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Phase I - Environmental Site Assessment Update

2660 Norberry Crescent &
740 and 840 Springland Drive
Ottawa, Ontario

Prepared For

Greatwise Developments

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Report: PE1407-2

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EXECUTIVE SUMMARY

Assessment

A Phase I-ESA was carried out for part of the property currently addressed 740 and 840 Springland Drive and 2660 Norberry Crescent, in the City of Ottawa. The Phase I-ESA is intended for two distinct locations on the property, Area 1 along the east property line and Area 2 along the south property line. The purpose of this environmental site assessment was to research the past and current use of the site and identify any environmental concerns with the potential to impact the subject property.

The historical research indicated that the residential complex, which contains the subject site areas, was developed for residential purposes in the mid 1960s with the existing apartment building structures. The subject site areas have been specifically utilized for vehicular parking and green space. The surrounding land use has been predominantly residential with some commercial development to the west. Historically, a dry-cleaners and an automotive service garage on a commercial site to the west, but due to the distance from the subject areas and cross-gradient position, these Potentially Contaminating Activities (PCA) are not considered to represent Areas of Potential Environmental Concern (APEC).

The past use of an underground oil tank at 2660 Norberry, to the east of site Area 2, is considered a PCA, however, based on our involvement in its decommissioning, this PCA does not represent an APEC on the subject land.

Following the historical review, a site visit was conducted. No PCAs were identified on the subject property. An active automotive service garage is situated approximately 120 m to the west of the subject property and is identified as a PCA, however, due to its spatial distance, this PCA is not considered to represent an APEC on the subject land. No other PCAs were identified within the Phase I-ESA study area at the time of the site assessment.

Based on the findings of the historical research and site visit, a **Phase II-ESA is not recommended for the subject property at this time.**

1.0 INTRODUCTION

At the request of Greatwise Developments, Paterson Group (Paterson) conducted a Phase I - Environmental Site Assessment (ESA) for part of the property addressed 2660 Norberry Crescent and 740 and 840 Springland Drive (collectively known as the Norberry Residences), in the City of Ottawa. The Phase I - ESA is intended for two distinct locations on the property, Area 1 along the east property line and Area 2 along the south property line. These areas are to be re-developed as distinct properties. The purpose of this Phase I – ESA was to research the past and current use of the site and study area, to identify any environmental concerns with the potential to have impacted the subject lands.

Paterson was engaged to conduct this Phase I – ESA by Mr. Natan Ary of Greatwise Developments, the current owner of the subject property.

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 - Environmental Site Assessment 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 PROPERTY INFORMATION

Address: The subject site areas do not have specific addresses at this time (although once developed they will) but rather they form part of a larger property addressed 2660 Norberry Crescent and 740, 790, 840 Springland Drive, in the City of Ottawa.

Parcel Identification Number: 040720001

Legal Description: Part of Block A, Registered Plan 749 (Part 2) and Part of Block D, Plan 775, City of Ottawa.

Location: The subject lands are on the north and west sides of Norberry Crescent, approximately 375 metres east of the Riverside Drive. Refer to Figure 1 - Key Plan, following the body of this report, for the site location.

Latitude and Longitude: 45° 22' 05" N, 75° 41' 00" W

Site Description:

Configuration/Area: Irregular - 0.27 hectares (approximate).

Zoning: R5B H(18) - Residential

Current Use: The larger parcel of land containing the subject areas is occupied by four (4) residential apartment buildings and asphaltic parking. The subject lands are currently used for parking or are landscaped areas, both associated with the four apartment buildings.

Services: The 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 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 Ontario Regulation 153/04) made under the Environmental Protection Act and in compliance with the requirements of CSA Z768-01;
- ☐ Provide a preliminary 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 Study Area Determination

A radius of 250 metres was determined to be appropriate as a Phase I-ESA study area for the Phase I - Environmental Site Assessment. Properties outside the 250 m radius are not considered to have the potential to impact the subject land, based on their significant distances from the site.

First Developed Use Determination

Based on a review of aerial photographs, the subject site and neighbouring properties were either vacant or used for agricultural purposes in 1951. A 1965 aerial photograph shows the larger parcel of land being developed with the three (3) apartment buildings addressed 740, 790 and 840 Springland Drive. The specific subject properties are parking lots for these apartments or they remain vacant land at this time. .

For the purposes of this report, the Norberry Residences complex, which contains the subject sites, was first developed for residential purposes in the mid 1960s.

Fire Insurance Plans

No FIPs were available for the subject site or neighbouring properties.

City of Ottawa Street Directories

Ottawa city directories from 1949 to 2011 were reviewed, at approximate ten year intervals, for the subject site and properties located within the Phase I-ESA study area. According to the directories, Norberry Crescent and Springland Drive were not listed in 1960. In 1965 the directories listed, 740, 790 and 840 Springland Drive as the Baron, Viscount and Viceroy Apartments, respectively. 2660 Norberry Crescent was completed in 1968 and listed as the Chancellor Apartments. From 1970 until at least 1992, the apartment buildings remained listed as the above. Today the apartment complex is collectively called the Norberry Residences.

Properties within the study area have been used for a combination of residential, commercial and institutional purposes. Potentially contaminating activities (PCAs) were identified within the Phase I-ESA study area and are summarized in Table 1 below.

Table 1 - Potentially Contaminating Activities in Phase I-ESA Study Area				
Address	Listed Activity	Years Listed	Approximate Distance / Orientation from Site	Potential Environmental Concern (Y/N)
Ridgewood Avenue				
749	Vail's Fabric Care Ltd.	c. 1970's	150 m W	N
749	Parker Cleaners	c. 1981 to 1986	150 m W	N
753	Riverside Supertest	c. 1970's	120 m W	N
753	Rick McCloskey's Service Ltd.	c. 1986 to present	120 m W	N

Based on their significant distances down- or cross-gradient from the subject site, the aforementioned potentially contaminating activities are not considered to pose a concern to the subject site.

Chain of Title

Paterson did not request a Chain of Title for the subject site as it was determined, based on the aerial photographs and city directories, the subject site has always been occupied by the residential apartment buildings since 1965. The current property owner is Norberry Residences Limited.

Environmental Reports

The following reports were reviewed as part of this assessment:

- ❑ "Underground Storage Tank Investigation, 2660 Norberry Crescent, 740, 790, 840 Springland Drive, Ottawa, ON", prepared by Jacques Whitford Environment Ltd. (JWEL), dated March 27, 1998. File No. 60727-485

JWEL conducted a subsurface investigation on March 24, 1998 to determine the possible presence of petroleum hydrocarbon contamination in the vicinity of the underground storage tank (UST) at 2660 Norberry Crescent.

Four test pits were excavated and soil samples were tested by Accutest Laboratories Ltd. for BTEX and TPH. No detectable concentrations of the analyzed parameters were measured in the samples recovered from the test pits. JWEL concluded that the UST had not adversely affected the soil in the immediate vicinity.

- ❑ “Phase I-II Environmental Site Assessment and Site Remediation, 2660 Norberry Crescent, 740, 790 and 840 Springland Drive, Ottawa, ON”, prepared by Paterson and dated July 22, 1998. Report No. E1593-1.

The Phase I portion identified among other things, readily available household chemicals, potential designated substances and the fuel oil storage tanks at 2660 Norberry Crescent.

The fuel oil UST, formerly servicing the boiler equipment at 2660 Norberry Crescent, was removed as required by Fuel Oil Code, R.R.O. 1990, Reg. 329. Paterson provided supervision during the tank removal. Contaminated soil was observed beneath the UST. A total of 161 tons of impacted soil was removed and taken to a waste facility. Confirmatory analytical testing conducted indicated that the remediation operation was successful in removing contaminated soil from the excavation. A comparison of the test data to the current MECP standards indicates that the results also meet the current values. The excavation was then back-filled with clean fill material. It should be noted that the former tank was located on the east side of 2660 Norberry Crescent, not within Area 1 or Area 2. While the former tank represents a PCA, it is not considered to represent an Area of Potential Environmental Concern (APEC) to the subject lands.

- ❑ “Phase I-Environmental Site Assessment, 2660 Norberry Crescent, 740, 790, 840 Springland Drive, Ottawa, ON”, prepared by Paterson Group Inc., dated February 16, 2017. File No. PE1407-1

Based on the Phase I ESA, no new potential environmental concerns were identified with the former and current use of the Phase I Property. No further environmental work was recommended for the subject site.

4.2 Environmental Source Information

Environment Canada

A search of the National Pollutant Release Inventory (NPRI) was conducted electronically on June 6, 2019. The subject site was not listed in the NPRI database. No properties within the 250 m Phase I Study Area were listed in the NPRI database.

PCB Inventory

A search of national PCB waste storage sites was conducted. The subject property is not registered as a PCB waste storage site. No properties within the Phase I Study Area were listed as PCB waste storage sites.

Ministry of Environment, Conservation and Parks (MECP) Instruments

A request for information was submitted to the MECP Freedom of Information (FOI) office on June 6, 2019 for information with respect to Certificates of Approval, Permits to Take Water, Certificates of Property Use or any other similar MECP issued instruments for the site. At the time of issuance of this report, a response had not been received. A copy of the response will be forwarded to the client, should it contain any pertinent information.

