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Phase I Environmental Site Assessment

Vacant Land 1125 Colonel By Drive Ottawa, Ontario

Prepared For

Carleton University c/o ZW Group

Paterson Group Inc.

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EXECUTIVE SUMMARY

Assessment

A Phase I – Environmental Site Assessment was carried out for area of the proposed new residence building at Carleton University, located at 1125 Colonel By Drive, in the City of Ottawa, Ontario. The purpose of this environmental assessment was to research the past and current use of the subject site and adjacent properties and identify any environmental concerns with the potential to have impacted the subject property.

Based on the available historical data, the subject site appears to have always been vacant or used as a parking lot. The university began acquiring properties (which make up the current campus) as early as 1947 and gained ownership of the present day campus property by 1972. Surrounding land use has been largely vacant, possible farmstead use, some domestic landfilling activities, university usage, with a railway line further to the east of the subject site and more recently parking lots to the north and east of the subject site. The land to the west and north of the subject site has never been developed.

During the development of various university buildings, soil excavated from the building footprints was placed on the eastern portion of the subject site and lands to the north and east of the subject site. The fill was assessed during a fill characterization program, carried out in prior to this assessment, in conjunction with a geotechnical investigation. The fill material is not considered to be contaminated material.

Two (2) potentially contaminating activities (PCAs) were identified within the Phase I study area during the historical review. Neither of the PCAs are considered to represent an area of potential environmental concern for the subject site.

Following the historical review, a site visit was conducted. The site consists of a raised parking area on the east side and a depressed marsh on the western portion. The escarpment separating the two sides is partially covered with rip rap, which water from the parking lot is diverted down, to the marsh area. Minial staining was observed on the asphalt surface of the parking lot and no olfactory or visual signs of contamination were identified in the marsh portion of the subject site. No concerns were identified with respect to the current use of the subject site.

Surrounding land use consisted of vacant (marsh or parking lots), university residences and commons buildings. No concerns with respect to the current use of the neighbouring properties were identified in the Phase I-ESA study area.

Conclusion

Based on the results of this Phase I Environmental Site Assessment, in our opinion, a Phase II-Environmental Site Assessment will not be required for the subject property.

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1.0 INTRODUCTION

At the request of ZW Group Inc. (ZWG), on behalf of Carleton University, Paterson Group (Paterson) conducted a Phase I - Environmental Site Assessment (Phase I-ESA) of the parcel of land on the northwest portion of the Carleton University campus, located at 1125 Colonel by Drive, in the City of Ottawa, Ontario. The purpose of this Phase I-ESA was to research the past and current use of the site and study area and to identify any environmental concerns with the potential to have impacted the subject property.

Paterson was engaged to conduct this Phase I-ESA by Mr. Dan Belcourt of ZWG acting on the behalf of Carleton University. The Carleton University offices are located at 1125 Colonel By Drive. Mr. Belcourt can be reached by telephone at (613) 596-9663.

This report has been prepared specifically and solely for the above noted project which is described herein. It contains all of our findings and results of the environmental conditions at this site.

This Phase I-ESA report has been prepared in general accordance with the requirements of Ontario Regulation 153/04 as amended by O.Reg. 269/11 (Environmental Protection Act), and also complies with the requirements of CSA Z768-01. The conclusions presented herein are based on information gathered from a limited historical review and field inspection program. The findings of the Phase I - ESA are based on a review of readily available geological, historical and regulatory information and a cursory review made at the time of the field assessment. The historical research relies on information supplied by others, such as, local, provincial and federal agencies and was limited within the scope-of-work, time and budget of the project herein.



2.0 PHASE I PROPERTY INFORMATION

Addresses: The subject site consists of a portion of the Carleton

University campus, located at 1125 Colonel By Drive,

Ottawa, Ontario.

Legal Description: Part Lot L, Concession B, Nepean Township, Rideau

Front.

Property Identification

Numbers (PIN): 04098-0065, 04087-0068.

Location: The site is located on the east side of Colonel By Drive,

in the north end of the Carleton University Campus, in the City of Ottawa, Ontario. The subject site is shown on Figure 1 - Key Plan following the body of this report.

Latitude and Longitude: 45° 23' 20" N, 75° 41' 56" W.

Site Description:

Configuration: Rectangular.

Site Area: 4,058 m² (approximate)

Zoning: I2A F – Institutional Zone

Current Use: The east side of the subject site is used as an asphaltic

parking area and the west side of the subject site is a

vacant marshy area.

Services: Municipal water and sewage services are available in

the area of the subject site. The subject site is not

currently serviced by water or sewer services.

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3.0 SCOPE OF INVESTIGATION

The scope of work for this Phase I-Environmental Site Assessment was as follows:

- Determine the historical activities on the subject site and study area by conducting a review of readily available records, reports, photographs, plans, mapping, databases and regulatory agencies;
- Investigate the existing conditions present at the subject site and study area by conducting site reconnaissance;
- Conduct interviews with persons knowledgeable of current and historic operations on the subject property, and if warranted, neighbouring properties;
- Present the results of our findings in a comprehensive report in general accordance with the requirements of Ontario Regulation 269/11 amending O.Reg. 153/04 made under the Environmental Protection Act and in compliance with the requirements of CSA Z768-01;
- Provide a preliminary environmental site evaluation based on our findings;
- Provide preliminary remediation recommendations and further investigative work if contamination is suspected or encountered.

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4.0 RECORDS REVIEW

4.1 General

Phase I-ESA Study Area Determination

A radius of approximately 250 m was determined to be appropriate as a Phase I-ESA study area for this assignment. Properties outside the 250 m radius are not considered to have had the potential to impact the subject land, based on their significant distance from the site.

First Developed Use Determination

According to the aerial photographs reviewed as part of this assessment, the northeastern portion of the subject site appears to have been initially used as a parking lot by 1984. The remaining portion has always been vacant. Based on the aerial photograph review and observations made during the site visit, the subject site has never been developed with any buildings.

Fire Insurance Plans

Fire Insurance Plans (FIPs) are not available for the area of the subject site. The nearest FIP shows the men's and women's residences on the north side of Library Road, further to the south of the subject site.

City of Ottawa Street Directories

City directories are not available for the area of the subject site and Phase I-ESA study area.

Chain of Title

The chain of title, which was prepared for the entire Carleton University campus, indicates that part of the property was owned by individuals as early as 1801. In 1875 part of the property was acquired by St. Lawrence & Ottawa Railway Co., by 1947 The Ottawa Association for the Advancement of Learning (now Carleton University) began acquiring portions of the current campus. By 1972 the university owned the present day campus property.

Previous Engineering Reports

Paterson has carried out a geotechnical investigation and a fill characterization program at the subject site in 2014.

The geotechnical investigation was carried out in August, 2014. At that time, several test pits (TPs) and boreholes (BHs) were dug/drilled to various depths on and around the subject site. The borehole and test pit locations provide general

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coverage of the subject site and adjacent lands. No visual or olfactory evidence of potential contamination was observed during the drilling program. Fill material generally consisting of silty clay, silty sand, gravel, boulders and topsoil was observed in all of the boreholes and test pits.

The fill material was assessed for metal impacts during the fill characterization assessment in August, 2014. Four (4) test pits were advanced through the fill to the native glacial till. Four (4) samples selected from the two (2) distinct fill layers were selected for analysis. All parameters were found to comply with the MOE Table 1 standards, as a result, the fill on-site is not considered to be contaminated and is suitable for off-site use as clean fill.

Since the fill quality has been determined, the fill material on the subject site is not considered to be a potentially contaminating activity (PCA).

The presence of the fill on the subject site is discussed throughout the report.

Current Plan of Survey

A current plan of survey was not available for review at this time.

4.2 Environmental Source Information

Environment Canada

A search of the National Pollutant Release Inventory (NPRI) was conducted electronically on August 7, 2014. Carleton University (NPRI ID 10602) has records from 2002 to 2008 for releases of carbon monoxide, nitrogen oxides, sulphur dioxide, volatile organic compounds and particulate matter, into the air. None of these releases are suspected to have originated on the subject site or have negatively impacted the subject property.

PCB Inventory

A search of national PCB waste storage sites was conducted. One (1) PCB storage site was listed for Carleton University. The Carleton University PCB storage site is listed as the Maintenance Building and was considered to be a major storage site, storing 23.0 liquid tonnes. The Maintenance Building is located approximately 500 m southeast of the subject site, is not within Phase I-study area and is not considered to have the potential to generate an area of potential environmental concern on the subject site. Furthermore, the most recent update to the MOE regarding the contents of the PCB waste storage site on the Carleton University campus indicate that all of the PCB wastes have been removed from the property for destruction and only an empty container remains.

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Ontario Ministry of Environment (MOE) Instruments

A request was submitted to the MOE Freedom of Information office for information with respect to certificates of approval, permits to take water, certificates of property use or any other similar MOE issued instruments for the site. The response from the MOE included approvals for permits to take water, alterations or installations of fume hoods, ventilation/exhaust/heating systems, generators and paint spray booths, and repairs/construction for municipal and private sewers. None of these approvals are considered to represent any potential environmental concerns or potentially contaminating activities.

The MOE was responsible for regulating the PCB waste storage site at the Carleton University Maintenance Building. The MOE requested frequent updates whenever the contents of the PCB waste storage site changed and documents detailing the removal and destination of all PCB contaminated materials. With the exception of light staining around the transformers within the buildings (prior to reclassification or disassembly) no signs or leaks, spills or staining were reported in any of the PCB Inventory Inspection Reports, ENSR letters (who were reclassifying the PCB contaminated transformers) or updates from Carleton University regarding the PCB waste storage site.

As Carleton University is all on the same municipal address, 1125 Colonel By Drive, the response contains all the available information pertaining to the entire campus. The vast majority of the reports contained within the response were for buildings located on the older portion of the campus, further to the south of the Phase I study area. A copy of the MOE response (CD) is provided in Appendix 2.

MOE Coal Gasification Plant Inventory

The Ontario Ministry of Environment document titled "Municipal Coal Gasification Plant Site Inventory, 1991" was reviewed to reference the locations of former plants with respect to the site. No coal gasification plants were identified within the Phase I study area.

MOE Incident Reports

A request was submitted to the MOE Freedom of Information office for information with respect to records concerning environmental incidents, orders, offences, spills, discharges of contaminants or inspections maintained by the MOE for the site or adjacent properties.

The response contained many reports of incidents/occurrences which involved spills, leaks or releases of chemicals were identified. These releases included natural gas leaks, releases of refrigerants and fire retardant chemicals, an illegal dumping event of kitchen grease, discharge of E.coli and sediment to natural



water bodies, mixed solvents to municipal sanitary sewers and various fuels, lubricants and automotive fluids to the roadways, buildings and parking areas. All of the incident/occurrence reports concluded that the response had been appropriate and that no further action was required. Typically these spills were for parts of the campus further to the south of the Phase I study area, however several of the spills reports did not provide a reference point and may have taken place closer to the subject site. None of the spill incident reports are considered to represent a potentially contaminating activity with the potential to generate an area of potential environmental concern on the subject site.

There are two (2) sets of orders issued from the MOE to Carleton University. One (1) order pertained to halting drilling activities until adequate mitigation measures were in place to reduce the total dissolved solids in the discharge water entering Rideau River. The other order was requesting compliance with O.Reg 127/01, specifically requesting that the University conducts monitoring, calculating and reporting air contaminant emissions. This order was either reoccurring or duplicated in the response. Neither order is considered to represent a potentially contaminating activity with the potential to impact the subject site.

MOE Waste Management Records

A request was submitted to the MOE Freedom of Information office for information with respect to waste management records. A review of the response identified several emergency waste generator numbers issued for one-time events, such as moving equipment (that required draining), decommissioning of equipment or spills.

