



June 2015

REPORT ON

Phase One Environmental Site Assessment 5873 Perth Street Ottawa (Village of Richmond), ON

Submitted to:

Ms. Lisa Dalla Rosa
Suite 100, 301 Moodie Drive
Ottawa, ON
K2H 9C4

REPORT



Report Number: 1418381

Distribution:

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Executive Summary

Golder Associates Ltd. (Golder) was retained by Cardel Homes (Cardel) to conduct a Phase One Environmental Site Assessment (Phase One ESA) at the Phase One Property located 5873 Perth Street, Ottawa (Village of Richmond), Ontario (hereafter referred to as the “Site”) to meet the requirements for a Phase One ESA as stipulated in the Ontario Regulation 153/04 (O. Reg. 153/04) as amended. The Phase One ESA is prepared to support a subdivision approval submission to the City of Ottawa. The Site contains part of an undeveloped property located near the northwest corner of Perth Street and Shea Road, Ottawa (Richmond), Ontario. The total area of the Site is approximately 4.07 hectares (10.06 acres).

This Phase One ESA was completed in accordance with the Ontario Regulation (O. Reg.) 153/04 (as amended). It is understood that this Phase One ESA is being carried out for Subdivision Approval purposes with the City of Ottawa (the City) and that a Record of Site Condition (RSC) pursuant to *O. Reg. 153/04 – Records of Site Condition – Part XV.1*, made under the *Environmental Protection Act*, will not be filed for the Site.

The Executive Summary highlights key points from the report only; for complete information and findings, as well as the limitations, the reader should examine the complete report.

The Phase One ESA was completed in accordance with the requirements of Schedule D of O. Reg.153/04 as amended and included a review of available current and historical information regarding the Site (Phase One Property) and surrounding properties (Phase One Study Area), a Site reconnaissance, interviews, evaluation of readily available information, and reporting, subject to the limitations outlined in Section 9.0 of this report. The Site is not considered an enhanced investigation property as defined by O. Reg. 153/04.

Based on the information provided by the Site owner and the City of Ottawa geo-map, the legal description of the Site is Part of Lot 26, Concession 4, Geographic Township of Goulbourn, City of Ottawa, Ontario.

At the time of the Site reconnaissance, conducted on April 20, 2015, the Site consisted of approximately 4.07 hectares of undeveloped land. The Site had corn stalks remaining from the previous season, indicating that it is used for agricultural purposes. Adjacent land uses included residential, commercial and agricultural.

- Four potentially contaminating activities (PCAs) were identified for the Site and the Study Area;
- No areas of potential environmental concern (APECs) were identified for the Site;

Location	PCA	Description of Potentially Contaminating Activities	Status
Phase One ESA Site/Study Area 5873 Perth Street, Richmond, Ontario	Spill of unknown material and volume.	The EcoLog ERIS report indicated a record of a TSSA incident at the same address as the Study Area (5873 Perth Street, Ottawa, ON). The reported incident was a spill. The TSSA reported that a spill occurred and that there was a record of an environmental report for Site remediation. Follow-up with the TSSA indicated that the report pertained to a spill that had	It was confirmed through the review of the remediation report submitted to the TSSA by the Paterson Group in 2011 that the spill did not occur on the Site. The spill occurred at the residence (farm house) approximately 100 metres south of the Site, behind the Independent grocery store.



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Location	PCA	Description of Potentially Contaminating Activities	Status
		<p>occurred at 5873 Perth Street, Richmond, and that excavation and confirmation sampling had been carried out at an old farmhouse that was associated with the Site, but is located off-Site.</p>	<p>The remediation report by Paterson reported that the analytical results of the confirmation sampling indicated that all results met the MOE Table 2 (2009) site specific standards. Golder compared the results to the updated 2011 MOE standards and determined that the analytical results met the current MOE Table 2 criteria. Paterson concluded that no further remedial work was recommended for the property.</p> <p>This PCA is not considered to represent an APEC for the Site. The remediated spill area is 100 m from the Site and hydrogeologic conditions in the area indicate that the spill location is down-gradient of the Site and groundwater flow direction in the vicinity of the Site would convey groundwater away from the Site. Also, it was reported that the remedial excavation was successful at cleaning up the spill.</p>
<p>Phase One ESA Study Area (located north of the Site boundary)</p>	<p>#30: Importation of Fill Material of Unknown Quality</p>	<p>Construction of a gravel driveway between the Site and the property (field) to the north. Driveway was constructed with a culvert to allow for continued ditch conveyance of surface water.</p>	<p>It is not suspected that the importation of fill results in an APEC for the Site. Groundwater flow direction is expected to be to the north towards the watercourse and therefore the fill is considered to be cross-gradient of the Site.</p>
<p>Phase One ESA Study Area (located south of the Site boundary)</p>	<p>#28: Gasoline and Associated Products Storage in Fixed tanks</p>	<p>The MacEwan gasoline service station is located at the southeastern Study Area boundary. There are records indicating that there are multiple USTs on the property. There is also a C of A for industrial sewage works for that address.</p>	<p>The presence of a gasoline station within the Study Area does not likely represent and APEC for the Site. The gasoline station is considered to be hydraulically down-gradient of the Site, as groundwater in the vicinity of the gas station is expected to flow towards Jock River.</p>



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Location	PCA	Description of Potentially Contaminating Activities	Status
Phase One ESA Study Area (located near the southeastern Site boundary)	#18: Electricity Generation, Transformation and Power Stations	There are two pad mounted transformers located near the southeastern Site boundary, near the grocery store. They are located off-Site, within the Study Area.	The presence of the pad mounted transformers is not expected to present an APEC for the Site. The transformers were newer construction and there were no signs of leaks or staining noted during the Site visit. Also, it is expected that the location of the transformers is hydraulically cross-to-down gradient of the Site as water would flow away from the Site towards the watercourse northeast of the Site or to the Jock River south of the Site.



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1.0 INTRODUCTION

1.1 Site Information

Golder Associates Ltd. (Golder) was retained by Cardel Homes (Cardel) to conduct a Phase One Environmental Site Assessment (Phase One ESA) at the following property:

Table 1: Site Location

Municipal Address	5873 Perth Street, Ottawa (Village of Richmond), ON Note: The Site consists of part of 5873 Perth Street
Property Identification Number	044480237
Legal Description	Part of Lot 26, Concession 4, Geographic Township of Goulbourn, City of Ottawa (Village of Richmond)
Zoning	DR1 – Development Reserve Zone

The Site is owned by 1470424 Ontario Inc. and proposed for development by Cardel Homes. The civic address of 5873 Perth Street is a parcel that is larger than the specific Site boundaries. The Phase One Property (also referred to as the “Site”) consists of approximately 4.07 hectares of undeveloped land, currently used for agricultural purposes. The Site location is provided on Figure 1. A Site plan is provided on Figure 2. A plan of survey for the Site is provided in Appendix A.

Authorization to proceed with this investigation was received from Ms. Lisa Dalla Rosa of Cardel on April 6, 2015. The contact information for the Site contact is:

Table 2: Client

Client	Address	Contact Information
Cardel Homes	Suite 100, 301 Moodie Drive Ottawa, ON K2H 9C4	Ms. Lisa Dalla Rosa P: 613-820-1959 E: lisa.dallarosa@cardelhomes.com



2.0 SCOPE OF INVESTIGATION

A Phase One ESA is a preliminary qualitative assessment of the environmental condition of a property, based on a review of current activities and historical information for the Site and a review of relevant and readily available environmental information for the Phase One Study Area located within a 250 metre (m) radius of the boundary of the Site (hereafter referred to as the “Study Area”). The boundaries of the Phase One Site and Phase One Study Area are presented in Figure 2.

According to Ontario Regulation (O. Reg.) 153/04 *Records of Site Condition*, the objectives of a Phase One ESA are to:

- 1) Develop a preliminary determination of the likelihood that one or more contaminants have affected any land or water on, in or under the Site;
- 2) Determine the need for a Phase Two Environment Site Assessment (ESA);
- 3) Provide a basis for carrying out a Phase Two ESA, if needed;
- 4) Provide adequate preliminary information about environmental conditions in the land or water on, in or under the Site for the conduct of a risk assessment following completion of a Phase Two ESA, if needed; and,
- 5) Identify and report on evidence of actual and/or potential contamination on the Site from current and historical activities at the Site or from adjacent properties.



3.0 HISTORICAL RECORDS REVIEW

3.1 General

3.1.1 Phase One Study Area Determination

For the purpose of this Phase One ESA, the Phase One Study Area is the area within a 250 m radius of the boundaries of the Site. Based on Golder’s review of the historical and current information compiled as part of this Phase One ESA for the area surrounding the Site and observations of neighbouring properties made during the Site visit, it was concluded that an assessment of information pertaining to properties within 250 m of the Site would be sufficient to achieve the objectives of the Phase One ESA.

3.1.2 First Developed Use Determination

The date of first developed use of the Site was determined based on review of the aerial photographs and communications with the Site Representatives. Based on the available information, the Site was originally used as agricultural land and has remained undeveloped since that time.

3.1.3 Review of Fire Insurance Maps and Reports

A review of available fire insurance plans (FIPs) was ordered from EcoLog ERIS on behalf of Golder. EcoLog ERIS indicated that there were no FIPs available for the Phase One Study Area.

3.1.4 Chain of Title

Chain of title information for the Site was obtained from Wentzell Titles. Previous owners of the Site have included the following:

Table 3: Chain of Title Part 1 (North Part)

Owner	Dates of Ownership
Crown	Prior to April 1824
Crown to Joseph Maxwell	April 1, 1824
High Court of Justice to Thomas Seabrook	February 14, 1900
Thomas Seabrook to William Findlay (northern part)	May 5, 1906
Estate of William J. Findlay to Mary A. Findlay	July 6, 1938
Mary A. Findlay to John H. Findlay	March 15, 1944
John H. Findlay to Wilbert McLinton	July 7, 1947
Wilbert McLinton to Thomas Raymond McLinton (all)	February 13, 1959
Thomas Raymond McLinton to Thomas Raymond McLinton and Mona Anne McLinton	May 22, 1984
Thomas Raymond McLinton to Mona Anne McLinton	October 22, 1985



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Owner	Dates of Ownership
Mona Anne McLinton to Richmond Creek Estates Ltd. (in trust)	December 20, 1990
Richmond Creek Estates Ltd. To Betty Dolan	December 12, 2013
Betty Dolan to Richmond Creek Estates Ltd.	December 12, 2013
Richmond Creek Estates Ltd. To 1470424 Ontario Inc.	December 13, 2013 to Date

Table 4: Chain of Title Part 2 (South Part)

Owner	Dates of Ownership
Crown	Prior to April 1824
Crown to Joseph Maxwell	April 1, 1824
There is a gap in the title at this point.	
G.A. Dawson to Thomas H. Seabrook (south part)	April 25, 1896
Estate of Thomas H. Seabrook to Marjorie E.A. Seabrook	July 15, 1943
Marjorie E.A. Leach (formerly Seabrook) to Wilbert McLinton	July 18, 1947
Title then follows similar ownership to Table 3.	

3.1.5 City Directories

A review of historical city directories for the years 1964, 1969, 1974, 1979, 1984, 1990, 1995/96, 2001/02, 2005/06 and 2011 was completed by EcoLog ERIS for the Site and select surrounding properties (within 250 m). The addresses reviewed were:

- Site: 5873 Perth Street, Ottawa, ON
- 5875 Perth Street, Ottawa, ON
- 5925 Perth Street, Ottawa, ON
- 3290 Shea Rd., Ottawa, ON
- 3244 Shea Rd., Ottawa, ON
- 3330 Shea Rd., Ottawa, ON



Based on Golder's review of the city directory information, the following summarizes the noteworthy findings of the city directory review.

Site

- The Site is listed as residential (1 tenant) in the city directories from 1995/96 and 2011. The Site is not listed in the other city directories reviewed.

Surrounding Area

- The properties searched were not listed in the city directories up to 1990;
- The 1995/96 city directory indicates that 3330 Shea Road, 3290 Shea Road, 3244 Shea Road and 5875 Perth Street are each residential (1 tenant);
- The 2000/01 city directory search indicates that 3330 Shea Road, 3290 Shea Road, 3244 Shea Road, 5925 Perth Street and 5875 Perth Street are each residential (1 tenant);
- The 2005/06 city directory search indicates that 3330 Shea Road, 3290 Shea Road and 5875 Perth Street are each residential (1 tenant);
- The 2011 city directory search indicates that 3330 Shea Road, 3290 Shea Road and 5925 Perth Street are each residential (1 tenant);

The review of the city directories does not directly indicate any potentially contaminating activities (PCAs) for the Site.

3.1.6 Environmental Reports

Golder was not provided with any previous environmental reports for the Site.

3.2 Environmental Source Information

3.2.1 EcoLog ERIS Report

Golder contracted EcoLog Environmental Risk Information Services Ltd. (EcoLog ERIS) to conduct a search of environmental sources, including federal, provincial and private sector databases, for information on the Site and Study Area. The EcoLog ERIS report is provided in Appendix C.

The EcoLog ERIS searches included the following databases:

Anderson's Waste Disposal Sites; Certificates of Approval; Environmental Registry; TSSA Commercial Fuel Oil Tanks; Coal Gasification Plants; TSSA Fuel Storage Tanks; National Defence & Canadian Forces Fuel Storage Tanks, Spills, and Waste Disposal Sites; National PCB Inventory; National Pollutant Release Inventory; Ontario Inventory of PCB Storage Sites; Ontario Regulation 347 Waste Receivers Summary; Record of Site Condition; Retail Fuel Storage Tanks; Private and Retail Fuel Storage Tanks; Ontario Spills; Anderson's Storage Tanks; Waste Disposal Sites – MOE CA Inventory; Waste Disposal Sites – MOE 1991 Historical Approval Inventory; Water Well Information Systems, Databases; Boreholes; and the Ontario Regulation 347 Waste Generators Summary.



On-Site

- There were no records identified for the Site in the EcoLog Eris report.

Surrounding Properties within 250 m of the Site

Noteworthy records reported for the Phase One ESA Study Area (excluding the Site) included the following:

- There are nine (9) borehole records for the Study Area identified in the EcoLog ERIS report. Borehole records closest to the Site boundaries indicate that the stratigraphy in the area is clay overburden and limestone bedrock at a depth of approximately 12.8 metres below ground surface (mbgs) to 14 mbgs. Borehole records also indicate that there may be a layer of gravel above the limestone bedrock.
- There are two (2) records for Certificates of Approval (C of A's) within the Study Area.
 - MacEwan Petroleum Inc., located at 5925 Perth Street, Village of Richmond, Ottawa, ON has a C of A for industrial sewage works. The C of A was issued 8/11/2009 and is certificate number 9353-7USSC5;
 - There was a C of A issued to the Richmond Inn Motor Hotel Ltd. For municipal and private water on 9/5/02, and the certificate has since been cancelled. The address was located at 5931 Perth Street West, Ottawa, ON.
- One (1) Environmental Compliance Approval (ECA) was issued to Colonnade Development Incorporated (5873 Perth Street, Richmond, ON). The ECA is for municipal and private sewage and was issued 9/13/2012 and is C of A number 8818-8Y3NCX.
- There (3) records were identified in the ERIS report for fuel storage tanks within the Study Area. All three records pertain to MacEwan Petroleum Inc., which is a gas station located at the corner of Perth Street and Shea Road (5925 Perth Street, Richmond, ON K0A 2Z0);
 - There are two (2) records for 50,000 L fibreglass double wall UST's, which were installed in 2009 and are in use at a self-service gasoline station;
 - There is one (1) record for a 20,000 L fibreglass double wall UST, which was installed in 2009 and is in use at a self-service gasoline station.
- The EcoLog ERIS report indicated one (1) record of a TSSA incident within the Study Area (5873 Perth Line, Ottawa, ON), in which there was a spill. The record does not indicate the cause of the spill, nor does it include the volume or type of material spilt. The record indicates "FS – Perform L1 Incident Insp.". It is suspected that this is the same spill that was reported directly by the TSSA to Golder.
- There are two (2) records pertaining to retail fuel storage tanks reported for the Study Area. Both records are pertaining to MacEwan Petroleum Inc. at 5925 Perth Street, Richmond, ON K0A 2Z0. Both records are for a service station with gasoline, oil and natural gas.
- There are seventy (70) water well information system (WWIS) records within the Study Area. Records nearest to the Site indicate that the static water level is at approximately 10 to 15 ft (3 to 4.6 mbgs) and that the overburden is clay, underlain by limestone at a depth of approximately 40 to 50 ft (12.2 to 15.2 mbgs).



It is not expected that the records identified in the EcoLog ERIS report are indicative APECs for the Site. The MacEwan gasoline station and the Richmond Inn Motor Hotel are expected to be hydraulically down gradient of the Site, as groundwater in the Phase One Study Area is expected to flow towards Jock River, which is located south of Perth Street, approximately 0.36 km southeast of the Site.

3.2.2 Ministry of the Environment

The local district office of the Ministry of the Environment and Climate Change (MOE) was contacted to determine if the MOE has maintained a file with respect to the Site. Specifically, the MOE was asked to respond in writing to the following questions:

- Has the MOE ever issued any approvals, permits or licences for the Site?
- Has the MOE ever issued any control orders or violation notices with respect to the Site?

A response was received from Johanne Veilleux from the MOE Ottawa District Office on April 7, 2015. The MOE indicated that they had received the request.

A response received April 20, 2015 from the MOE indicated that there were no active outstanding orders for the Site. It was reported that there was an order issued to 5873 Perth Street for *Municipal/Private/Industrial Sewage*, issued September 13, 2012. The certificate number is 8818-8Y3NCX and was issued to Colonnade Development Inc. It is expected that this pertains to the commercial development at 5873 Perth Street, within the Study Area but not on-Site.

3.2.3 Abandoned Mine Information System

A search of the AMIS records indicates are no records pertaining to the Site or the Study Area.

3.2.4 City of Ottawa Correspondence

A request was submitted to the City of Ottawa (refer to copy of correspondence in Appendix B), to conduct a search within their Historical Land Use Inventory (HLUI) and environmental (i.e., violations, sewer-use infractions, spills or leaks, waste disposal sites, etc.) databases for information concerning the Site and surrounding area. The request was submitted on April 6, 2015. The HLUI database contains information about the land uses within the City of Ottawa.

A response from the City of Ottawa was received on April 20, 2015. The HLUI request report indicates the following:

- There is a Drummond's Gasoline Service Station located at 5789 Perth Street, Township of Goulbourn. This is located over 250 m from the specific Site and is outside the Study Area, so therefore is not considered a PCA or APEC;
- There is a recreational vehicle dealer located at 5892 Perth Street, Richmond, Ontario. *MyRV* is located approximately 320 m northeast of the Site. It is not expected that the RV dealership represents a PCA or APEC for the Site.

3.2.5 City of Ottawa Documents Review

Prior to the 2001 amalgamation, the City did not have a consolidated database of environmental concerns for City properties and typically referred all inquiries to the *1988 Mapping and Assessment of Former Industrial Sites, City of Ottawa, Intera Technologies Ltd.* (hereafter known as the "1988 Intera Report"). This report



describes an inventory and assessment study of former industrial sites that were active in the former (prior to the 2001 amalgamation) City of Ottawa from 1850 to 1984 that likely produced or handled hazardous wastes and materials. The sites were subsequently screened to identify higher priority sites which were subdivided into Group I, Group II and Group III sites.

- Group I Sites – Sufficient evidence to indicate that wastes are present on-Site and that there is a high potential for environmental impact.
- Group II Sites – Sufficient evidence to indicate that wastes are likely remnant on-Site.
- Group III Sites – Unlikely that significant quantities of waste exist at the Site today and therefore the potential for environmental impact is minimal.

The 1988 Intera Report did not note any sites within approximately 250 m of the Site.

The review of the *2004 City of Ottawa Waste Disposal Sites Inventory* as described in the report entitled *“Old Landfill Management Strategy, Phase 1-Identification of Sites, City of Ottawa, Ontario”*, completed by Golder for the City of Ottawa, dated October 2004 indicated that the Site is not registered as an active or closed waste disposal site. The report indicated that there are no former Ottawa Landfill Sites located within 250 m of the Site.

3.2.6 Ministry of Natural Resources and Forestry

An information request was sent to the MNRF on April 6, 2015. Records requested included any information relating to areas of natural significance in the vicinity of the Site, as well as any other environmental concerns that may be related to the Site and surrounding area.

A response from the MNRF was received May 25, 2015 and indicated that there is a potential for presence of Species at Risk (SAR) at the Site, or in proximity to it, including:

- Barn Swallow (Threatened)
- Bobolink (Threatened)
- Eastern Meadowlark (Threatened)
- Eastern Small-Footed Myotis (Endangered)
- Little Brown Bat (Endangered)
- Northern Long-Eared Bat (Endangered)

There are seven species in the area that are receiving General Habitat Protection:

- Barn Swallow (Threatened)
- Bobolink (Threatened)
- Eastern Meadowlark (Threatened)
- Little Brown Bat (Endangered)
- Northern Long-Eared Bat (Endangered)



Additionally, eight Special Concern Species have been documented to occur either on the site or nearby:

- Milksnake
- Monarch
- Snapping Turtle

If the proposed development on the Site is known to have an impact on the species mentioned above, or any other SAR, an authorization under the Endangered Species Act 2007 may be required. In the event that any SARs are identified during Site works, all work should cease immediately and the MNR should be contacted to obtain guidance on next-steps.

The MNRF also identified natural heritage features and values in the area, including:

- Municipal Drain, Flowing Creek Phase 1 Drain
- Jock River
- Unevaluated Wetland (not evaluated per OWES)
- Wildlife Staging Area, Waterfowl Staging Area

Where natural values and natural hazards exist there may be additional approvals and permitting required from the local Conservation Authority. The MNR recommends contacting the local Conservation Authority for further information and approvals.

A copy of the correspondence is provided in Appendix C.

3.2.7 Technical Standards and Safety Authority (TSSA), Fuel Safety Division Records

The Technical Standards and Safety Authority (TSSA) maintains records related to registered underground storage tanks (USTs) for petroleum-related products. The TSSA was contacted to establish the status of the Site and to identify outstanding instructions, incident reports, fuel oil spills or contamination records. On April 6, 2015 the TSSA reported to Golder via e-mail that there was a record of an environmental report for Site remediation. Follow-up with the TSSA indicated that the report pertained to a spill that had occurred at 5873 Perth Street, Richmond, ON.

The report for Site remediation was obtained from the TSSA on April 23 2015 and was reviewed by Golder. The report indicates that there was a spill reported to the MOE for 5873 Perth Street, Ottawa on April 20, 2011. The spill was reported by Francis Fuels Limited. It was reported by Francis Fuels Ltd. that they were at a vacant house and it appeared as though the previous tenants had used a 5 gallon drum to fill an indoor heating fuel tank from the fill pipe that was outside the home. The fuel tank was in the basement of the house with a fill pipe outside. It was reported that there appeared to be spillage onto the ground. No oil was reported to be seen, but the grass was dead in the area around the fill pipe. The residential dwelling is located off-Site, approximately 100 m southeast of the Site.



The TSSA provided Golder with a remediation report prepared by the Paterson Group on August 25, 2011. Paterson supervised the removal and disposal of approximately 6.8 tonnes of contaminated soil. Paterson contracted Thomas Cavanagh Construction to excavate, transport and dispose of the impacted soil. Soil was disposed of at the Lafleche Leblanc soil recycling facility in Moose Creek, Ontario. Paterson collected three soil samples from the walls and base of the excavation and submitted them for analysis of benzene, toluene, ethylbenzene and xylenes (BTEX) and petroleum hydrocarbon fractions F1 to F4 (PHC F1 to F4). The excavation was extended to 1.5 mbgs and no groundwater was encountered, and therefore no groundwater samples were submitted for analysis. Paterson concluded that the lab results of the soil samples meet the MOE Table 2 (potable groundwater situation) Site Condition Standards (residential) for fine grained soil (2009) for PHCs and BTEX.

Paterson compared the analytical results to the MOE 2009 Standards, which were most recently updated in April 15, 2011. Golder compared the data obtained by Parsons to the now-current MOE 2011 Standards. The analytical results of the soil samples meet the current Table 2 standards (residential) for fine grained soil for PHCs/BTEX. The analytical results also meet the MOE Table 1 (background) standards for all parameters analyzed, with the exception of toluene and PHC F2.

The TSSA record represents a PCA for the Site or Study Area (discussed further in Section 6.2). A copy of the remediation report documentation provided by the TSSA is included in Appendix B.

3.2.8 MOE Waste Disposal Site Inventory, June 1991

A search of the 1991 MOE (*Waste Disposal Site Inventory*) indicated that there are no closed or active waste disposal sites on the Site or on the Phase One Study area. No MOE Registered Waste Disposal Sites are located within 250 m of the Site.

3.2.9 Inventory of Coal Gasification Plant Waste Sites in Ontario, April 1987

A review of the (*Inventory of Coal Gasification Plant Waste Sites in Ontario*) (250 metres radius from the Site) was carried out. The latter classification includes tar distillation plants, creosoting plants, roofing felt and tarred paper products manufacturers, by-product charcoal and coke oven plants of the iron and steel industry, industrial manufactured gas plants, and wood distillation plants.

The review indicated that there are no registered former coal gasification plants or industrial sites producing and/or using coal tar or related tars within 250 m of the Site.

3.2.10 MOE Database on PCB Storage Sites, 2000

Based on a search (250 metre radius from Site) of the MOE database of Polychlorinated Biphenyls (PCB) Storage Sites, the Site is not a registered PCB Storage Site. There are no reported PCB Storage Sites within 250 m of the Site.

3.2.11 MOE Database on Brownfields Environmental Site Registry - Records of Site Condition (RSC)

A search of the brownfields environmental Site registry was carried out for the Site to determine whether a Record of Site condition (RSC) has been filed for the Site. The search indicated that no RSC has been filed for the Site.



3.3 Physical Setting Sources

3.3.1 Aerial Photographs

Aerial photographs of the Site and neighbouring properties for the years 1946, 1963, 1978 and 1996, as well as a Bing image for 2012, were reviewed by Golder. The earliest aerial photograph reviewed was from 1946.

Information obtained from the review of the aerial photographs is summarized in the table below. Copies of the aerial photographs are presented in Appendix D. For the sake of convenience, since the long axis of the Site is at 45 degrees with respect to north, Shea Road is described as being south of the Site, and Perth Street is described as east of the Site.

Table 5: Review of Aerial Images

Year	Site	Surrounding Area
1946 Aerial Image in Appendix D	The Site appears as agricultural lands.	North: There appears to be a stream or watercourse north of the Site, beyond which is agricultural land. South: Shea Road and agricultural land. East: A farm and agricultural lands is located to the east. The farm appears to be located off of Perth Street. West: Agricultural land.
1963 Aerial Image in Appendix D	As per the 1946 aerial image.	North: Stream or watercourse clearly shown north of the Site, winding. Beyond the watercourse remains agricultural. South: As per the 1946 aerial image. East: Additional development (possibly residential construction) along Perth Street visible. West: As per the 1946 aerial image.
1978 Aerial Image in Appendix D	As per the 1963 aerial image.	North: Watercourse appears straighter, less winding. South: Significant residential development has occurred on the south side of Shea Road, across the street from the Site. Residential as well as possible commercial properties are visible. East: As per the 1963 aerial image. West: As per the 1963 aerial image.
1996 Aerial Image in Appendix D	As per the 1978 aerial image.	North: As per the 1978 aerial image. South: Continued development. New neighbourhoods extending south and southwest. East: As per the 1978 aerial image. West: As per the 1978 aerial image with encroaching development from the southwest.



Year	Site	Surrounding Area
2012 Aerial Image in Appendix D	As per the 1996 aerial image.	<p>North: Watercourse is shown straight, no winding. Appears to have been reconstructed as a municipal drain or similar, beyond which remains agricultural land.</p> <p>South: Developed residential community.</p> <p>East: Construction activities visible along the southeastern Site boundary. Multiple buildings appear to be under development.</p> <p>West: Agricultural land to the northwest.</p>

Based on the aerial photographs, the Site appears to have remained undeveloped and in use as an agricultural field since 1946. It is not expected that historical activities on-Site will result in PCAs or APECs. The surrounding properties appear to be primarily used for residential or commercial activities or remain undeveloped. The residential and commercial development is hydraulically cross-to-down gradient of the Site assuming that the localized groundwater flow in the Study Area is towards the Jock River.

3.3.2 Topography, Hydrology and Geology

The following records were reviewed to identify topographic, geologic and hydrogeological conditions at the Site. A topographic map (Ontario Base Map) showing the Site area and the location of any water bodies is provided in Appendix C. Additional information on Site features, as observed at the time of the Site visit, is provided in Section 5.

