Geotechnical Engineering

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**Phase I Environmental Site Assessment** 

114 Isabella Street Ottawa, Ontario

**Prepared For** 

2702021 Ontario Inc.

## **Paterson Group Inc.**

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

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Report: PE4701-1



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## **EXECUTIVE SUMMARY**

## **Assessment**

Paterson Group was retained by 2702021 Ontario Inc. to conduct a Phase I Environmental Site Assessment (Phase I-ESA) on 114 Isabella Street, in the City of Ottawa, Ontario. The purpose of this Phase I – Environmental Site Assessment 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 properties.

Based on the historical research, the subject site was developed with a single residential structure circa 1888 and remained as a residence until it was demolished during a fire in 2003. Since then, the site has remained vacant. The demolition of the former on-site residence was considered to represent a potentially contaminating activity (PCA) due to the presence of potential fill material of unknown quality.

Historically, neighbouring lands consisted of residential, commercial with some light-industrial uses. Several PCAs were identified, however the majority of them were not considered to pose a concern to the subject site. Two (2) PCAs were identified in the immediate area of the Phase I Property: a former machine shop at 100 Isabella Street and an automotive body shop at 120 Isabella Street (461 O'Connor Street).

Based on a previous Phase II ESA conducted by Kollaard Associates Inc. (Kollaard) in 2013, the potential presence of impacted fill material on-site, the presence of a former machine shop and presence of an automotive body shop were addressed as areas of potential environmental concern (APECs) on the Phase I Property. Several tests pits and one monitoring boreholes II were placed on-site to investigate these APECs. Soil samples were submitted for BTEX, PHCs, PAHs and metals analysis. Based on the test results, impacted fill material was identified within the vicinity of the former dwelling. Groundwater samples were submitted for BTEX, PHCs and PAH analysis. The test results did not detect any groundwater impact.

Following the historical review, a site visit was conducted. The subject property is vacant with no buildings or structures noted. At the time of the site visit, the site was used for parking and storage of trailers and c-cans. No additional PCAs were identified with the current use of the Phase I Property or lands within the Study Area. Therefore, no areas of potential environmental concern with respect to the Phase I Property were identified. **No further Phase II ESA is recommended at this time.** 



## Recommendations

Impacted fill material was identified at 114 Isabella Street in the 2013 Phase II ESA prepared by Kollaard. The fill material encountered during the subsurface investigation is considered to be contaminated, particularly from an off-site disposal standpoint. The fill material was observed to contain various building debris (e.g. glass, concrete, wood etc.) that will require disposal at an approved disposal facility during site development.

Prior to the disposal of the impacted fill, at Toxicity Characteristic Leaching Procedure (TCLP) will need to be carried out on a representative fill sample to confirm its suitability for disposal at an approved waste disposal facility.



## 1.0 INTRODUCTION

At the request of Mr. Chris Allard of 2702021 Ontario Inc., Paterson Group (Paterson) conducted a Phase I Environmental Site Assessment (Phase I ESA) for 114 Isabella 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.

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

This Phase I-ESA report has been prepared in general accordance with the requirements of Ontario Regulation 153/04, as amended, under the 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.

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## 2.0 PHASE I PROPERTY INFORMATION

Address: 114 Isabella Street, Ottawa, Ontario.

**Property Identification** 

Number:

04123-0086.

Location: The subject site is situated on the south side of

Isabella Street, 65m northeast of the intersection between Isabella Street and O'Conner Street.

Latitude and Longitude: 45° 24' 35" N, 75° 41' 17" W;

**Site Description:** 

Configuration: Rectangular.

Site Area: 350 m<sup>2</sup> (approximate).

Zoning: GM4 – General Mixed Use 4<sup>th</sup> Density.

Current Use: The subject site is currently vacant with no permanent

structures or usage.

Services: The subject site is located in a municipally serviced

area.

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## 3.0 SCOPE OF INVESTIGATION

The s	scope of work for this Phase I – Environmental Site Assessment was as s:
	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 1888 Fire Insurance Plans, the Phase I Property was occupied by a residential dwelling. For the purpose of this assessment, the first developed land use of the Phase I Property was residential in 1888.

#### **Fire Insurance Plans**

Fire Insurance Plans (FIPs) from 1888, 1912, 1925 and 1956 were reviewed for the Phase I Study Area. The 1888 – 1956 FIPs depict the subject land as being occupied by a residential dwelling.

Based on the FIPs, several Potentially Contaminating Activities (PCAs), as shown in Table 1, were identified within the Phase I Study Area.

Table 1: FIP – Potentially Contaminating Activities (PCA) in Phase I Study Area			
Address	Years listed	Activity Dista  Activity from	
110 Isabella Street	1925-1956	Vendall machine shop; soft drinks cabinet assembly	Immediately east
North of Isabella Street	1912-1925	Coal storage bins	18m north
Isabella Street at O'Connor Street	1912	Planning mill at the intersection between Isabella Street and O'Conner Street	20m west
North of Isabella Street	1888-1956	Grand Trunk Railway / Canadian National Railway	22m north
136 Isabella Street	1925-1956	Coal Shed	70m west
Isabella Street at Metcalfe Street	1912	Planing mill at the intersection between Isabella Street and Metcalfe Street	90m east
Isabella Street at Metcalfe Street	1888	Ottawa Porcelain and Carbon Co.	130m east
Isabella Street at Metcalfe Street	1912	Planing and cabinet making	130m east
132 Catherine Street	1925-1956	"Greasing" and oil warehouse	140 m west
132 Catherine Street	1925-1956	Gasoline service station (2 USTs)	150m west
Isabella Street at Bank Street	1956	The Samuel Rodgers Oil Company	200m west

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The off-site PCAs identified in the FIPs review are not considered to generate Areas of Potential Environmental Concern APECs on the Phase I Property, based on the separation distances and/or orientation with respect to the subject site.

The presence of a former machine shop at 100 Isabella Street is not considered an APEC on the Phase I Property, since this PCA was addressed in a previous Phase II ESA, conducted by Kollaard in 2013. Furthermore, a Record of Site Condition (RSC) was filed for 110 Isabella Street in 2005. Based on information contained in the previous Phase II ESA report combined with the RSC, the former machine shop represents a former PCA that does not result in an APEC on the Phase I Property. More information regarding the 2013 Phase II ESA has been provided in the Previous Engineering Reports section.

#### **City of Ottawa Street Directories**

City directories at the National Archives were reviewed in approximate 10-year intervals from 1890 to 2010 as part of the Phase I ESA.

The subject site was first listed in the directories as a residenence in 1890 and remained as a residence. No concerns were identified with the past use of the subject site during the directories review.

Several PCAs were identified within the study area and have been summarized in Table 2.

Table 2: City Directories – Potentially Contaminating Activities (PCA) in Phase I Study Area				
Address	Years listed	Activity	Distance / Orientation from site	
120 Isabella Street	2010	Elie Auto Body Collision Repair & Paint	10 m West	
120 Isabella Street	1989	Superior Auto Body Ltd.	10 m West	
120 Isabella Street	1980	Atlantica Body Shop	10 m West	
120 Isabella Street	1970	Robitaille Dan Body Shop	10 m West	
120 Isabella Street	1970	Corrigan's Garage	10 m West	
461 O'Conner Street	2010	Griffin Automotive Services Ltd.	10m west	
140-142 Pretoria 1910-1940 Avenue		Fire station No 9	95m south	
437-443 O'Conner Street	1930-1949	National Printers Ltd.	120m west	
158 Isabella Street	1940	Morrison Lamothe Ltd Garage	125m west	
182 Isabella Street	1949-1960	Harrison Geo P Ltd. Coal, fuel, oil, burners	200m west	



The off-site PCAs identifed in the city directories review are not considered to generate Areas of Potential Environmental Concern APECs on the Phase I Property, based on the separation distances and/or orientation with respect to the subject site.

The presence of the automotive body shop at 120 Isabella Street was not considered an APEC on the Phase I Property, since this PCA was addressed in a previous Phase II ESA, conducted by Kollaard in 2013. Based on information contained in the previous Phase II ESA report, the automotive body shop is considered a former PCA that does not result in an APEC on the Phase I Property. More information regarding the 2013 Phase II ESA has been provided in the Previous Engineering Reports section.

#### **Previous Engineering Reports**

□ "Phase II Environmental Site Assessment – 114 Isabella Street, City of Ottawa, Ontario," prepared by Kollaard Associates Inc. (Kollaard), dated November 25, 2013.

Based on the Phase II ESA report, Kollaard conducted a Phase I ESA in June 2013 that identified three (3) potentially contaminating activities (PCAs) that resulted in areas of potential environmental concern (APECs) on the subject land. These PCAs include on-site presence of fill material containing building debris from the former dwelling, the presence of a former machine shop on the property immediately east at 100 Isabella Street (formerly 110 Isabella Street) and the presence of an automotive body shop on a property to the west at 120 Isabella Street.

The aforementioned APECS were addressed in the Phase II ESA work, which consisted of drilling two (2) boreholes and seven (7) test pits. The boreholes were placed along the eastern property edge, while the test pits were placed to obtain general coverage of the site. One borehole (northeast corner) was completed as a monitoring well.

Twelve (12) soil samples were submitted for BTEX, PHCs (fractions, F1-F4), PAHs and metals analysis. BTEX, PHCs and PAHs test parameters were in compliance with the selected MECP standards. The analytical results indicated however, that there are potential metal impacts (cobalt and vanadium) in the fill material. Based on the soil results, the underlying native silty clay material had not been impacted and therefore, contamination is confined only in the fill layer.



Two (2) groundwater samples were submitted for BTEX, PHCs and PAH analysis. Based on the test results, the groundwater samples were in compliance with the selected MECP standards.

Based on the Phase II, metal impacted fill material is present on-site. Fill material encountered during the subsurface investigation contained building debris, such as glass, concrete, wood, bricks, etc.) and is therefore considered contaminated and will require off-site disposal during development.

As for the remaining two (2) APECs on-site: the presence of the adjacent former machine shop (110 Isabella Street) and presence of a neighbouring automotive body shop (120 Isabella Street) have been addressed and are considered former PCAs that no longer represent APECs on the Phase I Property.

## 4.2 Environmental Source Information

#### **Environment and Climate Change Canada**

A search of the National Pollutant Release Inventory (NPRI) was conducted electronically on July 31, 2019. The subject site was 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.

#### **Areas of Natural and Scientific Interest (ANSI)**

A search for areas of natural significance and features within the Phase I study area was conducted on the web site of the Ontario Ministry of Natural Resources (MNR) on July 31, 2019. The search did not reveal any natural features or areas of natural significance within the Phase I study area.

#### **PCB Inventory**

A search of national PCB waste storage sites was conducted. No PCB waste storage sites were identified on the subject site or within a 250m radius.

## **Ontario Ministry of Environment (MECP) Instruments**

A request was submitted to the MECP Freedom of Information (FOI) office 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. Based on the MECP response, no information with respect to certificates of approval, permits to take water, certificates of property use or any other similar MECP issued instruments were issued in relation to the subject site or





neighbouring properties. A copy of the MECP FOI response is appended to this report.

#### **MECP Incident Reports**

A request was submitted to the MECP Freedom of Information 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. Based on the MECP response, no information with respect to records concerning environmental incidents, orders, offences, spills, discharges of contaminants or inspections were reported for the subject site or neighbouring properties. A copy of the MECP FOI response is appended to this report.

## **MECP Waste Management Records**

A request was submitted to the MECP Freedom of Information office for information with respect to waste management records. At the time of issuance of this report, a response had not been received. Based on the MECP response, no information was provided regarding waste management records in relation to the subject site or neighbouring properties. A copy of the MECP FOI response is appended to this report.

#### **MECP Submissions**

A request was submitted to the MECP Freedom of Information office for information with respect to reports related to environmental conditions have been submitted to the MECP. Based on the MECP response, no information was provided regarding environmental conditions in relation to the subject site or neighbouring properties. A copy of the MECP FOI response is appended to this report.

## **MECP Brownfields Environmental Site Registry**

A search of the MECP Brownfields Environmental Site Registry (ESR) was conducted as part of this assessment for the site. No Record of Site Condition (RSC) was found for the subject site, however, two (2) RSCs were identified within the study area for 100 Isabella Street and 424 Metcalfe Street.

