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Phase I Environmental Site Assessment

101 – 103 Pinhey Street
Ottawa, Ontario

Prepared For

Orange Design Build

March 30, 2018

Report: PE4283-1

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EXECUTIVE SUMMARY

Assessment

Paterson Group was retained by Orange Design Build to conduct a Phase I Environmental Site Assessment (ESA) for the property addressed 101-103 Pinhey Street, in Ottawa. The purpose of this Phase I ESA was to research the past and current use of the Phase I Property and Phase I ESA Study Area and to identify any environmental concerns with the potential to have impacted the subject land.

The results of the historical research indicated that the Phase I Property was first developed in 1908, with two residential buildings, one of which was subsequently converted for commercial/light industrial use in the early 1920s. Based on the City directories, the Hubert family operated the northern portion of the property (101 Pinhey Street) as a heating equipment manufacturing facility since the 1930s. A previous Phase I-II-ESA report conducted for the subject site indicated the presence of metals and PHC (F_3) contaminated fill beneath the asphaltic concrete on the northern and southern portions of the site. The presence of the impacted fill material and the former use of the site are considered potentially contaminating activities (PCAs) which are considered to represent areas of potential environmental concern (APECs) on the subject site.

Historical research indicated that twenty-eight (28) historical off-site PCAs exist within the Phase I study area which include automotive service garages, retail fuel outlets and dry cleaners. Based on previous environmental reports, the separation distances and the cross- or down-gradient locations between the PCAs and the subject site, the majority of these are not considered to represent APECs on the subject site. However, the adjacent property to the east, addressed 106 Merton Street (previously 1067 Wellington Street West), was formerly used as a dry-cleaners and is considered to have had the potential to impact the subject site.

Following the historical research, an inspection of the subject site and the surrounding properties was conducted. The subject site is currently occupied by a vacant two-storey residential dwelling and a vacant one-storey commercial building. No potential environmental concerns were identified on the subject site at the time of our site visit and no additional PCAs were identified on neighbouring properties within the Phase I study area.

Recommendations

Based on the results of the Phase I ESA, **in our opinion, a Phase II Environmental Site Assessment is required for the subject site.**

Based on the age of the subject structures, some of the building materials have the potential to be asbestos containing materials (ACMs). The potential ACMs include drywall joint compound, suspended ceiling tiles and wall parging. Some of the potential ACMs were observed to be in poor condition and may represent an immediate concern. Lead-containing paints are possibly present on original painted surfaces throughout the structures. At the time of the assessment, the painted surfaces observed were in fair to good condition.

It is our understanding that the subject structure will be demolished prior to redevelopment. Prior to any demolition activities, a designated substance survey (DSS) must be conducted for the existing structures, in accordance with Ontario Regulation 490/09 under the Occupational Health and Safety Act.

1.0 INTRODUCTION

At the request of Orange Design Build., Paterson Group (Paterson) conducted a Phase I Environmental Site Assessment (Phase I ESA) for 101 – 103 Pinhey Street, 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. Ryan MacIntosh of Orange Design Build. The offices of Orange Design Build are located at 1248 Dorchester Avenue, Ottawa Ontario. Mr. MacIntosh can be reached by telephone at 613-255-8999.

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 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

Address:	101-103 Pinhey Street, Ottawa, Ontario.
Legal Description:	Parts of lots 1, 2 and 3, Registered Plan 105, in the City of Ottawa, Ontario.
Property Identification Numbers:	0409-50117
Location:	The Phase I Property is located at the southeast corner of the intersection of Pinhey Street and Armstrong Street, in the City of Ottawa. For the purposes of this report, Pinhey Street runs in an north-south direction. The subject site is shown on Figure 1 - Key Plan following the body of this report.
Latitude and Longitude:	45° 24' 13.55" N, 75° 43' 32.38" W

Site Description:

Configuration:	Irregular
Site Area:	750 m^2 (approximate)
Zoning:	RT4 – Residential fourth density zone.
Current Use:	The property is occupied by a vacant two-storey residential dwelling and a vacant one-storey commercial structure and associated parking.
Services:	The subject site is located in a municipally serviced area.

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.

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 impacted the subject land, based on their significant distance from the site.

First Developed Use Determination

Based on the Fire Insurance Plans for the Phase I Property, it is our interpretation that the Phase I Property was first developed for residential purposes circa 1888.

Fire Insurance Plans

Fire Insurance Plans (FIPs) from 1888 (updated in 1901) and 1956 were reviewed for the Phase I Property and Phase I study area.

According to the 1901 FIP, the property was addressed 156 and 157 Pinhey Street (formerly Russell Street) was occupied by two (2) one-storey buildings, situated on the western portion of the Phase I Property. No concerns were identified with the use of the subject site in 1901.

Surrounding properties along Wellington Street West, Pinhey Street, Armstrong Street (now Merton Street) and East Street (now Armstrong Street) were used for primarily residential purposes. No PCAs were identified on neighbouring properties in the 1901 FIP, although the use of the commercial buildings is not clearly noted.

Sheets 314 to 318, volume 3, of the 1956 FIPs indicated that the subject site was occupied by a residential dwelling, addressed 103 Pinhey Street and by a commercial building (A.E. Hubert Stove Works), addressed 101 Pinhey Street. The former use of the subject site is considered to be a potentially contaminating activity and therefore represents an area of potential environmental concern on the subject property.

Neighbouring properties, addressed 1092 and 1096 Wellington Street West, located 90m south of the subject site, were redeveloped with a retail fuel outlet and automotive service garage. A printing facility was listed at 1100 Wellington Street, approximately 125m southwest of the subject site.

Based on their separation distances from the subject site, their down- or cross-gradient locations with respect to the subject site and previous engineering reports conducted by Paterson, the abovementioned sites are not considered to have had the potential to impact the subject site.

City of Ottawa Street Directories

City directories for the area of the subject site were reviewed from 1895 to 2011 at approximate 10-year intervals. Based on the city directories, the present-day commercial and residential buildings have occupied the subject property since 1908. The northern portion of the subject site (101 Pinhey Street) has historically been listed as Hubert Heating (1975 – 2011), Hubert Stove & Furnace Ltd. (1961 – 1965), Hubert Stove Works (1931 – 1951), Lauzon Bros Blacksmith (1915) and as a residential dwelling (1909). The southern portion of the property, 103 Pinhey Street, has always been listed as a residential dwelling.

Based on conversations with the present-day property owner's representative, the property has previously been used for manufacturing of heating and ventilation equipment. Based on the information reviewed from the National Archives, the historical nature of the northern portion of the property (101 Pinhey Street) has been identified as a potential environmental concern with regard to the subject site.

Historically, surrounding properties have generally been used for residential, commercial and light industrial purposes. Based on the historical information reviewed from the National Archives, several potential environmental concerns were identified with regard to surrounding properties and have been summarized in Table 1 below:

Table 1: City Directories – Surrounding Potentially Contaminating Activities			
Address	**Listed Activity (years listed)**	**Approximate Distance / Orientation from site**	**Potential Environmental Concern (Y / N)**
Carruthers Avenue			
271	St Jacques Auto Garage (1949)	140 m W	N
Fairmont Avenue			
5	Air Flow Sheet Metal (2000)	160m E	N
19	Film Lab (1950-1979)	160m E	N
Grant Street			
1	Automotive Service Garage (1970-2010)	200m SW	N
Irving Avenue			
3	Excavating Contractor (1960)	215m E	N
22	Machine Shop (1950-2000)	200m E	N
Wellington Street West			
969	Radiator Co. (1965-1975) Automotive Bodyshop (1986-2005)	235m NE	N
973	Automotive Service Garage (1995-2010)	225m NE	N
991 (previously 995)	Taxi Stand (1931) Automotive Service Garage (2010)	215m NE	N
999	Dry Cleaners (1930) Metro Gas Bar (1979)	200m NE	N
1009/1011	Wellington Garage (1955)	185m NE	N
1012	Dry Cleaners ((1942)	150m E	N
1013	Dry Cleaners (1960)	175m Ne	N
1017	Dry Cleaners (1950-1960)	150m NE	N

Table 1: City Directories – Surrounding Potentially Contaminating Activities			
Address	**Listed Activity (years listed)**	**Approximate Distance / Orientation from site**	**Potential Environmental Concern (Y / N)**
1022	Dry Cleaners (1970-1979)	135m NE	N
1025	Dry Cleaners (1930)	120m NE	N
1033	Weatherstrip Facility (1955)	110m NE	N
1063	Appliance Recycling Plant (2005 – 1995)	60 m E	N
1067	Classic Cleaners & Launders Ltd (1965)	Adjacent E	Y
1092	Young's Battery Service (1928)	90 m S	N
1094	British American Oil Co. Ltd. (1941-1949) West End Tire & Vulcanizing Shop (1928)	90 m S	N
1095	Ottawa Gas Co., Show Room (1915)	85 m SW	N
1096	Parfield Oil Ltd. Auto Garage (1941)	90 m S	N
1097	Ottawa Cleaners (1941)	100 m SW	N
1112	Star Cleaners & Dryers (1949)	145 m SW	N
1115	Dry Cleaners (1940-1950)	150m SW	N
1140	Automotive Service Garage (1955)	240m SW	N
1145	Retail Fuel Outlet (1950s)	240m SW	N

Based on information from previous Paterson environmental reports, including a Phase I/II-ESA conducted on the subject site and the separation distances from the subject site, the majority of the aforementioned properties are not considered to have had the potential to impact the subject site. However, given the proximity of the former dry-cleaning facility with respect to the subject site, located at 1067 Wellington Street West (presently address 106 Merton Street), it is considered to have had the potential to have impacted the subject site.

Chain of Title

Paterson requested a current land titles for the properties constituting the subject site with Read Abstracts Limited of Ottawa, Ontario. The records review was requested back to 1875. At the time of issuance of this report, a response had not been received. The Chain of Title will be appended to the report when received.

Plan of Survey

A survey plan prepared by Fairhall, Moffat and Woodland Ltd. and dated May 5, 2018, was reviewed as part of this assessment. The survey plan shows the Phase I Property in its current configuration, with the existing buildings and storage structure.

Environmental Reports

A review of the following report was conducted as a part of this assessment:

- "Phase I-II - Environmental Site Assessment, 101-103 Pinhey Street, Ottawa, Ontario", prepared by Paterson Group, dated December 2017.

Paterson Group conducted a Phase I-Environmental Site Assessment (ESA) of 101 – 103 Pinhey Street in the City of Ottawa, Ontario. The purpose of this Phase I-ESA was to research the past and current use of the subject site and neighbouring properties and to identify any environmental concerns with the potential to have impacted the subject property. A Phase II - ESA was recommended and conducted on the subject site to assess potential soil and groundwater impacts from the former use of the subject site for light-industrial and manufacturing and to assess potential impacts from the adjacent property as a former dry cleaner.

Soil

Two (2) boreholes, both of which were equipped with a groundwater monitoring well, were placed on the subject property on December 14, 2017. Non-inert material (trace glass and brick) in the lower most fill layer was noted in the soil samples obtained from BH1 and BH2, respectively (BH1-AU1 and BH2-AU1).

These two (2) soil samples were submitted for Metals and PHCs analysis. The majority of PHC parameters identified above the laboratory detection limits were in compliance with the MOECC Table 7 standards, with the exception of the PHC F_3 fraction BH1-AU1. Sample BH1-AU1 did not meet MOECC Table 7 standards for antinomy, arsenic, barium, cadmium, copper, lead and zinc, while sample BH2-AU1 did not meet the standards for barium and lead. The lower most fill is considered to be contaminated, which ranges in thickness from approximately 0.6m to 0.9m at the borehole locations.

Groundwater

Groundwater samples were recovered from the monitoring wells installed in BH1 and BH2 on December 19, 2017. All of the groundwater samples were submitted for PHC and VOC analysis. No detectable VOC or PHC concentrations were identified in the groundwater samples. All concentrations comply with the selected MOECC standards.

Recommendations

It was determined that the presence of the impacted fill did not pose a risk to the use of the property as it is and, as a result, it was not necessary to remediate this material at that time, depending upon the future intended use of the land. While the impacted fill was not considered to pose a risk to the current use of the land, it was considered to pose a liability to the subject property. Further delineation of the impacted fill across the site was recommended to accurately determine the liability associated with the fill. It was recommended that the most practical time to remediate this fill would be in conjunction with the redevelopment of the land, once all of the building structures have been removed and the most economical method of remediation was considered to be an excavation and off-site disposal program (where the impacted fill is disposed of at an approved waste disposal facility).