Table 6: Topography, Hydrology and Geology

Topic	Conditions	Comment / Source
Topography of Site and Surrounding Area	The Site is relatively flat with a slight slope to the northeast, towards the watercourse located approximately 80 m north of the Site.	Site and surrounding area observations
Overburden Soils	<p>Surficial geology at the Site indicates that the Site is offshore marine deposits of clay, silty clay and silt.</p> <p>The survey soil complex (Ontario soils) on Site is Brandon.</p> <p>Physiography of the Site indicates that there are clay plains on-Site and within the Study Area.</p>	<p>Map 1506A, <i>Surficial Geology, Ottawa, Ontario</i>, Belanger J. R., Urban Geology of the National Capital Area, Geological Survey of Canada, Open file D3256, 2001</p> <p>Figure 5 – Surficial Geology</p> <p>Figure 8 -Physiography Map</p> <p>Figure 4 – Survey Soil Complex</p> <p>Figure 8 – Physiography Map</p>



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Topic	Conditions	Comment / Source
Type of Bedrock	Bedrock at the Site consists of Oxford Formation (sublithographic to fine crystalline dolostone).	Map 1508A. <i>Generalized Bedrock Geology</i> , Ottawa, Ontario, Belanger J. R., Urban Geology of the National Capital Area, Geological Survey of Canada, Open file D3256, 2001 Figure 6 – Bedrock Geology
Depth to Bedrock	No on-Site borehole records indicating depth to bedrock were reported. Water well records for the area indicate that bedrock is expected to be encountered at a depth of approximately 40 to 50 ft (12.2 to 15.2 mbgs).	EcoLog ERIS Report
Inferred Near Surface Groundwater Flow	There is a watercourse running approximately 80 m northeast of the Site. The Jock River is also located approximately 360 m southeast of the Site. It is expected that localized groundwater flow on-Site will be radially away from the Site towards the watercourse at the northeast, east and southeast, which conveys water to the Jock River. There is a ditch between the Site and the property to the northwest (agricultural field).	Site and surrounding area observations, Topographic Map
Site Grade Relative to the Adjoining Properties	The Site is below grade of the property to the east (Independent Grocery Store, Tim Horton's and TD Bank). The Site is at a similar grade as the properties surrounding it in other directions.	Site observations
Depth to Groundwater	No WWIS or borehole records were provided for the Site. However, WWIS records in the Study Area indicated that the static water level is at approximately 10 to 15 ft (3 to 4.6 mbgs).	EcoLog ERIS Report

3.3.3 Fill Materials

Table 7: Fill Materials

Topic	Conditions	Comment / Source
Fill Materials	No fill materials observed on-Site.	Site observations, aerial images



3.3.4 Water Bodies and Areas of Natural Significance

Table 8: Water Bodies and Areas of Natural Significance

Topic	Conditions	Comment / Source
Nearest Open Water Body	There is a small watercourse running approximately 80 m northeast of the Site. A larger watercourse, the Jock River, is also located approximately 360 m southeast of the Site.	Topographic Map, Site Plan, Aerial Images
Areas of Natural Significance	There are no provincially significant wetlands within the Study Area. There is a wetland area northwest of the Site, but it has not been deemed provincially significant.	Figure 4

3.3.5 Well Records

Table 9: Well Records

Topic	Conditions	Comment / Source
Water Wells on Site (location, stratigraphy of the overburden, from ground surface to bedrock, depth to bedrock, depth to water table, drilling date, use)	No water wells were identified within the Site boundaries in the historical records.	EcoLog ERIS Report, Site Visit
Water Wells on the Neighbouring Properties (location, stratigraphy of the overburden, from ground surface to bedrock, depth to bedrock, depth to water table, use)	There are seventy (70) water well information system (WWIS) records within the Study Area. The residential development on the south side of Shea Road relies on water wells. Records nearest to the Site indicate that the static water level is at approximately 10 to 15 ft (3 to 4.6 mbgs) and that the overburden is clay, underlain by limestone at a depth of approximately 40 to 50 ft (12.2 to 15.2 mbgs). Wells in the area are primarily used for private water sources at residences. Commercial properties in the area also retrieve their water from wells. It was reported that there was one monitoring well observed on-Site at the time of the Site visit.	EcoLog ERIS Report, MOE

3.4 Site Operating Records

At the time of the Site visit, the Site was undeveloped. No Site operating records were provided to Golder for review.



4.0 INTERVIEWS

Golder was unaccompanied at the time of the Site visit. An interview form was completed by Ms. Lisa Dalla Rosa of Cardel Homes (hereinafter referred to as the “Site Representative”) prior to the Site visit. The Site Representative was requested to respond to a detailed environmental questionnaire in April of 2015, which was completed and additional Site history information was provided. Pursuant to the requirements O. Reg. 153/04, the Site representative was interviewed as the “current owner” with knowledge of current Site operations.

Relevant information obtained by interviews is provided in Section 6.0.



5.0 SITE RECONNAISSANCE

5.1 General Requirements

Ms. Jillian Lackey (Environmental Consultant) with Golder visited the Site for one and a half hours on April 20, 2015 at 8:00 am. The Site visit consisted of a walk-around the Site along with a cursory inspection of surrounding properties from the Site and publicly accessible areas. The weather conditions were overcast and raining and the temperature was approximately 5°C.

Photographs of relevant features noted during the Site visit are provided in Appendix E.

5.2 Specific Observations at Site

The specific observations made during the Site visit are presented in the following sections. The Site Representative accompanied the Site assessor to the Site and all areas of the Site were investigated.

Table 10: Specific Observations at Site

Topic	Observations	Source
<u>Structures</u> Number and Age of Buildings on the Site	No buildings or structures were located on the Site.	Site Observations, Aerial Images
General Descriptions of Each Building (including improvements)	Not Applicable	Not Applicable
Building Areas	Not Applicable	Not Applicable
Number of Floors (include all levels, whether above or below ground)	Not Applicable	Not Applicable
Number, Age, and Depth of Levels Below Ground Level	Not Applicable	Not Applicable
Number and Details of all Aboveground Storage Tanks (ASTs)	There were no ASTs located on Site at the time of the Site reconnaissance. There was no evidence of historical ASTs on-Site. There was no staining or stressed vegetation observed on-Site at the time of the Site reconnaissance.	EcoLog ERIS, Site Representative, Site Observations
Number and Details of all Underground Storage Tanks (USTs)	There were no USTs located on Site at the time of the Site reconnaissance. There was no evidence of historical USTs on-Site. There was no staining or stressed vegetation observed on-Site at the time of the Site reconnaissance.	EcoLog ERIS, Site Representative, Site Observations
<u>Underground Utilities</u> Potable and Non-Potable Water Sources	The Site is not serviced by water. There are no water wells on-Site. Adjacent properties, and other properties within the Study Area, are serviced by water wells.	Site Observations, Site Representative, EcoLog ERIS



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Topic	Observations	Source
Utility Lines Present (i.e., Electrical, Natural Gas, other)	The Site is not connected to the local electricity transmission system. Neighbouring properties have electrical power supply via overhead transmission lines. Natural gas lines run along Shea Road (as indicated by signage noted during the Site visit).	Site Observations, Site Representative
Sanitary/Process Wastewater Receptor	No sanitary or process wastewater is generated on-Site.	Site observations
Sanitary Sewer Connection	The Site is not connected to the sanitary sewer system. The area surrounding the Site is reported to be serviced by the sanitary sewer.	Site Observations, Site Representative
Septic Systems	There is no septic system located on-Site.	Site Observations, Site Representative
Storm Water Flow	Storm water on-Site is able to infiltrate into the permeable soil surfaces. Overland flow is conveyed in ditches along Shea Road, between the Site and the property to the northwest and to the watercourse north of the Site.	Site Observations, Site Representative
Storm Sewer Connection	There is no storm water connection on the Site.	Site Observations, Site Representative
<u>Interior of Structures</u> Entry and Exit Points for Site Buildings	Not Applicable	Not Applicable
Existing and Former Heating System(s) (include fuel type / source)	Not Applicable	Not Applicable
Existing and Former Cooling System(s) (include fuel type / source)	Not Applicable	Not Applicable
Drains, Pits, and Sumps (include current use, if any, and former use)	None observed on Site	Site Observations
Unidentified Substances	None observed on Site	Site Observations
Floor Stains or Corrosion Located near a Potential Discharge Location	Not Applicable	Not Applicable



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Topic	Observations	Source
Miscellaneous Exterior Location of any Current and Former Wells	There was one monitoring well reported on-Site.	Site Observations
Ground Cover (i.e., grass, gravel, soil, or pavement, etc.)	The Site is vacant land, used for agricultural purposes. The remains of corn stalks from last season's crop were still located on the Site.	Site Observations
Current or Former Railway Lines or Spurs	None identified on the Site	Site Observations, Aerial Images
Presence of Stained Soil, Vegetation, or Pavement	None identified on the Site.	Site Observations
Presence of Stressed Vegetation	None identified on the Site. All vegetation appeared abundant.	Site Observations
Areas Where Fill and/or Debris Materials Appear to Have Been Placed	There were no areas of fill or debris reported to be located on the Site. There were no obvious areas where fill was placed on-Site. Fill material is likely to have been placed on surrounding properties during development.	Site Observations, Site Representative
Potentially Contaminating Activity	None observed or reported	Site Observations, Site Representative
Unidentified Substances	None observed or reported	Site Observations, Site Representative

5.2.1 Enhanced Investigation Property

The Site is not considered to be an enhanced investigation property; however the investigation was conducted in a manner consistent with the requirements for enhanced investigation properties as described in subsection 13(3) of O. Reg. 153/04. Relevant information is reported in the following table:

Table 11: Enhanced Investigation Property

Topic	Observations	Source
Operations at the property, including processing or manufacturing	The Site is undeveloped vacant land. No operations observed or reported, beyond agriculture.	Site Observations
Hazardous materials used or stored at the Site	None observed or reported	Site Observations, Site Representative



Topic	Observations	Source
Products manufactured at the Site	None observed or reported	Site Observations, Site Representative
By-products and wastes at the Site	None observed or reported	Site Observations, Site Representative
Raw materials handling and storage locations at the Site	None observed or reported	Site Observations, Site Representative
Location and contents of drums, totes and bins at the Site	None observed or reported	Site Observations, Site Representative
The location, installation date, source of incoming liquid and effluent discharge location for all oil-water separators	None observed or reported	Site Observations, Site Representative
All vehicle and equipment maintenance areas, including the locations of maintenance, fluid storage, and waste storage areas	None observed or reported	Site Observations, Site Representative
Details of all spills including the dates, locations, materials involved, and volumes of material spilled	None observed or reported	Site Observations, Site Representative
Details of liquid discharge points such as water and French drains, including their locations	None observed or reported	Site Observations, Site Representative
Details of all hydraulic lift equipment at the property, including elevators, in-ground hoists and loading docks	None observed or reported	Site Observations

5.3 Surrounding Land Use

During the Site visit, a visual reconnaissance of the outdoor operations in the Phase One Study Area was carried out from the Site and publicly accessible areas.

The surrounding properties include residential and commercial development, as well as agricultural, as illustrated on Figure 2. The zoning for the Site and properties northeast is *Development Reserve*. Zoning for the Study Area along Shea Road is *Village Residential First Density Zone* (detached dwellings). North of the Site is zoned *Agricultural*. The area directly southeast of the Site (grocery store, bank and Tim Horton's) is a *Rural Commercial Zone*, which permits the development of highway and recreational commercial uses to serve the rural community.



North: Properties to the north of the Site are primarily agricultural. There are multiple farms and associated farmland located north of the Site. Directly north to northeast of the Site is a watercourse (80 m), which conveys water to the Jock River, located to the southeast of the Site. There is an area of fill north of the Site boundaries where a driveway has been constructed between the Site property and the adjacent farmland. The fill material is gravel. A culvert has also been installed to allow water in the ditch between the two properties to continue to be conveyed to the watercourse and onto the Jock River.

Northeast of the Site, at the edge of the field, there was an area that appeared to have burnt vegetation. During the Site visit it appeared as though there had been a small contained fire extending to the edge of the field (Figure 2). There was also some charred newspaper along the edge of the field.

West: Properties to the west of the Site are primarily low-density residential on large lots. Single detached dwellings are located along the south side of Shea Road to the west of the Site. To the west of the homes there is agricultural land.

South: Directly south of the Site is Shea Road and residential development. Southeast of the Site is the grocery store (see below). At the southern Study Area boundary there is a gas station and other commercial buildings.

East: Directly southeast of the Site is a grocery store. On the grocery store property there are two pad mounted transformers along the property limits (Figure 2). The pad mounted transformer appeared to be in good condition and there was no sign of leaks or spills at the time of the Site visit. There is a utility building near the boundary between the grocery store property and the Site. The building is newer construction and has electrical services. The grocery store also has multiple waste disposal bins and a larger dumpster. There appears to be some debris encroaching on the Site from those bins (newspaper, paper products, general items that are carried easily by the wind). There are small areas of debris located on the grocery store property, including an asphalt pile (Figure 2) and strewn development debris along the property boundary. There is also a Tim Horton's coffee shop and a TD bank located in the complex containing the grocery store.

In addition, properties to the east of the Site include agricultural land, the watercourse that moves water to the Jock River, and beyond which is an RV dealership. The land to the east of the Site was quite marshy and wet at the time of the Site visit. There was also a drop in elevation towards the Jock River, which is at a lower grade than surrounding land.

5.4 Written Description of Investigation

At the time of the Site reconnaissance, conducted on April 20, 2015, the Site consisted of approximately 4.07 hectares (10.06 acres) of undeveloped land. The Site is used for agricultural purposes and at the time of the Site visit it was noted that there are the remains of last season's corn crop located on the Site. The surrounding properties are mixed commercial, residential and agricultural land uses, which includes multiple detached dwellings, a grocery store, TD bank, Tim Horton's, gas station and farm land. There is also a watercourse (possible municipal drain) within the Study Area.

During the Site visit it was noted that there was a monitoring well located at the southeastern part of the Site. The monitoring well was installed to conduct hydrogeological investigations associated with the proposed residential development.



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There were findings from the Site and area reconnaissance that indicate a PCA for the Site. PCAs for the Site and from the Study Area include:

- TSSA and EcoLog ERIS reported spill and TSSA remediation report reviewed for 5873 Perth Street, Richmond, ON;
- Fill near the northern Site boundary and fill/debris piles near the eastern Site boundary adjacent to the grocery store property;
- Presence of a gasoline outlet in the Study Area; and,
- Presence of pad mounted transformers near the Site boundary.

There were no findings that results in an APEC on-Site.



6.0 REVIEW AND EVALUATION OF INFORMATION

6.1 Current and Past Uses of the Site

A title search was not provided for the Site. Limited Site records were available from which the first determined land use was derived. The following summarizes the current and past uses of the Site:

Table 12: Current and Past Uses of the Site

Year(s)	Name of Owner(s)	Description of Property Use	Property Use	Other Observations from Aerial Photographs, Fire Insurance Plans, Etc.
Prior to 1824	Crown	Agricultural/ Undeveloped	Unknown	No aerial photograph coverage available prior to 1946. The title search indicates that the land was purchased from the Crown by Joseph Maxwell on April 1, 1824.
1824 to 2013	Various Owners	Agricultural/ Undeveloped	Unknown, most likely farming.	Aerial images show the Site as agricultural fields from 1946 to 2013. The Site visit did not yield any indications of land uses other than agricultural or vacant.
2013 to Present	1470424 Ontario Inc.	Agricultural/ Undeveloped	The current property owner has allowed for continued use as an agricultural field during development planning.	The Site was purchased by the current owner in 2013 and is planned for development of a residential community. At the time of the Site visit a monitoring well was noted (hydrogeological study) and survey stakes were present on-Site.

The compiled information indicates that the Site was undeveloped or agricultural land from the time from its Crown Grant in 1824. The Site remains undeveloped (used only for agricultural fields) and aerial imagery shows no development throughout the history of the Site.

6.2 Potentially Contaminating Activity

Potentially contaminating activities, which if currently or historically carried out at a site, may contribute to an APEC. Based on the information obtained as part of this Phase One ESA, PCAs were identified for the Site and Study Area.

Table 13: Potentially Contaminating Activity

Location	PCA	Description of Potentially Contaminating Activities	Status
Phase One ESA Site/Study Area	Spill of unknown material and volume.	The EcoLog ERIS report indicated a record of a TSSA incident at the same address as the Study Area (5873 Perth Street, Ottawa, ON).	It was confirmed through the review of the remediation report submitted to the TSSA by the Paterson Group in 2011 that the



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Location	PCA	Description of Potentially Contaminating Activities	Status
5873 Perth Street, Richmond, Ontario		<p>The reported incident was a spill.</p> <p>The TSSA reported that a spill occurred and that there was a record of an environmental report for Site remediation. Follow-up with the TSSA indicated that the report pertained to a spill that had occurred at 5873 Perth Street, Richmond, and that excavation and confirmation sampling had been carried out at an old farmhouse that was associated with the Site, but is located off-Site.</p>	<p>spill did not occur on the Site. The spill occurred at the residence (farm house) approximately 100 metres south of the Site, behind the Independent grocery store.</p> <p>The remediation report by Paterson reported that the analytical results of the confirmation sampling indicated that all results met the MOE Table 2 (2009) site specific standards. Golder compared the results to the updated 2011 MOE standards and determined that the analytical results met the current MOE Table 2 criteria. Paterson concluded that no further remedial work was recommended for the property.</p> <p>This PCA is not considered to represent an APEC for the Site. The remediated spill area is 100 m from the Site and hydrogeologic conditions in the area indicate that the spill location is down-gradient of the Site and groundwater flow direction in the vicinity of the Site would convey groundwater away from the Site. Also, it was reported that the remedial excavation was successful at cleaning up the spill.</p>
Phase One ESA Study Area (located north of the Site boundary)	#30: Importation of Fill Material of Unknown Quality	Construction of a gravel driveway between the Site and the property (field) to the north. Driveway was constructed with a culvert to allow for continued ditch conveyance of surface water.	It is not suspected that the importation of fill results in an APEC for the Site. Groundwater flow direction is expected to be to the north towards the watercourse and therefore the fill is considered to be cross-gradient of the Site.
Phase One ESA Study Area (located south of the Site boundary)	#28: Gasoline and Associated Products Storage in Fixed tanks	The MacEwan gasoline service station is located at the southeastern Study Area boundary. There are records indicating that there are multiple USTs on the property. There is also a C of A for industrial sewage works for that address.	The presence of a gasoline station within the Study Area does not likely represent and APEC for the Site. The gasoline station is considered to be hydraulically down-gradient of the Site, as groundwater in the vicinity of the gas station is expected to flow towards Jock River.



Location	PCA	Description of Potentially Contaminating Activities	Status
Phase One ESA Study Area (located near the southeastern Site boundary)	#18: Electricity Generation, Transformation and Power Stations	There are two pad mounted transformers located near the southeastern Site boundary, near the grocery store. They are located off-Site, within the Study Area.	The presence of the pad mounted transformers is not expected to present an APEC for the Site. The transformers were newer construction and there were no signs of leaks or staining noted during the Site visit. Also, it is expected that the location of the transformers is hydraulically cross-to-down gradient of the Site as water would flow away from the Site towards the watercourse northeast of the Site or to the Jock River south of the Site.

6.3 Areas of Potential Environmental Concern

Based on the information obtained as part of this Phase One ESA, no APECs were identified on the Site or within the Study Area.

6.4 Conceptual Site Model

The following key Site features (as required by O. Reg. 153/04) are presented in Figures 1 through 8:

- Existing buildings and structures;
- Water bodies and areas of natural significance located in the Phase One Study Area;
- Drinking water wells on the Site;
- Roads (including names) within the Phase One Study Area;
- Uses of properties adjacent to the Site; and
- Location of identified PCAs in the Phase One Study Area, if any (including any storage tanks).

The following describes the Phase One ESA conceptual site model for the Site based on the information obtained and reviewed as part of this Phase One ESA:

- The Site is approximately 4.07 hectares (10.06 acres) in area; no buildings were located on-Site;
- There is a ditch at the northwestern Site boundary that conveys water to the watercourse running approximately 80 m northeast of the Site. The watercourse (which is possibly a municipal drain) conveys water to the Jock River is also located approximately 360 m southeast of the Site. The property along the southwestern/western Site boundary along Shea Road is of slightly lower elevation, resulting in preferential flow path for storm water runoff, moving water off the Site and towards the nearest watercourse;



- No water well information records were identified for the Site. Potable water is provided to the Study Area by private wells. The Site is not connected to the municipal water system. Water well records for the Study Area indicate that the static water level is at approximately 10 to 15 ft (3 to 4.6 mbgs);
- At the time of the Site visit the Site was vacant land that is harvested for agricultural purposes. There were the remains of a corn crop from last season on the Site. The Site has been undeveloped or used as agricultural land since first land use. There are no indications that the Site had any industrial use or any of the following commercial uses: vehicle garage, bulk liquid dispensing facility, or dry cleaning facility;
- At the time of the Phase One ESA, the neighbouring properties within the Study Area consisted of predominately agricultural, residential and commercial land uses. A grocery store, bank and Tim Horton's are located on the other part of 5873 Perth Street. Residences are located southwest of the Site along Shea Road. There is a gas station located within the Study Area, at the intersection of Shea Road and Perth Street;
- Four PCAs were identified for the Site and the Study Area;
 - TSSA and EcoLog ERIS reported spill and TSSA remediation report reviewed for 5873 Perth Street, Richmond, ON;
 - Fill near the northern Site boundary and fill/debris piles near the grocery store property;
 - Presence of a gasoline outlet in the Study Area; and,
 - Presence of pad mounted transformers near the Site boundary.
- No APECs were identified for the Site;
- Underground utilities are known to be present within the Study Area, including: sewer, natural gas and possibly communication lines. The Site is undeveloped and therefore not hooked up to utilities, but they are available in the vicinity of the Site;
- Surficial geology at the Site indicates that the Site is offshore marine deposits of clay, silty clay and silt. The survey soil complex (Ontario soils) on Site is Brandon. Physiography of the Site indicates that there are clay plains on-Site and within the Study Area. Water well records in the Study Area indicate that the overburden is clay, underlain by limestone at a depth of approximately 40 to 50 ft (12.2 to 15.2 mbgs);
- It is expected that groundwater flow on-Site will be radially away from the Site, towards the watercourse in the northeast (approximately 80 m from the Site), over the western part of the Site and towards the Jock River (which is located 360 m southeast of the Site) over the eastern part of the Site.

6.4.1 Uncertainty and Absence of Information

There were no material deviations to the Phase One ESA requirements set out in O.Reg. 153/04 (as amended) that would cause uncertainty or absence of information that would affect the validity of the findings of this assessment.



7.0 CONCLUSIONS

7.1 Need for a Phase Two ESA

Based on the information obtained and reviewed as part of this Phase One ESA, no APECs were identified in association with the Site.

7.2 Record of Site Condition Based on Phase One Environmental Site Assessment Alone

As indicated above, no APECs were identified in association with the Site. There is no evidence that the neighbouring properties in the Study Area were, or are, used for an industrial use or any of the following commercial uses: vehicle garage, bulk liquid dispensing facility, or dry cleaning facility (gasoline station). It is not anticipated that the adjacent land uses will have an impact on the soil or groundwater at the Site. Accordingly the Site is suitable for any of the property uses listed in subsection 1(2) of the regulation.



8.0 REFERENCES

The following documents and/or data were cited in this report:

Source	Date
Ontario Regulation 153/04 as amended	October 31, 2011
Canadian Standards Association Document Z768-01 'Phase One – Environmental Site Assessments'	November 2001
Map 1506A, <i>Surficial Geology</i> , Ottawa, Ontario, Belanger J. R., Urban Geology of the National Capital Area, Geological Survey of Canada, Open file D3256, 2001.	2001
Map 1508A, <i>Generalized Bedrock Geology</i> , Ottawa, Ontario, Belanger J. R., Urban Geology of the National Capital Area, Geological Survey of Canada, Open file D3256, 2001	2001
<i>Golder Associates Ltd. GIS Database</i> (Reference - Digital Basemap Data supplied by DMTI Spatial Inc., Canmap, 2006).	2006
Aerial Photographs – Obtained by EcoLog ERIS	1946, 1963, 1978, 1996
Bing Images	2012
Fire Insurance Plan, Property Underwriters' Plans and Reports	FIP – none PURs – none PUPs – none
City Directories, obtained by EcoLog ERIS	1964, 1969, 1974, 1979, 1984, 1990, 1995/96, 2001/02, 2005/06 and 2011
EcoLog ERIS report	April 8, 2015
Ontario Ministry of the Environment Information request	April 20, 2015
City of Ottawa	April 20, 2015
Ministry of Natural Resources	April 25, 2015
Technical Standards and Safety Authority	April 6, 2015



9.0 LIMITATIONS AND USE OF REPORT

This report (the "Report") was prepared for the exclusive use the Cardel Homes (Cardel) for the express purpose of providing advice with respect to the environmental condition of the Site. In evaluating the Site, Golder Associates Ltd. (Golder) has relied in good faith on information provided by others as noted in the Report. We have assumed that the information provided is factual and accurate. We accept no responsibility for any deficiency, misstatement or inaccuracy contained in this Report as a result of omissions, misinterpretations or fraudulent acts of persons interviewed or contacted, or incomplete or inaccurate historical information from the various agencies. Any use which a third party makes of this Report, or any reliance on or decisions to be made based on it, is the sole responsibility of such third party. If a third party requires reliance on this Report, prior written authorization from Golder is required. Golder disclaims any responsibility of consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

The scope and the period of Golder's assessment are described in this Report, and are subject to restrictions, assumptions and limitations. Except as noted herein, the work was conducted in accordance with the scope of work and terms and conditions of Golder's proposal. Golder did not perform a complete assessment of all possible conditions or circumstances that may exist at the Site referenced in the Report. Conditions may therefore exist which were not detected given the limited nature of the assessment Golder was retained to undertake with respect to the Site and additional environmental studies and actions may be required. In addition, it is recognized that the passage of time affects the information provided in the Report. Golder's opinions are based upon information that existed at the time of the writing of the Report. It is understood that the services provided for in the scope of work allowed Golder to form no more than an opinion of the actual conditions at the Site at the time the Site was visited, and cannot be used to assess the effect of any subsequent changes in any laws, regulations, the environmental quality of the Site or its surroundings. Asbestos and mould surveys were not performed. If a service is not expressly indicated, do not assume it has been provided.

The results of an assessment of this nature should in no way be construed as a warranty that the Site is free from any and all contamination from past or current practices.



10.0 STATEMENT OF COMPLETION

The undersigned confirm that this Phase One Environmental Site Assessment was conducted in a manner consistent with the expected standard of care for the consulting industry in Ontario and meets the requirements for Phase One ESAs as set out in O. Reg. 153/04.



11.0 QUALIFICATIONS OF THE ASSESSORS

Jillian Lackey, M.A.Sc., E.I.T., Environmental Consultant

Jillian Lackey is a Junior Environmental Consultant with Golder Associates in Ottawa. She has a Bachelor degree in Civil Engineering (environmental stream) and a Master's degree in Civil Engineering (environmental focus). She is responsible for conducting numerous environmental site assessment Phase One's in accordance with the federal and provincial requirements (Reg. 153/04) including conducting contaminated site investigations, interviews, site visits, obtaining and reviewing historical and regulatory records, report writing, project management and proposal preparation.

Don Plenderleith, M.Sc., P. Eng., PMP, Principal – Senior Reviewer

Mr. Don Plenderleith is an Environmental Engineer, Principal and senior project manager at Golder, with 24 years of experience in conducting Environmental Site Assessment and remediation of contaminated sites. His site experience includes: Phase One and II ESAs and site remediation projects at commercial and industrial properties, military bases, abandoned mine sites, railway yards, navigational sites, correctional facilities and research labs. Mr. Plenderleith is fully familiar with the CSA Standard Z768-01 Phase One ESAs and the Ontario Regulation 153/04, as amended requirements for Phase One ESAs. He is a Qualified Professional as defined under Ontario Environmental Regulation.



12.0 CLOSURE

We trust that the information presented in this report meets your current requirements. Should you have any questions or concerns, please do not hesitate to contact the undersigned.

GOLDER ASSOCIATES LTD.