The MOE carried out various inspections with respect waste management records including, PCB site inspections, waste audits, waste reduction work plan inspections, source separation inspection and waste generator inspections. The MOE often requested updates and increased detail with respect to the waste management strategies, but no actions were recommended in the inspection reports.

Carleton University holds waste generator numbers for a broad array of waste classes generated and removed from site and maintains a PCB waste storage site. These materials are largely associated with the buildings on the southern portion of the campus and outside of the scope of this project. Waste generation within the Phase I study area is believed to be limited to domestic waste, recycling and food waste from the cafeterias and residences. None of the waste management records identified any potentially contaminating activities with the potential to have impacted the subject site.



MOE Submissions

A request was submitted to the MOE Freedom of Information office for information with respect to reports related to environmental conditions that have been submitted to the MOE. No reports related to the environmental condition of the subject site were included in the response from the MOE.

MOE Brownfields Environmental Site Registry

A search of the MOE Brownfields Environmental Site Registry was conducted as part of this assessment for the site, neighbouring properties and the general area of the site. No Records of Site Condition (RSCs) were identified for the subject site or any other properties within the Phase I-ESA study area.

MOE Waste Disposal Site Inventory

The Ontario Ministry of Environment document titled "Waste Disposal Site Inventory in Ontario, 1991" was reviewed as part of the historical research. This document includes all recorded active and closed waste disposal sites, industrial manufactured gas plants and coal tar distillation plants in the Province of Ontario. Based on the available information, there is one (1) waste disposal site (x 1012), located approximately 200 m east of the subject site, on the Carleton Campus in the area of the sports fields, parking lots and recreation facility. Based on the available data the landfill was closed in 1946. More details regarding this landfill are discussed under the heading City of Ottawa Landfill Document in this section.

Areas of Natural and Scientific Interest (ANSI)

A search for areas of natural significance and features within the Phase I study area was conducted on the web site of the Ontario Ministry of Natural Resources (MNR) on August 7, 2014. The search did not identify any provincially significant life sciences or earth sciences areas of natural heritage and scientific interest within the Phase I study area.

Technical Standards and Safety Authority (TSSA)

The TSSA, Fuels Safety Branch in Toronto was contacted electronically on August 7, 2014 to inquire about current and former underground storage tanks, spills and incidents for the site and immediately adjacent properties. The TSSA had records for eight (8) active underground fuel oil storage tanks. A copy of the TSSA correspondence is included in Appendix 2.

Based on discussions with Kevin Gallinger (Assistant Director of Maintenance Services at Carleton University), these tanks are considered to be associated with the buildings further to the south, outside of the Phase I study area. He mentioned the tanks were associated with the Science Buildings, Maintenance Buildings and the heating plant. Furthermore, he indicated that the buildings



within the Phase I study area were heated via the central heating plant (which provides heat via steam) and supplemental electrical heat. None of the TSSA records are considered to be for buildings within the Phase I-study area.

City of Ottawa Landfill Document

The document entitled "Old Landfill Management Strategy, Phase I – Identification of Sites, City of Ottawa", was reviewed. One (1) former landfill site was identified within the Phase I study area. Landfill site Ur-7 (x 1020), is privately owned by Carleton University and is located on the eastern portion of the campus approximately 200 m east of the subject site. The landfill is located in the area of the Carleton University playing fields, between Bronson Avenue and University Drive. The site was active in the early 1930's and closed in 1946. The waste is reportedly mainly domestic, between 3.0 and 4.6 m thick with an site area of approximately 7 ha. Based on the distance from the site this landfill is not considered to represent a potentially contaminating activity with the potential to generate an area of potential environmental concern on the subject site.

City of Ottawa Historical Land Use Inventory

A requisition form was sent to the City of Ottawa on August 19, 2014 to request information from the City's Historical Land Use Inventory (HLUI 2005) database for the subject property.

The response from the City indicated that two (2) landfills are present on the Carleton University campus, Carleton University Landfill (Ur-7, x 1012) and Brewer's Park Landfill (Ur-32, x 1013). As previously discussed the Carleton University landfill is not considered to represent a significant concern. The Brewer's Park landfill is located approximately 450 m southeast of the subject site, approximately 200 m beyond the Phase I study area. The response indicates that the city conducted an analysis of the city-owned portion of Ur-7 to identify any potential human health risks associated with the site's current land use, for which, none were identified.

The Sewer Use Program noted that there is information about recent environmental reports, past control orders or work orders, violations of environmental statues, regulations or by-laws and other environmental information. This information is considered to correspond to some of the information recovered in the MOE Freedom of Information search. Based on the available data, this information is not anticipated to represent a concern for current or proposed use of the subject site.

The search of the HLUI identified six (6) activities on the Carleton University Campus and four (4) activities associated with the adjacent properties. Three (3)





of the activities reported two (2) fuel oil USTs located at the Tory building, which is located further to the south, beyond the extent of the Phase I study area.

One (1) listing referred to an unnamed waste disposal site, Site x 1102. This is believed to be an erroneous report, as site x 1102 is located 1.75 km north of the subject site. It is likely this was a typographical error, as site x 1012 (Carleton University landfill) is located just 200 m east of the subject site. Regardless, as mentioned previously in this report, no landfill sites are considered to represent an area of potential environmental concern for the subject site due to their distance and age.

The HLUI activities listed Public Works and Government Services Canada (PWGSC) at 1008 Colonel By Drive, which is considered to be no less than 200 m east of the subject site, across the railway line. The exact location of the PWGSC facility was not determined, however, based on the approximated distance from the subject site this activity is not considered to pose a risk to the subject site.

One (1) activity was listed as Environment Canada CWS, services incidental to agricultural crops, which was identified in the National Wildlife Research Centre (NWRC). The NWRC building is located on the south end of the campus, approximately 600 m south of the subject site, adjacent to the Rideau River. This building is considered to be too far from the subject site to represent a risk.

The remaining activities were for a residential property developer and an elevator and escalator company. Both of these listings are considered to be temporary activities, which are not considered to be potentially contaminating activities with the potential to represent a concern for the subject site.

The review of the HLUI response did not identify any potentially contaminating activities with the potential to generate any areas of potential environmental concern for the subject property.

4.3 Physical Setting Sources

Aerial Photographs

Historical air photos from the National Air Photo Library were reviewed in approximate ten (10) year intervals. The review period dates back to the first available air photos for the site. Based on the review, the following observations have been made:

1945

The subject site appears vacant, with trees on the west side of the site. Neighbouring lands appear vacant or used for agricultural purposes. Colonel By Drive, Bronson Avenue and the rail line further to the east of the subject site are present. The Carleton



	University landfill (Ur-7, x1012) is present further to the east of the subject site, across the rail line.
1950	The subject site remains vacant. The Carleton University landfill appears to be closed. The lands on the west side of the canal appear to have been altered. A small path from the area of the subject site across the railway to Bronson is present, no other apparent changes have been made to the subject site or neighbouring properties.
1953	The eastern land of the subject site and the lands to the north and east of the subject site appear to be disturbed. No other apparent changes have been made to the subject site or neighbouring properties.
1970	The subject site remains vacant at this time. The vegetation on the land to the east and north of the subject site has been disturbed. Many of the university buildings have been constructed further to the south of the subject site. Campus Avenue, University Drive and Library Road have been constructed further to the south of the subject site.
1984	The eastern portion of the subject site appears to be utilised as a crushed stone parking lot. Lands to the north and east of the subject site are also utilized as a crushed stone parking area. No apparent changes have been made to lands to the west of the subject site. Lands to the south of the subject site cannot be assessed in this photograph.
1993	The parking lot has been expanded further to the north of the subject site. Additional university buildings are present to the south of the subject site.
2002	The subject site remains occupied by trees on the west side and a parking lot on the east side. The residence building immediately south of the subject site has been constructed. Another parking area is present further to the east of the subject site. No other changes are apparent in this photograph.
2011	(City of Ottawa website) The tennis courts further to the east of the subject site appear to have been covered or replaced with a dome. No other changes appear to have been made to the subject site or neighbouring properties.

Laser copies of selected aerial photographs reviewed are included in Appendix 1.



Topographic Maps

Topographic maps were obtained from The Atlas of Canada – Toporama website and from the City of Ottawa website. The topographic maps depicts the subject site in a generally flat area. The overall region slopes down towards the Rideau River to the east of the subject site. The maps depict the railway line to the north and east of the subject site. According to the maps, the nearest water body is the Rideau Canal, located approximately 75 m west of the subject site. An illustration of the referenced topographic map is presented on Figure 2 – Topographic Map, appended to this report.

Physiographic Maps

A Physiographic Map was reviewed from the Natural Resources Canada – The Atlas of Canada website. According to this physiographic map, the site is located in the St. Lawrence Lowlands. According to the mapping description provided: "The lowlands are plain-like areas that were all affected by the Pleistocene glaciations and are therefore covered by surficial deposits and other features associated with the ice sheets." The subject site is located in the Central St. Lawrence Lowland, which is generally less than 150 m above sea level.

Geological Maps

The Geological Survey of Canada website on the Urban Geology of the National Capital Area was consulted as part of this assessment. Based on this information, bedrock in the area of the site consists of interbedded Limestone and Shale of the Verulam Formation. Overburden consists of organic deposits, with a drift thickness on the order of 5 to 10 m.

Water Well Records

A review of the online MOE Well Record Data map identified records of three (3) well records in the Phase I-ESA study area. One (1) of the records was for air conditioning (ventilation for tunnels) and is apparently located to the north of the subject site in the parking lot area. One (1) of the records was for a well near the science building, which is considered to be outside of the Phase I study area. The final record was for abandonment of a well. Based on the presence of municipal services on the campus, it is considered unlikely that any drinking water wells are present in the Phase I study area.

Water Bodies and Areas of Natural and Scientific Interest

No areas of natural and scientific interest (ANSIs) are known to exist within the Phase I study area. The Rideau Canal is present approximately 75 to the west of the subject site. No other bodies of water are present in the Phase I-ESA study



area, however, the Rideau River is present approximately 750 m south of the subject site.

Fill Materials

Fill material consisting of soil and stone excavated during the development of several campus buildings has been placed in the area of the parking lot on the subject site and lands to the north and east of the subject site. This fill material was assessed in the Fill Characterization Analysis that took place prior to this assessment. Furthermore, several boreholes have been placed on the subject site during recent and former geotechnical investigations and no signs of contamination or deleterious fill were identified in the boreholes. Evidence of waste disposal was not identified during the former or current subsurface investigations at the subject site. The landfilling activities further to the east at the Carleton University landfill (Ur-7, x 1012) are not considered to have taken place in the area of the subject site.

Based on the subsurface investigation in the area of the subject site, the fill deposited on the subject site is considered to be of known quality (meets MOE background standards) and is not considered to be an area of potential environmental concern that requires further assessment.

5.0 INTERVIEWS

Property Owner Representative

Mr. Dan Belcourt, of ZW Group Inc., was present during a site visit in August for questioning. Mr. Belcourt indicated the fill in the area of the parking lot had been removed from other areas of the campus during the development of several buildings.

Conversations with Mr. Kevin Gallinger (Assistant Manager of the Maintenance Services Department of Carleton University) provided additional details pertaining to the services at the subject site. He indicated that the buildings within the Phase I study area have never been heated by fuel oil. He mentioned that no USTs or ASTs have been present in that portion of the campus. Mr. Gallinger indicated that the USTs identified by the TSSA were associated with the Science, Maintenance and Heating Plant buildings located further to the south and southeast of the subject site, beyond the Phase I study area limits.