The RSC property at 100 Isabella Street is located immediately east of the subject site. According to the ESR website, approximately 3600 cubic meters of contaminated soil was removed off-site, as well as soil within 3 meters of the RSC Property boundary. No groundwater treatment was required.

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Based on the reported maximum concentrations for soil and groundwater, this RSC Property is not considered to pose a risk to the Phase I Property.

The RSC property at 424 Metcalfe Street is located 125 m north of the subject site. Based on the separation distance, and information provided on the ESR website, this RSC property is not considered to pose concern to the Phase I Property.

## **MECP Waste Disposal Site Inventory**

The Ontario Ministry of Environment document titled "Waste Disposal Site Inventory in Ontario, 1991" was reviewed as part of the historical research. This document includes all recorded active and closed waste disposal sites, industrial manufactured gas plants and coal tar distillation plants in the Province of Ontario. No waste disposal sites were identified within the Phase I study area.

### **MECP Coal Gasification Plant Inventory**

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

## **Technical Standards and Safety Authority (TSSA)**

The TSSA, Fuels Safety Branch in Toronto, was contacted on July 31, 2019 to inquire about current and former underground/aboveground storage tanks, spills and incidents for the subject and neighbouring properties. No records were found for the subject site or surrounding area.

## City of Ottawa Landfill Document

The document entitled "Old Landfill Management Strategy, Phase I – Identification of Sites, City of Ottawa", was reviewed. No former waste disposal sites were located within the Phase I study area.

## City of Ottawa Historical Land Use Inventory

A search of the City's Historical Land Use Inventory (HLUI 2005) database for the subject property was conducted as part of the Phase I ESA. 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.



#### **Former Industrial Sites**

The report entitled "Mapping and Assessment of Former Industrial Sites, City of Ottawa" prepared by Intera Technologies Limited was reviewed. Three (3) former industrial sites were identified within the vicinity of the subject property, as presented in Table 3.

Table	Table 3: Former Industrial Sites			
Site No.	Address	Type of Industry	Operator	Approx. Distance from Subject Site
35	439-443 O'Connor Street	Printing, publishing and allied industries	National Printers Ltd.	120m north
30	Corner of Isabella Street and Metcalfe Street	Commercial printing industries	Dominion Loose Leaf Co. Ltd.	130m east
31	Corner of Isabella Street and Metcalfe Street	Refined petroleum and coal products	Ottawa Porcelain & Carbon Co.	130m east

Based on their separation distance from the subject property, the former industrial sites are not considered to result in APECs on the Phase I 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:

The subject site appears to be occupied by a single residential building. The subject site lies within a residential city block on the south side of Isabella Street. South of Isabella Street the land appears to be mostly residential in use while the Canadian National Railway lies to the north of Isabella Street.

No significant changes have been made to the subject site. Immediately east of the site, the building has been extended however generally little significant redevelopment has occurred south of Isabella Street. North of Isabella Street, numerous buildings associated with the railway have been demolished.

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1965	No significant changes have been made to the subject site. Further extension of the building immediately east of the subject site has occurred. Many of the properties fronting onto Isabella Street have been removed and replaced with larger buildings or parking lots. Properties fronting onto and south of Pretoria Avenue appear to remain residential in nature. North of Isabella Street, the railway has been demolished and the Highway No 417 is under construction.
1976	No significant changes have been made to the subject site. At the intersection between Isabella Street and O'Conner Street, a high rise office block has been constructed occupying the block between Isabella Street and Pretoria Avenue. Elsewhere along Isabella Street commercial buildings have been developed. To the north, the Highway No 417 is complete at this time.
1991	No significant changes have been made to the subject site. Further commercial development occurred along Isabella Street.
2002	No significant changes have been made to the subject site or surrounding properties.
2005	(Not appended) The building occupying the subject site has been demolished.
2011	No significant changes have been made to the subject site. The land immediately east of the subject site, has been redeveloped with an apartment building.
2017	No significant changes have been made to the subject site or

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

surrounding properties.

## **Topographic Maps**

Topographic maps were obtained from Natural Resources Canada - The Atlas of Canada website. The topographic maps indicate that the subject site and surrounding area slopes down gently to the east. An illustration of the referenced topographic map is presented in 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 Monteregian 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 site consists of shale, limestone, dolostone and siltstone of the Billings Formation. Based on available information, the thickness of overburden is anticipated to be around 18-20 m and consists of glacio-marine sediments.

#### **Water Well Records**

A search of the MECP's web site for all drilled well records within 250 m of the subject site was conducted on July 30, 2019. The search identified nine (9) records in the subject area, dating from 2007 to 2017, all comprising monitoring wells.

The nearest well is located approximately 100m north of the subject site. No indication of contamination was recorded in any of the records. Given the municipally supplied area, water supply wells are not expected in the subject area.

Based on the well records, the stratigraphy in the area of the subject site consists of fill material, underlain by silty clay or clay, followed by silt. Bedrock was not encountered in the area. A copy of the well records are appended to this report (Appendix 2).

#### Water Bodies and Areas of Natural Significance

There are no waterbodies or areas of natural and scientific interest on the subject site or within the study area.



## 5.0 INTERVIEWS

The property owner could not be contacted for comment regarding the history of the property.

## 6.0 SITE RECONNAISSANCE

## 6.1 General Requirements

The site assessment was conducted on August 1, 2019. Weather conditions were sunny, with a temperature of approximately 28 °C. Mr. Philip Price from the Environmental Department of Paterson Group conducted the site visit. In addition to the site, the uses of neighbouring properties within the Phase I study area were also assessed at the time of the site reconnaissance.

## 6.2 Specific Observations at the Phase I Property

## **Buildings and Structures**

There are no buildings on the Phase I Property.

#### **Site Features**

The subject property is vacant with no buildings or structures noted. At the time of the site visit the site was used for parking and storage of two trucks, two trailers and two locked shipping containers (c-cans). The site is surfaced with gravel and in parts is overgrown with self-seeded grass and weeds.

Site drainage consists of infiltration and sheet flow to Isabella Street. Both the subject site and surrounding properties appear flat and level.

No evidence of recent excavation, fill placement or observation/monitoring wells was observed on the subject property. No evidence of current or former railway or spur lines on the subject property was observed at the time of the site visit. There were no unidentified substances observed on the exterior of the subject site. The above-noted site features are shown on Drawing PE4701-1 - Site Plan.

## **Potentially Contaminating Activities**

No potentially contaminating activities were observed at the site at the time of this assessment.



## **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 within the Phase I study area is shown on Drawing PE4701-2 - Surrounding Land Use Plan. During the walkover, an approximately 1000 litre above ground storage tank (AST) was noted at 461 O'Conner Street, associated with Griffin Automotive Services Ltd. No staining was noted around the tank. Though this feature represents a PCA, it is not considered to have the potential to impact the subject site based on the distance from the subject site.



## 7.0 REVIEW AND EVALUATION OF INFORMATION

## 7.1 Land Use History

The following table indicates the current and past uses of the site dating back to the first developed use of the site.

Table 4: Current and Past Use of the Phase I ESA Property 114 Isabella Street				
Year	Property Owner	Description of Property	Property Use	Other Observations from FIPs, Aerial Photographs, Directories, etc.
Prior to 1888	Unknown	Unknown	Residential use	1888 FIPs
1888-2003	Various private individuals	Residential	Residential use	City Directories, Kollaard 2013 Phase II ESA Report
2003-2019	Private Individuals and possibly others Ashlar Homes	Vacant	Vacant	Aerial photographs  Kollaard 2013 Phase II ESA Report
2019-present	Unknown	Vacant	Vacant	No information available

# Potentially Contaminating Activities and Areas of Potential Environmental Concern

Nineteen (19) PCAs were identified within the study area. Based on separation distances, orientation and/or previous analytical results from the on-site Phase II ESA (Kollaard, 2013), none of the identified PCAs are considered to represent APECs on the Phase I Property. The location of these PCAs are depicted in green on Drawing PE4601-2 –Surrounding Land Use Plan, in the Figures section of this report.

## Contaminants of Potential Concern (CPC)

No Contaminants of Potential Concern (CPCs) were identified on the subject site.

## 7.2 Conceptual Site Model

## **Geological and Hydrogeological Setting**

Based on the information from NRCAN, bedrock in the area of the site consists of shale, limestone, dolostone and siltstone of the Billings Formation. Based on

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available information, the thickness of overburden is anticipated to be around 18-20 m and consists of glacio-marine sediments.

Groundwater flow is interpreted to be in a north to northwesterly direction.

#### **Contaminants of Potential Concern**

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

#### **Existing Buildings and Structures**

#### **Water Bodies and Areas of Natural Significance**

No water bodies or areas of natural significance were identified on the Phase I Property. The Rideau Canal is the closest water body and is located approximately 390 m southeast of the Phase I Property.

#### **Drinking Water Wells**

Records of nine (9) wells were found in the study area all comprising monitoring wells, dating from 2007 to 2017.

The nearest well is located approximately 100m north of the subject site. No indication of contamination was recorded in any of the records.

Given the municipally supplied area, water supply wells are not expected in the subject area.

## **Neighbouring Land Use**

Neighbouring land use in the Phase I Study Area consists of residential and commercial properties. Land use is shown on Drawing PE4701-2 Surrounding Land Use Plan.

# Potentially Contaminating Activities and Areas of Potential Environmental Concern

As per Section 7.1 of this report, nineteen (19) PCAs were identified within the Phase I Study Area; however, as discussed previously, they do not represent areas of potential environmental concern on 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 no APECs on the Phase I Property. A variety of independent sources were consulted as part of this assessment, 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 2702021 Ontario Inc. to conduct a Phase I Environmental Site Assessment (Phase I-ESA) on 114 Isabella Street, in the City of Ottawa, Ontario. The purpose of this Phase I – Environmental Site Assessment 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 properties.

Based on the historical research, the subject site was developed with a single residential structure circa 1888 and remained as a residence until it was demolished during a fire in 2003. Since then, the site has remained vacant. The demolition of the former on-site residence was considered to represent a potentially contaminating activity (PCA) due to the presence of potential fill material of unknown quality.

Historically, neighbouring lands consisted of residential, commercial with some light-industrial uses. Several PCAs were identified, however the majority of them were not considered to pose a concern to the subject site. Two (2) PCAs were identified in the immediate area of the Phase I Property: a former machine shop at 100 Isabella Street and an automotive body shop at 120 Isabella Street (461 O'Connor Street).

Based on a previous Phase II ESA conducted by Kollaard Associates Inc. (Kollaard) in 2013, the potential presence of impacted fill material on-site, the presence of a former machine shop and presence of an automotive body shop were addressed as areas of potential environmental concern (APECs) on the Phase I Property. Several tests pits and one monitoring boreholes II were placed on-site to investigate these APECs. Soil samples were submitted for BTEX, PHCs, PAHs and metals analysis. Based on the test results, impacted fill material was identified within the vicinity of the former dwelling. Groundwater samples were submitted for BTEX, PHCs and PAH analysis. The test results did not detect any groundwater impact.

Following the historical review, a site visit was conducted. The subject property is vacant with no buildings or structures noted. At the time of the site visit, the site was used for parking and storage of trailers and c-cans. No additional PCAs were identified with the current use of the Phase I Property or lands within the Study



Area. Therefore, no areas of potential environmental concern with respect to the Phase I Property were identified. **No further Phase II ESA is recommended at this time.** 

## Recommendations

Impacted fill material was identified at 114 Isabella Street in the 2013 Phase II ESA prepared by Kollaard. The fill material encountered during the subsurface investigation is considered to be contaminated, particularly from an off-site disposal standpoint. The fill material was observed to contain various building debris (e.g. glass, concrete, wood etc.) that will require disposal at an approved disposal facility during site development.

Prior to the disposal of the impacted fill, at Toxicity Characteristic Leaching Procedure (TCLP) will need to be carried out on a representative fill sample to confirm its suitability for disposal at an approved waste disposal facility.

PROFESSIONAL

M. S. D'ARCY



## 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, 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 differs from our findings, we request that we are notified immediately in order to allow for a reassessment.