Jillian Lackey, M.A.Sc., E.I.T.
Environmental Consultant

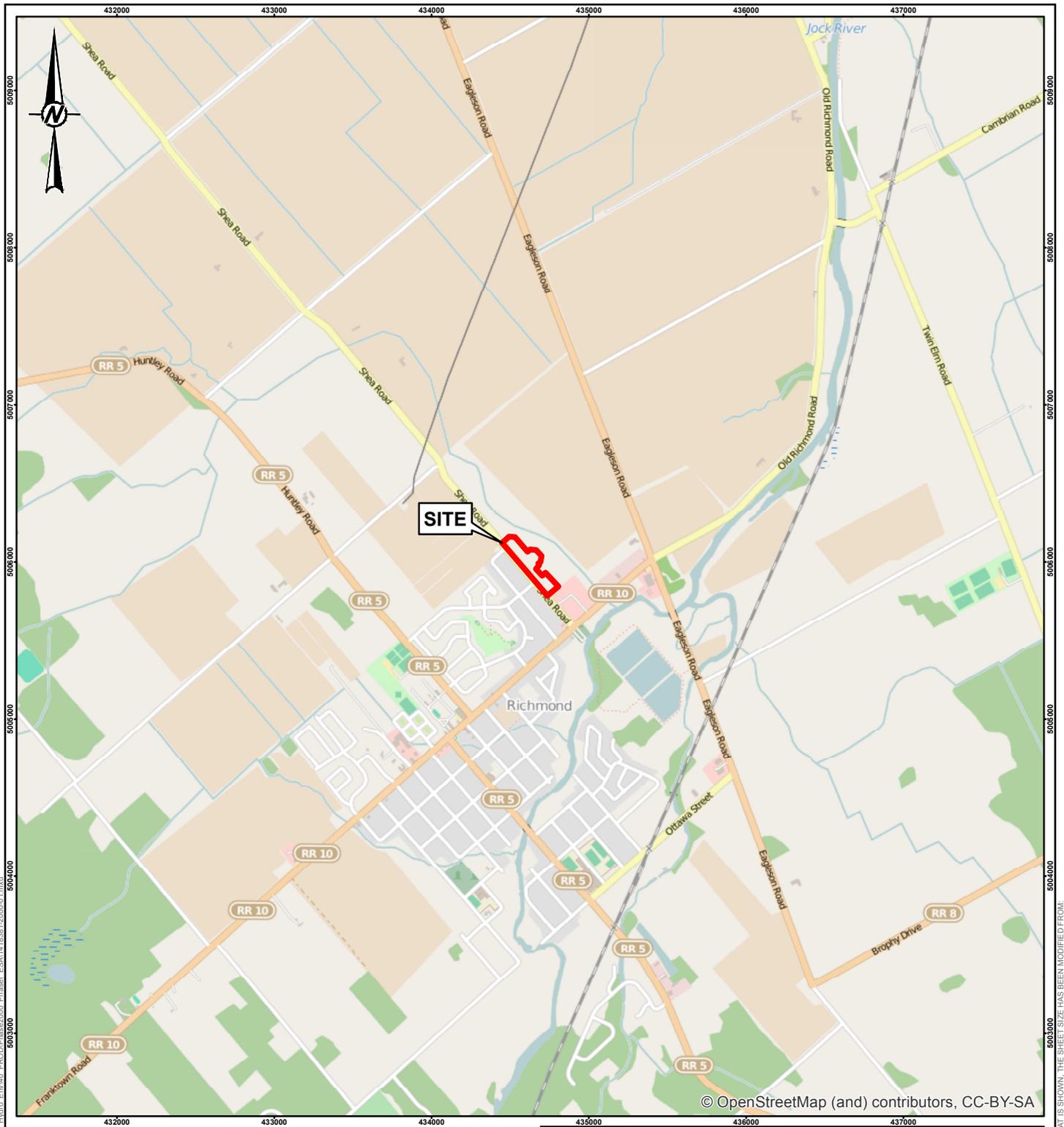
Don Plenderleith, M.Sc., P.Eng., PMP.
Principal/Senior Project Manager



JL/DHP/hw

\\golder.gds\galottawa\active\2014\1127 - geosciences\1418381 cardel hydrogeology richmond\environment - phase i esafinal report\1418381 phase i report (o reg 153)_2015-06-12.docx

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CLIENT
CARDEL HOMES

PROJECT
**PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
 PROPOSED RESIDENTIAL SUBDIVISION, 5873 PERTH STREET,
 OTTAWA (VILLAGE OF RICHMOND), ONTARIO**

TITLE
KEY PLAN

CONSULTANT	YYYY-MM-DD	2015-04-06
	DESIGNED	----
	PREPARED	JEM
	REVIEWED	JL
	APPROVED	DHP



PROJECT NO. 1418381	PHASE 2000	REV. 0	FIGURE 1
------------------------	---------------	-----------	--------------------

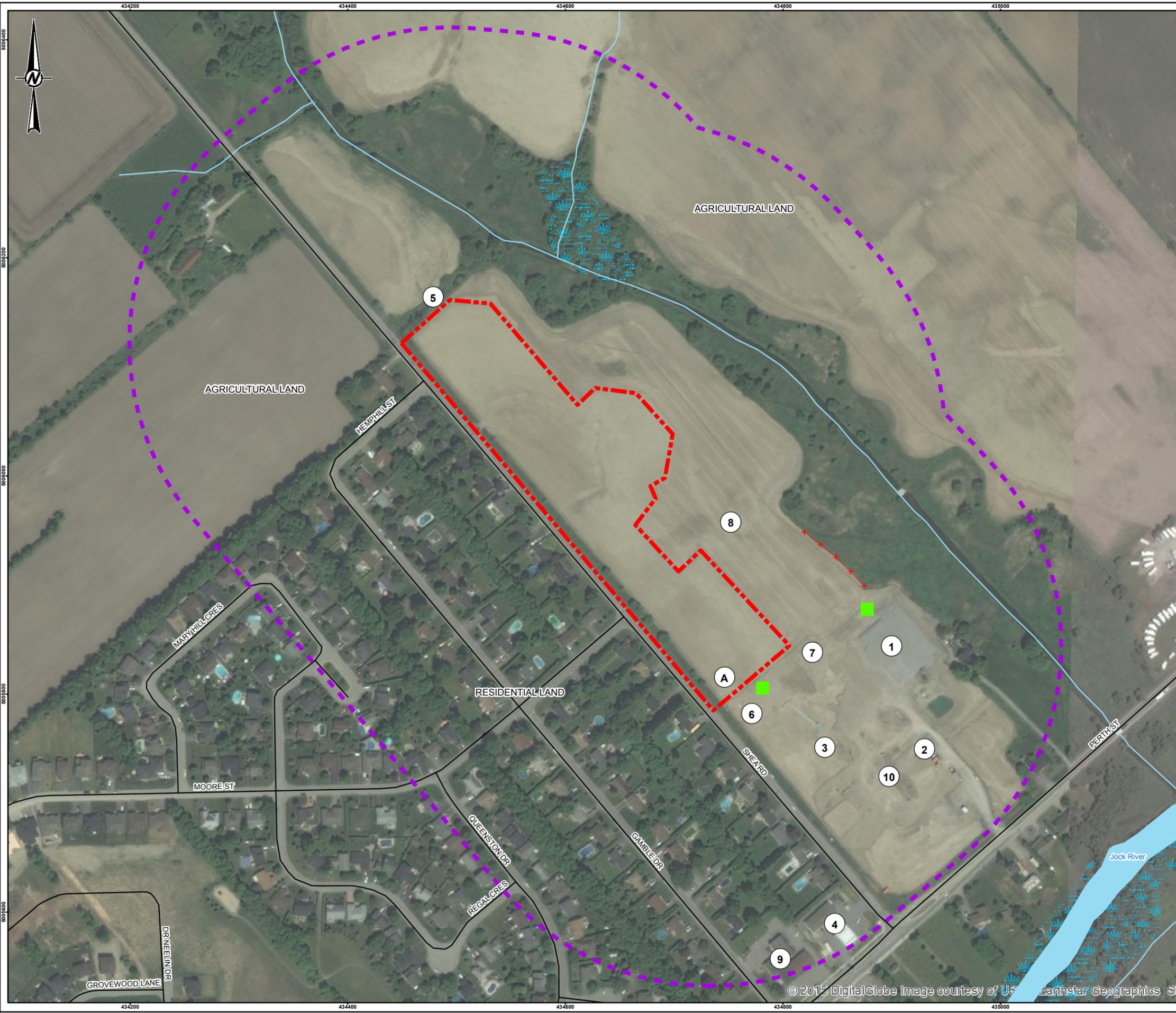


NOTE(S)
 1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDBER
 ASSOCIATES LTD. REPORT NO. 1418381/2000

REFERENCE(S)
 1. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
 COORDINATE SYSTEM: UTM ZONE 18 VERTICAL DATUM: CGVD28

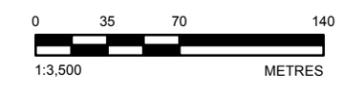
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm



- LEGEND**
- PAD-MOUNTED TRANSFORMER
 - ✕ POSSIBLE LIMIT OF FIRE
 - ROADWAY
 - WATERCOURSE
 - WATERBODY
 - WETLAND
 - PHASE ONE ESA SITE BOUNDARY
 - PHASE ONE ESA STUDY AREA

- OFF-SITE**
- 1: GROCERY STORE (INDEPENDENT)
 - 2: TD BANK
 - 3: TIM HORTON'S
 - 4: MaCEWAN GAS STATION
 - 5: FILL DRIVEWAY/CULVERT
 - 6: AREA OF DEBRIS PILE
 - 7: UTILITY BUILDING
 - 8: OLD WATER WELL
 - 9: RICHMOND MOTOR INN (5921 PERTH STREET)
 - 10: APPROXIMATE LOCATION OF ECA FOR MUNICIPAL SEWAGE
- ON-SITE**
- A: APPROXIMATE LOCATION OF MONITORING WELL



NOTE(S)
 1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT NO. 1418381/2000

REFERENCE(S)
 1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2014
 2. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
 COORDINATE SYSTEM: UTM ZONE 18 VERTICAL DATUM: CGVD28

CLIENT
 CARDEL HOMES

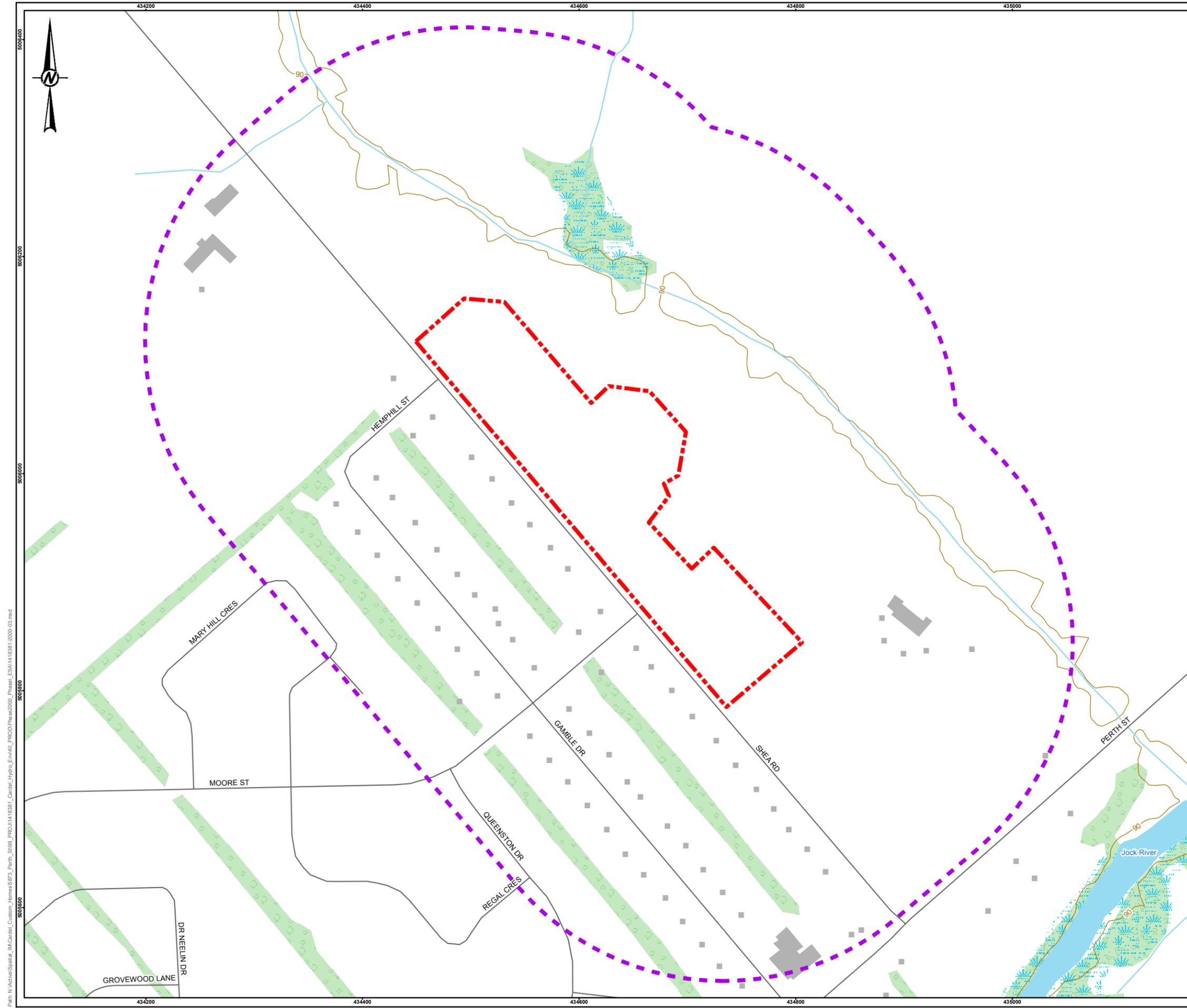
PROJECT
 PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
 PROPOSED RESIDENTIAL SUBDIVISION, 5873 PERTH STREET,
 OTTAWA (VILLAGE OF RICHMOND), ONTARIO

TITLE
 SITE PLAN

CONSULTANT	YYYY-MM-DD	2015-04-06
	DESIGNED	---
	PREPARED	JEM
	REVIEWED	JL
	APPROVED	DHP

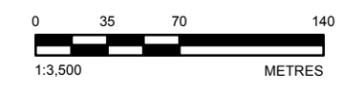
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 © 2015 DigitalGlobe Image courtesy of US Earthstar Geographics SIK

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 28mm



LEGEND

- BUILDING POINT
- ROADWAY
- WATERCOURSE
- TOPOGRAPHIC CONTOUR, metres
- BUILDING FOOTPRINT
- WATERBODY
- WETLAND
- WOODED AREA
- PHASE ONE ESA SITE BOUNDARY
- PHASE ONE ESA STUDY AREA



NOTE(S)
 1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT NO. 1418381/2000

REFERENCE(S)
 1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2014
 2. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
 COORDINATE SYSTEM: UTM ZONE 18 VERTICAL DATUM: CGVD28

CLIENT
CARDEL HOMES

PROJECT
**PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
 PROPOSED RESIDENTIAL SUBDIVISION, 5873 PERTH STREET,
 OTTAWA (VILLAGE OF RICHMOND), ONTARIO**

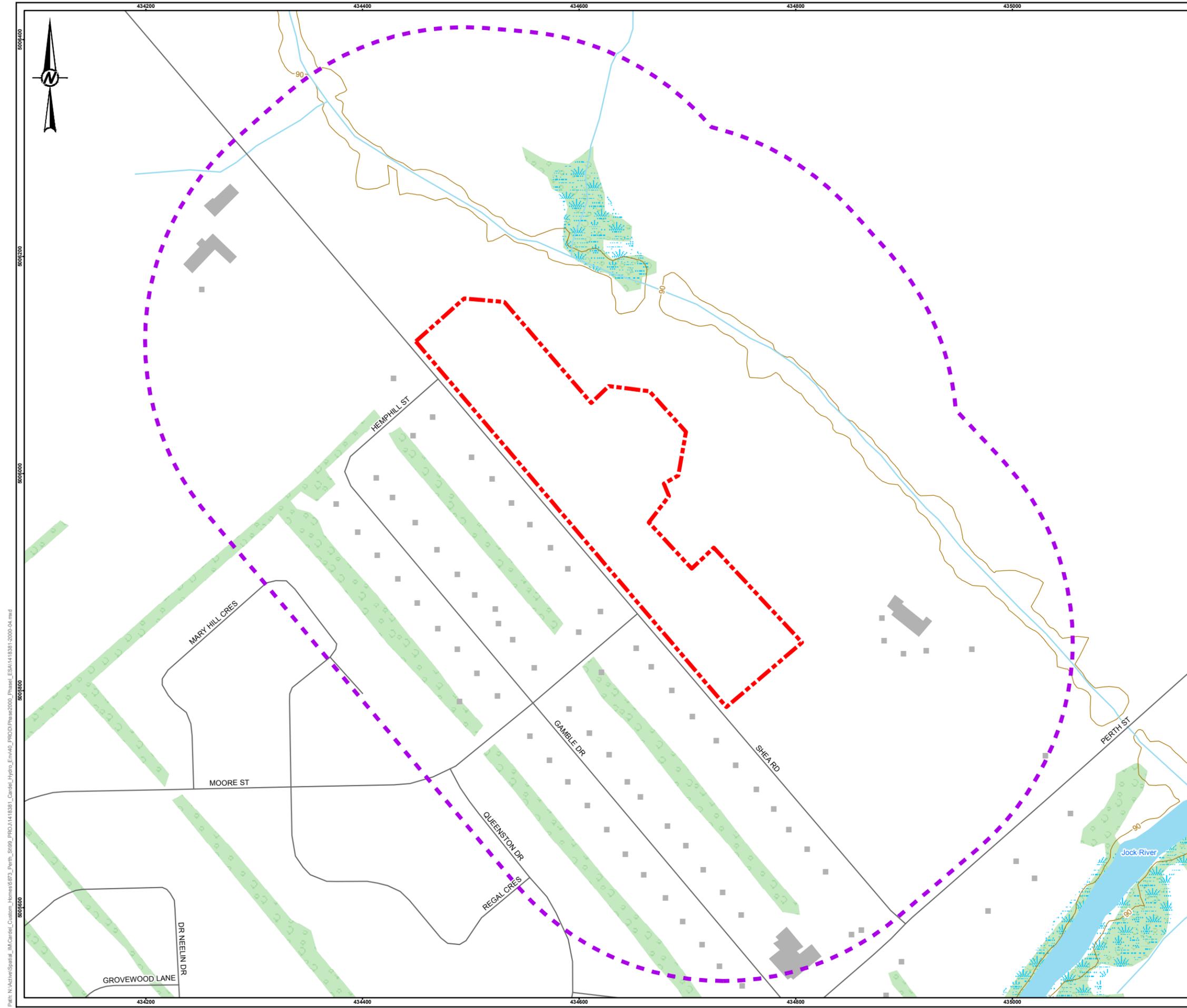
TITLE
TOPOGRAPHIC MAP

CONSULTANT	YYYY-MM-DD	2015-04-06
DESIGNED	---	
PREPARED	JEM	
REVIEWED	JL	
APPROVED	DHP	

PROJECT NO. 1418381 PHASE 2000 REV. 0 FIGURE **3**

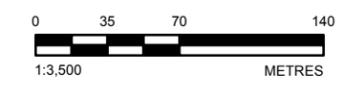
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 28mm



LEGEND

- BUILDING POINT
- ROADWAY
- WATERCOURSE
- TOPOGRAPHIC CONTOUR, metres
- BUILDING FOOTPRINT
- WATERBODY
- WETLAND
- WOODED AREA
- PHASE ONE ESA SITE BOUNDARY
- PHASE ONE ESA STUDY AREA



NOTE(S)
 1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT NO. 1418381/2000

REFERENCE(S)
 1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2014
 2. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
 COORDINATE SYSTEM: UTM ZONE 18 VERTICAL DATUM: CGVD28

CLIENT
CARDEL HOMES

PROJECT
**PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
 PROPOSED RESIDENTIAL SUBDIVISION, 5873 PERTH STREET,
 OTTAWA (VILLAGE OF RICHMOND), ONTARIO**

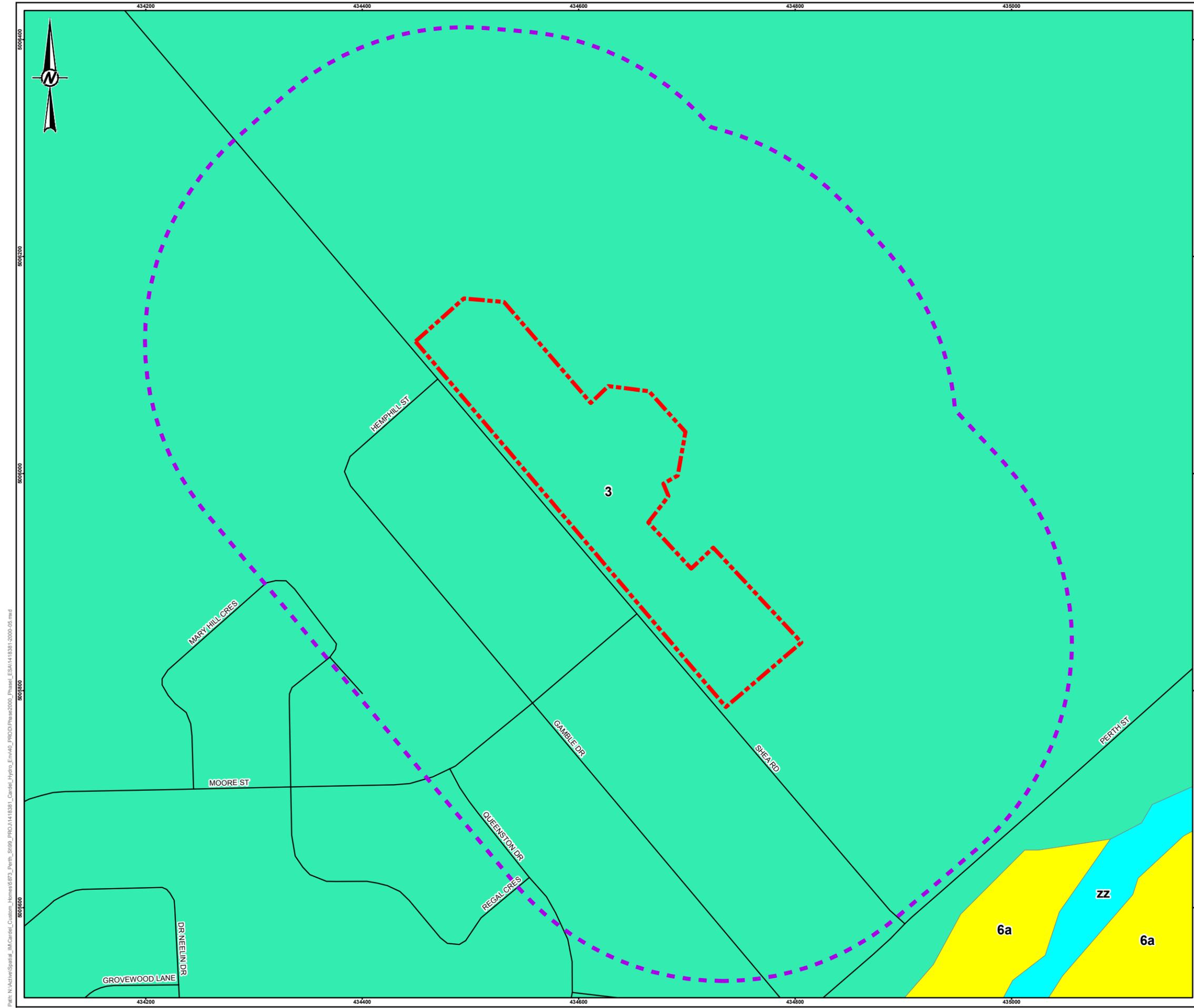
TITLE
AREAS OF NATURAL AND SCIENTIFIC INTEREST (ANSI)

CONSULTANT	DATE
Golder Associates	2015-04-06
DESIGNED	---
PREPARED	JEM
REVIEWED	JL
APPROVED	DHP

PROJECT NO. 1418381	PHASE 2000	REV. 0	FIGURE 4
------------------------	---------------	-----------	--------------------

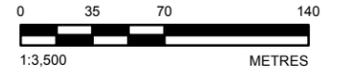
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 28mm



LEGEND

- ROADWAY
- PHASE ONE ESA SITE BOUNDARY
- PHASE ONE ESA STUDY AREA
- 6a: ALLUVIAL DEPOSITS: SILTY SAND, SILT, SAND & CLAY
- 3. OFFSHORE MARINE DEPOSITS: CLAY, SILTY CLAY & SILT
- zz. WATERBODY



NOTE(S)
1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT NO. 1418381/2000

REFERENCE(S)
1. BELANGER, J. R. 2008 URBAN GEOLOGY OF THE NATIONAL CAPITAL AREA, GEOLOGICAL SURVEY OF CANADA, OPEN FILE 5311, 1 DVD.
2. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2014
3. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: UTM ZONE 18 VERTICAL DATUM: CGVD28

CLIENT
CARDEL HOMES

PROJECT
**PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL SUBDIVISION, 5873 PERTH STREET,
OTTAWA (VILLAGE OF RICHMOND), ONTARIO**

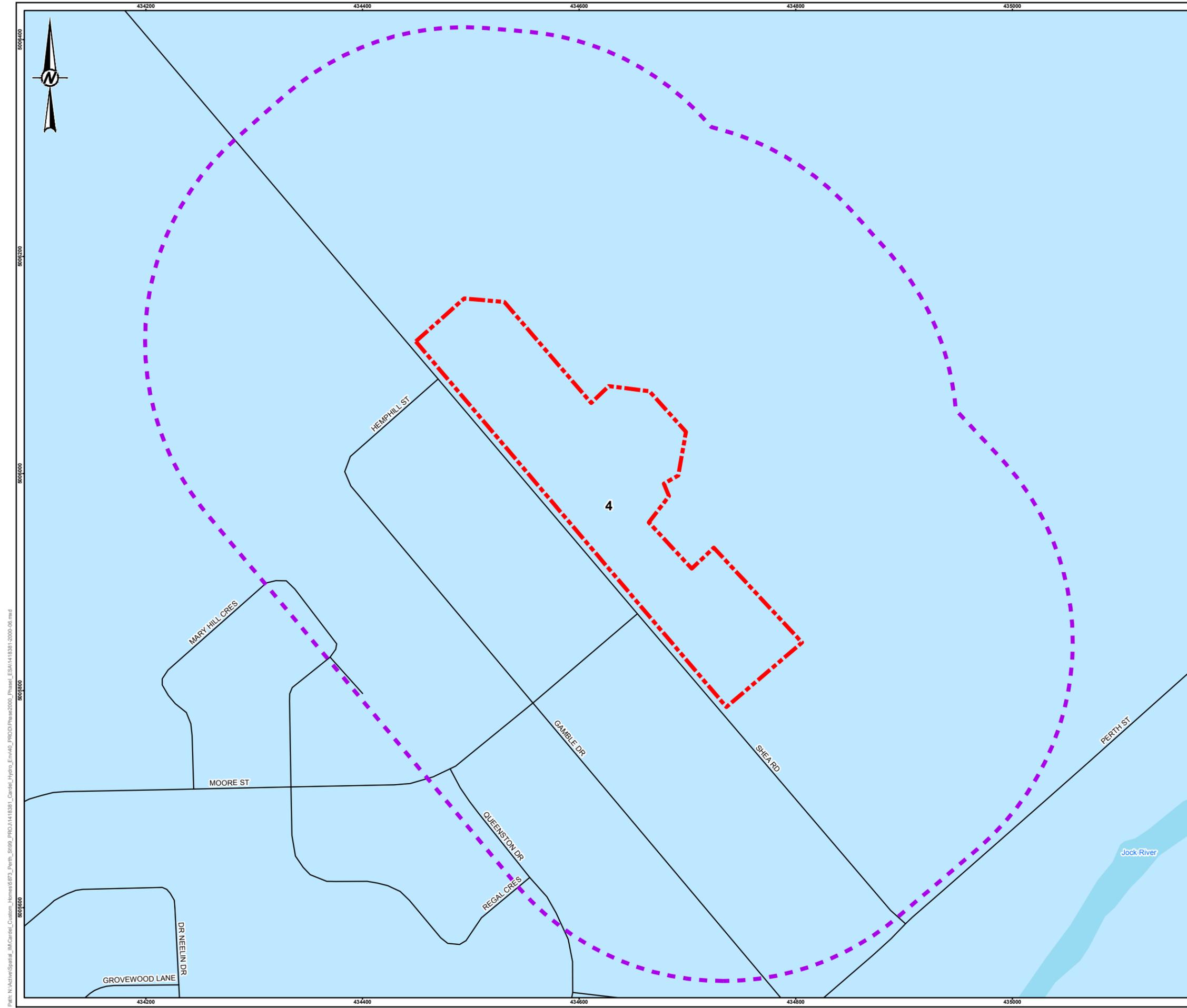
TITLE
SURFICIAL GEOLOGY

CONSULTANT	YYYY-MM-DD	2015-04-06
DESIGNED	---	
PREPARED	JEM	
REVIEWED	JL	
APPROVED	DHP	

PROJECT NO. 1418381 PHASE 2000 REV. 0 FIGURE 5

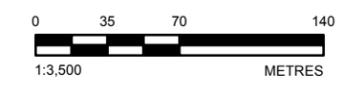
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 28mm



LEGEND

- ROADWAY
- WATERBODY
- PHASE ONE ESA SITE BOUNDARY
- PHASE ONE ESA STUDY AREA
- 4. OXFORD FORMATION: SUBLITHOGRAPHIC TO FINE CRYSTALLINE DOLOSTONE



NOTE(S)
 1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT NO. 1418381/2000

REFERENCE(S)
 1. BELANGER, J. R., URBAN GEOLOGY OF THE NATIONAL CAPITAL AREA, GEOLOGICAL SURVEY OF CANADA, OPEN FILE D3256, 2001.
 2. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2014
 3. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
 COORDINATE SYSTEM: UTM ZONE 18 VERTICAL DATUM: CGVD28

CLIENT
 CARDEL HOMES

PROJECT
 PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
 PROPOSED RESIDENTIAL SUBDIVISION, 5873 PERTH STREET,
 OTTAWA (VILLAGE OF RICHMOND), ONTARIO

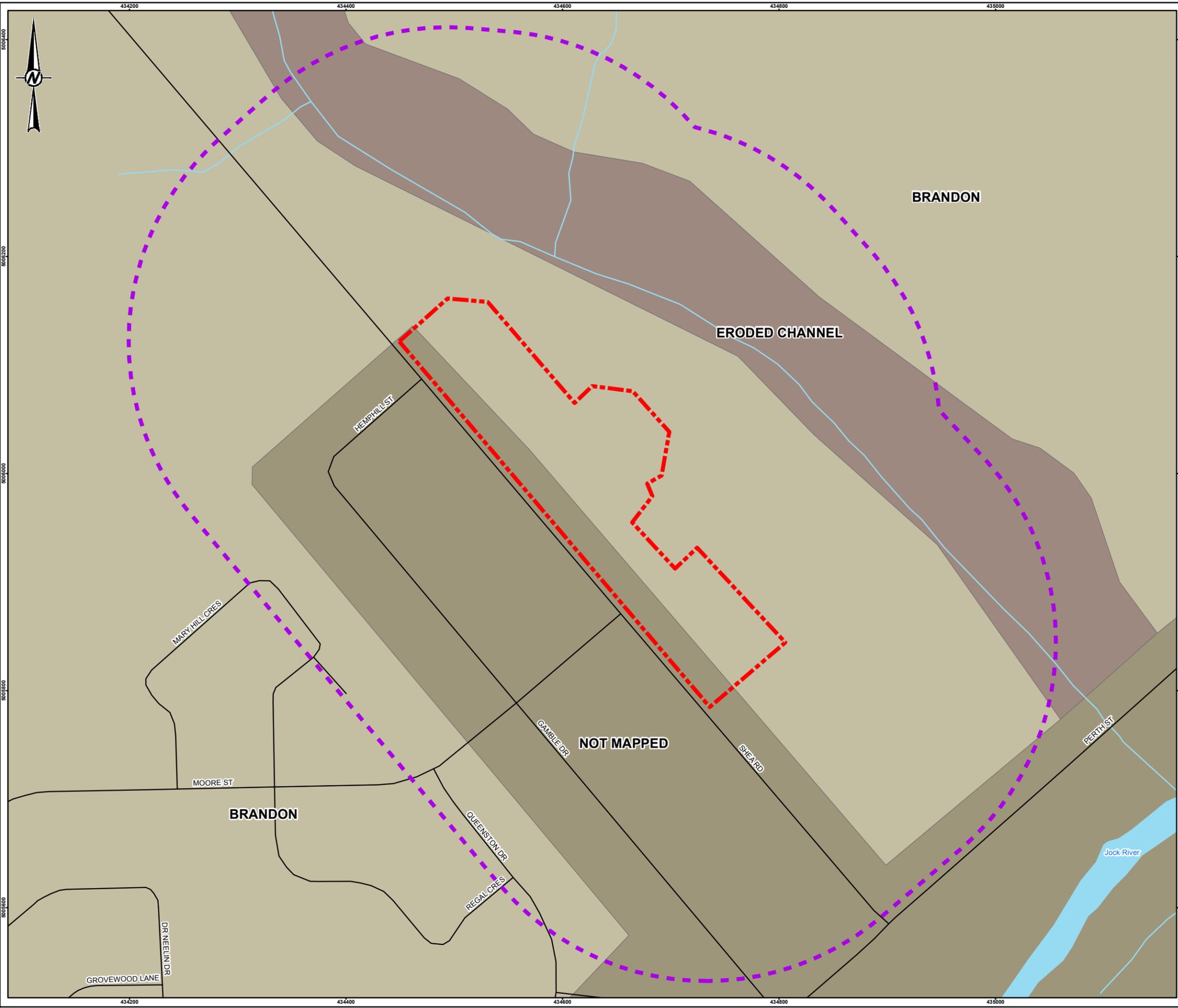
TITLE
 BEDROCK GEOLOGY

CONSULTANT	YYYY-MM-DD	2015-04-06
	DESIGNED	---
	PREPARED	JEM
	REVIEWED	JL
	APPROVED	DHP

PROJECT NO. 1418381 PHASE 2000 REV. 0 FIGURE 6

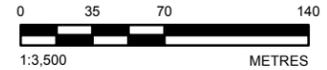
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 28mm



LEGEND

- ROADWAY
- WATERCOURSE
- WATERBODY
- PHASE ONE ESA SITE BOUNDARY
- PHASE ONE ESA STUDY AREA
- BRANDON
- ERODED CHANNEL
- NOT MAPPED



NOTE(S)
 1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT NO. 1418381/2000

REFERENCE(S)
 1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2014
 2. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
 COORDINATE SYSTEM: UTM ZONE 18 VERTICAL DATUM: CGVD28