Based on the age of the subject structures, some of the building materials have the potential to be asbestos containing materials (ACMs). The potential ACMs include drywall joint compound, suspended ceiling tiles and wall parging. Some of the potential ACMs were observed to be in poor condition and may represent an immediate concern. An asbestos survey of the subject structures should be completed in accordance with Ontario Regulation 278/05, particularly if any renovation/demolition work is to be carried out on the buildings.

Based on the age of the subject buildings, lead-containing paints are possibly present on original painted surfaces throughout the structures. At the time of the assessment, the painted surfaces observed were in fair to good condition. Lead testing should be conducted in the buildings prior to major renovations or demolition activities. Major works involving lead based painted surfaces must be done in accordance with Ontario Regulation 843, under the Occupational Health and Safety Act.

- ❑ Reports in the vicinity of the subject site

Several reports completed for properties in the vicinity of the subject site by Paterson Group were reviewed as part of this assessment. Based on information provided within these reports, no additional areas of potential environmental concern were identified on the subject site.

4.2 Environmental Source Information

Environment Canada

A search of the National Pollutant Release Inventory (NPRI) was conducted electronically on March 28, 2018. The subject site and adjacent properties were not listed in the NPRI database. No records of pollutant release were listed in the database for properties located within the Phase I Study Area.

PCB Inventory

A search of national PCB waste storage sites was conducted. No PCB waste storage sites are located within the Phase I Study Area.

Ontario Ministry of Environment and Climate Change (MOECC) Instruments

A request was submitted to the MOECC Freedom of Information office for information with respect to certificates of approval, permits to take water, certificates of property use or any other similar MOECC issued instruments for the Phase I Property. Based on the MOECC response dated November 30, 2017, no records were identified. A copy of the MOECC response is provided in Appendix 2.

MOECC Coal Gasification Plant Inventory

The MOECC 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.

MOECC Incident Reports

A request was submitted to the MOECC Freedom of Information office for information with respect to records concerning environmental incidents, orders, offences, spills, discharges of contaminants or inspections maintained by the MOECC for the site or adjacent properties. No records were found in the MOECC database.

MOECC Waste Management Records

A request was submitted to the MOECC Freedom of Information office for information with respect to waste management records. Based on the MOECC response dated November 30, 2017, no waste management records were identified. A copy of the MOECC response is provided in Appendix 2.

MOECC Submissions

A request was submitted to the MOECC Freedom of Information office for information with respect to reports related to environmental conditions have been submitted to the MOECC. No records were found in the MOECC database.

MOECC Record of Site Condition (RSC)

A search of the MOECC Record of Site Condition database was conducted for properties within the Phase I Study Area. No Records of Site Condition (RSCs) have been filed for the Phase I Property. An RSC (No. 221548) was identified for 1140 Wellington Street West, approximately 160m southwest of the Phase I Property. Based on the separation distance and the information in the database, this property is not considered to pose a concern to the Phase I Property.

MOECC Waste Disposal Site Inventory

The MOECC 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, no waste disposal sites were present within the Phase I Study Area.

No active waste disposal sites were identified within 500m of the subject site. Two (2) closed waste disposal sites were identified within 500m of the subject site. Details regarding these closed waste disposal sites are presented below in Table 2:

Table 2
Waste Disposal Sites

Landfill Number	Site Location	Activity Period	Owner	Location
X-1020	Burnside Avenue and Slidell Street	1947	City of Ottawa	400 m N
X-1021	Scott Street (Laroche Park)	1920	City of Ottawa	200 m N

Based on the separation distance (over 200m) and the inferred down-gradient location with respect to the subject site, the presence of these former landfills is not considered to have the potential to impact the subject property

Areas of Natural Significance

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 March 26, 2018. The search did not reveal any natural features or areas of natural significance on the Phase I Property or other properties within the Phase I Study Area.

Technical Standards and Safety Authority (TSSA)

The TSSA, Fuels Safety Branch in Toronto was contacted electronically on July 26, 2018 to inquire about current and former underground storage tanks, spills and incidents for the site and neighbouring properties. No records are listed in the TSSA registry for the general area of the site. A copy of the TSSA correspondence is included in Appendix 2.

City of Ottawa Old Landfill Document

The document prepared by Golder Associates entitled “Old Landfill Management Strategy, Phase I - Identification of Sites, City of Ottawa”, was reviewed. One (1) landfill site was identified within 500 meters of the subject property, as presented in Table 3.

Table 3
Former Landfill Sites

Landfill Number	Site Name and Location	Activity Period	Owner	Location
UR-41	Bayswater at Wellington	Likely Prior to 1928	City of Ottawa	470 m E

Based on the separation distance and the inferred cross- or down-gradient location with respect to the subject site, the presence of this former landfill is not considered to have the potential to impact the subject property.

City of Ottawa Historical Land Use Inventory (HLUI)

An HLUI application form, requesting information from the City’s Historical Land Use Inventory (HLUI 2005) database for the Phase I Property and adjacent lands, was submitted to the City of Ottawa, however, at the time of issuance of this report, a response had not yet been received. A copy of the HLUI will be forwarded to the client if it contains any pertinent information.

Former Industrial Sites

The report entitled “Mapping and Assessment of Former Industrial Sites, City of Ottawa” was also reviewed. The subject site was listed in the database of former industrial sites. No other former industrial sites were identified in the vicinity of the subject property

It is believed that the address of the primary metal industrial site is erroneously listed at 103 Pinhey Street. According to the national archives, the industrial site was located at 101 Pinhey Street. This former on-site business is considered to pose an environmental concern to 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:

1928 (City of Ottawa Website, geoOttawa) Wellington Street West, Armstrong Street and Pinhey Street can be seen in their present-day orientations. It appears that the subject site is occupied by a residential dwelling (103 Pinhey Street) and two (2) attached commercial/industrial structures (101 Pinhey Street) at this time. Neighbouring properties to the west and north appear to be used for residential purposes. Properties to the south and east appear to be used for a mix of residential and commercial purposes

1946 Based on the scale of this photo, details are difficult to differentiate, however, no significant changes appear to have been made to the subject or surrounding properties.

1958 (City of Ottawa Website, geoOttawa) No significant changes have been made to the subject properties. A church has been developed east of the subject site across Wellington Street West.

1965 (City of Ottawa Website, geoOttawa) No significant changes have been made to the subject or surrounding properties.

1976 (City of Ottawa Website, geoOttawa) No significant changes have been made to the subject site. A multi-storey apartment building has been developed to the northeast along Wellington Street West. The remaining surrounding properties are unchanged from the previous photo.

1986 (City of Ottawa Website, geoOttawa) No significant changes have been made to the subject or surrounding properties.

1991 (City of Ottawa Website, geoOttawa) No significant changes have been made to the subject or surrounding properties.

1995 No significant changes have been made to the subject or surrounding properties.

2005 (City of Ottawa Website, geoOttawa) No significant changes have been made to the subject or surrounding properties.

2015 (City of Ottawa Website, geoOttawa) The subject and neighbouring properties are depicted as they appear today.

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

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

Topographic Maps

Topographic maps were obtained from Natural Resources Canada – The Atlas of Canada website and from the City of Ottawa website. The topographic maps indicate that the regional topography in the general area of the Phase I Property slopes gradually downward to the north and northeast. According to the maps, the nearest water body is the Ottawa River, located approximately 900 m to the north of the Phase I Property. 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 150m 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 the information from NRCAN, bedrock in the area of the site consists of interbedded limestone and shale of the Verulam Formation. Based on the maps, the surficial geology consists of Paleozoic bedrock with a thickness of overburden ranging from 0 to 1 m, however, Paterson conducted a Phase II-ESA on the property in December of 2017 and encountered up to 3.31m of glacial till above bedrock on the northern portion of the subject site.

Water Well Records

According to the MOECC well mapping database, there are no records of monitoring wells for the Phase I Property, other than those drilled by Paterson as part of the 2017 Phase I/II-ESA, which were drilled on the subject site to assess potential soil and groundwater impacts from the former use of the subject site for light-industrial and manufacturing and to assess potential impacts from the adjacent property to the east as a former dry cleaner.

A total of five (5) monitoring wells were identified on neighbouring properties located within the Phase I Study Area: two (2) on 177 Armstrong Street; two (2) on 37 Ladouceur Street; and one (1) on 106 Merton Street.

Based on their separation distances and cross- or down-gradient locations with respect to the subject site, 177 Armstrong Street and 37 Ladouceur Street are not considered to represent environmental concerns to the Phase I Property. Based on the former use of 106 Merton Street as a dry cleaner and adjacent location with respect subject site, the neighbouring property is considered to represent an APEC on the subject site.

Copies of the well records are provided in Appendix 2.

Water Bodies and Areas of Natural Significance

No creeks, rivers, streams, lakes or any other water body was identified in the Phase I Study Area. The Ottawa River, the closest significant water body, is present approximately 900m north of the Phase I Property.

No areas of natural significance are known to exist within the Phase I Study Area.

5.0 INTERVIEWS

Property Owner Representatives

Paterson conducted a Phase I-ESA on the subject site in December of 2017. Mr. Chris Nicholson, the previous owner's realtor, was present during the site visit on November 17, 2017. Comments made by Mr. Nicholson were deemed sufficient for the purposes of this report.

Mr. Nicholson indicated that the on-site commercial fireplace and furnace vendor (Hubert Heating) had moved in October of 2017. Mr. Nicholson told Paterson that the business owners were vacating the property and that all equipment, tools, chemicals and furniture would be removed from the site. Paterson was told by Mr. Nicholson that the residential dwelling was also vacant at this time and would be cleared out in the near future. Mr. Nicholson told Paterson that the aboveground fuel storage tank (AST) located in the basement of the residential dwelling was not in use. Mr. Nicholson told Paterson that there were three natural gas furnaces on the property to heat the buildings.

6.0 SITE RECONNAISSANCE

6.1 General Requirements

A representative from the Environmental Department of Paterson Group conducted a site visit on September 14, 2017. Weather conditions were partly cloudy with a temperature of approximately 18° C. At the time of the site visit, the neighbouring properties within the Phase I study area were also observed, from publicly accessible areas.

6.2 Specific Observations at Phase I Property

Buildings and Structures

The subject site is occupied by a two (2) storey residential dwelling on the southern portion of the site (103 Pinhey Street) which is attached to a mixed one (1) and two (2) storey commercial structure on the northern portion (101 Pinhey Street). A garage/shed is located on the southeastern portion of the site and is connected to the commercial structure.

The residential dwelling is clad with vinyl siding and has a flat, tar and gravel style roof and a stone foundation with a single basement level. The building is heated with a natural gas fired furnace located in the basement.

The commercial structure is clad with wood panelling and has a slab-on-grade foundation and a metal roof. Below the newer metal roof there is a flat, tar and gravel style roof. The commercial building's heat is provided by two (2) natural gas fired furnaces located on the main level. The attached garage has a concrete block exterior.

Underground Utilities

All utility services on the subject site were located prior to the subsurface investigation, which include a natural gas line on the southern-western portion of the property and municipal sewer lines.

Site Features

The subject site is slightly above grade in relation to the adjacent roadways. The site and regional topographies slope slightly downward to the north, towards the Ottawa River. The subject buildings occupy the majority of the site, with two asphaltic concrete laneways on the north-western and southern portions of the property.

Water drainage occurs by sheet drainage to catch basins located on adjacent roadways. There was no ponded water observed on the ground surface at the time of the inspection. No surficial staining or indications of surficial contamination were observed during the exterior assessment of the subject land

Fill Material

Fill on site is considered to have been brought on-site for grading below the asphaltic concrete parking lot on the northern and southern portions of the property (BH1 and BH2). Fill material on the subject site ranged from 0.88m to 099m thickness. Non-inert material (trace glass and brick) in the lower most fill layer was noted in the soil samples obtained from BH1 and BH2 as part of the 2017 Phase I-II-ESA, respectively (BH1-AU1 and BH2-AU1). The fill across the subject site is considered a PCA that has resulted an APEC.

Interior Assessment

An interior inspection of the residential dwelling, including the basement and the commercial structure, including the garage, roof, commercial sales areas, workshop, utility rooms and second storey was conducted as part of the Phase I – ESA.

A general description of the interior of the residential dwelling (103 Pinhey Street) is as follows:

- The floors throughout the building consist of carpet and ceramic tile.
- Wall materials consisted of drywall, concrete and stone.
- The ceilings consisted of stipple over drywall. The ceilings in the basement consisted of wood decking.
- Lighting throughout the building was observed to be a mix of incandescent and fluorescent fixtures.

