has primarily consisted of cultural resource management studies related to specific properties or development projects. In 2016, Paterson conducted Stage 2 archaeological monitoring for the Ottawa Light Rail University of Ottawa Station which resulted in no further archaeological study (Paterson Group 2016). In 2015, Paterson conducted a Stage 1 and 2 Archaeological Assessment of Main Street on Part Lots K and F, Concession C, and Part Lots K and F Concession D, which resulted in no further archaeological study (Paterson Group 2015). Nearby archaeological assessments in the area include a Stage 1 -4 assessment and monitoring for the Oblates cemetery by Golder that was conducted from 2014-2016 (Golder Associates Inc. 2015, 2016a, 2016b, 2017).

4.3.4 Registered Archaeological Sites and Commemorative Plaques

A search of the Ontario Archaeological Sites Database conducted on July 31, 2018 indicated that there are 21 registered sites located within a 1 km radius of the study area (Table 2).

Numerous commemorative plaques are located in the downtown core of Ottawa. Two plaques are closest to the study area: one detailing the history of the Ottawa Teachers' College, and one for the residence of lumber baron John R. Booth.

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Site Identifier	Site Name	Time Period	Affinity	Site Type	Review Status
BiFw-80 BiFw-52	Appin Place Workman Site	Post-Contact Post-Contact	Euro-Canadian Euro-Canadian	Farmstead Hardware store	Further CHVI Further CHVI
BiFw-51	Carriage Way 2	Post-Contact	Euro-Canadian	Carriageway	Further CHVI
BiFw-48	Seaton Site	Post-Contact	Euro-Canadian	Jewelry store	Further CHVI
BiFw-47	Pratt Site	Post-Contact	Euro-Canadian	Shoe and Boot Store	Further CHVI
BiFw-46	Fournier Site	Post-Contact	Euro-Canadian	Dry Goods Store initially then department store.	Further CHVI
BiFw-45 BiFw-44 BiFw-38	McGillivray Enright Site Carriage Way	Post-Contact Post-Contact Post-Contact	Euro-Canadian Euro-Canadian Euro-Canadian	Wholesale grocer Department store Building	Further CHVI Further CHVI
BiFw-37	Brittania Hotel	Post-Contact	Euro-Canadian	Building	
BiFw-36	Fournier's Dry Good Store	Post-Contact	Euro-Canadian	Building, store	
BiFw-35	Old Supreme Court Building	Post-Contact			
BiFw-34	Curran Residence	Post-Contact	Euro-Canadian	Midden	
BiFw-33	Sapper's Bridge	Post-Contact	Euro-Canadian	Bridge	
BiFw-177	Arts Court	Post-Contact	Euro-Canadian	Residential	No Further CHVI
BiFw-171	Barrack Hill Cemetery	Post-Contact		No site at this location	Further CHVI
BiFw-169	541-549 Albert Street Outbuildings II	Post-Contact		House	
BiFw-168	541-549 Albert Street Outbuildings	Post-Contact		House	Further CHVI
BiFw-167	West End Hotel	Post-Contact		Brass works, Norwegian ski shop, hotel	Further CHVI
BiFw-166	Western Methodist Church	Post-Contact		Manse, church / chapel, house	
BiFw-12	Parliament Hill				
		Table 2: Kn	own Archaeological	l Sites.	

Table 2: Known Archaeological Sites.



4.4 Archaeological Potential

Based on the City of Ottawa's Archaeological Resource Potential Map the entirety of the study property has archaeological potential (Archaeological Services Inc. and Geomatics International Inc. 1999).

The property exhibits little potential for pre-contact archaeological sites as it is over 300 m from a water supply (it is about 1 km from the Ottawa River) and lies within an area with poorly drained clay soils. Potential for pre-contact sites is based on physiographic variables that include distance from the nearest source of water, the nature of the nearest source/body of water, distinguishing features in the landscape (e.g., ridges, knolls, eskers, wetlands), the types of soils found within the area of assessment and resource availability.

The property exhibits little potential for historic period archaeological sites. Historic maps and historical research show that it was likely not developed until after 1875 (Map 4). Furthermore, recent activities on the site have indicated that no archaeological potential exists at the study area. In 1998 an underground storage tank was located 8 m south of the boiler room of the Medical Arts Building and 9 m north of the southern property boundary. When the tank was removed it was excavated to a depth of 3.8 m below grade, removing any archaeological potential in the excavated area (Map 6) (Exp Services Inc. 2013:5).

In the Spring of 2018, Paterson Group conducted a Phase II-Environmental Site Assessment to address the areas of potential environmental concern. This consisted of the drilling of four boreholes and one probe hole (Map 6) along with the installation of three groundwater monitoring wells to assess the soil and groundwater quality at the subject site. Site soils consist of a pavement structure followed by a sand fill with gravel underlain by native silty clay and glacial till (Appendix D). Bedrock was encountered in all boreholes between 12.7 m to 14.4 m below ground surface (Paterson Group 2018). This indicates that modern gravel fill and parking lot structure overlie the natural sterile subsoil. As such no archaeological potential exists for the study area.



5.0 Field Methods

A field inspection of the subject property was undertaken on August 3, 2018. Permission to access the property was provided by Jadco Corporation, with no limitations. Weather conditions were sunny, with a light breeze and temperatures of 25° Celsius. During the site visit the entire property was systematically inspected.

This inspection was undertaken to confirm the extent of disturbances and to determine what survey strategies would be appropriate for a Stage 2 assessment, should it be required. Areas of archaeological potential were examined to confirm if features of archaeological potential were present and if there were any areas of disturbance which would have removed archaeological potential.

The majority of the property consists of the Medical Arts Building, and at the rear is an asphalt parking lot (Figure 1, Figure 2, Figure 3, Figure 4, and Figure 5).

Field notes and photographs of the property were taken during the visit in order to document the current land conditions as per Standard 1.a., Section 7.8.6 (MTCS 2011). The photograph locations and directions were noted (Map 5) and all photographs were catalogued (see Appendix A). Maps and field notes are inventoried in Appendices B and C.