CLIENT
CARDEL HOMES

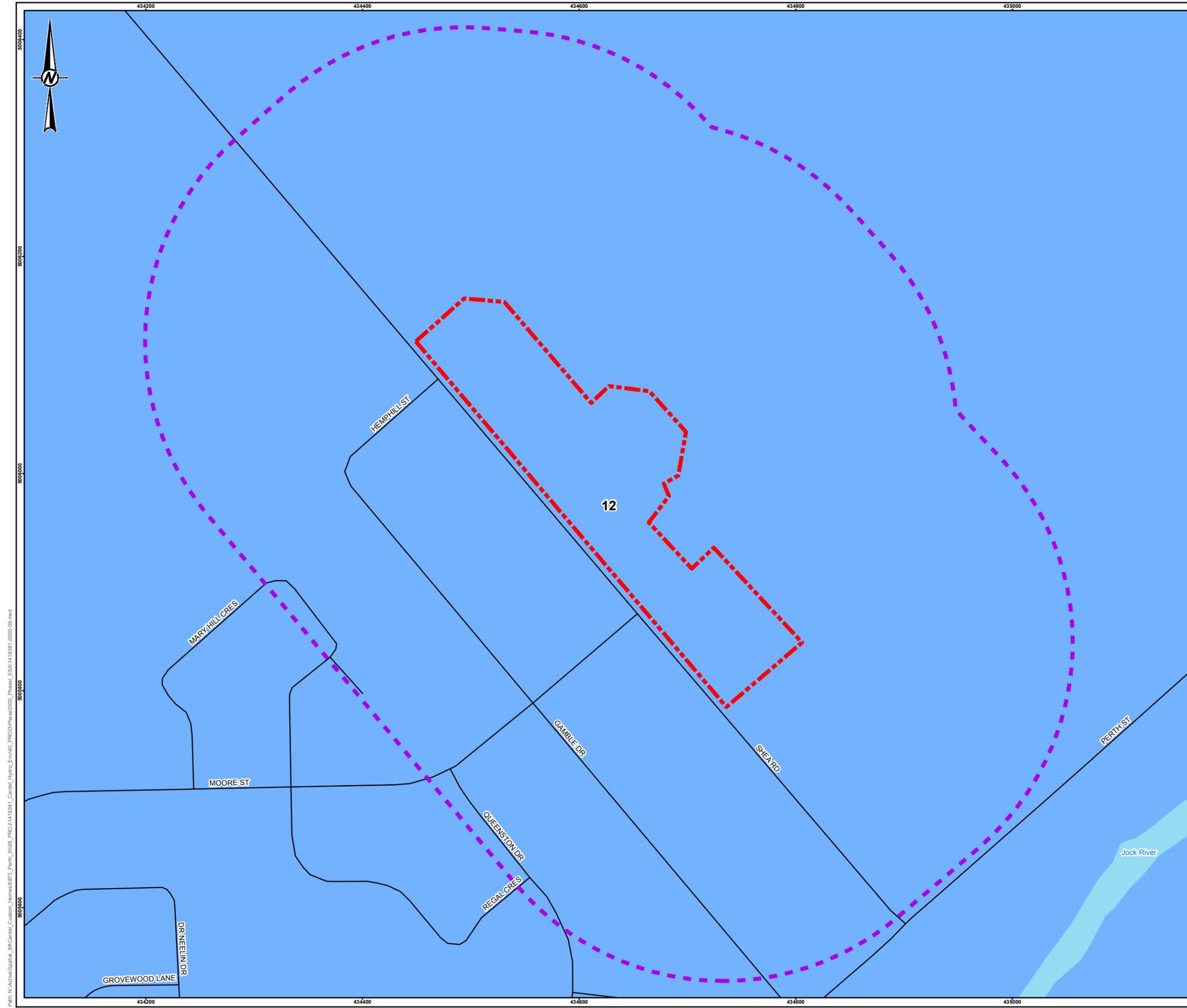
PROJECT
**PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
 PROPOSED RESIDENTIAL SUBDIVISION, 5873 PERTH STREET,
 OTTAWA (VILLAGE OF RICHMOND), ONTARIO**

TITLE
SOIL SURVEY COMPLEX (ONTARIO SOILS)

CONSULTANT	YYYY-MM-DD	2015-04-06
	DESIGNED	---
	PREPARED	JEM
	REVIEWED	JL
	APPROVED	DHP

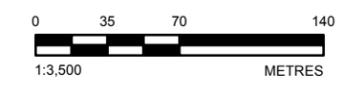
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 28mm



LEGEND

- ROADWAY
- WATERBODY
- PHASE ONE ESA SITE BOUNDARY
- PHASE ONE ESA STUDY AREA
- 12: CLAY PLAINS



NOTE(S)
 1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT NO. 1418381/2000

REFERENCE(S)
 1. CHAPMAN, L.J. AND PUTNAM, D.F. 2007. PHYSIOGRAPHY OF SOUTHERN ONTARIO; ONTARIO GEOLOGICAL SURVEY, MISCELLANEOUS RELEASE-DATA 228
 2. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2014
 3. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
 COORDINATE SYSTEM: UTM ZONE 18 VERTICAL DATUM: CGVD28

CLIENT
 CARDEL HOMES

PROJECT
 PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
 PROPOSED RESIDENTIAL SUBDIVISION, 5873 PERTH STREET,
 OTTAWA (VILLAGE OF RICHMOND), ONTARIO

TITLE
 PHYSIOGRAPHY MAP

CONSULTANT	YYYY-MM-DD	2015-04-06
	DESIGNED	---
	PREPARED	JEM
	REVIEWED	JL
	APPROVED	DHP

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 28mm



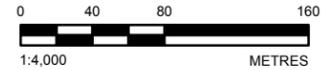
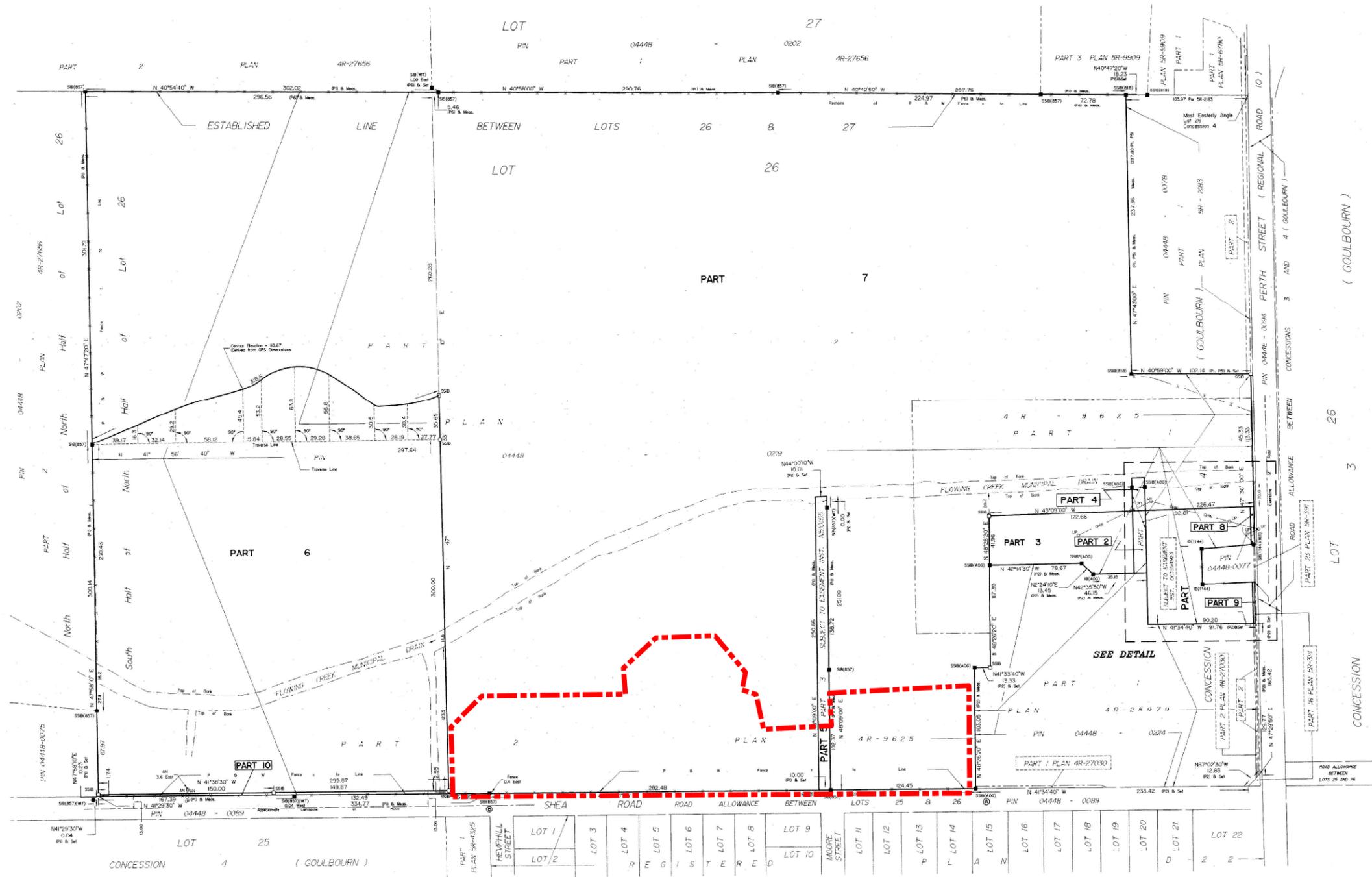
APPENDIX A

Plan of Survey

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LEGEND
PHASE ONE ESA SITE BOUNDARY



NOTE(S)
1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT NO. 1418381/2000

REFERENCE(S)
1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2014
2. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: UTM ZONE 18 VERTICAL DATUM: CGVD28

CLIENT
CARDEL HOMES

PROJECT
PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL SUBDIVISION, 5873 PERTH STREET,
OTTAWA (VILLAGE OF RICHMOND), ONTARIO

TITLE
SURVEY PLAN

CONSULTANT	YYYY-MM-DD	2015-04-06
DESIGNED	---	
PREPARED	JEM	
REVIEWED	JL	
APPROVED	DHP	

PROJECT NO. 1418381	PHASE 2000	REV. 0	FIGURE A-1
------------------------	---------------	-----------	---------------



IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 28mm



APPENDIX B

Regulatory Requests and Responses



CITY OF OTTAWA

HLUI ID: __6790C1

AREA (Square Metres): 565976.006

Report: RPTC_OT_DEV0122

Run On: 08 Apr 2015 at: 14:25:24

Study Year
2005

PIN
044480076

Multi-NAIC
Y

Multiple Activities
N

Activity ID: 5010 **Multiple PINS:** N

PIN Certainty: 1 **Previous Activity ID(s) :**

Related PINS: 044480076

Name: DRUMMOND'S GAS

Address: 5789 PERTH STREET, TOWNSHIP OF GOULBOURN

Facility Type: Gasoline Service Stations

Comments 1:

Comments 2:

Generator Number:

Storage Tanks:

HL References 1:

HL References 2:

HL References 3: 2005 Property Assessment

NAICS	SIC
447110	0
447190	0

Company Name	Year of Operation
DRUMMOND'S GAS	c. 2005
DRUMMOND'S GAS	c. 2001



CITY OF OTTAWA
HLUI ID: __6790C1
AREA (Square Metres): 565976.006

Report: RPTC_OT_DEV0122
 Run On: 08 Apr 2015 at: 14:25:24

Study Year
2005

PIN
044480076

Multi-NAIC
Y

Multiple Activities
N

Activity ID: 5010 **Multiple PINS:** N

PIN Certainty: 1 **Previous Activity ID(s) :**

Related PINS: 044480076

Name: DRUMMOND'S GAS

Address: 5789 PERTH STREET, TOWNSHIP OF GOULBOURN

Facility Type: Gasoline Service Stations

Comments 1:

Comments 2:

Generator Number:

Storage Tanks:

HL References 1:

HL References 2:

HL References 3: 2005 Property Assessment

NAICS	SIC
447110	0
447190	0

Company Name	Year of Operation
DRUMMOND'S GAS	c. 2005
DRUMMOND'S GAS	c. 2001



CITY OF OTTAWA

HLUI ID: __6790C5

AREA (Square Metres): 3465.073

Report: RPTC_OT_DEV0122

Run On: 08 Apr 2015 at: 14:25:41

Study Year
2005

PIN
044300284

Multi-NAIC
N

Multiple Activities
N

Activity ID: 4976 **Multiple PINS:** N

PIN Certainty: 1 **Previous Activity ID(s) :**

Related PINS: 044300284

Name: DUPLANTIS PAUL PIANO TUNER

Address: 5892 PERTH STREET, RICHMOND

Facility Type: Recreational Vehicle Dealers (where servicing is present)

Comments 1:

Comments 2:

Generator Number:

Storage Tanks:

HL References 1:

HL References 2:

HL References 3: 2001 Employment Survey

NAICS	SIC
811490	0

Company Name

DUPLANTIS PAUL PIANO TUNER

Year of Operation

c. 2001



CITY OF OTTAWA

HLUI ID: __679GNE

AREA (Square Metres): 6313.779

Report: RPTC_OT_DEV0122

Run On: 08 Apr 2015 at: 14:26:05

Study Year
1998

PIN
044300001

Multi-NAIC
Y

Multiple Activities
N

Activity ID: 2239 **Multiple PINS:** N
PIN Certainty: 1 **Previous Activity ID(s) :** 6383, 6350

Related PINS: 044330040

Name: BOB AND LYNN'S SERVICE CENTRE

Address: PERTH STREET, GOULBOURN

Facility Type: Motor Vehicle Repair Shops

Comments 1: Site is now a park.

Comments 2:

Generator Number:

Storage Tanks:

HL References 1: GGTBD 1998/99, Township of Goulbourn Staff 29/01/99

HL References 2:

HL References 3:

NAICS	SIC
811112	635
811119	635
811121	635

Company Name	Year of Operation
Bob and Lynn's Service Centre	c. 1998-1999
Paul's Quality Autos	c. 1998-1999
Unnamed Garage	c. 1930-1985



Scale
1: n/a

5873 Perth Road
Ottawa, ON
File # C10-01-15-0094
Simon Lacoste



ID# = Activity Identification
Number

 = Subject Site

Overview



File Number: C10-01-15-0094

April 15, 2015

Jillian Lackey
Golder Associates
1931 Robertson Road
Ottawa, Ontario
K2L 4G1

Sent via email [Jillian_Lackey@golder.com]

Dear Mrs. Lackey,

**Re: Information Request
5873 Perth Road, Ottawa, Ontario (“Subject Property”)**

Internal Department Circulation

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

- The Sewer Use Program Branch reports that there are recent reports, violations, approvals and agreements – pursuant to the provisions of the Sewer Use by-law (2003-514) – relating to the Subject Property.

Search of Historical Land Use Inventory

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

A search of the HLUI database revealed the following information:

- There is 1 activity associated with the Subject Property: Activity Number 5010.

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

*Shaping our future together
Ensemble, formons notre avenir*

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

110 Laurier Avenue West, 4th Floor
Ottawa, ON K1P 1J1
Tel: (613) 580-2424 ext. 14743
Fax: (613) 560-6006
www.ottawa.ca

Ville d'Ottawa
Services d'infrastructure et Viabilité des
collectivités
Direction de l'approbation des demandes
d'aménagement et d'infrastructure

110, avenue Laurier Ouest, 4e étage
Ottawa (Ontario) K1P 1J1
Tél.: (613) 580-2424 ext. 14743
Télééc: (613) 560-6006
www.ottawa.ca

- There are 3 activities associated with properties located within 50m of the Subject Property: Activity Numbers 5010; 4976; 2239.

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

Additional information may be obtained by contacting:

Ontario's Environmental Registry

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

The Ontario Land Registry Office

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

Court House
161 Elgin Street 4th Floor
Ottawa ON K2P 2K1
Tel: (613) 239-1230
Fax: (613) 239-1422

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

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

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

If you have any further questions or comments, please contact Simon Lacoste at 613-580-2424 ext. 24856 or HLUI@ottawa.ca.

Sincerely,



David Wise, MUP, MCIP, RPP
Program Manager
Development Review (Suburban Services) - West
Planning and Growth Management Department

DW/AG

Attach: 5

cc: File no. C10-01-15-0094



Natural Areas and Features Information Request Form

Contact Information

Clear Contact

Name: Jillian Lackey
Address: 1931 Robertson Road, Ottawa, ON, K2H5B7
Phone Number: (613) 592-9600
E-mail Address: jillian_lackey@golder.com

*All red fields are mandatory
This includes X & Y Coordinates.
Please see page 2 for assistance.

Site Information

Project Name: Cardel Homes - Ottawa Phase I ESA

Clear Site

Township: GOULBOURN Lot: 26 Concession: 4
X: 45.2046 Y: -75.8330 Address: 5873 Perth Street, Ottawa, ON

**If more than 1 site, please provide all individual coordinates in an attached spreadsheet

Type of Proposal

Clear Details

- Severance / Zoning, Drains / Roads / Culverts, Hydroline clearing, Small Scale Projects, RE Projects, Large Scale Projects, Aggregate Project, Other

Attachments Please attach a Site Map showing the area of interest

- Picture, Map(s), Engineered Drawings, Other: File provided by client

Request

I would like to request the following information for the property identified above:

-Information on species at risk on the site and within 250 m of the site boundaries and advice for avoiding impacts to any SAR
-Information on and mapping of significant natural areas (NHIC indicates none present) within

To better respond to your request please briefly outline the purpose for which this information is required (e.g. proposed development, lot severance, etc. or attach details):

The request is needed to comply with Ontario Regulation 153/04 (as amended) for a Phase I Environmental Site Assessment carried out for 5873 Perth Street, Ottawa (Village of Richmond), ON

Date of works proposed: 7 / Apr / 2015

Personal information contained in this form is collected in order to fulfill your request, respond to your inquiries and for other administration purposes. With regard to the personal information it collects, the ministry is bound by privacy protection rules under the Freedom of Information and Protection of Privacy Act and takes all necessary steps to safeguard personal information collected.

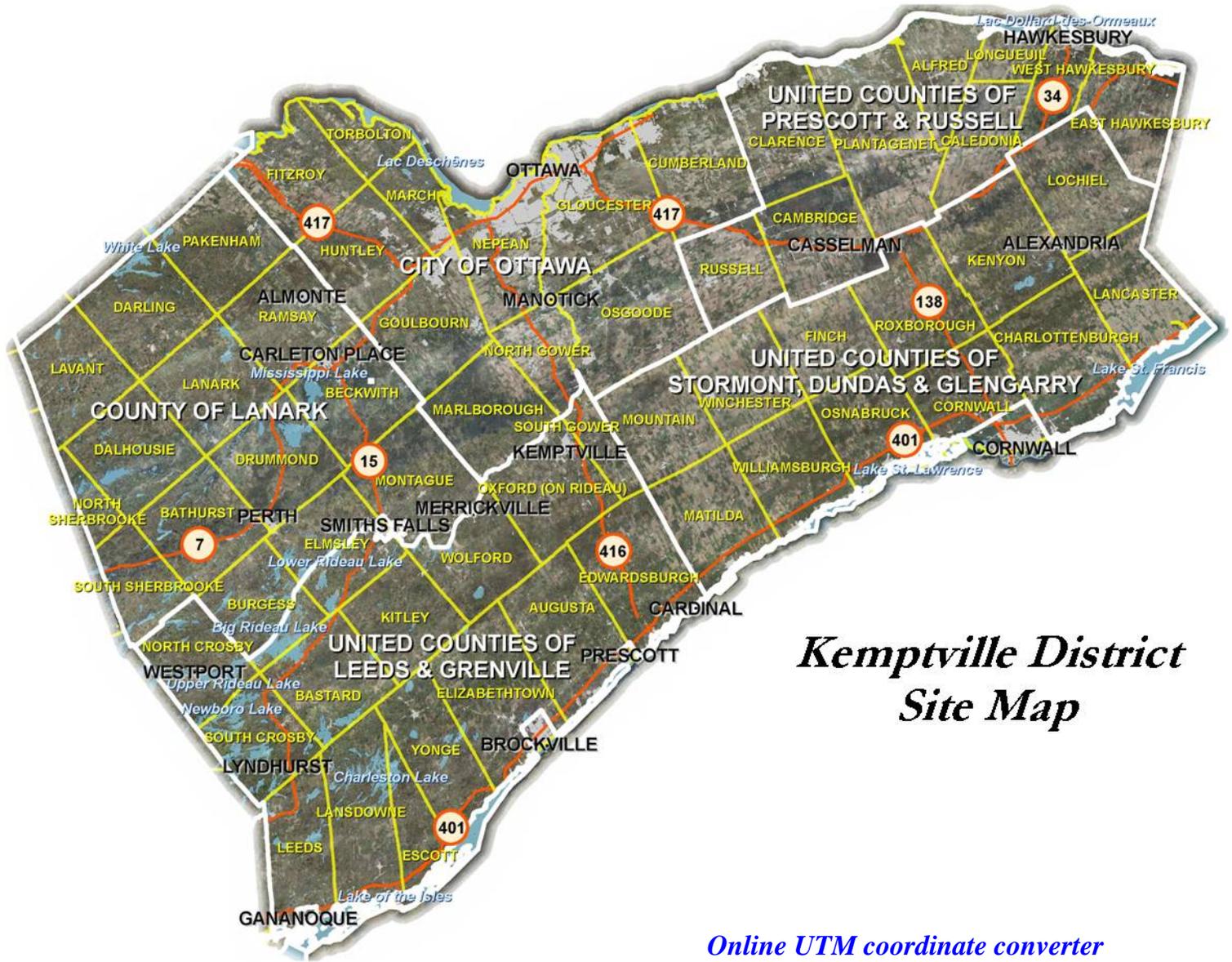
Please Note: This request MUST be made by the property owner or by someone acting on their behalf. Depending on the nature of the request, it may take 6-8 weeks to respond to your inquiry. If the request does not include the mandatory information, it may delay response time.

I have read the above and agree to all Terms and Conditions

Please forward the completed form to:

Kemptville.Inforequest@Ontario.ca OR Fax: 613-258-3920

Attention: Information Requests
10 Campus Drive, Postal Bag 2002
Kemptville, ON K0G 1J0



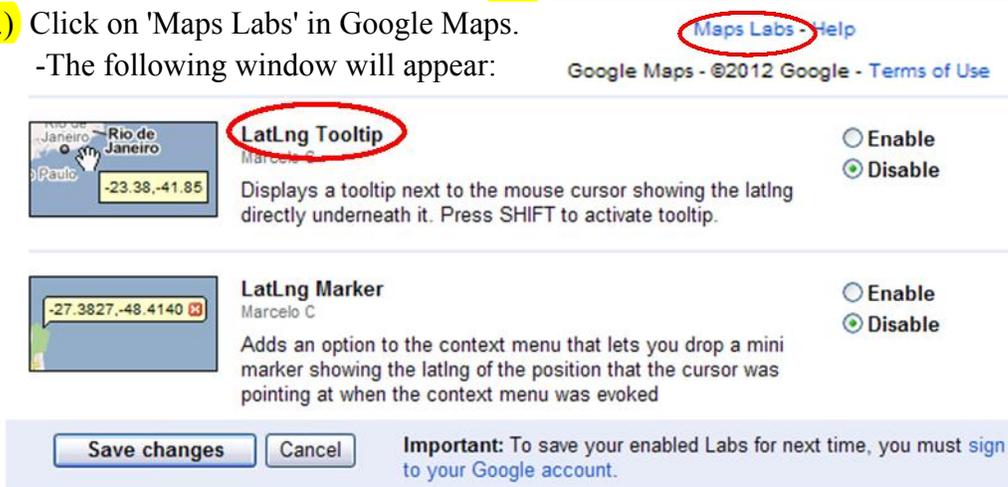
[Online UTM coordinate converter](#)

How to get X, Y coordinates from Google Maps (2 options):

- 1.) Right-click on the map, at the point of interest, and select 'What's here?'.
 -The Latitude & Longitude of the mouse click, in decimal degrees, will automatically appear in the Search box.

OR

- 2.) Click on 'Maps Labs' in Google Maps.
 -The following window will appear:



- Enable the LatLng Tooltip and then Save Changes.
- Now every time the **SHIFT** button is pressed in Google Maps, a Tool tip will appear with the Latitude and Longitude of the mouse location in decimal degrees.

Ministry of the Environment
and Climate Change
Ottawa District Office
2430 Don Reid Drive, Suite 103
Ottawa Ontario
K1H 1E1
613-521-3450 or 1-800-860-2195
Fax: 613-521-5437

Ministère de l'Environnement et de
l'Action en matière de changement climatique
Bureau du district d'Ottawa
2430, promenade Don Reid, Unité 103
Ottawa (Ontario)
K1H 1E1
613-521-3450 ou 1-800-860-2195
Télééc. : 613-521-5437



OTT File No: 31

**INDEX REVIEW REPORT
COMMERCIAL/INDUSTRIAL/AGRICULTURAL**

Attention: Jillian Lackey Golder Associates	Your File: Date Received: April 6, 2015
--	--

Thank you for your inquiry requesting a search of records from the Ministry of the Environment and Climate Change (ministry). The ministry encourages you to use the available on-line resources to access publically-available information which may assist with your inquiry.

<u>PROPERTY OWNER AND LOCATION</u>		
Location:	Municipality:	Ottawa
	Address:	5873 Perth Street (Village of Richmond)
		Lot Concession Township

<u>INDEX OF NAMES FOR ORDERS</u>
We have searched the <i>Ottawa</i> District Index Record of Active Orders under the Environmental Protection Act (EPA), Ontario Water Resources Act (OWRA) and the Pesticides Act (PA) issued to: and the following information has been found:
<input checked="" type="checkbox"/> No Active Orders are outstanding
Please Note: <i>For information related to any ministry Orders issued to the property in question, please request this information from the property owner. If you would like further information regarding a specific Order issued, please contact the Ottawa District Office.</i>
Date of Search: April 14, 2015

<u>RECORD OF SITE CONDITION</u>
For information on Records of Site Condition filed on the Environmental Site Registry since October 1, 2004, please use the following link: http://www.ene.gov.on.ca/environment/en/subject/brownfields/STDPROD_075742.html

**INDEX REVIEW REPORT
COMMERCIAL/INDUSTRIAL/AGRICULTURAL**

INDEX OF NAMES FOR APPROVALS ISSUED SINCE 1999

A search of the Index Record of names of all persons to whom approvals have been issued, maintained by the Director, Approvals Branch and the Regional Director, *Eastern Region*, and the District Manager, *Ottawa District*, under Section 19 EPA and Section 13 OWRA and the following information has been provided :

<u>Type</u>	<u>Number</u>	<u>Issued To</u>	<u>Issue Date</u>
Section 9 EPA (Air)			
Section 39 EPA (Waste Management)			
Section 52 OWRA (Water)			
Section 53 OWRA (Municipal/Private/ Industrial Sewage)	8818-8Y3NCX	Colonnade Development Inc.	Sept. 13, 2012
Other			

The **ministry's Access Environment** is an on-line, map-based search tool designed to allow the public, quick and easy access to the ministry approvals and registration information from December 1999 onward. Access Environment currently displays Environmental Compliance Approvals (ECA), Renewable Energy Approvals (REA) and registrations on the Environmental Activity and Sector Registry (EASR). ECAs include all Certificates of Approval (CofAs) previously issued under the Environmental Protection Act (EPA) and approvals previously issued under s.53 of the Ontario Water Resources Act (OWRA). You can access this information from the ministry website or at the following link:

www.accessenvironment.ene.gov.on.ca/AEWeb/ae/GoSearch.action?search=basic&lang=en

Copies of ECAs prior to 1999 can be obtained through a request to the ministry's Information Unit at the Environmental Approvals, Access and Service Integration Branch – the form is available at: <http://www.ontario.ca/environment-and-energy/request-copy-environmental-compliance-approval>

Please Note:

- 1) The information provided above is based solely on the address(es) and name(s) of the present and past owners provided by you.
- 2) The Index Record of Names to whom approvals have been issued, maintained by the Regional Director and District Manager, has been searched back to 1999.
- 3) A search of our records does **NOT** indicate whether there are:
 - other uses for which an approval may have been required, nor
 - other uses on the property or in the vicinity that may affect the suitability of the property, for the use proposed to be made of it.If a comprehensive knowledge of the property and the nearby lands and their environmental condition is required, you must examine them and other relevant records yourself, with the aid of a qualified person, if needed.

No Approvals have been issued.

Date of Search: April 14, 2015

**INDEX REVIEW REPORT
COMMERCIAL/INDUSTRIAL/AGRICULTURAL**

Additional site information related to the **location of landfill sites** in the province can be found at the following link:

<http://www.ontario.ca/environment-and-energy/small-landfill-sites>

<http://www.ontario.ca/environment-and-energy/map-large-landfill-sites>

The **ministry's Hazardous Waste Information Network (HWIN)** can also be accessed to search for information on generators, carriers, and receivers of subject waste in the province at the following link: www.hwin.ca

The **ministry's Environmental Compliance Reports** provide information about contaminant discharges to water and emissions to air that exceed limits found in legislation, environmental approvals, orders and/or policies/guidelines and can be accessed at the following link:
<http://www.ontario.ca/environment-and-energy/environmental-compliance-reports>

Information on **environmental penalties**, which are monetary penalties that can be imposed by the ministry for some industrial spills, can be assessed at the following link:

<http://www.ontario.ca/government/search-results?query=Environmental+penalties&op=Search>

Additional ministry information can be accessed through the **Government of Ontario's Open Data Catalogue**: <http://www.ontario.ca/government/open-data-ontario>

The ministry also encourages you to consider best practices and standards of care used within the legal community and through your associations as a guide to obtaining information related to specific property for any legal purpose.

We trust this information will help meet your requirements quickly and effectively.

Please advise your colleagues that responses to requests for searches always take some time. As a result the Ministry of the Environment and Climate Change may not be able to meet deadlines imposed by other parties on real estate and other transactions.

Thank you for your inquiry.

Signature:	
Contact Name:	Johanne Veilleux
Title:	Administrative Assistant
Address:	Ministry of the Environment and Climate Change 2430 Don Reid Drive, Unit 103 Ottawa, ON K1H 1E1
Phone:	(613) 521-3450 Ext 221
Date:	April 14, 2015
	E&OE

Please Note: If you would like to receive an email with all the environmental links above, please contact me at johanne.veilleux@ontario.ca and I will be pleased to send them to you.