MECP Submissions

A request was submitted to the MECP FOI office for information with respect to reports related to environmental conditions for the property. At the time of issuing this report, a response had not been received from the MECP. A copy of the response will be forwarded to the client if it contains any pertinent information.

MECP Incident Reports

A request was submitted to the MECP FOI office for information with respect to records concerning environmental incidents, orders, offences, spills, discharges of contaminants or inspections maintained by the MECP for the site or adjacent properties. At the time of issuing this report, a response had not been received from the MECP. A copy of the response will be forwarded to the client if it contains any pertinent information.

MECP Waste Management Records

A request was submitted to the MECP Freedom of Information office for information regarding waste management records. At the time of issuing this report, a response had not been received from the MECP. A copy of the response will be forwarded to the client if it contains any pertinent information.

MECP Brownfields Environmental Site Registry

A search of the MECP Brownfields Environmental Site Registry was conducted as part of this assessment, for the subject site and properties located within the Phase I study area. According to the site registry, there are no Records of Site Condition (RSCs) listed for the subject property or for the properties within the Phase I Study Area.

MECP Coal Gasification Plant Inventory

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

MECP Waste Disposal Site Inventory

The Ontario Ministry of Environment document entitled "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 this document, there are no active or former waste disposal sites, industrial manufactured gas plants or coal tar distillation plants located within the Phase I-ESA study area.

Areas of Natural Scientific Interest (ANSI)

A search on the Ontario Ministry of Natural Resources (MNR) for areas of natural significance and features within the Phase I study area was conducted on June 6, 2019. There are no areas of natural significance within the Phase I-ESA study area.

Technical Standards and Safety Authority (TSSA)

The TSSA, Fuels Safety Branch in Toronto was contacted on June 6, 2019, to inquire about current and former underground storage tanks, spills and incidents for the subject property and immediately adjacent properties. According no records were identified. A copy of the TSSA correspondence is included in Appendix 2.

Former Industrial Sites

The report entitled “Mapping and Assessment of Former Industrial Sites, City of Ottawa” prepared by Intera Technologies Limited was also reviewed. No former industrial sites were identified within 500 m of the subject property.

City of Ottawa Old Landfill Document

The document entitled “Old Landfill Management Strategy, Phase I - Identification of Sites, City of Ottawa”, prepared by Golder, was reviewed. No former landfills are located within the Phase I-ESA study area.

4.3 Physical Setting Sources

Air Photo Research

Historical air photos were reviewed for the subject property and adjacent sites. A summary of our findings is presented below.

- | | |
|------|--|
| 1951 | The subject site and neighbouring lands appear vacant, possibly used for agricultural purposes. To the west, Riverside Drive is present with some residential development. |
| 1965 | (City of Ottawa) The larger property has been developed with three (3) of the current building structures; 740, 790 and 840 Springland Drive. Areas 1 and 2 are either grassed areas or developed with asphalt parking lots. The surrounding properties have been developed with residential dwellings. The land west remained vacant. |
| 1968 | The fourth apartment building, at 2660 Norberry, has been constructed. The land west of the site has been developed with residential structures, followed by a commercial development. |
| 1975 | No apparent changes have been made to the subject site or adjacent and neighbouring properties. |
| 1991 | No apparent changes have been made to the subject site or adjacent properties. Further residential development has occurred to the south and southwest |
| 1999 | No apparent changes have been made to the subject site or adjacent and neighbouring properties. |

2017 (City of Ottawa) No apparent changes have been made to the subject site or adjacent and neighbouring properties.

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 subject site is indicated to have an elevation of approximately 80 m above sea level (ASL). Regionally, the topographic maps indicate a downward slope to the northeast, towards the Rideau River. The closest body of water, the Rideau River, is situated approximately 600 m west of the Phase I Property. An illustration of the referenced topographic map is presented on Figure 2 - Topographic Map following the body of 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, "where the land is rarely more than 150 m above sea level, except for the Monteregion Hills, which consist of intrusive igneous rocks."

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 sites consists of limestone of the Bobcaygeon Formation. Based on the maps, the thickness of overburden ranges from 10 - 25 m in the vicinity of Area 1, and 5 to 10 m in the vicinity of Area 2. Surficial geology generally consists of offshore marine sediments.

Water Well Records

All properties within the Phase I Study Area are currently serviced with municipal drinking water. The MECP well records mapping system was searched for all drilled well records within 250 m of the subject site. The database identified two (2) well records within the Phase I Study Area: one is situated approximately 200 m west of the subject site and was drilled in 1952 for household use, and the other is situated

approximately 150 m west of the subject site and was drilled in 2005 as an observation well. No other well records were identified within the Phase I Study Area.

Fill Materials

No obvious signs of fill material were noted on the properties within the Phase I Study Area, at the time of the site assessment.

Water Bodies and Areas of Natural and Scientific Interest (ANSI)

The Rideau River is located approximately 600 m west of the subject property. There are no areas of natural and scientific interest on the subject property or within the study area.

5.0 INTERVIEWS

Mr. Natan Ary of Greatwise Developments Corporation was interviewed via email at the time of the site assessment. According to Mr. Ary, the larger residential complex currently consists of four buildings containing 761 rental units. The proposed development will consist of three (3) new buildings containing an additional 198 residential units. Mr. Ary also indicated that the proposed development will involve some re-configuration of the current parking areas. Mr. Ary was unaware of any potential environmental concerns with regards to the subject site or the adjacent and neighbouring properties.

The information obtained in the interview is considered to be consistent with site information obtained from other sources and with observations made during the site assessment, and is considered to be valid.

6.0 SITE RECONNAISSANCE

6.1 General Requirements

The site visit was carried out on June 6, 2019, by a member of Paterson's Environmental Department. The weather conditions were overcast with a temperature of 21°C. In addition to the site, the uses of neighbouring properties within the Phase I-ESA study area were also assessed at the time of the site visit.

6.2 Specific Observations at the Phase I Property

Site Features

Subject site Area 1, along the east property line, is currently asphaltic parking and grass boulevard. Subject site Area 2, along the south property line, is currently occupied by a two level parkade (eastern portion of Area 2) and an asphalt parking lot and grass boulevard (western portion of Area 2). Each parking lot had four (4) catch basins. Site drainage occurs primarily by sheet flow to the onsite catch basins and infiltration on the grass boulevards. No signs of contamination, ponded water or stressed vegetation was noted at the time of the site visit.

The site appeared to be above the grade of Norberry Crescent and at the grade of Springland Drive. The site slopes gentle down towards the northwest. The regional topography slopes downwards in a northerly/northeasterly direction towards Sawmill Creek.

No evidence of current or former railway or spur lines was observed on the exterior of the subject property at the time of the site visit. There were no unidentified substances or wastes observed on Areas 1 and 2 of the Phase I Property at the time of the site visit.

Site features and current configuration of the Phase I Property are shown on Drawing PE1407-1 - Site Plan.

Underground Utilities

On-site buried services include natural gas, electrical, municipal water and sewers. The locations of the buried utilities are not available.

Interior Assessment

The ground level of the two level parkade, situated on the eastern portion of Area 2 was inspected. Unused fluorescent light fixtures were present with no bulbs. Four catch basins were noted on the ground-level of the parkade. No signs of staining, odour or ponded water were noted at the time of the site visit.

Neighbouring Properties

An inspection of the neighbouring properties within the 250 m Phase I Study Area was conducted from publicly accessible roadways at the time of the site assessment. Immediately adjacent properties are used for residential purposes. A commercial area is located approximately 120 m west of the subject site and contains among other things, an active automotive service garage. The current uses of the immediately adjacent properties are not considered to pose a concern to the subject site. Current land use in the Phase I Study Area is illustrated on Drawing: PE1407-2 - 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 ownership and other observations.

Table 2: Land Use History				
Year	Name of Owner	Description of Property Use	Property Use	Other Observations from Aerial Photographs, Fire Insurance Plans, Etc.
1951	Not available at this time.	Vacant/Agricultural	Agricultural	1951 aerial photo
1965-1968	Not available at this time.	Residential apartment building structures on larger parcel of land completed. Subject areas used for parking or landscaped.	Parking associated with residential apartments.	740, 790 and 840 Springland Drive were completed in 1965, while 2660 Norberry Crescent was completed in 1968.
1968 - present	Not available at this time	No significant changes to subject site.		

7.2 Potentially Contaminating Activities and Areas of Potential Environmental Concern

Potentially contaminating activities (PCAs) identified in the Phase I-ESA Study Area, as per Table 2 of O.Reg 153/0, these PCAs included a Gasoline and Associated Products Storage in Fixed Tanks (Item 28), Operation of Dry Cleaning Equipment

(where chemicals are used - Item 37) and an Automotive Service Garage (Item 52).

Based on their distances from the subject property and orientation cross-gradient with respect to the subject site, PCAs 1 and 2 are not considered to have resulted in areas of potential environmental concern (APECs) on the subject property. The third PCA, the former oil UST associated with 2660 Norberry, was decommissioned and assessed by Paterson, as previously detailed in this report. This PCA does not represent an APEC on the subject lands

PCAs identified within the Phase I Study Area are presented in green on Drawing PE1407-2 - Surrounding Land Use Plan.