6.0 Analysis and Conclusions

While the property is indicated as having potential on the City of Ottawa archaeological management plan map (1999), it was determined to have low archaeological potential, based on the late development of the area and distance to notable topographic features (i.e., proximity to water sources. Furthermore, bore holes from a 2018 Phase II Environmental Site Assessment indicate that modern gravel fill and parking lot structure overlie the natural sterile subsoil. As such no archaeological potential exists for the study area.

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7.0 Recommendations

Based on the results of this investigation it is recommended:

1. No further archaeological study is required for the study property as delineated in Map 1.

and

2. Should potential archaeological resources be encountered during excavation activities, all work in the area must stop immediately and a provincially licensed archaeologist must be contacted.

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8.0 Advice on Compliance with Legislation

- a. This report is submitted to the *Minister of Tourism and Culture* as a condition of licencing 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 Tourism and Culture, 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.
- b. It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licenced 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 Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.
- c. 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 licenced consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.
- d. The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

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9.0 Closure

Paterson has prepared this report in a manner consistent with the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made. The sampling strategies incorporated in this study comply with those identified in the Ministry of Tourism, Culture and Sport's Standards and Guidelines for Consultant Archaeologists (2011) however, archaeological assessments may fail to identify all archaeological resources.

The present report applies only to the project described in the document. Use of this report for purposes other than those described herein or by person(s) other than Jadco Corporation or their agent(s) is not authorized without review by this firm for the applicability of our recommendations to the altered use of the report.

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

Paterson Group Inc.

Ben Mørtimer, M.A., A.P.A.

Senior Archaeologist

Nadine Kopp, M.A., A.P.A.

Project Archaeologist



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11.0 <u>Images</u>



Figure 1: 1890 Metcalfe Street, the Medical Arts Building from Nepean Street (D03).



Figure 2: Overview of corner of building and parking lot (D01).



Figure 3: View of 180 Metcalfe building from parking lot (D06).



Figure 4: Overview of parking lot (D07).