14th Floor, Centre Tower
3300 Bloor Street West
Toronto, Ontario
Canada M8X 2X4
Tel.: 416.734.3300
Fax: 416.231.1626
Toll Free: 1.877.682.8772

www.tssa.org

Tel: (416) 734-3586
Fax: (416) 734-3568

April 23, 2015
File No: FS 49288

Jillian Lackey
GOLDER ASSOCIATES LTD
1931 Robertson Road
OTTAWA ON K2H 5B7

Dear Madam:

RE: 5873 Perth Street, Richmond/Ottawa, Ontario

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

I have attached a copy of TSSA report #3507543, #3344003, #3343958, #3344009 pertaining to an incident at the above-mentioned property.

Also enclosed is the SAC (Spills Action Centre) report along with an environmental consultant report.

This is all the information we have on this location at the present time.

Yours truly,

A handwritten signature in blue ink, appearing to read "Sarah Quibell", is written over a white background.

Sarah Quibell
Public Information Agent



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3300 Bloor Street West
Toronto, Ontario M8X 2X4
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Fax (416) 231-1626
www.tssa.org

FS Inspection Report

Service Request #	591188
Inspection Report #	3507543

Inspection Address: 5873 PERTH ST RICHMOND;ON CA K0A 2Z0	Reference Number(s):	Inspection Completion Date:
	Facility Type:	Equipment Type:
Customer Name and Address: 947068 ONTARIO LTD 7 EBONY CIR NEPEAN;ON CA K2R 1A4	Task Type: FS-F/U Enforcement Action	
	<i>The facility/equipment is inspected in accordance with Ontario's Technical Standards & Safety Act and the appropriate regulations and codes. When an Inspector's order is issued, time limits for compliance reflect the severity of the violation and serve to avoid disruption of service.</i>	

Orders Issued To: 947068 Ontario Ltd, owner of 5873 Perth Street, Richmond and Denise Greer

Task Notes
<p>On October 20, 2011, TSSA Inspector Clinton Aswwith recieved the ordered environmental assessment for 5873 Perth Street in Richmond. A copy of the this assessment was sent to Stephen Hoyle by Inspector Askwith.</p> <p>The orders have been resolved.</p>

Customer Signature & Position / Date:		Inspector Name: Askwith, Clinton	Inspector Contact Number:
Report Received By: Denise Greer by email	Customer Contact Number: deniselouise@sympatico.ca	Inspector Email: caskwith@tssa.org	Inspector Fax:

As a not-for-profit regulatory authority, TSSA operates on a cost recovery basis. An Invoice will be issued for the Total Charges Incurred.
(Note: This is not an invoice)



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Toronto, Ontario M8X 2X4
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Fax (416) 231-1626
www.tssa.org

FS Inspection Report

Service Request #	591188
Inspection Report #	3344003

Inspection Address: 5873 PERTH ST RICHMOND;ON CA K0A 2Z0	Reference Number(s):	Inspection Completion Date: OCT 11, 2011
	Facility Type:	Equipment Type:
Customer Name and Address: 947068 ONTARIO LTD 7 EBONY CIR NEPEAN;ON CA K2R 1A4	Task Type: FS-F/U Enforcement Action	
	The facility/equipment is inspected in accordance with Ontario's Technical Standards & Safety Act and the appropriate regulations and codes. When an Inspector's order is issued, time limits for compliance reflect the severity of the violation and serve to avoid disruption of service.	

Orders Issued To: 947068 Ontario Ltd, owner of 5873 Perth Street, Richmond and Denise Greer

Line	Reference and Order(s)	Compliance Date
52779 2-1	<p>Unlisted Deficiency</p> <p>9 Environmental responsibilities 9.1 Where a leak is suspected or where required by the Director, one or more of the following, as applicable, shall confirm whether a leak exists and determine the source of the leak: (a) the owner of a facility; (b) the authorization holder of a facility; (c) the owner of the tank system(s); (d) the authorization holder of the tank system(s); (e) the owner of the property where the equipment is installed; (f) the user of the equipment; or (g) the driver of the tank vehicle. Ontario installation code for oil-burning equipment © Canadian Standards Association</p> <p>9.2 In the event of a spill, where a leak is confirmed, where there is discovery of a petroleum product that has escaped to the environment or inside a building, or where required by the Director, one or more of the responsible individuals identified in Clause 9.1, as applicable, shall notify the Director and the responsible individual(s) shall further (a) forthwith notify the Director in the event of a fire or explosion and remove any potential for fire or explosion hazard; (b) provide all information to the Director or an inspector, as required; (c) cease using and empty products from any leaking part of the tank system(s); (d) repair, replace, or remove all defective underground or aboveground tank system(s) or equipment; and (e) take all practical measures to comply with the Environmental Management Protocol for Operating Fuel Handling Facilities in Ontario.</p> <p>Note: To notify the Director, contact the Spills Action Centre of the Ontario Ministry of Environment at 1-800-268-6060.</p> <p>You are hereby ordered to provide TSSA an assessment report, prepared by a qualified person as defined in Ontario Regulation 153/04 of the Environmental Protection Act which delineates the full extent of all petroleum impacts to both the soil and groundwater. The report must meet the criteria as set forth in the TSSA Environmental Management Protocol for Operating Fuel Handling Sites in Ontario. The report must be sent to the following address on or before the compliance date</p>	NOV 11, 2011

Customer Signature & Position / Date:		Inspector Name: Askwith, Clinton	Inspector Contact Number:
Report Received By: Denise Greer by email	Customer Contact Number: deniselouise@sympatico.ca	Inspector Email: caskwith@tssa.org	Inspector Fax:

As a not-for-profit regulatory authority, TSSA operates on a cost recovery basis. An Invoice will be issued for the Total Charges Incurred.
(Note: This is not an invoice)



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Toronto, Ontario M8X 2X4
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Fax (416) 231-1626
www.tssa.org

FS Inspection Report

Service Request #	591188
Inspection Report #	3344003

Inspection Address: 5873 PERTH ST RICHMOND;ON CA K0A 2Z0	Reference Number(s):	Inspection Completion Date: OCT 11, 2011
	Facility Type:	Equipment Type:
Customer Name and Address: 947068 ONTARIO LTD 7 EBONY CIR NEPEAN;ON CA K2R 1A4	Task Type: FS-F/U Enforcement Action	
	The facility/equipment is inspected in accordance with Ontario's Technical Standards & Safety Act and the appropriate regulations and codes. When an Inspector's order is issued, time limits for compliance reflect the severity of the violation and serve to avoid disruption of service.	

	This report should be sent to Att. Mr. Stephen Hoyle E-mail: shoyle@tssa.org Center Tower, 14th Floor 3300 Bloor Street Toronto, Ontario, M8X-2X4	
52779 2-2	Unlisted Deficiency The following order is issued October 11, 2011. Section 37(1) of the TSSA Act states: "Offences 37. (1) Every person who, (a) contravenes or fails to comply with any provision of this Act, the regulations or a Minister's order; (b) knowingly makes a false statement or furnishes false information under this Act, the regulations or a Minister's order; (c) contravenes or fails to comply with a term or condition of an authorization; (d) contravenes or fails to comply with an order or requirement of an inspector or obstructs an inspector, is guilty of an offence and on conviction is liable to a fine of not more than \$50,000 or to imprisonment for a term of not more than one year, or to both, or, if the person is a body corporate, to a fine of not more than \$1,000,000. 2000, c. 16, s. 37 (1)." TSSA Inspection has determined that 947068 Ontario Ltd owner of 5873 Perth Street in Richmond, has failed to comply with the Act and an Inspector's Order. (See Task Notes Below) You are hereby ordered forthwith to comply with the Environmental Orders issued above by the Inspector.	NOV 11, 2011

Task Notes

On October 11, 2011, TSSA Inspector Clinton Askwith conducted a follow up inspection on 5873 Perth Street in Richmond, rental location for Denise Greer of 947068 Ontario Ltd.

To date, Mr. Hoyle at the TSSA Head Office has not received the testing results as indicated in the order issued.

An additional order for failing to comply with the compliance date has been added.

If additional time is required to provide the ordered report, a requested extension must be made.

An extended compliance date to November 11, 2011 has been placed on this order. As directed in the order above:

"You are hereby ordered to provide TSSA an assessment report, prepared by a qualified person as defined in Ontario Regulation 153/04 of the Environmental Protection Act which delineates the full extent of all petroleum impacts to both the soil and groundwater. The report must meet the criteria as set forth in the TSSA Environmental Management Protocol for Operating Fuel Handling Sites in Ontario. The report must be sent to the

Customer Signature & Position / Date:	Inspector Name: Askwith, Clinton	Inspector Contact Number:	
Report Received By: Denise Greer by email	Customer Contact Number: deniselouise@sympatico.ca	Inspector Email: caskwith@tssa.org	Inspector Fax:

As a not-for-profit regulatory authority, TSSA operates on a cost recovery basis. An Invoice will be issued for the Total Charges Incurred.
(Note: This is not an invoice)

Putting Public Safety First



**TECHNICAL STANDARDS
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3300 Bloor Street West
Toronto, Ontario M8X 2X4
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Fax (416) 231-1626
www.tssa.org

FS Inspection Report

Service Request #	591188
Inspection Report #	3344003

Inspection Address: 5873 PERTH ST RICHMOND;ON CA K0A 2Z0	Reference Number(s):	Inspection Completion Date: OCT 11, 2011
	Facility Type:	Equipment Type:
Customer Name and Address: 947068 ONTARIO LTD 7 EBONY CIR NEPEAN;ON CA K2R 1A4	Task Type: FS-F/U Enforcement Action	
	The facility/equipment is inspected in accordance with Ontario's Technical Standards & Safety Act and the appropriate regulations and codes. When an Inspector's order is issued, time limits for compliance reflect the severity of the violation and serve to avoid disruption of service.	

following address on or before the compliance date"

This report should be sent to Att. Mr. Stephen Hoyle
E-mail: shoyle@tssa.org
Center Tower, 14th Floor
3300 Bloor Street
Toronto, Ontario, M8X-2X4

Inspector Askwith's contact information has been sent with this order for any inquiries you or your insurer may have.

Pursuant to my authority under section 21 of the TSSA / 2006 Act. You are hereby ordered to FORTHWITH comply with these Inspector's orders.

Dated : October 11, 2011.

Please see attached Section 21 of the TSSA/2006Act :

21. (1) If an inspector finds that any provision of this Act, the regulations or a Minister's order is being contravened, or that a thing under this Act is unsafe or is not being operated or used in accordance with the authorization relating to it, the inspector may,

(a) Serve the person he or she believes to be the contravener or that person's supervisor or employer, or both, with an order in writing directing compliance with the provision or authorization and may require that the terms of the order be carried out forthwith or Within such other time specified in the order;

Other Charges Detail			
Date	Activity	Qty	Comments
OCT 11, 2011	Inspection	1	Inspection time to process failing to comply order.

Customer Signature & Position / Date:	Inspector Name: Askwith, Clinton	Inspector Contact Number:	
Report Received By: Denise Greer by email	Customer Contact Number: deniselouise@sympatico.ca	Inspector Email: caskwith@tssa.org	Inspector Fax:

As a not-for-profit regulatory authority, TSSA operates on a cost recovery basis. An Invoice will be issued for the Total Charges Incurred.
(Note: This is not an invoice)



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Toronto, Ontario M8X 2X4
Toll free 1-877-682-8772
Fax (416) 231-1626
www.tssa.org

FS Inspection Report

Service Request #	591188
Inspection Report #	3343958

Inspection Address: 5873 Perth Street Richmond;ON CA	Reference Number(s):	Inspection Completion Date: MAY 13, 2011
	Facility Type:	Equipment Type:
Customer Name and Address: 947068 Ontario Ltd 7 Ebony Circle Nepean;ON CA K2R 1A4	Task Type: FS-Enforcement Action	
	The facility/equipment is inspected in accordance with Ontario's Technical Standards & Safety Act and the appropriate regulations and codes. When an Inspector's order is issued, time limits for compliance reflect the severity of the violation and serve to avoid disruption of service.	

Orders Issued To: 947068 Ontario Ltd, owner of 5873 Perth Street, Richmond and Denise Greer

Line	Reference and Order(s)	Compliance Date
52779 2-1	<p>Unlisted Deficiency</p> <p>9 Environmental responsibilities 9.1 Where a leak is suspected or where required by the Director, one or more of the following, as applicable, shall confirm whether a leak exists and determine the source of the leak:</p> <ul style="list-style-type: none"> (a) the owner of a facility; (b) the authorization holder of a facility; (c) the owner of the tank system(s); (d) the authorization holder of the tank system(s); (e) the owner of the property where the equipment is installed; (f) the user of the equipment; or (g) the driver of the tank vehicle. <p>Ontario installation code for oil-burning equipment © Canadian Standards Association</p> <p>9.2 In the event of a spill, where a leak is confirmed, where there is discovery of a petroleum product that has escaped to the environment or inside a building, or where required by the Director, one or more of the responsible individuals identified in Clause 9.1, as applicable, shall notify the Director and the responsible individual(s) shall further</p> <ul style="list-style-type: none"> (a) forthwith notify the Director in the event of a fire or explosion and remove any potential for fire or explosion hazard; (b) provide all information to the Director or an inspector, as required; (c) cease using and empty products from any leaking part of the tank system(s); (d) repair, replace, or remove all defective underground or aboveground tank system(s) or equipment; and (e) take all practical measures to comply with the Environmental Management Protocol for Operating Fuel Handling Facilities in Ontario. <p>Note: To notify the Director, contact the Spills Action Centre of the Ontario Ministry of Environment at 1-800-268-6060.</p> <p>You are hereby ordered to provide TSSA an assessment report, prepared by a qualified person as defined in Ontario Regulation 153/04 of the Environmental Protection Act which delineates the full extent of all petroleum impacts to both the soil and groundwater. The report must meet the criteria as set forth in the TSSA Environmental Management Protocol for Operating Fuel Handling Sites in Ontario. The report must be sent to the following address on or before the compliance date</p>	SEP 13, 2011

Customer Signature & Position / Date:		Inspector Name: Askwith, Clinton	Inspector Contact Number:
Report Received By: Denise Greer by email	Customer Contact Number: deniselouise@sympatico.ca	Inspector Email: caskwith@tssa.org	Inspector Fax:

As a not-for-profit regulatory authority, TSSA operates on a cost recovery basis. An Invoice will be issued for the Total Charges Incurred.
(Note: This is not an invoice)

Putting Public Safety First



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Toronto, Ontario M8X 2X4
Toll free 1-877-682-8772
Fax (416) 231-1626
www.tssa.org

FS Inspection Report

Service Request #	591188
Inspection Report #	3343958

Inspection Address: 5873 Perth Street Richmond;ON CA	Reference Number(s):	Inspection Completion Date: MAY 13, 2011
	Facility Type:	Equipment Type:
Customer Name and Address: 947068 Ontario Ltd 7 Ebony Circle Nepean;ON CA K2R 1A4	Task Type: FS-Enforcement Action The facility/equipment is inspected in accordance with Ontario's Technical Standards & Safety Act and the appropriate regulations and codes. When an Inspector's order is issued, time limits for compliance reflect the severity of the violation and serve to avoid disruption of service.	

This report should be sent to Att. Mr. Stephen Hoyle E-mail: shoyle@tssa.org Center Tower, 14th Floor 3300 Bloor Street Toronto, Ontario, M8X-2X4	
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Task Notes
<p>On April 27, 2011, TSSA Inspector Clinton Askwith conducted a site inspection at 5873 Perth Street in Richmond, rental location for Denise Greer of 947068 Ontario Ltd.</p> <p>Inspector Askwith met with Dave Powell, owner of Lifestyle Landscapes who was on site performing restoration work inside the residence.</p> <p>The subsequent inspection had discovered that an unknown quantity of fuel oil was spilled outside the residence at the fill pipe area. A saturation area of approx. 6 feet by 2 feet was detected that had the odour of product in the soils. This location had been previously occupied by tenants that had left unexpectedly. A history from the fuel supplier, Francis Fuels had indicated that the location had run out of fuel numerous times during the 2009, 2010 heating season. Fuel had been put into the tank via portable cans for an unknown time and no regular deliveries from a fuel Supplier was discovered.</p> <p>As a result of the unknown quantity of product that had come in contact with the natural environment, the above environmental order is issued.</p> <p>Pursuant to my authority under section 21 of the TSSA / 2006 Act. You are hereby ordered to FORTHWITH comply with these Inspector's orders.</p> <p>Dated : May 13, 2011.</p> <p>Please see attached Section 21 of the TSSA/2006Act :</p> <p>21. (1) If an inspector finds that any provision of this Act, the regulations or a Minister's order is being contravened, or that a thing under this Act is unsafe or is not being operated or used in accordance with the authorization relating to it, the inspector may,</p> <p>(a) Serve the person he or she believes to be the contravener or that person's supervisor or employer, or both, with an order in writing directing compliance with the provision or authorization and may require that the terms of the order be carried out forthwith or Within such other time specified in the order;</p> <p>The above Client is billed for this Inspection, according to the TSSA billing policy and the TSSA Act / 2000, Section 19.</p> <p>Pursuant to my authority under Section 21 of the Technical Standards and Safety Act, 2000, you are hereby ordered to comply with the above Orders forthwith.</p> <p>***The time the TSSA will invoice is found in the "Labour Detail" box below. ***</p>

Customer Signature & Position / Date:	Inspector Name: Askwith, Clinton	Inspector Contact Number:
Report Received By: Denise Greer by email	Customer Contact Number: deniselouise@sympatico.ca	Inspector Email: caskwith@tssa.org
		Inspector Fax:

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www.tssa.org

FS Inspection Report

Service Request #	591188
Inspection Report #	3343958

Inspection Address: 5873 Perth Street Richmond;ON CA	Reference Number(s):	Inspection Completion Date: MAY 13, 2011
	Facility Type:	Equipment Type:
Customer Name and Address: 947068 Ontario Ltd 7 Ebony Circle Nepean;ON CA K2R 1A4	Task Type: FS-Enforcement Action	
	The facility/equipment is inspected in accordance with Ontario's Technical Standards & Safety Act and the appropriate regulations and codes. When an Inspector's order is issued, time limits for compliance reflect the severity of the violation and serve to avoid disruption of service.	

Other Charges Detail

Date	Activity	Qty	Comments
MAY 13, 2011	Inspection	.5	Inspection time to receive incident and contact owner. April 25, 2011.
MAY 13, 2011	Travel	1.75	Travel for incident Inspection April 27, 2011.
MAY 13, 2011	Inspection	.75	Inspection time on site April 27, 2011.
MAY 13, 2011	Inspection	.5	Gather information and notes.
MAY 13, 2011	Inspection	1.5	Inspection time to process orders and admin time on file.

Customer Signature & Position / Date:		Inspector Name: Askwith, Clinton	Inspector Contact Number:
Report Received By: Denise Greer by email	Customer Contact Number: deniselouise@sympatico.ca	Inspector Email: caskwith@tssa.org	Inspector Fax:

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(Note: This is not an invoice)



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FS Inspection Report

Service Request #	591224
Inspection Report #	3344009

Inspection Address: 5873 Perth Street Richmond;ON CA	Reference Number(s):	Inspection Completion Date:
	Facility Type:	Equipment Type:
Customer Name and Address: 947068 Ontario Ltd 7 Ebony Circle Nepean;ON CA K2R 1A4	Task Type: FS-Enforcement Action <i>The facility/equipment is inspected in accordance with Ontario's Technical Standards & Safety Act and the appropriate regulations and codes. When an Inspector's order is issued, time limits for compliance reflect the severity of the violation and serve to avoid disruption of service.</i>	

Orders Issued To: 947068 Ontario Ltd, owner of 5873 Perth Street, Richmond and Denise Greer

Line	Reference and Order(s)	Compliance Date
52779 8-1	Unlisted Deficiency Ontario Regulation 213/01 sec 3 states: General requirement for compliance 3. (1) Every person engaged in an activity, use of equipment, process or procedure to which the Act and this Regulation apply shall comply with the Act and this Regulation. O. Reg. 213/01, s. 3 (1). (2) For the purposes of subsection (1), the reference to activity, use of equipment, process or procedure includes, but is not limited to, design, installation, alteration, repair, service, removal, purging, activation, storage, handling, modification and use of equipment. O. Reg. 213/01, s. 3 (2). The following legal order is issued May 13, 2011. You are hereby ordered forthwith to have the corrections made as outlined in the task notes below to your tank and furnace prior to resuming operation of the tank and appliance. NOTE: The fuel supplier Francis Fuels will also be notified of these conditions.	MAY 13, 2011
52779 8-2	Unlisted Deficiency CSA B139 06 sec 13.2.2.1 states: For metallic end outlet tanks, test for water at the bottom of the tank. Where water is found, remove the water. The following legal order is issued May 13, 2011. You are hereby ordered forthwith to perform this requirement on the oil tank in the residence as identified in the task notes below prior to resuming operation and filling of the tank.	MAY 13, 2011

Task Notes
<p>On April 27, 2011, TSSA Inspector Clinton Askwith conducted a site inspection at 5873 Perth Street in Richmond, rental location for Denise Greer of 947068 Ontario Ltd following a fuels incident.</p> <p>The subsequent inspection had discovered the following non compliances with the heating equipment and tank in the residence:</p> <ol style="list-style-type: none"> The furnace was not on a solid base. The cement block could be easily removed. CSA B139 06 sec 3.1.4. Brock Furnace Model MBP 1A with Serial D110631493. The oil tank Serial 21201C, 1999, DTE Industries, 935 L, 2.0mm has been subjected to the fill cap being off for an unknown time and as such the tank will need to be tested for the presence of water and removed if found as per the order issued above (CSA B139 06 sec 13.2.2.1). Due to the age

Customer Signature & Position / Date:	Inspector Name: Askwith, Clinton	Inspector Contact Number:
Report Received By: Denise Greer by email	Customer Contact Number: deniselouise@sympatico.ca	Inspector Email: caskwith@tssa.org
		Inspector Fax:

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FS Inspection Report

Service Request #	591224
Inspection Report #	3344009

Inspection Address: 5873 Perth Street Richmond;ON CA	Reference Number(s):	Inspection Completion Date:
	Facility Type:	Equipment Type:
Customer Name and Address: 947068 Ontario Ltd 7 Ebony Circle Nepean;ON CA K2R 1A4	Task Type: FS-Enforcement Action	
	<i>The facility/equipment is inspected in accordance with Ontario's Technical Standards & Safety Act and the appropriate regulations and codes. When an Inspector's order is issued, time limits for compliance reflect the severity of the violation and serve to avoid disruption of service.</i>	

of the tank and the conditions of which it is subject to, This Inspector **STRONGLY** recommends replacing the tank.
 3. The vent pipe did not terminate at least 6 inches above the fill pipe and did not contain a proper cap. CSA B139 06 sec 6.13.1.7.
 4. Some of the outdoor piping was below grade and did not conform to underground piping requirements. CSA B139 06 sec 8.3.2.

You are hereby ordered to obtain the services of a Qualified Contractor to carry out these corrections to the oil equipment on site.

Pursuant to my authority under section 21 of the TSSA / 2006 Act. You are hereby ordered to **FORTHWITH** comply with these Inspector's orders.

Dated : May 13, 2011.

Please see attached Section 21 of the TSSA/2006Act :

21. (1) If an inspector finds that any provision of this Act, the regulations or a Minister's order is being contravened, or that a thing under this Act is unsafe or is not being operated or used in accordance with the authorization relating to it, the inspector may,

(a) Serve the person he or she believes to be the contravener or that person's supervisor or employer, or both, with an order in writing directing compliance with the provision or authorization and may require that the terms of the order be carried out forthwith or Within such other time specified in the order;

Pursuant to my authority under Section 21 of the Technical Standards and Safety Act, 2000, you are hereby ordered to comply with the above Orders forthwith.

Customer Signature & Position / Date:		Inspector Name: Askwith, Clinton	Inspector Contact Number:
Report Received By: Denise Greer by email	Customer Contact Number: deniselouise@sympatico.ca	Inspector Email: caskwith@tssa.org	Inspector Fax:

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 (Note: This is not an invoice)

Spill - 5873 Perth Line, Ottawa_case number 580938

Ministry of the Environment
Ministère de l'Environnement

INCIDENT REPORT

Reference Number: 8173-8G4N4J File Storage Number: SPILLS ACTION CENTRE
Module: Incident Reporting Module Type: Spill
Cross Reference: (doc link) Task Link: 0248-8G4P29
Originating Document: Created by: Julianne Dominski
Incident Report Reference Number: 8173-8G4N4J

Date Created: 2011/04/20 Date Completed:
Bring Forward Date: Bring Forward Reason:
Status: To be assigned
Program Waste - Hazardous & Liquid industrial Activity: Spills
Is this an air emission (measured or modelled) or wastewater (sewage)
discharge exceedance that will become part of the Environmental Compliance
Report?

(legislation, certificate of approval, order, or guideline)

To be determined [Click here for Guidance](#)

Hide Caller/PO Information for FOI Printing: No

Reported By: Name of Company:

First Name
Last Name
Phil
Headland

Francis Fuels Ltd

Contact Mailing Address
Civic Address: Unit Identifier:
28 Concourse Gate
Delivery Designator: Delivery Identifier:

Municipality: Postal Station: Province/State: Postal Code:
Ottawa Ontario K2E 1A1
Telephone Number: Extension: Other Number: Email Address:
(613)327-4694

Date Reported to MOE: 2011/04/20 Time Reported to MOE: 13:07

Office Receiving Incident Report: Spills Action Centre
Incident Info Received By: Julianne Dominski

MOE Response: Site Region: Eastern

Date of MOE Arrival at Scene: Time of MOE Arrival at Scene:
Master Incident Report Number:

SAC Action Class: Land Spills

Non-Standard Procedure: No

Spill - 5873 Perth Line, Ottawa_case number 580938
ERP Call-out Initiated: No

Information

Information

5873 Perth Street (Richmond)<UNOFFICIAL>
Address: Lot: , Part: , 5873 Perth Street , Ottawa, City,
District Office: Ottawa
GeoReference: Map Datum: , Accuracy Estimate: , UTM Easting: , UTM
Location Description: ,

Incident Summary: Francis Fuels: Fuel oil spill to grnd
cannot be longer than 60 characters

Incident Description: 13:07 Caller to SAC(jd) reports that he is currently at a vacant

house where there was a fuel oil spill. The caller reports that it looks like the previous tenants were using a 5 gallon drum to fill the fill an indoor tank from the outside. The tank is in the basement of the house but there is a fill cap that is located on the outside that they use to fill the tank up. As they were doing this they were spilling oil onto the grass covered ground. The caller reports that he cannot see any oil but reports that the grass has all died in the area. The caller cannot get to the basement because it is also flooded with water. There are no watercourses in the area and the caller is unsure of whether or not the house is on well water. The tank is empty of fuel oil.

13:20 Briefed Peter

13:30 SAC(jd) to Ottawa MOE: briefed Tor, he will call the City of Ottawa

13:35 SAC(jd) to Mrs. Greer: wrong number

13:44 SAC(jd) to Phil: gave another number for Mrs. Greer, 613 825 3043

13:49 SAC(jd) to Mrs. Greer: reports that she was not aware of the furnace oil spill and will try to contact the fuel company and insurance

Homeowner
Mrs. Greer
613 838 4059

Attachments & Document Links:

Links & Comments: Please enter text and/or paste document links here:

Attachments: There are no attachments for this document.

Attachments Names:
Attachments Size: 0.00 MB

Spill - 5873 Perth Line, Ottawa_case number 580938

Date of Incident: Incident Date Confirmation:
Estimated
2011/04/20 Time of Incident:
Source Type: Sector Type:
Nearest Watercourse: Watershed Category Code:
Environmental Impact:
Nature of Impact:
Incident Cause:
Incident Reason:
Damaged Party: No

Contaminants Table

Contaminant Code	UN#	Limit	Quantity [units]	[freq]
FUEL OIL	13	1202		
0				
other - see incident description				

Spill - 5873 Perth Line, Ottawa_case number 580938

Julianne Dominski
Julianne Dominski
Julianne Dominski
Julianne Dominski
document saved
task link created
document saved
document saved
Turnaround Time:

document created

0 day(s) Clock Status: On
Reasons for turning clock off:

Owner: Editors:
Julianne Dominski

[Administrator]



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Toronto, Ontario
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February 29, 2012

Ms. Denise Greer
947068 Ontario Ltd.
7 Ebony Circle
Ottawa, ON, K2R 1A4

**Site Remediation Program – Residential Dwelling – 5873 Perth Street, Ottawa, Ontario
Service Request No. 678570**

Dear Ms. Greer:

We have received a copy of the report entitled "Site Remediation Program – Residential Dwelling – 5873 Perth Street, Ottawa, Ontario", prepared by Paterson Group Consulting Engineers (Paterson), dated August 25, 2011. This report has been submitted to the Technical Standards and Safety Authority (TSSA) as required by TSSA Inspection Report (Inspection Report number: 3343958 and Inspection Service Request number: 591188) and associated Order. The Order was issued by TSSA inspector Clinton Askwith following the release of an unknown quantity of home heating fuel at the above noted address.

Paterson supervised the removal and disposal of approximately 6.8 metric tonnes of contaminated soil around the leak from the site, completed by Thomas Cavanagh Construction. Following the removal of contaminated soil, Paterson collected three (3) soil samples from the walls and base of the excavation and submitted them for the laboratory analysis of benzene, toluene, ethylbenzene, xylenes (BTEX) and petroleum hydrocarbon fractions F1 to F4 (PHC F1-F4). The excavation was extended to a maximum depth of 1.7 meters below grade. No groundwater was encountered in the excavation; therefore no groundwater sample was collected. Paterson concludes that the laboratory results of the soil samples were less than the selected Ministry of Environment (MOE) Table 2 Site Condition Standards (SCS) for BTEX and PHC F1-F4. The information submitted has met the requirements of the TSSA, as outlined in the Fuel Oil Code.

Should you have any further questions, please do not hesitate to contact me directly. When contacting TSSA regarding this file, please refer to the Service Request Number listed above.

Yours truly,

Sridhar (Sri) Sangaraju, P.Geo, PMP
Fuels Safety Program
Tel.: 416.734.3598
Fax: 416.231.7525
Email: ssangaraju@tssa.org

CC: Mark D'Arcy – Paterson Group.
Clinton Askwith – TSSA.

patersongroup

Consulting Engineers

28 Concourse Gate, Unit 1
Ottawa, Ontario
Canada, K2E 7T7
Tel: (613) 226-7381
Fax: (613) 226-6344

August 25, 2011
File: PE2352-LET.01

947068 Ontario Ltd.
7 Ebony Circle
Ottawa, Ontario
K2R 1A4

Geotechnical Engineering
Environmental Engineering
Hydrogeology
Geological Engineering
Materials Testing
Building Science

www.patersongroup.ca

Attention: **Ms. Denise Greer**

Subject: **Site Remediation Program
Residential Dwelling - 5873 Perth Street
Ottawa, Ontario**

Dear Ms. Greer,

Further to your request and authorization, Paterson Group (Paterson) conducted an environmental remediation program at the aforementioned site. The purpose of the program was to remediate a small area of impacted soil in the immediate vicinity of the vent and fill pipes at the southern exterior corner of the subject residence. According to the Technical Standards and Safety Association (TSSA) Inspection Report (No. 3343958), a surface stain was observed around the furnace oil fill pipe. The results of the remediation program are summarized in the following letter.