A general description of the interior of the commercial structure (101 Pinhey Street) is as follows:

- The floors throughout the building consist of carpet, concrete and ceramic tile.
- Wall materials consisted of drywall, parging, concrete, brick and stone blocks.
- The ceilings consisted of drywall, suspended ceiling tile, wood decking and metal.

- Lighting throughout the building was observed to be a mix of incandescent and fluorescent fixtures.

One (1) sump pit in the basement of the residential dwelling was inspected during our site visit. No unusual visual or olfactory observations were observed with regards to the water in the sump pit. Groundwater is discharged from the buildings into the City of Ottawa sewer system

An interior inspection of the garage was conducted as part of the Phase I - ESA. The single storey garage on the southeast portion of the property is attached to the commercial building. The floors consist of ply wood and the walls are composed of brick and concrete block. The roof of the garage is made of metal.

Potentially Hazardous Building Products

- **Asbestos-Containing Materials (ACMs)**

  Based on the age of the subject buildings (1908), it is possible that ACMs may be present within the structures. Based on visual observations made at the time of the assessment, potential ACMs include drywall joint compound, wall parging and suspended ceiling tiles and ceiling stipple. The potential ACMs were in good to poor condition at the time of the site visit. Several holes were observed in wall parging throughout the commercial structure. Prior to the disturbance or demolition of any ACMs, an asbestos survey should be conducted.

- **Lead-Based Paint**

  Based on the age of the commercial structure and the residential dwelling (1908) lead-based paints are potentially present on painted surfaces throughout the structures. At the time of the assessment, painted surfaces were generally observed to be in fair to good condition. Prior to the demolition of the subject buildings, a designated substance survey is recommended.

- **Polychlorinated Biphenyls (PCBs)**

  Based on the product code observed on one (1) type of light ballast within the commercial structure, it is believed that it may contain PCBs. Several older light ballast models were observed throughout the subject structures, which may also contain PCBs, however, product codes were not observed. Prior to any demolition activities, it is recommended that a designated substance survey be conducted for the subject structures.

- **Urea Formaldehyde Foam Insulation (UFFI)**

  No signs indicating the presence of UFFI were observed within the structure during our inspection. However, not all wall or ceiling cavities were inspected for insulation type.

Other Potential Environmental Concerns

- **Fuels and Chemical Storage**

  There were some general cleaning chemicals and paints observed on the subject site at the time of our inspection, which were properly stored. As previously discussed, the tenants were moving out of the subject structures and all cleaning chemicals and paints will be removed from the subject site.

  An aboveground storage tank (AST) was observed in the basement of the residential dwelling. The age of the AST is unknown, and the capacity is approximately 950L. The AST was believed to be empty and was not in use at the time of the inspection. Several rusty patches were observed on the AST; however, no evidence of leaks was observed from the fuel storage tank (AST) at the time of the site inspection. The presence of the fuel storage tank does not pose a significant environmental concern to the subject property.

- **Ozone Depleting Substances (ODSs)**

  Potential sources of ODSs observed on site include air conditioners, refrigeration units, and fire extinguishers. These appliances should be regularly serviced by a licensed contractor.

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:

Land use adjacent to the subject site was as follows:

- North – Armstrong Street followed by residential properties;
- South – Commercial properties followed by Wellington Street West;
- East – A parking lot and a pharmacy followed by Merton Street;
- West – Pinhey Street followed by a parking lot and residential dwellings.

No concerns were identified with regard to the current use of the adjacent properties. Current land use adjacent to the subject site is illustrated on Drawing PE4283-2 – Surrounding Land Use Plan.

7.0 REVIEW AND EVALUATION OF INFORMATION

7.1 Land Use History

The following table indicates the current and past uses of the site as well as associated potentially contaminating activities dating back to the first developed use of the site.

Table 4
Land Use History – 101 Pinhey Street

Year	Name of Owner	Property Use	Description of Property Use	Other Observations from Aerial Photos, FIPs, etc.
Prior to 1908	N/A	Street not built on	N/A	No other information available form this time period.
1908 to 1909	N/A	Residential	Residence	1912 FIP shows an apparent commercial structure on the Phase I Property.
1910 to 1914	Lauzon Brothers Black Smith	Commercial	Blacksmith	
1920s	Menagh Fred KC	Commercial	Brassworks	1928 air photo shows an apparent commercial structure on the Phase I Property.
1931 to 1988	Hubert RE Heating Ltd	Commercial	Heating equipment manufacturing and repair	City Directories and air photos show the Phase I Property as being occupied by a commercial building listed under Mr. Hubert.
1988 to 2017	Hubert RE Heating Ltd and Fireplace Designs	Commercial	Heating equipment manufacturing and repair	City Directories and air photos show the Phase I Property as being occupied by a commercial building listed under Mr. Hubert.
Land Use History – 103 Pinhey Street				
Year	**Name of Owner**	**Property Use**	**Description of Property Use**	**Other Observations from Aerial Photos, FIPs, etc.**
1908 to 2017	Various tenants	Residential	Residence	1912 FIP and the subsequent air photographs shows an apparent residential structure on the southern portion of the Phase I Property

Potentially Contaminating Activities

The following two (2) PCAs were identified on the Phase I Property:

- Item 30, Table 2, O.Reg. 153/04 as amended by O.Reg. 269/11: "Importation of Fill Material of Unknown Quality" - this PCA was identified due to fill of unknown quality having been used below the parking areas (north and south portions of the site;
- Item 33, Table 2, O.Reg. 153/04 as amended by O.Reg. 269/11: "Metal Treatment" – this PCA was identified based on the presence of a heating equipment manufacturing facility on the northern portion of the site (101 Pinhey Street);

The following twenty-seven (27) off-site PCAs were identified within the Phase I Study Area:

- Item 2, Table 2, O.Reg. 153/04 as amended by O.Reg. 269/11: "Adhesives and Resins Bulk Storage" – this PCA was identified based on the former presence of a weather-strip facility at 1033 Wellington Street West.
- Item 6, Table 2, O.Reg. 153/04 as amended by O.Reg. 269/11: "Battery Bulk Storage" – this PCA was identified based on the former battery facility at 1092 Wellington Street West.
- Item 28, Table 2, O.Reg. 153/04 as amended by O.Reg. 269/11: "Operation of Dry Cleaning Equipment (where chemicals are used)" – this PCA was identified based on three (3) historical Retail Fuel Outlets addressed 999, 1094 and 1145 Wellington Street West.
- Item 31, Table 2, O.Reg. 153/04 as amended by O.Reg. 269/11: "Ink use and bulk storage" – this PCA was identified based on the former presence of a Film Lab located at 19 Fairmont Avenue.
- Item 33, Table 2, O.Reg. 153/04 as amended by O.Reg. 269/11: "Metal Treatment" – this PCA was identified based on the former presence of an Appliance Recycling Plant located at 1067 Wellington Street West.
- Item 37, Table 2, O.Reg. 153/04 as amended by O.Reg. 269/11: "Gasoline and associated products in a fixed tank" – this PCA was identified based on the former presence of ten (10) historical drycleaners addressed 999, 1012, 1013, 1017, 1022, 1025, 1067, 1097, 1112 and 1125 Wellington Street West.
- Item 52, Table 2, O.Reg. 153/04 as amended by O.Reg. 269/11: "Storage, maintenance, fuelling and repair of equipment vehicles and material used to maintain transportation systems" – this PCA was identified based on ten (10)

historical automotive and equipment repair facilities addressed 969, 973, 991, 1009/1011, 1033, 1095, 1096 and 1140 Wellington Street West, 1 Grant Street and 271 Carruthers.

Historical on-site PCAs and off-site drycleaners formerly located on the adjacent property to the east are considered to represent Areas of Potential Environmental Concern (APECs) on the Phase I Property as further discussed in the following section. These PCAs are depicted in red on Drawing PE4283-2 – Surrounding Land use Plan.

Based on their separation distances, orientations with respect to the Phase I Property and/or information contained in previous engineering reports conducted by Paterson, the remaining off-site PCAs noted above are not considered to represent APECs on the subject land. These PCAs are depicted in green on Drawing PE4283-2 – Surrounding Land use Plan.

Areas of Potential Environmental Concern (APECs)

The location of the PCAs and resulting APECs as well as the associated contaminants of potential concern (CPCs) and potentially impacted media are presented in the Table 5.

Table 5
Area of Potential Environmental Concern

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern with respect to Phase I Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil, and/or Sediment)
APEC 1	Potentially across the entire Phase I Property	33 – Metal Treatment, Coating, Plating and Finishing	On-site	Metals	Soil, Groundwater
APEC 2	Potentially across the entire Phase I Property	30 – Fill Material of Unknown Quality	On-site	BTEX/PHCs (F_1-F_4), metals	Soil, Groundwater
APEC 3	Eastern portion of the Phase I Property, beneath the current building footprint.	37 – Operation of Dry Cleaning Equipment (where chemicals are used)	Off-site	VOCs	Groundwater

Contaminants of Potential Concern

Based on the past and current uses of the subject site, the following Contaminants of Potential Concern (CPCs) have been identified in the soil and/or groundwater:

- Benzene, ethylbenzene, toluene and xylenes (BTEX);
- Petroleum hydrocarbons fractions (PHCs, F1-F4);
- Volatile organic compounds (VOCs) in the groundwater; and
- Metals, including hydride forming compounds, mercury (Hg), hexavalent chromium (CrIV) and boron hot water soluble (BHWS).

7.2 Conceptual Site Model

Geological and Hydrogeological Setting

The Geological Survey of Canada website on the Urban Geology of the National Capital Area was consulted as part of this assessment. Based on the information from NRCAN, bedrock in the area of the site consists of interbedded limestone and shale of the Verulam Formation. Based on the maps, the surficial geology consists of Paleozoic bedrock with a thickness of overburden ranging from 0 to 1 m, however, Paterson conducted a Phase II-ESA on the property in December of 2017 and encountered up to 3.3m of glacial till above bedrock on the northern portion of the subject.

Based on the 2017 Phase I/II-ESA report conducted for the subject site and other reports prepared by Paterson for neighbouring properties, the groundwater flow in the immediate vicinity of the Phase I Property flows in a north-easterly direction, towards the Ottawa River.

Existing Buildings and Structures

The subject site is occupied by a two (2) storey residential dwelling on the southern portion of the site (103 Pinhey Street) which is attached to a mixed one (1) and two (2) storey commercial structure on the northern portion (101 Pinhey Street). A garage/shed is located on the southeastern portion of the site and is connected to the commercial structure.

Water Bodies

There are no water bodies on the Phase I Property or within the Phase I Study Area. The closest water body is the Ottawa River located approximately 900m to the north.

Areas of Natural Significance

No areas of natural significance were identified on the Phase I Property or within the Phase I Study Area.

Drinking Water Wells

According to the MOECC well mapping database, there are no drinking water well records for the Phase I property or within the Phase I study area.

Monitoring Wells

According to the MOECC well mapping database, there are no records of monitoring wells for the Phase I Property, other than those drilled by Paterson as part of the 2017 Phase I/II-ESA, which were drilled on the subject site to assess potential soil and groundwater impacts from the former use of the subject site for light-industrial and manufacturing and to assess potential impacts from the adjacent property to the east as a former dry cleaner.

A total of five (5) monitoring wells were identified on neighbouring properties located within the Phase I Study Area: two (2) on 177 Armstrong Street; two (2) on 37 Ladouceur Street; and one (1) on 106 Merton Street.

Based on their separation distances and cross- or down-gradient locations with respect to the subject site, 177 Armstrong Street and 37 Ladouceur Street are not considered to represent environmental concerns to the Phase I Property. Based on the former use of 106 Merton Street as a dry cleaner and adjacent location with respect subject site, the neighbouring property is considered to represent an APEC on the subject site.

Neighbouring Land Use

Neighbouring land use in the Phase I Study Area primarily consists of residential and commercial with some institutional properties.

Potential Contaminating Activities and Areas of Potential Environmental Concern

As presented in Table 5 in Section 7.1 of this report, two (2) on-site PCAs and one (1) off-site PCA are considered to have resulted in three (3) APECs on the Phase I Property.

Contaminants of Potential Concern

As noted in Table 5, CPCs associated with the APECs identified in this Phase I ESA include BTEX, PHCs (F_1-F_4), VOCs and metals in the soil and/or groundwater beneath the Phase I Property.