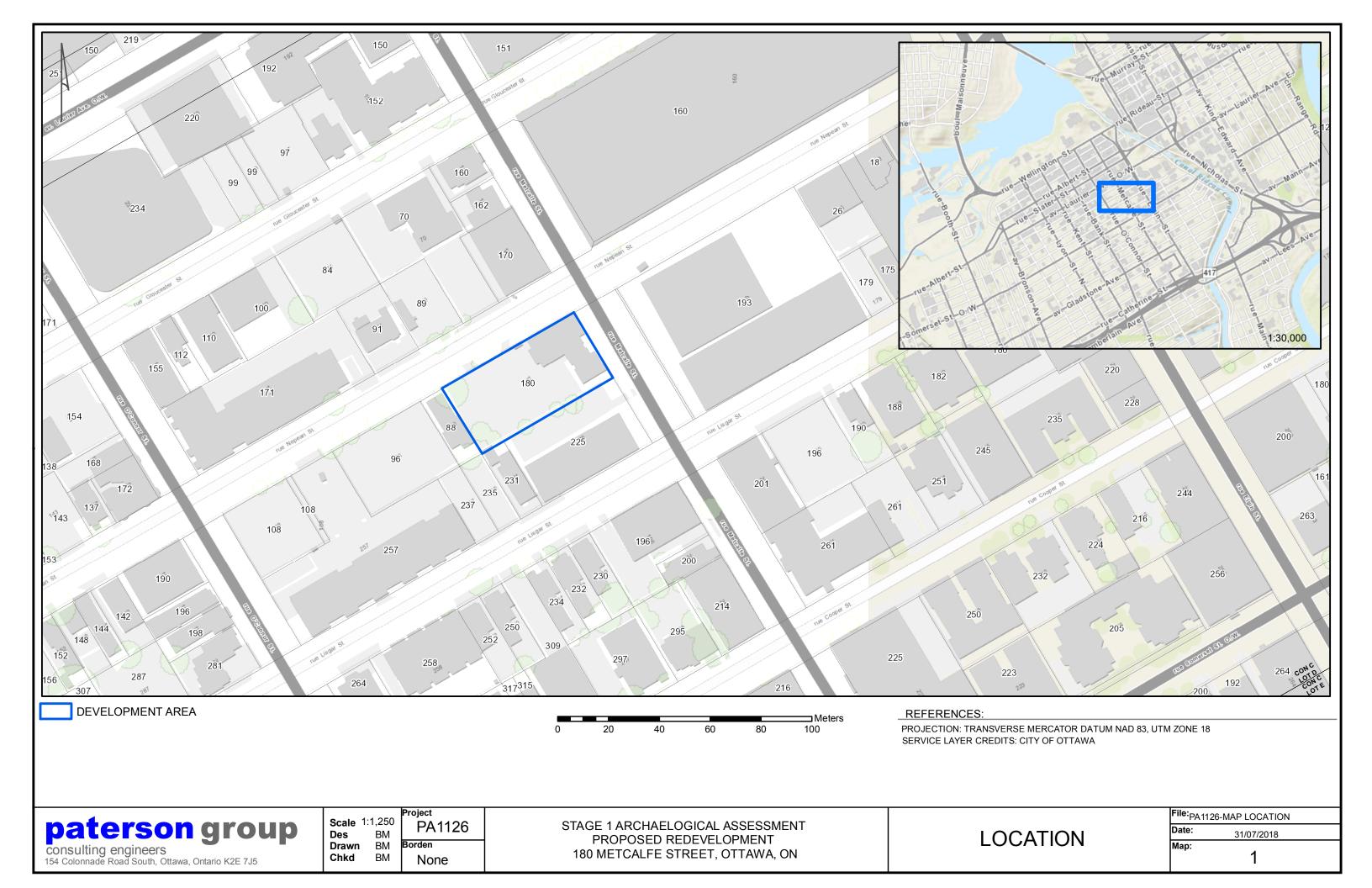


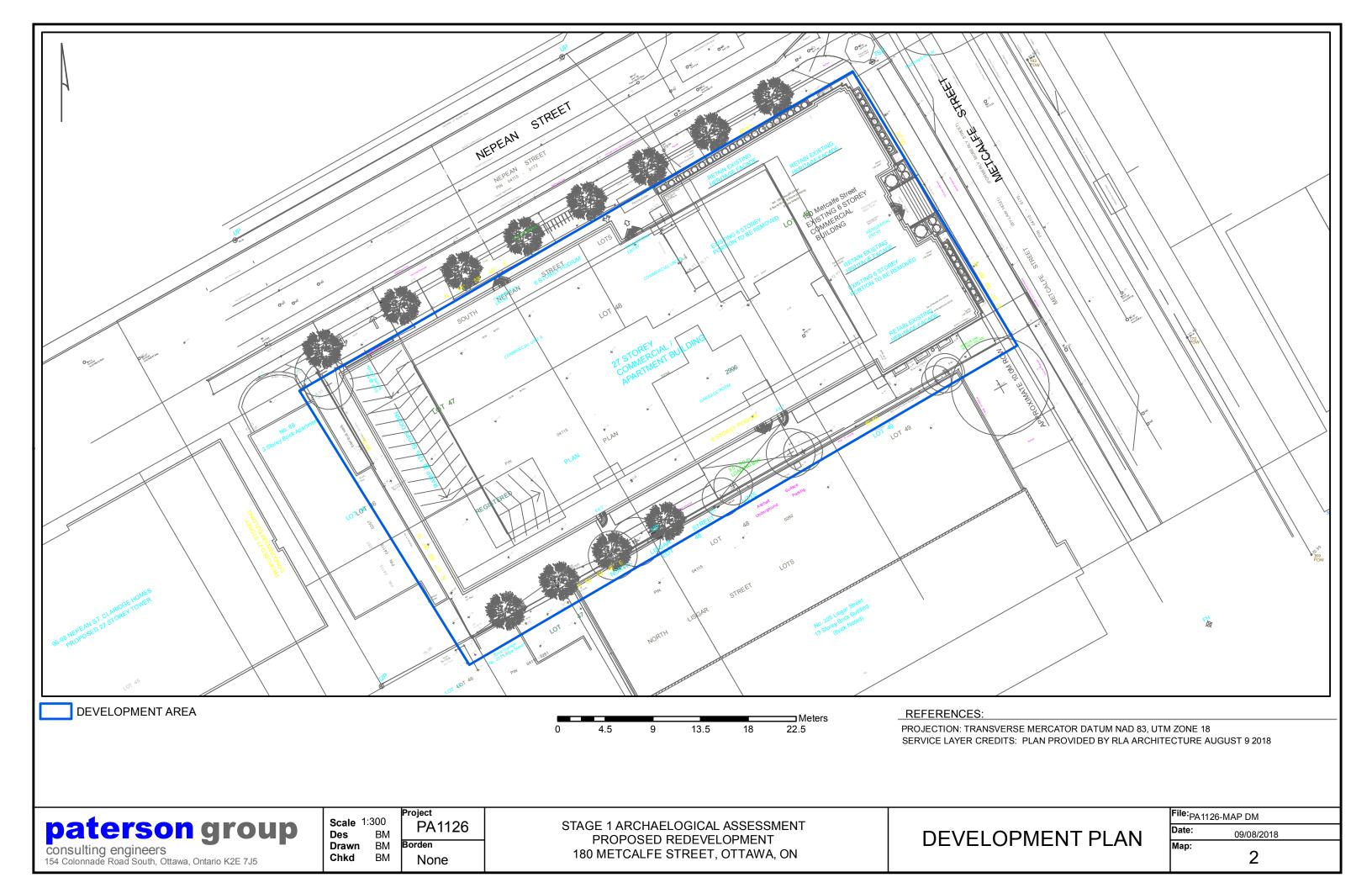
Figure 5: Overview of parking lot (D10).