7.3 Conceptual Site Model

Existing Buildings and Structures

Subject site Area 1, along the eastern property boundary, is currently asphaltic parking and grass boulevards. Subject site Area 2, along the southern property boundary, is currently occupied by a two level parkade, asphalt parking and grass boulevards. The subject property is depicted on Drawing: PE1407-1 - Site Plan.

Water Bodies

The Rideau River is located approximately 600 m west of the subject site.

Areas of Natural and Scientific Interest (ANSI)

No ANSIs were identified on the Phase I Property or within the Phase I-ESA study area.

Drinking Water Wells

All properties within the Phase I Study Area are municipally serviced. The MECP's well records mapping system was searched and identified a well that was drilled in 1952 for household use. This well is situated approximately 200 m west of the subject site. No other potable well records were identified within the Phase I Study Area.

Groundwater Monitoring Wells

No groundwater monitoring wells were observed on the subject property or on neighbouring properties at the time of the site visit. The MECP's well records mapping system identified an observation well drilled in 2005, located approximately 150 m west of the subject site.

Neighbouring Land Use

Neighbouring land use in the Phase I Study Area consists primarily of residential. A commercial area is located approximately 120 m west of the subject site and contains among other things, an active automotive service garage. The uses of the adjacent and neighbouring properties in the Phase I Study Area are identified on Drawing PE1407-2 - Surrounding Land Use Plan.

Potentially Contaminating Activities

No potentially contaminating activities were identified on the subject property at the time of the site visit or during the historical review.

As per Section 7.2, three (3) PCAs were identified within the Phase I Study Area: a former UST nest (Item 28), former drycleaner (Item 37) and an automotive service garage (Item 52), as shown in green on Drawing PE1407-2 - Surrounding Land Use Plan.

Areas of Potential Environmental Concern

As previously discussed, the three (3) PCAs identified within the Phase I Study Area are not considered to represent areas of potential environmental concern (APECs) on the Phase I Property, based on the separation distance and our previous environmental work carried out by Paterson in 1998, regarding the former UST associated with 2660 Norberry Crescent.

8.0 CONCLUSIONS

Assessment

A Phase I-ESA was carried out for part of the property currently addressed 740 and 840 Springland Drive and 2660 Norberry Crescent, in the City of Ottawa. The Phase I-ESA is intended for two distinct locations on the property, Area 1 along the east property line and Area 2 along the south property line. The purpose of this environmental site assessment was to research the past and current use of the site and identify any environmental concerns with the potential to impact the subject property.

The historical research indicated that the residential complex, which contains the subject site areas, was developed for residential purposes in the mid 1960s with the existing apartment building structures. The subject site areas have been specifically utilized for vehicular parking and green space. The surrounding land use has been predominantly residential with some commercial development to the west. Historically, a dry-cleaners and an automotive service garage operated on a commercial site to the west, but due to the distance from the subject areas and cross-gradient position, these Potentially Contaminating Activities (PCA) are not considered to represent Areas of Potential Environmental Concern (APEC).

The past use of an underground oil tank at 2660 Norberry, to the east of site Area 2, is considered a PCA, however, based on our involvement in its decommissioning, this PCA does not represent an APEC on the subject land.

Following the historical review, a site visit was conducted. No PCAs were identified on the subject property. An active automotive service garage is situated approximately 120 m to the west of the subject property and is identified as a PCA, however, due to its spatial distance, this PCA is not considered to represent an APEC on the subject land. No other PCAs were identified within the Phase I-ESA study area at the time of the site assessment.

Based on the findings of the historical research and site visit, a **Phase II-ESA is not recommended for the subject property at this time.**


9.0 STATEMENT OF LIMITATIONS

This Phase I - Environmental Site Assessment 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.

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 Greatwise Developments. Permission and notification from Greatwise Developments and Paterson Group will be required to release this report to any other party.

Paterson Group Inc.



Mandy Witteman, M.A.Sc.



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

Report Distribution:

- ☐ Greatwise Developments
- ☐ Paterson Group



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.

Environment Canada, Access to Information and Privacy Office.

PCB Waste Storage Site Inventory.

Provincial Records

MECP Freedom of Information and Privacy Office

MECP Municipal Coal Gasification Plant Site Inventory, 1991

MECP document entitled "Waste Disposal Site Inventory in Ontario"

MECP Brownfields Environmental Site Registry

Office of Technical Standards and Safety Authority, Fuels Safety Branch

MNR Areas of Natural Significance

MECP Water Well Inventory

Municipal Records

City of Ottawa Electronic Map

Local Information Sources

Chain of Title - Read Abstracts

Plan of Survey, prepared by Paul A. Riddell Ltd. (1998)

