



Geotechnical
Engineering

Environmental
Engineering

Hydrogeology

Geological
Engineering

Materials Testing

Building Science

Archaeological
Services

Phase I Environmental Site Assessment

Vacant Land – Eagleson Road
Ottawa (Richmond), Ontario

Prepared For

Taggart Group of Companies

Paterson Group Inc.

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

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

August 28, 2017

Report: PE4079-1

TABLE OF CONTENTS

EXECUTIVE SUMMARY..... ii

1.0 INTRODUCTION 1

2.0 PHASE I PROPERTY INFORMATION..... 2

3.0 SCOPE OF INVESTIGATION..... 3

4.0 RECORDS REVIEW..... 4

 4.1 General..... 4

 4.2 Environmental Source Information..... 5

 4.3 Physical Setting Sources..... 7

5.0 INTERVIEWS 10

6.0 SITE RECONNAISSANCE 10

 6.1 General Requirements..... 10

 6.2 Specific Observations at the Phase I Property 10

7.0 REVIEW AND EVALUATION OF INFORMATION 13

 7.1 Land Use History 13

 7.2 Conceptual Site Model..... 14

8.0 CONCLUSIONS 16

9.0 STATEMENT OF LIMITATIONS..... 17

10.0 REFERENCES 18

List of Figures

- Figure 1 - Key Plan
- Figure 2 - Topographic Map
- Drawing PE4079-1 – Site Plan
- Drawing PE4079-2 – Surrounding Land Use Plan

List of Appendices

- Appendix 1 Aerial Photographs
 Site Photographs

- Appendix 2 MOECC Freedom of Information Search
 Water Well Records
 TSSA Search

- Appendix 3 Qualifications of Assessors

EXECUTIVE SUMMARY

Assessment

Paterson Group was retained by Taggart to conduct a Phase I Environmental Site Assessment (Phase I-ESA) of a large parcel of vacant land, in the City of Ottawa (Richmond), 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 historical searches, the land has been undeveloped since at least 1950 and has been vacant or used for agriculture. No environmental concerns were identified with respect to the historical use of the subject site.

Surrounding properties historically consisted of commercial and residential properties, agricultural fields and undeveloped treed lands. Potentially contaminating activities were identified for properties within the Phase I-ESA study area. None of these potentially contaminating activities were considered to represent an area of potential environmental concern for the subject site.

Following the historical review, a site visit was conducted. The site is currently vacant and partially used for agricultural purposes. Marlborough Creek was observed to flow southwest-northeast through the northern portion of the subject site. Neighbouring properties to the north and west were identified as commercial and residential properties. Neighbouring properties to the east were identified as residential dwellings and farmsteads. Neighbouring properties to the south were identified as vacant lots or agricultural lands. Several PCAs were identified in the vicinity of the subject site, however, based on the separation distance and cross- or down-gradient locations to the subject site, these activities are not considered to have had the potential to have impacted the subject site.

Conclusion

Based on the results of the Phase I - Environmental Site Assessment, it is our opinion that **a Phase II - Environmental Site Assessment is not required for the subject site.**

1.0 INTRODUCTION

At the request of Taggart Group of Companies (Taggart), Paterson Group (Paterson) conducted a Phase I Environmental Site Assessment (Phase I ESA) of 100 acres of vacant land near Ottawa Street and Eagleson Road, in the City of Ottawa (Richmond), Ontario. The purpose of this Phase I ESA was to research the past and current use of the site and study area and to identify any environmental concerns with the potential to have impacted the subject property.

Paterson was engaged to conduct this Phase I ESA by Ted Phillips of Taggart. Taggart's offices are located at 225 Metcalfe Street, Suite 708. Mr. Phillips can be reached by phone at 613-521-3000.

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

2.0 PHASE I PROPERTY INFORMATION

Address:	Not Available.
Legal Description:	Part of Lot 24 and 25, Concession 2, Township of Goulbourn, now in the City of Ottawa.
Property Identification Number:	03934-0023, 03934-0114, 03934-0031 and 03934-0036.
Location:	The subject site is located on the west side of Eagleson Road and south of Ottawa Street, in the Village of Richmond (Ottawa), Ontario.
Latitude and Longitude:	45° 11' 9.83" N, 75° 49' 3.59" W;
Site Description:	
Configuration:	Irregular (combined).
Site Area:	60 hectares (approximately).
Zoning:	RG3 [385r]-h, rural general industrial zone.
Current Use:	The subject site is currently undeveloped or used for agriculture.
Services:	The subject site is not located in a municipal water service area.

3.0 SCOPE OF INVESTIGATION

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

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

4.0 RECORDS REVIEW

4.1 General

Phase I-ESA Study Area Determination

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

First Developed Use Determination

According to the city directories and aerial photos the land has never been developed. The property has remained vacant or used for agriculture since at least 1950.

Fire Insurance Plans

Fire insurance plans (FIPs) are not available for the area of the subject site.

City of Ottawa Street Directories

Suburban Ottawa city directories from 1980 to 2011 at the National Archives were reviewed in approximate 10 year intervals for the subject site and properties located within the Phase I ESA study area. Directories prior to these dates are not available. From 1980 to 2011, the subject site was not listed in the directories. It is possible that the property was formerly listed under a different address.

Several Potentially Contaminating Activities (PCA) were identified at properties within the Phase I-ESA. These PCAs are summarized in Table 1 below.

Address	Listed Activity (years listed)	Distance / Orientation from site	Potential Environmental Concern (Y / N)
3835 McBean Street	Sheet metal facility (2000)	70 m west	N
3837 McBean Street	Haulage and equipment rental (2011)	70 m west	N
3839 McBean Street	Automotive service garage (2000)	70 m west	N
3855 McBean Street	Charterunys Transportation Ltd, bus parking (2000)	Adjacent to west	N
5949 Ottawa Street	Automotive Service Garage (2000-2011)	50 m north	N

Based on their cross- and down-gradient locations with respect to the subject site, none of the properties are considered to represent areas of potential environmental concern for the subject site.

Property Ownership

Paterson contacted Taggart, to determine the historical property owners. According to information provided by a Taggart representative, Amedeo Melone and Nathalie Gour, the estate of Alma R. Forster and Schouten Corner View Farms Ltd, currently own various parcels of the 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 17, 2017. 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.

PCB Inventory

A search of national PCB waste storage sites was conducted. No PCB waste storage sites were identified in the Phase I study area.

Ontario Ministry of Environment (MOECC) Instruments

A request was submitted to the MOECC Freedom of Information office for information with respect to certificates of approval, permits to take water, certificates of property use or any other similar MOECC issued instruments for the site. At the time of issuance of this report, a response had not been received. A copy of the response will be forwarded to the client, should it contain any pertinent information.

MOECC 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.

MOECC Incident Reports

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

MOECC Waste Management Records

A request was submitted to the MOECC 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. A copy of the response will be forwarded to the client, should it contain any pertinent information.

MOECC Submissions

A request was submitted to the MOECC Freedom of Information office for information with respect to reports related to environmental conditions have been submitted to the MOECC. 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.

MOECC Brownfields Environmental Site Registry

A search of the MOECC Brownfields Environmental Site Registry was conducted as part of this assessment for the site, neighbouring properties and the general area of the site. No Record of Site Conditions (RSCs) were found for the subject site or within the Phase I study area.

MOECC 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 former waste disposal sites were identified within the Phase I study area.

Areas of Natural Significance 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 17, 2017. The search did not reveal any natural features or areas of natural significance within the Phase I study area.

Technical Standards and Safety Authority (TSSA)

The TSSA, Fuels Safety Branch in Toronto was contacted electronically on July 17, 2017 to inquire about current and former underground storage tanks, spills and incidents for the site and neighbouring properties. One (1) record was found during the TSSA search.

An under-review private self-serve fuel outlet with 3 active underground liquid fuel tanks was identified on an adjacent property to the west (3855 McBean Street) associated with a Laidlaw Transit school bus parking lot. According to the TSSA, the single walled fiberglass USTs were installed in 1991 and have a combined fuel capacity of 59,000 L. Based on observations made during the site visit, aerial photos and the current occupant of the site (Ottawa Valley Kitchens), it is our opinion that the USTs have been removed and the private self-serve fuel outlet is no longer active. The full TSSA report for this record is included in Appendix 2.

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.

Previous Environmental Reports

A review of environmental projects in the area of the subject land completed by Paterson Group not identify any issues considered to pose a risk to the subject land.

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:

-
- 1950 The subject property appears to be undeveloped and used for agriculture. North of the property, a rail line is visible. Farmsteads are visible along Ottawa Street to the north, Eagleson Road to the east and McBean Street to the west.
- 1959 No significant changes have been made to the subject site. Residential dwellings appear to have been developed northwest of the subject site along Ottawa Street.
- 1978 No significant changes have been made to the subject site. Residential dwellings appear to have been developed to the north and northwest of the subject site, along Ottawa Street and King Street.
- 1985 No significant changes appear to have been made to the subject property, which is still largely undeveloped and appears to be used for agriculture. Further northwest, past the railway line, residential dwellings and a school are visible.
- 1991 No significant changes have been made to the subject site. Neighbouring properties to the west, along McBean Street, appear to have been developed for residential or commercial purposes.
- 2005 (City of Ottawa Website) The western portion of the subject site no longer appears to be used for agriculture, with large treed areas throughout. No other significant changes have been made to the subject site or to neighbouring properties.
- 2014 (City of Ottawa Website) No significant changes have been made to the subject site. A neighbouring property to the west, along McBean Street, appears to be in the process of being developed for commercial or residential purposes. No other significant changes have been made to the subject site or adjacent properties.

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

Topographic Maps

Topographic maps were obtained from Natural Resources Canada - The Atlas of Canada website. The topographic maps indicate that the regional topography in the area of the subject site is generally flat. No environmental concerns were identified on the topographic mapping. An illustration of the referenced

topographic map is present on Figure 2 - Topographic Map following the body of this report.

Physiographic Maps

A Physiographic Map was reviewed from the Natural Resources Canada - The Atlas of Canada website. According to this physiographic map, the site is located in the St. Lawrence Lowlands. According to the mapping description provided: “The lowlands are plain-like areas that were all affected by the Pleistocene glaciations and are therefore covered by surficial deposits and other features associated with the ice sheets.” The subject site is located in the Central St. Lawrence Lowland, “where the land is rarely more than 150 m above sea level, except for the Monteregion Hills, which consist of intrusive igneous rocks.

Geological Maps

The Geological Survey of Canada website on the Urban Geology of the National Capital Area was consulted as part of this assessment. Based on the information from NRCAN, bedrock in the area of the site consists primarily of dolostone of the Oxford Formation. Based on the maps, the thickness of overburden ranges from 3 to 5 m on the western portion of the site, 5-10 m on the central portion of the site and 10 to 15 m on the north-eastern portion of the site. Overburden consists of offshore marine sediments (clay and silt).

Water Well Records

A search of the MOECC’s web site for all drilled well records within 250 m of the subject site was conducted on July 17, 2017. The search returned 90 well records within the Phase I study area. One (1) well record was found on the subject site for a 90.8 m drinking water well drilled in 1994 by Capital Water Supply Ltd. However, based on the information within the Water Well Record, it is unlikely that this well is located on the subject site, as the map depicts the well west of McBean Street and north of Ottawa Street. The MOECC search found several drinking water wells located to the west and north of the subject property. Based on the large number of well records, only a portion of the water well records within the search radius have been included as an appendix.

Water Bodies and Areas of Natural Significance

There are no areas of natural and scientific interest on the subject property or within the study area. Marlborough Creek runs southwest-northeast through the subject site and flows into the Jock River north of the subject site. The Jock River, located approximately 700 m north of the subject site.

5.0 INTERVIEWS

Property Purchaser

Ms. Michelle Taggart, a representative of Taggart, was contacted to inquire about the subject property. Ms. Taggart deferred to Mr. Robert McElligott of Brickland Timberlay Corporation for answers regarding the subject site. Mr. McElligott indicated that no geotechnical or environmental reports were available for the subject site. Mr. McElligott also indicated that the current owners of the property parcels were the estate of Alma R. Foster, Schouten Corner View Farms Ltd. and Mr. Amedeo Melone and Ms. Nathalie Gour. Mr. Amedeo indicated that he is not aware of any environmental issues related to the subject property.

6.0 SITE RECONNAISSANCE

6.1 General Requirements

The site assessment was conducted on July 25, 2017. Weather conditions were overcast, with a temperature of approximately 22 °C. Mr. Marek Moroz 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 assessment.

6.2 Specific Observations at the Phase I Property

Buildings and Structures

The subject site was undeveloped at the time of the site visit.

Below Ground Structures

No below ground structures were found at the time of the site visit.

Potable Water Source

The subject property is not currently serviced, as it is undeveloped, however, properties in the local area rely on private well water as a potable water source.

Underground Utilities

No underground utilities were noted during the site visit on the subject site.

Ground Surface

The ground surface across the eastern portion of the property consisted of corn fields, with minor treed areas along Eagleson Road. The central and western portions of the property were observed to be undeveloped tree and grass covered. Marlborough Creek runs through the northern portion of the property.

No areas of stained soil or stressed vegetation were observed on the property. No standing water was observed on the subject site.