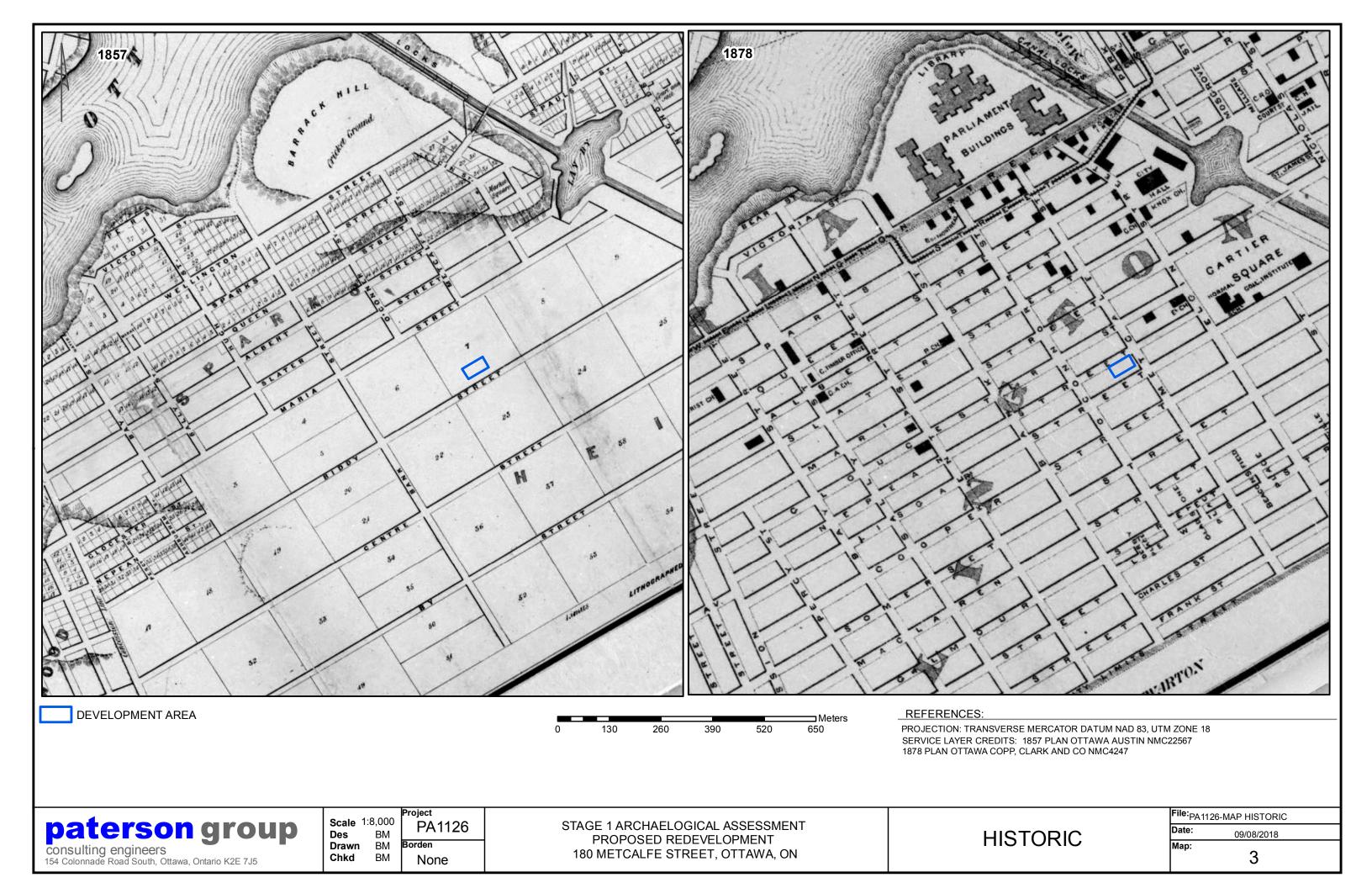


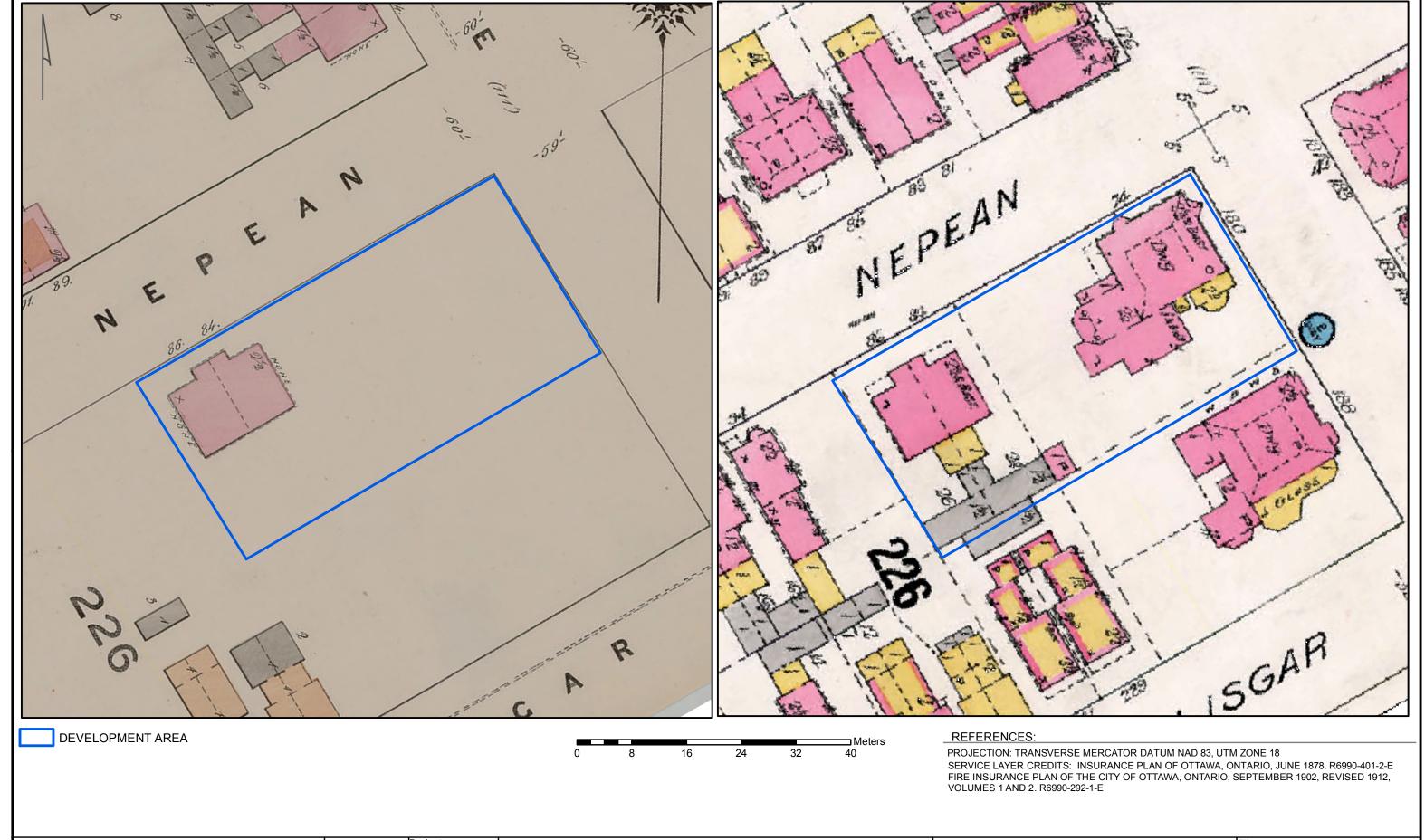
12.0 <u>Maps</u>

Report: PA1126-1 August 2018









paterson group

consulting engineers
154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Scale 1:500 Des BM Drawn BM