Previous Engineering Reports

Personal Interviews

Public Information Sources

Google Earth

Google Maps/Street View

FIGURES

FIGURE 1 - KEY PLAN

FIGURE 2 - TOPOGRAPHIC MAP

DRAWING PE1407-1 - SITE PLAN

DRAWING PE1407-2 - SURROUNDING LAND USE PLAN

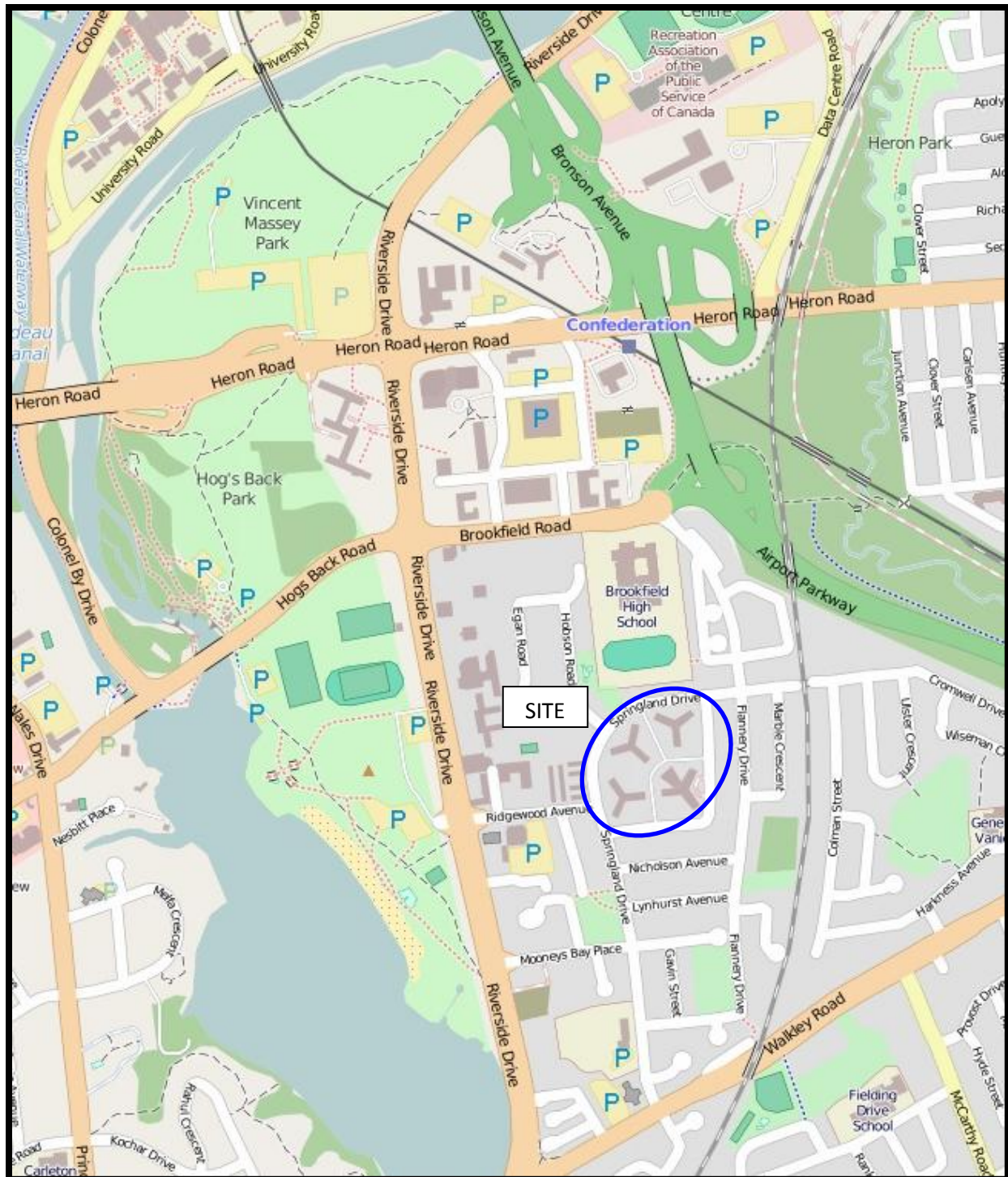


FIGURE 1
KEY PLAN

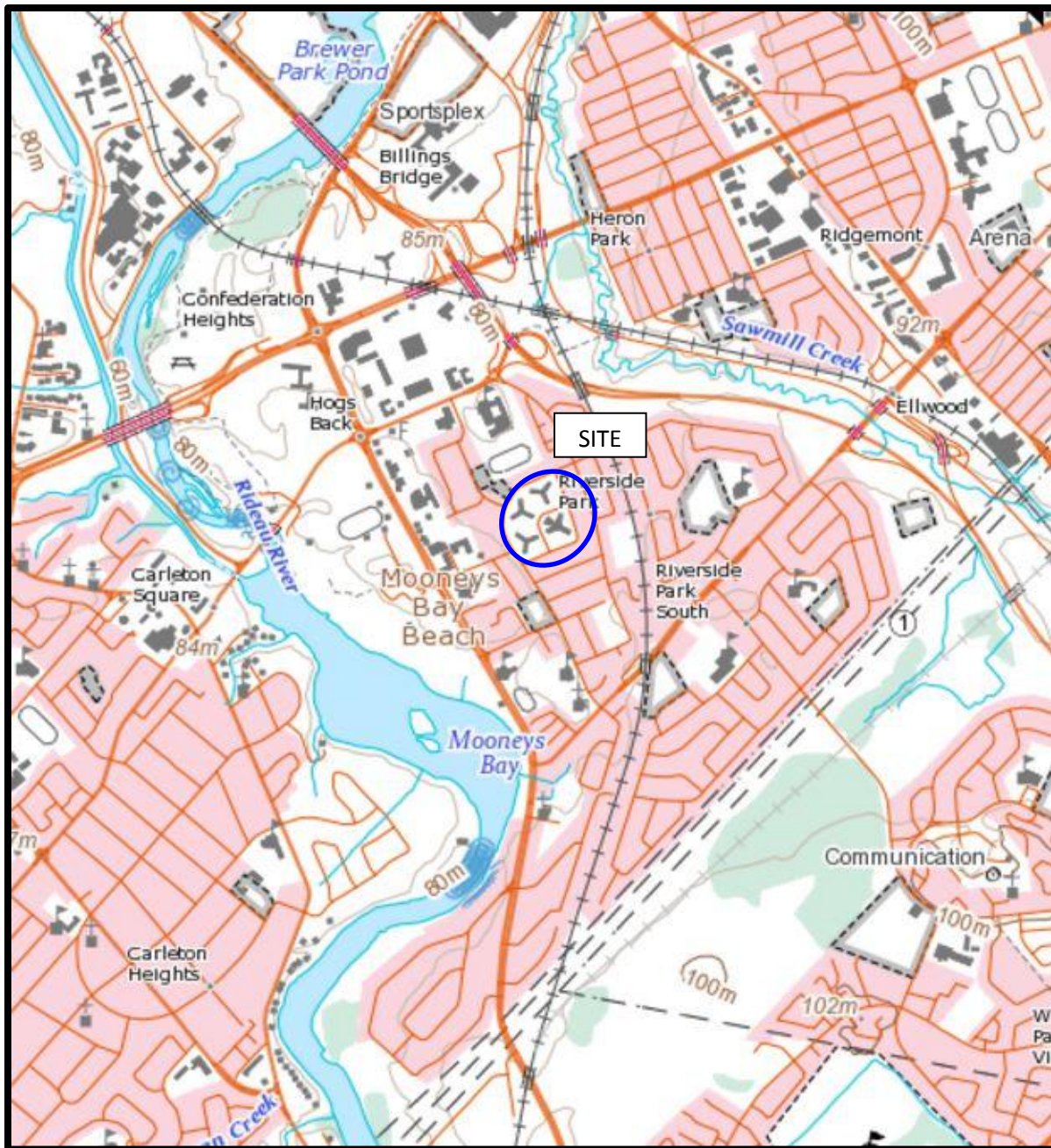
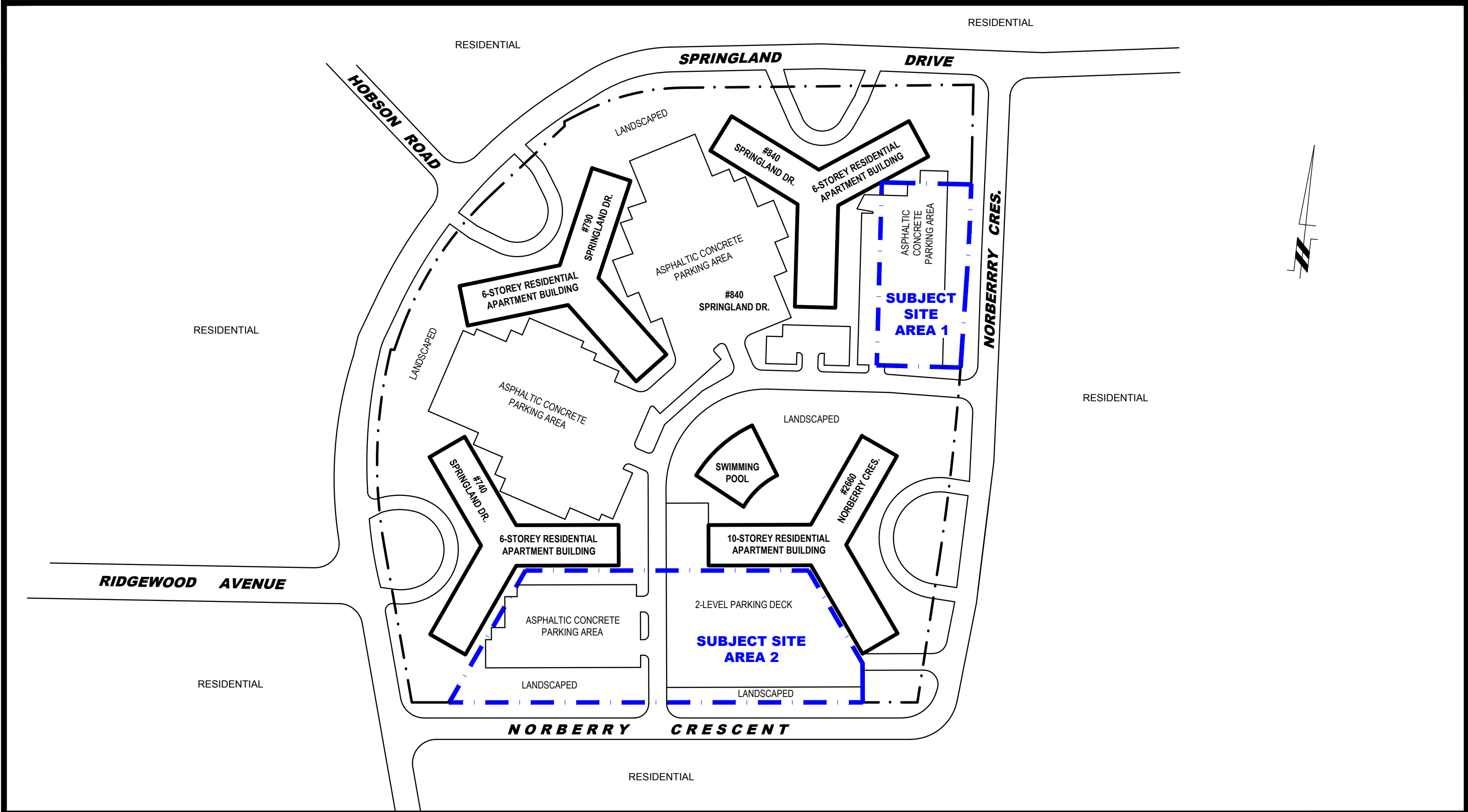