Railway Lines

No railway lines were observed on the subject site. A railway line and equipment storage area were observed within the Phase I ESA study area, running southwest-northeast, 25 m north of the subject site and is considered to represent a potentially contaminating activity. However, at the time of the site visit, no garages or vehicle or equipment maintenance activities were observed in the vicinity of the equipment storage area. Based on the cross-gradient location with respect to the subject site and their current use, the railway line and equipment storage area do not represent areas of potential environmental concern (APECs) on the subject site.

Polychlorinated Biphenyls (PCBs) and Transformer Oil

Several pad mounted transformers and pole mounted transformers were observed to the north of the subject site along Ottawa Street and to the east along Eagleson Road. At the time of assessment, no leaks, staining/discolouration or dead grass beneath the poles was observed. The transformers are not considered to be an environmental concern at this time.

Site Features

The subject site is currently a large undeveloped lot. The eastern portion is covered by a corn field. The central and western portions of the lot are undeveloped, treed and grass covered. Adjacent properties to the subject site are approximately at grade with respect to the subject site. McBean Street is slightly elevated with respect to the subject site. Site drainage consists of natural runoff towards Marlborough Creek and towards draining ditches on the site or infiltration in grass, corn and tree covered areas.

One drinking water well was indicated on the subject site by the MOECC well record search although it was not identified during the site visit. However, based on the information within the Water Well Record, it is unlikely that this well is located on the subject site, as the map depicts the well west of McBean Street and

north of Ottawa Street. No private sewage systems were observed on the subject property, nor are any expected to be present, as the site has never been developed. No evidence of current or former railway or spur lines on the subject property was observed at the time of the site inspection. There were no unidentified substances observed on the subject site.

Neighbouring Properties

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

- North - Ottawa Street and a rail line followed by institutional, residential and commercial properties;
- South - Undeveloped and agricultural properties followed by Dobson Lane;
- East - Eagleson Road followed by residential dwellings, farmsteads and agricultural land;
- West - Undeveloped land followed by commercial properties and then followed by McBean Street.

Several potentially contaminating activities were identified with the current use of the surrounding properties.

An automotive service garage was identified 70 m west of the subject site at 3835 McBean Street. Based on the cross-gradient location and separation distance of the automotive service garage with respect to the subject site, it is our opinion that this facility does not represent an area of environmental concern on the subject site.

A toxic and combustible gas detection equipment manufacturing facility was identified 50 m north of the subject site, located at 5935 Ottawa Street. An automotive service garage was identified 45 m north of the subject site, located at 5949 Ottawa Street. Based on the down-gradient location of these two facilities with respect to the subject site, it is our opinion that the manufacturing facility and the automotive service garage do not represent an area of environmental concern on the subject site.

A railway line and equipment storage area was identified 25 m north of the northwest portion of the subject property. Based on aerial photographs, the railway line has been present since at least 1950. Based on the cross-gradient location

with respect to the subject site, the railway line and equipment storage area are not considered to be an APEC.

Property use within the Phase I study area is shown on Drawing PE4079-2 - Surrounding Land Use Plan.

7.0 REVIEW AND EVALUATION OF INFORMATION

7.1 Land Use History

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

Table 2 – Land Use History			
Time Period	Land Use	Potentially Contaminating Activities	Areas of Potential Environmental Concern
1950 to Present	Agriculture / Undeveloped	None	None

Potentially Contaminating Activities (PCAs)

No potentially contaminating activities (PCAs) have been identified on the subject site.

Several PCAs were identified in the study area: An automotive service garage was identified 70 m west of the subject site at 3835 McBean Street. A toxic and combustible gas detection equipment manufacturing facility was identified 50m north of the subject site, located at 5935 Ottawa Street. An automotive service garage was identified 45m north of the subject site, located at 5949 Ottawa Street. A railway line and equipment storage area were observed 25m north of the subject site near the intersection of King Street and Ottawa Street.

As previously noted, the above noted PCAs do not pose a concern to the subject site based on their distance and down/cross-gradient locations from the Phase I property.

No other PCAs were noted in the Phase I study area.

Areas of Potential Environmental Concern (APEC)

As detailed above, the identified PCAs do not present APECs on the subject property.

Contaminants of Potential Concern (CPC)

No contaminants of potential concern were identified, since no APECs were identified on the subject site.

7.2 Conceptual Site Model

Geological and Hydrogeological Setting

Based on information from the Geological Survey of Canada, bedrock beneath the site area consists of dolostone of the Oxford Formation. It was reported that surficial soils consist of Quaternary sediments, specifically offshore marine sediments, with a drift thickness of 3-5 m on the western portion of the site and 10-15 m on the eastern portion. Hydrogeological conditions are considered to mimic the topographic setting; as a result, groundwater is expected to flow towards Marlborough Creek, ultimately the Jock River.

Contaminants of Potential Concern

As per Section 7.1 of this report, no CPCs were identified on the subject site.

Existing Buildings and Structures

There are no buildings or structures on the subject site.

Water Bodies

There are no areas of natural and scientific interest on the subject property or within the study area. Marlborough Creek runs southwest-northeast through the subject site and flows into the Jock River north of the subject site. The Jock River, located approximately 700 m north of the subject site.

Areas of Natural Significance

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

Drinking Water Wells

Based on the results of the well record search, one water well was identified on the subject site. This well was drilled to a depth of 90.8 meters in 1994 by Capital Water Supply. However, based on the information within the Water Well Record, it is unlikely that this well is located on the subject site, as the map depicts the well west of McBean Street and north of Ottawa Street. Eighty-nine drinking water wells were identified in the Phase I study area. Based on the large number

of drinking water wells, only the most proximal drinking water wells to the subject site have been included in Appendix 2.

Neighbouring Land Use

Neighbouring land use in the Phase I study area consists of commercial, agricultural, residential and institutional. Land use is shown on Drawing PE4079-2 Surrounding Land Use Plan.

Potentially Contaminating Activities and Areas of Potential Environmental Concern

As per Section 7.1 of this report, there were no Potentially Contaminating Activities or Areas of Potential Environmental Concern identified at the subject site. Potentially Contaminating Activities identified within the Phase I ESA study area are not considered to represent Areas of Potential Environmental Concern with respect to the subject site.

Assessment of Uncertainty and/or Absence of Information

The information available for review as part of the preparation of this Phase I ESA is considered to be sufficient to conclude that there are no APECs on the subject site, and that the off-site PCAs identified within the Phase I study area do not constitute APECs with respect to the subject site. 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 Taggart to conduct a Phase I Environmental Site Assessment (Phase I-ESA) of a large parcel of vacant land, in the City of Ottawa (Richmond), 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 historical searches, the land has been undeveloped since at least 1950 and has been vacant or used for agriculture. No environmental concerns were identified with respect to the historical use of the subject site.

Surrounding properties historically consisted of commercial and residential properties, agricultural fields and undeveloped treed lands. Potentially contaminating activities were identified for properties within the Phase I-ESA study area. None of these potentially contaminating activities were considered to represent an area of potential environmental concern for the subject site.

Following the historical review, a site visit was conducted. The site is currently vacant and partially used for agricultural purposes. Marlborough Creek was observed to flow southwest-northeast through the northern portion of the subject site. Neighbouring properties to the north and west were identified as commercial and residential properties. Neighbouring properties to the east were identified as residential dwellings and farm steads. Neighbouring properties to the south were identified as vacant lots or agricultural lands. Several PCAs were identified in the vicinity of the subject site, however, based on the separation distance and cross- or down-gradient locations to the subject site, these activities are not considered to have had the potential to have impacted the subject site.

Conclusion

Based on the results of the Phase I - Environmental Site Assessment, it is our opinion that **a Phase II - Environmental Site Assessment is not required for the subject site.**

9.0 STATEMENT OF LIMITATIONS

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

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

This report was prepared for the sole use of Taggart Group of Companies. Permission and notification from the above noted party and Paterson will be required to release this report to any other party.

Paterson Group Inc.



Marek Moroz, G.I.T.



Mark S. D'Arcy, P.Eng.



Report Distribution:

- Taggart Group of Companies (3 copies)
- Paterson Group (1 copy)

10.0 REFERENCES

Federal Records

Air photos at the Energy Mines and Resources Air Photo Library.
National Archives.
Maps and photographs (Geological Survey of Canada surficial and subsurface mapping).
Natural Resources Canada – The Atlas of Canada.
Environment Canada, National Pollutant Release Inventory.
PCB Waste Storage Site Inventory.

Provincial Records

MOECC Freedom of Information and Privacy Office.
MOECC Municipal Coal Gasification Plant Site Inventory, 1991.
MOECC document titled “Waste Disposal Site Inventory in Ontario”.
MOECC Brownfields Environmental Site Registry.
Office of Technical Standards and Safety Authority, Fuels Safety Branch.
MNR Areas of Natural Significance.
MOECC Water Well Inventory.
Chapman, L.J., and Putnam, D.F., 1984: ‘The Physiography of Southern Ontario, Third Edition’, Ontario Geological Survey Special Volume 2.

Municipal Records

City of Ottawa Document “Old Landfill Management Strategy, Phase I - Identification of Sites.”, prepared by Golder Associates, 2004.
The City of Ottawa Historical Land Use Inventory.
Intera Technologies Limited Report “Mapping and Assessment of Former Industrial Sites, City of Ottawa”, 1988.
The City of Ottawa geoOttawa website.

Local Information Sources

Plan of Survey - Annis, O’Sullivan, Vollebekk Ltd., 2013.
‘Phase I - Environmental Site Assessment, 5786 Fernbank Road, Ottawa, Ontario’, prepared by Houle Chevrier Engineering, March 31, 2015
Personal Interviews.

Public Information Sources

Google Earth.
Google Maps/Street View.