With the exception of the landfills in the area of Carleton University, neither Mr. Belcourt nor Mr. Gallinger was aware of any potential environmental concerns associated within the area of the subject site. The information obtained from the interview with Mr. Belcourt and Mr. Gallinger is consistent with site information obtained from other sources and is considered to be valid.



6.0 SITE RECONNAISSANCE

6.1 General Requirements

The site visit was conducted on August 7, 2014 between 12:30 PM and 2:00 PM. Weather conditions for the site visit were partially cloudy, with a temperature of approximately 20°C. Mr. Sean Moggridge from the Environmental Department of Paterson Group conducted the site assessment. In addition to the subject site, the uses of neighbouring properties within the Phase I study area were also assessed from publicly accessible roadways at the time of the site visit.

Access was available to the entire site. At the time of the assessment, the site consisted of a portion of a parking lot on the top of an escarpment and a marsh lowland area at the base of the escarpment. The site is vacant with the exception of the parking area. Ground cover consisted of cat tails, tall grasses, bushes and trees on and at the bottom of the slope, while the parking area has an asphaltic concrete surface. Surface water flows to the southwest corner of the parking lot, where it drains to the marshy area on the western portion of the subject site. Rip rap is present along the escarpment directing the run-off to the depressed marsh area.

Very few minor stains were observed in the parking lot portion of the subject site; several cars were present obscuring several areas. Standing water was present in the marshy area during the site visit, at which time no visual or olfactory signs of contamination were observed.

6.2 Specific Observations at Phase I Property

Buildings and Structures

No buildings or structures, aside from those noted above, are present on the subject site.

Below Ground Structures

No below ground structures, aside from those noted above, are known to exist on the subject site.

Storage Tanks

No aboveground storage tanks (ASTs) or signs of underground storage tanks (USTs) were observed on the subject property during the site visit. No significant staining or stressed vegetation was observed on the ground surface at the subject site.



Water Source

The subject site currently utilized as a parking lot, no water services are present on the subject site.

Underground Utilities

Private electrical conduits servicing the parking lot lights and communications cables are present on the subject site. No other underground services are suspected to be present on the subject site.

Unidentified Substances

There were no unidentified substances on the subject property at the time of the site visit. Furthermore, no unidentified substances were identified in the test pits excavated in the fill characterization assessment.

Groundwater Monitoring Wells

Several groundwater monitoring wells were identified on the subject site and within the Phase I study area. These monitoring wells are known to be associated with geotechnical work for the proposed development on the subject site.

Sewage Works

No sewage works were identified on the subject site. No private sewage systems are suspected to exist on the subject site.

Site Features

The site consists of a portion of a parking lot on the east side and a marsh area on the west. The parking lot is situated on a fill pile of soil and rock accrued from the development of various Carleton University Structures and the trench for the rail line. No structures are present on the subject site. Ground cover consists of a range of grasses, cat tails, shrubs/bushes and asphaltic concrete. The site topography generally slopes to the west (lower marsh area), while the parking lot is sloped towards the southwest corner to rip rap that diverts surficial water flow to the marsh area. The regional topography in the area of the subject site is generally undulating, with overall slopes to the west and east, towards the Rideau Canal and the nearby railway line. No areas of significant staining were identified in the parking lot. No visual or olfactory signs indicating contamination were identified in the water in the marsh area.



Railway and Spur Lines

No evidence of current or former railway or spur lines was observed on the subject property at the time of the site inspection. One (1) rail line is present approximately 100 m further to the east of the subject site.

Potentially Contaminating Activities

No historical or existing potentially contaminating activities (PCAs) were identified on the subject site. The fill quality was previously assessed and is therefore not considered to be a PCA.

Neighbouring Properties

An inspection of the neighbouring properties was conducted from publicly accessible roadways at the time of the site inspection. Land use adjacent to the subject site was as follows:

- North Parking lot;
- South University residence;
- East Parking lot, followed by a rail line;
- West Vacant, followed by Colonel By Drive.

No potential environmental concerns were identified with respect to the current use of the neighbouring properties. Current land use in the Phase I Study area is illustrated on Drawing PE3367-2 - Surrounding Land Use Plan in the Figures section of this report, following the text.

7.0 REVIEW AND EVALUATION OF INFORMATION

7.1 Land Use History

According to the Chain of Title, part of the campus property was owned by individuals as early as 1801. In 1875 part of the property was acquired by St. Lawrence & Ottawa Railway Co., by 1947 The Ottawa Association for the Advancement of Learning (now Carleton University) began acquiring portions of the current campus. By 1972 the university owned the present day campus property. It should be noted that the chain of title was prepared for the current address 1125 Colonel By Drive, which consists of the entire campus property.

Based on the aerial photographs and discussions with personnel from the University, the subject site is considered to have been vacant since prior to the 1928. In the 1980s, the northeastern part of the property began to be used as a parking lot. Otherwise, no permanent structures have been developed on the subject site.



Potentially Contaminating Activities

study area:				
	Former use of lands further to the east of the subject site as a landfill (Ur-7 Carleton University).			
	The presence of the railway line further to the east of the subject site.			

Two (2) potentially contaminating activities (PCAs) were identified in the Phase I

Based on their distances from the subject site, the former use of the landfill site Ur-7 and the presence of the railway line are not considered to represent areas of potential environmental concern (APEC).

Areas of Potential Environmental Concern

No APECs are considered to exist on the Phase I property.

Contaminants of Potential Concern

Since there are no APECs on the subject site, there are no contaminants of potential concern (CPCs) for the subject site.

7.2 Conceptual Site Model

Geological and Hydrogeological Setting

Based on the previous geotechnical investigations at the subject site, approximately 4.5 m of fill is present on the subject site. The fill consists of brown silty clay and silty sand, some to trace gravel, cobbles and boulders. The fill is underlain by glacial till. Based on the available geological survey maps, bedrock consists of Shale of Verulam Formation and is present between 5 to 10 m below the native glacial till. Based on the site topography groundwater flow is interpreted to be moving in a northwesterly direction.

Contaminants of Potential Concern

As indicated in Section 7.1 of this report, no Contaminants of Potential Concern (CPCs) were identified on the subject site.

Existing Buildings and Structures

No structures are present on the subject site, aside from the parking lot.



Water Bodies

The closest body of water to the subject site is the Rideau Canal, located approximately 75 m west of the subject site. No other bodies of water are present within the Phase I study area.

Areas of Natural and Scientific Interest

No areas of natural and scientific interest were identified on the site or in the Phase I study area.

Drinking Water Wells

Based on a review of the MOE Well Record Data maps, three (3) well records were identified within the Phase I study area. As discussed in Section 4.3, only one (1) of these records was identified as a well within the Phase I study area. This record was for air condition and is not considered to be a drinking water well. No drinking water wells were identified on the subject site or within the Phase I study area during the Phase I site visit.

Neighbouring Land Use

Neighbouring land use in the Phase I study area consists of parking structures, vacant land and residential or institutional university buildings. No environmental concerns were identified during the review of neighbouring land use.

Potentially Contaminating Activities and Areas of Potential Environmental Concerns

As per Section 7.1 of this report, two (2) PCAs were identified within the Phase I study area, neither of these are considered to represent APECs on the subject site.

Assessment of Uncertainty and/or Absence of Information

The information available for review as part of the preparation of this Phase I-ESA, is considered to be sufficient to conclude that there are no areas of potential environmental concern on the subject site.

8.0 CONCLUSIONS

Assessment

A Phase I – Environmental Site Assessment was carried out for area of the proposed new residence building at Carleton University, located at 1125 Colonel By Drive, in the City of Ottawa, Ontario. The purpose of this environmental assessment was to research the past and current use of the subject site and



adjacent properties and identify any environmental concerns with the potential to have impacted the subject property.

Based on the available historical data, the subject site appears to have always been vacant or used as a parking lot. The university began acquiring properties (which make up the current campus) as early as 1947 and gained ownership of the present day campus property by 1972. Surrounding land use has been largely vacant, possible farmstead use, some domestic landfilling activities, university usage, with a railway line further to the east of the subject site and more recently parking lots to the north and east of the subject site. The land to the west and north of the subject site has never been developed.

During the development of various university buildings, soil excavated from the building footprints was placed on the eastern portion of the subject site and lands to the north and east of the subject site. The fill was assessed during a fill characterization program, carried out in prior to this assessment, in conjunction with a geotechnical investigation. The fill material is not considered to be contaminated material.

Two (2) potentially contaminating activities (PCAs) were identified within the Phase I study area during the historical review. Neither of the PCAs are considered to represent an area of potential environmental concern for the subject site.

Following the historical review, a site visit was conducted. The site consists of a raised parking area on the east side and a depressed marsh on the western portion. The escarpment separating the two sides is partially covered with rip rap, which water from the parking lot is diverted down, to the marsh area. Minial staining was observed on the asphalt surface of the parking lot and no olfactory or visual signs of contamination were identified in the marsh portion of the subject site. No concerns were identified with respect to the current use of the subject site.

Surrounding land use consisted of vacant (marsh or parking lots), university residences and commons buildings. No concerns with respect to the current use of the neighbouring properties were identified in the Phase I-ESA study area.

Conclusion

Based on the results of this Phase I Environmental Site Assessment, in our opinion, a Phase II-Environmental Site Assessment will not be required for the subject property.



STATEMENT OF LIMITATIONS 9.0

This Phase I - Environmental Site Assessment report has been prepared in general accordance with O.Reg. 153/04 as amended by O.Reg. 269/11, and meets the requirements of CSA Z768-01. The conclusions presented herein are based on information gathered from a limited historical review and field inspection program. The findings of the Phase I - ESA are based on a review of readily available geological, historical and regulatory information and a cursory review made at the time of the field assessment. The historical research relies on information supplied by others, such as, local, provincial and federal agencies and was limited within the scope-of-work, time and budget of the project herein.

Should any conditions be encountered at the subject site and/or historical information that differ from our findings, we request that we be notified immediately in order to allow for a reassessment.

This report was prepared for the sole use of Carleton University and ZW Group Inc. Permission and notification from Carleton University and Paterson will be required to release this report to any other party.

Paterson Group Inc.

Sean Moggridge, B.Eng.

Mark S. D'Arcy, P.Eng.

Report Distribution:

ZW Group Inc.

Paterson Group PROFESSIONAL PROFE 90377839 OVINCE OF ON



10.0 REFERENCES

Federal Records

Air photos at the Energy Mines and Resources Air Photo Library.

National Archives.

Maps and photographs (Geological Survey of Canada surficial and subsurface mapping).

Natural Resources Canada – The Atlas of Canada.

Environment Canada, National Pollutant Release Inventory.

PCB Waste Storage Site Inventory.

Provincial Records

MOE Freedom of Information and Privacy Office.

MOE Municipal Coal Gasification Plant Site Inventory, 1991.

MOE document titled "Waste Disposal Site Inventory in Ontario".

MOE Brownfields Environmental Site Registry.

Office of Technical Standards and Safety Authority, Fuels Safety Branch.

MNR Areas of Natural Significance.

MOE Water Well Inventory.

Chapman, L.J., and Putnam, D.F., 1984: 'The Physiography of Southern

Ontario, Third Edition', Ontario Geological Survey Special Volume 2.

Municipal Records

City of Ottawa Document "Old Landfill Management Strategy, Phase I -

Identification of Sites.", prepared by Golder Associates, 2004.

City of Ottawa, Infrastructure Services and Community Sustainability Department Planning and Growth Management Branch.

City of Ottawa Access to Information and Privacy Office

The City of Ottawa "geoOttawa" Mapping website.

Local Information Sources

Chain of Title obtained through Read Abstracts Limited, May 2014.

Current Topographical Plan, prepared by Stantec Geomatics Ltd.

Personal Interviews.

Public Information Sources

Google Earth.