FIGURE 2
TOPOGRAPHIC MAP



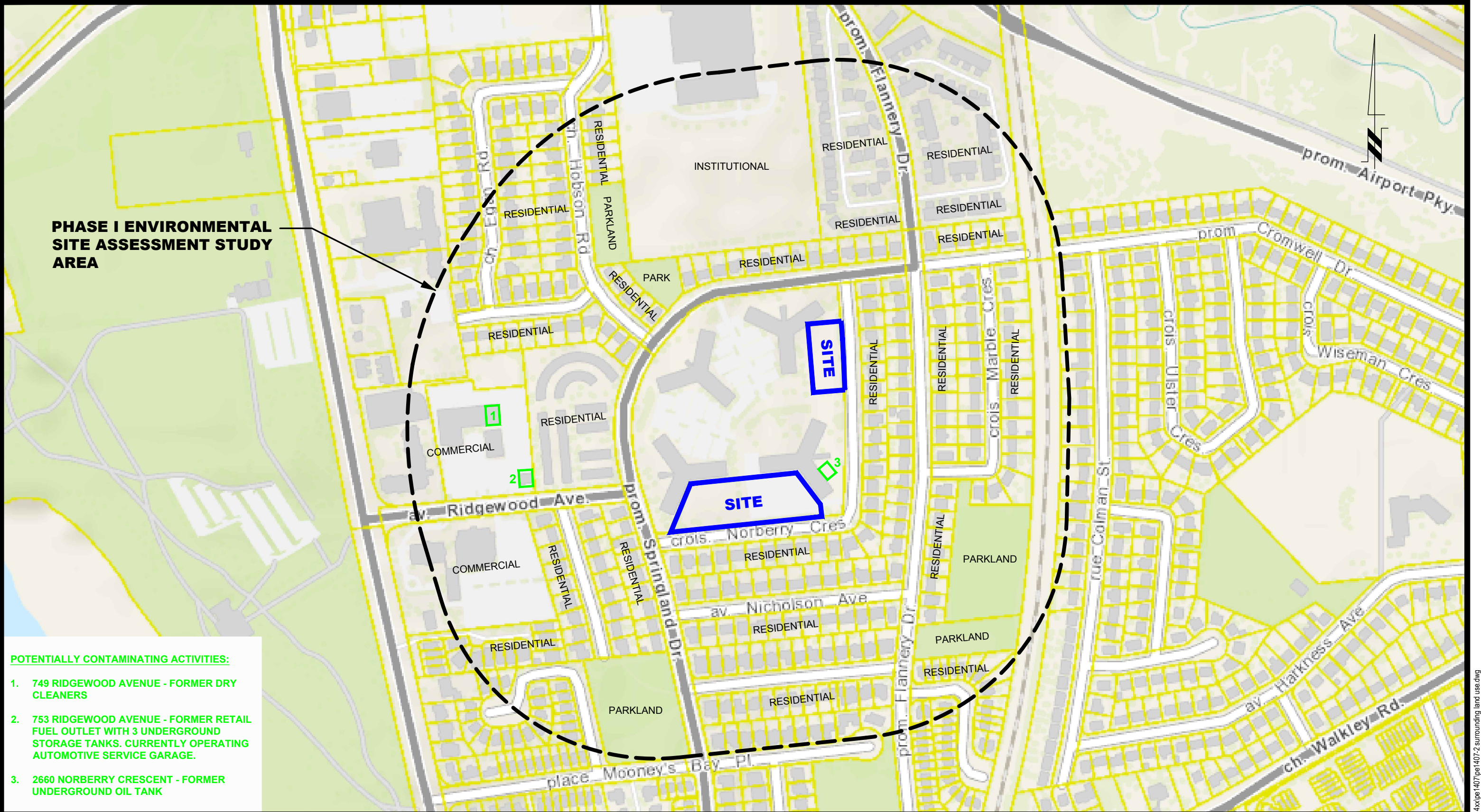
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0			
NO.	REVISIONS	DATE	INITIAL

GREAT WISE DEVELOPMENTS	
PHASE I - ENVIRONMENTAL SITE ASSESSMENT	
740 and 840 SPRINGLAND DRIVE & 2660 NORBERRY CRESCENT	
OTTAWA,	ONTARIO
Title: SITE PLAN	

Scale:	1:1500	Date:	06/2019
Drawn by:	MPG	Report No.:	PE1407-2
Checked by:	GV	Dwg. No.:	PE1407-1
Approved by:	MSD	Revision No.:	0



**PHASE I ENVIRONMENTAL
SITE ASSESSMENT STUDY
AREA**

POTENTIALLY CONTAMINATING ACTIVITIES:

1. 749 RIDGEWOOD AVENUE - FORMER DRY CLEANERS
2. 753 RIDGEWOOD AVENUE - FORMER RETAIL FUEL OUTLET WITH 3 UNDERGROUND STORAGE TANKS. CURRENTLY OPERATING AUTOMOTIVE SERVICE GARAGE.
3. 2660 NORBERRY CRESCENT - FORMER UNDERGROUND OIL TANK

patersongroup
consulting engineers

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

0			
NO.	REVISIONS	DATE	INITIAL

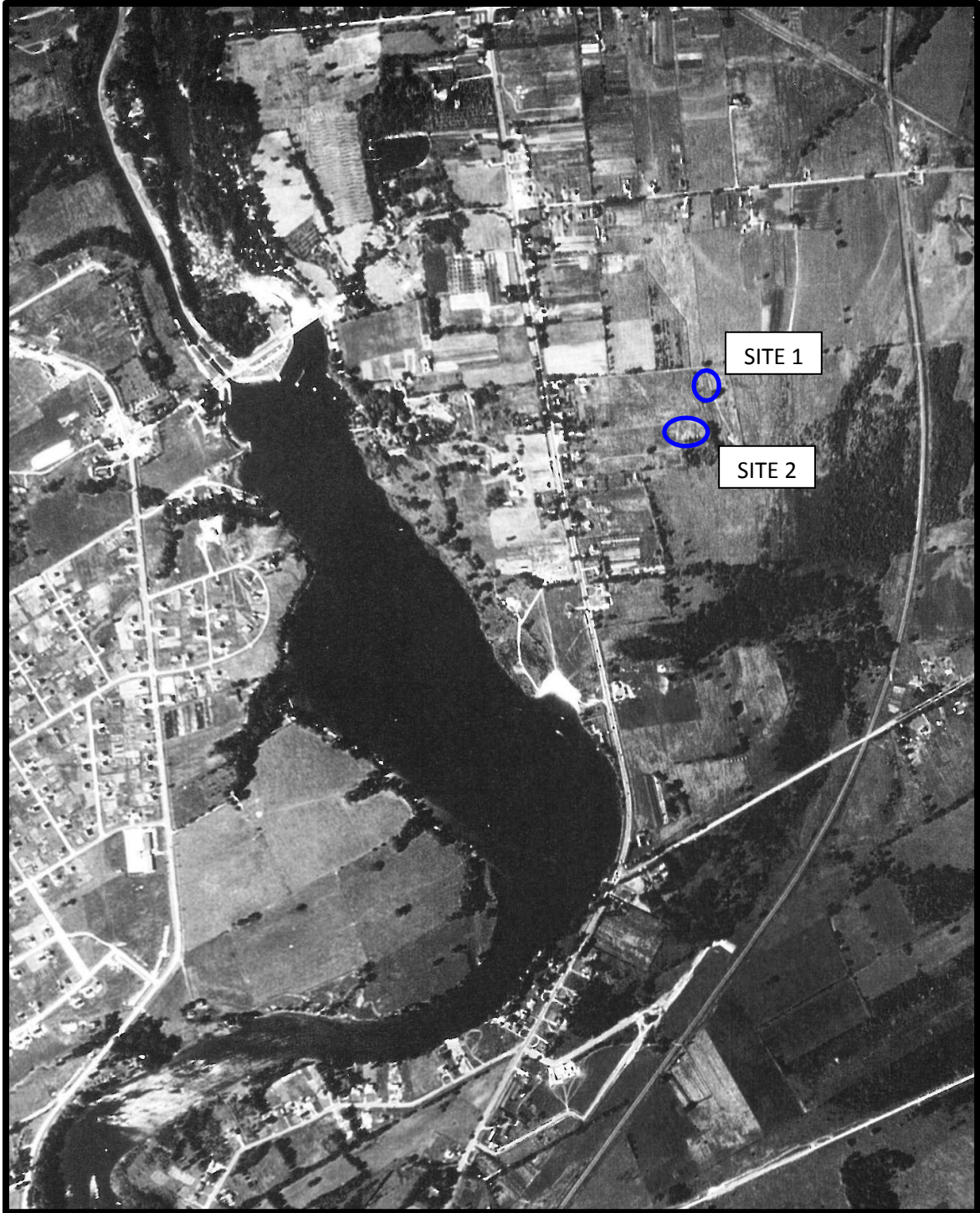
GREAT WISE DEVELOPMENTS	
PHASE I - ENVIRONMENTAL SITE ASSESSMENT	
740 AND 840 SPRINGLAND DRIVE & 2660 WORBERRY CRESCENT	
OTTAWA,	ONTARIO
Title:	SURROUNDING LAND USE PLAN

Scale:	1:4000	Date:	06/2019
Drawn by:	MPG	Report No.:	PE1407-2
Checked by:	GV	Dwg. No.:	PE1407-2
Approved by:	MSD	Revision No.:	0