FIGURES

FIGURE 1 – KEY PLAN

FIGURE 2 – TOPOGRAPHIC MAP

DRAWING PE4079-1 – SITE PLAN

DRAWING PE4079-2 – SURROUNDING LAND USE PLAN

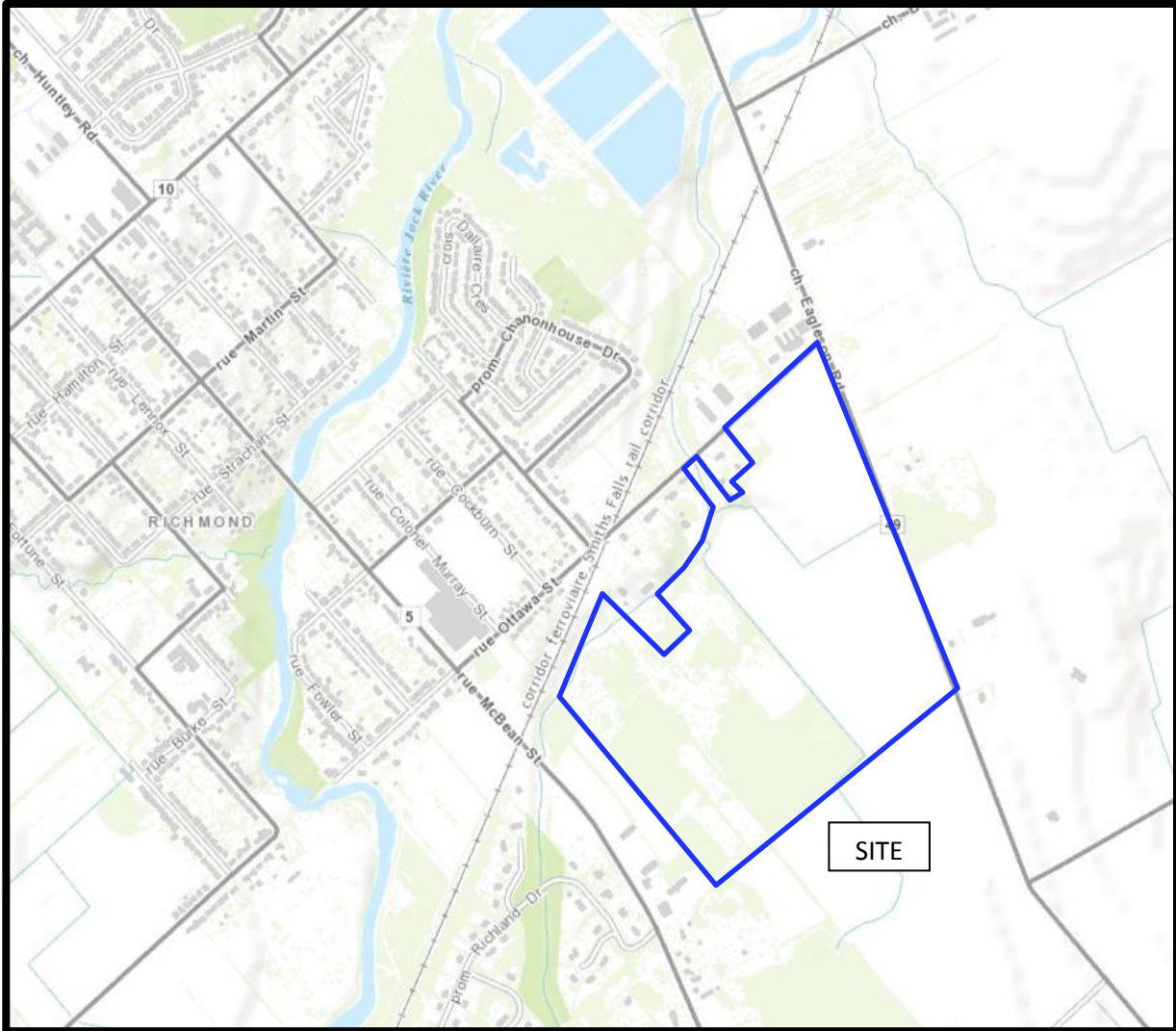


FIGURE 1
KEY PLAN

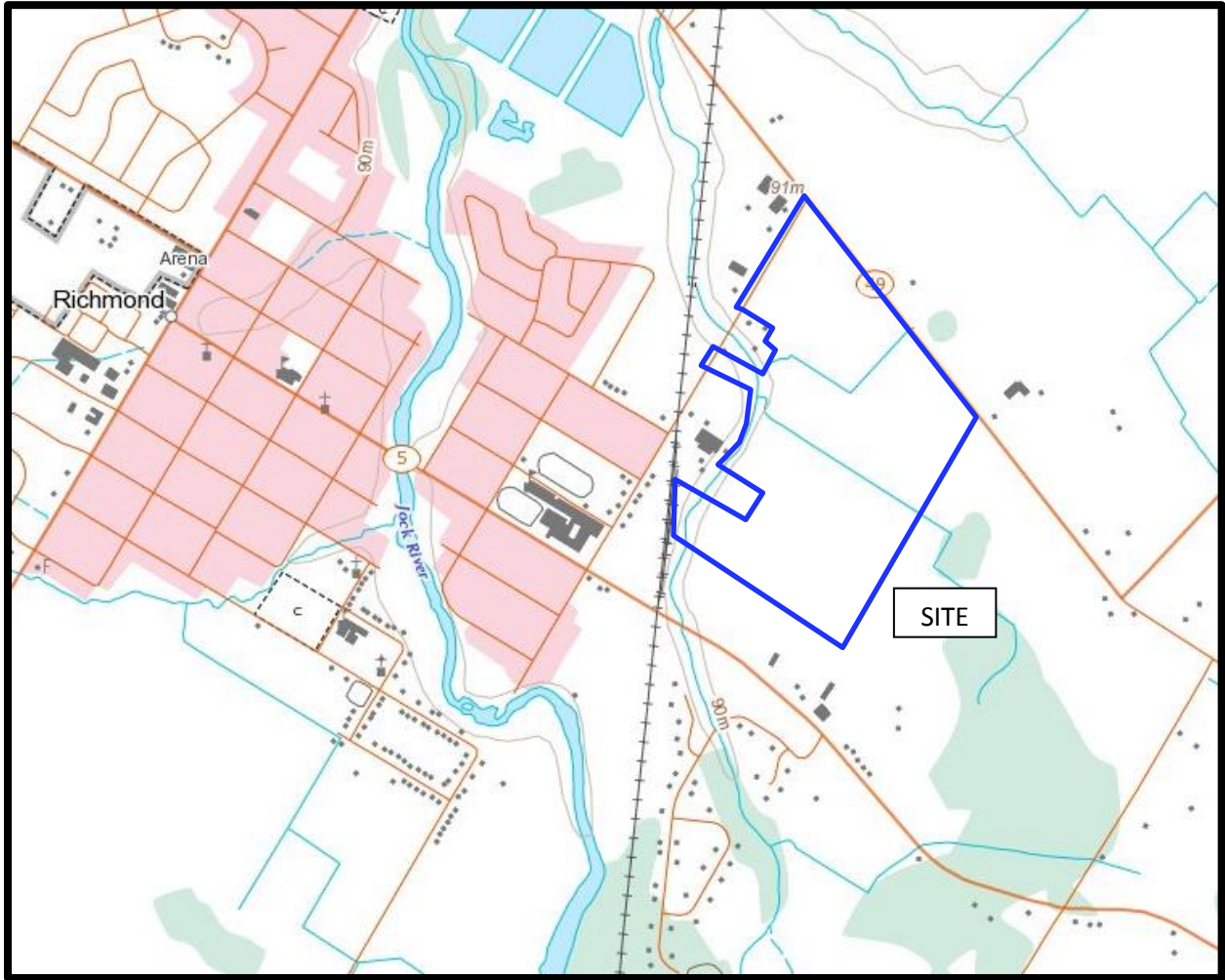
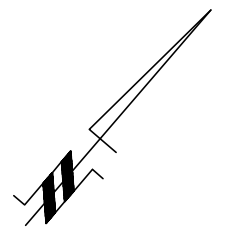
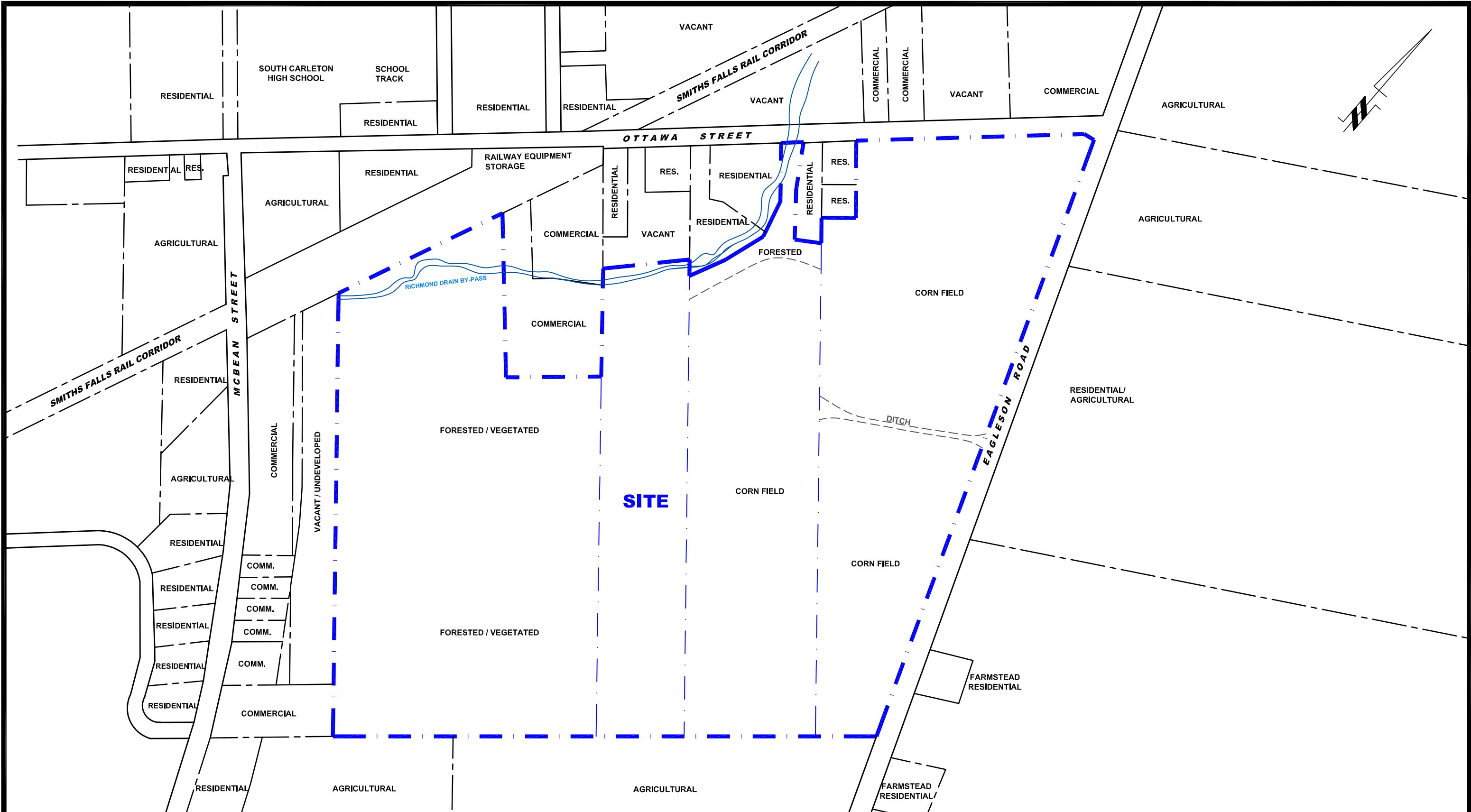


FIGURE 2
TOPOGRAPHIC MAP



patersongroup
 consulting engineers

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

NO.	REVISIONS	DATE	INITIAL
0			

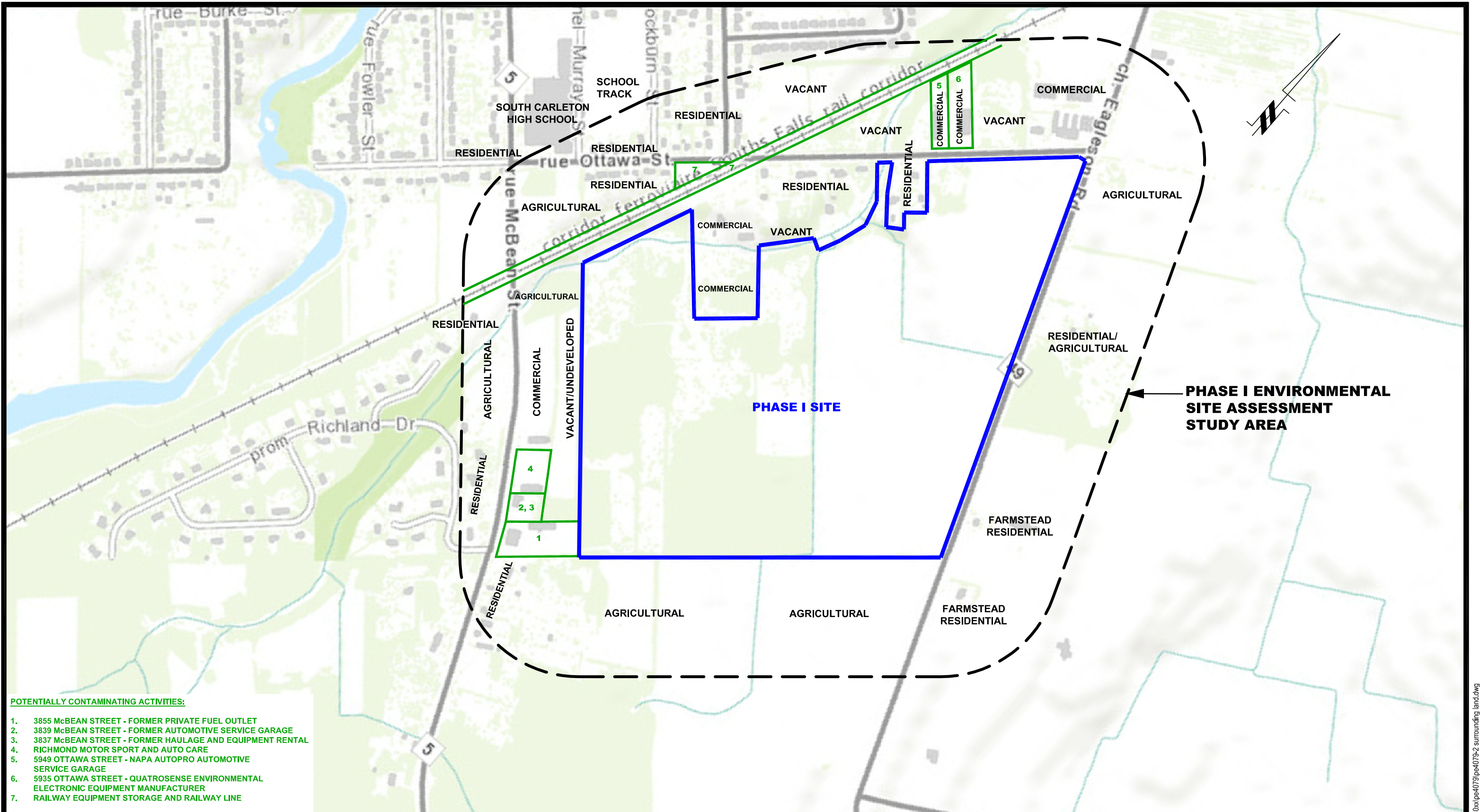
TAGGART GROUP
PHASE I - ENVIRONMENTAL SITE ASSESSMENT
100 ACRES IN RICHMOND

OTTAWA, ONTARIO

SITE PLAN

Scale:	1:5000	Date:	08/2017
Drawn by:	RCG	Report No.:	PE4079-1
Checked by:	MM	Dwg. No.:	PE4079-1
Approved by:	MSD	Revision No.:	0

p:\autocad drawings\environmental\pe4079\pe4079-1.dwg



POTENTIALLY CONTAMINATING ACTIVITIES:

1. 3855 McBEAN STREET - FORMER PRIVATE FUEL OUTLET
2. 3839 McBEAN STREET - FORMER AUTOMOTIVE SERVICE GARAGE
3. 3837 McBEAN STREET - FORMER HAULAGE AND EQUIPMENT RENTAL
4. RICHMOND MOTOR SPORT AND AUTO CARE
5. 5949 OTTAWA STREET - NAPA AUTOPRO AUTOMOTIVE SERVICE GARAGE
6. 5935 OTTAWA STREET - QUATROSENSE ENVIRONMENTAL ELECTRONIC EQUIPMENT MANUFACTURER
7. RAILWAY EQUIPMENT STORAGE AND RAILWAY LINE

patersongroup
consulting engineers

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

NO.	REVISIONS	DATE	INITIAL
0			

TAGGART GROUP
PHASE I - ENVIRONMENTAL SITE ASSESSMENT
100 ACRES IN RICHMOND

OTTAWA, ONTARIO

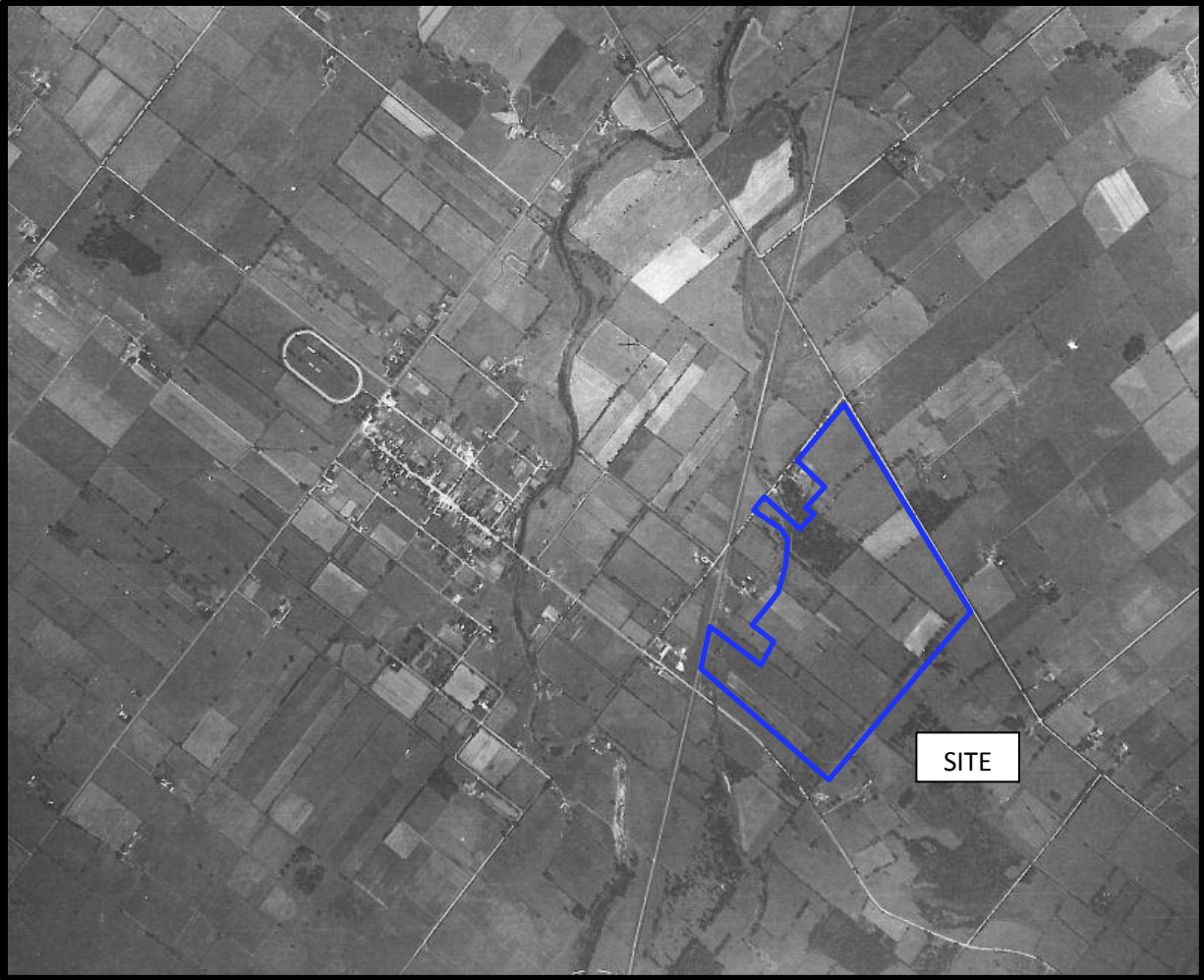
SURROUNDING LAND USE PLAN

Scale:	1:7500	Date:	08/2017
Drawn by:	RCG	Report No.:	PE4079-1
Checked by:	MM	Dwg. No.:	PE4079-2
Approved by:	MSD	Revision No.:	0