This report was prepared for the sole use of 2702021 Ontario Inc. Permission and notification from the above-noted party and Paterson will be required to release this report to any other party.

Paterson Group Inc.

Mandy Witteman, B.Eng., M.A.Sc.

Mark S. D'Arcy, P.Eng., QPESA

#### **Report Distribution:**

- □ 2702021 Ontario Inc.
- □ 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.

PCB Waste Storage Site Inventory.

#### **Provincial Records**

MECP Freedom of Information and Privacy Office.

MECP Municipal Coal Gasification Plant Site Inventory, 1991.

MECP document titled "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**

The City of Ottawa Historical Land Use Inventory.

The City of Ottawa geoOttawa website.

#### **Local Information Sources**

Personal Interviews.

#### **Public Information Sources**

Google Earth.
Google Maps/Street View
Bing Maps

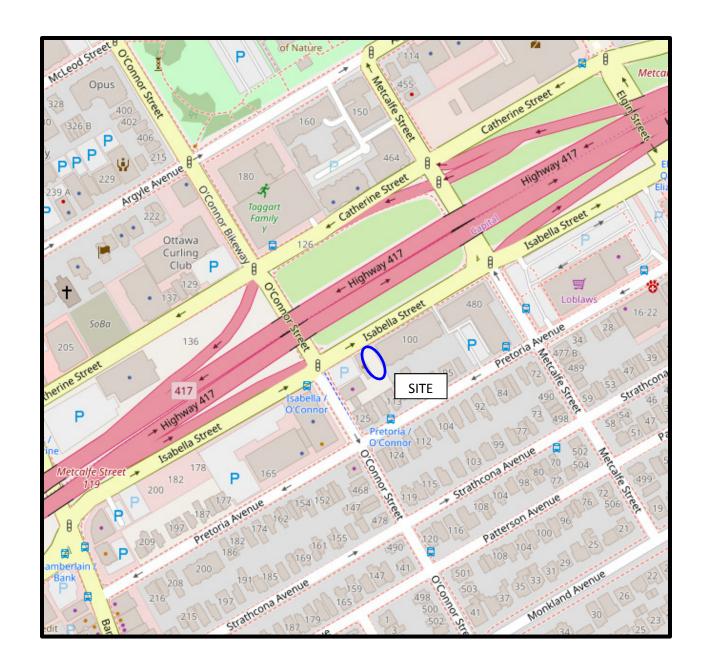
# **FIGURES**

FIGURE 1 – KEY PLAN

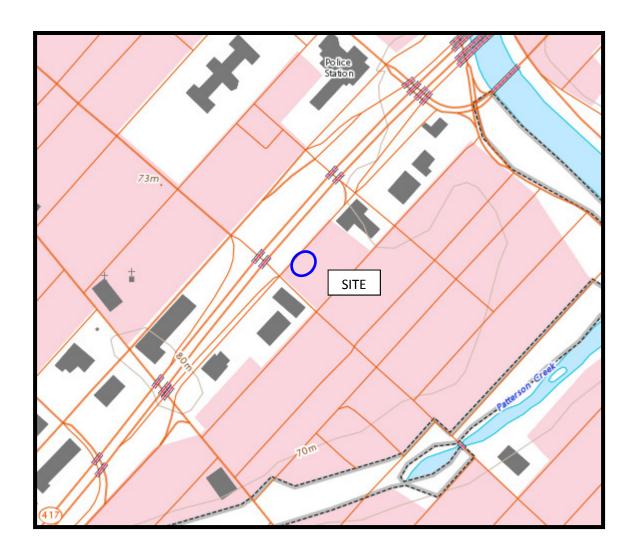
FIGURE 2 – TOPOGRAPHIC MAP

**DRAWING PE4701-1 - SITE PLAN** 

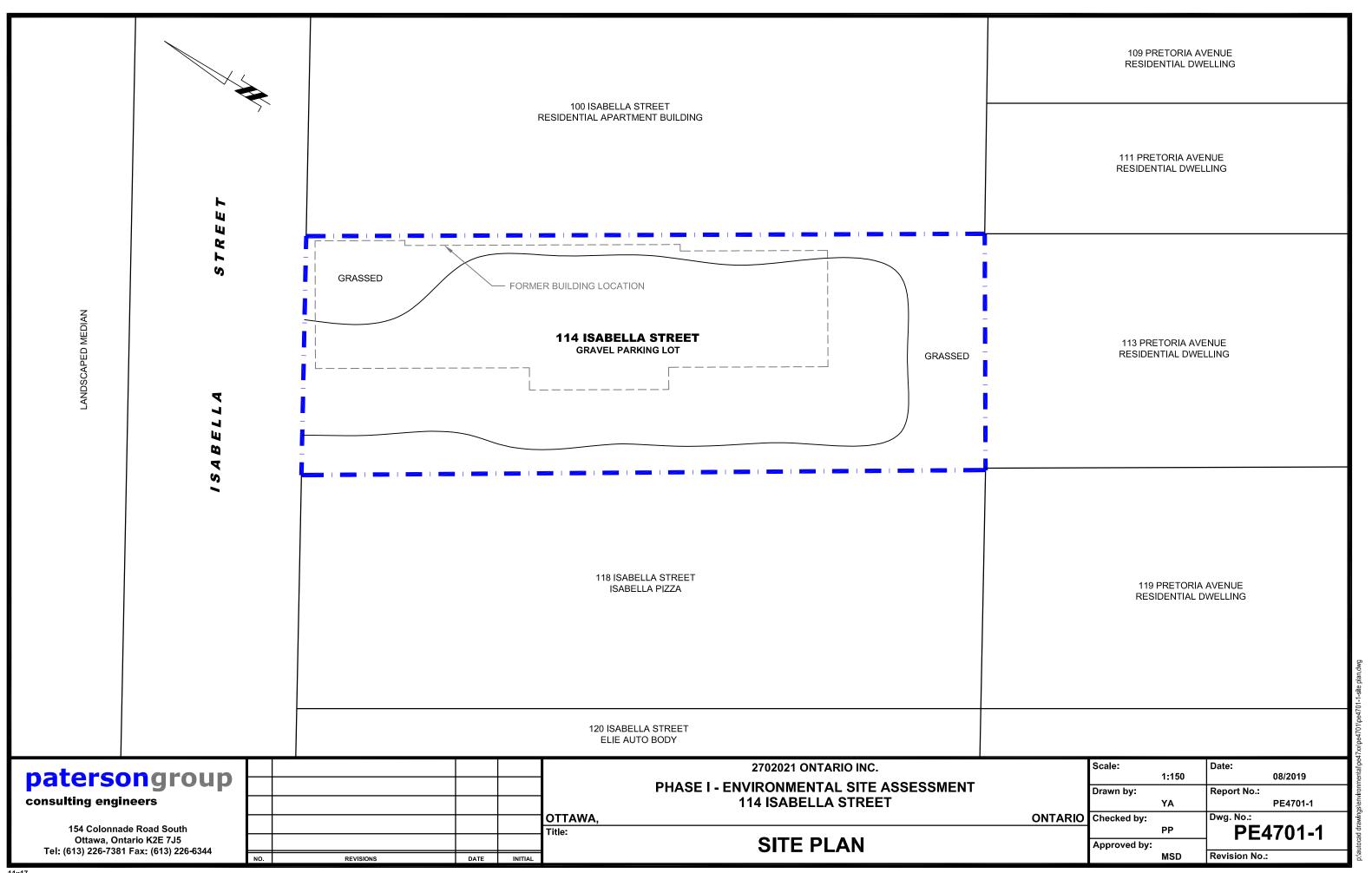
DRAWING PE4701-2 - SURROUNDING LAND USE PLAN