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 areas of potential environmental concern on the subject site.

The presence of potentially contaminating activities was confirmed by a variety of independent sources, and as such, the conclusions of this report are not affected by uncertainty which may be present with respect to the individual sources.

8.0 CONCLUSIONS

Assessment

Paterson Group was retained by Orange Design Build to conduct a Phase I Environmental Site Assessment (ESA) for the property addressed 101-103 Pinhey Street, in Ottawa. The purpose of this Phase I ESA was to research the past and current use of the Phase I Property and Phase I ESA Study Area and to identify any environmental concerns with the potential to have impacted the subject land.

The results of the historical research indicated that the Phase I Property was first developed in 1908, with two residential buildings, one of which was subsequently converted for commercial/light industrial use in the early 1920s. Based on the City directories, the Hubert family operated the northern portion of the property (101 Pinhey Street) as a heating equipment manufacturing facility since the 1930s. A previous Phase I-II-ESA report conducted for the subject site indicated the presence of metals and PHC (F_3) contaminated fill beneath the asphaltic concrete on the northern and southern portions of the site. The presence of the impacted fill material and the former use of the site are considered potentially contaminating activities (PCAs) which are considered to represent areas of potential environmental concern (APECs) on the subject site.

Historical research indicated that twenty-eight (28) historical off-site PCAs exist within the Phase I study area which include automotive service garages, retail fuel outlets and dry cleaners. Based on previous environmental reports, the separation distances and the cross- or down-gradient locations between the PCAs and the subject site, the majority of these are not considered to represent APECs on the subject site. However, the adjacent property to the east, addressed 106 Merton Street (previously 1067 Wellington Street West), was formerly used as a dry-cleaners and is considered to have had the potential to impact the subject site.

Following the historical research, an inspection of the subject site and the surrounding properties was conducted. The subject site is currently occupied by a vacant two-storey residential dwelling and a vacant one-storey commercial building. No potential environmental concerns were identified on the subject site at the time of our site visit and no additional PCAs were identified on neighbouring properties within the Phase I study area.

Recommendations

Based on the results of the Phase I ESA, **in our opinion, a Phase II Environmental Site Assessment is required for the subject site.**

Based on the age of the subject structures, some of the building materials have the potential to be asbestos containing materials (ACMs). The potential ACMs include drywall joint compound, suspended ceiling tiles and wall parging. Some of the potential ACMs were observed to be in poor condition and may represent an immediate concern. Lead-containing paints are possibly present on original painted surfaces throughout the structures. At the time of the assessment, the painted surfaces observed were in fair to good condition.

It is our understanding that the subject structure will be demolished prior to redevelopment. Prior to any demolition activities, a designated substance survey (DSS) must be conducted for the existing structures, in accordance with Ontario Regulation 490/09 under the Occupational Health and Safety Act.

9.0 STATEMENT OF LIMITATIONS

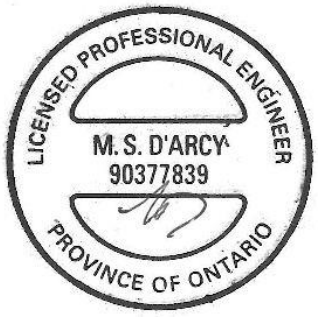
This Phase I - Environmental Site Assessment report has been prepared in general accordance with O.Reg. 153/04 as amended by O.Reg. 269/11 and meets the requirements of CSA Z768-01. The conclusions presented herein are based on information gathered from a limited historical review and field inspection 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 Orange Design Build. Permission and notification from Orange Design Build and Paterson will be required to release this report to any other party.

Paterson Group Inc.

Marek J. Moroz, P.Geo.



Mark S. D'Arcy, P.Eng., QP_{ESA}

Report Distribution:

- Orange Design Build (5 copies and 1 PDF copy)
- Paterson Group (1 copy)

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
MOECC Freedom of Information and Privacy Office
MOECC Municipal Coal Gasification Plant Site Inventory, 1991
MOECC document titled “Waste Disposal Site Inventory in Ontario”
MOECC Brownfields Environmental Site Registry
Office of Technical Standards and Safety Authority, Fuels Safety Branch
MNR Areas of Natural Significance
MOECC 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
The City of Ottawa Historical Land Use Inventory
Intera Technologies Limited Report “Mapping and Assessment of Former Industrial Sites, City of Ottawa”, 1988
The City of Ottawa eMap website

Local Information Sources
Chain of Title obtained through Read Abstracts Limited, August 2017
Survey Sketch, prepared by Annis, O’Sullivan, Vollebekk Ltd., April 2011
Geotechnical Investigation
Personal Interviews

Public Information Sources
Google Earth
Google Maps/Street View

FIGURES

FIGURE 1 – KEY PLAN

FIGURE 2 – TOPOGRAPHIC MAP

DRAWING PE4283-1 – SITE PLAN

DRAWING PE4283-2 – SURROUNDING LAND USE PLAN

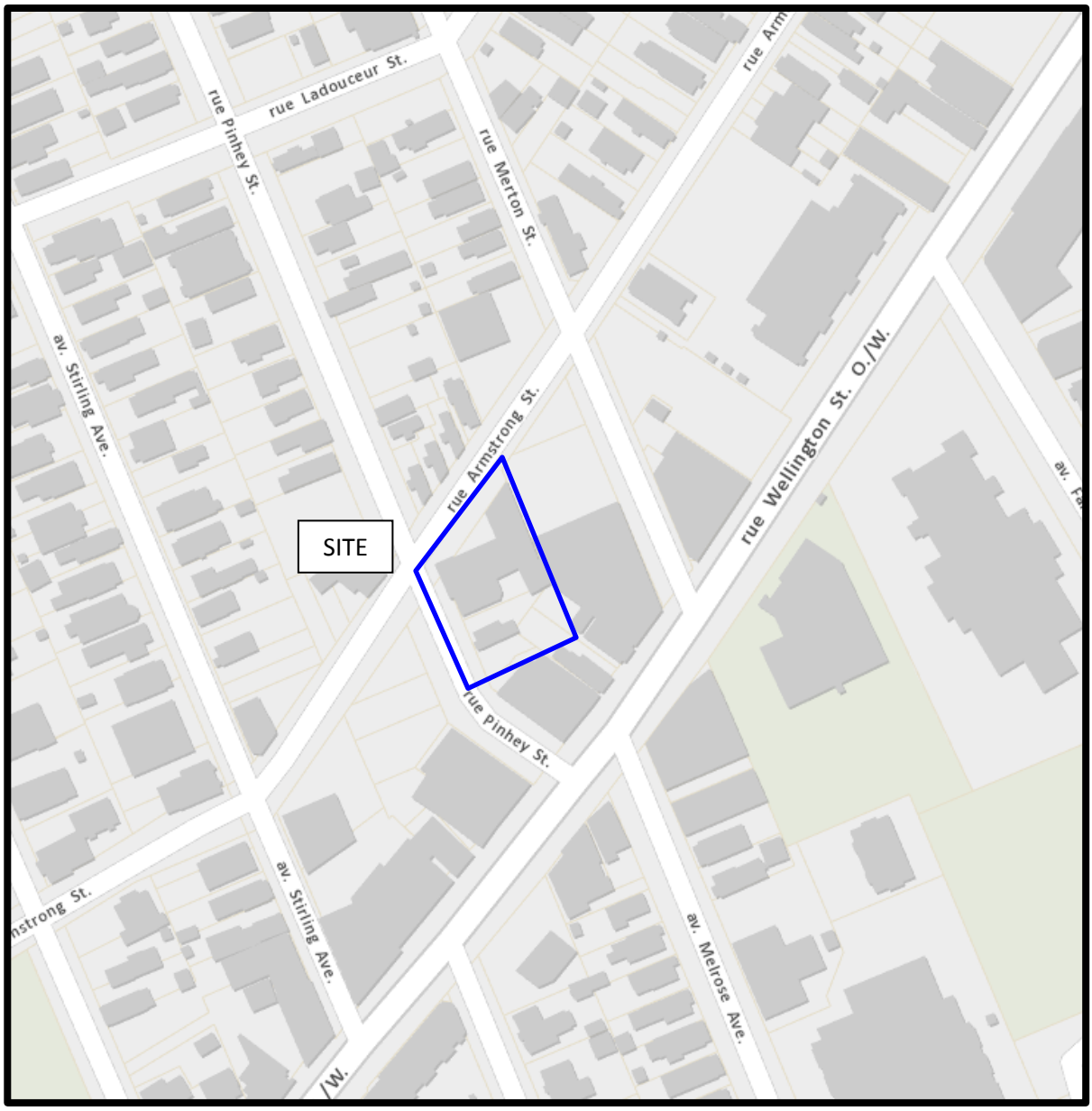


FIGURE 1

KEY PLAN

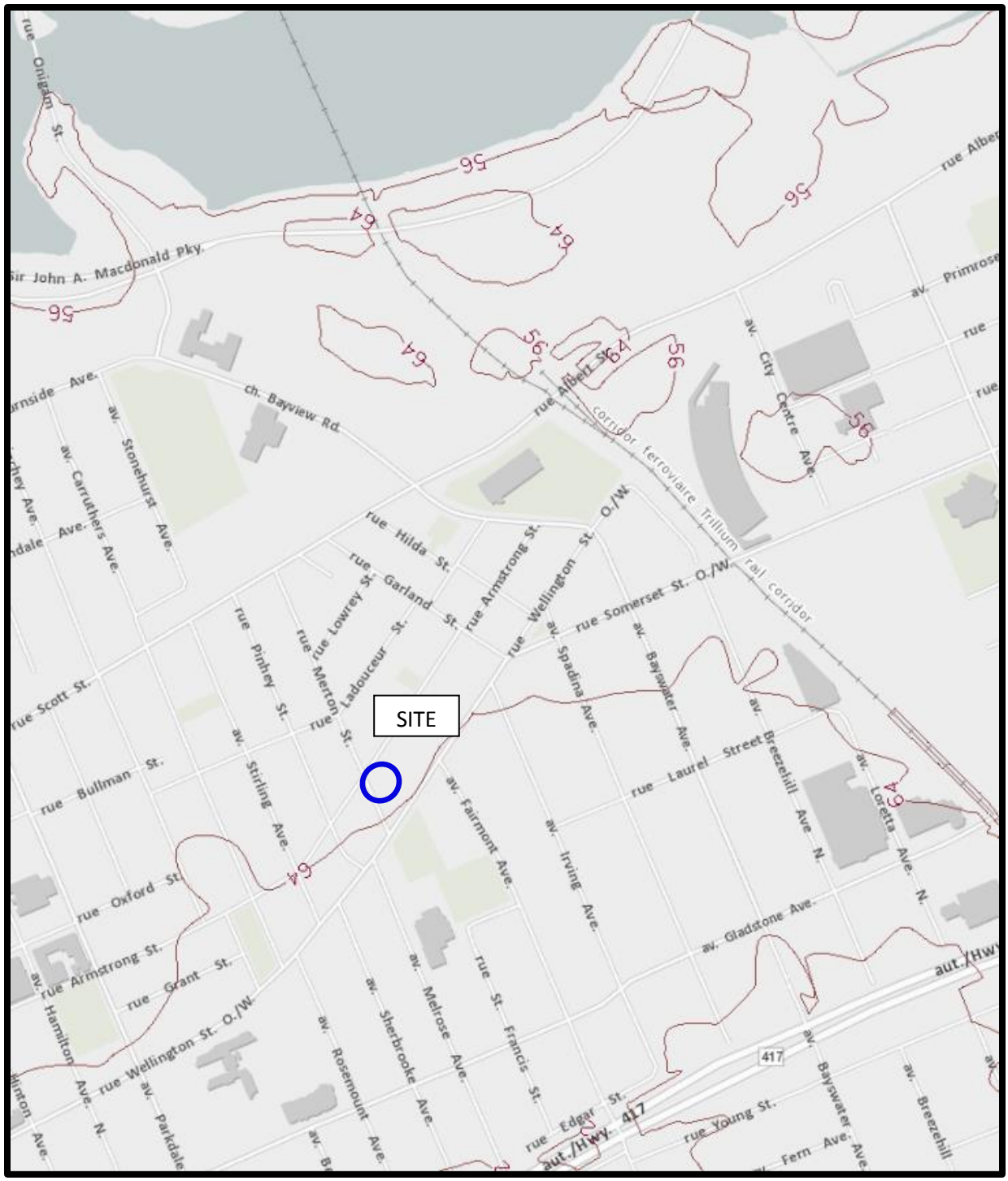


FIGURE 2

TOPOGRAPHIC MAP

#129A ARMSTRONG STREET RESIDENTIAL

#129B ARMSTRONG STREET RESIDENTIAL

#98 PINHEY STREET RESIDENTIAL

#100 PINHEY STREET RESIDENTIAL

ARMSTRONG STREET

SIDEWALK

BH 1

3

#101 PINHEY STREET
VACANT COMMERCIAL

1, 2

#106 MERTON STREET
PARKING LOT
(FORMER DRY CLEANERS)