Site Information

The subject site is located to the northeast of the intersection of Perth Street and Shea Road in the City of Ottawa (Village of Richmond), Ontario. Refer to the Key Plan on the attached Site Remediation Plan for the site location. The subject site is bordered to the south by Perth Street followed by a cemetery to the southwest and residential dwellings to the southeast. Lands to the north and east are used for agricultural purposes. To the west is Shea Road followed by residential dwellings and a gas station. The subject property is serviced with a private on site water well and sewage system.

Field Program

Personnel from the Paterson's environmental department were on site on June 22, 2011 to oversee the removal of the impacted soil in the previously discussed area of the subject site. Thomas Cavanagh Construction (Cavanagh) was responsible for excavation, transportation and off-site disposal of the impacted soil which was disposed of at the Lafleche Leblanc soil recycling facility in Moose Creek, Ontario.

A soil sample (G1), considered to be an overall representation of the impacted soil from the site, was submitted for Ontario Regulation 347/558 leachate analysis to determine whether the contaminated soil could be disposed of as non-hazardous waste. The laboratory certificate of analysis for the O.Reg. test (TCLP) is appended to this report.

Confirmatory samples were collected from selected locations in the excavation following the removal of the impacted soil on June 22, 2011. Based on the results of the analysis, specifically the original base sample which marginally exceeded the MOE F2 Standard, the excavation was advanced approximately another 0.7 m deep until no signs of impacted soil were observed.

The impacted soil was temporarily stockpiled on the subject site and removed once the final confirmatory samples were analyzed. A total of 6.8 tonnes of impacted soil was removed from the subject property during the excavation.

Confirmatory Soil Sampling Program

The soil sampling protocols followed were in general accordance with the MOE document entitled "*Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*", dated May 1996.

All of the soil samples were submitted to a preliminary screening procedure using a RKI Eagle combustible gas meter, calibrated to hexane. The soil vapours were measured by inserting the analyser probe into the nominal headspace above the soil sample. The sample was then agitated and the peak reading recorded. The combustible vapour readings were found to range from 0 parts per million (ppm) to 80 ppm.

Analytical Testing

Remediation Standards

The remediation standards selected for the site were taken from Table 2 of the document entitled "*Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act.*" prepared by the Ontario Ministry of the Environment (MOE), dated July 27, 2009. The Table 2 standards are based on a fine-grained soil in a residential, potable groundwater setting.

Paracel Laboratories (Paracel), of Ottawa, performed the laboratory analyses for this project. Paracel is a member of the Standards Council of Canada/Canadian Association for Environmental Analytical Laboratories (SCC/CAEAL). Paracel is accredited and certified by SCC/CAEAL for specific tests registered with the association.

Analytical Test Results

Soil samples were recovered from the excavation and submitted for analytical testing of petroleum hydrocarbons (PHCs) and benzene, toluene, ethylbenzene and xylenes (BTEX). The soil results and the selected remediation standards are presented in Table 1. The laboratory reports are appended to this letter report.

from MOE well records,
 subsurface is clay
 so fine is ok

Table 1 Analytical Test Results - Soil PHC (F ₁ -F ₄) & BTEX						
Parameter	MDL (µg/g)	Soil Samples (µg/g) June 22 and July 15, 2011				Table 2 Residential Standards (µg/g)
		B3	B1*	S1	W1	Fine - 2009
Benzene	0.02	-	nd	nd	nd	0.17
Ethylbenzene	0.05	-	nd	nd	nd	1.6
Toluene	0.05	-	0.05	nd	nd	6 (2011)
Xylenes	0.05	-	nd	nd	nd	25
F ₁ (C ₆ -C ₁₀)	10	nd	16	nd	nd	65
F ₂ (C ₁₀ -C ₁₆)	10	nd	168	32	85	150
F ₃ (C ₁₆ -C ₃₄)	10	nd	134	33	48	1300
F ₄ (C ₃₄ -C ₅₀)	10	nd	nd	nd	nd	5600

Notes:

- MDL - Method Detection Limit
- nd - not detected above the MDL
- * Denotes soil removed during excavation on July 15, 2011

Golden's
Notes

Tbl 1 (2011)
 0.02
 0.05
 0.2*
 0.05
 25
 16*
 1300
 120

The final three (3) soil samples analysed were observed to comply with the selected 2009 MOE standards. The soil represented by the above noted Sample B1 was removed during the second excavation program carried out on July 15, 2011.

Assessment

Paterson Group monitored the remedial excavation of petroleum hydrocarbon contaminated soil resulting from a surficial spill of furnace oil around the oil tank fill pipe at the southern corner of the residence at 5873 Perth Street, Ottawa, Ontario. The field work was conducted on June 22 and July 15, 2011.

All soil with visual or olfactory evidence of hydrocarbon contamination was excavated for off-site disposal. Confirmatory soil samples were recovered from the walls and base of the excavation for preliminary screening and ultimately analytical testing. Four (4) soil samples were submitted for confirmatory analysis throughout the remediation program. The final samples are in compliance with the selected 2009 MOE standards. Approximately 6.8 metric tonnes of contaminated soil were removed from the site.

Groundwater was not encountered in the remedial excavation. Based on information from a geotechnical investigation conducted on the immediately adjacent lands by Paterson, groundwater is expected to reside at a depth below 4m on site, well below the depth of the limited remediation excavation. Taking this into consideration along with the final base sample results, no impact to the groundwater is expected from the furnace oil release.

Based on our field observations combined with the analytical test results, in our opinion, the petroleum hydrocarbon impacted soil noted in the TSSA inspection report has been removed from the property and the surrounding soils are in compliance with the selected 2009 MOE standards. **No further remedial work is recommended for the subject site.**

Statement of Limitations

The results of the remediation program are based on our field observations and analytical test results obtained at specific test locations, which can only be extrapolated to an undefined limited area around the impacted area. The test results may not reflect conditions at other locations or areas beyond the extent of the assessment area.

This report was prepared for the sole use of 947068 Ontario Ltd. Permission from 947068 Ontario Ltd. and Paterson Group will be required to release this report to any other party.

Ms. Denise Greer
Page 6
File: PE2352-LET.01

We trust this letter meets your present requirements. If you have any questions, please contact the undersigned.

Sincerely,

Paterson Group



Mark D'Arcy, P.Eng.

Letter Distribution:

- 947068 Ontario Ltd. (2 copies and 1 PDF copy)
- Paterson Group (1 copy)

Enclosures:

- Laboratory Certificates of Analysis
- Drawing PE2352-1 - Site Remediation Plan



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www.paracellabs.com

OTTAWA NIAGARA FALLS MISSISSAUGA SARNIA

Certificate of Analysis

Paterson Group Consulting Engineers

28 Concourse Gate, Unit 1
Nepean, ON K2E 7T7
Attn: Mark D'Arcy

Phone: (613) 226-7381
Fax: (613) 226-6344

Client PO:
Project: PE2352
Custody: 85778/1126165

Report Date: 28-Jun-2011
Order Date: 22-Jun-2011

Order #: 1126190

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
1126190-01	G1

Approved By:

Mark Foto, M.Sc. For Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liability in connection with this work, however arising shall be limited to the amount paid by you for this work, and that our employees or agents shall not under circumstances be liable to you in connection with this work

Certificate of Analysis

Client: **Paterson Group Consulting Engineers**

Client PO:

Project Description: **PE2352**

Report Date: 28-Jun-2011

Order Date: 22-Jun-2011

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
CCME PHC F1	CWS Tier 1 - P&T GC-FID	23-Jun-11	24-Jun-11
CCME PHC F2 - F4	CWS Tier 1 - GC-FID, extraction	25-Jun-11	27-Jun-11
Flashpoint	Penski Martin Closed Cup	27-Jun-11	27-Jun-11
REG 558 - PAHs	EPA 625 - GC-MS	27-Jun-11	27-Jun-11
Solids, %	Gravimetric, calculation	28-Jun-11	28-Jun-11
TCLP Metals/SVOCs - Extraction	EPA 1311 TCLP Extraction Procedure	23-Jun-11	27-Jun-11

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Report Date: 28-Jun-2011

Order Date: 22-Jun-2011

Client PO:

Project Description: PE2352

Client ID:	G1	-	-	-
Sample Date:	22-Jun-11	-	-	-
Sample ID:	1126190-01	-	-	-
MDL/Units	Soil	-	-	-

Physical Characteristics

% Solids	0.1 % by Wt.	80.6	-	-	-
Flashpoint	°C	>70	-	-	-

EPA 1311 - TCLP Leachate Inorganics

Initial pH	0.05 pH Units dry	8.11	-	-	-
Final pH	0.05 pH Units dry	5.51	-	-	-

EPA 1311 - TCLP Leachate Organics

Benzo [a] pyrene	0.0001 mg/L	<0.0001	-	-	-
Terphenyl-d14	Surrogate	99.9%	-	-	-

Hydrocarbons

F1 PHCs (C6-C10)	10 ug/g dry	1260	-	-	-
F2 PHCs (C10-C16)	10 ug/g dry	26100	-	-	-
F3 PHCs (C16-C34)	10 ug/g dry	9570	-	-	-
F4 PHCs (C34-C50)	10 ug/g dry	<100	-	-	-

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Report Date: 28-Jun-2011

Order Date: 22-Jun-2011

Client PO:

Project Description: PE2352

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
EPA 1311 - TCLP Leachate Organics									
Benzo [a] pyrene	ND	0.0001	mg/L						
Surrogate: Terphenyl-d14	0.268		mg/L		134	37.1-155.6			
Hydrocarbons									
F1 PHCs (C6-C10)	ND	10	ug/g						
F2 PHCs (C10-C16)	ND	10	ug/g						
F3 PHCs (C16-C34)	ND	10	ug/g						
F4 PHCs (C34-C50)	ND	10	ug/g						

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO:

Project Description: PE2352

Report Date: 28-Jun-2011

Order Date: 22-Jun-2011

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
EPA 1311 - TCLP Leachate Organics									
Benzo [a] pyrene	ND	0.0001	mg/L	ND				50	
Surrogate: Terphenyl-d14	0.205		mg/L	ND	102	37.1-155.6			
Hydrocarbons									
F1 PHCs (C6-C10)	ND	10	ug/g wet	ND				40	
F2 PHCs (C10-C16)	21	10	ug/g wet	16			28.7	50	
F3 PHCs (C16-C34)	27	10	ug/g wet	21			24.6	50	
F4 PHCs (C34-C50)	ND	10	ug/g wet	ND				50	
Physical Characteristics									
% Solids	90.8	0.1	% by Wt.	89.9			1.1	25	

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO:

Project Description: PE2352

Report Date: 28-Jun-2011

Order Date: 22-Jun-2011

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
EPA 1311 - TCLP Leachate Organics									
Benzo [a] pyrene	0.0473	0.0001	mg/L	ND	94.5	39-123			
Surrogate: Terphenyl-d14	0.218		mg/L		109	37.1-155.6			
Hydrocarbons									
F1 PHCs (C6-C10)	202	10	ug/g	ND	101	80-120			
F2 PHCs (C10-C16)	52	10	ug/g	ND	65.0	61-129			
F3 PHCs (C16-C34)	127	10	ug/g	ND	63.5	61-129			
F4 PHCs (C34-C50)	76	10	ug/g	ND	63.3	61-129			

Certificate of Analysis

Client: **Paterson Group Consulting Engineers**

Client PO:

Project Description: **PE2352**

Report Date: **28-Jun-2011**

Order Date: **22-Jun-2011**

Sample and QC Qualifiers Notes

Sample Data Revisions

None

Work Order Revisions/Comments:

None

Other Report Notes:

n/a: not applicable

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.

Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.



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www.paracellabs.com

OTTAWA NIAGARA FALLS MISSISSAUGA SARNIA

Certificate of Analysis

Paterson Group Consulting Engineers

28 Concourse Gate, Unit 1
Nepean, ON K2E 7T7
Attn: Mark D'Arcy

Phone: (613) 226-7381
Fax: (613) 226-6344

Client PO:
Project: PE2352
Custody: 85778

Report Date: 28-Jun-2011
Order Date: 22-Jun-2011

Order #: 1126165

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
1126165-01	B1
1126165-02	S1
1126165-03	W1

Approved By:

Mark Foto, M.Sc. For Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liability in connection with this work, however arising shall be limited to the amount paid by you for this work, and that our employees or agents shall not under circumstances be liable to you in connection with this work

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Report Date: 28-Jun-2011

Order Date: 22-Jun-2011

Client PO:

Project Description: PE2352

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
BTEX	EPA 8260 - P&T GC-MS	22-Jun-11	23-Jun-11
CCME PHC F1	CWS Tier 1 - P&T GC-FID	22-Jun-11	23-Jun-11
CCME PHC F2 - F4	CWS Tier 1 - GC-FID, extraction	25-Jun-11	25-Jun-11
Solids, %	Gravimetric, calculation	28-Jun-11	28-Jun-11

Certificate of Analysis

Report Date: 28-Jun-2011

Client: Paterson Group Consulting Engineers

Order Date: 22-Jun-2011

Client PO:

Project Description: PE2352

Client ID:	B1	S1	W1	-
Sample Date:	22-Jun-11	22-Jun-11	22-Jun-11	-
Sample ID:	1126165-01	1126165-02	1126165-03	-
MDL/Units	Soil	Soil	Soil	-

Physical Characteristics

% Solids	0.1 % by Wt.	84.0	85.5	84.5	-
----------	--------------	------	------	------	---

Volatiles

Benzene	0.02 ug/g dry	<0.02	<0.02	<0.02	-
Ethylbenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Toluene	0.05 ug/g dry	0.05	<0.05	<0.05	-
m,p-Xylenes	0.05 ug/g dry	<0.05	<0.05	<0.05	-
o-Xylene	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Xylenes, total	0.05 ug/g dry	<0.05	<0.05	<0.05	-
Toluene-d8	Surrogate	113%	87.9%	90.1%	-

Hydrocarbons

F1 PHCs (C6-C10)	10 ug/g dry	16	<10	<10	-
F2 PHCs (C10-C16)	10 ug/g dry	168	32	85	-
F3 PHCs (C16-C34)	10 ug/g dry	134	33	48	-
F4 PHCs (C34-C50)	10 ug/g dry	<10	<10	<10	-

Certificate of Analysis

Client: **Paterson Group Consulting Engineers**

Client PO:

Project Description: **PE2352**

Report Date: **28-Jun-2011**

Order Date: **22-Jun-2011**

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	10	ug/g						
F2 PHCs (C10-C16)	ND	10	ug/g						
F3 PHCs (C16-C34)	ND	10	ug/g						
F4 PHCs (C34-C50)	ND	10	ug/g						
Volatiles									
Benzene	ND	0.02	ug/g						
Ethylbenzene	ND	0.05	ug/g						
Toluene	ND	0.05	ug/g						
m,p-Xylenes	ND	0.05	ug/g						
o-Xylene	ND	0.05	ug/g						
Xylenes, total	ND	0.05	ug/g						
Surrogate: Toluene-d8	3.01		ug/g		94.1	50-140			

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Report Date: 28-Jun-2011

Order Date: 22-Jun-2011

Client PO:

Project Description: PE2352

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	10	ug/g dry	ND				40	
F2 PHCs (C10-C16)	21	10	ug/g wet	16			28.7	50	
F3 PHCs (C16-C34)	27	10	ug/g wet	21			24.6	50	
F4 PHCs (C34-C50)	ND	10	ug/g wet	ND				50	
Physical Characteristics									
% Solids	90.8	0.1	% by Wt.	89.9			1.1	25	
Volatiles									
Benzene	ND	0.02	ug/g dry	ND				50	
Ethylbenzene	ND	0.05	ug/g dry	ND				50	
Toluene	ND	0.05	ug/g dry	ND				50	
m,p-Xylenes	ND	0.05	ug/g dry	ND				50	
o-Xylene	ND	0.05	ug/g dry	ND				50	
Surrogate: Toluene-d8	3.65		ug/g dry	ND	103	50-140			

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Report Date: 28-Jun-2011

Order Date: 22-Jun-2011

Client PO:

Project Description: PE2352

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	97	10	ug/g	ND	96.7	80-120			
F2 PHCs (C10-C16)	52	10	ug/g	ND	65.0	61-129			
F3 PHCs (C16-C34)	127	10	ug/g	ND	63.5	61-129			
F4 PHCs (C34-C50)	76	10	ug/g	ND	63.3	61-129			
Volatiles									
Benzene	0.717	0.02	ug/g	ND	76.8	60-130			
Ethylbenzene	1.87	0.05	ug/g	ND	84.3	60-130			
Toluene	9.36	0.05	ug/g	ND	86.6	60-130			
m,p-Xylenes	5.93	0.05	ug/g	ND	88.2	60-130			
o-Xylene	2.42	0.05	ug/g	ND	89.8	60-130			
Surrogate: Toluene-d8	3.13		ug/g		97.7	50-140			

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO:

Project Description: PE2352

Report Date: 28-Jun-2011

Order Date: 22-Jun-2011

Sample and QC Qualifiers Notes

None

Sample Data Revisions

None

Work Order Revisions/Comments:

None

Other Report Notes:

n/a: not applicable

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.

Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.

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Mississauga, ON L4N 6J3

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Page 1 of 1

Client Name: Paterson	Project Reference: PE2352	TAT: <input checked="" type="checkbox"/> Regular
Contact Name: Mark D'Arcy	Quote #	<input type="checkbox"/> 2 Day
Address: 28 Concourse Gate, Unit 11	PO #	<input type="checkbox"/> 1 Day
Telephone: 613 226-7381	Email Address: mdarcy@patersongroup.ca	<input type="checkbox"/> Same Day
Date Required: _____		

Samples Submitted Under: 10. Prg. 153/04 Table 10. Reg 511/09 Table 3 PWQO CCME Sewer Use (Storm) Sewer Use (Sanitary) Other: _____

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm Sewer/Sewer) P (Pilot) A (Air) O (Other)					Required Analyses											
Paracel Order Number: 1126165		Matrix	Air Volume	# of Containers	Sample Taken		BTEX/PHCS	Held								
Sample ID/Location Name					Date	Time										
1	G1	S			6/22/11		X									
2	B1	S			↓		X									
3	S1	S			↓		X									
4	W1	S					X									
5																
6																
7																
8																
9																
10																

Comments: **Temp at. Process of cooling** Method of Delivery: **Walk-in**

Relinquished By (Print & Sign): J. Robinson	Received by (Print or Sign):	Received at Lab: MFC	Verified by: MFC
Date/Time: 6/22/11 5:30pm	Date/Time: Jun 22/11 5:36	Date/Time: Jun 22/11 5:36	Date/Time: Jun 22/11 5:31
Temperature: _____ °C	Temperature: 23.3 °C	pH Verified [] By: _____	



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Certificate of Analysis

Paterson Group Consulting Engineers

28 Concourse Gate, Unit 1
Nepean, ON K2E 7T7
Attn: Mark D'Arcy

Phone: (613) 226-7381
Fax: (613) 226-6344

Client PO: 11540
Project: PE2352
Custody: 85652

Report Date: 22-Jul-2011
Order Date: 15-Jul-2011

Order #: 1129335

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
1129335-01	B3

Approved By:

A handwritten signature in black ink that reads "Mark Foto".

Mark Foto, M.Sc. For Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liability in connection with this work, however arising shall be limited to the amount paid by you for this work, and that our employees or agents shall not under circumstances be liable to you in connection with this work

Certificate of Analysis

Client: **Paterson Group Consulting Engineers**

Client PO: 11540

Project Description: PE2352

Report Date: 22-Jul-2011

Order Date: 15-Jul-2011

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
CCME PHC F1	CWS Tier 1 - P&T GC-FID	18-Jul-11	21-Jul-11
CCME PHC F2 - F4	CWS Tier 1 - GC-FID, extraction	21-Jul-11	21-Jul-11
Solids, %	Gravimetric, calculation	21-Jul-11	21-Jul-11

Certificate of Analysis

Client: Paterson Group Consulting Engineers
Client PO: 11540

Report Date: 22-Jul-2011
Order Date: 15-Jul-2011

Project Description: PE2352

Client ID:	B3	-	-	-
Sample Date:	15-Jul-11	-	-	-
Sample ID:	1129335-01	-	-	-
MDL/Units	Soil	-	-	-

Physical Characteristics

% Solids	0.1 % by Wt.	77.6	-	-	-
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Hydrocarbons

F1 PHCs (C6-C10)	10 ug/g dry	<10	-	-	-
F2 PHCs (C10-C16)	10 ug/g dry	<10	-	-	-
F3 PHCs (C16-C34)	10 ug/g dry	<10	-	-	-
F4 PHCs (C34-C50)	10 ug/g dry	<10	-	-	-

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 11540

Project Description: PE2352

Report Date: 22-Jul-2011

Order Date: 15-Jul-2011

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	10	ug/g						
F2 PHCs (C10-C16)	ND	10	ug/g						
F3 PHCs (C16-C34)	ND	10	ug/g						
F4 PHCs (C34-C50)	ND	10	ug/g						

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5415 Morning Glory Cr.
Niagara Falls, ON L2J 8A3

SARNIA
123 Chestnut St. N.
Sarnia, ON N7T 5T7

Certificate of Analysis

Client: Paterson Group Consulting Engineers
Client PO: 11540

Report Date: 22-Jul-2011
Order Date: 15-Jul-2011

Project Description: PE2352

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	10	ug/g dry	ND				40	
F2 PHCs (C10-C16)	ND	10	ug/g wet	ND				50	
F3 PHCs (C16-C34)	799	10	ug/g wet	1130			34.1	50	
F4 PHCs (C34-C50)	1030	10	ug/g wet	1280			21.5	50	
Physical Characteristics									
% Solids	90.1	0.1	% by Wt.	91.4			1.4	25	

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Report Date: 22-Jul-2011

Client PO: 11540

Project Description: PE2352

Order Date: 15-Jul-2011

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	103	10	ug/g	ND	103	80-120			
F2 PHCs (C10-C16)	341	10	ug/g	178	175	61-129			QM-04
F3 PHCs (C16-C34)	231	10	ug/g	36	84.0	61-129			
F4 PHCs (C34-C50)	118	10	ug/g	ND	84.9	61-129			

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Report Date: 22-Jul-2011

Order Date: 15-Jul-2011

Client PO: 11540

Project Description: PE2352

Sample and QC Qualifiers Notes

- 1- LG-SMP005 : Sample - F1/BTEX/VOCs (soil) not submitted according to Reg. 179 (511) - not field preserved
- 2- QM-04 : Visual evaluation of the sample indicates the RPD is above the control limit due to a non-homogeneous sample matrix.

Sample Data Revisions

None

Work Order Revisions/Comments:

None

Other Report Notes:

n/a: not applicable

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

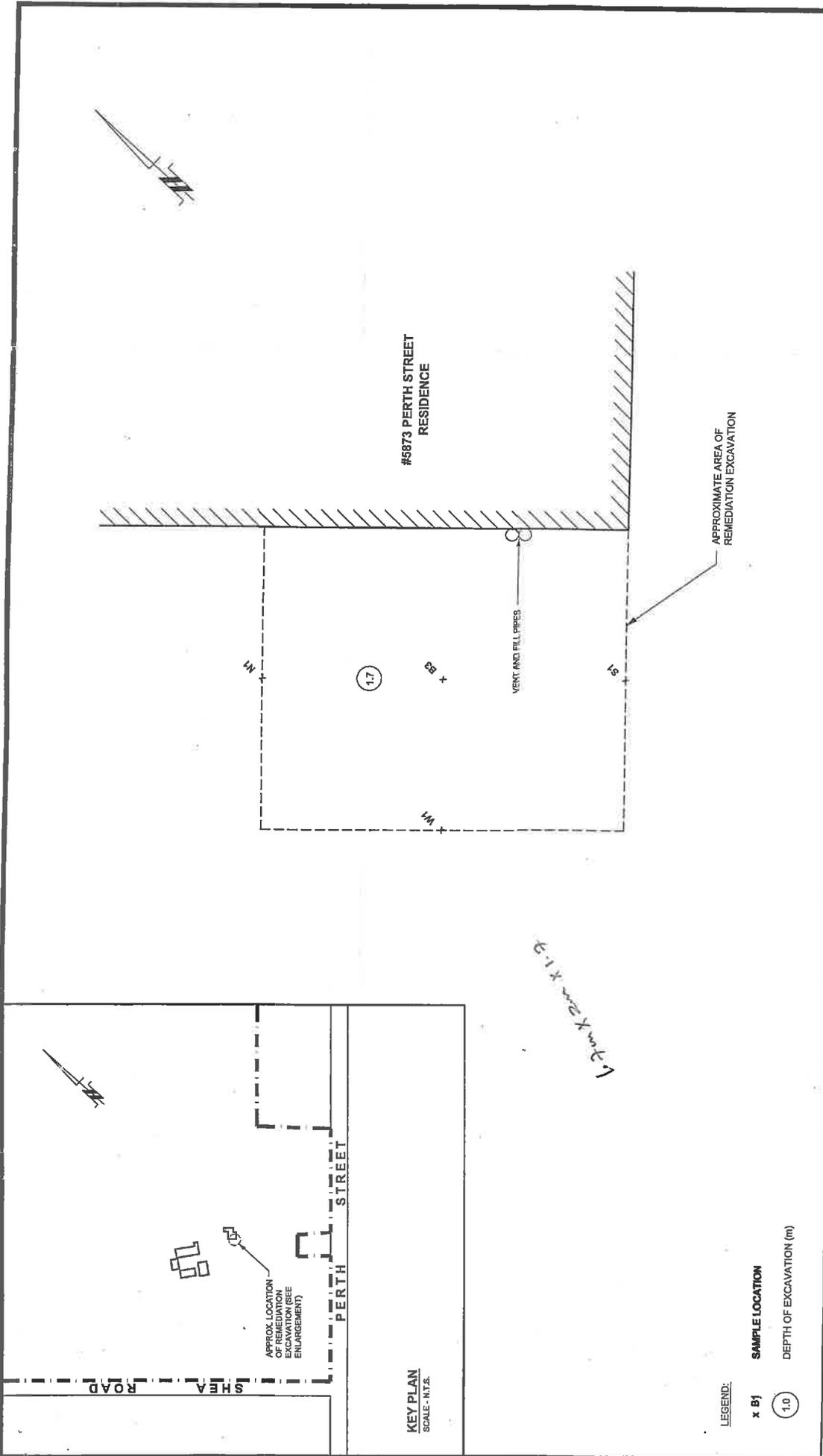
RPD: Relative percent difference.

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.

Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.



Dwg. No. **PE2352-1**
 Report No.: PE2352-1
 Date: 07/2011

SITE REMEDIATION PLAN

947068 ONTARIO LIMITED
 ENVIRONMENTAL SITE REMEDIATION
 5873 PERTH STREET
 OTTAWA, ONTARIO

Scale:	1:20
Des.:	TR
Dwn.:	MPC
Chkd.:	MSD

paterson group
 consulting engineers
 28 Concourse Gate, Unit 1, Ottawa, Ontario K2E 7T7

LEGEND:
 x B1 SAMPLE LOCATION
 (1.0) DEPTH OF EXCAVATION (m)

KEY PLAN
 SCALE - N.T.S.



APPENDIX C

EcoLog ERIS Report, City Directory Search



Ministry of Natural Resources

Kemptville District
P.O. Box2002
10 Campus Drive
Kemptville, ONK0G 1J0

Tel.: (613) 258-8204
Fax.: (613) 258-3920

Ministère des Richesses naturelles

District de Kemptville
CP 2002
10 Campus Drive
Kemptville, ONK0G 1J0

Tél.: (613) 258-8204
Télééc.: (613) 258-3920

Mon. May 25, 2015

Jillian Lackey
Golder
1931 Robertson Rd
Ottawa, Ontario
K2H 5B7
(613) 592-9600
jillian_lackey@golder.com

Attention: Jillian Lackey

Subject: Information Request - Developments
Project Name: Cardel Homes, Ottawa Phase 1 Environmental site Assessment
Site Address: 5873 Perth St., Ottawa
Our File No. 2015_GOU-3058

Natural Heritage Values

The Ministry of Natural Resources (MNR) Kemptville District has carried out a preliminary review of the area in order to identify any potential natural resource and natural heritage values.

The MNR works closely with partner agencies and local municipalities in order to establish concurrent approval process and to achieve streamlined and efficient service delivery. The MNR strongly encourages all proponents to contact partner agencies (e.g. MOE, Conservation Authority, etc.) and appropriate municipalities early on in the planning process. This provides the proponent with early knowledge regarding agency requirements and approval timelines.

Natural heritage features and values contribute to the province's rich biodiversity and provide habitat for a variety of species. The following Natural Heritage values were identified:

- Municipal Drain, Flowing Creek Phase1 Drain
- River, Jock River
- Unevaluated Wetland (Not evaluated per OWES)
- Wildlife Staging Area, Waterfowl Staging Area

Municipal Official Plans contain additional information related to natural heritage features. Please see the local municipal Official Plan for more information such as specific policies and direction pertaining to activities which may impact natural heritage features. For planning advice or Official Plan interpretation, please contact the local municipality.

Where natural values and natural hazards exist (e.g., floodplains), there may be additional approvals and permitting required from the local Conservation Authority. The MNR strongly recommends contacting the local Conservation Authority for further information and approvals. Please see the MNR Kemptville Information Guide (2012) for contact information pertaining to Conservation Authorities located within the Kemptville District area.

For additional information and online mapping tools, please see the Natural Heritage Information Centre (NHIC), where additional data and files can be downloaded in both list and digital format. In addition sensitive species information can be requested and accessed through the NHIC at NHICrequests@ontario.ca.

In Addition, the following Fish species were identified: brook stickleback, central mudminnow, creek chub, eastern blacknose dace, fallfish, northern redbelly dace, white sucker.

Water

Where the site is adjacent to or contains a watercourses or waterbodies, additional considerations apply. If any in-water works are to occur, there are timing restriction periods for which work in water can take place (see below). Appropriate measures should be taken to minimize and mitigate impact on water quality and fish habitat, including:

- including the installation of sediment and erosion control measures;
- avoiding removal alteration or covering of substrates used for fish spawning, feeding, over-wintering or nursery areas; and
- debris control measures should be put in place to manage falling debris (e.g. spalling).