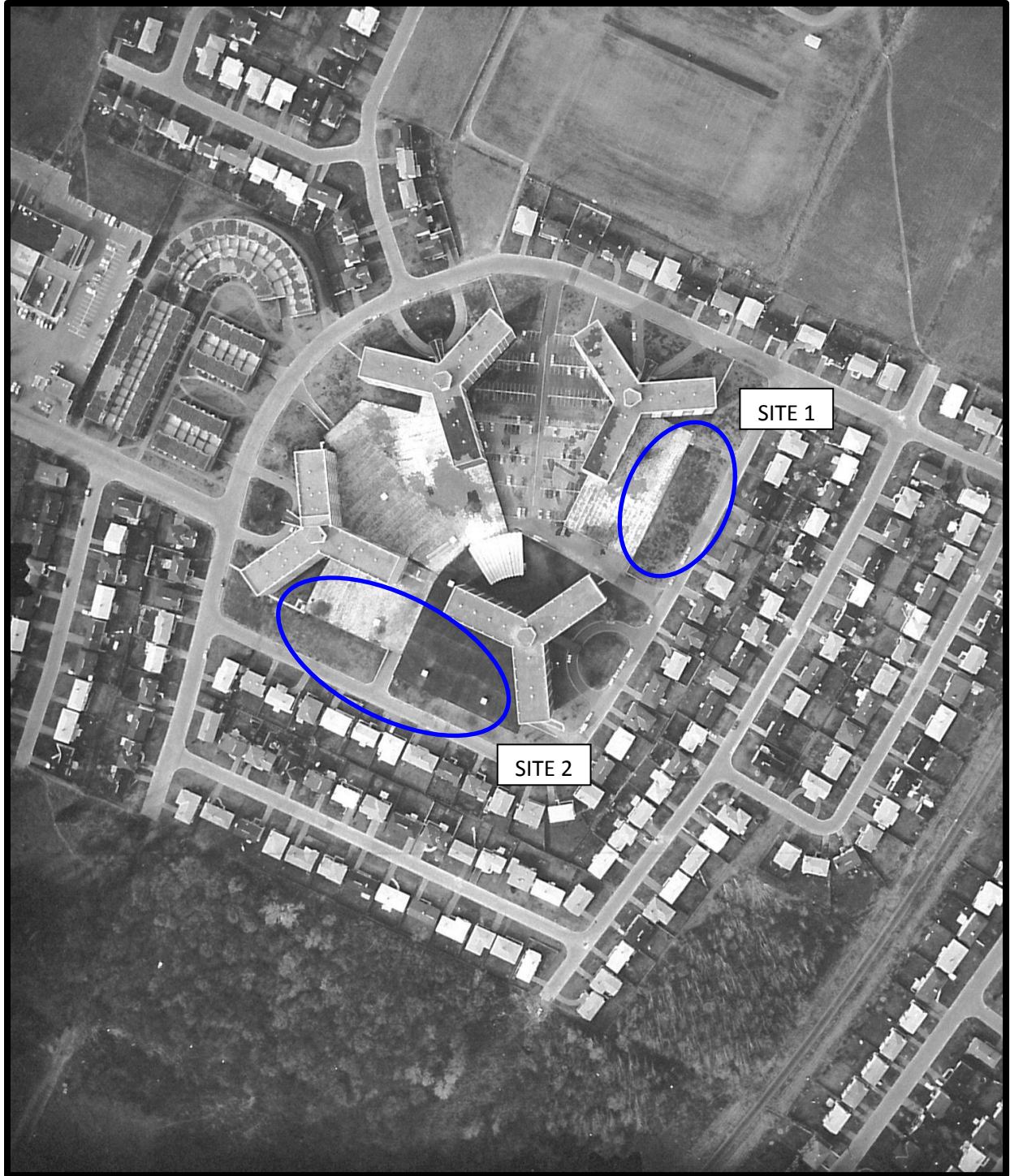
APPENDIX 1

AERIAL PHOTOGRAPHS

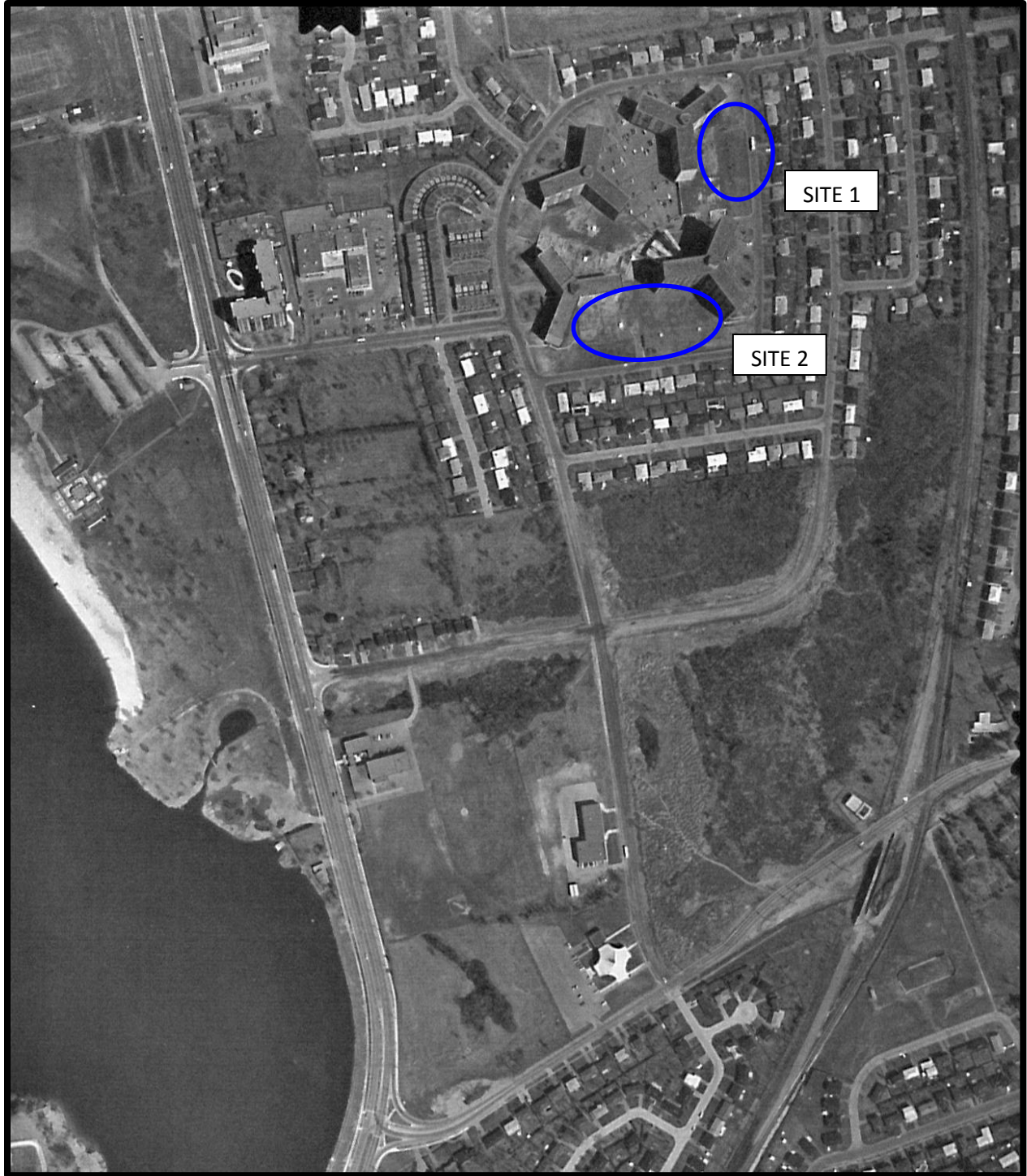
SITE PHOTOGRAPHS



AERIAL PHOTOGRAPH
1951



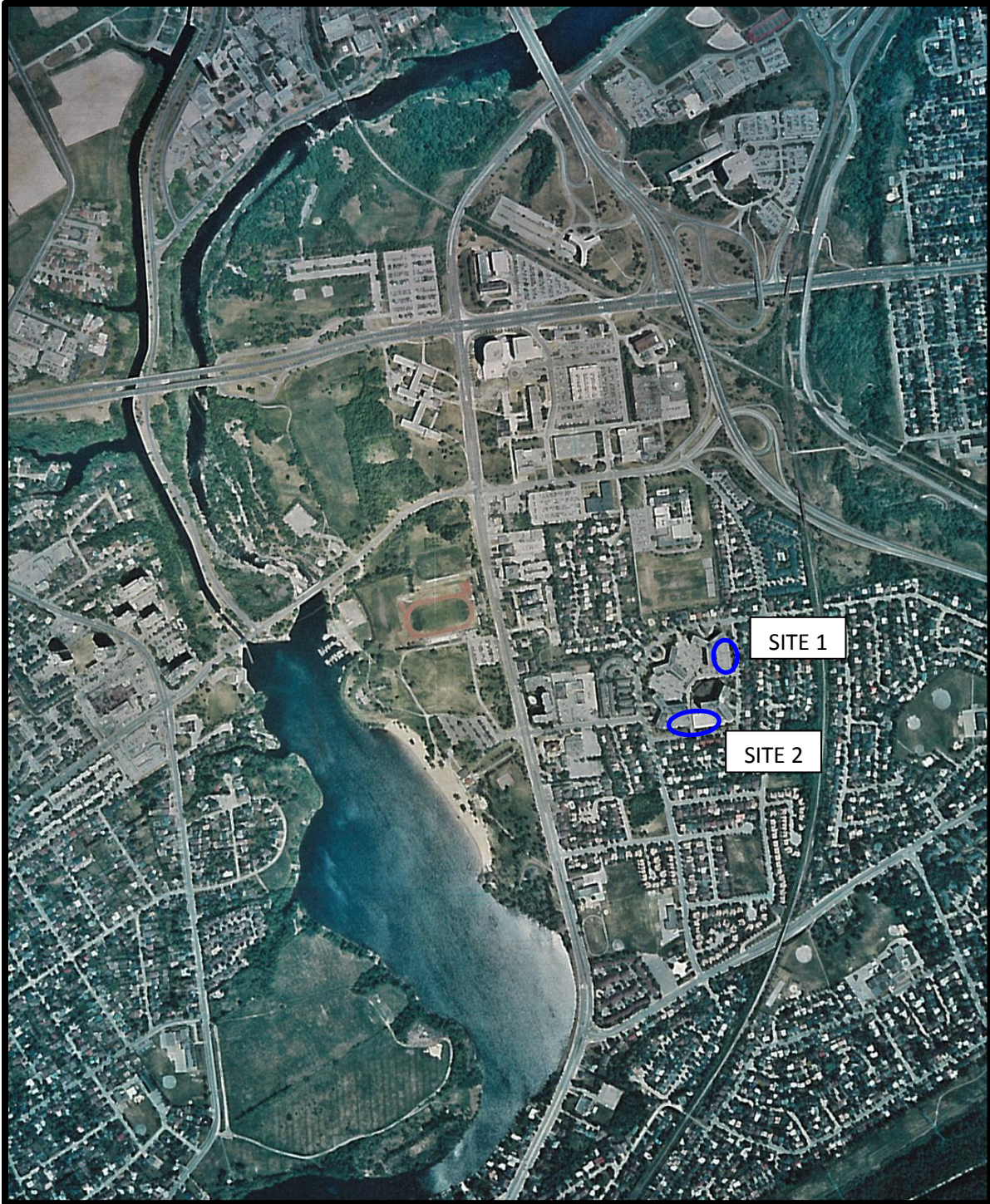
AERIAL PHOTOGRAPH
1968



AERIAL PHOTOGRAPH
1975



AERIAL PHOTOGRAPH
1991



AERIAL PHOTOGRAPH
1999



AERIAL PHOTOGRAPH
2017

Site Photographs

PE1407

2660 Norberry Crescent & 740, 790, 840 Springland Drive, Ottawa, ON

June 6, 2019



Photograph 1. View of Area 1 of the subject site.



Photograph 2: View of Area 2 of the subject site.

APPENDIX 2

MECP FREEDOM OF INFORMATION RESPONSE


HLUI APPLICATION REQUEST

TSSA CORRESPONDENCE

MECP WELL RECORDS

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.

Requester Data			For Ministry Use Only	
<small>Name, Company Name, Mailing Address and Email Address of Requester</small> Mandy Witteman Paterson Group Inc. 154 Colonnade Road Ottawa, ON K2E 7J5 Email address: mwitteman@patersongroup.ca			<div style="display: flex; justify-content: space-between;"> <div> FOI Request No. </div> <div> Date Request Received </div> </div>	
<div style="display: flex; justify-content: space-between;"> <div> <small>Telephone/Fax Nos.</small> Tel. 613-226-7381 Fax 613-226-6344 </div> <div> <small>Your Project/Reference No.</small> PE1407-2 </div> <div> <small>Signature/Print Name of Requester</small> Mandy Witteman  </div> </div>			<small>Fee Paid</small> <input type="checkbox"/> ACCT <input type="checkbox"/> CHQ <input type="checkbox"/> VISA/MC <input type="checkbox"/> CASH <input type="checkbox"/> CNR <input type="checkbox"/> ER <input type="checkbox"/> NOR <input type="checkbox"/> SWR <input type="checkbox"/> WCR <input type="checkbox"/> SAC <input type="checkbox"/> IEB <input type="checkbox"/> EAA <input type="checkbox"/> EMR <input type="checkbox"/> SWA	
Request Parameters				
<small>Municipal Address / Lot, Concession, Geographic Township (Municipal address essential for cities, towns or regions)</small> 2660 Norberry Crescent & 74, 790, 840 Springland Drive, Ottawa ON				
<small>Present Property Owner(s) and Date(s) of Ownership</small> Norberry Residences Ltd.				
<small>Previous Property Owner(s) and Date(s) of Ownership</small>				
<small>Present/Previous Tenant(s), (if applicable)</small>				
Search Parameters			Specify Year(s) Requested	
<small>Files older than 2 years may require \$60.00 retrieval cost. There is no guarantee that records responsive to your request will be located.</small>				
Environmental concerns (General correspondence, occurrence reports, abatement)			all	
Orders			all	
Spills			all	
Investigations/prosecutions ➤ Owner AND tenant information must be provided			all	
Waste Generator number/classes			all	
Certificates of Approval ➤ Proponent information must be provided				
1985 and prior records are searched manually. Search fees in excess of \$300.00 could be incurred, depending on the types and years to be searched. Specify Certificates of Approval number(s) (if known). If supporting documents are also required, mark SD box and specify type e.g. maps, plans, reports, etc.				
	SD	Specify Year(s) Requested		
air - emissions		1986-present		
water - mains, treatment, ground level, standpipes & elevated storage, pumping stations (local & booster)		1986-present		
sewage - sanitary, storm, treatment, stormwater, leachate & leachate treatment & sewage pump stations		1986-present		
waste water - industrial discharges		1986-present		
waste sites - disposal, landfill sites, transfer stations, processing sites, incinerator sites		1986-present		
waste systems - PCB destruction, mobile waste processing units, haulers: sewage, non-hazardous & 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.