MERTON STREET

#103 PINHEY STREET
VACANT RESIDENTIAL

ASPHALTIC CONCRETE

GARAGE

LANEWAY

BH 2

#106 MERTON STREET /
1067 WELLINGTON STREET WEST
COMMERCIAL
(PHARMACY)

#104 PINHEY STREET
PARKING LOT

PINHEY STREET

#107 PINHEY STREET
RESIDENTIAL

#1071
WELLINGTON
STREET W.
COMMERCIAL

AREAS OF POTENTIAL ENVIRONMENTAL CONCERN:

1. 101 AND 103 PINHEY STREET - IMPORT OF FILL OF UNKNOWN QUALITY
2. 101 AND 103 PINHEY STREET - FORMER HEATING EQUIPMENT MANUFACTURING FACILITY
3. 1067 WELLINGTON STREET - FORMER DRY CLEANERS

LEGEND:

BOREHOLE WITH MONITORING WELL LOCATION, 2017

patersongroup
consulting engineers

154 Colonnade Road South
Ottawa, Ontario K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

NO.	REVISIONS	DATE	INITIAL
0			

ORANGE DESIGN BUILDING

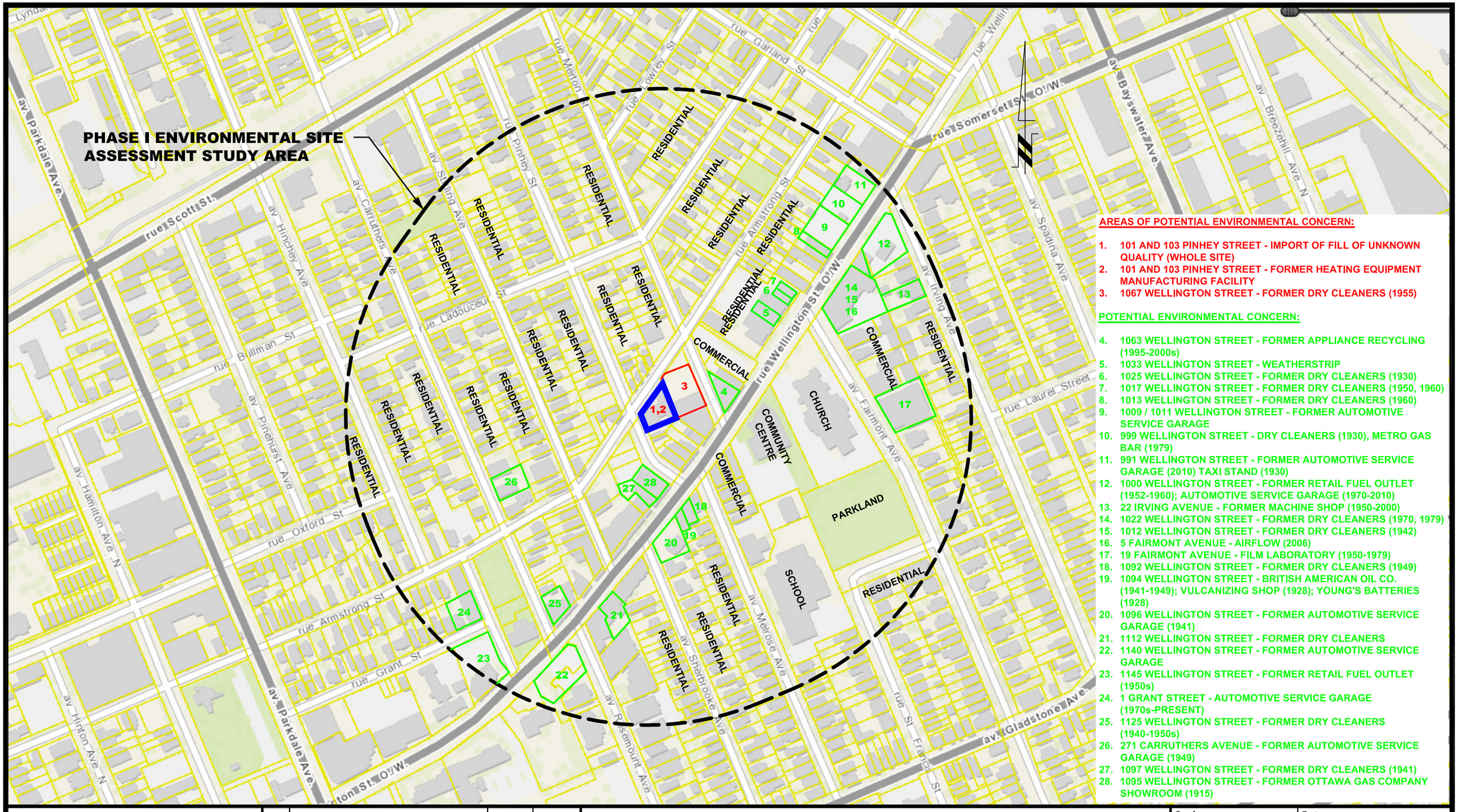
PHASE I - ENVIRONMENTAL SITE ASSESSMENT
101 AND 103 PINHEY STREET

OTTAWA, ONTARIO

Title: SITE PLAN

Scale: 1:200	Date: 03/2018
Drawn by: MPG	Report No.: PE4283-1
Checked by: MM	Dwg. No.: PE4283-1
Approved by: MSD	Revision No.: 0

p:\autocad drawings\environmental\pe42xx\pe4283\pe4283-1 site plan.dwg



AREAS OF POTENTIAL ENVIRONMENTAL CONCERN:

1. 101 AND 103 PINHEY STREET - IMPORT OF FILL OF UNKNOWN QUALITY (WHOLE SITE)
2. 101 AND 103 PINHEY STREET - FORMER HEATING EQUIPMENT MANUFACTURING FACILITY
3. 1067 WELLINGTON STREET - FORMER DRY CLEANERS (1955)

POTENTIAL ENVIRONMENTAL CONCERN:

4. 1063 WELLINGTON STREET - FORMER APPLIANCE RECYCLING (1995-2000s)
5. 1033 WELLINGTON STREET - WEATHERSTRIP
6. 1025 WELLINGTON STREET - FORMER DRY CLEANERS (1930)
7. 1017 WELLINGTON STREET - FORMER DRY CLEANERS (1950, 1960)
8. 1013 WELLINGTON STREET - FORMER DRY CLEANERS (1960)
9. 1009 / 1011 WELLINGTON STREET - FORMER AUTOMOTIVE SERVICE GARAGE
10. 999 WELLINGTON STREET - DRY CLEANERS (1930), METRO GAS BAR (1979)
11. 991 WELLINGTON STREET - FORMER AUTOMOTIVE SERVICE GARAGE (2010) TAXI STAND (1930)
12. 1000 WELLINGTON STREET - FORMER RETAIL FUEL OUTLET (1952-1960); AUTOMOTIVE SERVICE GARAGE (1970-2010)
13. 22 IRVING AVENUE - FORMER MACHINE SHOP (1950-2000)
14. 1022 WELLINGTON STREET - FORMER DRY CLEANERS (1970, 1979)
15. 1012 WELLINGTON STREET - FORMER DRY CLEANERS (1942)
16. 5 FAIRMONT AVENUE - AIRFLOW (2006)
17. 19 FAIRMONT AVENUE - FILM LABORATORY (1950-1979)
18. 1092 WELLINGTON STREET - FORMER DRY CLEANERS (1949)
19. 1094 WELLINGTON STREET - BRITISH AMERICAN OIL CO. (1941-1949); VULCANIZING SHOP (1928); YOUNG'S BATTERIES (1928)
20. 1096 WELLINGTON STREET - FORMER AUTOMOTIVE SERVICE GARAGE (1941)
21. 1112 WELLINGTON STREET - FORMER DRY CLEANERS
22. 1140 WELLINGTON STREET - FORMER AUTOMOTIVE SERVICE GARAGE
23. 1145 WELLINGTON STREET - FORMER RETAIL FUEL OUTLET (1950s)
24. 1 GRANT STREET - AUTOMOTIVE SERVICE GARAGE (1970s-PRESENT)
25. 1125 WELLINGTON STREET - FORMER DRY CLEANERS (1940-1950s)
26. 271 CARRUTHERS AVENUE - FORMER AUTOMOTIVE SERVICE GARAGE (1949)
27. 1097 WELLINGTON STREET - FORMER DRY CLEANERS (1941)
28. 1095 WELLINGTON STREET - FORMER OTTAWA GAS COMPANY SHOWROOM (1915)

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Ottawa, Ontario K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

NO.	REVISIONS	DATE	INITIAL
0			

ORANGE DESIGN BUILD

PHASE I - ENVIRONMENTAL SITE ASSESSMENT
101-103 PINHEY STREET

OTTAWA, ONTARIO

Title:

SURROUNDING LAND USE PLAN

Scale: 1:3000	Date: 03/2018
Drawn by: MPG	Report No.: PE4283-1
Checked by: MM	Dwg. No.: PE4283-2
Approved by: MSD	Revision No.: 0

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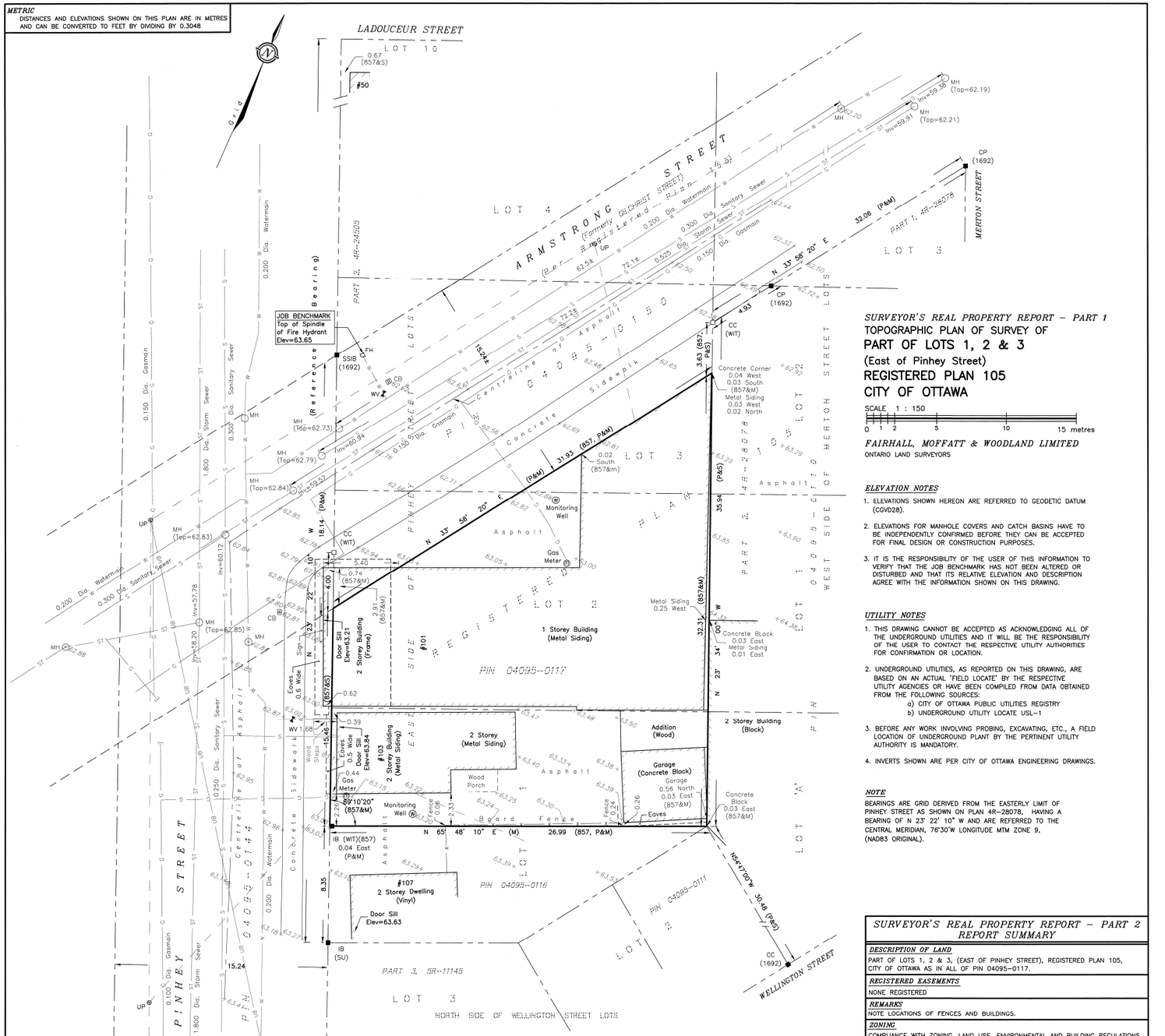
APPENDIX 1