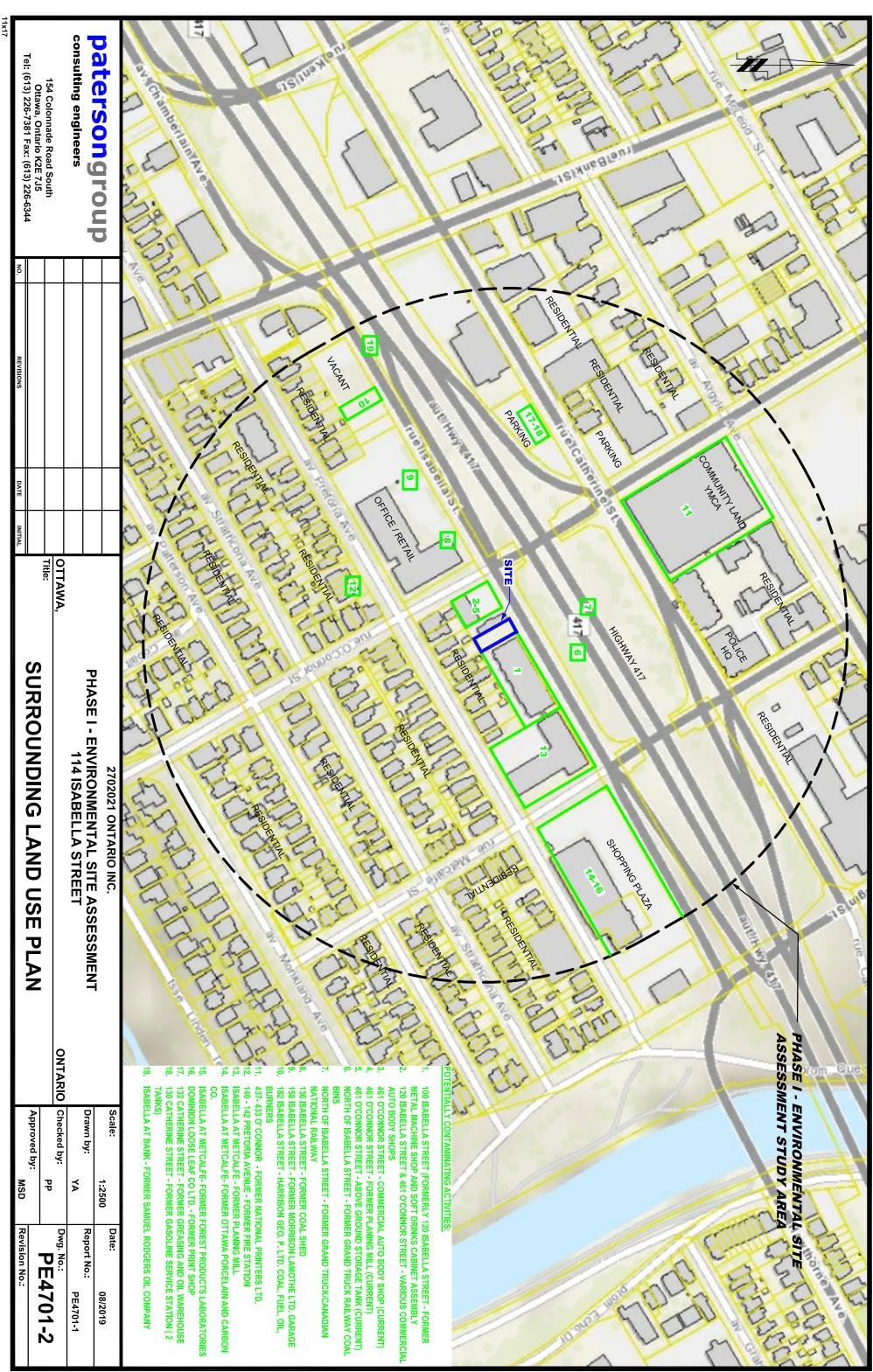


# FIGURE 1 KEY PLAN



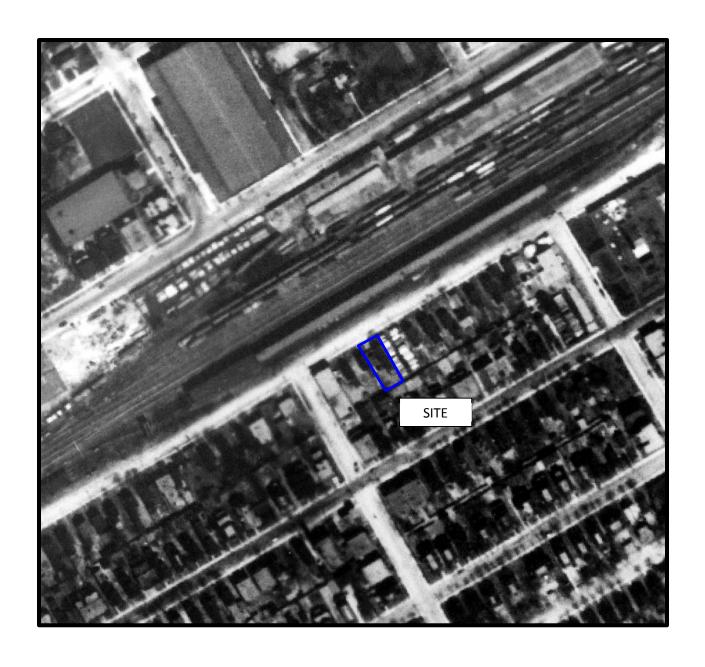
# FIGURE 2 TOPOGRAPHIC MAP





# **APPENDIX 1**

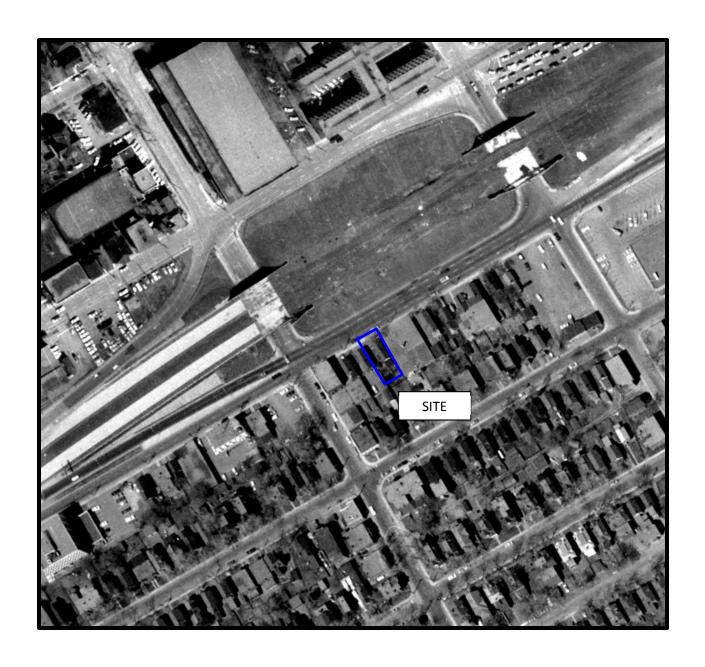
AERIAL PHOTOGRAPHS
SITE PHOTOGRAPHS



AERIAL PHOTOGRAPH 1928



AERIAL PHOTOGRAPH 1958



## AERIAL PHOTOGRAPH 1965

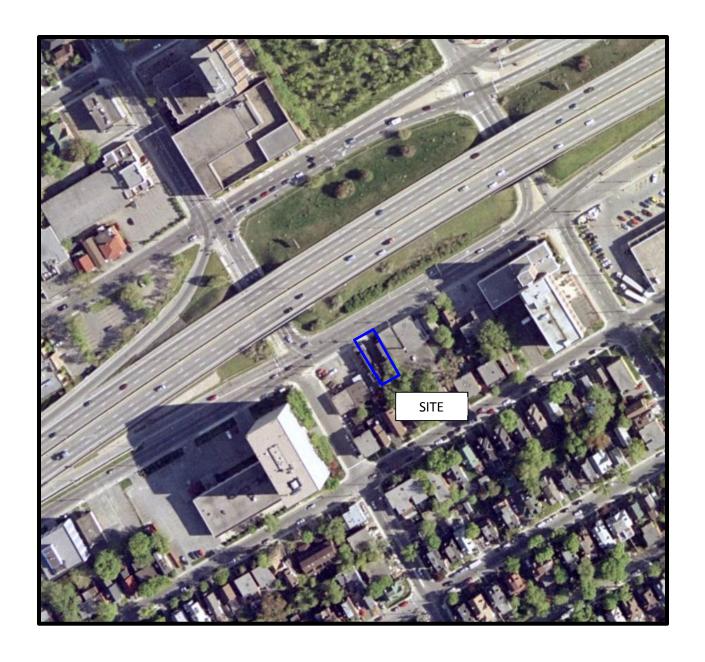


# AERIAL PHOTOGRAPH 1976



# AERIAL PHOTOGRAPH 1991

patersongroup \_\_\_\_\_



## AERIAL PHOTOGRAPH 2002

patersongroup \_\_\_\_\_



## AERIAL PHOTOGRAPH 2011



## AERIAL PHOTOGRAPH 2017

patersongroup \_\_\_\_\_



Photograph 1: Centre and rear of the site facing southeast.



Photograph 2: Site frontage and Isabella Street facing northwest.

## **APPENDIX 2**

MECP FREEDOM OF INFORMATION REQUEST

CITY OF OTTAWA HLUI REQUEST

WATER WELL RECORDS

TSSA CORRESPONDENCE

Ministry of the Environment, Conservation and Parks

Access and 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, de la Protection de la nature et des Parcs

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

12" étage 40, avenue St. Clair ouest Toronto ON M4V 1M2

Tél.: (416) 314-4075



August 13, 2019

Philip Price Paterson Group Inc. 154 Colonnade Road Ottawa, ON K3E 7J5

Dear Philip Price:

RE: Freedom of Information and Protection of Privacy Act Request Our File # A-2019-05291, Your Reference PE4701

This letter is in response to your request made pursuant to the *Freedom of Information and Protection of Privacy Act* relating to 114 Isabella Street, Ottawa.

After a thorough search through the files of the Ministry's Ottawa District Office, Investigations and Enforcement Branch, Environmental Assessment and Permissions 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 Sasha Naidu at 416-314-4075 or sasha.naidu@ontario.ca.

Yours truly,

√Janet Dadufalza Manager, Access and Privacy

	Office Use Only		
Application Number:	Ward Number:	Application Received	d: (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 Ir	nformation
*Site Address or Location:	114 Isabella Street, Ottawa, ON		
	* Mandatory Field		
Applicant/Agent I	nformation:		
Name:	Paterson Group		
Mailing Address:	154 Colonnade Road, Ottawa ON		
Telephone:	613 226 7381	Email Address:	pprice@patersongroup.ca
Registered Prope	rty Owner Information:	Same as above	ve
Name:	2702021 Ontario Inc.		
Mailing Address:	110-150 Isabella Street, Ottawa ON		
Telephone:	613 324 2389	Email Address:	chris@chrisallard.ca

	Site Details	
Legal Description and PIN:	041230086	
What is the land currently used for?	Vacant	
	e: m _ Lot depth: m _ Lot area: m² t area: (irregular lot) 350 m² te have Full Municipal Services: • Yes	
	Required Fees	
	te to visit <u>the Historic Land Use Inventory</u> website Fees must be paid in full at the time of application submission.	
Planning Fee		\$105.00

#### **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 Paterson Group	("the Requester") does so only under the following
conditions and understanding:	<del></del>

- 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): 07/08/2019	
Per: Philip Price	
(Please print name)	
Title: Environmental Scientist	
Company: Paterson Group	

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Ministry of the Environment

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Regulation 903 Ontario Water Resources Act

#### 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.

<ul> <li>Questions regarding con</li> <li>All metre measurement</li> </ul>	npleting th	is application can	be directed	d to the Wat	er Well Help	Desk (Toll Free) at	1-888-39	6-9355.	
<ul> <li>Please print clearly in blue</li> </ul>			or a mou			Ministry Us	e Only		
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Address of Well Location (County	/DISTRICT/IVIU	mcipality)	'	ownship	•	Lot		Concession	n
RR#/Street Number/Name + 24 Met c	alfe	Street		City/Town/Vi	llage awa	Site/Comp.	artment/B	lock/Tract e	tc.
GPS Reading NAD Zor	Eastin	Mort	hing 28889	Unit Make/M	odel Mod		differentiated	-	raged
Log of Overburden and Be			tructions)						
General Colour Most common	material	Other Ma	aterials		Gener	al Description		Depth From	Metres To
	granul		+ silf.					0	1.3
Grey Fill -1	Suck !	concrete						1.3	1,9
Grey Clay								1.9	3.9
Grey Silly					***			3.9	4.5
<u></u>	mu Henu	ng Well Un.	Stalla pical)	tions as	s a Clus	ter asper O	Nt Mo	DE Rog	903
Hole Diameter		Cons	truction Re	cord		Tes	t of Well	Yield	
Depth Metres Diameter	Inside		Wall	Depth	Metres	Pumping test method	Draw [	Down F	Recovery
From To Centimetres  O 4,5 20	diam centimetres	Material	thickness centimetres	From	То		Time Wat	er Level Time letres min	Water Level Metres
0 4.5 20	1		Casing		F	Pump intake set at - (metres)	Static Level		
	51	Steel Fibreglass	140		1 0	Pumping rate - (litres/min)	1	1	
Water Record	51 Mm	Galvanized	40	0	1.3	Duration of pumping	2	2	
Water found at Metres / Kind of Water		Steel Fibreglass				hrs + min	3	3	
Gas Salty Minerals		Plastic Concrete Galvanized				of pumping metres		3	
Other: Sulphur		Steel Fibreglass				Recommended pump type.	4	4	
Gas Salty Minerals		Plastic Concrete				Recommended pump	5	5	
Other: Sulphur		Galvanized	Screen			depthmetres	10	10	
Gas Salty Minerals			00.00			Trate /		10	
	Outside	Steel Fibreglass	Slot No.			(litrés/min)	15 /	15	
Other:	diam	Steel Fibreglass	Slot No.	15	ИБ	(litrés/min) If flowing give rate -	20	20	
Other:	diam	Plastic Concrete Galvanized	10	1.5	4.5	(litrés/min) If flowing give rate - (litres/min) If pumping discontin-			
Other:	diam 58	Plastic Concrete Galvanized  No C			4,5	(litres/min) If flowing give rate - (litres/min)	25 30 40	20 25 30 40	
Other:  After test of well yield, water was  Clear and sediment free	diam 58	Plastic Concrete Galvanized	10		4,5	(litrés/min) If flowing give rate - (litres/min) If pumping discontin-	20 25 30	20 25 30	

		gging and Sealing Record	Annular space	Abandonment
Depth set a	at - Metres To	Material and type (bentonite slurry, ne	eat cement slurry) etc.	Volume Placed (cubic metres)
16	1,3	Bentonito		20 Kg
0, 7	1.	201111111111111111111111111111111111111		2013
		Mathad of Count		
		Method of Const	ruction	
Cable To	ool	Rotary (air)	☐ Diamond	Digging

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

Please see attached site plan.