Chkd

Project
PA 1126
BM Borden
BM None

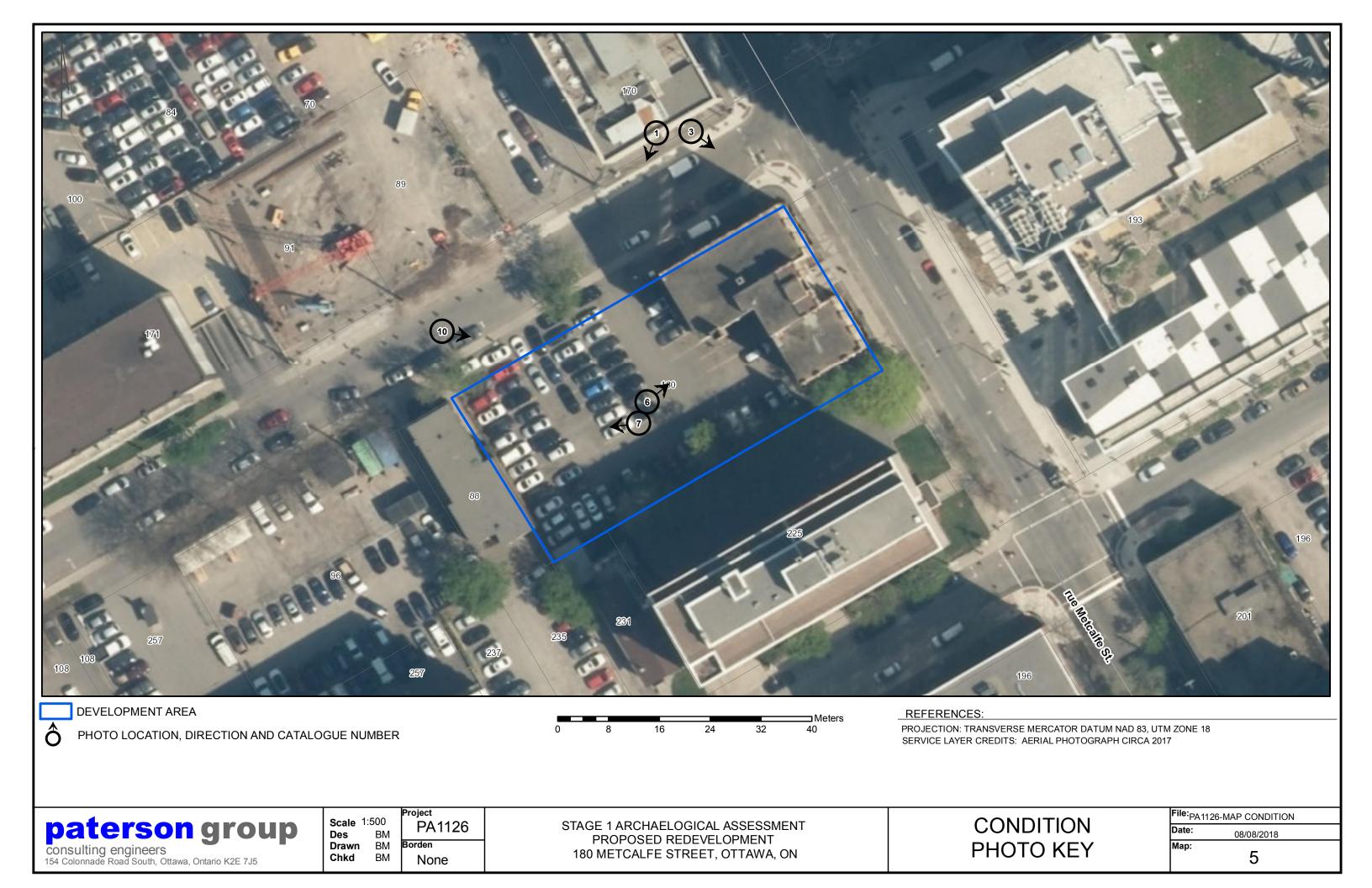
STAGE 1 ARCHAELOGICAL ASSESSMENT PROPOSED REDEVELOPMENT 180 METCALFE STREET, OTTAWA, ON