patersongroup

Consulting Engineers

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

January 16, 2017
File: PE1407-HLUI

City of Ottawa
110 Laurier Avenue W
Ottawa, Ontario
K1P 1J1

Geotechnical Engineering
Environmental Engineering
Hydrogeology
Geological Engineering
Materials Testing
Building Science
Archaeological Services

www.patersongroup.ca

Subject: **Authorization Letter, HLUI Search
Phase I-Environmental Site Assessment
2660 Norberry Crescent & 740, 790, 840 Springland Drive
Ottawa, Ontario**

Dear Sir or Madame,

Please consider this letter as confirmation that Paterson Group has been retained to conduct a Phase I-Environmental Site Assessment at the aforementioned property.

With this letter, the property owner authorizes the City of Ottawa and other regulatory bodies to release, to Paterson Group, information requested for the purpose of completing an environmental assessment of the property.

Name of Company/Property Owner:

Norberry Residences Ltd.

Name of Representative

NATAN ARY

Authorization of Representative

[Signature]

Date

JANUARY 25, 2017

Mandy Witteman

From: Public Information Services <publicinformationsservices@tssa.org>
Sent: June-07-19 8:41 AM
To: Mandy Witteman
Subject: Re: Search Records Request (PE1407-2) (No Record)

Follow Up Flag: Follow up
Flag Status: Flagged

Hello,

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 complete our release of public information form found at https://www.tssa.org/en/about-tssa/release-of-public-information.aspx?_mid_=392 and email the completed form to publicinformationsservices@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.

Although TSSA believes the information provided pursuant to your request is accurate, please note that TSSA does not warrant this information in any way whatsoever.

Thank you and have a great day,

Roxana



Public Information Agent

Facilities and Business Services
345 Carlingview Drive
Toronto, Ontario M9W 6N9

Tel: +1-416-734-6222 | Fax: +1-416-734-3568 | E-Mail: publicinformationsservices@tssa.org

www.tssa.org



From: Mandy Witteman <MWitteman@Patersongroup.ca>
Sent: June 6, 2019 2:29 PM
To: Public Information Services <publicinformationsservices@tssa.org>
Subject: Search Records Request (PE1407-2)

Good Afternoon,

Could you please complete a search of your records for **underground/aboveground storage tanks, historical spills or other incidents/infractions** for the following addresses in Ottawa, ON:

Springland Drive: 740, 790, 840,
Norberry Crescent: 2660
Ridegewood Ave: 757, 729

Thank you.

Cheers,

Mandy Witteman

patersongroup
solution oriented engineering
over 60 years servicing our clients

154 Colonnade Road South
Ottawa, Ontario, K2E 7J5
Tel: (613) 226-7381 Ext. 339
Cell: (403) 921-1157

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, copied, forwarded or distributed without authorization. If you have received this message in error, please notify the sender immediately and delete the original message.

61M 118 2 4 4 6 0 10 0

9R 50 23 8 85 N

Elev. 9R 0 2 7 1 0

Basin 25



ONTARIO

15 No 8787

The Well Drillers Act

Department of Mines, Province of Ontario

RECEIVED

APR - 1 1952

GEOLOGICAL BRANCH
DEPARTMENT of MINES

Water Well Record

County or Territorial District *Ontario* Township, Village, Town or City *Ottawa*

Town or City

Billing's Bridge

Date Completed *Oct 25 1951* (day) (month) (year) Cost of Well (excluding pump)

Pipe and Casing Record

Pumping Test

Casing diameter(s) *4 inch*
Length(s) of casing(s) *31 feet*
Type of screen
Length of screen
Distance from top of screen to ground level
Is well a gravel-wall type?