A work permit from the MNR may be required pending further details regarding the proposed works. No encroachment on the bed or banks of the waterbody (e.g. abutments, embankments, etc.) is permitted until MNR approval and clearance has been issued. In order for MNR staff to determine when a work permit is required, additional information can include:

- Detailed drawings (existing and proposed)
- Location mapping
- Registered Plan survey
- Site photographs
- Public Lands Act Forms - application forms, ownership form and landowner notification form.

The MNR does not have any water quality or quantity data available. We recommend that the Ministry of the Environment be contacted for such data along with the local Conservation Authority. For further information regarding fish habitat and protocols, please refer to the following interagency, document, *Fish Habitat Referral Protocol for Ontario* at: <http://www.mnr.gov.ca/264110.pdf>

Timing restriction periods in MNR Kemptville District*:

- Warmwater → March 15 – June 30
- March 15 – July 15 for St. Lawrence River & Ottawa River
- Coldwater → October 1 – May 31
- Mixed lakes → October 1 – June 30 (Big Rideau & Charleston)

* Please note: Additional timing restrictions may apply as it relates to Endangered and Threatened Species, including works in both water and wetland areas.

	FISH SPECIES	TIMING WINDOW
Spring:	Walleye	March 15 to May 31
	Northern Pike	March 15 to May 31
	Lake Sturgeon	May 1 to June 30
	Muskellunge	March 15 to May 31
	Largemouth/Smallmouth Bass	May 1 to July 15
	Rainbow Trout	March 15 to June 15
	Other/Unknown Spring Spawning Species	March 15 to July 15

	FISH SPECIES	TIMING WINDOW
Fall:	Lake Trout	October 1 to May 31
	Brook Trout	October 1 to May 31
	Pacific Salmon	September 15 to May 31
	Lake Whitefish	October 15 to May 31
	Lake Herring	October 15 to May 31
	Other/Unknown Fall Spawning Species	October 1 to May 31

Additional approvals and permits may be required for the proposed works as it relates to the Fisheries Act. Please contact your local Conservation Authority and the Department of Fisheries and Oceans to determine requirements and next steps. Where the Fisheries Act is triggered and habitat compensation, mitigation measures or best management practices are being considered; as the MNR is charged with the management of Provincial fish populations, the MNR requests ongoing involvement in such discussions in order to ensure population conservation. Furthermore, local Conservation Authorities may also have additional approvals for works in and adjacent to water and wetland features. Finally, Transport Canada’s Navigable Waters Protection Division may require review and approval of the proposed project. Please contact these local agencies directly for more information.

As per the Natural Heritage Reference Manual (Section 13; OMNR 2010) the MNR strongly recommends that an Ecological Site Assessment be carried out to more thoroughly determine the presence of natural heritage features, and Species at Risk and their habitat located on site. The MNR can provide survey methodology for particular species at risk and their habitats. In addition, the local planning authority may have more details pertaining to the requirements of the assessment process, which will allow for the municipality to make planning decisions which are consistent with the Provincial Policy Statement (2005).

Species at Risk

With the new Endangered Species Act (ESA, 2007) in effect, it is important to understand which species and habitats exist in the area and the implications of the legislation. A review of the Natural Heritage Information Centre (NHIC) and internal records and aerial photograph interpretation indicate that there is a potential for the following Threatened (THR) and/or Endangered (END) species on the site or in proximity to it:

- Barn Swallow (THR)
- Bobolink (THR)
- Eastern Meadowlark (THR)
- Eastern Small-footed Myotis (END)
- Little Brown Bat (END)
- Northern Long-eared Bat (END)

All Endangered and Threatened species receive individual protection under section 9 of the ESA and receive general habitat protection under Section 10 of the ESA, 2007. Thus any potential works should consider disturbance of possible important habitat (e.g. nesting sites). Please note that as of June 30, 2013 general habitat protection applies to all Threatened and Endangered species. The habitat of these listed species is protected from damage and destruction and certain activities may require authorization(s) under the ESA. Please keep this date in mind when planning any species and habitat surveys

Species receiving General Habitat protection:

- Barn Swallow (THR)
- Bobolink (THR)
- Eastern Meadowlark (THR)
- Little Brown Bat (END)
- Northern Long-eared Bat (END)

If the proposed activity is known to have an impact on the species mentioned above or any other SAR, an authorization under the Endangered Species Act, 2007 (ESA) may be required. It is recommended that MNR Kemptville be contacted prior to any activities being carried out to discuss potential survey and mitigation measures to avoid contravention of the ESA.

Habitat has been identified within the project area that appears suitable for one or more species listed by SARO as Special Concern (SC). In Addition, one or more Special Concern species has been documented to occur either on the site or nearby. Species listed as Special Concern are not protected under the ESA, 2007. However, please note that some of these species may be protected under the Fish and Wildlife Conservation Act. Species of Special Concern for consideration:

- Milksnake (SC)
- Monarch (SC)
- Snapping Turtle (SC)

If any of these or any other species at risk are discovered throughout the course of the work, and/or should any species at risk or their habitat be potentially impacted by on site activities, MNR should be contacted immediately and operations be modified to avoid any negative impacts to species at risk or their habitat until further direction is provided by MNR.

Please note that information regarding species at risk is based on documented occurrences only and does not include an interpretation of potential habitat within or in proximity to the site in question. Although this data represents the MNR's best current available information, it is important to note that a lack of information for a site does not mean that additional features and values are not present. i.e.: Species at Risk (SAR) or their habitat could still be present at the location or in the immediate area. It is the responsibility of the proponent to ensure that species at risk are not killed, harmed, or harassed; or their habitat is not damaged or destroyed through the activities carried out on the site. The MNR continues to strongly encourage ecological site assessments to determine the potential for SAR habitat and occurrences. When a SAR or potential habitat for a SAR does occur on a site, it is recommended that the proponent contact the MNR for technical advice and to discuss what activities can occur without contravention of the Act. If an activity is proposed that will contravene the ESA (such as Section 9 or 10), the proponent must contact the MNR to discuss the potential for a permit (Section 17). For specific questions regarding the Endangered Species Act (2007) or SAR, please contact a district Species at Risk Biologist at sar.kemptville@ontario.ca. For more information regarding the ESA (2007), please see attached ESA Information Sheet.

As of July 1, 2013, the approvals processes for a number of activities that have the potential to impact SAR or their habitat were changed in an effort to streamline approvals processes while continuing to protect and sustainably manage Ontario's natural resources. For those activities that require registration with the Ministry, businesses and individuals will be able to do so through a new online system. The online system will also include information to help guide individuals and businesses through the new processes. For further information on which activities are authorized through this new online registration process and how to apply, please refer to the following website: http://www.mnr.gov.on.ca/en/About/2ColumnSubPage/STDPROD_104342.html. General inquiries may be directed towards Kemptville District MNR, while questions and comments involving the new online forms can be directed to the Registry Approvals Service Centre (RASC) at 1-855-613-4256 or mnr.rasc@ontario.ca.

Please note: The advice in this letter may become invalid if:

- The Committee on the Status of Species at Risk in Ontario (COSSARO) re-assesses the status of the above-named species OR adds a species to the SARO List such that the section 9 and/or 10 protection provisions apply to those species.
- Additional occurrences of species are discovered.
- Habitat protection comes into force for one of the above-mentioned species through the creation of a habitat regulation (see general habitat protection above).

This letter is valid until: Tue. May 24, 2016

MNR is streamlining and automating its approvals processes for natural resource-related activities. Some activities that may otherwise contravene the ESA may be eligible to proceed without a permit from MNR provided that regulatory conditions are met for the ongoing protection of species at risk and their habitats. There are regulatory provisions for projects that have attained a specified level of approval prior to, or shortly after, the specified species or its habitat became protected under the ESA. Their requirements include registering the activity with the Ministry of Natural Resources, taking steps to immediately minimize adverse effects on species and habitat, and developing a

mitigation plan. Anyone intending to use this regulatory provision is strongly advised to review Ontario Regulation 242/08 under the Endangered Species Act, 2007 for the full legal requirements.

For more information please check out the following link <http://www.ontario.ca/environment-and-energy/development-and-infrastructure-projects-and-endangered-or-threatened-species>

The MNR would like to advise, by way of this letter, that we continue to be circulated on information with regards to this project. If you have any questions or require clarification please do not hesitate to contact me.

Sincerely,

Erin Seabert
Resource Management Tech
erin.seabert@ontario.ca

Encl.\n-ESA Infosheet\n-NHIC/LIO Infosheet

City Directory Information Source
Vernon's Ottawa, ON City Directory

PROJECT NUMBER: 20150407019	
Site Address:	5873 Perth Street, Ottawa, Ontario
Year: 2011	
Site Listing:	- Residential (1 Tenant)
Adjacent Properties:	
5875 Perth Street	- Address Not Listed
5925 Perth Street	- Residential (1 Tenant)
3244 Shea Road	- Address Not Listed
3290 Shea Road	- Residential (1 Tenant)
3330 Shea Road	- Residential (1 Tenant)

PROJECT NUMBER: 20150407019	
Site Address:	5873 Perth Street, Ottawa, Ontario
Year: 2005/06	
Site Listing:	- Address Not Listed
Adjacent Properties:	
5875 Perth Street	- Residential (1 Tenant)
5925 Perth Street	- Address Not Listed
3244 Shea Road	- Address Not Listed
3290 Shea Road	- Residential (1 Tenant)
3330 Shea Road	- Residential (1 Tenant)

PROJECT NUMBER: 20150407019	
Site Address:	5873 Perth Street, Ottawa, Ontario
Year: 2000/01	
Site Listing:	- Address Not Listed

Adjacent Properties:	
5875 Perth Street	- Residential (1 Tenant)
5925 Perth Street	- Residential (1 Tenant)
3244 Shea Road	- Residential (1 Tenant)
3290 Shea Road	- Residential (1 Tenant)
3330 Shea Road	- Residential (1 Tenant)

PROJECT NUMBER: 20150407019	
Site Address:	5873 Perth Street, Ottawa, Ontario
Year: 1995/96	
Site Listing:	- Residential (1 Tenant)
Adjacent Properties:	
5875 Perth Street	- Residential (1 Tenant)
5925 Perth Street	- Address Not Listed

3244 Shea Road	- Residential (1 Tenant)
3290 Shea Road	- Residential (1 Tenant)
3330 Shea Road	- Residential (1 Tenant)

PROJECT NUMBER: 20150407019	
Site Address:	5873 Perth Street, Ottawa, Ontario
Year: 1990	
Site Listing:	- Address Not Listed
Adjacent Properties:	
5875 Perth Street	- Address Not Listed
5925 Perth Street	- Address Not Listed
3244 Shea Road	- Address Not Listed
3290 Shea Road	- Address Not Listed
3330 Shea Road	- Address Not Listed

PROJECT NUMBER: 20150407019	
Site Address:	5873 Perth Street, Ottawa, Ontario
Year: 1984	
Site Listing:	- Address Not Listed
Adjacent Properties:	
5875 Perth Street	- Address Not Listed
5925 Perth Street	- Address Not Listed
3244 Shea Road	- Address Not Listed
3290 Shea Road	- Address Not Listed
3330 Shea Road	- Address Not Listed

PROJECT NUMBER: 20150407019	
Site Address:	5873 Perth Street, Ottawa, Ontario
Year: 1979	
Site Listing:	- Address Not Listed

Adjacent Properties:	
5875 Perth Street	- Address Not Listed
5925 Perth Street	- Address Not Listed
3244 Shea Road	- Address Not Listed
3290 Shea Road	- Address Not Listed
3330 Shea Road	- Address Not Listed

PROJECT NUMBER: 20150407019	
Site Address:	5873 Perth Street, Ottawa, Ontario
Year: 1974	
Site Listing:	- Address Not Listed
Adjacent Properties:	
5875 Perth Street	- Address Not Listed
5925 Perth Street	- Address Not Listed
3244 Shea Road	- Address Not Listed

3290 Shea Road	- Address Not Listed
3330 Shea Road	- Address Not Listed

PROJECT NUMBER: 20150407019	
Site Address:	5873 Perth Street, Ottawa, Ontario
Year: 1969	
Site Listing:	- Address Not Listed
Adjacent Properties:	
5875 Perth Street	- Address Not Listed
5925 Perth Street	- Address Not Listed
3244 Shea Road	- Address Not Listed
3290 Shea Road	- Address Not Listed
3330 Shea Road	- Address Not Listed

PROJECT NUMBER: 20150407019	
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Site Address:	5873 Perth Street, Ottawa, Ontario
Year: 1964	
Site Listing:	- Address Not Listed
Adjacent Properties:	
5875 Perth Street	- Address Not Listed
5925 Perth Street	- Address Not Listed
3244 Shea Road	- Address Not Listed
3290 Shea Road	- Address Not Listed
3330 Shea Road	- Address Not Listed

-All listings for businesses were listed as they are in the city directory.

-Listings that are residential are listed as “residential” with the number of tenants. The name of the residential tenant is not listed in the above city directory



FIRE INSURANCE MAP RESEARCH RESULTS

Date: 4/23/2015

Order Number: 20150407019

Part of Lot 26, Concession 4, Richmond, ON

ERIS has searched our in-house collection of Fire Insurance Maps for the address at:
Part of Lot 26, Concession 4, Richmond, ON

Please note that no information was found for your site or adjacent properties.

If you have any questions regarding the enclosed information, please do not hesitate to contact us.

Individual Fire Insurance Maps for the subject property and/or adjacent sites are included with the ERIS environmental database report to be used for research purposes only and cannot be resold for any other commercial uses other than for use in a Phase I environmental assessment.

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICE



DATABASE REPORT



Project Property: *Shea Road
Part of Lot 26, Concession 4
Richmond ON*

P.O. Number

Report Type: *Quote - Custom-Build Your Own Report*

Order #: *20150407019*

Requested by: *Golder Associates Ltd.*

Date: *April 8, 2015*

Ecolog ERIS Ltd.
Environmental Risk Information
Service Ltd. (ERIS)
A division of Glacier Media Inc.
P: 1.866.517.5204
E: info@erisinfo.com
www.erisinfo.com

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Executive Summary

Property Information:

Project Property: *Shea Road
Part of Lot 26, Concession 4 Richmond ON*

P.O. Number:

Order Information:

Order No.: *20150407019*
Date Requested: *10/04/2015*
Requested by: *Golder Associates Ltd.*
Report Type: *Quote - Custom-Build Your Own Report*

Additional Products:

Aerial Photographs *National Collection - Digital (PDF)*

Executive Summary: Report Summary

Database	Name	Searched	Project Property	Boundary to 0.25km	Total
AAGR	<i>Abandoned Aggregate Inventory</i>	Y	0	0	0
AGR	<i>Aggregate Inventory</i>	Y	0	0	0
AMIS	<i>Abandoned Mine Information System</i>	Y	0	0	0
ANDR	<i>Anderson's Waste Disposal Sites</i>	Y	0	0	0
AUWR	<i>Automobile Wrecking & Supplies</i>	Y	0	0	0
BORE	<i>Borehole</i>	Y	0	9	9
CA	<i>Certificates of Approval</i>	Y	0	2	2
CFOT	<i>Commercial Fuel Oil Tanks</i>	Y	0	0	0
CHEM	<i>Chemical Register</i>	Y	0	0	0
COAL	<i>Inventory of Coal Gasification Plants and Coal Tar Sites</i>	Y	0	0	0
CONV	<i>Compliance and Convictions</i>	Y	0	0	0
CPU	<i>Certificates of Property Use</i>	Y	0	0	0
DRL	<i>Drill Hole Database</i>	Y	0	0	0
EASR	<i>Environmental Activity and Sector Registry</i>	Y	0	0	0
EBR	<i>Environmental Registry</i>	Y	0	0	0
ECA	<i>Environmental Compliance Approval</i>	Y	0	1	1
EEM	<i>Environmental Effects Monitoring</i>	Y	0	0	0
EHS	<i>ERIS Historical Searches</i>	Y	0	0	0
EIIS	<i>Environmental Issues Inventory System</i>	Y	0	0	0
EXP	<i>List of TSSA Expired Facilities</i>	Y	0	0	0
FCON	<i>Federal Convictions</i>	Y	0	0	0
FCS	<i>Contaminated Sites on Federal Land</i>	Y	0	0	0
FOFT	<i>Fisheries & Oceans Fuel Tanks</i>	Y	0	0	0
FST	<i>Fuel Storage Tank</i>	Y	0	3	3
FSTH	<i>Fuel Storage Tank - Historic</i>	Y	0	0	0
GEN	<i>Ontario Regulation 347 Waste Generators Summary</i>	Y	0	0	0
HINC	<i>TSSA Historic Incidents</i>	Y	0	0	0
IAFT	<i>Indian & Northern Affairs Fuel Tanks</i>	Y	0	0	0
INC	<i>TSSA Incidents</i>	Y	0	1	1
LIMO	<i>Landfill Inventory Management Ontario</i>	Y	0	0	0
MINE	<i>Canadian Mine Locations</i>	Y	0	0	0
MNR	<i>Mineral Occurrences</i>	Y	0	0	0
NATE	<i>National Analysis of Trends in Emergencies System (NATES)</i>	Y	0	0	0
NCPL	<i>Non-Compliance Reports</i>	Y	0	0	0
NDFT	<i>National Defence & Canadian Forces Fuel Tanks</i>	Y	0	0	0
NDSP	<i>National Defence & Canadian Forces Spills</i>	Y	0	0	0
NDWD	<i>National Defence & Canadian Forces Waste Disposal Sites</i>	Y	0	0	0

<i>Database</i>	<i>Name</i>	<i>Searched</i>	<i>Project Property</i>	<i>Boundary to 0.25km</i>	<i>Total</i>
NEES	<i>National Environmental Emergencies System (NEES)</i>	Y	0	0	0
NPCB	<i>National PCB Inventory</i>	Y	0	0	0
NPRI	<i>National Pollutant Release Inventory</i>	Y	0	0	0
OGW	<i>Oil and Gas Wells</i>	Y	0	0	0
OOGW	<i>Ontario Oil and Gas Wells</i>	Y	0	0	0
OPCB	<i>Inventory of PCB Storage Sites</i>	Y	0	0	0
ORD	<i>Orders</i>	Y	0	0	0
PAP	<i>Canadian Pulp and Paper</i>	Y	0	0	0
PCFT	<i>Parks Canada Fuel Storage Tanks</i>	Y	0	0	0
PES	<i>Pesticide Register</i>	Y	0	0	0
PINC	<i>TSSA Pipeline Incidents</i>	Y	0	0	0
PRT	<i>Private and Retail Fuel Storage Tanks</i>	Y	0	0	0
PTTW	<i>Permit to Take Water</i>	Y	0	0	0
REC	<i>Ontario Regulation 347 Waste Receivers Summary</i>	Y	0	0	0
RSC	<i>Record of Site Condition</i>	Y	0	0	0
RST	<i>Retail Fuel Storage Tanks</i>	Y	0	2	2
SCT	<i>Scott's Manufacturing Directory</i>	Y	0	0	0
SPL	<i>Ontario Spills</i>	Y	0	0	0
SRDS	<i>Wastewater Discharger Registration Database</i>	Y	0	0	0
TANK	<i>Anderson's Storage Tanks</i>	Y	0	0	0
TCFT	<i>Transport Canada Fuel Storage Tanks</i>	Y	0	0	0
VAR	<i>TSSA Variances for Abandonment of Underground Storage Tanks</i>	Y	0	0	0
WDS	<i>Waste Disposal Sites - MOE CA Inventory</i>	Y	0	0	0
WDSH	<i>Waste Disposal Sites - MOE 1991 Historical Approval Inventory</i>	Y	0	0	0
WWIS	<i>Water Well Information System</i>	Y	0	70	70
Total:			0	88	88

Executive Summary: Site Report Summary - Project Property

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Dir/Dist m</i>	<i>Elev diff m</i>	<i>Page Number</i>
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No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding Properties

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Dir/Dist m</i>	<i>Elev diff m</i>	<i>Page Number</i>
1	WWIS		ON	SW/36.7	91.00	18
2	WWIS		ON	SW/42.6	91.00	18
3	WWIS		ON	WSW/37.7	91.00	19
4	WWIS		ON	SSW/38.8	91.00	19
5	BORE		ON	W/43.0	91.00	20
5	WWIS		ON	W/43.0	91.00	20
6	WWIS		ON	S/42.1	91.00	21
7	WWIS		ON	W/41.8	91.00	21
8	WWIS		ON	S/70.4	91.00	21
9	WWIS		ON	S/35.7	91.00	22
10	BORE		ON	WNW/35.3	90.64	22
10	WWIS		ON	WNW/35.3	90.63	23
11	WWIS		ON	S/48.7	91.00	23
12	WWIS		RICHMOND ON	WSW/127.3	91.00	24
13	WWIS		ON	SW/130.9	91.00	24
14	BORE		ON	WSW/133.1	91.00	25

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Dir/Dist m</i>	<i>Elev diff m</i>	<i>Page Number</i>
14	WWIS		ON	WSW/133.1	91.00	25
15	WWIS		ON	SW/135.3	91.00	26
16	WWIS		ON	S/47.7	91.00	26
17	WWIS		ON	SSW/133.2	91.00	27
18	WWIS		ON	WSW/135.2	91.00	27
19	WWIS		ON	SSW/131.1	91.87	28
20	WWIS		ON	WNW/74.8	91.00	28
21	WWIS		ON	WSW/137.3	91.00	29
22	WWIS		ON	SW/164.1	91.60	29
23	WWIS		ON	S/74.8	91.39	30
24	WWIS		ON	W/135.7	91.00	30
25	BORE		ON	SW/170.0	91.00	31
25	WWIS		ON	SW/170.0	91.00	31
26	WWIS		ON	WSW/168.3	91.00	32
27	WWIS		ON	SSW/135.5	92.00	32
28	WWIS		ON	WSW/166.7	91.00	32
29	WWIS		ON	SW/169.0	91.90	33
30	WWIS		ON	SSW/167.0	92.00	33
31	WWIS		ON	WSW/165.5	91.00	34

Map Key	DB	Company/Site Name	Address	Dir/Dist m	Elev diff m	Page Number
32	WWIS		ON	SSE/43.5	91.00	34
33	WWIS		lot 25 con 4 ON	W/105.5	91.00	35
34	WWIS		lot 25 con 4 ON	S/72.8	92.00	35
35	WWIS		ON	SSW/148.4	92.00	36
36	WWIS		ON	W/138.3	91.00	36
37	WWIS		con 4 RICHMOND ON	SE/9.7	91.00	37
38	WWIS		ON	WSW/167.7	91.00	37
39	WWIS		ON	S/139.9	92.00	38
40	WWIS		ON	SSW/174.0	92.00	38
41	WWIS		ON	S/134.5	92.00	39
42	WWIS		ON	W/169.8	91.00	39
43	WWIS		lot 26 con 4 ON	SE/40.6	90.29	40
43	WWIS		lot 26 con 4 RICHMOND ON	SE/40.6	90.29	40
44	WWIS		ON	SSW/175.7	92.00	41
45	INC		5873 Perth Line, Ottawa ON	NNE/181.2	90.00	41
46	BORE		ON	S/135.7	92.00	42
46	WWIS		ON	S/135.7	92.00	42
47	WWIS		ON	S/166.0	92.00	43
48	WWIS		ON	SSE/57.9	91.00	43

Map Key	DB	Company/Site Name	Address	Dir/Dist m	Elev diff m	Page Number
49	ECA	Colonnade Development Incorporated	5873 Perth Richmond Ottawa ON	NNE/194.8	90.00	44
50	WWIS		lot 25 con 4 ON	SW/241.4	92.00	44
51	WWIS		lot 25 con 4 ON	WSW/227.8	91.52	45
52	WWIS		ON	S/134.2	92.00	45
53	WWIS		ON	S/167.7	92.00	46
54	WWIS		lot 25 con 4 ON	SSW/245.3	92.00	46
55	WWIS		lot 26 con 4 ON	ESE/128.2	90.00	47
56	WWIS		ON	S/138.1	92.00	47
57	WWIS		ON	SSE/92.2	91.00	48
58	BORE		ON	NW/104.3	90.00	48
59	WWIS		ON	S/173.1	92.00	49
60	WWIS		lot 25 con 4 ON	SE/108.6	91.00	49
61	WWIS		ON	S/176.8	92.00	50
62	WWIS		ON	SSE/139.4	92.00	50
63	BORE		ON	SSE/127.3	91.00	50
63	WWIS		ON	SSE/127.3	91.00	51
64	WWIS		ON	S/186.9	92.00	51
65	BORE		ON	S/197.9	92.00	52
65	WWIS		ON	S/197.9	92.00	52

Map Key	DB	Company/Site Name	Address	Dir/Dist m	Elev diff m	Page Number
66	WWIS		ON	SSE/189.2	92.00	53
67	WWIS		ON	S/214.3	92.00	53
68	WWIS		ON	SSE/197.9	91.49	54
69	WWIS		ON	SSE/207.9	91.23	54
70	BORE		ON	SSE/216.7	91.00	55
71	WWIS		lot 25 con 4 RICHMOND ON	SSE/217.4	91.00	55
72	WWIS		ON	SSE/225.8	91.00	56
73	CA	MacEwen Petroleum Inc.	5925 Perth St Village of Richmond Ottawa ON	SSE/226.7	91.00	56
73	FST	MACEWEN PETROLEUM INC	5925 PERTH ST RICHMOND ON K0A 2Z0	SSE/226.7	91.00	57
73	FST	MACEWEN PETROLEUM INC	5925 PERTH ST RICHMOND ON K0A 2Z0	SSE/226.7	91.00	57
73	FST	MACEWEN PETROLEUM INC	5925 PERTH ST RICHMOND ON K0A 2Z0	SSE/226.7	91.00	57
73	RST	MACEWEN PETROLEUM INC	5925 PERTH ST RR 2 RICHMOND ON K0A 2Z0	SSE/226.7	91.00	58
73	RST	MACEWEN PETROLEUM INC	5925 PERTH ST RR 2 RICHMOND ON K0A2Z0	SSE/226.7	91.00	58
74	WWIS		lot 26 con 4 ON	SE/230.1	90.04	58
75	CA		5931 Perth Street Ottawa ON	SSE/235.5	91.00	58

Executive Summary: Summary By Data Source

BORE - Borehole

A search of the BORE database, dated 1875-Jul 2014 has found that there are 9 BORE site(s) within approximately 0.25 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
	ON	43.0	<u>5</u>
	ON	35.3	<u>10</u>
	ON	133.1	<u>14</u>
	ON	170.0	<u>25</u>
	ON	135.7	<u>46</u>
	ON	104.3	<u>58</u>
	ON	127.3	<u>63</u>
	ON	197.9	<u>65</u>
	ON	216.7	<u>70</u>

CA - Certificates of Approval

A search of the CA database, dated 1985-Oct 30, 2011* has found that there are 2 CA site(s) within approximately 0.25 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
MacEwen Petroleum Inc.	5925 Perth St Village of Richmond Ottawa ON	226.7	<u>73</u>
	5931 Perth Street Ottawa ON	235.5	<u>75</u>

ECA - Environmental Compliance Approval

A search of the ECA database, dated Oct 31, 2011-Mar 2015 has found that there are 1 ECA site(s) within approximately 0.25 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
Colonnade Development Incorporated	5873 Perth Richmond Ottawa ON	194.8	49

FST - Fuel Storage Tank

A search of the FST database, dated 2010-Nov 2014 has found that there are 3 FST site(s) within approximately 0.25 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
MACEWEN PETROLEUM INC	5925 PERTH ST RICHMOND ON K0A 2Z0	226.7	73
MACEWEN PETROLEUM INC	5925 PERTH ST RICHMOND ON K0A 2Z0	226.7	73
MACEWEN PETROLEUM INC	5925 PERTH ST RICHMOND ON K0A 2Z0	226.7	73

INC - TSSA Incidents

A search of the INC database, dated June 2009-2014 has found that there are 1 INC site(s) within approximately 0.25 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
	5873 Perth Line, Ottawa ON	181.2	45

RST - Retail Fuel Storage Tanks

A search of the RST database, dated 1999-Jul 2014 has found that there are 2 RST site(s) within approximately 0.25 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
MACEWEN PETROLEUM INC	5925 PERTH ST RR 2 RICHMOND ON K0A 2Z0	226.7	73
MACEWEN PETROLEUM INC	5925 PERTH ST RR 2 RICHMOND ON K0A2Z0	226.7	73

WWIS - Water Well Information System

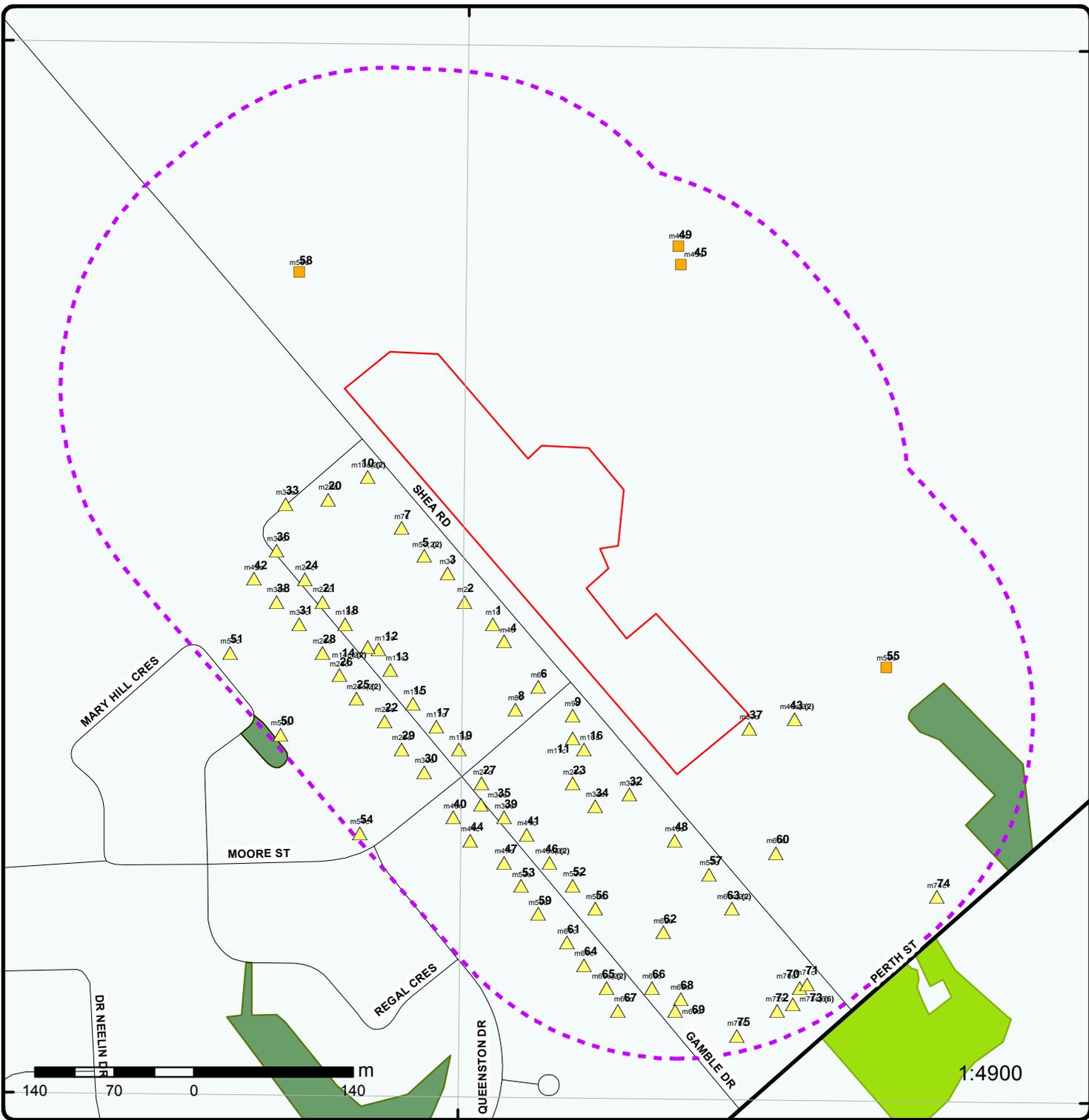
A search of the WWIS database, dated 1955-Mar 2014 has found that there are 70 WWIS site(s) within approximately 0.25 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
	ON	36.7	1