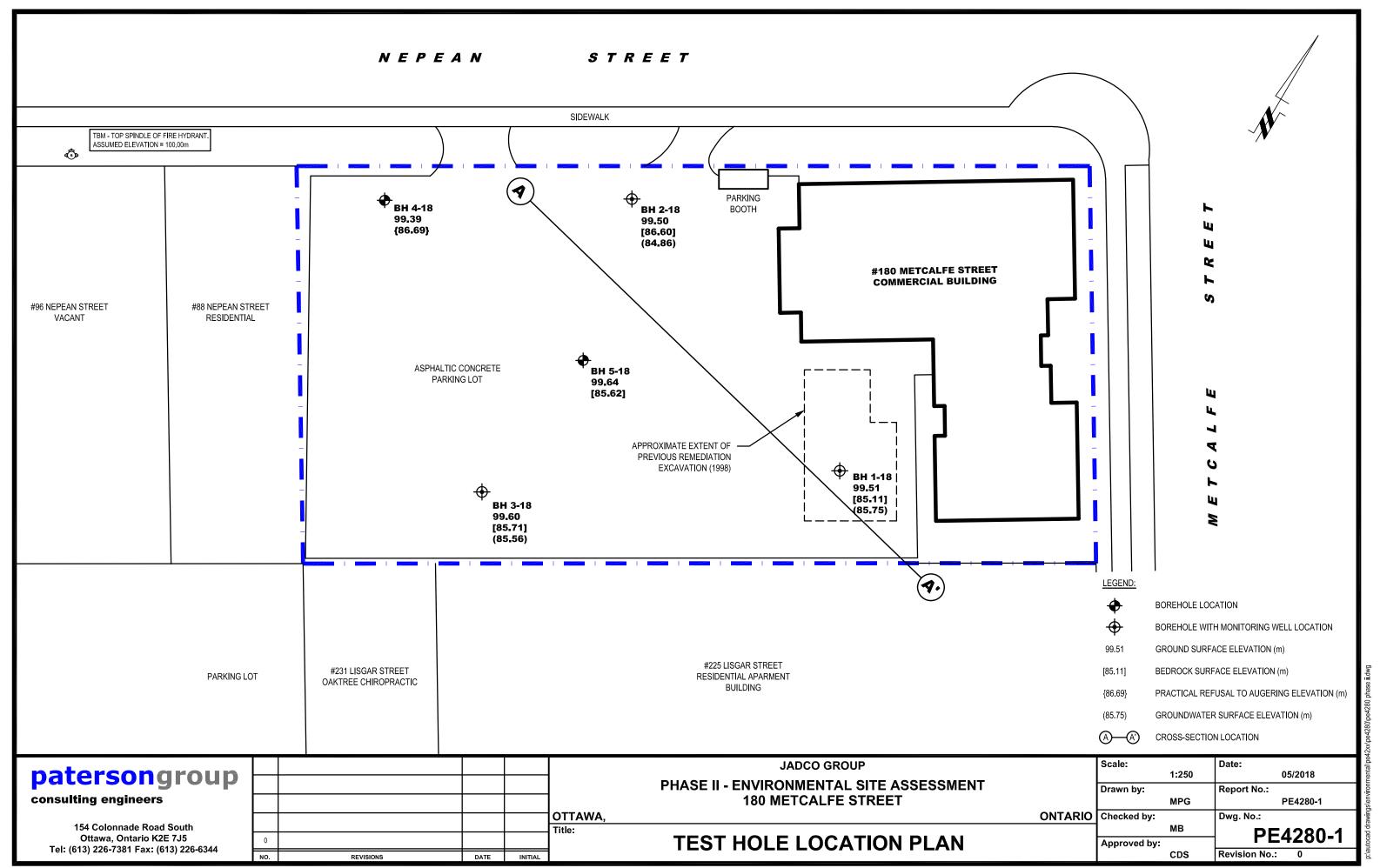
FIRE INSURANCE PLANS

File: PA 11 26-MAP FIP

Date: 31/07/2018

Map: 4







Appendix A: Photo Catalogue

Catalogue #	Comment	Direction	Photographer
		(Bearings)	
PA1126-D01	Overview of corner of building and parking lot.	200	BM
PA1126-D02	Overview of corner of building and parking lot.	203	BM
PA1126-D03	180 Metcalfe building	126	BM
PA1126-D04	180 Metcalfe building	148	BM
PA1126-D05	Overview of corner of building and parking lot.	178	BM
PA1126-D06	View of 180 Metcalfe building from parking lot	51	BM
PA1126-D07	Overview of parking lot	263	BM
PA1126-D08	Overview of parking lot	329	BM
PA1126-D09	Overview of parking lot	312	BM
PA1126-D10	Overview from west end	100	BM

Appendix B: Map Catalogue

Map Number	Description	Created By
1	Location	B. Mortimer
2	Development Map	B. Mortimer
3	Historic	B. Mortimer
4	Fire Insurance Plan	B. Mortimer
5	Conditions and Photo Key	B. Mortimer
6	Test Hole Location Plan	M. Granville

Appendix C: Document Catalogue

Project	Description	Created By
PA1126	180 Metcalfe Street - Field Notes Stage 1 Site Inspection (scanned	B. Mortimer
	to PDF "PA1126 – 180 Metcalfe Street Field Notes.pdf")	

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Appendix D: Borehole Logs

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SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment 180 Metcalfe Street Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

DATUM

TBM - Top spindle of fire hydrant . Assumed elevation = 100.00m.

FILE NO.

PE4280

REMARKS

BORINGS BY CME 55 Power Auger

DATE April 3, 2018

BH 1

BORINGS BY CME 55 Power Auger				D	ATE /	April 3, 20				D	H 1		
SOIL DESCRIPTION	PLOT		SAN	IPLE		DEPTH	ELEV.	Photo			Detec Rdg. (p		Well
GROUND SURFACE	STRATA P	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)	Lowe20			/e Lin		Monitoring Well Construction
Asphaltic concrete 0.05		§				0-	-99.51	20					
FILL: Crushed stone with silt and 0.30 sand		AU	1				•	A					
FILL: Brown silty sand		ss	2	42	9	1-	-98.51						
- trace gravel and clay by 1.45m depth		ss	3	58	4	2-	-97.51 [°]	A					ուկունարկանիրի արդանարկունանունարկունարկունան արդանարկունան անդանարկունան արդանարկունան անդանարկունարկումուն Խոստուսարարարարարարարարարարարարարարարարարարար
		ss	4	8	2								
3.30		ss	5	58	27	3-	-96.51	A					
		ss	6	100	W	4-	-95.51						
Very stiff to soft, grey SILTY CLAY , trace sand		ss	7	100	W	5-	-94.51	A : : : : : : : : : : : : : : : : : : :					
		ss	8	100	W	6-	-93.51	Δ					
		ss	9	100	W	_		A					
7.54		ss	10	100	W	7-	-92.51						
		ss	11	100	W	8-	-91.51						
GLACIAL TILL: Grey silty clay,		ss	12	75	9	9-	-90.51						
some sand, trace gravel, cobbles and boulders		ss	13	58	1			Δ					
		≤ SS	14	33	50+	10-	-89.51						<u>Արմուկուկին իրև ընտիրոնիրն ընտիրն ընտիրինի</u> Առուսումումությունը հետոնումումումումումումումումումում
		X				11-	-88.51	100	200	30			1 1 1 00
								RKI I ▲ Full G			. (ppr Methar		

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment 180 Metcalfe Street Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

TBM - Top spindle of fire hydrant . Assumed elevation = 100.00m.

FILE NO.

HOLE NO.

PE4280

DATUM

REMARKS

BH 1

BORINGS BY CME 55 Power Auger					ATE /	April 3, 20)18	BH 1
SOIL DESCRIPTION	PLOT		SAN	IPLE	1	DEPTH (m)	ELEV. (m)	Photo Ionization Detector Volatile Organic Rdg. (ppm)
	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(111)	(111)	Photo Ionization Detector ● Volatile Organic Rdg. (ppm) ○ Lower Explosive Limit %
GROUND SURFACE	\^^^	√ SS	15	42	3	11-	-88.51	20 40 60 80
GLACIAL TILL: Grev siltv clav.	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ss	16	25	17	12-	-87.51	
GLACIAL TILL: Grey silty clay, some sand, trace gravel, cobbles and boulders		ss	17	62	21			
and boulders		ss	18	75	13	13-	-86.51	
14.40	^^^^^ ^^^^^ ^^^^^	ss	19	42	16	14-	-85.51	
Inferred weathered BEDROCK		ss	20	83	22	4.5	04.54	<u>Δ</u>
15.34	4	∐ ⊠ SS	21	93	50+	15-	-84.51	
		RC	1	100	38			
		RC	2	97	88		-83.51 -82.51	
BEDROCK: Black shale		RC	3	100	100	18-	-81.51	
		- RC	4	100	94	19-	-80.51	
		_	5			20-	-79.51	
20.98 End of Borehole	3	RC -	၁	95	95			
End of Borenole (GWL @ 13.76m - April 23, 2018)								
								100 200 300 400 500 RKI Eagle Rdg. (ppm) ▲ Full Gas Resp. △ Methane Elim.