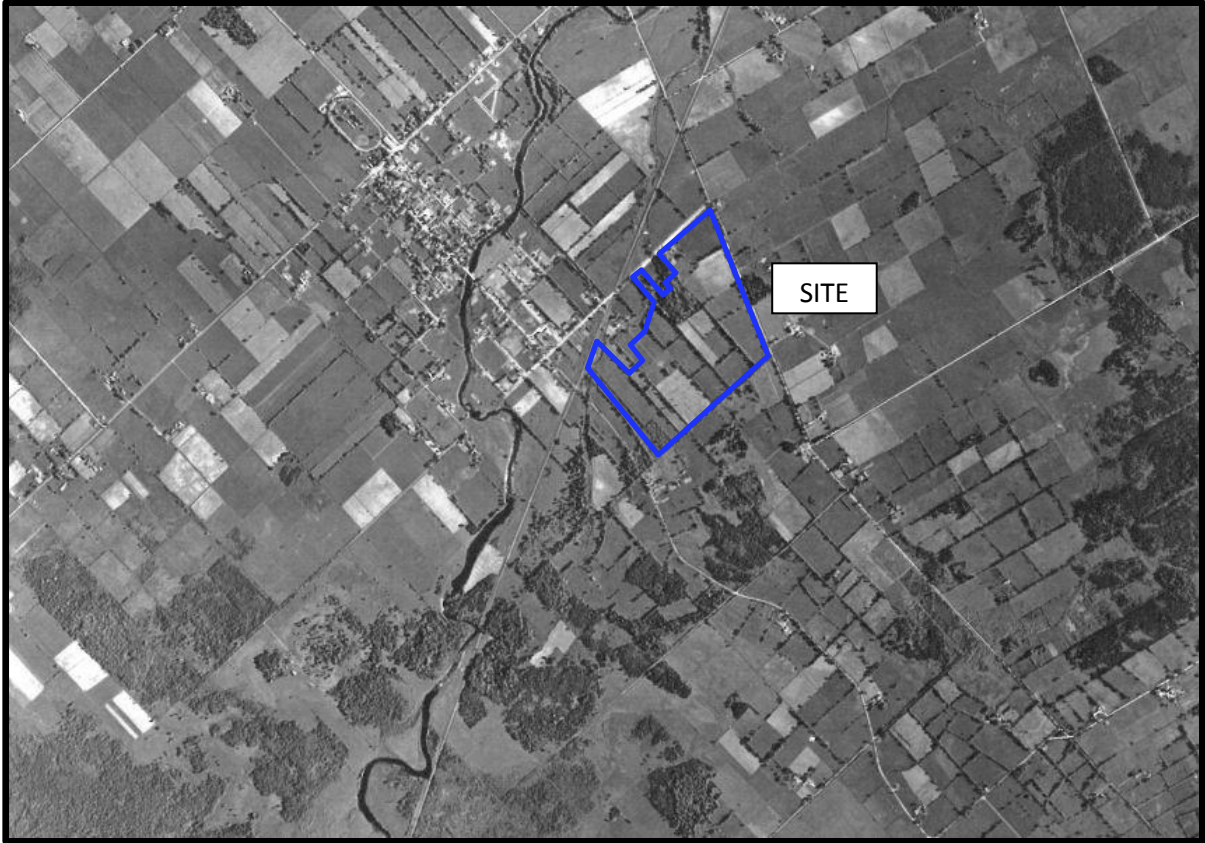
APPENDIX 1

AERIAL PHOTOGRAPHS

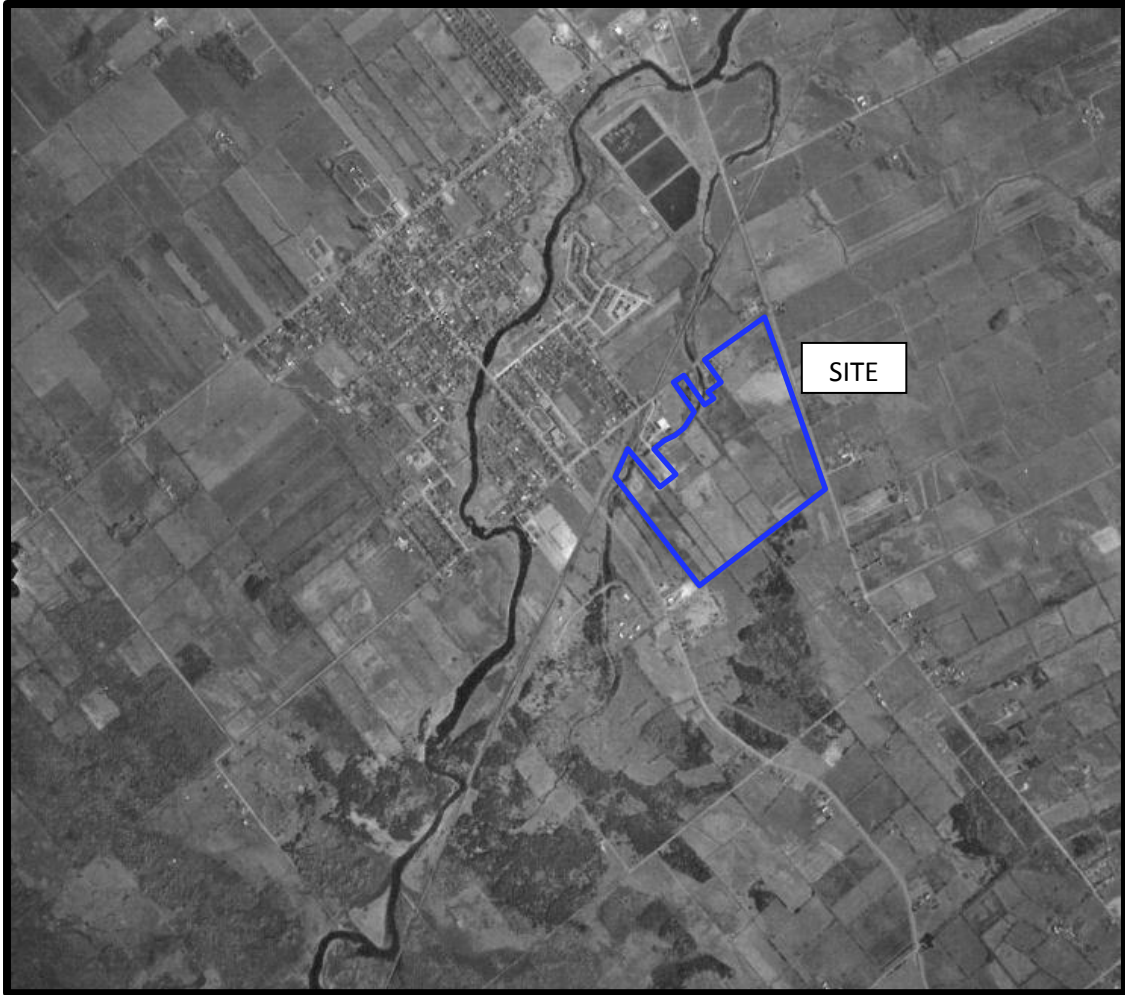
SITE PHOTOGRAPHS



AERIAL PHOTOGRAPH
1950



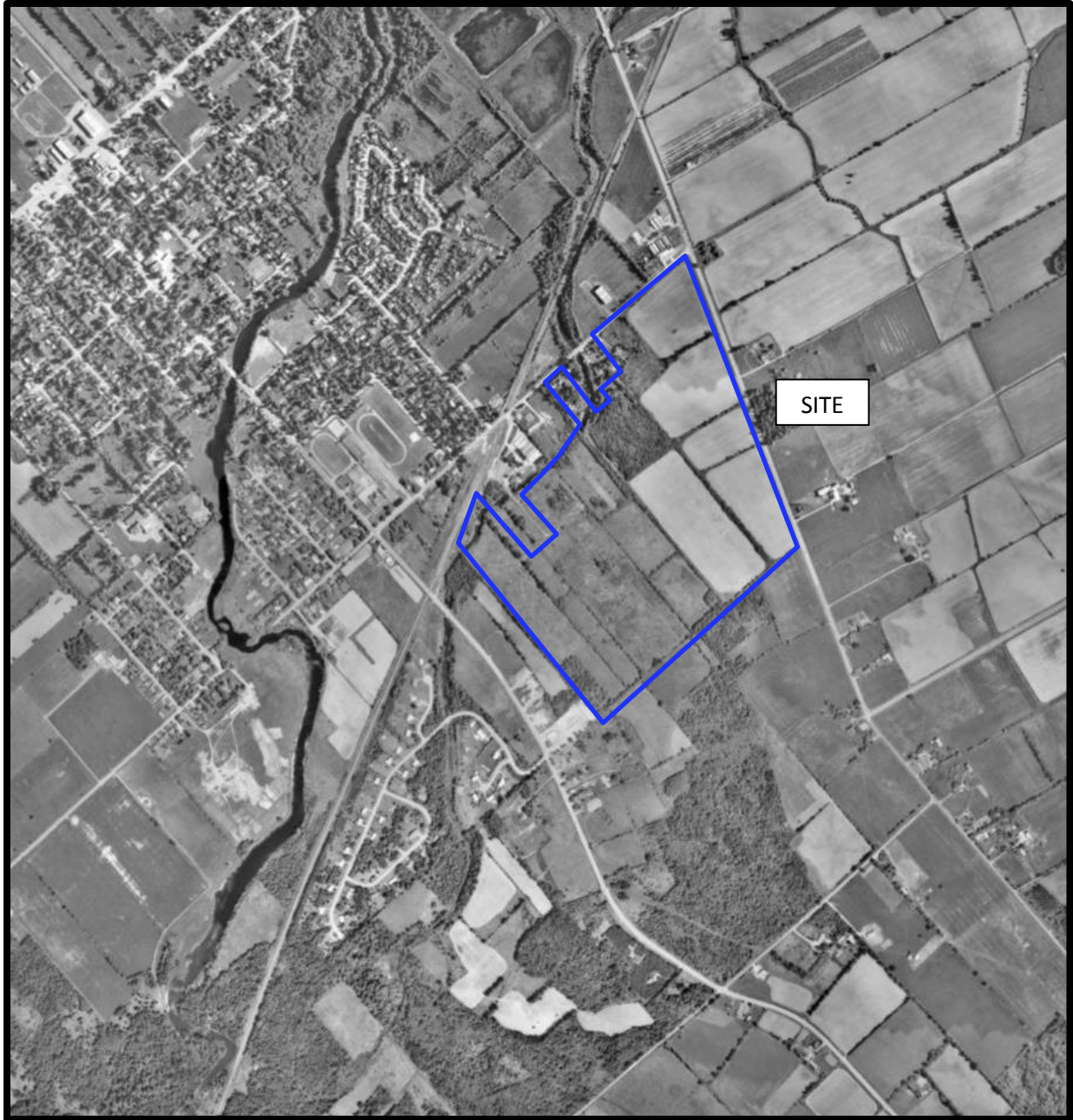
AERIAL PHOTOGRAPH
1959



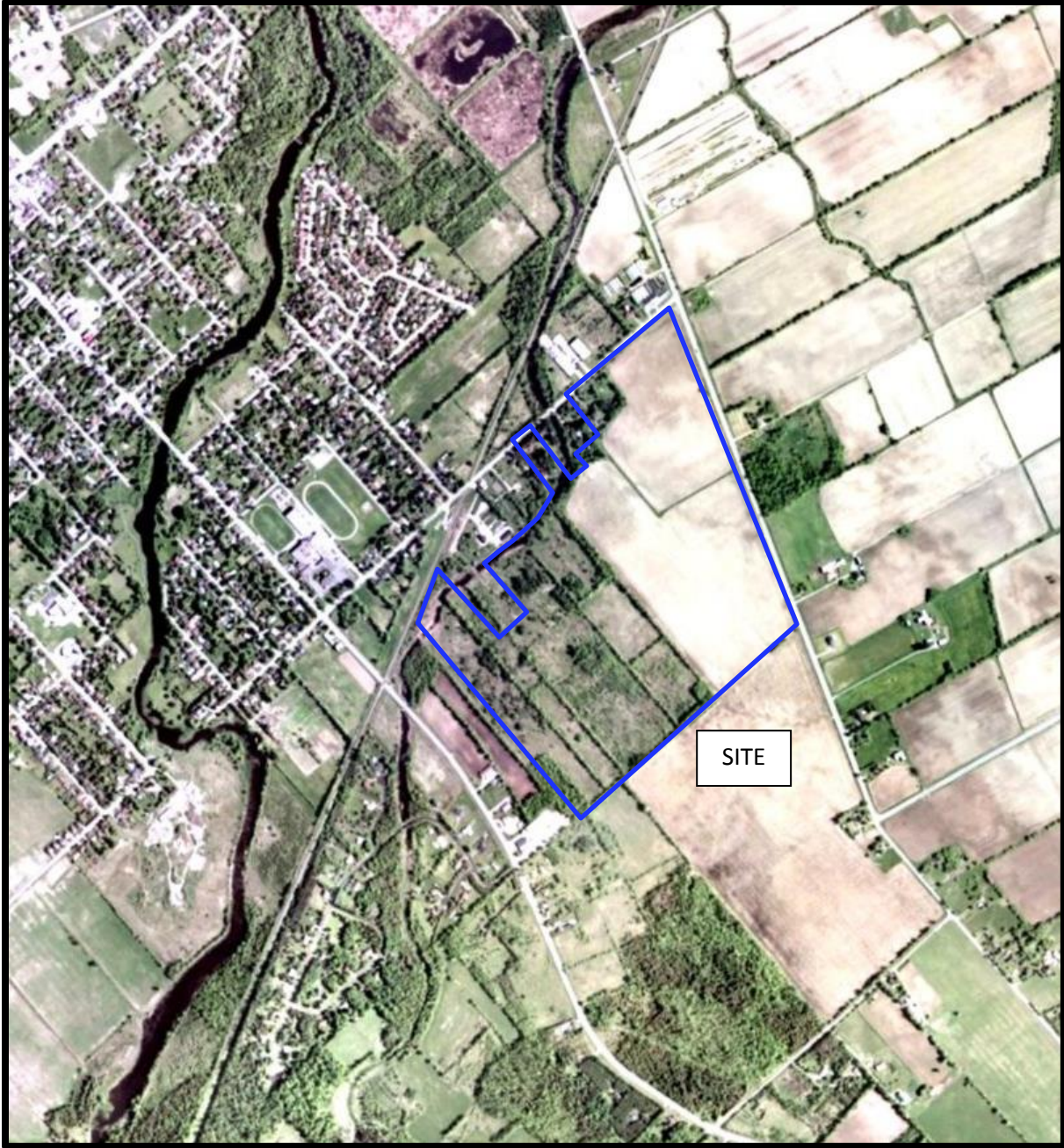
AERIAL PHOTOGRAPH
1978



AERIAL PHOTOGRAPH
1985



AERIAL PHOTOGRAPH
1991



AERIAL PHOTOGRAPH
2005



AERIAL PHOTOGRAPH
2014

Site Photographs

PE4079

Vacant Land – Eagleson Road, Ottawa (Richmond), ON

July 25, 2017



Photograph 1: View of the east side of the site, facing east. Photograph illustrates a corn field, the main land cover on the eastern portion of the site. No environmental concerns were identified.



Photograph 2: View from the central portion of the subject site, facing south. Photograph illustrates corn, grass, small vegetation and trees. No environmental concerns were identified.

Site Photographs

PE4079

Vacant Land – Eagleson Road, Ottawa (Richmond), ON

July 25, 2017



Photograph 3: View of trees and small vegetation, the main land cover on the western portion of the property. Photograph taken facing north. No environmental concerns were identified.



Photograph 4: View of the southeastern most portion of the subject site. Photograph depicts a corn field. Photograph taken facing northwest. No environmental concerns were identified.

APPENDIX 2

MOECC FREEDOM OF INFORMATION SEARCH

WATER WELL RECORDS

TSSA SEARCH

Ministry of the Environment
and Climate Change

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



Freedom of Information and
Protection of Privacy Office

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

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

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

August 1, 2017

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

Dear Marek Moroz:

RE: ***Freedom of Information and Protection of Privacy Act Request***
Our File # A-2017-05434, Your Reference PE4079

The Ministry is in receipt of your request made pursuant to the *Freedom of Information and Protection of Privacy Act* and has received your payment in the amount of \$5.00 (non-refundable application fee), along with your \$30.00 deposit.

The search is being conducted on the following: Lots 24 and 25, Con 2, Twp of Goulburn, Ottawa. If there is any discrepancy please contact us immediately.

You may expect a reply or additional communication as your request is processed. For your information, the Ministry charges for search, copying and preparation time.

If you have any questions regarding this matter, please contact Jeneska Abano at jeneska.abano@ontario.ca.

Yours truly,

Ja
Janet Dadufalza
FOI Manager

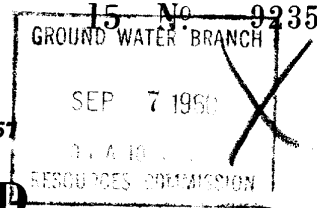
31647 77

UTM 18 435515

5R 5004100N

Elev. 4R 0300

Basin 25



The Ontario Water Resources Commission Act, 1957

WATER WELL RECORD

County or District Carleton Township, Village, Town or City Richmond

Con. [redacted] Lot [redacted] Date completed 5 Aug 60
(day month year)
Address Richmond

Casing and Screen Record

Inside diameter of casing 4"
Total length of casing 26'
Type of screen _____
Length of screen _____
Depth to top of screen _____
Diameter of finished hole 4"

Pumping Test

Static level 5'
Test-pumping rate 6 G.P.M.
Pumping level 6 ft
Duration of test pumping 1/2 hr.
Water clear or cloudy at end of test clear
Recommended pumping rate 5 G.P.M.
with pumping level of Set pump at 30ft.

Well Log

Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, sulphur)
<u>clay</u>	<u>0</u>	<u>13</u>			
<u>broken limestone</u>	<u>13</u>	<u>20</u>			
<u>limestone</u>	<u>20</u>	<u>59</u>	<u>55</u>	<u>50</u>	<u>fresh</u>

For what purpose(s) is the water to be used?
house

Is well on upland, in valley, or on hillside? upland

Drilling Firm _____

Address _____

Licence Number 483

Name of Driller Ben Edwards

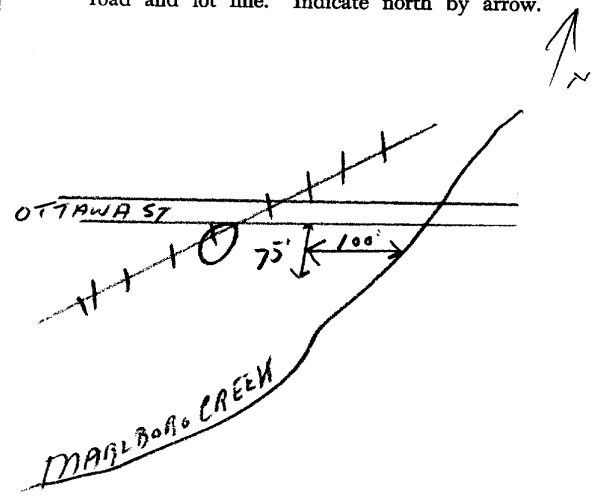
Address _____

Date Aug 23/60

Ben Edwards
(Signature of Licensed Drilling Contractor)

Location of Well

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





The Ontario Water Resources Act WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK CORRECT BOX WHERE APPLICABLE

11

1528204

MUNICIPALITY 15003

CON.

COUNTY OR DISTRICT: [REDACTED] TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: **Goulbourn** CON. BLOCK, TRACT, SURVEY ETC: **2** LOT: **25**

DATE COMPLETED: **19** DAY **08** MO **08** YR **94**

ADDRESS: **2 Ottawa Street Richmond, Ontario K0A 2Z0**

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)					
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Sand			0	4
Brown	Clay	Stones		4	12
Gray	Hardpan	Boulders		12	23
Gray	Limestone			23	165
Gray & White	Sandstone			165	298

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER					
10-15	<input type="checkbox"/> FRESH	<input type="checkbox"/> SALTY	<input type="checkbox"/> SULPHUR	<input type="checkbox"/> MINERALS	<input type="checkbox"/> GAS	
215	<input type="checkbox"/> FRESH	<input type="checkbox"/> SALTY	<input type="checkbox"/> SULPHUR	<input type="checkbox"/> MINERALS	<input type="checkbox"/> GAS	
15-18	<input type="checkbox"/> FRESH	<input type="checkbox"/> SALTY	<input type="checkbox"/> SULPHUR	<input type="checkbox"/> MINERALS	<input type="checkbox"/> GAS	
286	<input type="checkbox"/> FRESH	<input type="checkbox"/> SALTY	<input type="checkbox"/> SULPHUR	<input type="checkbox"/> MINERALS	<input type="checkbox"/> GAS	
20-23	NOT TESTED					
25-28	<input type="checkbox"/> FRESH	<input type="checkbox"/> SALTY	<input type="checkbox"/> SULPHUR	<input type="checkbox"/> MINERALS	<input type="checkbox"/> GAS	
30-33	<input type="checkbox"/> FRESH	<input type="checkbox"/> SALTY	<input type="checkbox"/> SULPHUR	<input type="checkbox"/> MINERALS	<input type="checkbox"/> GAS	

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET	
			FROM	TO
6 1/4	STEEL	.188	0	25
5 1/3	GALVANIZED		25	298

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET		MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
FROM	TO	
10-13	14-17	Grouted - Cement (3)
18-21	22-25	
26-29	30-33	