Date
Static level *12 feet*
Pumping level *60 feet*
Pumping rate
Duration of test
Distance from cylinder or bowls to ground level

Water Record

Kind (fresh or mineral) *fresh*
Quality (hard, soft, contains iron, sulphur, etc.) *hard*
Appearance (clear, cloudy, coloured) *clear*
For what purpose(s) is the water to be used? *house hold use only*
How far is well from possible source of contamination? *25 feet*
What is the source of contamination? *septic tanks*
Enclose a copy of any mineral analysis that has been made of water

Depth(s) to Water Horizon(s)	Kind of Water	No. of Feet Water Rises
<i>60 feet</i>	<i>fresh</i>	<i>45'</i>

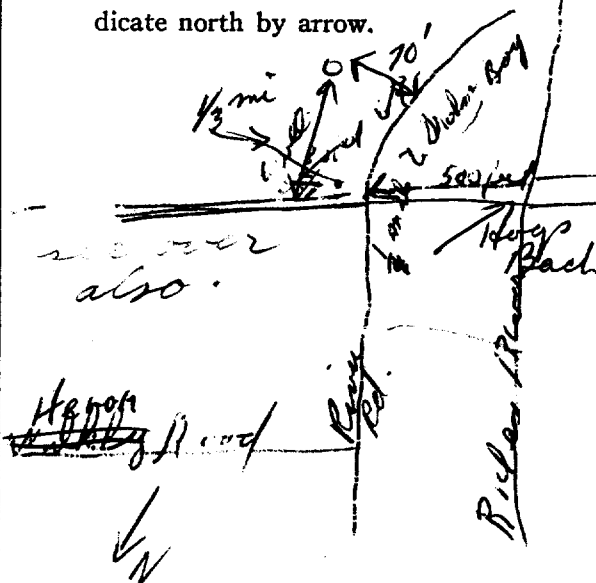
Well Log

Overburden and Bedrock Record

From To
0 ft.ft.

Location of Well

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



Situation: Is well on upland, in valley, or on hillside? *hill*

Drilling Firm *Gordon S. Mulligan*

Address *488 Mc Leod St Ottawa*

name of Driller *James H. Little* Address *Ramsayville*

October 25 - 1951 Licence Number

Signature of Licensee

RIVERSIDE DRIVE



Well Tag Number (Place sticker and print number below)

Well Record

Regulation 903 Ontario Water Resources Act

page of _____

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 Management Coordinator at 416-235-6203.
- **All metre measurements shall be reported to 1/10th of a metre.**
- Please print clearly in blue or black ink only.

Ministry Use Only

Address of Well Location (County/District/Municipality)

TOWNSHIP

LOS

Concession

RR#/Street Number/Name

City/Town/Village

Site/Compartment/Block/Tract etc.	
-----------------------------------	--

GPS Reading

NAD

Zone

Easting

Northing

Unit/Make/Model

Mode of Operation:

☐ Undifferentiated☐ Averaged

Log of Overburden and Bedrock Materials (see instructions)

[illegible]

Hole Diameter			Construction Record				Test of Well Yield					
Depth	Metres	Diameter	Inside diam centimetres	Material	Wall thickness	Depth	Metres	Pumping test method	Draw Down		Recovery	
From	To	Centimetres			centimetres	From	To		Time min	Water Level Metres	Time min	Water Level Metres
0	3.96	8.89						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, <input type="checkbox"/> Shallow <input type="checkbox"/> Deep	4		4	
								Recommended pump depth, ____ metres	5		5	
								Recommended pump rate, (litres/min)	10		10	
								If flowing give rate - (litres/min)	15		15	
									20		20	
									25		25	
								If pumping discontinued, give reason.	30		30	
									40		40	
									50		50	
									60		60	

Water Record		
Water found at ____ Metres	Kind of Water	
<input type="checkbox"/> m	<input type="checkbox"/> Fresh	<input type="checkbox"/> Sulphur
<input type="checkbox"/> Gas	<input type="checkbox"/> Salty	<input type="checkbox"/> Minerals
<input type="checkbox"/> Other:		
<input type="checkbox"/> m	<input type="checkbox"/> Fresh	<input type="checkbox"/> Sulphur
<input type="checkbox"/> Gas	<input type="checkbox"/> Salty	<input type="checkbox"/> Minerals
<input type="checkbox"/> Other:		
<input type="checkbox"/> m	<input type="checkbox"/> Fresh	<input type="checkbox"/> Sulphur
<input type="checkbox"/> Gas	<input type="checkbox"/> Salty	<input type="checkbox"/> Minerals
<input type="checkbox"/> Other:		
After test of well yield, water was		
<input type="checkbox"/> Clear and sediment free		
<input type="checkbox"/> Other, specify _____		
Chlorinated	<input type="checkbox"/> Yes	<input type="checkbox"/> No

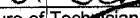
Casing	
1.25" 3.17	<input type="checkbox"/> Steel <input checked="" type="checkbox"/> Fibreglass <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized
	<input type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized
	<input type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized
Screen	
Outside diam 3.17	<input type="checkbox"/> Steel <input checked="" type="checkbox"/> Fibreglass <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized
Slot No. 10	1.83 5
No Casing or Screen	
<input type="checkbox"/> Open hole	

[illegible]

Method of Construction			
<input type="checkbox"/> Cable Tool	<input type="checkbox"/> Rotary (air)	<input type="checkbox"/> Diamond	<input type="checkbox"/> Digging +
<input type="checkbox"/> Rotary (conventional)	<input type="checkbox"/> Air percussion	<input type="checkbox"/> Jetting	<input checked="" type="checkbox"/> Other
<input type="checkbox"/> Rotary (reverse)	<input type="checkbox"/> Boring	<input type="checkbox"/> Driving	Direct push

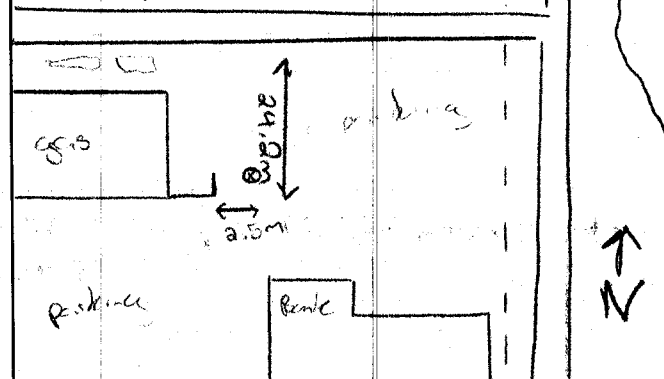
Water Use			
<input type="checkbox"/> Domestic	<input type="checkbox"/> Industrial	<input type="checkbox"/> Public Supply	<input checked="" type="checkbox"/> Other
<input type="checkbox"/> Stock	<input type="checkbox"/> Commercial	<input type="checkbox"/> Not used	sampling
<input type="checkbox"/> Irrigation	<input type="checkbox"/> Municipal	<input type="checkbox"/> Cooling & air conditioning	

Final Status of Well			
<input type="checkbox"/> Water Supply	<input type="checkbox"/> Recharge well	<input type="checkbox"/> Unfinished	<input checked="" type="checkbox"/> Abandoned, (Other) _____
<input checked="" type="checkbox"/> Observation well	<input type="checkbox"/> Abandoned, insufficient supply	<input type="checkbox"/> Dewatering	
<input type="checkbox"/> Test Hole	<input type="checkbox"/> Abandoned, poor quality	<input type="checkbox"/> Replacement well	

Well Contractor/Technician Information			
Name of Well Contractor Strategy Soil Sampling		Well Contractor's Licence No. 7241	
Business Address (street name, number, city etc.) 2-147 West Beaver Creek (Richmond Hill)			
Name of Well Technician (last name, first name) Robinson, Travis		Well Technician's Licence No. T-354	
Signature of Technician/Contractor 		Date Submitted 2005 7 16	

Location of Well

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



Audit No. Z 29930	Date Well Completed <div> <div>YYYY</div> <div>MM</div> <div>DD</div> </div> 0000 7 13
Was the well owner's information package delivered? <input type="checkbox"/> Yes <input type="checkbox"/> No	Date Delivered <div> <div>YYYY</div> <div>MM</div> <div>DD</div> </div>

Ministry Use Only			
Data Source	Contractor 7241		
Date Received <small>YYYY MM DD</small> AUG 16 2005	Date of Inspection <small>YYYY MM DD</small>		
Remarks	Well Record Number		

APPENDIX 3

QUALIFICATIONS OF ASSESSORS

Geotechnical
Engineering

Environmental
Engineering

Hydrogeology

Geological
Engineering

Materials Testing

Building Science

Archaeological
Services

POSITION

Environmental Engineer

EDUCATION

Carleton University, M.A.Sc., Environmental Engineering, 2013
Carleton University, B.Eng., Environmental Engineering, 2008

MEMBERSHIPS & AWARDS

Alberta Professional Engineers and Geoscience Association
NSERC Industry R&D Scholarship

EXPERIENCE

2018 – Present

Paterson Group Inc.

Consulting Engineers
Geotechnical and Environmental Division
Environmental Engineer

2014 – 2015

Thurber Engineering Limited

Oil Sand Tailings Group
Tailings Engineer

2014 – 2013

Carleton University

Department of Civil & Environmental Engineering
Research Engineer

2013 - 2009

Carleton University

Department of Civil & Environmental Engineering
Research Assistant and Teachers Assistant

2008 – 2009

SLR Consulting Limited

Contaminated Sites
Junior Environmental Engineer

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