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment 180 Metcalfe Street Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

DATUM

TBM - Top spindle of fire hydrant . Assumed elevation = 100.00m.

FILE NO. PE4280

BORINGS BY CME 55 Power Auger

DATE April 4, 2018

BH 2

BORINGS BY CME 55 Power Auger				D	ATE	April 4, 20)18			 BH 2	
SOIL DESCRIPTION	PLOT		SAN	IPLE		DEPTH	ELEV.	Photo I		etector g. (ppm)	Well
GROUND SURFACE	STRATA E	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)	O Lowe 20			Monitoring Well Construction
Asphaltic concrete 0.05		§				0-	-99.50				
FILL: Crushed stone with silt and 0.23 sand FILL: Brown silty sand, trace gravel 1.07		AU SS	1 2	100	12	1-	-98.50	Δ			
Compact, brown SILTY SAND 1.45		<u>\</u> 7									
		ss 7	3	100	10	2-	-97.50	Δ			
		SS	4	100	5	3-	-96.50	Δ			
		ss	5	100	Р			Δ			
Stiff, brown to grey SILTY CLAY , trace sand		ss	6	100	Р	4-	-95.50				
liace Sailu		ss	7	100	Р	5-	-94.50	Δ			
		ss	8	100	Р	6-	-93.50	Δ			
						7-	-92.50				
<u>8.30</u>		ss	9	54	Р	8-	-91.50 '	Δ : : : : : : : : : : : : :			
GLACIAL TILL: Brown silty clay,		ss	10	58	Р	9-	-90.50	Δ			
some sand, gravel, cobbles and boulders		ss	11	42	50			Δ			
		ss	12	67	12	10-	-89.50	Δ			
	\^^^^	\				11-	-88.50		200 Eagle F as Resp.	400 ppm) ethane Elii	500

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment 180 Metcalfe Street Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

TBM - Top spindle of fire hydrant . Assumed elevation = 100.00m.

REMARKS

DATUM

FILE NO. **PE4280**

BORINGS BY CME 55 Power Auger				D	ATE A	April 4, 20	018		HOLI	E NO.	BH 2	2
SOIL DESCRIPTION	PLOT		SAN	/IPLE	1	DEPTH	ELEV.	Photo I			Detector dg. (ppm)	J.Well
	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)	O Lowe	r Exp	losive	Limit %	Monitoring Well
GROUND SURFACE	0,	7.00		1	-	11-	88.50	20	40	60	80	Σ
GLACIAL TILL: Brown silty clay, some sand, gravel, cobbles and boulders		ss	13	67 46	4		87.50	Δ.				
12.90		SS RC	15	100	8 50	13-	-86.50	Δ				
		RC	2	93	32	14-	-85.50					
BEDROCK: Black shale		RC	3	100	76	15-	-84.50					
		_				16-	83.50					
17.68 End of Borehole		RC	4	98	76	17-	82.50					
(GWL @ 14.64m - April 23, 2018)												
											400 (ppm) lethane E	500 im.

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment 180 Metcalfe Street Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

TBM - Top spindle of fire hydrant . Assumed elevation = 100.00m.

REMARKS

DATUM

FILE NO. PE4280

BORINGS BY CME 55 Power Auger				D	ATE /	April 4, 20	018		HOLE	NO.	BH	1 3	
SOIL DESCRIPTION	PLOT		SAN	IPLE		DEPTH (m)	ELEV. (m)	Photo I Vola	onizat tile Org				g Well
	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(111)		ower Explosive Limit				Monitoring Well Construction	
GROUND SURFACE 25mm Asphaltic concrete over 0.29	5 XXX	×		A	-	0-	-99.60	20	40	60	80)	
25mm Asphaltic concrete over crushed stone with silt and sand FILL: Brown silty sand, trace gravel and organics 0.29		Ã AU	1					Δ					
Compact, brown SILTY SAND	5	SS 17	2	100	10	1-	-98.60	Δ					
		ss	3	75	10	2-	-97.60	Δ					
		ss	4	100	5	3-	-96.60	Δ					
		ss	5	0	Р		2						
Stiff, brown to grey SILTY CLAY ,		ss	6	100	Р	4-	-95.60	Δ					
race sand		ss	7	100	Р	5-	-94.60	Δ					
		ss	8	100	Р	6-	-93.60	Δ					
	9					7-	-92.60						\rightarrow 1 \cdot
		ss	9	62	6	8-	-91.60	Δ					
GLACIAL TILL: Grey silty clay, some sand, trace gravel, cobbles and boulders		ss	10	58	2	9-	-90.60	Δ					
		ss	11	50	7		00.00						
		ss	12	0	18	10-	-89.60						
	[^^^^	X				11-	-88.60	100 RKI E ▲ Full Ga	200 Eagle I		(ppm)	

SOIL PROFILE AND TEST DATA

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Phase II - Environmental Site Assessment 180 Metcalfe Street Ottawa, Ontario

DATUM TBM - Top spindle of fire hydrant . Assumed elevation = 100.00m. FILE NO. **PE4280 REMARKS** HOLE NO. **BH 3** BORINGS BY CME 55 Power Auger DATE April 4, 2018 **Photo Ionization Detector SAMPLE** STRATA PLOT DEPTH ELEV. **SOIL DESCRIPTION** Volatile Organic Rdg. (ppm) (m) (m) RECOVERY N VALUE or RQD NUMBER Lower Explosive Limit % **GROUND SURFACE** 80 11 + 88.6013 67 8 12 + 87.60GLACIAL TILL: Grey silty clay, some sand, trace gravel, cobbles and boulders 13+86.60 <u> 13.89[/</u> 14+85.60 RC 1 100 84 15 + 84.60RC 2 100 81 **BEDROCK:** Black shale 16 + 83.603 RC 100 92 17 + 82.60End of Borehole (GWL @ 14.04m - April 23, 2018) 200 300 500 RKI Eagle Rdg. (ppm) ▲ Full Gas Resp. △ Methane Elim.