A HE SELL ⊕ MW-3 CITY OF OTTAWA PARAMEDIC POST # ## ⊕ MW-2 # 724 ⊙ \$\$.3 (a) WINDSOR PRINS **公田** COMMUNITY GARDEN AREA @ <u>\$\$</u> # 7 G 59-1 SCHE CHEN FEGURENO: PROJECT NO. CHECKED BY: DRAWN BY: SURFACE SOL SAMPLE, TEST PT, ECREPOLE AND MONITORING WELL LOCATION PLAN PHASE HESA # CATY OF OTTAWA
REAL ESTATE SERVICES
110 Laufer Avenue West
Ottava, Ostbato
KGP 131 258334 Fortner Bearver Beavacios 424 Metcalfe Street Otlawa, Ontánio FENCE TREES TEST PIT LOCATION SURFICIAL SOIL SAMPLE LOCATION OF SITE PERMETER 1844 008:1 TZT 1023 MARCH 2007 叠 BSS ودع JUN 0 4 2007

\*\*\*\*

Ministry of nd/or Print Below) Well Record the Environment A 081085 Regulation 903 Ontario Water Resources Act AD81085 Imperial Measurements recorded in: Metric Well Owner's Information Last Name / Organization First Name E-mail Address ☐ Well Constructed Mailing Address (Street Number/Name)

HOU Ave Ste-Croix Provigo L by Well Owner Postal Code Telephone No. (inc. area code) Municipality St Lawrent Quebe Well Location Address of Well Location (Street Number/Name) Lot Concession Township County/District/Municipality City/Town/Village Province Postal Code Offawa Ontario UTM Coordinates Zone , Easting Municipal Plan and Sublot Number Other Northing NAD 8 3 1 7 71 60 52 4907824 Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form) General Colour Depth (m/ft) Most Common Material Other Materials General Description From Brown Louse Louse 18. Results of Well Yield Testing **Annular Space** After test of well yield, water was: Draw Down Recovery Depth Set at (m/ft) Type of Sealant Used Volume Placed (Material and Type) From To  $(m^3/ft^3)$ Clear and sand free Time Time | Water Level Water Level (min) Other, specify (m/ft) (min) (m/ft) 0.0005m Concrete Static If pumping discontinued, give reason 0.0035m3 Level Benseal 1 1 18 5AWD Pump intake set at (m/ft) 2 2 3 3 Pumping rate (I/min / GPM) Well Use Method of Construction 4 4 ☐ Diamond Public Commercial ■ Not used Cable Tool Duration of pumping Rotary (Conventional) Municipal Jetting ☐ Domestic Dewatering 5 5 hrs + min ☐ Driving Monitoring Rotary (Reverse) Livestock Test Hole Boring Digging ☐ Irrigation Cooling & Air Conditioning Final water level end of pumping (m/ft) 10 10 Air percussion Direct Push Industrial Other, specify Other, specify 15 15 If flowing give rate (I/min-/ GPM) **Construction Record - Casing** Status of Well 20 20 Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Depth (m/ft) Water Supply Inside Wall Recommended pump depth (m/ft) Diameter Replacement Well Thickness 25 25 From To (cm/in) (cm/in) Test Hole Recommended pump rate 8 30 30 0.25 Recharge Well (I/min / GPM) Dewatering Well 40 40 Observation and/or Well production (I/min / GPM) Monitoring Hole 50 50 Alteration Disinfected? (Construction) 60 60 Yes No Abandoned, Insufficient Supply Map of Well Location Construction Record - Screen Abandoned, Poor Please provide a map below following instructions on the back. Outside Depth (m/ft) Water Quality Material Slot No. Abandoned, other, Diameter (Plastic, Galvanized, Steel) To From (cm/in) specify MAGN 81 10 Other, specify 64 (Loblews) **Water Details** Hole Diameter Depth (m/ft) Diameter Water found at Depth Kind of Water: Fresh Untested

(cm/in)

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Methan Cable To Rotary (Fig. Rotary (Fig. Boring Air percu. Other, sp.	To  31 Concre  1.5 Bens  4.88 Sar  1.5 Diamond  Conventional Diamo	Type of Sea (Material and Let / F/)    Put   Door   Irright   Ind     Other   Cas   Wall	blic mestic estock gation lustrial ner, specify	Well Us  Comme  Municip  Test Ho	(m³/ft³)  rcial Not used al Dewatering le Monitoring & Air Conditioning  Status of Well Water Supply	Clear and sand Other, specify If pumping discontin  Pump intake set at  Pumping rate (Umin  Duration of pumpin hrs +  Final water level end	d, water was: If free  ued, give reason:  (m/ft)  i / GPM)  g  min Id of pumping (m/ft)	Dr   Time (min)   Static Level   1   2   3   4   5   10   15   20	Water L	n R.evel Time (min)  1 2 3 4 5 10 15	Water Lev
Methan Cable To Rotary (F Boring Boring Ar percu.	To  31 Concre  1.5 Bens  4.88 Sar  1.5 Diamond  Conventional) Jetting  Reverse) Driving  Diaging  Ussion  Diaging  Ussion  Construction	Type of Sea (Material and Let / Fl. 1)  Put   Put   Dou   Live   Irrig   Irrig	blic mestic estock gation lustrial ner, specify	Well Us Comme Municip Fest Ho	(m³/ft³)  (m³/ft³)  (m³/ft³)  Not used al	Clear and sand Other, specify If pumping discontin  Pump intake set at  Pumping rate (Vimin Duration of pumpin hrs +  Final water level end  If flowing give rate  Recommended pu	d, water was: If free ued, give reason: (m/ft) I/ GPM) Immin Id of pumping (m/ft) (l/min / GPM) Imp depth (m/ft)	Dr   Time (min)   Static Level   1   2   3   4   5   10   15	Water L	n R.evel Time (min)  1 2 3 4 5 10 15	Water Lev
Methoday (Cable To Rotary (F Boring Air percular Comments of Carvin)	To  31 Concre  1.5 Bens  4.88 Sar  1.5 Diamond  Conventional Diamond  Construction  Construction R  Open Hole OR Material  (Galvanized, Fibreglass,	Type of Sea (Material and Let / Fl. )  Put   Put   Door   Live   Irrige   I	blic mestic estock gation lustrial ner, specify	Well Us Comme Municip Test Ho Cooling	(m³/ft³)  rcial Not used al Dewatering le Monitoring & Air Conditioning  Status of Well Water Supply Replacement Well Recharge Well	Clear and sand Other, specify If pumping discontin  Pump intake set at  Pumping rate (Wmin  Duration of pumpin hrs +  Final water level end  If flowing give rate	d, water was: If free ued, give reason: (m/ft) I/ GPM) Immin Id of pumping (m/ft) (l/min / GPM) Imp depth (m/ft)	Dr   Time (min)   Static Level   1   2   3   4   5   10   15   20	Water L	n R.evel Time (min)  1 2 3 4 5 10 15	Water Lev
Meth Cable To Rotary (C Rotary (F Boring Air percu	To  31 Concre  1.5 Bens  4.88 Sar  1.5 Diamond Conventional) Jetting Reverse) Driving Digging Dission Dission Digging Dission Reverse Pus  Construction Reverse Pus  Construction Reverse Pus  Concrete, Plastic, Steel)	Type of Sea (Material and Let / F/)    Put   Doi   Live   Indicates   Indicate	blic mestic estock gation lustrial ner, specify sing Depti	Well Us  Comme  Municip  Test Ho  Cooling	(m³/ft³)  (ms/ft³)  (ms/ft²)  (ms/ft	Clear and sand Other, specify If pumping discontin  Pump intake set at  Pumping rate (Wmin Duration of pumpin hrs + Final water level end  If flowing give rate  Recommended pu (Wmin / GPM)	d, water was: d free ued, give reason: (m/ft) a / GPM) ag min d of pumping (m/ft) (l/min / GPM) mp depth (m/ft)	Dr Time (min) Static Level 1 2 3 4 5 10 15 20 25	Water L	n R.evel Time (min) 1 2 3 4 5 10 15 20 25	Water Lev
Methoday (Cable To Rotary (F Boring Air percular Comments of Carvin)	To  31 Concre  1.5 Bens  4.88 Sar  1.5 Diamond Conventional) Jetting Reverse) Driving Digging Dission Dission Digging Dission Reverse  Construction Reverse  Concrete, Plastic, Steel)	Type of Sea (Material and Let / Fl. )  Put   Put   Door   Live   Irrige   I	blic mestic estock gation lustrial ner, specify sing Depti	Well Us Comme Municip Test Ho Cooling	(m³/ft³)  (m³/ft³)  (m³/ft³)  (m³/ft³)  (m³/ft³)  (m³/ft³)  (m²/ft³)  (mailtaning  (ma	Clear and sand Other, specify If pumping discontin  Pump intake set at  Pumping rate (Vmin Duration of pumpin hrs +  Final water level end  If flowing give rate  Recommended pu (Vmin / GPM)  Well production (Vin	d, water was: d free ued, give reason: (m/ft) a / GPM) ag min d of pumping (m/ft) (l/min / GPM) mp depth (m/ft)	Dr Time (min) Static Level 1 2 3 4 5 10 15 20 25 30	Water L	n R.evel Time (min)  1 2 3 4 5 10 15 20 25	Water Lev
Methoday (Cable To Rotary (F Boring Air percular Comments of Carvin)	To  31 Concre  1.5 Bens  4.88 Sar  1.5 Diamond Conventional) Jetting Reverse) Driving Digging Dission Dission Digging Dission Reverse  Construction Reverse  Concrete, Plastic, Steel)	Type of Sea (Material and Let / Fl. )  Put   Put   Door   Live   Irrige   I	blic mestic estock gation lustrial ner, specify sing Depti	Well Us Comme Municip Test Ho Cooling	(m³/ft³)  (masses  (m³/ft³)  (masses  (m³/ft³)  (masses  (m³/ft³)  (masses  (m³/ft³)  (masses  (mas	Clear and sand Other, specify If pumping discontin  Pump intake set at  Pumping rate (Wmin Duration of pumpin hrs + Final water level end  If flowing give rate  Recommended pu (Wmin / GPM)	d, water was: d free ued, give reason: (m/ft) a / GPM) ag min d of pumping (m/ft) (l/min / GPM) mp depth (m/ft)	Dr Time (min) Static Level 1 2 3 4 5 10 15 20 25 30 40	Water L	n Revet Time (min)  1 2 3 4 5 10 15 20 25 30 40	Water Lev
Methoday (Cable To Rotary (F Boring Air percular Comments of Carvin)	To  31 Concre  1.5 Bens  4.88 Sar  1.5 Diamond  Conventional Diamond  Conventional Diaging  Besion Direct Pus  Construction R  Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)  PVC	Type of Sea (Material and Let / F/)    Put   Door   Ind   Ind     Cot   Cas     Wall   Thickness (cm/in)     356	blic mestic estock gation lustrial her, specify Prom	Well Us Comme Municip Test Ho Cooling	(m³/ft³)  (mailling  (maillin	Clear and sand Other, specify If pumping discontin  Pump intake set at  Pumping rate (Vmin Duration of pumpin hrs +  Final water level end  If flowing give rate  Recommended pu (Vmin / GPM)  Well production (Vn Disinfected?	d, water was: d free ued, give reason: (m/ft) a / GPM) ag min d of pumping (m/ft) (l/min / GPM) mp depth (m/ft)	Dr Time (min) Static Level 1 2 3 4 5 10 15 20 25 30 40 50 60	aw Dow Water L (m/l)	n Revet Time (min)  1 2 3 4 5 10 15 20 25 30 40 50	Water Lev
Methodology (Cable To Rotary (For Rotary (	To  31 Concre  1.5 Bens  4.88 Sar  1.5 Diamond Conventional) Jetting Reverse) Driving Digging Dission Dission Digging Dission Reverse  Construction Reverse  Concrete, Plastic, Steel)	Type of Sea (Material and Let / St.)    Put   Doi   Uivright   Other	blic mestic estock gation lustrial her, specify From	Well Us Comme Municip Test Ho Cooling	(m³/ft³)  roial Not used al Dewatering le Monitoring & Air Conditioning  Status of Well Water Supply Replacement Well Recharge Well Dewatering Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned, Insufficient Supply Abandoned, Poor Water Quality	Clear and sand Other, specify If pumping discontin  Pump intake set at  Pumping rate (Umin Duration of pumpin hrs + Final water level end  If flowing give rate  Recommended pu (Umin / GPM)  Well production (Un Disinfected? Yes No  Please provide a m	d, water was: d free ued, give reason:  (m/ft)  if (GPM)  ig min d of pumping (m/ft)  (l/min / GPM)  mp depth (m/ft)  mp rate  min / GPM)	Dr   Time (min)   Static Level   1   2   3   4   5   10   15   20   25   30   40   50   60   Well Log g instruc	aw Dow Water L (m/l)	n R.evel Time (min)  1 2 3 4 5 10 15 20 25 30 40 50 60	Water Lev
Metron Cable To Rotary (Cable To Rotary (Final Boring Air percu. Wother, sy Inside Diameter (crovin)	To  31 Concre  1.5 Bens  4.88 Sar  1.5 Diamond  Conventional) Jetting  Reverse) Direct Pus  Construction R  Open Hole OR Material  (Galvanized, Fibreglass, Concrete, Plastic, Steel)  PVC  Construction R	Type of Sea (Material and Let / F/)    Put   Door   Ind   Ind     Cot   Cas     Wall   Thickness (cm/in)     356	blic mestic estock gation lustrial her, specify From	Well Us  Comme  Municip  Fest Ho  Cooling	(m³/ft³)  (m³/ft³)  (m³/ft³)  (m³/ft³)  (m³/ft³)  (m³/ft³)  (part   part   part	Clear and sand Other, specify If pumping discontin  Pump intake set at  Pumping rate (Umin Duration of pumpin hrs + Final water level end  If flowing give rate  Recommended pu (Umin / GPM)  Well production (Un Disinfected? Yes No  Please provide a m	d, water was: d free ued, give reason:  (m/ft)  d (GPM)  min d of pumping (m/ft)  mp depth (m/ft)  mp rate  min / GPM)	Dr   Time (min)   Static Level   1   2   3   4   5   10   15   20   25   30   40   50   60   Well Log g instruc	aw Dow Water L (m/l)	n R.evel Time (min)  1 2 3 4 5 10 15 20 25 30 40 50 60	Water Lev
Methoday (Cable To Rotary (Form) Other, sylvanial Carryin)  Outside Diameter (Carryin)	To  31 Concre  1.5 Bens  4.88 Sar  1.5 Diamond Conventional) Jetting Reverse) Driving Digging Digging Dission Decify Direct Pus  Construction R  Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)  PVC  Construction R  Material	Type of Sea (Material and Let / St.)    Put   Doi   Uivright   Other	blic mestic estock gation lustrial ner, specify	Well Us  Comme  Municip  Test Ho  Cooling	(m³/ft³)  (m³/ft³)  (m³/ft³)  (m³/ft³)  (m³/ft³)  (m³/ft³)  (m³/ft³)  (m³/ft³)  (m³/ft³)  (percent of the second o	Clear and sand Other, specify If pumping discontin  Pump intake set at  Pumping rate (Umin Duration of pumpin hrs + Final water level end  If flowing give rate  Recommended pu (Umin / GPM)  Well production (Un Disinfected? Yes No  Please provide a m	d, water was: d free ued, give reason:  (m/ft)  if (GPM)  ig min d of pumping (m/ft)  (l/min / GPM)  mp depth (m/ft)  mp rate  min / GPM)	Dr   Time (min)   Static Level   1   2   3   4   5   10   15   20   25   30   40   50   60   Well Log g instruc	aw Dow Water L (m/l)	n R.evel Time (min)  1 2 3 4 5 10 15 20 25 30 40 50 60	Water Lev