Google Maps/Street View.

Report: PE3367-1

FIGURES

FIGURE 1 – KEY PLAN

FIGURE 2 – TOPOGRAPHIC MAP

DRAWING PE3367-1 -SITE PLAN

DRAWING PE3367-2 - SURROUNDING LAND USE PLAN

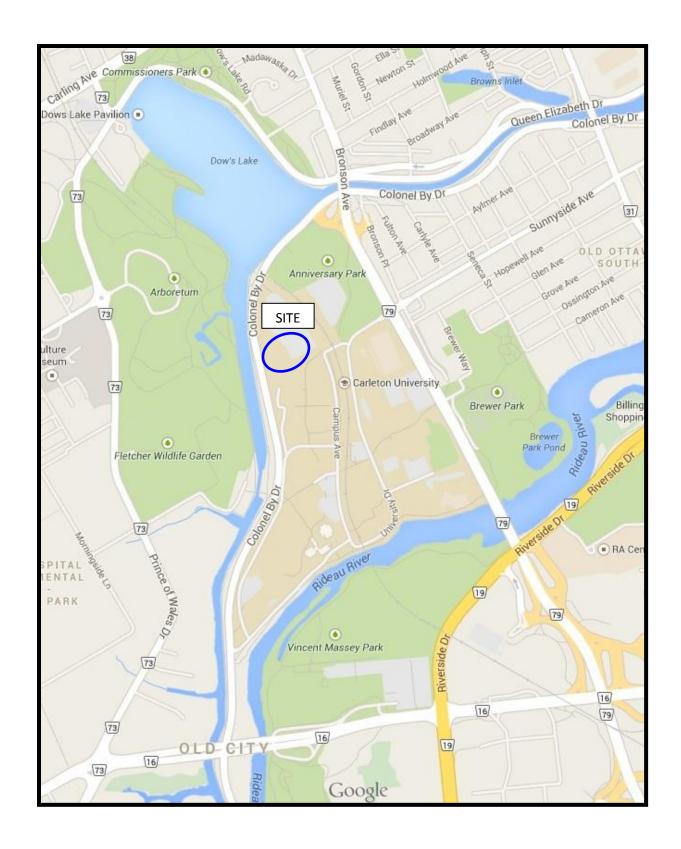


FIGURE 1 KEY PLAN

patersongroup

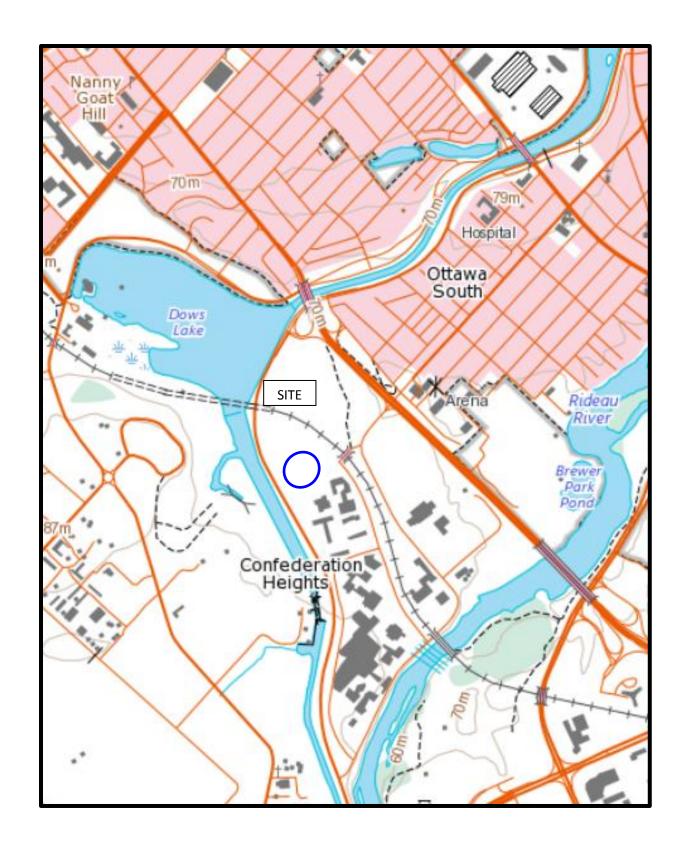
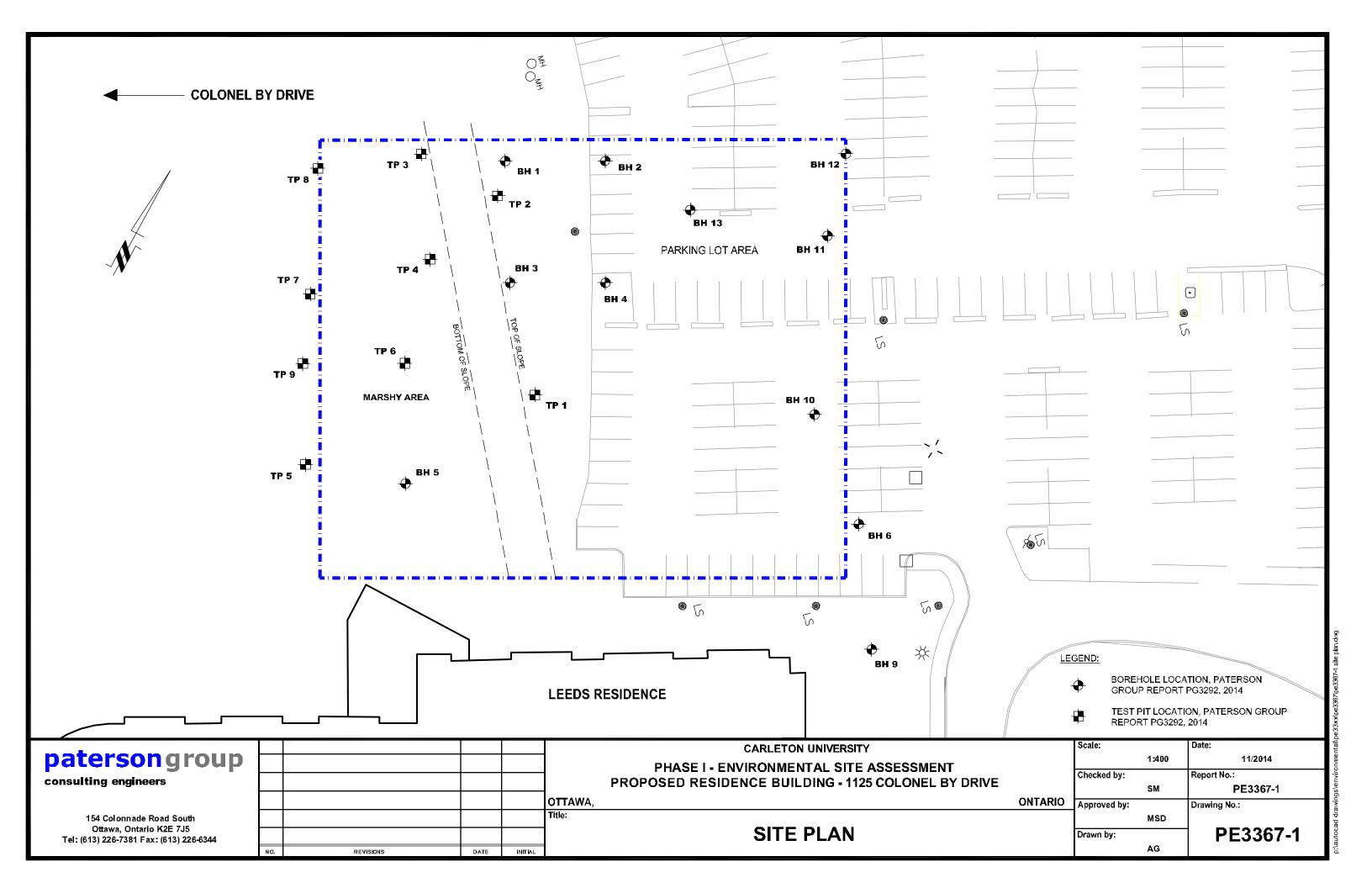
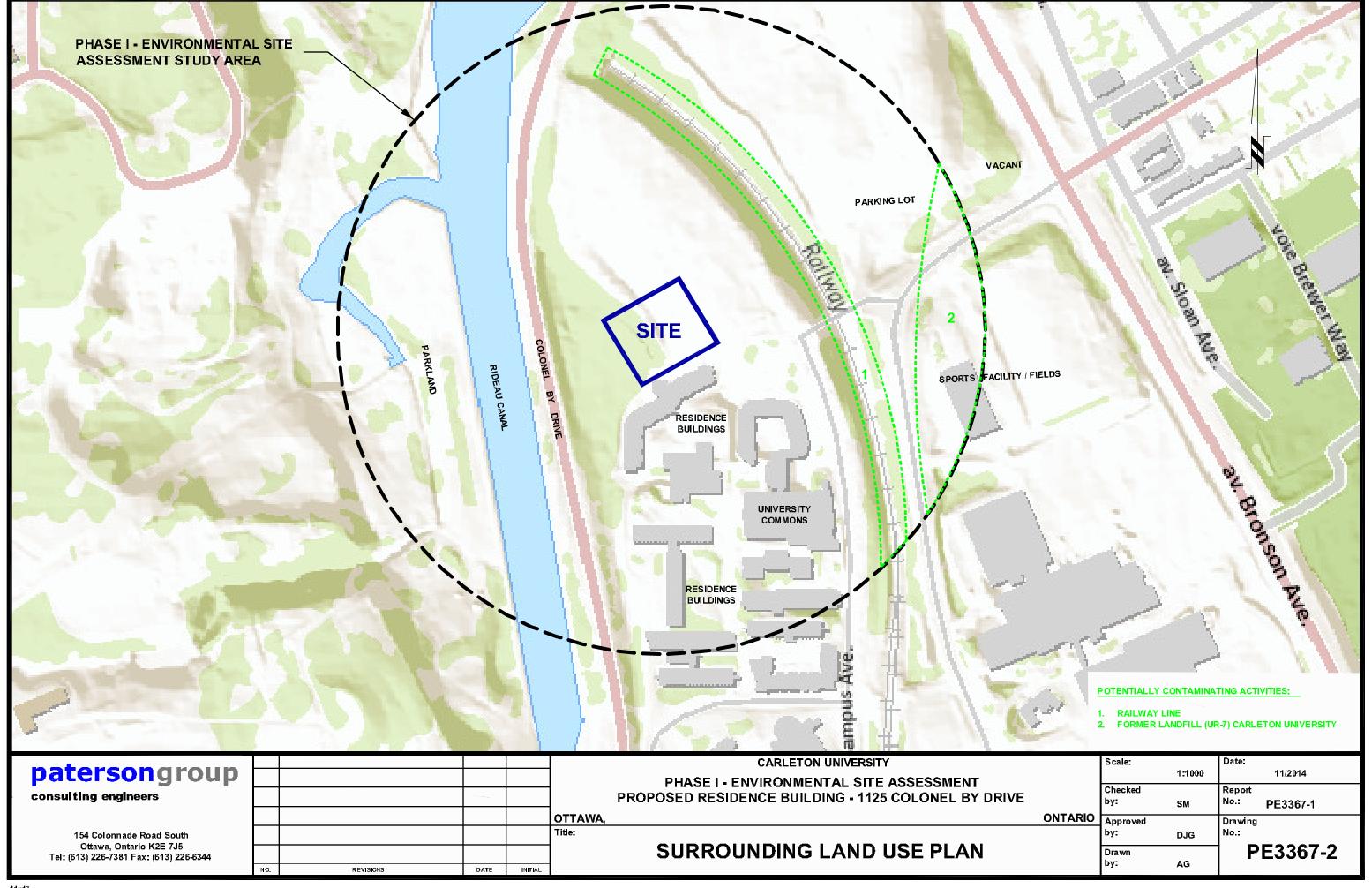