SOIL PROFILE AND TEST DATA

Phase II - Environmental Site Assessment 180 Metcalfe Street Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

DATUM

TBM - Top spindle of fire hydrant . Assumed elevation = 100.00m.

FILE NO.

PE4280

REMARKS

BORINGS BY CME 55 Power Auger

DATE April 5. 2018

BH 4

BORINGS BY CME 55 Power Auger			D	ATE A	April 5, 20)18		BH 4				
SOIL DESCRIPTION	PLOT		SAN	IPLE		DEPTH	ELEV.			ion Dete		y Well Stion
	STRATA	TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m)	(m)	O Lowe	er Explo	osive Lir	mit %	Monitoring Well Construction
GROUND SURFACE	w		z	M. M.	z º		00.00	20	40	60	80	≥
Asphaltic concrete 0.00 FILL: Crushed stone with silt and 0.20 Isand 0.60	o XXX C	AU	1			0-	-99.39	Δ				
FILL: Brown silty sand, trace gravel and organics Compact, brown SILTY SAND		ss	2	83	27	1 -	-98.39	Δ				
1.0.		ss	3	100	12	2-	-97.39	Δ				-
		ss	4	100	5	3-	-96.39	Δ				
Stiff, brown to grey SILTY CLAY,		ss	5	50	Р		00.00	Δ				
trace sand		ss	6	100	Р	4-	-95.39	Δ				
						5-	-94.39					4
						6-	-93.39					
<u>6</u> .6:	3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	ss	7	42	Р	7-	-92.39	Δ				
	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	<u>//</u>	8	83	2	8-	-91.39	Δ				
GLACIAL TILL: Grey silty clay, some sand, trace gravel, cobbles and boulders		17 17	9	67	8		01.00	Δ				
		ss	10	58	13	9-	-90.39	Δ				
	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ss	11	71	19	10-	-89.39	۵				
	\^^^^	X				11-	-88.39			Rdg. (ppi	m)	00
								▲ Full G	as Resp	. △ Metha	ne Elim.	

TBM - Top spindle of fire hydrant . Assumed elevation = 100.00m.

SOIL PROFILE AND TEST DATA

FILE NO.

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

DATUM

Phase II - Environmental Site Assessment 180 Metcalfe Street Ottawa, Ontario

PE4280 REMARKS HOLE NO. **BH 4** BORINGS BY CME 55 Power Auger DATE April 5, 2018 Monitoring Well Construction **Photo Ionization Detector SAMPLE** STRATA PLOT DEPTH ELEV. **SOIL DESCRIPTION** Volatile Organic Rdg. (ppm) (m) (m) RECOVERY VALUE r RQD NUMBER **Lower Explosive Limit %** N VZ **GROUND SURFACE** 80 11 + 88.3983 40 12 GLACIAL TILL: Grey silty clay, some sand, trace gravel, cobbles SS 13 79 34 and boulders 12+87.39 SS 14 34 84 Δ <u>12.70</u> End of Borehole Practical refusal to augering at 12.70m depth 200 300 400 500 RKI Eagle Rdg. (ppm) ▲ Full Gas Resp. △ Methane Elim.

SOIL PROFILE AND TEST DATA

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Phase II - Environmental Site Assessment 180 Metcalfe Street Ottawa, Ontario

DATUM	TBM - Top spindle of fire hydrant . Assumed	FILE NO.	PE4280	
REMARKS			HOLE NO.	
BORINGS BY	CME 55 Power Auger	DATE April 5, 2018		BH 5

BORINGS BY CME 55 Power Auger			DATE April 5, 2018					BH 5	BH 5		
SOIL DESCRIPTION		SAMPLE		DEPTH	ELEV.	Photo Ionization Detector ■ Volatile Organic Rdg. (ppm) ○ Lower Explosive Limit % 20 40 60 80					
		TYPE	NUMBER	% RECOVERY	N VALUE or RQD	(m) (m)	(m)	Lower Explosive Limit %			
GROUND SURFACE		-	Ä	Ä	zö	_		20 40 60 80	Ĭ		
					0+99.64		-				
						1-	98.64				
						2-97	97.64				
						3-	-96.64				
						4-	-95.64				
OVERBURDEN						5-	-94.64				
						6-	-93.64				
						7-	-92.64				
						8-	91.64				
						9-	90.64				
						10-	89.64				
						11-	-88.64	100 200 300 400 5 RKI Eagle Rdg. (ppm) ▲ Full Gas Resp. △ Methane Elim.	600		

SOIL PROFILE AND TEST DATA

▲ Full Gas Resp. △ Methane Elim.

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Phase II - Environmental Site Assessment 180 Metcalfe Street Ottawa, Ontario

TBM - Top spindle of fire hydrant . Assumed elevation = 100.00m. **DATUM** FILE NO. **PE4280 REMARKS** HOLE NO. **BH** 5 BORINGS BY CME 55 Power Auger DATE April 5, 2018 **SAMPLE Photo Ionization Detector** STRATA PLOT DEPTH ELEV. **SOIL DESCRIPTION** Volatile Organic Rdg. (ppm) (m) (m) N VALUE or RQD RECOVERY NUMBER **Lower Explosive Limit % GROUND SURFACE** 80 11 + 88.6412+87.64 **OVERBURDEN** 13+86.64 14+85.64 Inferred weathered BEDROCK SS 1 100 50+ End of Borehole 200 300 500 RKI Eagle Rdg. (ppm)