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Meth Cable To Rotary (C Rotary (F Boring Airpercu Other, sp	To  31 Concre  2.44 Sand  5.79 San  mod of Construction  pol Diamond Conventional) Jetting Reverse) Driving Digging  ussion Direct Push  Construction Re  Open Hole OR Material	Bense	Well Us  Commercial  Cooling trial  Specify	(m³/ft³)  le roial	Clear and sand Other, specify If pumping discontinu Pump intake set at Pumping rate (Vmin Duration of pumpin hrs + Final water level end	water was: free  ied, give reason: (m/ft)  / GPM)  g min of pumping (m/ft)	Dra   Time (min)   Static Level   1   2   3   4   5   10   15   20	Water Lev	1 2 3 4 5 10 15 20	Water Leve
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Meth Cable To Rotary (C Rotary (R Boring Air percu Other, sp	To  31 Concre  2.44 Sand  5.79 San  mod of Construction  pol Diamond Conventional) Jetting Reverse) Driving Digging  ussion Digging  Use Construction Reverse  Construction Reverse  Open Hole OR Material (Galvanized, Fibreglass,	Public   Dome   Livest   Indus   Other   Wall   Thickness	Well Us  Comments Cooling trial  Specify  Depth (m/ft)	(m³/ft³)  le roial	Clear and sand Other, specify If pumping discontinu Pump intake set at Pumping rate (Wmin Duration of pumpin hrs + Final water level end	water was: free  ied, give reason:  (m/ft)  / GPM)  g min of pumping (m/ft)  l/min / GPM)  np depth (m/ft)	Time (min) Static Level 1 2 3 4 5 10. 15 20 25 30	Water Lev	1 1 2 3 4 5 10 15 20 25 30	Water Leve
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Ontario

Ministry of the Environment

Water Details

IMAII Tan No (Diece Sticker and/or Print Below)

A087398

### Well Record

Regulation 903 Ontario Water Resources Act

Well Ow	ner's Ir	formation									<i>(</i>			
First Name	٠.		ast Name /		on .	٠,٨			E-mail Address				☐ Well	Constructed
			Nahor	10116	201841	K	ecian ym	CI	A - YWCA				by W	ell Owner
		reet Number/Na			•	Muni	cipality	•	Province	Postal Code		Telephon	e No, (inc	, area code)
		yle bu	inge_			_(	OHTAWA _		ON	Batt	137			
Well Loc	Andrew Highlighton													
		ation (Street Nu				Towr	nship			Lot		Concess	ion	
180	1/1	icipality	ine			O:4-0	T 0 611							
						Town/Village				Provir		Postal Code		
UTM Coordinates   Zone , Easting , Northing					02	<i>Hawa</i> cipal Plan and Subl	ot Ni	umbor		Ont				
NAD	1:	PHILL		0219	lagan	viusii	cipai Fian and Sub	OL M	umber		Other			
		Redrock Materi				ord /			trof this form!				SON BUILD NOVA	
Overburden and Bedrock Materials/Abandonment Sealing Recognition   General Colour   Most Common Material   Otto						Aaterials	Dac		I Description			Depth ( <i>m/ft</i> )		
						101 14	naterials	1	Genera	r Description			From	.6/
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			Annular	Space				1000	Re	sults of We	II Vial	d Teefin	a	
Depth Se	et at ( <i>m/it</i> )		Type of Sea		465 m. Am Democratic	02011/03/03/03	Volume Placed	Aft	ter test of well yield, w			aw Down		Recovery
From	То		(Material ar	d Type)		_	(m³/ft³)	11 -	Clear and sand fre	е	Time			Water Level
0	.31	Conce	chef	1.11	neun I	'		11	Other, specify		(min)	(m/ft)	(min)	(m/ft)
.31		Ben	;	1.4.212	71121017	1		lf p	oumping discontinued,	give reason:	Static Level			
٠, ٠, ٠	3.35	1500	seci1			-					1		1	
3.35	6.71	Sano	₽						mp intake set at (m/i	<del>7</del> )				
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wellen week a week			again beaution	090.000.000.000	Sessions and a recommend	SS7-90201		Pu	imping rate (I/min / Gi	PM)	3		3	
Cable To		onstruction  Diamond	I 🗆 Pu	L.C.	Well Us					,	4		4	
Rotary (C			,	mestic	☐ Comme		<ul><li>☐ Not used</li><li>☐ Dewatering</li></ul>	Du	ration of pumping			<u> </u>	4	
Rotary (F		Driving	1	estock	☐ uTest Ho		Nonitoring	II _	hrs + mir	n	5		5	
Boring		Digging Digging	☐ Irri	-	☐ Cooling	& Ai	r Conditioning	Fin	nal water level end of p	oumping (m/ft)	10		10	
Air percu	ecify (1)	rect Push	Ind	ustrial ner, <i>specify</i>				_						
analone was a same					conductive contract of the	415-f E28-assa		]   1f f1	lowing give rate (I/mir	r/GPM)	15		15	
Inside	T	onstruction R lole OR Material	ecord - Cas Wall	,	th ( <i>m/ft</i> )		Status of Well  Water Supply	_		lands ( m)	20		20	
Diameter	(Galvar	ized, Fibreglass,	Thickness		1	1	Replacement Well	Re	ecommended pump of	teptn ( <i>m/nt)</i>	25		25	
(cm/in)		e, Plastic, Steel)	(cm/in)	From	То		Test Hole	P.	ecommended pump r	ato			25	
4.03	PV	<b>C</b>	.358	0	3.66		Recharge Well		nin / GPM)	ate	30		30	
***************************************							Dewatering Well  Observation and/or				40		40	
							Monitoring Hole	W	ell production (I/min /	GPM)				
							Alteration	Dis	sinfected?		50		50	
*********							(Construction)  Abandoned,		Yes No		60		60	
		Construction R	ecord Sara	en		530	Insufficient Supply	190		Map of W	all i ac	ation	1	
Outside		CAN PART DE LOS ACESANOS AS A SECURIO DE LA CONTRACTOR DE LOS ACESANOS AS A CONTRACTOR DE LOS ACESANOS A CONTRACT	coolu-scre		th ( <i>m/ft</i> )		Abandoned, Poor Water Quality	Ple	ease provide a map be				-	~
Diameter (cm/in)	(Plastic,	Material Galvanized, Steel)	Slot No.	From	To		Abandoned, other,	"		- 1				7,
						-	specify	ll		1 1				Ν
4.82	PV		10	3.66	6.71		Other, specify					1	_	-
						1	Julei, specify		ŀ			1	<i>y</i>	7
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Hole Diameter

Ontario

Ministry of the Environment

Water Details

Table (Dine State and/or Print Below)