FIGURE 2 TOPOGRAPHIC MAP

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APPENDIX 1

CHAIN OF TITLE

AERIAL PHOTOGRAPHS

SITE PHOTOGRAPHS



READ Abstracts Limited

331 Cooper Street, Suite 300, Ottawa, Ontario K2P 0A4 Email: search@readsearch.com

Tel.: 613-236-0664 Fax: 613-236-3677

ENVIRONMENTAL SEARCH

Aug 8, 2014

Patersongroup

Attn: Xavier Redhead

RE: 1125 Colonel By Drive

BRIEF DESCRIPTION OF LAND:

Part lots L, M, N, Con B RF, as in NP58418, CR307274, CR307038, CR434029, Cr585555,

CR585557

PIN: 04087-0065

Part lots L, M, N, Con B RF, as in CR307396, CR608320 except CR417078, CR585556 and part

2 on 5R5113

PIN: 04087-0068

LAST REGISTERED OWNER: CARLETON UNIVERSITY

CHAIN OF TITLE:

LOT L, CON B RF

Patent dated Sept 6, 1906 From Crown to Estate of H. C. Monk

Deed 21143 registered Sept 13, 1906 From Crown to Estate of Henry Monk

Patent dated Nov 30, 1906 From Crown to Estate of H. C. Monk

Deed 21297 registered Jan 14, 1907 From Crown to Estate of H. C. Monk Deed 56609 registered Jan 31, 1947

From Estate of Augusta Monk to Duncan K. MacTavish

Deed 58418 registered Nov 4, 1947

From Duncan K. MacTavish to The Ottawa Association for the Advancement of Learning

Patent 387696 registered May 8, 1959

From Crown to Federal District Commission

Patent 387697 registered May 8, 1959

From Crown to Federal District Commission

Quit Claim Deed 553943 registered Jan 21, 1969

From Canadian Pacific Railway Co. to National Capital Commission

Deed 585557 registered Dec 30, 1970

From National Capital Commission to Carleton University

Deed 608320 registered April 4, 1972

From National Capital Commission to Carleton University

LOT M, CON B RF

Patent dated June 30, 1801

From Crown to John Stegman

Deed 23 registered June 15, 1802

From John Stegman to Thomas Fraser

Deed 312 registered June 5, 1830

From Duncan Fraser to Donald Kennedy

Deed 811 registered Feb 16, 1835

From Donald Kennedy to Alex. Kennedy

Deed 27224 registered May 29, 1867

From Donald Kennedy to Jas. Kennedy

Patent dated Jan 16, 1871

From Crown to D. Kennedy

Deed 803 registered June 1, 1871

From James Kennedy to St. Lawrence & Ottawa Railway Co.

Deed 823 registered June 8, 1871

From Alex. Kennedy to St. Lawrence & Ottawa Railway Co.

Patent dated Feb 17, 1873

From Crown to D. Kennedy

Deed 3480 registered April 20, 1875

From D. Kennedy to James Kennedy

Deed 22879 registered Aug 6, 1909

From Jas. Kennedy to Wm. E. Cousens

Deed 23586 registered June 13, 1910

From Hannah McIntosh and Wm. A. McIntosh to Thos M. Mulligan

Mortgage 23587 registered June 13, 1910

From Thos. M. Mulligan to Hannah McIntosh

Deed 23588 registered June 13, 1910

From Thos M. Mulligan to Rideau Heights Property Company Ltd.

Deed 23755 registered Sept 2, 1910

From Wm. C. Cousens to Ottawa South Property Co. Ltd.

Deed 23883 registered Oct 27, 1910

From Rideau Heights Property Co. Ltd. to Ottawa South Property Co. Ltd.

Deed 40238 registered Aug 18, 1927

From Ottawa South Property Co. Ltd. to Estate of Margaret Lumsden

Deed 55868 registered Oct 2, 1946

From Trustees of Margaret Lumsden trust to Duncan K. MacTavish

Deed 56054 registered Oct 26, 1946

From Hannah McIntosh to Duncan K. MacTavish

Deed 58418 registered Nov 4, 1947

From Duncan K. MacTavish to The Ottawa Association for the Advancement of Learning

Deed 307038 registered Dec 29, 1952

From Duncan K. MacTavish to Carleton College

Deed 307396 registered Jan 15, 1953

From Duncan K. MacTavish to Carleton College

Patent 434029 registered Oct 25, 1961 From Crown to Carleton University

Quit Claim Deed 553943 registered Jan 21, 1969 From Canadian Pacific Railway Company to National Capital Commission

Deed 585555 registered Dec 30, 1970 From National Capital Commission to Carleton University

LOT N, CON B RF

Patent dated April 7, 1852 From Crown to D. Kennedy

Deed 27224 registered May 29, 1867 From D. Kennedy to James Kennedy

Patent dated Jan 16, 1871 From Crown to D. Kennedy

Patent dated Jan 20, 1875 From Crown to D. Kennedy

Deed 2305 registered Jan 20, 1875 From Crown to D. Kennedy

Patent dated Feb 18, 1875 From Crown to St. Lawrence & Ottawa Railway Co.

Deed 3480 registered April 20, 1875 From D. Kennedy to James Kennedy

Will 13203 registered March 27, 1888 From D. Kennedy to Hannah Kennedy

Deed 22879 registered Aug 6, 1909 From Jas. Kennedy to Wm. C. Cousens

Deed 23586 registered June 13, 1910 From Hannah McIntosh and Wm. A. McIntosh to Thos M. Mulligan

Mortgage 23587 registered June 13, 1910 From Thos. M. Mulligan to Hannah McIntosh Deed 23588 registered June 13, 1910

From Thos M. Mulligan to Rideau Heights Property Company Ltd.

Deed 23755 registered Sept 2, 1910

From Wm. C. Cousens to Ottawa South Property Co. Ltd.

Deed 23883 registered Oct 27, 1910

From Rideau Heights Property Co. Ltd. to Ottawa South Property Co. Ltd.

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From Duncan K. MacTavish to Carleton College

Deed 307274 registered Jan 8, 1953

From Duncan K. MacTavish to Carleton College

Deed 307396 registered Jan 15, 1953

From Duncan K. MacTavish to Carleton College

Patent 434029 registered Oct 25, 1961

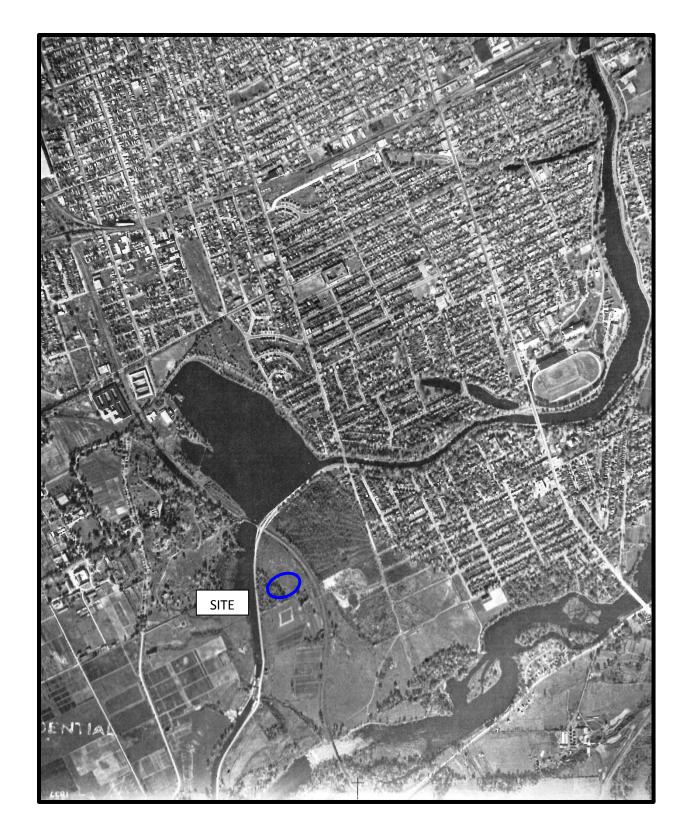
From Crown to Carleton University

Quit Claim Deed 553943 registered Jan 21, 1969

From Canadian Pacific Railway Company to National Capital Commission

Deed 585555 registered Dec 30, 1970

From National Capital Commission to Carleton University



AERIAL PHOTOGRAPH 1945

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AERIAL PHOTOGRAPH 1950

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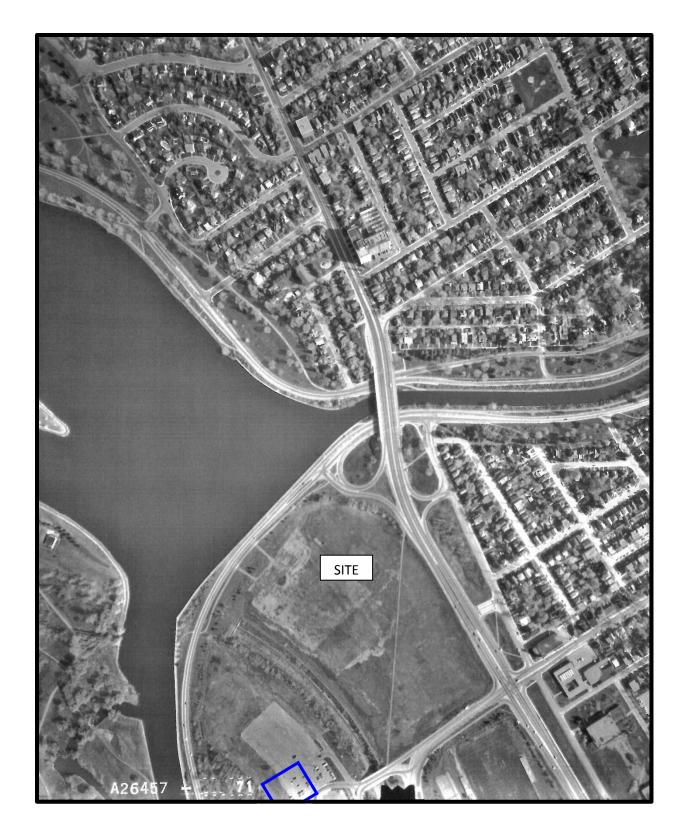
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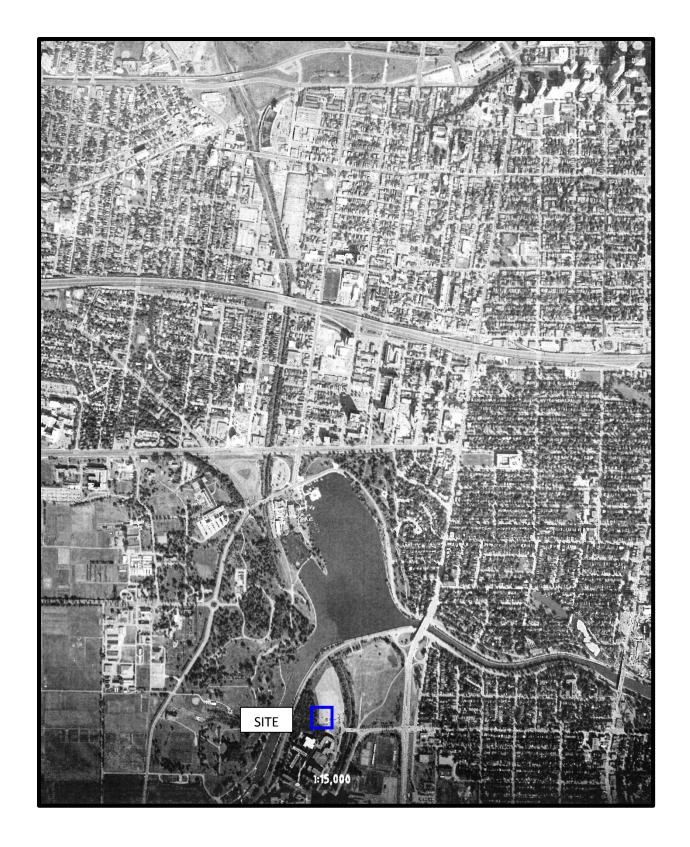
AERIAL PHOTOGRAPH 1970