PLAN OF SURVEY

AERIAL PHOTOGRAPHS

SITE PHOTOGRAPHS

METRIC
DISTANCES AND ELEVATIONS SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048



SURVEYOR'S REAL PROPERTY REPORT – PART 1

TOPOGRAPHIC PLAN OF SURVEY OF

PART OF LOTS 1, 2 & 3

(East of Pinhey Street)

REGISTERED PLAN 105

CITY OF OTTAWA

SCALE 1 : 150

0 1 2 5 10 15 metres

FAIRHALL, MOFFATT & WOODLAND LIMITED
ONTARIO LAND SURVEYORS

ELEVATION NOTES

1. ELEVATIONS SHOWN HEREON ARE REFERRED TO GEODETIC DATUM (CGVD28).
2. ELEVATIONS FOR MANHOLE COVERS AND CATCH BASINS HAVE TO BE INDEPENDENTLY CONFIRMED BEFORE THEY CAN BE ACCEPTED FOR FINAL DESIGN OR CONSTRUCTION PURPOSES.
3. IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY THAT THE JOB BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREE WITH THE INFORMATION SHOWN ON THIS DRAWING.

UTILITY NOTES

1. THIS DRAWING CANNOT BE ACCEPTED AS ACKNOWLEDGING ALL OF THE UNDERGROUND UTILITIES AND IT WILL BE THE RESPONSIBILITY OF THE USER TO CONTACT THE RESPECTIVE UTILITY AUTHORITIES FOR CONFIRMATION OR LOCATION.
2. UNDERGROUND UTILITIES, AS REPORTED ON THIS DRAWING, ARE BASED ON AN ACTUAL 'FIELD LOCATE' BY THE RESPECTIVE UTILITY AGENCIES OR HAVE BEEN COMPILED FROM DATA OBTAINED FROM THE FOLLOWING SOURCES:
   a) CITY OF OTTAWA PUBLIC UTILITIES REGISTRY
   b) UNDERGROUND UTILITY LOCATE USL-1
3. BEFORE ANY WORK INVOLVING PROBING, EXCAVATING, ETC., A FIELD LOCATION OF UNDERGROUND PLANT BY THE PERTINENT UTILITY AUTHORITY IS MANDATORY.
4. INVERTS SHOWN ARE PER CITY OF OTTAWA ENGINEERING DRAWINGS.

NOTE

BEARINGS ARE GRID DERIVED FROM THE EASTERLY LIMIT OF PINHEY STREET AS SHOWN ON PLAN 4R-28078, HAVING A BEARING OF N 23° 22' 10" W AND ARE REFERRED TO THE CENTRAL MERIDIAN, 76°30'W LONGITUDE MTM ZONE 9, (NAD83 ORIGINAL).

LEGEND

□	– SURVEY MONUMENT SET	PIN	– PROPERTY IDENTIFIER NUMBER
■	– SURVEY MONUMENT FOUND	◯ MH	– MANHOLE
SSIB	– SHORT STANDARD IRON BAR	▥ CB	– CATCH BASIN
IB	– IRON BAR	⊗ UP	– UTILITY POLE
CC	– CUT CROSS	⋈ WV	– WATER VALVE
CP	– CONCRETE PIN	◇ FH	– FIRE HYDRANT
(P)	– PLAN 4R–28078	—W—	– WATERMAIN
(S)	– SET	— —	– OVERHEAD UTILITY WIRES
(M)	– MEASURED	—UB—	– UNDERGROUND BELL
(857)	– FAIRHALL, MOFFATT & WOODLAND LIMITED, O.L.S. (REF. 11–105)	—G—	– GAS MAIN
		—ST—	– STORM SEWER
(1692)	– FARLEY, SMITH & DENIS SURVEYING LTD., O.L.S.	—S—	– SANITARY SEWER
		═══	– CURB
(SU)	– SOURCE UNKNOWN		
(WIT)	– WITNESS		
DIA.	– DIAMETER		
INV.	– INVERT		

SURVEYOR'S REAL PROPERTY REPORT – PART 2
REPORT SUMMARY

DESCRIPTION OF LAND

PART OF LOTS 1, 2 & 3, (EAST OF PINHEY STREET), REGISTERED PLAN 105, CITY OF OTTAWA AS IN ALL OF PIN 04095–0117.

REGISTERED EASEMENTS

NONE REGISTERED

REMARKS

NOTE LOCATIONS OF FENCES AND BUILDINGS.

ZONING

COMPLIANCE WITH ZONING, LAND USE, ENVIRONMENTAL AND BUILDING REGULATIONS NOT CERTIFIED BY THIS REPORT.

THIS REPORT WAS PREPARED FOR
ORANGE RENOVATIONS & RESTORATIONS
THE UNDERSIGNED ACCEPTS NO RESPONSIBILITY FOR USE BY OTHER PARTIES.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT;
1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON MAY 23, 2018.

2018/05/23
DATE

JOHN H. GUTH
ONTARIO LAND SURVEYOR

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
2050470

THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR In accordance with Regulation 1026, Section 29 (3).

Fairhall Moffatt & Woodland
LIMITED OTTAWA
ONTARIO LAND SURVEYORS
Surveying and Land Information Services
100–600 TERRY FOX DRIVE, KANATA, ONTARIO K2L 4B6
TEL: (613) 591–2580 FAX: (613) 591–1495
www.fmw.on.ca

JOB No. Y 2 0 3 0 0

E 365432, N 5029609

REFERENCE No. 19 – 105

S:\JOBS\Y2030O\DWGS 2018-05-23
SR203Y–TP.DWG (nj)