71 PUMPING TEST

PUMPING TEST METHOD: PUMP BAILER

PUMPING RATE: **8-10** GPM

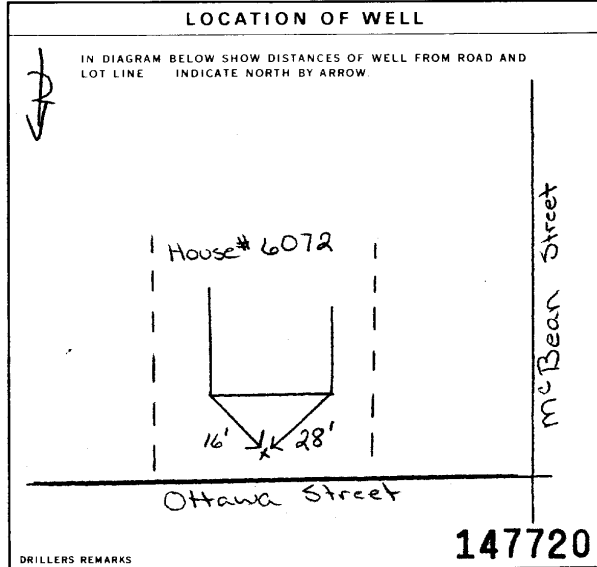
DURATION OF PUMPING: **1** HOUR

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING PUMPING RECOVERY			
10'6"	25'	15 MINUTES: 50'	30 MINUTES: 45'	45 MINUTES: 30'	60 MINUTES: 25'

RECOMMENDED PUMP TYPE: SHALLOW DEEP

RECOMMENDED PUMP SETTING: **30-35** FEET

RECOMMENDED PUMPING RATE: **5** GPM



FINAL STATUS OF WELL

WATER SUPPLY

WATER USE

DOMESTIC

METHOD OF CONSTRUCTION

CABLE TOOL

CONTRACTOR

NAME OF WELL CONTRACTOR: **Capital Water Supply Ltd.**

WELL CONTRACTOR'S LICENCE NUMBER: **1558**

ADDRESS: **P.O. Box 490 Stittsville, Ontario K2S 1A6**

NAME OF WELL TECHNICIAN: **S. Miller**

WELL TECHNICIAN'S LICENCE NUMBER: **T0097**

SIGNATURE OF TECHNICIAN/CONTRACTOR: *[Signature]*

SUBMISSION DATE: **DAY 23 MO 8 YR 94**

OFFICE USE ONLY

CONTRACTOR: **1558**

DATE RECEIVED: **OCT 07 1994**

DATE OF INSPECTION: _____

INSPECTOR: _____

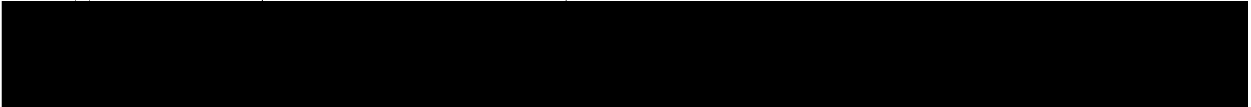
REMARKS: _____

Instructions for Completing Form

- For use in the Province of Ontario only. This document is a permanent legal document. Please retain for future reference.
- All Sections must be completed in full to avoid delays in processing. Further instructions and explanations are available on the back of this form.
- Questions regarding completing this application can be directed to the Water Well Management Coordinator at 416-235-6203.
- **All metre measurements shall be reported to 1/10th of a metre.**
- Please print clearly in blue or black ink only.

Well Owner's Information and Location of Well Information

Ministry Use Only										
MUN					CON					LOT



RR#/Street Number/Name: **6004 OTTAWA STREET** City/Town/Village: **RICHMOND HILL** Site/Compartment/Block/Tract etc: **PLANK 6787 SL2**

GPS Reading: NAD **83** Zone **18** Easting **455466** Northing **5004228** Unit Make/Model: **INTELLIAN** Mode of Operation: Undifferentiated Averaged Differentiated, specify

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Metres To
	SANDY CLAY			0	3.66
	GREY LIMESTONE			3.66	29.56

Hole Diameter

Depth From	Metres To	Diameter Centimetres
0	29.56	15.23

Water Record

Water found at _____ m Kind of Water: Fresh Sulphur Gas Salty Minerals Other: **NOT TESTED**

After test of well yield, water was **CLEAR AND TASTELESS** Chlorinated Yes No

Construction Record

Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Metres To
15.23	<input checked="" type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized	.48	0	6.71
No Casing or Screen				
<input checked="" type="checkbox"/> Open hole				

Test of Well Yield

Pumping test method	Draw Down Time min	Water Level Metres	Recovery Time min	Water Level Metres
SUBPUMP				
Pump intake static (metres)		24.98		3.63
Pumping rate (litres/min)	1	3.31	1	3.30
Duration of pumping (hrs:min)	2	3.36	2	3.25
Final water level end of pumping (metres)	3	3.38	3	3.21
Recommended pump type: <input type="checkbox"/> Shallow <input checked="" type="checkbox"/> Deep	4	3.40	4	3.21
Recommended pump depth (metres)	5	3.41	5	3.20
Recommended pump rate (litres/min)	10	3.46	10	3.17
If flowing give rate (litres/min)	15	3.49	15	3.14
	20	3.52	20	3.13
	25	3.54	25	3.12
	30	3.56	30	3.12
	40	3.57	40	3.12
	50	3.61	50	3.12
	60	3.63	60	3.12

Plugging and Sealing Record

Depth set at - Metres From	To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
6.71	0	NEAT CEMENT SLURRY	.2724

Method of Construction

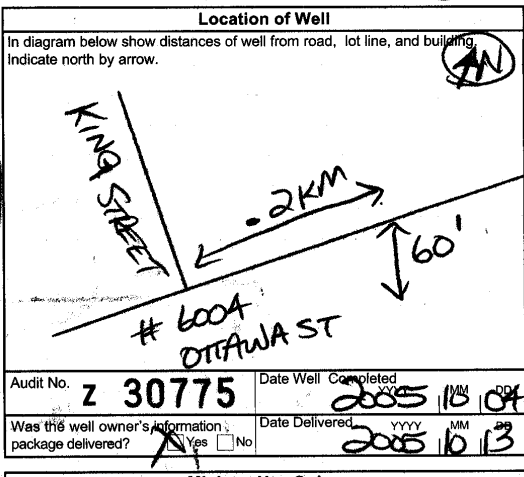
Cable Tool Rotary (air) Diamond Digging Rotary (conventional) Air percussion Jetting Other Rotary (reverse) Boring Driving

Water Use

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

Final Status of Well

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



Well Contractor/Technician Information

Name of Well Contractor: **AIR ROCK DRILLING CO LTD** Well Contractor's Licence No.: **71119**

Business Address (street name, number, city etc.): **RR#1 RICHMOND ONT K0A2Z0**

Name of Well Technician (last name, first name): **HOSAN DAN** Well Technician's Licence No.: **T3058**

Signature of Technician/Contractor: *[Signature]* Date Submitted: **2005 11 04**

Ministry Use Only

Data Source: Contractor

Date Received: **NOV 14 2005** Date of Inspection: **2005 11 04**

Remarks: **1119**

Well Record Number: **1119**

Measurements recorded in: Metric Imperial

Address of Well Location (Street Number/Name) **(No Civic) Huntley Road** Township **Goulbourn** Lot **24** Concession **4**
 County/District/Municipality **Ottawa-Carleton** City/Town/Village **Richmond** Province **Ontario** Postal Code _____
 UTM Coordinates Zone Easting Northing Municipal Plan and Sublot Number
 NAD 83 **184355215004251**

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)
				From To
	Grey Clay			0 56'
	Grey Limestone			56' 176'
	Grey Sandstone + Limestone Mix			176' 240'

Annular Space

Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /ft ³)
From To		
62' 52'	Neat Cement Slurry	9.36
52' 0'	Portland Slurry	16.8

Method of Construction

Cable Tool Diamond Public Commercial Not used
 Rotary (Conventional) Jetting Domestic Municipal Dewatering
 Rotary (Reverse) Driving Livestock Test Hole Monitoring
 Boring Digging Irrigation Cooling & Air Conditioning
 Air percussion Industrial Other, specify _____
 Other, specify _____

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)		Status of Well
			From	To	
6"	Steel	.188"	12'	62'	<input checked="" type="checkbox"/> Water Supply <input type="checkbox"/> Replacement Well <input type="checkbox"/> Test Hole <input type="checkbox"/> Recharge Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Observation and/or Monitoring Hole <input type="checkbox"/> Alteration (Construction) <input type="checkbox"/> Abandoned, Insufficient Supply <input type="checkbox"/> Abandoned, Poor Water Quality <input type="checkbox"/> Abandoned, other, specify _____ <input type="checkbox"/> Other, specify _____
6"	Openhole		62'	240'	

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)		Status of Well
			From	To	
					<input type="checkbox"/> Abandoned, Insufficient Supply <input type="checkbox"/> Abandoned, Poor Water Quality <input type="checkbox"/> Abandoned, other, specify _____ <input type="checkbox"/> Other, specify _____

Water Details

Water found at Depth (m/ft)	Kind of Water:	Kind of Water:	Hole Diameter
	Fresh <input checked="" type="checkbox"/> Untested <input checked="" type="checkbox"/>	Gas <input type="checkbox"/> Other, specify _____	Depth (m/ft) Diameter (cm/in)
			From To
58	Fresh <input checked="" type="checkbox"/> Untested <input checked="" type="checkbox"/>	Gas <input type="checkbox"/> Other, specify _____	0' 240' 5 15/16"
89	Fresh <input checked="" type="checkbox"/> Untested <input checked="" type="checkbox"/>	Gas <input type="checkbox"/> Other, specify _____	
232	Fresh <input checked="" type="checkbox"/> Untested <input checked="" type="checkbox"/>	Gas <input type="checkbox"/> Other, specify _____	

Well Contractor and Well Technician Information

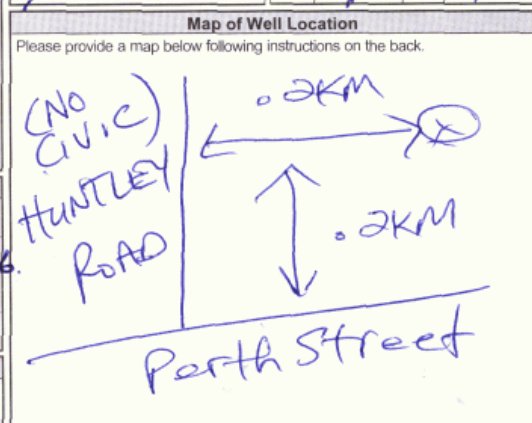
Business Name of Well Contractor **Air Rock Drilling Co Ltd** Well Contractor's Licence No. **11119**
 Business Address (Street Number/Name) **Richmond** Municipality **Richmond**
 Province **ON** Postal Code **K0A2Z0** Business E-mail Address _____
 Bus. Telephone No. (inc. area code) **6138382170** Name of Well Technician (Last Name, First Name) **GRAHAM RYAN**
 Well Technician's Licence No. **T3484** Signature of Technician and/or Contractor **[Signature]** Date Submitted **20060603**

Results of Well Yield Testing

After test of well yield, water was:
 Clear and sand free
 Other, specify **TESTED**
 If pumping discontinued, give reason: _____

Time (min)	Draw Down		Recovery	
	Water Level (m/ft)	Time (min)	Water Level (m/ft)	Time (min)
Static Level	2'3"		16'8"	
1	9'6"	1	7'	
2	12'	2	5'	
3	13'2"	3	4'	
4	14'2"	4	3'	
5	14'8"	5	2'	
10	16'	10		
15	16'2"	15		
20	16'8"	20		
25	16'8"	25		
30	16'8"	30		
40		40		
50		50		
60		60		

Pump intake set at (m/ft) **200**
 Pumping rate (l/min / GPM) **20**
 Duration of pumping **1** hrs + **0** min
 Final water level end of pumping (m/ft) **16'8"**
 If flowing give rate (l/min / GPM) **8**
 Recommended pump depth (m/ft) **Clamp 100'**
 Recommended pump rate (l/min / GPM) **200**
 Well production (l/min / GPM) **60**
 Disinfected? Yes No



Comments:

Well owner's information package delivered Yes No
 Date Package Delivered **20090519**
 Date Work Completed **20090515**

Ministry Use Only
 Audit No. **70900582**
JUN 08 2009
 Received **JUN 08 2009**

Measurements recorded in: Metric Imperial

Address of Well Location (Street Number/Name) **#5990 Ottawa Street** Township **Goulbourn** Lot **25** Concession **2**
 County/District/Municipality **Ottawa-Carleton** City/Town/Village **Richmond** Province **Ontario** Postal Code _____
 UTM Coordinates Zone Easting Northing Municipal Plan and Sublot Number Other _____
 NAD 83 **184355225004251**

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)	
				From	To
	Grey limestone			0	15'
				15'	84'

*** KEEP PUMP ABOVE 45 FT - Broken Rock ***

Annular Space

Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /ft ³)
20' 0"	Neat Cement Slurry	6.24