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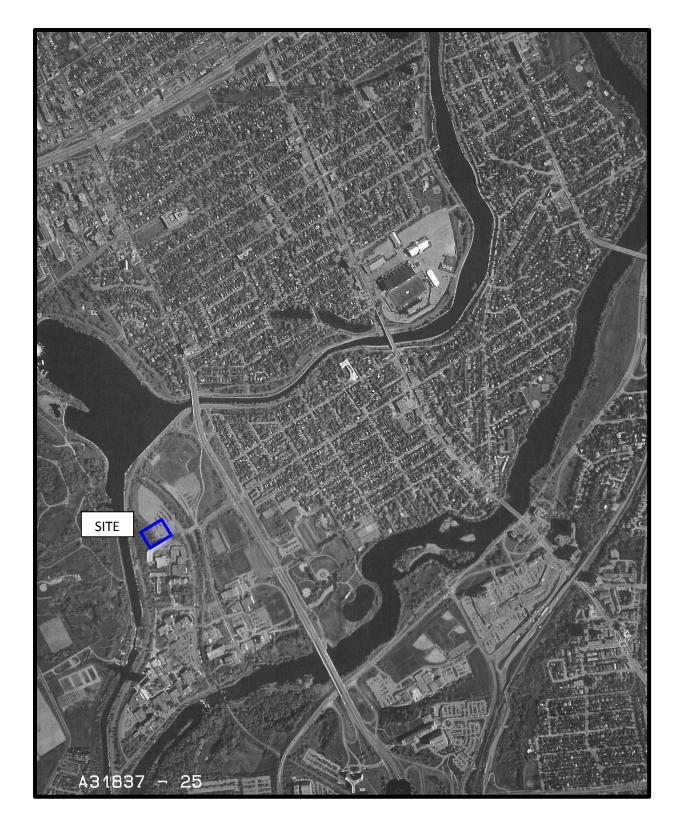
AERIAL PHOTOGRAPH 1984

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AERIAL PHOTOGRAPH 1993

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AERIAL PHOTOGRAPH 2002

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Photograph 1: View from north of the subject site, looking south along escarpment. Photograph illustrates elevation change between marsh area to the west and the parking area to the east.



Photograph 2: View of southwest portion of the parking lot. Photograph depicts fill at apex of the escarpment, as well as, the location where surface sheet flow is diverted.



Photograph 3: View of top of escarpment on west side of parking area. Photograph illustrates fill on top of escarpment.



Photograph 4: View from north of the subject site. Photograph illustrates the nearby air conditioning well (used for tunnel ventilation), as well as the parking area on the east side of the subject site and general neighbouring property use.

APPENDIX 2

MOE FREEDOM OF INFORMATION REQUEST

MOE WELL RECORDS

TSSA CORRESPONDENCE

CITY OF OTTAWA HLUI SEARCH RESULTS



Freedom of Information Request

This form is for requesting documents which are in the Ministry's files on environmental concerns related to properties. Please refer to the guide on completion and use of this form. Our fax no. is (416) 314-4285.

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Name, Company Name, Mailing Address and	* 35.7446 13.00 13.00		FOI Request No.		Date Request Received
Paterson Group Inc. 154 Colonnade Road Ottawa, ON K2E 7J5 Email address: xredhead@pa			Fee Paid	0	VISA/MC □ CASH
Tel. 613-226-7381 Fax 613-226-6344	Your Project/Reference No. PE3367	Signature/Print (Name of Requester Xavier Redhead	□ CNR □ ER □ SAC □ IEB □	□ NOI	
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1125 Colonel By Drive, Otta	wa, Ontario				
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Previous Property Owner(s) and Date(s) of Ow	vnership				
Present/Previous Tenant(s),(if applicable)					
Search Parameters Files older than 2 years may require \$60.00 retrieval cost. There is no guarantee that records responsive to your request will be located. Specify Year(s) Requested					Specify Year(s) Requested
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Spills					all
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air - emissions					1986-present
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		& leachate treatment & sewage pump statio			1986-present
waste water - industrial discharge		<u> </u>			1986-present
waste sites - disposal, landfill si		essing sites, incinerator sites			1986-present
		ing units, haulers: sewage, non-hazardou	s & hazardous waste		1986-present
pesticides - licenses					1986-present

A \$5.00 non-refundable application fee, payable to the Minister of Finance, is mandatory. The cost of locating on-site and/or preparing any record is \$30.00/hour and 20 cents/page for photocopying and you will be contacted for approval for fees in excess of \$30.00.

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Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
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<u>Clay</u> Limestone	20	21.5	200	
			n of Well	
For what purpose(s) is the water to be used? Science Building Is well on upland, in valley, or on hillside? Upland Drilling or Boring Firm J.B. Dufresne & Co. Ltd.	road a	ram below sho	ow distances of we indicate north by	ell from arrow.
1014 Maitland Avenue, Ottawa 3, Ont.		WE	304' \$122' SCIENCE RIPO	1

Licence Number 1032 R. Laniel Name of Driller or Borer Ironside, Quebec. Address Date 21 August, 1963 (Signature of Form 7 15M-60-4138 OWRC COPY

FZ 1414151310101

Form 7 15M-60-4138

OWRC COPY



5 R 5025890 N Ontario Water Resources Commission Act

GROUND WATER BEARING ONTARIO WATER RESOURCES CO. AMISSION

COLBY DRIVE

dev. 4'R 01200 WATER WEI				07777	70
asin 25 County or District Carls ton	Township	, Village, To	own of City)!	ust 196	63
ConLot	Date com	pietea	(day	month	year)
Owner Carleton University (print in block letters)	Address	Bronso			
Casing and Screen Record		-			
Inside diameter of casing 6 3/16"	Statio	levei	301		O.D.1
Total length of casing	Test-	pumping ra	ite 30		G.P.N
Type of screen	Pumj	ping level	200		(4.14.1-1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1
Length of screen	Dura	tion of test	pumping	1 hour	
Depth to top of screen	Wate	er clear or cl	oudy at end o	f test clear	
Depth to top of screen Diameter of finished hole 67	Reco	mmended	pumping rate	30	G.P.N
Diameter of finished hole	with	pump setti	ng of 20	feet below	w ground surfa
		<u> </u>			Record
Overburden and Bedrock Record		From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
	0	20		- fresh	
Clay Limestone	11	20	215	300	
For what purpose(s) is the water to be used?				n of Well	
Is well on upland, in valley, or on hillside? Upland Drilling or Boring Firm J.B. Dufresne & Co. Ltd. 1014 Maitland Avenue,		In diagr road an	am below sho	ow distances of we ndicate north by	ell from arrow.
Address OTTAWA 3, Ont.	(+ o •		DR10	<u></u>	<i>‡</i>
Name of Driller or Borer R. Laniel			100	12	!
Address Ironside, Quebec.			7		
Date 17 August, 1963			o se	LENGE I	11 904
Form 7 15M-60-4138			ì	7	=L BY DR

Xavier Redhead

3300 Bloor Street West

From: Sent: To: Subject:	squibell@tssa.org on behalf of Public Information Services [publicinformationservices@tssa.org] August-07-14 4:43 PM Xavier Redhead Re: 1125 Colonel By Drive
Hi Xavier,	
Thank you for your inquiry.	
I have searched the below note	ed address (addresses) and I have located the following record:
1125 Colonel By Dr, Otta	awa has record of 8 active fuel oil tanks.
request in writing to Public Inf	duding underground fuel storage tank details and copies of all inspection reports, please submit your formation Services via e-mail (publicinformationservices@tssa.org) or through mail along with a fee of cation. The fee is payable with credit card (Visa or MasterCard) or with a cheque made payable to
Although TSSA believes the information in any way whatso	nformation provided pursuant to your request is accurate, please note that TSSA does not warrant this oever.
Thank you and have a great da	ny!
Regards,	
Sarah Quibell	
Public Information Services	
TECHNICAL STANDARDS "Putting Public Safety First" 14th Floor, Centre Tower	& SAFETY AUTHORITY

1

Toronto, ON M8X 2X4

www.tssa.org

Toll-Free: 1-877-682-8772

On Thu, Aug 7, 2014 at 4:36 PM, Xavier Redhead < XRedhead@patersongroup.ca > wrote:

Good afternoon,

Could you please complete a search of your records for underground/aboveground storage tanks, historical spills or other infractions for the following addresses for properties located in Ottawa, Ontario.

1000, 1010, 1012, 1125, 1780 Colonel By Drive

930 Carling Avenue

135 Prince of Wales Drive

499 Sunnyside Avenue

1240 Bronson Avenue

Thank you,

Xavier Redhead, B.Eng.

patersongroup

solution oriented engineering

154 Colonnade Road South

Ottawa, Ontario, K2E 7J5

Tel: (613) 226-7381 Ext. 232

Fax: (613) 226-6344

Email: xredhead@patersongroup.ca

This electronic message and any attached documents are intended only for the named recipients. This communication from the Technical Standards and Safety Authority may contain information that is privileged, confidential or otherwise protected from disclosure and it must not be disclosed,

ase notify the sende	distributed without a rimmediately and o	delete the origina	l message.	C	·



File Number: C10-01-14-0207

October 16, 2014

Sean Moggridge Paterson Group Inc. 154 Colonnade Road South Ottawa, ON

Sent via email [smoggridge@patersongroup.ca]

Dear Mr. Moggridge,

Re: Information Request 1125 Colonel By Drive, Ottawa, Ontario ("Subject Property")

Internal Department Circulation

The Planning and Growth Management Department has the following information in response to your request for information regarding the Subject Property:

- The Disposals and Environmental Remediation Unit notes that the subject property is within the footprint of two former landfills; Ur-07 Carleton University (jointly owned by the city and others), and Ur-32 Brewer Park/Carleton University (under private ownership). A data gap analysis was conducted on the city-owned portion of Ur-07 to identify any potential human health risks associated with the site's current land use, however none were identified. The City has no information on the current environmental conditions of the Ur-32 landfill site as this site is under private ownership.
- The Sewer Use Program notes that there is information about recent environmental reports, past control orders or work orders, violations of environmental statutes, regulations or by-laws and other environmental information

Information Request searches include recent environmental reports; past control orders or work orders; violations of environmental statutes, regulations or by-laws; certificates; approvals; permits; and any other environmental information.

Shaping our future together
Ensemble, formons notre avenir

City of Ottawa Infrastructure Services and Community Sustainability Department Planning and Growth Management Branch

110 Laurier Avenue West, 4th Floor Ottawa, ON K1P 1J1 Tel: (613) 580-2424 ext. 14743 Fax: (613) 560-6006 www.ottawa.ca Ville d'Ottawa Services d'infrastructure et Viabilité des collectivités Direction de l'approbation des demandes d'arnénagement et d'infrastructure

110, avenue Laurier Ouest, 4e étage Ottawa (Ontario) KTP 1J1 Téi:: (613) 580-2424 ext. 14743 Téléc: (613) 560-6006 www.ollawa.ca Please note that they cannot comment on properties adjacent to or in proximity to the subject properties without consent from the owners of those properties. As well, the Sewer Use Program cannot guarantee or make comments on the environmental condition of the properties you described, as the Sewer Use Program does not have the necessary data to make such an evaluation, you may wish to contact the Ministry of Environment. If you have any questions or concerns, please do not hesitate to contact me at extension 22170.