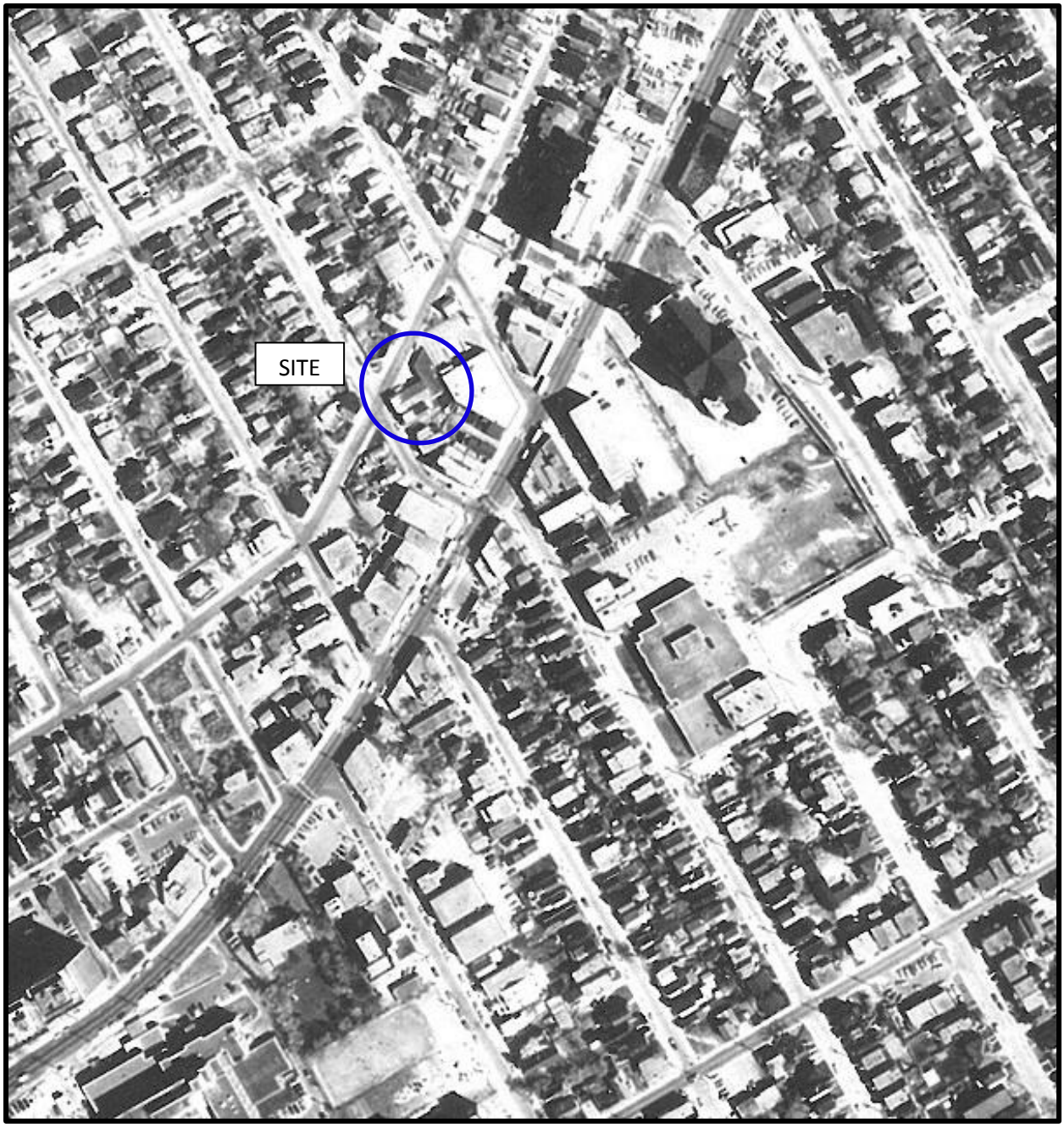
AERIAL PHOTOGRAPH
1928

AERIAL PHOTOGRAPH
1946

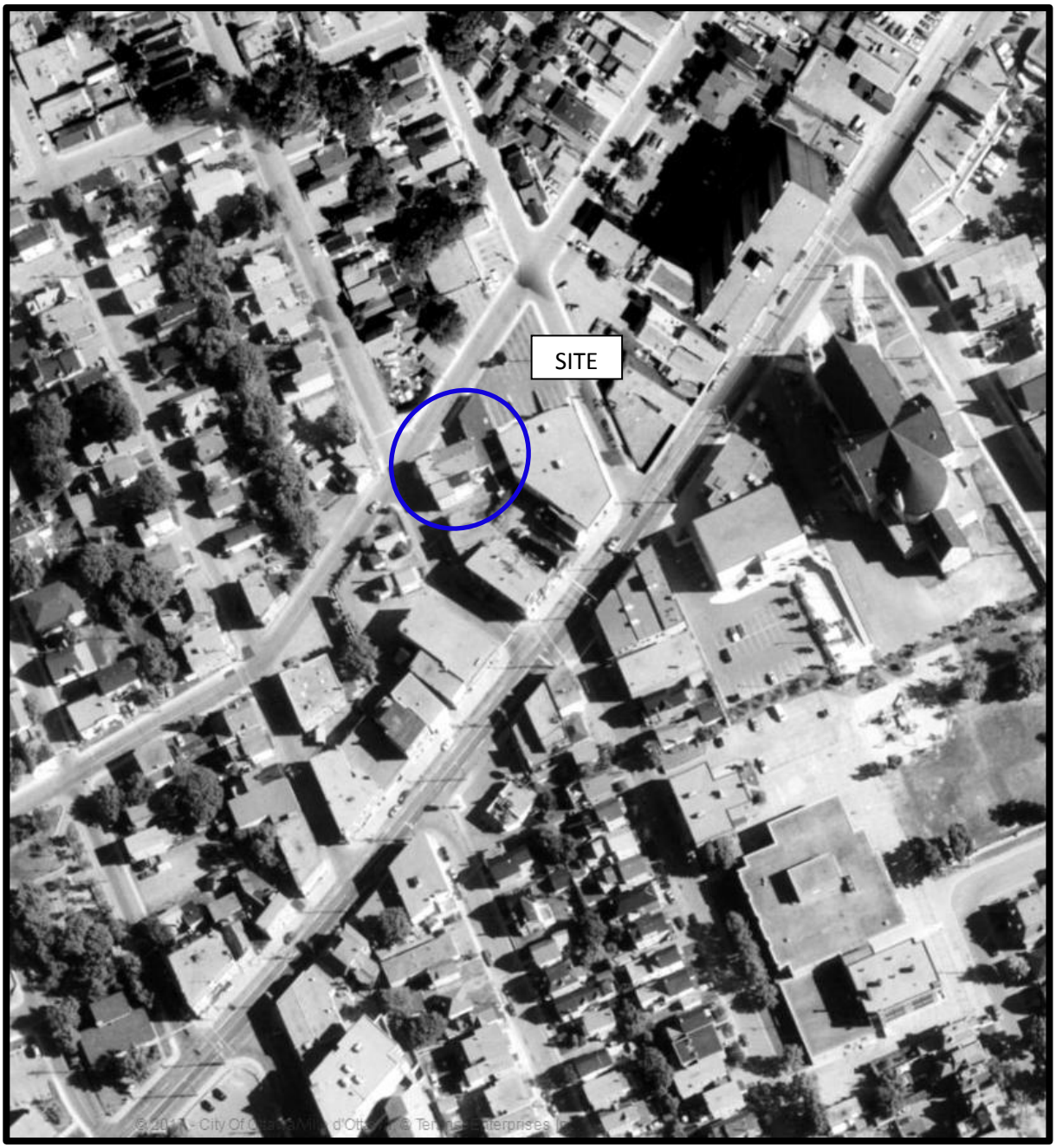
AERIAL PHOTOGRAPH
1958

AERIAL PHOTOGRAPH
1965

AERIAL PHOTOGRAPH
1976



AERIAL PHOTOGRAPH
1986



AERIAL PHOTOGRAPH
1991

AERIAL PHOTOGRAPH
1995

patersongroup

AERIAL PHOTOGRAPH
2005

patersongroup

AERIAL PHOTOGRAPH
2015

patersongroup

Site Photographs

PE4283 101-103 Pinhey Street, Ottawa, ON. October 31, 2017

Photograph 1: View of the west face of subject structures, facing east.

Photograph 2: View of southeastern portion of the Phase I Property, facing east. Photograph illustrates storage shed and wooden garage at the rear of the subject structure.

Photograph 3: View the interior of the vacant commercial structure.

Photograph 4: Photograph 3: View the interior of the storage area of the commercial structure, facing east.

APPENDIX 2

MOECC FREEDOM OF INFORMATION SEARCH

TSSA CORRESPONDENCE

CITY OF OTTAWA HISTORICAL LAND USE INVENTORY SEARCH

MOECC WELL RECORDS

Ministry of the Environment and Climate Change

Freedom of Information and Protection of Privacy Office

12th Floor
40 St. Clair Avenue West
Toronto ON M4V 1M2
Tel: (416) 314-4075
Fax: (416) 314-4285

Ministère de l'Environnement et de l'Action en matière de changement climatique

Bureau de l'accès à l'information et de la protection de la vie privée

12e étage
40, avenue St. Clair ouest
Toronto ON M4V 1M2
Tél. : (416) 314-4075
Téléc.: (416) 314-4285

Ontario

November 30, 2017

Marek Moroz
Paterson Group Inc
154 Colonnade Rd
Ottawa, ON K2E 7J5

Dear Marek Moroz:

RE: ***Freedom of Information and Protection of Privacy Act* Request**
Our File # A-2017-07980, Your Reference PE4165

This letter is in response to your request made pursuant to the *Freedom of Information and Protection of Privacy Act* relating to 101 and 103 Pinhey St, Ottawa (listed as 99 Pinhey on Google).

After a thorough search through the files of the Ministry's Ottawa District Office, Investigations and Enforcement Branch, Environmental Approvals Branch, Environmental Monitoring and Reporting Branch, Sector Compliance Branch and Safe Drinking Water Branch, no records were located responsive to your request. To provide you with this response and in accordance with Section 57 of the *Freedom of Information and Protection of Privacy Act*, the fee owed is $30.00 for 1 hour of search time @ $30.00 per hour. **We have applied the $30.00 for this request from your initial payment. This file is now closed.**

You may request a review of my decision by contacting the Information and Privacy Commissioner/Ontario, 2 Bloor Street East, Suite 1400, Toronto, ON M4W 1A8 (800-387-0073 or 416-326-3333). Please note that there is a $25.00 fee and you only have 30 days from receipt of this letter to request a review.

If you have any questions regarding this matter, please contact Rebeka Bogdan at Rebeka.Bogdan@ontario.ca.

Yours truly,

FOR Janet Dadufalza
FOI Manager

Marek Moroz

From: Prem Lal <plal@tssa.org> on behalf of Public Information Services <publicinformationservices@tssa.org>
Sent: November-16-17 7:59 AM
To: Marek Moroz
Subject: RE: TSSA Records Search, PE4065 - Ottawa, ON

Hi Marek:

Thank you for your inquiry.

We have no record in our database of any fuel storage tanks at the subject address (addresses).

For a further search in our archives please submit your request in writing to Public Information Services via e-mail (publicinformationservices@tssa.org) or through mail along with a fee of $56.50 (including HST) per location. The fee is payable with credit card (Visa or MasterCard) or with a Cheque made payable to TSSA.

Thank you Marek and you have a great day.

Prem

Prem Lal | Public Information Coordinator
Facilities and Business Services
345 Carlingview Drive
Toronto, Ontario M9W 6N9
Tel: +1-416-734-3570 | Fax: +1-416-734-3568 | E-Mail: plal@tssa.org
www.tssa.org

Employeur remarquable du Canada 2016 PARTENARIAT EN ÉDUCATION
Canada's Outstanding Employer 2016 THE LEARNING PARTNERSHIP

From: Marek Moroz [mailto:MMoroz@Patersongroup.ca]
Sent: November 15, 2017 4:04 PM
To: Public Information Services <publicinformationservices@tssa.org>
Subject: TSSA Records Search, PE4065 - Ottawa, ON

Good afternoon,

Could you please conduct a search of your records for underground/aboveground storage tanks, historical spills and other incidents/infractions for the following addresses for properties located in Ottawa, Ontario:

99, 101 and 103 Pinhey Street;

1071, 1079, 1085, 1087 and 1093 Wellington Street West;

106 Merton Street;

and 123 Stirling Avenue

Thank you very much,

Marek

Marek Moroz, G.I.T.

patersongroup
solution oriented engineering
60 years serving our clients

154 Colonnade Road South
Ottawa, Ontario, K2E 7J5
Cell: (613) 229-9822
Tel: (613) 226-7381 Ext. 248
Fax: (613) 226-6344
Email: MMoroz@patersongroup.ca

Office Use Only			
Application Number:	Ward Number:	Application Received: (dd/mm/yyyy):	
Client Service Centre Staff:		Fee Received:	$

Historic Land Use Inventory

Application Form

Notice of Public Record

All information and materials required in support of your application shall be made available to the public, as indicated by Section 1.0.1 of *The Planning Act*, R.S.O. 1990, C.P.13.

Municipal Freedom of Information and Protection Act

Personal information on this form is collected under the authority the *Planning Act*, RSO 1990, c. P. 13 and will be used to process this application. Questions about this collection may be directed by mail to Manager, Business Support Services, Planning Infrastructure and Economic Development Department, 110 Laurier Avenue West, Ottawa, K1P 1J1, or by phone at (613) 580-2424, ext. 24075

Background Information

***Site Address or Location:**

** Mandatory Field*

Applicant/Agent Information:

Name:

Mailing Address:

Telephone: Email Address:

Registered Property Owner Information: ☐ Same as above

Name:

Mailing Address:

Telephone: Email Address:

Site Details

Legal Description and PIN:

What is the land currently used for?

Lot frontage: _____ m Lot depth: _____ m Lot area: _____ m²

OR Lot area: (irregular lot) _____ m²

Does the site have Full Municipal Services: ◯ Yes ◯ No

Required Fees

Please don't hesitate to visit the Historic Land Use Inventory website more information. Fees must be paid in full at the time of application submission.

Planning Fee _____

Submittal Requirements

The following are required to be submitted with this application:

1. **Consent to Disclose Information:** Consultants and other third parties may make requests for information on behalf of an individual or corporation. However, if the requester is not the owner of the property, **the requester must provide the City of Ottawa with a 'consent to disclose information' letter, signed by the property owner.** This will authorize the City of Ottawa to release any relevant information about the property or its owner(s) to the requester. Consent for disclosure is required in the event that personal information or proprietary company information is found concerning the property and its owner. All consents must clearly indicate the name of the property owner as well as the name of the requester, and must be signed and dated.

2. **Disclaimer:** Requesters must read and understand the conditions included in the attached disclaimer and submit a signed disclaimer to the City of Ottawa's Planning, Infrastructure and Economic Development Department. This disclaimer is related to the Historic Land Use Inventory and must be received by the City of Ottawa, signed and dated by the requestor, before the process can begin.

3. A site plan or key plan of the property, its location and particular features.

4. Any significant dates or time frames that you would like researched.

Disclaimer
For use with HLUI Database

CITY OF OTTAWA ("the City") is the owner of the Historical Land Use Inventory ("HLUI"), a database of information on the type and location of land uses within the geographic area of Ottawa, which had or have the potential to cause contamination in soil, groundwater or surface water.

The City, in providing information from the HLUI, to _____ ("the Requester") does so only under the following conditions and understanding:

1. The HLUI may contain erroneous information given that such records and sources of information may be flawed. Changes in municipal addresses over time may have introduced error in such records and sources of information. The City is not responsible for any errors or omissions in the HLUI and reserves the right to change and update the HLUI without further notice. The City does not, however, make any commitment to update the HLUI. Accordingly, all information from the HLUI 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.

2. City staff will perform a search of the HLUI based on the information given by the Requester. City staff will make every effort to be accurate, however, the City does not provide an assurance, guarantee, warranty, representation (express or implied), as to the availability, accuracy, completeness or currency of information which will be provided to the Requester. The HLUI in no way confirms the presence or absence of contamination or pollution of any kind. The information provided by the City to the Requester is provided on the assumption that it will not be relied upon by any person whatsoever. The City denies all liability to any such persons attempting to rely on any information provided from the HLUI database.

3. The City, its employees, servants, agents, boards, officials or contractors take no responsibility for any actions, claims, losses, liability, judgments, demands, expenses, costs, damages or harm suffered by any person whatsoever including negligence in compiling or disseminating information in the HLUI.

4. Copyright is reserved to the City.

5. Any use of the information provided from the HLUI which a third party makes, or any reliance on or decisions to be based on it, are the responsibilities of such third parties. The City, its employees, servants, agents, boards, officials or contractors accept no responsibility for any damages, if any, suffered by a third party as a result of decisions made as a result of an information search of the HLUI.

6. Any use of this service by the Requestor indicates an acknowledgement, acceptance and limits of this disclaimer.

7. All information collected under this request and all records provided in response to this request are subject to the provisions of the Municipal Freedom of Information and Protection of Privacy Act, R.S.O. 1990, c. M.56, as amended.