A 1187399 A187399

### Well Record

Regulation 903 Ontario Water Resources Act

	ents recorded in:	Met	tric 🔲	mperia =	1 0	<i>71000 <u>/</u></i>	,	190	97	2 Pag	e 4	of Z	
Well Own	ner's Informati	on						1.5					
First Name			<b>.</b> .	Organization	ایران	Paning Var	E-mail Address					Constructed	
Mailing Address (Street Number/Name)					piral	RELIM YHO	A-YWCA Province	Postal Code		Telephone		ell Owner area code)	
12/7	Argyle		nue		10.	Ottowa	(SA) K	AP IB		a elepitorie	: NO. IIIG	area couer .	
Well Loca			MOIC			MILLOU	-1.00	פורוומ		1000	e en segue de	)	
ALTHOUGH CONTRACTOR OF THE PARTY AND	Well Location (Str	eet Numb	per/Name)	TANKA MENANGSIN	T	ownship	L	_ot	Concession				
180	Hearl	e /	Jus						l				
County/Dist	trict/Municipality				С	ity/Town/Village			Provin		Posta	l Code	
LITM Coordi	notos IZono Foo	lin =	N.			OFFAWA			Ont				
NAD	nates Zone Eas	ung (II (in I	RILLE	opthing	QG1"	lunicipal Plan and Sublo	ot Number	A.A.	Other				
	1 1 1 1 1 1 1	Materials	s/Abando	nment Sea	ling Reco	rd (see instructions on the	back of this form)						
General Co			n Material			er Materials		Description			Depth (m/ft) From   To		
200		2 (	-/				***************************************				0 61		
BRN		501			. / .							701	
BRA		<i>F</i>			lay				61			2.44	
6Ry	Clas										2.44	6.71	
	/												
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					-							<u> </u>	
			Annular	and a reference to the second				sults of We					
Depth Se From	et at ( <i>m/ft</i> ) To		ype of Sea Material an			Volume Placed (m³/ñ²)	After test of well yield, wat		Draw Down Time Water Le			ecovery	
-		-			2	(m/nc)	Other, specify	·	(min)	(m/ft)	(min)	(m/ft)	
	2000	0 31 Concrete/Flushmount 31 335 Benseal				1							
.31	3.35 /3				CEFFE !		If pumping discontinued, of	give reason:	Static				
		rens.	ea!		CHA!		If pumping discontinued, g	give reason:	Level		1		
ו נעינ	6.71 5	rens-	eal		pera :			_	Level 1		1		
בגינ		ens.	eal				If pumping discontinued, g Pump intake set at (m/ft)	_	Level		1 2		
	6.71 S	an d	ea!					)	Level 1				
Meth	6.71 So	en d			Well Us		Pump intake set at (m/ft) Pumping rate (l/min / GP)	)	Level 1 2		2		
Meth Cable To	nod of Construction [1]	and	Pull Door	olic		rcial Not used	Pump intake set at (m/ft) Pumping rate (Vmin / GP) Duration of pumping	) PM)	1 2 3 4		3 4		
Meth Cable To Rotary (C	conventional)	ction Diamond Jetting Driving	Pul	olic mestic estock	Well Us	rcial Not used al Dewatering Monitoring	Pump intake set at (m/ft) Pumping rate (l/min / GP) Duration of pumping hrs + min	) (M)	1 2 3		2		
Meth  Cable To  Rotary (C  Rotary (R  Boring  Air percu	conventional)  Reverse)  In the state of the	ction Diamond letting Disging	Pul	oblic mestic estock pation	Well Us	rcial Not used	Pump intake set at (m/ft) Pumping rate (Vmin / GP) Duration of pumping	) (M)	1 2 3 4		3 4		
Meth  Cable To  Rotary (C  Rotary (R  Boring  Air percu	conventional)	ction Diamond letting Disging	Pul   Doi   Livi   Irrig	oblic mestic estock pation	Well Us	rcial Not used al Dewatering Monitoring	Pump intake set at (m/ft) Pumping rate (l/min / GP) Duration of pumping hrs + min	) (M) umping <i>(m/ll</i> )	1 2 3 4 5		2 3 4 5		
Meth  Cable To  Rotary (C)  Rotary (R)  Boring  Air percu	conventional)  Reverse)  In the state of the	ction Diamond letting Diving Digging	Pul Do: Livi	olic mestic estock gation ustrial ier, specify_	Well Us  Commer  Municipa  Test Floi	rcial Not used al Dewatering Monitoring	Pump intake set at (m/ft)  Pumping rate (l/min / GP)  Duration of pumping  hrs + min  Final water level end of pumping give rate (l/min.)	'M) umping ( <i>m/ll</i> ) / GPM)	1 2 3 4 5 10 15		2 3 4 5 10		
Meth Cable To Rotary (C Rotary (R Boring Air percu	nod of Construction	ction Diamond Jetting Driving Digging AS A  tion Rec	Pul Doi Livi Ind	olic mestic estock gation ustrial ier, specify	Well Us  Commer  Municipa  Test Floi	cial Not used al Dewatering e Monitoring & Air Conditioning  Status of Well Water Supply	Pump intake set at (m/ft)  Pumping rate (l/min / GP)  Duration of pumping hrs + min  Final water level end of pu	'M) umping ( <i>m/ll</i> ) / GPM)	1 2 3 4 5 10 15 20		2 3 4 5 10 15 20		
Meth  Cable To  Rotary (C)  Rotary (R)  Boring  Air percu	conventional)  Reverse)  Significant for construction of the const	ction Diamond letting Driving Digging LS L  tion Rec aterial glass, 1	Pul Door Live	olic mestic estock gation ustrial ier, specify_	Well Us  Commer  Municipa  Test Floi	cial Not used al Dewatering e Monitoring & Air Conditioning	Pump intake set at (m/ft)  Pumping rate (Vmin / GP)  Duration of pumping hrs + min  Final water level end of pu  If flowing give rate (Vmin)  Recommended pump de	umping (m/ti) / GPM) epth (m/fi)	1 2 3 4 5 10 15		2 3 4 5 10		
Meth  Cable To  Rotary (C  Rotary (R  Boring  Air percu  Afher, sp  Inside  Diameter (cm/in)	nod of Construction	ction Diamond letting Digging Digging AS L  tion Rec aterial glass, Steel)	Pul Doi Livi Irrig Ind Oth Oth Wall Thickness	oblic mestic estock pation ustrial er, specify Depth	Well Use Commer Municipa Test Floi Cooling (m/ft) To	Cial	Pump intake set at (m/ft)  Pumping rate (l/min / GP)  Duration of pumping  hrs + min  Final water level end of pumping give rate (l/min.)	umping (m/ti) / GPM) epth (m/fi)	1 2 3 4 5 10 15 20		2 3 4 5 10 15 20		
Meth Cable To Rotary (C Rotary (R Boring Air percu Other, sp	nod of Construction	ction Diamond letting Digging Digging AS L  tion Rec aterial glass, Steel)	Pul Dor Livi Ind	olic mestic estock gation ustrial er, specify Ing Depth	Well Us Commer Municipa Test Floi Cooling (m/fl)	Status of Well  Water Supply Replacement Well Recharge Well Dewatering	Pump intake set at (m/ft)  Pumping rate (l/min / GP)  Duration of pumping hrs + min  Final water level end of pull  If flowing give rate (l/min.)  Recommended pump de  Recommended pump rate (l/min / GPM)	") umping ( <i>m/fl</i> ) / <i>GPM</i> ) epth ( <i>m/fl</i> )	1 2 3 4 5 10 15 20 25		2 3 4 5 10 15 20 25		
Meth  Cable To  Rotary (C  Rotary (R  Boring  Air percu  Afher, sp  Inside  Diameter (cm/in)	nod of Construction	ction Diamond letting Digging Digging AS L  tion Rec aterial glass, Steel)	Pul Dor Livi Ind	olic mestic estock gation ustrial er, specify Ing Depth	Well Use Commer Municipa Test Floi Cooling (m/ft) To	Status of Well  Water Supply Replacement Well Recharge Well Dewatering Well Dewatering Well Dewatering Well Monitoring Hole	Pump intake set at (m/h)  Pumping rate (l/min / GP)  Duration of pumping  hrs +min  Final water level end of pu  If flowing give rate (l/min.)  Recommended pump de	") umping ( <i>m/fl</i> ) / <i>GPM</i> ) epth ( <i>m/fl</i> )	1 2 3 4 5 10 15 20 25 30 40		2 3 4 5 10 15 20 25 30 40		
Meth  Cable To  Rotary (C  Rotary (R  Boring  Air percu  Afher, sp  Inside  Diameter (cm/in)	nod of Construction	ction Diamond letting Digging Digging AS L  tion Rec aterial glass, Steel)	Pul Dor Livi Ind	olic mestic estock gation ustrial er, specify Ing Depth	Well Use Commer Municipa Test Floi Cooling (m/ft) To	Cial	Pump intake set at (m/ft)  Pumping rate (l/min / GP)  Duration of pumping hrs + min  Final water level end of pu  If flowing give rate (l/min  Recommended pump de  Recommended pump ra (l/min / GPM)  Well production (l/min / G	") umping ( <i>m/fl</i> ) / <i>GPM</i> ) epth ( <i>m/fl</i> )	1 2 3 4 5 10 15 20 25 30 40 50		2 3 4 5 10 15 20 25 30 40 50		
Meth  Cable To  Rotary (C  Rotary (R  Boring  Air percu  Afher, sp  Inside  Diameter (cm/in)	nod of Construction	ction Diamond letting Digging Digging AS L  tion Rec aterial glass, Steel)	Pul Dor Livi Ind	olic mestic estock gation ustrial er, specify Ing Depth	Well Use Commer Municipa Test Floi Cooling (m/ft) To	Status of Well  Status of Well  Water Supply Replacement Well  Fest Hole Dewatering Recharge Well Dewatering Well Observation and/or Monitoring Hole Atteration (Construction) Abandoned,	Pump intake set at (m/ft)  Pumping rate (l/min / GP)  Duration of pumping hrs + min  Final water level end of pu  If flowing give rate (l/min  Recommended pump de  Recommended pump ra (l/min / GPM)  Well production (l/min / G	") umping ( <i>m/fl</i> ) / <i>GPM</i> ) epth ( <i>m/fl</i> )	1 2 3 4 5 10 15 20 25 30 40		2 3 4 5 10 15 20 25 30 40		
Meth  Cable To  Rotary (C  Rotary (R  Boring  Air percu  Afher, sp  Inside  Diameter (cm/in)	conventional)  Severse)  Construct  Construc	ction Diamond letting Driving Digging AS A tion Rec aterial glass, Steel)	Pul Dor Livi Ind	olic mestic estock gation ustrial eer, specify  Ing Depth From	Well Use Commer Municipa Test Floi Cooling (m/ft) To	Status of Well  Status of Well  Water Supply Replacement Well  Fest Hole Recharge Well  Dewatering Well  Dewatering Well  Hosting Hole Alteration (Construction)	Pump intake set at (m/ft)  Pumping rate (l/min / GP)  Duration of pumping hrs + min Final water level end of pu  If flowing give rate (l/min  Recommended pump de  Recommended pump ra (l/min / GPM)  Well production (l/min / G  Disinfected? Yes No	omping (m/ft)  / GPM)  epth (m/ft)  ate  GPM)	1 2 3 4 5 10 15 20 25 30 40 60 ell Loc		2 3 4 5 10 15 20 25 30 40 50 60		
Meth   Cable To   Rotary (C   Rotary (R   Boring   Air percu   Other, sp   Inside   Diameter   (cm/in)	construction of Construction o	ction Diamond letting Driving Digging AS A  tion Rec aterial glass, Steel)	Pul Doi Livi Ind	polic mestic estock pation ustrial er, specify  ing  Depth  From	Well Us  ☐ Commer ☐ Municipa ☐ Test Floi ☐ Cooling ☐ To  3 6 6	Status of Well  Status of Well  Water Supply  Replacement Well  Test Hole  Recharge Well  Dewatering Well  Dewatering Well  Alteration  (Construction)  Abandoned,  Insufficient Supply  Abandoned, Poor Water Quality	Pump intake set at (m/ft)  Pumping rate (l/min / GP)  Duration of pumping hrs + min  Final water level end of pu  If flowing give rate (l/min  Recommended pump de  Recommended pump ra (l/min / GPM)  Well production (l/min / G	omping (m/ft)  / GPM)  epth (m/ft)  ate  GPM)	1 2 3 4 5 10 15 20 25 30 40 60 ell Loc		2 3 4 5 10 15 20 25 30 40 50 60		
Meth   Cable To   Rotary (C   Rotary (R   Boring   Air percu   Ather, sp	constructional   Conventional   Conv	ction Diamond letting Driving Digging AS A  tion Rec aterial glass, Steel)	Pul Doi Livi Ind	polic mestic estock gation ustrial ier, specify Ing Depth From	Well Us.  Commer  Municipa  Fest Floi  Cooling  (m/fl)  To	Status of Well  Status of Well  Water Supply  Replacement Well  Test Hole  Recharge Well  Dewatering Well  Dewatering Well  Alteration and/or Monitoring Hole  Alteration  (Construction)  Abandoned, Insufficient Supply  Abandoned, Poor	Pump intake set at (m/ft)  Pumping rate (l/min / GP)  Duration of pumping hrs + min Final water level end of pu  If flowing give rate (l/min  Recommended pump de  Recommended pump ra (l/min / GPM)  Well production (l/min / G  Disinfected? Yes No	omping (m/ft)  / GPM)  epth (m/ft)  ate  GPM)	1 2 3 4 5 10 15 20 25 30 40 60 ell Loc		2 3 4 5 10 15 20 25 30 40 50 60	3	

Other, specify

Hole Diameter

8	Ontario	Ministry of the Environment		Tell Tag No. for Master Well (Place Sticker and/or Print Below)  A 092457								
			A092	45 1	7	UJZ	40	gulatio			iter Resources Ad	
									1110	Page _	1 01	
Address of	Catherin	et Number/Name, RR)		Township				Lot		Concessio	n	
County/Dis	trict/Municipality	· j ·		City/Town/Villag	je .				Provin	ce	Postal Code	
				Ottawa					Onta			
UTM Coord NAD			10-110	PS Unit Make	E tr		Mode of C	Operation: [ ntiated, specify		rentiated	Averaged	
		k Materials (see inst					Dilleren		le Detail	S		
General	Most Common	Other	General	eral Depth (Metres) Depth (Metres)				Diameter				
Colour	Material	Materials	Description	on From	To	From	011-05			(Centimetres)		
BRN	Sand		soft	U	1.80	0	6.1	8.20				
GRY	clay		50FT	1.83	3.35							
GRY	clay		SOFT WE	3,35	6.1							
									ter Use	4	C Other access.	
						☐ Public ☐ Dome	stic 0	commercial [	Not use Dewate	ring	Other, specify	
						Livest		Municipal est Hole	Monitor Cooling	& Air Cond	itioning	
								Method o				
						☐ Cable			ercussion	☐ Dig		
							(Convention) (Reverse)	nal) Diam		Bor	ing er, specify <sub>#</sub>	
						Rotan		Drivin			t Push	
								Stat	us of We	ell		
						Test H	łole	☐ Abar	ndoned, In	sufficient S	upply	

Abandoned, Poor Water Quality Dewatering Well Other, specify
Alteration (Construction) Abandoned, other, specify No Casing and Screen Used Static Water Level Test Galvanized Steel Fibreglass Concrete Stot No. 10 Construction Details Wall Thickness 3,05 4.03 ,368 0 Pre screen 3.05 6.1 Water Details

Water found at Depth

Metres Gas Fresh Salty Sulphur Minerals

Water found at Depth

Metres Gas Fresh Salty Sulphur Minerals

Water found at Depth

Metres Gas Fresh Salty Sulphur Minerals

Water found at Depth

Metres Gas Fresh Salty Sulphur Minerals

Disinfected Yes No If no, provide reason:

Disinfected Yes No If no, provide reason: Water Details Annular Space/Abandonment Sealing Record Depth Set at (Motres)
From To
O 2.77
2,79 6.1 Type of Sealant Used (Material and Type) Buseal filter sand (1999/mm/dd) 2010/08/26 Cluster Information (Please also fill out the additional Cluster Well Information for Well Construction for each parcel of land and cluster,

Total Wells in Cluster Please indicate Number of Cluster Well Information Log Sheets Submitted Total Wells on this Property 7 Location of Well Cluster Detailed Map must be provided as an attachment no larger than legal size (8.5% 14"). Sketches are not allowed.