Search of Historical Land Use Inventory

This acknowledges receipt of the signed Disclaimer regarding your request for information from the City's Historical Land Use Inventory (HLUI 2005) database for the Subject Property.

A search of the HLUI database revealed the following information:

• There are 6 activities associated with the Subject Property: Activity Number 11068, 13103, 4561, 5377 and 7951.

The HLUI database was also searched for activity associated with properties located within 50m of the Subject Property. The search revealed the following:

• There are 4 activities associated with properties located within 50m of the Subject Property: Activity Number 3178, 11356, 14515 and 3178.

A site map has been included to show the location of the Subject Property as well as the location of all the activities noted above.

Additional information may be obtained by contacting:

Ontario's Environmental Registry

The Environmental Registry found at http://www.ebr.gov.on.ca/ERS-WEB-External/ contains "public notices" about environmental matters being proposed by all government ministries covered by the Environmental Bill of Rights. The public notices may contain information about proposed new laws, regulations, policies and programs or about proposals to change or eliminate existing ones. By using keys words i.e. name of proponent/owner and the address one can ascertain if there is any information on the proponent and address under the following categories: Ministry, keywords, notice types, Notice Status, Acts, Instruments and published date (all years).

The Ontario Land Registry Office

Registration of real property is recorded in the Ontario Land Registry Office through the Land Titles Act or the Registry Act. Documents relating to title and other agreements that may affect your property are available to the public for a fee. It is recommended that a property search at the Land Registry Office be included in any investigation as to the historic use of your property. The City of Ottawa cannot comment on any documents to which it is not a party.

Court House 161 Elgin Street 4th Floor Ottawa ON K2P 2K1

Tel: (613) 239-1230 Fax: (613) 239-1422

Please note, as per the HLUI Disclaimer, that the information contained in the HLUI database has been compiled from publicly available records and other sources of information. The HLUI may contain erroneous information given that the records used as sources of information may be flawed. For instance, changes in municipal addresses over time may introduce error. Accordingly, all information from the HLUI database is provided on an "as is" basis with no representation or warranty by the City with respect to the information's accuracy or exhaustiveness in responding to the request.

Furthermore, the HLUI database and the results of this search in no way confirm the presence or absence of contamination or pollution of any kind. This information is provided on the assumption that it will not be relied upon by any person for any purpose whatsoever. The City of Ottawa denies all liability to any persons attempting to rely on any information provided from the HLUI database.

Please note that in responding to your request, the City of Ottawa does not guarantee or comment on the environmental condition of the Subject Property. You may wish to contact the Ontario Ministry of Environment for additional information.

If you have any further questions or comments, please contact Alejandra Garavito at 613-580-2424 ext. 14743 or HLUI@ottawa.ca

Sincerely,

David Wise, MUP, MCIP, RPP

Program Manager

Development Review (Suburban Services) - West Planning and Growth Management Department

DW/AG

Attach: 16

ce: File no. C10-01-14-0207



HLUI ID: __670HQA

Report:

RPTC_OT_DEV0122

Run On:

10 Oct 2014 at: 09:16:03

AREA (Square Metres): 282632.354

Study Year

PIN 040870065 Multi-NAIC

Multiple Activities

Activity ID:

11068

Multiple PINS:

Υ

PIN Certainty:

1

Previous Activity ID(s):

Related PINS:

040870065

Name:

PORTRAITS NOW

Address:

1125 COLONEL BY DRIVE,

Facility Type:

Photographers

Comments 1:

Comments 2:

Generator Number:

Storage Tanks:

HL References 1:

HL References 2:

HL References 3:

2005 Select Phone

NAICS

SIC

541920

0

Company Name

Year of Operation

PORTRAITS NOW

c. 2001

PORTRAITS NOW



CITY OF OTTAWA HLUI ID: 670HQA Report:

RPTC_OT_DEV0122

Run On:

10 Oct 2014 at: 09:16:03

AREA (Square Metres): 282632.354

Study Year

PIN 040870065

Multi-NAIC

Multiple Activities

Activity ID:

13103

Multiple PINS:

Υ

PIN Certainty:

1

Previous Activity ID(s):

Related PINS:

040870065

Name:

SPORTS MEDICINE CLINIC X-RAY

Address:

1125 COLONEL BY DRIVE,

Facility Type:

Medical and Other Health Laboratories

Comments 1:

Comments 2:

Generator Number:

Storage Tanks:

HL References 1:

HL References 2:

HL References 3:

2005 Select Phone

NAICS

SIC

621510

0

Company Name

Year of Operation

SPORTS MEDICINE CLINIC X-RAY



AREA (Square Metres): 282632.354

HLUIID: __670HQA

Report:

RPTC_OT_DEV0122

Run On:

10 Oct 2014 at: 09:16:03

Study Year

PIN 040870065

Multi-NAIC

Multiple Activities

Activity ID:

3178

Multiple PINS:

Y

PIN Certainty:

1

Previous Activity ID(s): 2663

Related PINS:

040870065

Name:

CARLETON UNIVERSITY

Address:

1125 COLONEL BY DRIVE, OTTAWA

Facility Type:

University Education

Comments 1:

Comments 2:

Generator Number: ON0051100

Storage Tanks:

2 UST - fuel oil, located east of N corner of H.M. Tory (Science) building

HL References 1:

M.1960, M 1964, M.1970, M.1980, MOEE PCB Inventory-1995; SC98. FIP1963-515-51500,vol

5.1922-DMD-TM-Ottawa, Sheet #14, 1948-DND-ASE-NTS-31G/5, 1967-EMR-SMB-NTS-31G/5-7th ed.,

1985-EMR-SMB-NTS-31G/5-11th ed.

HL References 2:

HL References 3:

NAICS

2000 PID

SIC

IVAICO	310
221121	491
323116	281
562920	499
221119	491
493130	479
611310	853
221111	491
323115	281
611510	0
221320	499
611210	0
221113	491
221122	491
221330	499
493120	479
493190	479
562990	499
611310	0
221112	491
323114	281
323119	281
562210	499
611610	0

Page 3 of 7 MAP Report Ver: 1



CITY OF OTTAWA
HLUI ID: __670HQA

Report:

RPTC_OT_DEV0122

Run On:

10 Oct 2014 at: 09:16:03

AREA (Square Metres): 282632.354

Study Year 1998 PIN 040870065 Multi-NAIC Y Multiple Activities

Company Name

CARLETON UNIVERSITY

Carleton University

CARLETON UNIVERSITY

CARLETON UNIVERSITY

CARLETON UNIVERSITY

Year of Operation

c. 2000

c. 1960-1999

c. 2003

c. 2005



HLUI ID: __670HQA

Report:

RPTC_OT_DEV0122

Run On:

10 Oct 2014 at: 09:16:03

AREA (Square Metres): 282632.354

Study Year 1998

PIN 040870065 Multi-NAIC

Multiple Activities

Activity ID:

4561

Multiple PINS:

Υ

PIN Certainty:

1

Previous Activity ID(s):

Related PINS:

040870065

Name:

ENVIRONMENT CANADA CWS

Address:

1125 COLONEL BY DRIVE, OTTAWA

Facility Type:

Services Incidental to Agricultural Crops

Comments 1:

NWRC, Carleton University, BUILDING 33

Comments 2:

Generator Number: ON1473889

Storage Tanks:

HL References 1:

HL References 2:

HL References 3:

2003 PID

NAICS

SIC

541380

0

Company Name

Year of Operation

ENVIRONMENT CANADA CWS



HLUIID: __670HQA

AREA (Square Metres): 282632.354

Report:

RPTC_OT_DEV0122

Run On:

10 Oct 2014 at: 09:16:03

Study Year 1998 **PIN** 040870065

Multi-NAIC

Multiple Activities

Activity ID:

5377

Multiple PINS:

Υ

PIN Certainty:

1

Previous Activity ID(s):

Related PINS:

040870065

Name:

FRECON CONSTRUCTION LIMITED

Address:

1125 COLONEL BY DRIVE,

Facility Type:

Residential Building and Development

Comments 1:

Comments 2:

Generator Number:

Storage Tanks:

HL References 1:

HL References 2:

HL References 3:

2005 Select Phone

NAICS

SIC

236110

0

Company Name

Year of Operation

FRECON CONSTRUCTION LIMITED

c. 2005

MAP Report Ver: 1

Page 6 of 7



HLUIID: __670HQA

AREA (Square Metres): 282632.354

Report:

RPTC_OT_DEV0122

Run On:

10 Oct 2014 at: 09:16:03

Study Year 1998

PIN 040870065

Multi-NAIC

Multiple Activities

Activity ID:

7951

Multiple PINS:

Y

PIN Certainty:

1

Previous Activity ID(s):

Related PINS:

040870065

Name:

KONE INC.

Address:

1125 COLONEL BY DRIVE, OTTAWA

Facility Type:

Other Trade Work

Comments 1:

Comments 2:

MacKenzie Building

Generator Number: ON6027439

Storage Tanks:

HL References 1:

HL References 2: HL References 3:

2003 PID

NAICS

SIC

238291

0

Company Name

Year of Operation

KONE INC.



HLUI ID: __679GF1

Report:

RPTC_OT_DEV0122

Run On:

10 Oct 2014 at: 09:16:11

AREA (Square Metres): 35135.085

Study Year 1998

PIN 040870066 Multi-NAIC

Multiple Activities

Activity ID:

3178

Multiple PINS:

Υ

PIN Certainty:

Previous Activity ID(s): 2663

Related PINS:

040870065

Name:

CARLETON UNIVERSITY

Address:

1125 COLONEL BY DRIVE, OTTAWA

Facility Type:

University Education

Comments 1:

Comments 2:

Generator Number: ON0051100

Storage Tanks:

2 UST - fuel oil, located east of N corner of H.M. Tory (Science) building

HL References 1:

M.1960, M 1964, M.1970, M.1980, MOEE PCB Inventory-1995; SC98. FIP1963-515-51500,vol

5.1922-DMD-TM-Ottawa, Sheet #14, 1948-DND-ASE-NTS-31G/5, 1967-EMR-SMB-NTS-31G/5-7th ed.,

1985-EMR-SMB-NTS-31G/5-11th ed.

HL References 2:

HL References 3:

2000 PID

NAICS	SIC
221121	491
323116	281
562920	499
221119	491
493130	479
611310	853
221111	491
323115	281
611510	0
221320	499
611210	0
221113	491
221122	491
221330	499
493120	479
493190	479
562990	499
611310	0
221112	491
323114	281
323119	281
562210	499
611610	0



HLUIID: __679GF1

D: ___6/9GF1

AREA (Square Metres): 35135.085

PIN 040870066

Multi-NAIC

RPTC_OT_DEV0122

10 Oct 2014 at: 09:16:11

Multiple Activities

Company Name

CARLETON UNIVERSITY

Carleton University

CARLETON UNIVERSITY

CARLETON UNIVERSITY

CARLETON UNIVERSITY

Year of Operation

Report:

Run On:

c. 2000

c. 1960-1999

c. 2003

c. 2005



HLUIID: __670HRZ

Report:

RPTC_OT_DEV0122

Run On:

10 Oct 2014 at: 09:16:17

AREA (Square Metres): 323470.317

Study Year 1998 PIN 040870068 Multi-NAIC

Multiple Activities

Activity ID:

11356

Multiple PINS:

N

PIN Certainty:

1

Previous Activity ID(s):

Related PINS:

040870068

Name:

PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Address:

1008 COLONEL BY DRIVE, OTTAWA

Facility Type:

Other Utility Industries n.e.c.