Method of Construction

<input type="checkbox"/> Cable Tool	<input type="checkbox"/> Diamond	<input type="checkbox"/> Public	<input type="checkbox"/> Commercial	<input type="checkbox"/> Not used
<input type="checkbox"/> Rotary (Conventional)	<input type="checkbox"/> Jetting	<input checked="" type="checkbox"/> Domestic	<input type="checkbox"/> Municipal	<input type="checkbox"/> Dewatering
<input type="checkbox"/> Rotary (Reverse)	<input type="checkbox"/> Driving	<input type="checkbox"/> Livestock	<input type="checkbox"/> Test Hole	<input type="checkbox"/> Monitoring
<input type="checkbox"/> Boring	<input type="checkbox"/> Digging	<input type="checkbox"/> Irrigation	<input type="checkbox"/> Cooling & Air Conditioning	
<input checked="" type="checkbox"/> Air percussion		<input type="checkbox"/> Industrial		
<input type="checkbox"/> Other, specify		<input type="checkbox"/> Other, specify		

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)		Status of Well
			From	To	
6" Steel		1.83"	12'	20'	<input checked="" type="checkbox"/> Water Supply <input type="checkbox"/> Replacement Well <input type="checkbox"/> Test Hole <input type="checkbox"/> Recharge Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Observation and/or Monitoring Hole <input type="checkbox"/> Alteration (Construction) <input type="checkbox"/> Abandoned, Insufficient Supply <input type="checkbox"/> Abandoned, Poor Water Quality <input type="checkbox"/> Abandoned, other, specify <input type="checkbox"/> Other, specify
6" Open hole			20'	84'	

Construction Record - Screen

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

Water Details

Water found at Depth (m/ft)	Kind of Water: <input type="checkbox"/> Fresh <input checked="" type="checkbox"/> Untested
55'	<input type="checkbox"/> Gas <input type="checkbox"/> Other, specify
69'	<input type="checkbox"/> Gas <input type="checkbox"/> Other, specify
73'	<input type="checkbox"/> Gas <input type="checkbox"/> Other, specify

Hole Diameter

Depth (m/ft)	Diameter (cm/in)
0' 84' 6"	

Well Contractor and Well Technician Information

Business Name of Well Contractor: **AIR ROCK DRILLING CO LTD** Well Contractor's Licence No. _____
 Business Address (Street Number/Name): **1119 RPA1** Municipality: **RICHMOND**
 Province: **ONT** Postal Code: **K0A2Z0** Business E-mail Address: _____

Bus. Telephone No. (inc. area code): **613 838 2170** Name of Well Technician (Last Name, First Name): **PURCELL SHANNON**
 Well Technician's Licence No.: **12122** Signature of Technician and/or Contractor: _____ Date Submitted: **20090603**

Results of Well Yield Testing

After test of well yield, water was:
 Clear and sand free
 Not tested

If pumping discontinued, give reason:
 Broken rock

Pump intake set at (m/ft): **40'**

Pumping rate (l/min / GPM): **20**

Duration of pumping: **1 hrs 0 min**

Final water level end of pumping (m/ft): **16' 4"**

If flowing give rate (l/min / GPM): **20**

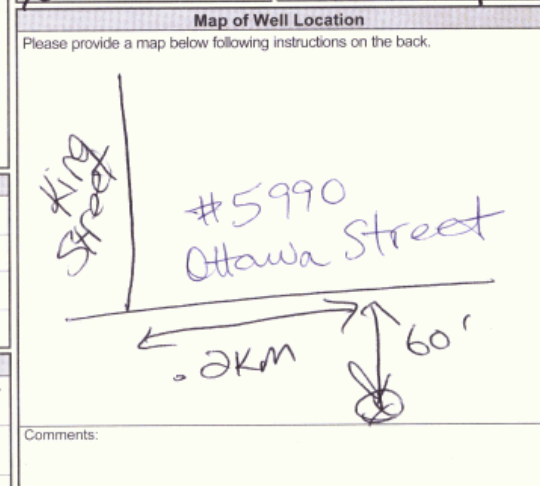
Recommended pump depth (m/ft): **40' (bhp)**

Recommended pump rate (l/min / GPM): **20**

Well production (l/min / GPM): **40**

Disinfected? Yes No

Draw Down		Recovery	
Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
Static Level	5' 7"		16' 4"
1	12' 2"	1	7' 8"
2	13' 8"	2	7' 3"
3	14' 5"	3	6' 9"
4	14' 9"	4	6' 5"
5	15' 1"	5	6' 3"
10	15' 5"	10	6'
15	15' 7"	15	5' 8"
20	15' 9"	20	5' 7"
25	16'	25	
30	16' 1"	30	
40	16' 2"	40	
50	16' 3"	50	
60	16' 4"	60	



Well owner's information package delivered: Yes No

Date Package Delivered: **20090519**

Date Work Completed: **20090519**

Ministry Use Only

Audit No. **Z 94580**

Received **JUN 08 2009**



345 Carlingview Drive
Toronto, Ontario M9W 6N9
Tel: 416 734.3300
Fax: 416 231.1626
Toll Free: 1 877 682 8772

www.tssa.org

Tel: (416) 734-3570

Fax: (416) 734-3568

22 August 2017
File No: FS 63064

Marek Moroz
PATERSON GROUP
154 Colonnade Road South
OTTAWA ON K2E 7J5

Dear Marek:

RE: 3855 McBean, Richmond, Ontario – Your Project No. PE4079

This is with reference to your request and fee of \$50.00 + HST, for information on the above location.

Enclosed are computerised screen prints showing an under review self-serve fuel outlet along with equipment details showing underground fuel storage tank details. Copies of the inspection reports are also attached.

The *Technical Standards and Safety Act* and associated regulations do not require the registration of private fuel outlets. Nor does it require that any documentation on these facilities be submitted to, or reviewed or approved by TSSA. As a result TSSA has limited information on these facilities. TSSA cautions that any information provided may be inaccurate, incomplete or out of date.


After a search of our files, TSSA has no record of any further outstanding instructions, incident reports, fuel oil spills, or contamination records respecting the above-mentioned property.

This is all the information the Fuels Safety Division has at this time regarding the above address.

It should be noted that the Fuels Safety Division did not register private fuel underground/aboveground storage tanks prior to January of 1990 or furnace oil tanks prior to May 1, 2002. Also note that the Fuels Safety Division does not register waste oil tanks in apartments, office buildings, residences etc. or ABOVEGROUND gas or diesel tanks.

TSSA does not make any representations or warranties with respect to the accuracy or completeness of any records released by TSSA, and the user assumes all risk in using or relying on released records.

Yours truly,

A handwritten signature in blue ink, appearing to read "Roxana Suarez-Mashtaler".

Roxana Suarez-Mashtaler
Public Information Services Agent

Item Instances

General

Additional Attributes

Assets

Party Relationships

Owner

Parties

Accounts

Contacts

Summary

Pricing

Counters

Contracts

Notes

Transactions

Service Requests

Repair Orders

History

Operating Units

Configuration

Quick Find Item Instance

Advanced Search

Logged In As RMAHTALER

Item Instance Details

Item Instance: 10206915
Item: FS PRIVATE FUEL OUTLET - SELF SERVE
Item Description: Fuels Safety Private Fuel Outlet - Self Serve

General Attributes

Organization Name TSSA Item Master
Instance Name
Last Version Label 1
Version Label Date 10-DEC-1997 0:00
Revision
New Version Label
System
External Reference
Item Instance Type
Accounting Classification Customer Product
Operational Status Not Used
Lot Number : not lot-controlled
Status Under Review
Condition
Quantity 1
UOM Each
Start Date 10-DEC-1997
Start Time 0:00
Shipped On Date
Shipped On Time
End Date
End Time
Return By Date
Return By Time
Actual Return Date
Actual Return Time

* Indicates required field.
Time format is HH24:MM
Note: You do not have permission to make updates in this page.

Creation Completed

Owner

Party Type Party
Party Name: FIRSTCANADA ULC
Party Number: 223304
Account Number: 101931
Account Name FIRSTCANADA ULC

Current Location

* Type Party Site
Party Name FIRSTCANADA ULC
Party Number 223304
*Line 1 3855 MCBEAN
Site Number 224231
Address 3855 MCBEAN
RICHMOND, KOA 220, CA

Installed At

Installed Date 10-DEC-1997

Installed Time 0:00

Time format is HH24:MM

Change in installed date does not change contract date.

Type

Order

Sales Order Number	Sales Order Date
Sales Order Line	
Purchase Order Number	Agreement Name

Item Flags

- BOM Enabled
- IB Trackable
- Sellable
- Inventory Trackable
- Shippable

Item Views

- Merchant
- Customer

Descriptive Flexfields

Context Value

Select Context Value and click 'Go' to show relevant fields.

Facility Type 2

Facility Type 3

Total Capacity - Liquid Fuel Tanks (L)

Total Capacity - Propane Tank s (USWG)

* Previous Facility Type

Previous Instance Number



Installed Base



Navigator



Favorites

Close Window Preferences Help

Item Instance | **Counters** | **Mass Update**

Item Instances | Systems | Transactions

Item Instance: [Item Instances](#) > [Item Instance Search](#) >

View : Item Instance : 11521745

Item	FS LIQUID FUEL TANK	System	
Item Description	FS Liquid Fuel Tank	Owner	FIRSTCANADA ULC
		Account Number	101931

Other Item Instance Details

- [Transaction History](#)
- [Item Instance History](#)
- [Operating Units](#)
- [Contracts Orders](#)
- [Service Requests](#)
- [Orders and Directives](#)
- [View Relationship Graphically](#)
- [OMS Orders](#)

General | **Location** | **Associations** | **Configuration** | **Counters** | **Notes**

External Reference		New Version Label	
Organization	TSSA Item Master	Last Version Label	1
Revision		Creation Date	10-Dec-1997 00:00:00
Instance Name		Status	Active
Quantity	1	Install Date	10-Dec-1997 00:00:00
UOM	Each	Expiration Date	
Item Instance Type		Shipped On Date	
Item Condition		Return By Date	
Accounting Classification	Customer Product	Actual Return Date	
Operational Status Code	Not Used		

Hide Instance Flex Fields

Show Additional Attributes

Fuel Type1	Diesel <small>Diesel</small>
Fuel Type2	
Fuel Type3	
Capacity (L)	13600
Tank Material	Fiberglass (FRP) <small>Fiberglass (FRP)</small>
Tank Type	Single Wall UST <small>Single Wall UST</small>
FS Corrosion Protection	Fiberglass <small>Fiberglass</small>
Overfill Protection Type	
Installation Year	1991
ULC Standard	
Manufacturer	
Model	
Serial Number	
Description	

[Return to Instance Search](#)

Item Instance Counters Mass Update Close Window Preferences Help

[Privacy Statement](#)

Copyright (c) 2006, Oracle. All rights reserved.



Installed Base



Navigator



Favorites

Close Window Preferences Help

Item Instance | **Counters** | **Mass Update**

Item Instances | Systems | Transactions

Item Instance: Item Instances >

View : Item Instance : 11521723

Item	FS LIQUID FUEL TANK	System	
Item Description	FS Liquid Fuel Tank	Owner	FIRSTCANADA ULC
		Account Number	101931

Other Item Instance Details

- [Transaction History](#)
- [Item Instance History](#)
- [Operating Units](#)
- [Contracts](#)
- [Orders](#)
- [Service Requests](#)
- [Orders and Directives](#)
- [View Relationship Graphically](#)
- [OMS Orders](#)

General | Location | Associations | Configuration | Counters | Notes

External Reference		New Version Label	
Organization	TSSA Item Master	Last Version Label	1
Revision		Creation Date	10-Dec-1997 00:00:00
Instance Name		Status	Active
Quantity	1	Install Date	10-Dec-1997 00:00:00
UOM	Each	Expiration Date	
Item Instance Type		Shipped On Date	
Item Condition		Return By Date	
Accounting Classification	Customer Product	Actual Return Date	
Operational Status Code	Not Used		

Hide Instance Flex Fields

Show Additional Attributes

Fuel Type1	Diesel
	<small>Diesel</small>
Fuel Type2	
Fuel Type3	
Capacity (L)	22700
Tank Material	Fiberglass (FRP)
	<small>Fiberglass (FRP)</small>
Tank Type	Single Wall UST
	<small>Single Wall UST</small>
FS Corrosion Protection	Fiberglass
	<small>Fiberglass</small>
Overfill Protection Type	
Installation Year	1991
ULC Standard	
Manufacturer	
Model	
Serial Number	
Description	

[Return to Instance Search](#)

Item Instance Counters Mass Update Close Window Preferences Help

[Privacy Statement](#)

Copyright (c) 2006, Oracle. All rights reserved.