Signed: _____

Dated (dd/mm/yyyy): _____

Per: _____

(Please print name)

Title: _____

Company: _____

Ontario Ministry of the Environment

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* A141816

S-13594

Well Record

Regulation 903 Ontario Water Resources Act

Page _____ of _____

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
177 Armstrong St.			
County/District/Municipality	**City/Town/Village**	**Province**	**Postal Code**
	Ottawa	Ontario	
UTM Coordinates NAD 83 Zone 18 Easting 443056 Northing 5027962	**Municipal Plan and Sublot Number**	**Other**	

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BLK	asphalt	gravel		0	.3
BRN	sand	gravel	soft	.3	.9
GRY	limestone		layered	.9	6.1

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	.3	concrete/Lafarge	
.3	2.74	Bentonite	
2.74	6.1	filter sand	

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☑ Air percussion
☐ Other, *specify* _____

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☑ Test Hole ☑ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
4.03	PVC	.368	0	3.1

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.82	PVC	10	3.1	6.1

Status of Well

☐ Water Supply
☐ Replacement Well
☑ Test Hole
☐ Recharge Well
☐ Dewatering Well
☑ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	
☐ Gas	☐ Fresh ☐ Untested	☐ Other, *specify*
☐ Gas	☐ Fresh ☐ Untested	☐ Other, *specify*
☐ Gas	☐ Fresh ☐ Untested	☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	1.22	11.43
1.22	6.1	7.62

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify* _____

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping _____ hrs + _____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

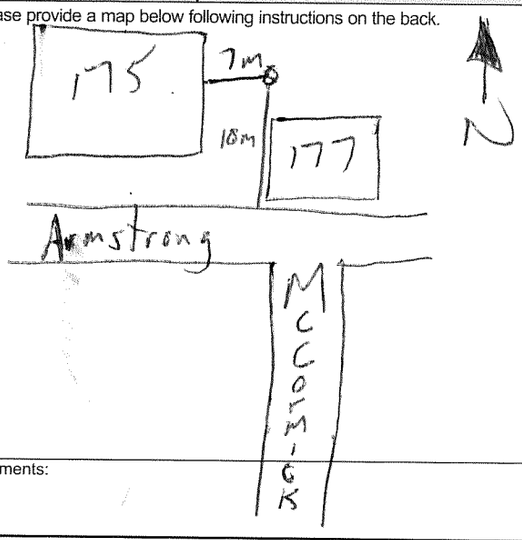
Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Drilling Group	7249
Business Address (Street Number/Name)	**Municipality**
197 West Beaver Creek	Richmond Hill
Province	**Postal Code**	**Business E-mail Address**
ON	L4B1C6	swrecords@stratasol.com
Bus. Telephone No. *(inc. area code)*	**Name of Well Technician (Last Name, First Name)**
866 778 7282	McCoy, James
Well Technician's Licence No.	**Signature of Technician and/or Contractor**	**Date Submitted**
3656		2013/02/28

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No		2013/01/30

Ministry Use Only

Audit No. Z152989

MAR 20 2013

Received

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Ministry's Copy

Ontario — Ministry of the Environment

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* A112815

S-135794

Well Record

Regulation 903 Ontario Water Resources Act

Page _____ of _____

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
177 Armstrong St.			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Ottawa	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	443047	5027964		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BLK	asphalt			0	.31
~~BRN~~ BRN	sand	gravel	soft	.31	1.22
GRY	limestone		layered	1.22	6.1

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	.31	concrete/flushmount	
.31	2.74	bentonite	
2.74	6.1	filter sand	

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☑ Air percussion
☐ Other, *specify* _____

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☑ Test Hole ☑ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
4.03	PVC	.368	0	3.1

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.82	PVC	10	3.1	6.1

Status of Well

☐ Water Supply
☐ Replacement Well
☑ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	1.52	11.43
1.52	6.1	7.62

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Drilling Group	7241

Business Address (Street Number/Name)	Municipality
147 West Beaver Creek	Richmond Hill

Province	Postal Code	Business E-mail Address
ON	L4B1G6	wrecords@stratagroup.ca

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
9667782582	McCoy, James

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3656		2013/03/28

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify* _____

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping _____ hrs + _____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

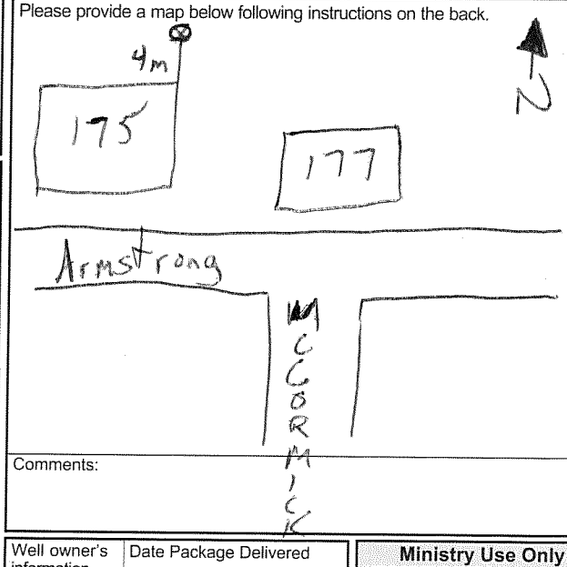
Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered: Y Y Y Y M M D D

Date Work Completed: 2013/01/23

Ministry Use Only

Audit No. Z152990

Received MAR 20 2013

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Ministry's Copy

Ontario Ministry of the Environment

Well Tag I A019078 (r below)
A019078

Well Record
Regulation 903 Ontario Water Resources Act

page 1 of 1

Instructions for Completing Form

- For use in the **Province of Ontario** only. This document is a permanent **legal** document. Please retain for future reference.
- All Sections **must** be completed in full to avoid delays in processing. Further instructions and explanations are available on the back of this form.
- Questions regarding completing this application can be directed to the Water Well Help Desk (Toll Free) at 1-888-396-9355.
- **All metre measurements shall be reported to 1/10th of a metre.**
- Please print clearly in blue or black ink only.

Ministry Use Only

Well Owner's Information and Location of Well

[redacted]

Address of Well Location (County/District/Municipality): 1065 Wellington

Township | Lot | Concession

RR#/Street Number/Name

City/Town/Village: Ottawa | Site/Compartment/Block/Tract etc.

GPS Reading: NAD 83 | Zone 18 | Easting 443236 | Northing 5028090 | Unit Make/Model: Garmin/GPS Map 76 | Mode of Operation: ☒ Undifferentiated ☐ Averaged ☐ Differentiated, specify

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Depth To
Black	Asphalt			0	0.05
Dark Grey	Fill	Sand & Gravel	Trace Silt	0.05	0.74
Dark Brown	CLAY	Silty	some SAND	0.74	1.02
Grey	Cobbles & Gravel			1.02	1.14
Brown	Till	Silty SAND	trace clast of Limestone.	1.14	2.87

Hole Diameter

Depth From	Depth To	Diameter Centimetres
0	2.87	8

Water Record

Water found at - Metres / Kind of Water

- ____ m ☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other: ____
- ____ m ☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other: ____
- ____ m ☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other: ____

After test of well yield, water was
☐ Clear and sediment free
☐ Other, specify N/A

Chlorinated ☐ Yes ☒ No

Construction Record

Casing

Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Depth To
3	☐ Steel ☐ Fibreglass ☒ Plastic ☐ Concrete ☐ Galvanized	0.3	0	1.35
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			

Screen

Outside diam		Slot No.		
3	☐ Steel ☐ Fibreglass ☒ Plastic ☐ Concrete ☐ Galvanized	10	1.35	2.87

No Casing or Screen

☐ Open hole

Test of Well Yield

Pumping test method	Draw Down Time min	Draw Down Water Level Metres	Recovery Time min	Recovery Water Level Metres
Pump intake set at - (metres)	Static Level			
Pumping rate - (litres/min)	1		1	
Duration of pumping ____hrs +____ min	2		2	
Final water level end of pumping ____metres	3		3	
Recommended pump type. ☐ Shallow ☐ Deep	4		4	
Recommended pump depth. ____metres	5		5	
Recommended pump rate. (litres/min)	10		10	
If flowing give rate - (litres/min)	15		15	
If pumping discontinued, give reason.	20		20	
	25		25	
	30		30	
	40		40	
	50		50	
	60		60	

Plugging and Sealing Record ☒ Annular space ☐ Abandonment

Depth set at - Metres From	Depth set at - Metres To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
0	1.22	bentonite slurry	0.1

Method of Construction

☐ Cable Tool ☐ Rotary (air) ☐ Diamond ☐ Digging
☐ Rotary (conventional) ☐ Air percussion ☐ Jetting ☐ Other
☐ Rotary (reverse) ☐ Boring ☒ Driving

Water Use

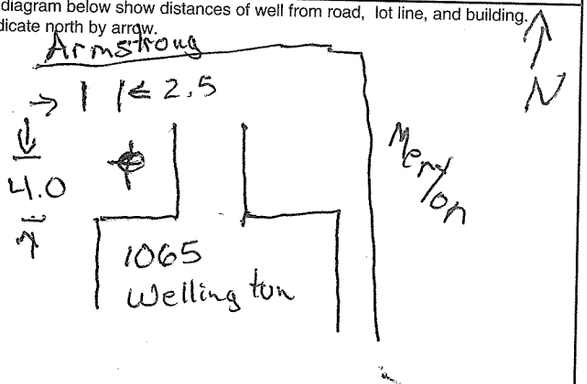
☐ Domestic ☐ Industrial ☐ Public Supply ☐ Other
☐ Stock ☐ Commercial ☒ Not used
☐ Irrigation ☐ Municipal ☐ Cooling & air conditioning

Final Status of Well

☐ Water Supply ☐ Recharge well ☐ Unfinished ☐ Abandoned, (Other)
☐ Observation well ☐ Abandoned, insufficient supply ☐ Dewatering
☐ Test Hole ☐ Abandoned, poor quality ☐ Replacement well

Location of Well

In diagram below show distances of well from road, lot line, and building. Indicate north by arrow.



Audit No. Z 70112

Date Well Completed: YYYY 2007 MM 05 DD 25

Was the well owner's information package delivered? ☐ Yes ☒ No

Date Delivered: YYYY 2007 MM 05 DD 29

Well Contractor/Technician Information

Name of Well Contractor: DST Consulting Engineers Inc. | Well Contractor's Licence No. 6838

Business Address (street name, number, city etc.): 605 Hewitson St. Hewitson St Thunder Bay Ont

Name of Well Technician (last name, first name): Warner Terry | Well Technician's Licence No. T3236

Signature of Technician/Contractor | Date Submitted: YYYY 2007 MM 05 DD 29

Ministry Use Only

Data Source | Contractor 6838

Date Received: YYYY MM DD JUN 14 2007 | Date of Inspection: YYYY MM DD

Remarks | Well Record Number

06E (08/2006)

Ministry's Copy

Cette formule est disponible en français

APPENDIX 3

QUALIFICATIONS OF ASSESSORS

Marek Moroz, P. Geo.

patersongroup

Geotechnical Engineering

Environmental Engineering

Hydrogeology

Geological Engineering

Materials Testing

Building Science

Archaeological Services

POSITION

Environmental Consultant

EDUCATION

Algonquin College, Graduate Certificate, 2017
Environmental Management and Assessment

University of Ottawa, B.Sc., 2012
Specialization in Geology with Minor in Spanish

EXPERIENCE

2017 to Present:
Paterson Group Inc.
Consulting Engineers
Geotechnical and Environmental Division
Environmental Consultant

2016 to 2017
Geological Survey of Canada
Federal Research Organization in Earth Sciences
Canada Groundwater Program
Physical Scientist

2012 to 2015
KGHM International
International Mining Company
Geologist and Project Manager

Summer of 2012
Alder Resources Ltd.
Junior Mining Company
Exploration Geologist

SELECT LIST OF PROJECTS

Contaminated Soil and Groundwater Sampling – Various Sites – Eastern Ontario
Surcharge and Settlement Surveys – Ottawa, ON.
Remediation Programs – Various Sites – Ottawa, ON.
Regional Groundwater Assessment and Research – Lake Simcoe Region
Geological Compilation and 3D Modelling – Franke Mine, Chile
Resource Investigation and Mineral Exploration - Rosita, Nicaragua

Mark S. D'Arcy, P. Eng.

patersongroup

Geotechnical Engineering

Environmental Engineering

Hydrogeology

Geological Engineering

Materials Testing

Building Science

Archaeological Services

POSITION

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

EDUCATION

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

MEMBERSHIPS

Ottawa Geotechnical Group
Professional Engineers of Ontario

EXPERIENCE

1991 to Present
Paterson Group Inc.
Associate and Senior Environmental/Geotechnical Engineer
Environmental and Geotechnical Division
Supervisor of the Environmental Division

SELECT LIST OF PROJECTS

Mary River Exploration Mine Site - Northern Baffin Island
Agricultural Supply Facilities - Eastern Ontario
Laboratory Facility – Edmonton (Alberta)
Ottawa International Airport - Contaminant Migration Study - Ottawa
Richmond Road Reconstruction - Ottawa
Billings Hurdman Interconnect - Ottawa
Bank Street Reconstruction - Ottawa
Environmental Review – Various Laboratories across Canada - CFIA
Dwyer Hill Training Centre – Ottawa
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
Commercial Properties – Guelph and Brampton
Brownfields Remediation – Alcan Site - Kingston
Montreal Road Reconstruction - Ottawa
Appleford Street Residential Development - Ottawa
Remediation Program - Ottawa Train Yards
Remediation Program - Bayshore and Heron Gate
Gladstone Avenue Reconstruction – Ottawa
Somerset Avenue West Reconstruction - Ottawa