Comments 1:

LORNE BUILDING

Comments 2:

Generator Number: ON0144794

Storage Tanks:

HL References 1:

HL References 2:

HL References 3:

2000 PID

NAICS	SIC
221320	0
221310	0
562990	0
562210	0
562990	0

Company Name

Year of Operation

PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

c. 2000

MAP Report Ver: 1 Page 1 of 6



HLUIID: __670HRZ

AREA (Square Metres): 323470.317

Report:

RPTC_OT_DEV0122

Run On:

10 Oct 2014 at: 09:16:17

Study Year

1998

PIN 040870068 Multi-NAIC

Multiple Activities

Activity ID:

14515

Multiple PINS:

Υ

PIN Certainty:

Previous Activity ID(s): 6190, 6060, 6064, 6082, 6077, 6084, 6094, 6095,

6098, 6099, 6102, 6103, 6105, 6108, 6109, 6110, 6111, 6112, 6115, 6117, 6121, 6122, 6124, 6125, 6127, 6129, 6130, 6190, 6191, 6192, 6193, 6198, 6200, 6202, 6203, 6238, 6240, 6243, 6245, 6280,

6282, 6284, 62

Related PINS:

041330051

Name:

UNNAMED WASTE DISPOSAL SITE

Address:

, OTTAWA

Facility Type:

Other Utility Industries n.e.c.

Comments 1:

UTM = 445870E, 5028130N, map 31G/5. Site #X1102 of closed sites in the MOE inventory (pg134).

Comments 2:

Generator Number:

Storage Tanks:

HL References 1:

1991-WDSI/WMB/MOE; RBE 1992; MC Staff, 19/02/99; 1922DMD-TM-Ottawa-Sheet #14,

1948DND-ASE-NTS-31G/5, 1967-EMR-SMB-NTS-31G/5-7th ed., 1985-EMR-SMB-NTS-31G/5-11th ed., City of

Gloucester-File #8-400-Box 130;

HL References 2:

City of Gloucester File # 6-79A: Subject-Health/Dumping -Box 75 -28/12/64; 1938-39-DND-ASE-NTS-31B/13W-2nd ed., 1964-DND-MCE-NTS-31B/13-3rd ed., 1976-EMR-SMB-NTS-31B/13-4th ed., 1979-EMR-SMB-NTS-31B/13-5th

HL References 3:

NAICS	SIC
562210	499
221330	499
221320	499
562920	499
562990	499



CITY OF OTTAWA HLUI ID: __670HRZ

AREA (Square Metres): 323470.317

Report:

RPTC_OT_DEV0122

Run On:

10 Oct 2014 at: 09:16:17

Study Year 1998 PIN 040870068 Multi-NAIC

Multiple Activities

	v 10 0
Company Name	Year of Operation
Unnamed Waste Disposal Site	c. <1991
Unnamed Waste Disposal Site	c. 1953
Unnamed Waste Disposal Site	c. 1946
Unnamed Waste Disposal Site	c. 1924
Unnamed Waste Disposal Site	c. 1958
Unnamed Waste Disposal Site	c. 1979
Unnamed Waste Disposal Site	c. 1965
Unnamed Waste Disposal Site	c. 1974
Unnamed Waste Disposal Site	c. 1920-1931
Unnamed Waste Disposal Site	c. 1973
Unnamed Waste Disposal Site	c. 1927
Unamed Waste Disposal Site	c. 1966-1991
Unnamed Waste Dispoal Site	c. 1947
Unnamed Waste Disposal Site	c. 1976
Unnamed Waste Disposal Site	c. 1940 .
Unnamed Waste Disposal Site	c. 1962
Unnamed Waste Disposal Site	c. 1926
Unnamed Waste Disposal Site	c. 1944
Unnamed Waste Disposal Site	c. 1972
Unnamed Waste Disposal Site	c. 1935
Unnamed Waste Disposal Site	c. 1921-1945
Unnamed Waste Disposal Site	c. 1977
Unnamed Waste Disposal Site	c. 1947
Unnamed Waste Disposal Site	c. 1950
Unnamed Waste Disposal Site	c. 1981
Unnamed Waste Disposal Site	c. 1971
Unnamed Waste Disposal Site	c. 1963
Unnamed Waste Disposal Site	c. <1990
Unnamed Waste Disposal Site	c. 1964
Unnamed Waste Disposal Site	c. 1920
Unnamed Waste Disposal Site	c. 1938
Unnamed Waste Disposal Site	c. 1929



Study Year 1998 CITY OF OTTAWA

HLUI ID: __670HRZ

AREA (Square Metres): 323470.317

PIN 040870068

Multi-NAIC

RPTC_OT_DEV0122

10 Oct 2014 at: 09:16:17

Multiple Activities

Unnamed Waste Disposal Site

c. 1966

Report:

Run On:



AREA (Square Metres): 323470.317

HLUIID: __670HRZ

Report:

RPTC_OT_DEV0122

Run On:

10 Oct 2014 at: 09:16:17

Study Year 1998 PIN 040870068 Multi-NAIC

Multiple Activities

Activity ID:

3178

Multiple PINS:

Υ

PIN Certainty:

1

Previous Activity ID(s): 2663

Related PINS:

040870065

Name:

CARLETON UNIVERSITY

Address:

1125 COLONEL BY DRIVE, OTTAWA

Facility Type:

University Education

Comments 1:

Comments 2:

Generator Number:

ON0051100

Storage Tanks:

2 UST - fuel oil, located east of N corner of H.M. Tory (Science) building

HL References 1:

M.1960, M 1964, M.1970, M.1980, MOEE PCB Inventory-1995; SC98. FIP1963-515-51500,vol

5.1922-DMD-TM-Ottawa, Sheet #14, 1948-DND-ASE-NTS-31G/5, 1967-EMR-SMB-NTS-31G/5-7th ed.,

1985-EMR-SMB-NTS-31G/5-11th ed.

HL References 2:

MAICS

HL References 3: 2

2000 PID

910

NAICS	SIC
221121	491
323116	281
562920	499
221119	491
493130	479
611310	853
221111	491
323115	281
611510	0
221320	499
611210	0
221113	491
221122	491
221330	499
493120	479
493190	479
562990	499
611310	0
221112	491
323114	281
323119	281
562210	499
611610	0

MAP Report Ver: 1 Page 5 of 6



HLUI ID: __670HRZ

Report:

RPTC_OT_DEV0122

Run On:

10 Oct 2014 at: 09:16:17

AREA (Square Metres): 323470.317

Study Year 1998 PIN 040870068 Multi-NAIC

Multiple Activities

Company Name

CARLETON UNIVERSITY

Carleton University

CARLETON UNIVERSITY

CARLETON UNIVERSITY

CARLETON UNIVERSITY

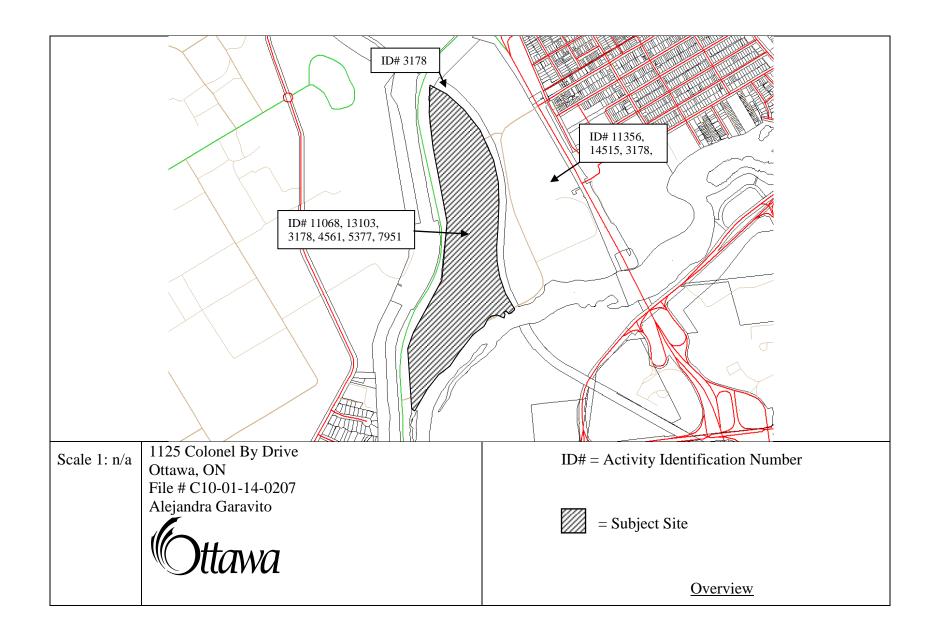
Year of Operation

c. 2000

c. 1960-1999

c. 2003

c. 2005



APPENDIX 3

QUALIFICATIONS OF ASSESSORS

Sean Moggridge B.Eng.

patersongroup

POSITION

Junior Environmental Engineer

EDUCATION

Environmental Engineering

Dalhousie University, B.Eng., 2010 Environmental Engineering

EXPERIENCE

2011 to Present:
Paterson Group Inc.
Consulting Engineers
Environmental Division
Junior Engineer

Geotechnical Engineering

Materials Testing

Quality Control

SELECT LIST OF PROJECTS

Remediation Supervision of Former Alcan Plant – Kingston Remediation Supervision of Bulk Fuel Depot Site – Ottawa Remediation Supervision of Biohazard Site – Ottawa Post-construction Impact Monitoring – Ottawa, Cornwall Designated Substance and Asbestos Surveys – Various Locations, Ottawa Asbestos Air Testing – Various Locations, Ottawa Groundwater Monitoring and Sampling – Various Location, Ottawa Phase I & II ESA – Various Locations, Ontario and West Quebec

Building Sciences

Hydrogeology

Archaeological Services

Mark S. D'Arcy, P. Eng.



POSITION

Associate and Supervisor of the Environmental Division Senior Environmental/Geotechnical Engineer

EDUCATION

Queen's University, B.A.Sc.Eng, 1991 Geotechnical / Geological Engineering

Environmental Engineering

MEMBERSHIPS

Ottawa Geotechnical Group Professional Engineers of Ontario Consulting Engineers of Ontario

Geotechnical Engineering

EXPERIENCE

1991 to Present

Paterson Group Inc.
Associate and Senior Environmental/Geotechnical Engineer

Environmental and Geotechnical Division Supervisor of the Environmental Division

Materials Testing Quality Control

SELECT LIST OF PROJECTS

Mary River Exploration Mine Site - Northern Baffin Island

Rideau Centre Expansion project - Ottawa Agricultural Supply Facilities - Eastern Ontario Laboratory Facility – Edmonton (Alberta)

Building Science Ottawa International Airport - Contaminant Migration Study - Ottawa Investigation and Remediation – Cotton Mill Redevelopment, Cornwall

Billings Hurdman Interconnect - Ottawa

Bank Street Reconstruction - Ottawa

Environmental Review – Various Laboratories across Canada - CFIA

Dwyer Hill Training Centre - Ottawa

Hydrogeology Nortel Networks Environmental Monitoring - Carling Campus – Ottawa

Remediation Program - Block D Lands - Kingston Investigation of former landfill sites - City of Ottawa Record of Site Condition for Railway Lands - North Bay Assessment and Remediation - North Bay Airport Commercial Properties - Guelph and Brampton Brownfields Remediation - Alcan Site - Kingston

Archaeological Services

PWGSC Building – 90 Elgin Street - Ottawa Remediation Program - Ottawa Train Yards

MHLH Facility – CFB Petawawa

Ottawa Congress Centre

Lansdowne Park Redevelopment - Ottawa