Installed Base



Navigator



Favorites

Close Window Preferences Help

Item Instance | **Counters** | **Mass Update**

Item Instances | Systems | Transactions

Item Instance: Item Instances >

View : Item Instance : 11521704

Item	FS LIQUID FUEL TANK	System	
Item Description	FS Liquid Fuel Tank	Owner	FIRSTCANADA ULC
		Account Number	101931

Other Item Instance Details

- [Transaction History](#)
- [Item Instance History](#)
- [Operating Units](#)
- [Contracts](#)
- [Orders](#)
- [Service Requests](#)
- [Orders and Directives](#)
- [View Relationship Graphically](#)
- [OMS Orders](#)

General | **Location** | **Associations** | **Configuration** | **Counters** | **Notes**

External Reference		New Version Label	
Organization	TSSA Item Master	Last Version Label	1
Revision		Creation Date	10-Dec-1997 00:00:00
Instance Name		Status	Active
Quantity	1	Install Date	10-Dec-1997 00:00:00
UOM	Each	Expiration Date	
Item Instance Type		Shipped On Date	
Item Condition		Return By Date	
Accounting Classification	Customer Product	Actual Return Date	
Operational Status Code	Not Used		

[Hide Instance Flex Fields](#)

[Show Additional Attributes](#)

Fuel Type1	Diesel
	<small>Diesel</small>
Fuel Type2	
Fuel Type3	
Capacity (L)	22700
Tank Material	Fiberglass (FRP)
	<small>Fiberglass (FRP)</small>
Tank Type	Single Wall UST
	<small>Single Wall UST</small>
FS Corrosion Protection	Fiberglass
	<small>Fiberglass</small>
Overfill Protection Type	
Installation Year	1991
ULC Standard	
Manufacturer	
Model	
Serial Number	
Description	

[Return to Instance Search](#)

Item Instance Counters Mass Update Close Window Preferences Help

[Privacy Statement](#)

Copyright (c) 2006, Oracle. All rights reserved.

Perform Periodic Inspection (FS) for Job 010206918-002 (E006694)

Description: E006694 Private Fuel Ou 26 Assignments

Status: Complete by STRATULJ

Assigned To: John Stratuik

Outcome: Inspection Complete

Schedule

Scheduled Start: mmm dd, yyyy

Scheduled Complete: mmm dd, yyyy

Actual Start: Jul 13, 1999 00:00

Actual Complete: Jul 13, 1999 00:00

Reports

- Details
- Deficiencies
- Time
- Documents
- Comments
- O/S Orders
- Resolved/Orders
- Create Def

Inspection Report Number: E006694

Date of Inspection: Jul 13, 1999

Re-inspection Date: mmm dd, yyyy

Orders Issued To:

To insert general comments on the inspection report, click on the "Comments" Tab and Right Click Insert the comments.

Have you entered your time and saved your report?: Yes No

Risk Factor:

Inspection Display Address: 3855 MCBEAN, RICHMOND, ON, CA K0A 2Z0

License Number: 0076509496-C

Tank Vehicle * Serial-Unit * Numbers:



Technical Standards and Safety Authority

Inspector's Report / Rapport de l'inspecteur(trice) Part A/Partie A

Report No / N° de rapport

E-006694

Issued under Ontario's Energy Act and/or Gasoline Handling Act
 Délivré en vertu de Loi sur les hydrocarbures ou de la Loi sur la manutention de l'essence de l'Ontario

Location Inspected / Lieu inspecté
Laidlaw Transit

Address / Adresse
3855 McBean Street

City/town / Ville
Richmond Ontario

Postal Code / Code postal
K0A-2Z0

Tel. No. / N° de tél.
613-836-7725

Operator's Name / Nom de la personne responsable
Doug Herd

Licence No / N° de permis
0001039574

Owner's Name / Nom du/de la propriétaire
Laidlaw Transit

Address / Adresse
100 Carleton Rd. Po Box 159

City/town / Ville
Stittsville ONT

Postal Code / Code postal
K2S-1A0

Tel. No. / N° de tél.
613-836-7725

Fuel Supplier / Fournisseur de combustible
Shell Canada

City / Ville

Contractor / Entrepreneur
 Registration # / N° d'inscription

OPERATION/ACTIVITÉ	SUB TYPE/SOUS TYPE	LOC TYPE/TYPE DE LIEU	POP DENS/DENS. DE POP.	FUEL/COMBUSTIBLE	CLASS/CATÉGORIE	REASON/RAISON	TRIGGER/MOTIVÉ PAR :
20	—	02	01	Diesel	03	26	01
ACTION / MESURES PRISES	ACT/LOI	REG/RÈGLEMENT	DURATION/DURÉE	BILLABLE/À FACTURER	TRAVEL/VOYAGE	BILL FACTURER	Y/N O/N
01	G.H.A	52/93	2	1	1	12	
DAMAGE /DOMMAGES	OCC RATE/ GRAV. DE L'ACC.	CAUSE/CAUSE	CON FACT/ FACT. CONTR.	OCC DATE/ DATE DE L'ACC.	OCC TIME/ HEURE DE L'ACC.	MANDATED MANDAT	Y/N O/N
						1	
FIELD 1/DOMAINE 1	CALL/INTERVENTION	CONSULT CONSULT.	Y/N O/N	SITE REM REMÉDIER	Y/N O/N	COMPLETED? Y/N TERMINÉE? O/N	
	01					Y	

Comments/Commentaires
On Site To Audit Private Fuel Facility Requires Name Change. New Application To Follow

Equipment/Appliance/Component / Matériel/Appareil/Composant

Type/Type	Code/Code
Description/Description	
Manufacturer/Fabricant	
Model/Modèle	Serial No / N° de serie
Material/Matériel	
Corrosion Protection/Protection contre la corrosion	SEP 1 1999
Fuel Input Rating/Débit de combustible	DATA ENTERED
Capacity/Capacité	
Installation Date/Date d'Installation	
Manufacture Date/Date de fabrication	
Supply Pressure/Pression d'alimentation	Manifold Pressure/Pression d'admission

Equipment/Appliance/Component / Matériel/Appareil/Composant

Type/Type	Code/Code
Description/Description	
Manufacturer/Fabricant	
Model/Modèle	Serial No / N° de serie
Material/Matériel	
Corrosion Protection/Protection contre la corrosion	RECEIVED JUL 21 1999
Fuel Input Rating/Débit de combustible	
Capacity/Capacité	FUELS SAFETY
Installation Date/Date d'Installation	
Manufacture Date/Date de fabrication	
Supply Pressure/Pression d'alimentation	Manifold Pressure/Pression d'admission

Client's Signature/Signature du client/de la cliente <i>[Signature]</i>	Inspector's Name/Nom de l'inspecteur(trice) <i>[Signature]</i>	Badge No / N° d'insigne 192
Date of Inspection/Date d'Inspection		Y/A M/M D/J 99-07-13

Description: E000916 Private Fuel Ou 26

Assignments

Status: Complete by SCARLANM
Assigned To: Mike Scarland
Outcome: Inspection Complete

Schedule
Scheduled Start: mmm dd, yyyy
Scheduled Complete: mmm dd, yyyy
Actual Start: Sep 24, 1997 00:00
Actual Complete: Sep 24, 1997 00:00

Reports

- Details
- Deficiencies
- Time
- Documents
- Comments
- O/S Orders
- Resolved/Orders
- Create Def

Show Resolved?

Description	Found By	Date	Resolved By	Date
-------------	----------	------	-------------	------

Description: E000916 Private Fuel Ou 26

Assignments

Status: Complete by SCARLANM

Assigned To: Mike Scarland

Outcome: Inspection Complete

Schedule

Scheduled Start: mmm dd, yyyy

Scheduled Complete: mmm dd, yyyy

Actual Start: Sep 24, 1997 00:00

Actual Complete: Sep 24, 1997 00:00

Reports

Details	Deficiencies	Time	Documents	Comments	O/S Orders	Resolved/Orders	Create Def
Note Type	Last Updated By	On	Locked	Note			
FS Deficiency Resolved	Mike Scarland	Sep 24, 1997 00:00:00	<input type="checkbox"/>	GASOLINE REVISED REGULATION 521/93 Section# 05.20.A			
FS Deficiency Resolved	Mike Scarland	Sep 24, 1997 00:00:00	<input type="checkbox"/>	GASOLINE REVISED REGULATION 521/93 Section# 05.74.A			
FS Deficiency Resolved	Mike Scarland	Sep 24, 1997 00:00:00	<input type="checkbox"/>	GASOLINE REVISED REGULATION 521/93 Section# 08.25.A			
FS Deficiency Resolved	Mike Scarland	Sep 24, 1997 00:00:00	<input type="checkbox"/>	GASOLINE REVISED REGULATION 521/93 Section# 05.37.C			



Technical Standards and Safety Authority

Inspector's Report / Rapport de l'inspecteur(trice) Part A/Partie A

Report No / N° de rapport

E-000916

Issued under Ontario's Energy Act and/or Gasoline Handling Act / Délivré en vertu de Loi sur les hydrocarbures ou de la Loi sur la manutention de l'essence de l'Ontario

Location Inspected / Lieu inspecté
 CHARTERWAYS TRANSPORTATION LTD
 Address / Adresse
 3855 MCBEAN ST.
 City/town / Ville
 RICHMOND
 Postal Code / Code postal
 K0A 2Z0
 Operator's Name / Nom de la personne responsable
 DAVE
 Licence No / N° de permis
 000 103 9574

Owner's Name / Nom du/de la propriétaire
 CHARTERWAYS
 Address / Adresse
 1027 MOODIE DR.
 City/town / Ville
 NEPEAN
 Postal Code / Code postal
 K2H 7T8
 Fuel Supplier / Fournisseur de combustible
 SHELL
 Tel. No. / N° de tél.
 613-838-4106
 City / Ville
 OTTAWA

Contractor / Entrepreneur
 Registration # / N° d'inscription

OPERATION/ACTIVITÉ	SUB TYPE/SOUS TYPE	LOC TYPE/TYPE DE LIEU	POP DENS/DENS. DE POP.	FUEL/COMBUSTIBLE	CLASS/CATÉGORIE	REASON/RAISON	TRIGGER/MOTIVÉ PAR
20		02	02	DIES	03	26	01
ACTION / MESURES PRISES	ACT/LOI	REG/RÈGLEMENT	DURATION/DURÉE	BILLABLE / À FACTURER	TRAVEL/VOYAGE	BILL FACTURER	Y/N O/N
01	G.H.	52193	2.0	1.0	1.0	Y2	
DAMAGE /DOMMAGES	OCC RATE/ GRAV. DE L'ACC.	CAUSE/CAUSE	CON FACT/ FACT. CONTR.	OCC DATE/ DATE DE L'ACC.	OCC TIME/ HEURE DE L'ACC.	MANDATED MANDAT	Y/N O/N
						Y	
FIELD 1/DOMAINE 1	CALL/INTERVENTION	CONSULT CONSULT.	Y/N O/N	SITE REM REMÉDIER	Y/N O/N	COMPLETED? Y/N TERMINÉE? O/N	
	01	N		N		Y	

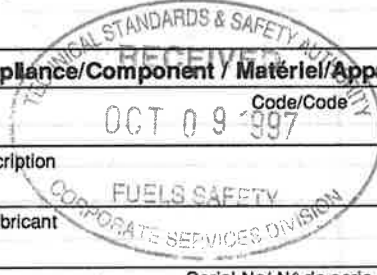
Comments/Commentaires

Equipment/Appliance/Component / Matériel/Appareil/Composant

Type/Type	Code/Code
Description/Description	
Manufacturer/Fabricant	
Model/Modèle	Serial No / N° de serie
Material/Matériel	
Corrosion Protection/Protection contre la corrosion	
Fuel Input Rating/Débit de combustible	
Capacity/Capacité	
Installation Date/Date d'installation	
Manufacture Date/Date de fabrication	
Supply Pressure/ Pression d'alimentation	Manifold Pressure/ Pression d'admission

Equipment/Appliance/Component / Matériel/Appareil/Composant

Type/Type	Code/Code
Description/Description	
Manufacturer/Fabricant	
Model/Modèle	Serial No / N° de serie
Material/Matériel	
Corrosion Protection/Protection contre la corrosion	
Fuel Input Rating/Débit de combustible	
Capacity/Capacité	
Installation Date/Date d'installation	
Manufacture Date/Date de fabrication	
Supply Pressure/ Pression d'alimentation	Manifold Pressure/ Pression d'admission



Client's Signature/Signature du client/de la cliente David A. F.	Inspector's Name/Nom de l'inspecteur(trice) LES MISKIN	Badge No / N° d'insigne 151
		Date of Inspection/ Date d'inspection 97 09 24

FS 09181 (05/97)

APPENDIX 3

QUALIFICATIONS OF ASSESSORS

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

**Geotechnical
Engineering**

**Environmental
Engineering**

Hydrogeology

**Geological
Engineering**

Materials Testing

Building Science

**Archaeological
Services**

POSITION

Environmental Consultant

EDUCATION

Algonquin College, Graduate Certificate, 2017
Environmental Management and Assessment

University of Ottawa, 2012
Specialization in Geology with Minor in Spanish

MEMBERSHIPS

Ottawa Geotechnical Group
Association of Professional Geoscientists of Ontario

EXPERIENCE

2017 to Present:

Paterson Group Inc.

Consulting Engineers
Geotechnical and Environmental Division
Environmental Consultant

2016 to 2017

Geological Survey of Canada

Federal Research Organization in Earth Sciences
Canada Groundwater Program
Physical Scientist

2012 to 2015

KGHM International

International Mining Company
Geologist and Project Manager

SELECT LIST OF PROJECTS

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