Check box to confirm detailed map is provided as per Section 11.1 (3) Well Contractor and Well Technician Information
Business Name of Well Contractor

Well Contractor's Licence No.

Business Address (Street No./Name, number, RR)

PRovince

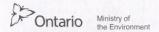
Postal Code

Business E-mail Address

Date Submitted (yyyyimm/dd/)

1992 (11/2006) Ministry Use Only
Well Contractor No. Audit No. M 03211 Date Received (yyyy/mm/dd) SEP 2 4 2010

Ministry's Copy



Well Tag No. for Master Well (Print Well Tag No.)

Cluster Well Information for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

7761 Page 1 of 3

Address of Well Location (Street Number/Name, RR)

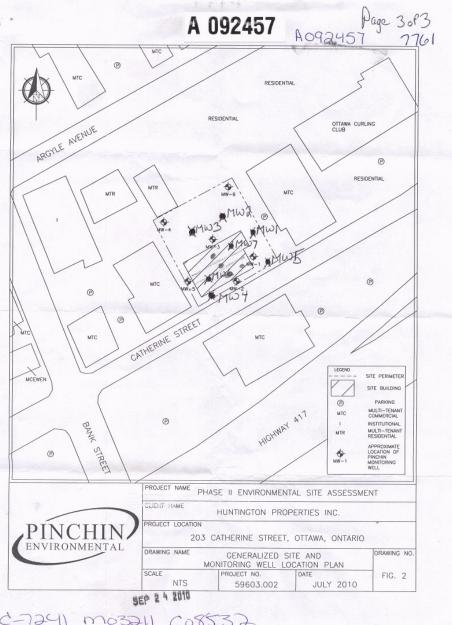
203 Catherne St.

City/Town/Village Provinc

Ontar Concession Township County/District/Municipality Date (yyyy/mm/dd) Unit Mode of Operation Undifferentiated GPS Unit Make Model Averaged 2010/08/2 Ontario Strex Garmin UTM Coordinates Zone Easting Northing Full Depth of Hole Diameter Hole (metres) (cm) Casing Material Date of Completion (yyyy/mm/dd) Casing Length | Screen Interval (metree) | From | To Comments 8.25 3.05 3.05 6.1 Beaseal PVC 2010/08/26 1844594950287396.1 8.25 Direct 3 3.05 3.05 6.1 Benseal PVC 2010/08/21 184459195028768 6.1 8.25 Direct Bensea) 1844591150287286.1 PUC 3.05 3.05 6.1 2010/08/26 3.05 3.05 6.1 Benseal 2010/08/26 1844594550287406.1 PVC 8.25 Directoush 1.22 1.22 2.74 Banseal 2010/08/27 PVC 1844594150287242.74 5.71 PVC 1.22 1.22 2.94 Benseal 2010/08/27 184459445028715274 5.71 Date 1st Well in Cluster Constructed (1999/mm/dd) 2010/08/26 2010/08/ Well Contractor and Well Technician Information Business Address (Street NumberiName, RR)

#2-147 West Beault Cleek Richmon a 1411 Province

[Mail Contrador's Linguis No. Business E-mail Address Ministry Use Only Inc. Date Received (yyyy SEP 2 4 2010 c 08532 m03211



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8	Ontario	Ministry of the Environment		Tell Tag No. for Master Well (Place Sticker and/or Print Below)  A 092457								
			A092	45 1	7	UJZ	40	gulatio			iter Resources Ad	
									1110	Page _	1 01	
Address of	Catherin	et Number/Name, RR)		Township				Lot		Concessio	n	
County/Dis	trict/Municipality	· j ·		City/Town/Villag	je .				Provin	ce	Postal Code	
				Ottawa					Onta			
UTM Coord NAD			10-110	PS Unit Make	E tr		Mode of C	Operation: [ ntiated, specify		rentiated	Averaged	
		k Materials (see inst					Dilleren		le Detail	S		
General	Most Common	Other	General	eral Depth (Metres) Depth (Metres)				Diameter				
Colour	Material	Materials	Description	on From	To	From	011-05			(Centimetres)		
BRN	Sand		soft	U	1.80	0	6.1	8.20				
GRY	clay		50FT	1.83	3.35							
GRY	clay		SOFT WE	3,35	6.1							
									ter Use	4	C Other access.	
						☐ Public ☐ Dome	stic 0	commercial [	Not use Dewate	ring	Other, specify	
						Livest		Municipal est Hole	Monitor Cooling	& Air Cond	itioning	
								Method o				
						☐ Cable			ercussion	☐ Dig		
							(Convention) (Reverse)	nal) Diam		Bor	ing er, specify <sub>#</sub>	
						Rotan		Drivin			t Push	
								Stat	us of We	ell		
						Test H	łole	☐ Abar	ndoned, In	sufficient S	upply	

Abandoned, Poor Water Quality Dewatering Well Other, specify
Alteration (Construction) Abandoned, other, specify No Casing and Screen Used Static Water Level Test Galvanized Steel Fibreglass Concrete Stot No. 10 Construction Details Wall Thickness 3,05 4.03 ,368 0 Pre screen 3.05 6.1 Water Details

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Water found at Depth

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Water found at Depth

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Water found at Depth

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Disinfected Yes No If no, provide reason:

Disinfected Yes No If no, provide reason: Water Details Annular Space/Abandonment Sealing Record Depth Set at (Motres)
From To
O 2.77
2,79 6.1 Type of Sealant Used (Material and Type) Buseal filter sand (1999/mm/dd) 2010/08/26 Cluster Information (Please also fill out the additional Cluster Well Information for Well Construction for each parcel of land and cluster,

Total Wells in Cluster Please indicate Number of Cluster Well Information Log Sheets Submitted Total Wells on this Property 7 Location of Well Cluster Detailed Map must be provided as an attachment no larger than legal size (8.5% 14"). Sketches are not allowed.

Check box to confirm detailed map is provided as per Section 11.1 (3) Well Contractor and Well Technician Information
Business Name of Well Contractor

Well Contractor's Licence No.

Business Address (Street No./Name, number, RR)

PRovince

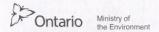
Postal Code

Business E-mail Address

Date Submitted (yyyyimm/dd/)

1992 (11/2006) Ministry Use Only
Well Contractor No. Audit No. M 03211 Date Received (yyyy/mm/dd) SEP 2 4 2010

Ministry's Copy



Well Tag No. for Master Well (Print Well Tag No.)

Cluster Well Information for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

7761 Page 1 of 3

Address of Well Location (Street Number/Name, RR)

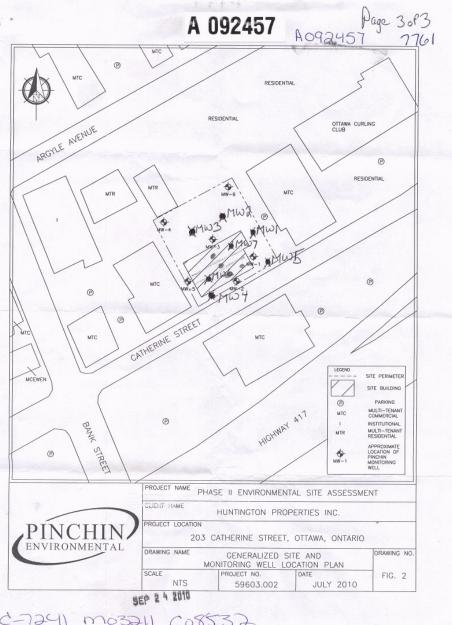
203 Catherne St.

City/Town/Village Provinc

Ontar Concession Township County/District/Municipality Date (yyyy/mm/dd) Unit Mode of Operation Undifferentiated GPS Unit Make Model Averaged 2010/08/2 Ontario Strex Garmin UTM Coordinates Zone Easting Northing Full Depth of Hole Diameter Hole (metres) (cm) Casing Material Date of Completion (yyyy/mm/dd) Casing Length | Screen Interval (metree) | From | To Comments 8.25 3.05 3.05 6.1 Beaseal PVC 2010/08/26 1844594950287396.1 8.25 Direct 3 3.05 3.05 6.1 Benseal PVC 2010/08/21 184459195028768 6.1 8.25 Direct Bensea) 1844591150287286.1 PUC 3.05 3.05 6.1 2010/08/26 3.05 3.05 6.1 Benseal 2010/08/26 1844594550287406.1 PVC 8.25 Directoush 1.22 1.22 2.74 Banseal 2010/08/27 PVC 1844594150287242.74 5.71 PVC 1.22 1.22 2.94 Benseal 2010/08/27 184459445028715274 5.71 Date 1st Well in Cluster Constructed (1999/mm/dd) 2010/08/26 2010/08/ Well Contractor and Well Technician Information Business Address (Street NumberiName, RR)

#2-147 West Beault Cleek Richmon a 1411 Province

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C-7241 moszu C08532.

#### **Philip Price**

From: Public Information Services < publicinformationservices@tssa.org>

**Sent:** July-31-19 10:33 AM

To: Philip Price

Subject: Re: TSSA Records Search, PE4701 - Ottawa, ON (No Record)

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 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.

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: <u>publicinformationservices@tssa.org</u>

www.tssa.org





From: Philip Price < PPrice@Patersongroup.ca>

Sent: July 31, 2019 9:28 AM

To: Public Information Services <publicinformationservices@tssa.org>

Subject: TSSA Records Search, PE4701 - Ottawa, ON

Good morning,

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:

100 Isabella Street

114 Isabella Street

118 Isabella Street

120 Isabella Street

480 Metcalfe Street

460 O'Conner Street

113 Pretoria Ave 109 Pretoria Ave 111 Pretoria Ave 119 Pretoria Ave

Thank you very much,

Philip Price

Philip Price

### patersongroup

solution oriented engineering over 60 years servicing our clients

154 Colonnade Road South Ottawa, Ontario, K2E 7J5 Tel: (613) 226-7381 Ext. 250

Cell: (343) 999 7255

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.

## **APPENDIX 3**

**QUALIFICATIONS OF ASSESSORS** 

### Mandy Witteman, B.Eng., M.A.Sc.



#### **POSITION**

Intermediate Environmental Engineer

#### **EDUCATION**

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

#### **MEMBERSHIPS & AWARDS**

Ontario Professional Engineers Association (EIT) 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

2009 - 2014

#### **Carleton University**

Department of Civil & Environmental Engineering Research Engineer, Research Assistant & Teaching Assistant

2008 - 2009

#### **SLR Consulting Limited**

Contaminated Sites
Junior Environmental Engineer

#### **SELECTED LIST OF PROJECTS**

Phase I & II Environmental Site Assessments – NRC, Kingston Remediation – National Capital Region, Saskatchewan Multi-lift and dry-stacking pilot programs – Northern Alberta Polymer amended oil sand tailings – Northern Alberta Hydraulic cut-off wall – Allen, Saskatchewan Cemented paste backfill systems – Northern Ontario

### 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