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
	ON	42.6	<u>2</u>
	ON	37.7	<u>3</u>
	ON	38.8	<u>4</u>
	ON	43.0	<u>5</u>
	ON	42.1	<u>6</u>
	ON	41.8	<u>7</u>
	ON	70.4	<u>8</u>
	ON	35.7	<u>9</u>
	ON	35.3	<u>10</u>
	ON	48.7	<u>11</u>
	RICHMOND ON	127.3	<u>12</u>
	ON	130.9	<u>13</u>
	ON	133.1	<u>14</u>
	ON	135.3	<u>15</u>
	ON	47.7	<u>16</u>
	ON	133.2	<u>17</u>
	ON	135.2	<u>18</u>
	ON	131.1	<u>19</u>
	ON	74.8	<u>20</u>
	ON	137.3	<u>21</u>
	ON	164.1	<u>22</u>
	ON	74.8	<u>23</u>
	ON	135.7	<u>24</u>
	ON	170.0	<u>25</u>

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
	ON	168.3	<u>26</u>
	ON	135.5	<u>27</u>
	ON	166.7	<u>28</u>
	ON	169.0	<u>29</u>
	ON	167.0	<u>30</u>
	ON	165.5	<u>31</u>
	ON	43.5	<u>32</u>
	lot 25 con 4 ON	105.5	<u>33</u>
	lot 25 con 4 ON	72.8	<u>34</u>
	ON	148.4	<u>35</u>
	ON	138.3	<u>36</u>
	con 4 RICHMOND ON	9.7	<u>37</u>
	ON	167.7	<u>38</u>
	ON	139.9	<u>39</u>
	ON	174.0	<u>40</u>
	ON	134.5	<u>41</u>
	ON	169.8	<u>42</u>
	lot 26 con 4 ON	40.6	<u>43</u>
	lot 26 con 4 RICHMOND ON	40.6	<u>43</u>
	ON	175.7	<u>44</u>
	ON	135.7	<u>46</u>
	ON	166.0	<u>47</u>
	ON	57.9	<u>48</u>
	lot 25 con 4 ON	241.4	<u>50</u>

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
	lot 25 con 4 ON	227.8	<u>51</u>
	ON	134.2	<u>52</u>
	ON	167.7	<u>53</u>
	lot 25 con 4 ON	245.3	<u>54</u>
	lot 26 con 4 ON	128.2	<u>55</u>
	ON	138.1	<u>56</u>
	ON	92.2	<u>57</u>
	ON	173.1	<u>59</u>
	lot 25 con 4 ON	108.6	<u>60</u>
	ON	176.8	<u>61</u>
	ON	139.4	<u>62</u>
	ON	127.3	<u>63</u>
	ON	186.9	<u>64</u>
	ON	197.9	<u>65</u>
	ON	189.2	<u>66</u>
	ON	214.3	<u>67</u>
	ON	197.9	<u>68</u>
	ON	207.9	<u>69</u>
	lot 25 con 4 RICHMOND ON	217.4	<u>71</u>
	ON	225.8	<u>72</u>
	lot 26 con 4 ON	230.1	<u>74</u>



Map

Order No: 20150407019

Address: Part of Lot 26, Concession 4, Richmond, ON

Project Property	Expressway	Industrial and Resource - Regions	National Park
Buffer Outline	Principal Highway	Main Line	Provincial or Territorial Park
Eris Sites with Higher Elevation	Secondary Highway	Sidetrack	Other Park
Eris Sites with Same Elevation	Major Road	Transit Line	Golf Course or Driving Range
Eris Sites with Lower Elevation	Local road	Abandoned Line	Park or Sports Field
Eris Sites with Unknown Elevation	Trail	Proposed Road	Other Recreation Area
	Proposed Road		
	Ferry Route/Ice Road		



Aerial

Order No: 20150407019

Address: Part of Lot 26, Concession 4, Richmond, ON

Detail Report

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<u>1</u>	1 of 1	SW/36.7	91.0	ON	WWIS
Well ID: 1509772		Lot:			
Concession:		Concession Name:			
County: OTTAWA-CARLETON		Municipality:		RICHMOND VILLAGE	
Easting Nad83: 434580.7		Northing Nad83:		5005922	
Zone: 18		Utm Reliability:		margin of error : 30 m - 100 m	
Primary Water Use: Domestic		Construction Date:		24-OCT-68	
Sec. Water Use:		Well Depth:		40 ft	
Pump Rate: 10 GPM		Static Water Level:		10 ft	
Flow Rate:		Clear/Cloudy:		CLOUDY	
Specific Capacity:		Final Well Status:		Water Supply	
Construction Method: Cable Tool		Flowing (y/n):		N	
Elevation (m): 94.13		Elevation Reliability:			
Depth to Bedrock: 39		Overburden/Bedrock:		Bedrock	
Water Type: FRESH		Casing Material:		FRESH, MINERIAL	
--- Details ---					
Thickness:		Original Depth:		39 ft	
Material Colour: CLAY		Material:		39 ft	
+					
Thickness:		Original Depth:		40 ft	
Material Colour: LIMESTONE		Material:		1 ft	
<u>2</u>	1 of 1	SW/42.6	91.0	ON	WWIS
Well ID: 1509753		Lot:			
Concession:		Concession Name:			
County: OTTAWA-CARLETON		Municipality:		RICHMOND VILLAGE	
Easting Nad83: 434555.7		Northing Nad83:		5005942	
Zone: 18		Utm Reliability:		margin of error : 30 m - 100 m	
Primary Water Use: Domestic		Construction Date:		24-SEP-68	
Sec. Water Use:		Well Depth:		50 ft	
Pump Rate: 10 GPM		Static Water Level:		15 ft	
Flow Rate:		Clear/Cloudy:		CLOUDY	
Specific Capacity:		Final Well Status:		Water Supply	
Construction Method: Cable Tool		Flowing (y/n):		N	
Elevation (m): 94.32		Elevation Reliability:			
Depth to Bedrock: 40		Overburden/Bedrock:		Bedrock	
Water Type: FRESH		Casing Material:		FRESH, MINERIAL	
--- Details ---					
Thickness:		Original Depth:		40 ft	
Material Colour: CLAY		Material:		40 ft	
+					
Thickness:		Original Depth:		50 ft	
Material Colour: LIMESTONE		Material:		10 ft	

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<u>3</u>	1 of 1	WSW/37.7	91.0	ON	WWIS
Well ID:	1509770			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434540.7			Northing Nad83:	5005967
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	28-OCT-68
Sec. Water Use:				Well Depth:	44 ft
Pump Rate:	10 GPM			Static Water Level:	10 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.26			Elevation Reliability:	
Depth to Bedrock:	40			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	38 ft
Material Colour:	CLAY			Material:	38 ft
+					
Thickness:				Original Depth:	40 ft
Material Colour:	HARDPAN			Material:	2 ft
+					
Thickness:				Original Depth:	44 ft
Material Colour:	LIMESTONE			Material:	4 ft
<u>4</u>	1 of 1	SSW/38.8	91.0	ON	WWIS
Well ID:	1509771			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434590.7			Northing Nad83:	5005907
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	26-OCT-68
Sec. Water Use:				Well Depth:	39 ft
Pump Rate:	10 GPM			Static Water Level:	10 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.08			Elevation Reliability:	
Depth to Bedrock:	34			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	30 ft
Material Colour:	CLAY			Material:	30 ft
+					
Thickness:				Original Depth:	34 ft
Material Colour:	HARDPAN			Material:	4 ft
+					
Thickness:				Original Depth:	39 ft
Material Colour:	LIMESTONE			Material:	5 ft

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<u>5</u>	1 of 2	W/43.0	91.0	ON	BORE
Borehole ID:	610383			Type:	Borehole
Use:				Status:	
Drill Method:				UTM Zone:	18
Easting:	434521			Northing:	5005982
Location Accuracy:				Orig. Ground Elev m:	92.7
Elev. Reliability Note:				DEM Ground Elev m:	94.3
Total Depth m:	15.8			Primary Name:	
Township:				Concession:	
Lot:				Municipality:	
Completion Date:	SEP-1968			Static Water Level:	-999.9
Primary Water Use:				Sec. Water Use:	
--- Details ---					
Stratum ID:	218385438			Top Depth(m):	0.0
Bottom Depth(m):	12.2			Stratum Desc:	CLAY.
+					
Stratum ID:	218385439			Top Depth(m):	12.2
Bottom Depth(m):	12.8			Stratum Desc:	GRAVEL.
+					
Stratum ID:	218385440			Top Depth(m):	12.8
Bottom Depth(m):	15.8			Stratum Desc:	LIMESTONE. 00051Y. HARDPAN.GRAVEL. 00078Y. 00091BEDROCK. SEISMIC VELOCITY = 15500.

<u>5</u>	2 of 2	W/43.0	91.0	ON	WWIS
Well ID:	1509751			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434520.7			Northing Nad83:	5005982
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	25-SEP-68
Sec. Water Use:				Well Depth:	52 ft
Pump Rate:	10 GPM			Static Water Level:	15 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.28			Elevation Reliability:	
Depth to Bedrock:	42			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	42 ft
Material Colour:	GRAVEL			Material:	2 ft
+					
Thickness:				Original Depth:	40 ft
Material Colour:	CLAY			Material:	40 ft
+					
Thickness:				Original Depth:	52 ft
Material Colour:	LIMESTONE			Material:	10 ft

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<u>6</u>	1 of 1	S/42.1	91.0	ON	WWIS
Well ID:	1509774			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434620.7			Northing Nad83:	5005867
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	24-OCT-68
Sec. Water Use:				Well Depth:	33 ft
Pump Rate:	10 GPM			Static Water Level:	15 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.48			Elevation Reliability:	
Depth to Bedrock:	30			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	27 ft
Material Colour:	CLAY			Material:	27 ft
+					
Thickness:				Original Depth:	30 ft
Material Colour:	HARDPAN			Material:	3 ft
+					
Thickness:				Original Depth:	33 ft
Material Colour:	LIMESTONE			Material:	3 ft
<u>7</u>	1 of 1	W/41.8	91.0	ON	WWIS
Well ID:	1509747			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434500.7			Northing Nad83:	5006007
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	24-SEP-68
Sec. Water Use:				Well Depth:	48 ft
Pump Rate:	10 GPM			Static Water Level:	10 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.27			Elevation Reliability:	
Depth to Bedrock:	41			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	48 ft
Material Colour:	LIMESTONE			Material:	7 ft
+					
Thickness:				Original Depth:	41 ft
Material Colour:	CLAY			Material:	41 ft
<u>8</u>	1 of 1	S/70.4	91.0	ON	WWIS

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Well ID:	1509807			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434600.7			Northing Nad83:	5005847
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	25-JUL-68
Sec. Water Use:				Well Depth:	33 ft
Pump Rate:	8 GPM			Static Water Level:	4 ft
Flow Rate:				Clear/Cloudy:	CLEAR
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.38			Elevation Reliability:	
Depth to Bedrock:	27			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:	BLUE			Original Depth:	18 ft
Material Colour:	CLAY			Material:	18 ft
+					
Thickness:				Original Depth:	33 ft
Material Colour:	LIMESTONE			Material:	6 ft
+					
Thickness:				Original Depth:	27 ft
Material Colour:	MEDIUM SAND, BOULDERS			Material:	9 ft
9	1 of 1	S/35.7	91.0	ON	WWIS
Well ID:	1509190			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434650.7			Northing Nad83:	5005842
Zone:	18			Utm Reliability:	margin of error : 100 m - 300 m
Primary Water Use:	Domestic			Construction Date:	30-JUL-59
Sec. Water Use:				Well Depth:	62 ft
Pump Rate:	6 GPM			Static Water Level:	10 ft
Flow Rate:				Clear/Cloudy:	CLEAR
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.4			Elevation Reliability:	
Depth to Bedrock:	22			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	62 ft
Material Colour:	LIMESTONE			Material:	40 ft
+					
Thickness:				Original Depth:	22 ft
Material Colour:	CLAY			Material:	22 ft
10	1 of 2	WNW/35.3	90.6	ON	BORE
Borehole ID:	610384			Type:	Borehole
Use:				Status:	
Drill Method:				UTM Zone:	18

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Eastings:	434471			Northing:	5006052
Location Accuracy:				Orig. Ground Elev m:	92.7
Elev. Reliability Note:				DEM Ground Elev m:	94.1
Total Depth m:	18			Primary Name:	
Township:				Concession:	
Lot:				Municipality:	
Completion Date:	OCT-1968			Static Water Level:	-999.9
Primary Water Use:				Sec. Water Use:	
--- Details ---					
Stratum ID:	218385441			Top Depth(m):	0.0
Bottom Depth(m):	13.4			Stratum Desc:	CLAY.
+					
Stratum ID:	218385442			Top Depth(m):	13.4
Bottom Depth(m):	14.0			Stratum Desc:	HARDPAN.
+					
Stratum ID:	218385443			Top Depth(m):	14.0
Bottom Depth(m):	18.0			Stratum Desc:	LIMESTONE. 00058. HARDPAN, GRAVEL. 00078Y. 00091BEDROCK. SEISMIC VELOCITY = 15500.

10	2 of 2	WNW/35.3	90.6	ON	WWIS
Well ID:	1509773			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Eastings Nad83:	434470.7			Northing Nad83:	5006052
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	24-OCT-68
Sec. Water Use:				Well Depth:	59 ft
Pump Rate:	10 GPM			Static Water Level:	25 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.09			Elevation Reliability:	
Depth to Bedrock:	46			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	46 ft
Material Colour:	HARDPAN			Material:	2 ft
+					
Thickness:				Original Depth:	59 ft
Material Colour:	LIMESTONE			Material:	13 ft
+					
Thickness:				Original Depth:	44 ft
Material Colour:	CLAY			Material:	44 ft
11	1 of 1	S/48.7	91.0	ON	WWIS
Well ID:	1511152			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Easting Nad83:	434650.7			Northing Nad83:	5005822
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	21-APR-71
Sec. Water Use:				Well Depth:	31 ft
Pump Rate:	21 GPM			Static Water Level:	3 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.46			Elevation Reliability:	
Depth to Bedrock:	25			Overburden/Bedrock:	Bedrock
Water Type:	Not stated			Casing Material:	FRESH
--- Details ---					
Thickness:	GREY			Original Depth:	25 ft
Material Colour:	CLAY			Material:	25 ft
+					
Thickness:	GREY			Original Depth:	31 ft
Material Colour:	LIMESTONE			Material:	6 ft

12	1 of 1	WSW/127.3	91.0	RICHMOND ON	WWIS
Well ID:	7190363			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	GOULBOURN TOWNSHIP
Easting Nad83:	434480			Northing Nad83:	5005900
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	05-OCT-12
Sec. Water Use:				Well Depth:	m
Pump Rate:				Static Water Level:	
Flow Rate:				Clear/Cloudy:	
Specific Capacity:				Final Well Status:	Alteration
Construction Method:				Flowing (y/n):	
Elevation (m):				Elevation Reliability:	
Depth to Bedrock:				Overburden/Bedrock:	
Water Type:				Casing Material:	FRESH
--- Details ---					
Thickness:				Original Depth:	m
Material Colour:				Material:	m

13	1 of 1	SW/130.9	91.0	ON	WWIS
Well ID:	1509775			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434490.7			Northing Nad83:	5005882
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	23-OCT-68
Sec. Water Use:				Well Depth:	50 ft
Pump Rate:	10 GPM			Static Water Level:	10 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.47			Elevation Reliability:	
Depth to Bedrock:	42			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
--- Details ---					
Thickness:				Original Depth:	40 ft
Material Colour:	CLAY			Material:	40 ft
+					
Thickness:				Original Depth:	42 ft
Material Colour:	HARDPAN			Material:	2 ft
+					
Thickness:				Original Depth:	50 ft
Material Colour:	LIMESTONE			Material:	8 ft

<u>14</u>	1 of 2	WSW/133.1	91.0	ON	BORE
Borehole ID:	610379			Type:	Borehole
Use:				Status:	
Drill Method:				UTM Zone:	18
Easting:	434471			Northing:	5005902
Location Accuracy:				Orig. Ground Elev m:	93
Elev. Reliability Note:				DEM Ground Elev m:	94.4
Total Depth m:	14.6			Primary Name:	
Township:				Concession:	
Lot:				Municipality:	
Completion Date:	MAY-1968			Static Water Level:	-999.9
Primary Water Use:				Sec. Water Use:	
--- Details ---					
Stratum ID:	218385425			Top Depth(m):	0.0
Bottom Depth(m):	11.6			Stratum Desc:	CLAY. BLUE.
+					
Stratum ID:	218385426			Top Depth(m):	11.6
Bottom Depth(m):	12.8			Stratum Desc:	GRAVEL.
+					
Stratum ID:	218385427			Top Depth(m):	12.8
Bottom Depth(m):	14.6			Stratum Desc:	LIMESTONE. 00044CK. SEISMIC VELOCITY = 15700. BEDROCK. SEISMIC VELOCITY = 15500. SILT

<u>14</u>	2 of 2	WSW/133.1	91.0	ON	WWIS
Well ID:	1509813			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434470.7			Northing Nad83:	5005902
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	16-MAY-68
Sec. Water Use:				Well Depth:	48 ft
Pump Rate:	10 GPM			Static Water Level:	4 ft
Flow Rate:				Clear/Cloudy:	CLEAR
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.36			Elevation Reliability:	
Depth to Bedrock:	42			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
--- Details ---					
Thickness:	BLUE			Original Depth:	38 ft
Material Colour:	CLAY			Material:	38 ft
+					
Thickness:				Original Depth:	48 ft
Material Colour:	LIMESTONE			Material:	6 ft
+					
Thickness:				Original Depth:	42 ft
Material Colour:	GRAVEL			Material:	4 ft

15	1 of 1	SW/135.3	91.0	ON	WWIS
Well ID:	1509812			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434510.7			Northing Nad83:	5005852
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	17-MAY-68
Sec. Water Use:				Well Depth:	48 ft
Pump Rate:	10 GPM			Static Water Level:	4 ft
Flow Rate:				Clear/Cloudy:	CLEAR
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.32			Elevation Reliability:	
Depth to Bedrock:	40			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	40 ft
Material Colour:	MEDIUM SAND, GRAVEL			Material:	5 ft
+					
Thickness:				Original Depth:	48 ft
Material Colour:	LIMESTONE			Material:	8 ft
+					
Thickness:	BLUE			Original Depth:	35 ft
Material Colour:	CLAY			Material:	35 ft

16	1 of 1	S/47.7	91.0	ON	WWIS
Well ID:	1511078			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434660.7			Northing Nad83:	5005812
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	29-JAN-71
Sec. Water Use:				Well Depth:	31 ft
Pump Rate:	20 GPM			Static Water Level:	6 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.44			Elevation Reliability:	
Depth to Bedrock:	22			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
--- Details ---					
Thickness:	GREY			Original Depth:	22 ft
Material Colour:	CLAY			Material:	22 ft
+					
Thickness:	GREY			Original Depth:	31 ft
Material Colour:	LIMESTONE			Material:	9 ft
17	1 of 1	SSW/133.2	91.0	ON	WWIS
Well ID:	1509804			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434530.7			Northing Nad83:	5005832
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	30-JUL-68
Sec. Water Use:				Well Depth:	43 ft
Pump Rate:	10 GPM			Static Water Level:	4 ft
Flow Rate:				Clear/Cloudy:	CLEAR
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.38			Elevation Reliability:	
Depth to Bedrock:	36			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:	BLUE			Original Depth:	29 ft
Material Colour:	CLAY			Material:	29 ft
+					
Thickness:				Original Depth:	36 ft
Material Colour:	BOULDERS, MEDIUM SAND			Material:	7 ft
+					
Thickness:				Original Depth:	43 ft
Material Colour:	LIMESTONE			Material:	7 ft
18	1 of 1	WSW/135.2	91.0	ON	WWIS
Well ID:	1509765			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434450.7			Northing Nad83:	5005922
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	28-AUG-68
Sec. Water Use:				Well Depth:	55 ft
Pump Rate:	5 GPM			Static Water Level:	10 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.32			Elevation Reliability:	
Depth to Bedrock:	45			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	39 ft
Material Colour:	CLAY			Material:	39 ft

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
+					
Thickness:				Original Depth:	43 ft
Material Colour:	CLAY			Material:	43 ft
<hr/>					
21	1 of 1	WSW/137.3	91.0	ON	WWIS
Well ID:	1509810			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434430.7			Northing Nad83:	5005942
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	02-JUL-68
Sec. Water Use:				Well Depth:	51 ft
Pump Rate:	10 GPM			Static Water Level:	4 ft
Flow Rate:				Clear/Cloudy:	CLEAR
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.28			Elevation Reliability:	
Depth to Bedrock:	45			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:	BLUE			Original Depth:	43 ft
Material Colour:	CLAY			Material:	43 ft
+					
Thickness:				Original Depth:	51 ft
Material Colour:	LIMESTONE			Material:	6 ft
+					
Thickness:				Original Depth:	45 ft
Material Colour:	GRAVEL			Material:	2 ft
<hr/>					
22	1 of 1	SW/164.1	91.6	ON	WWIS
Well ID:	1509746			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434485.7			Northing Nad83:	5005837
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	25-SEP-68
Sec. Water Use:				Well Depth:	51 ft
Pump Rate:	10 GPM			Static Water Level:	5 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.28			Elevation Reliability:	
Depth to Bedrock:	40			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	51 ft
Material Colour:	LIMESTONE			Material:	11 ft
+					
Thickness:				Original Depth:	40 ft
Material Colour:	MEDIUM SAND, GRAVEL			Material:	2 ft

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
+					
Thickness:				Original Depth:	38 ft
Material Colour:	CLAY			Material:	38 ft
23	1 of 1	S/74.8	91.4	ON	WWIS
Well ID:	1516791			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434650.7			Northing Nad83:	5005782
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	03-OCT-78
Sec. Water Use:				Well Depth:	64 ft
Pump Rate:	20 GPM			Static Water Level:	10 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Air Percussion			Flowing (y/n):	N
Elevation (m):	94.56			Elevation Reliability:	
Depth to Bedrock:	26			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH
--- Details ---					
Thickness:	GREY			Original Depth:	64 ft
Material Colour:	LIMESTONE			Material:	38 ft
+					
Thickness:	GREY			Original Depth:	26 ft
Material Colour:	CLAY			Material:	20 ft
+					
Thickness:	BROWN			Original Depth:	6 ft
Material Colour:	SAND			Material:	6 ft
24	1 of 1	W/135.7	91.0	ON	WWIS
Well ID:	1509748			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434415.7			Northing Nad83:	5005962
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	24-SEP-68
Sec. Water Use:				Well Depth:	50 ft
Pump Rate:	10 GPM			Static Water Level:	10 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.18			Elevation Reliability:	
Depth to Bedrock:	45			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	45 ft
Material Colour:	CLAY			Material:	45 ft
+					
Thickness:				Original Depth:	50 ft
Material Colour:	LIMESTONE			Material:	5 ft

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
25	1 of 2	SW/170.0	91.0	ON	BORE
Borehole ID:	610377			Type:	Borehole
Use:				Status:	
Drill Method:				UTM Zone:	18
Easting:	434461			Northing:	5005857
Location Accuracy:				Orig. Ground Elev m:	93
Elev. Reliability Note:				DEM Ground Elev m:	94.4
Total Depth m:	19.5			Primary Name:	
Township:				Concession:	
Lot:				Municipality:	
Completion Date:	SEP-1968			Static Water Level:	-999.9
Primary Water Use:				Sec. Water Use:	
--- Details ---					
Stratum ID:	218385420			Top Depth(m):	0.0
Bottom Depth(m):	11.6			Stratum Desc:	CLAY.
+					
Stratum ID:	218385421			Top Depth(m):	11.6
Bottom Depth(m):	11.9			Stratum Desc:	GRAVEL.
+					
Stratum ID:	218385422			Top Depth(m):	11.9
Bottom Depth(m):	19.5			Stratum Desc:	LIMESTONE. 000630006600058SEISMIC VELOCITY = 6100. BEDROCK. SEISMIC VELOCITY = 15500.

25	2 of 2	SW/170.0	91.0	ON	WWIS
Well ID:	1509745			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434460.7			Northing Nad83:	5005857
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	26-SEP-68
Sec. Water Use:				Well Depth:	64 ft
Pump Rate:	7 GPM			Static Water Level:	20 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.4			Elevation Reliability:	
Depth to Bedrock:	39			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	64 ft
Material Colour:	LIMESTONE			Material:	25 ft
+					
Thickness:				Original Depth:	38 ft
Material Colour:	CLAY			Material:	38 ft
+					
Thickness:				Original Depth:	39 ft
Material Colour:	GRAVEL			Material:	1 ft

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
26	1 of 1	WSW/168.3	91.0	ON	WWIS
Well ID:	1509789			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434445.7			Northing Nad83:	5005877
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	08-JUL-68
Sec. Water Use:				Well Depth:	50 ft
Pump Rate:	8 GPM			Static Water Level:	4 ft
Flow Rate:				Clear/Cloudy:	CLEAR
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.47			Elevation Reliability:	
Depth to Bedrock:	44			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:	BLUE			Original Depth:	39 ft
Material Colour:	CLAY			Material:	39 ft
+					
Thickness:				Original Depth:	44 ft
Material Colour:	GRAVEL			Material:	5 ft
+					
Thickness:				Original Depth:	50 ft
Material Colour:	LIMESTONE			Material:	6 ft
27	1 of 1	SSW/135.5	92.0	ON	WWIS
Well ID:	1509742			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434570.7			Northing Nad83:	5005782
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	28-SEP-68
Sec. Water Use:				Well Depth:	37 ft
Pump Rate:	10 GPM			Static Water Level:	10 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.4			Elevation Reliability:	
Depth to Bedrock:				Overburden/Bedrock:	Overburden
Water Type:	FRESH			Casing Material:	FRESH
--- Details ---					
Thickness:				Original Depth:	31 ft
Material Colour:	CLAY			Material:	31 ft
+					
Thickness:				Original Depth:	37 ft
Material Colour:	GRAVEL			Material:	6 ft
28	1 of 1	WSW/166.7	91.0	ON	WWIS

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Well ID:	1509743			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434430.7			Northing Nad83:	5005897
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	27-SEP-68
Sec. Water Use:				Well Depth:	54 ft
Pump Rate:	10 GPM			Static Water Level:	10 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.4			Elevation Reliability:	
Depth to Bedrock:	42			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	41 ft
Material Colour:	CLAY			Material:	41 ft
+					
Thickness:				Original Depth:	42 ft
Material Colour:	HARDPAN			Material:	1 ft
+					
Thickness:				Original Depth:	54 ft
Material Colour:	LIMESTONE			Material:	12 ft
<hr/>					
29	1 of 1	SW/169.0	91.9	ON	WWIS
Well ID:	1509752			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434500.7			Northing Nad83:	5005812
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	25-SEP-68
Sec. Water Use:				Well Depth:	50 ft
Pump Rate:	10 GPM			Static Water Level:	17 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.42			Elevation Reliability:	
Depth to Bedrock:	38			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	38 ft
Material Colour:	GRAVEL			Material:	1 ft
+					
Thickness:				Original Depth:	50 ft
Material Colour:	LIMESTONE			Material:	12 ft
+					
Thickness:				Original Depth:	37 ft
Material Colour:	CLAY			Material:	37 ft
<hr/>					
30	1 of 1	SSW/167.0	92.0	ON	WWIS

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Well ID:	1509803			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434520.7			Northing Nad83:	5005792
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	31-JUL-68
Sec. Water Use:				Well Depth:	40 ft
Pump Rate:	8 GPM			Static Water Level:	10 ft
Flow Rate:				Clear/Cloudy:	CLEAR
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.49			Elevation Reliability:	
Depth to Bedrock:	36			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:	BLUE			Original Depth:	27 ft
Material Colour:	CLAY			Material:	27 ft
+					
Thickness:				Original Depth:	36 ft
Material Colour:	GRAVEL, MEDIUM SAND, BOULDERS			Material:	9 ft
+					
Thickness:				Original Depth:	40 ft
Material Colour:	LIMESTONE			Material:	4 ft
31	1 of 1	WSW/165.5	91.0	ON	WWIS
Well ID:	1509758			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434410.7			Northing Nad83:	5005922
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	16-AUG-68
Sec. Water Use:				Well Depth:	50 ft
Pump Rate:	10 GPM			Static Water Level:	6 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.37			Elevation Reliability:	
Depth to Bedrock:	45			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	45 ft
Material Colour:	CLAY			Material:	45 ft
+					
Thickness:				Original Depth:	50 ft
Material Colour:	LIMESTONE			Material:	5 ft
32	1 of 1	SSE/43.5	91.0	ON	WWIS
Well ID:	1509806			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Easting Nad83: 434700.7 Zone: 18 Primary Water Use: Domestic Sec. Water Use: Pump Rate: 8 GPM Flow Rate: Specific Capacity: Construction Method: Cable Tool Elevation (m): 94.35 Depth to Bedrock: 27 Water Type: FRESH				Northing Nad83: 5005772 Utm Reliability: margin of error : 30 m - 100 m Construction Date: 26-JUL-68 Well Depth: 32 ft Static Water Level: 4 ft Clear/Cloudy: CLEAR Final Well Status: Water Supply Flowing (y/n): N Elevation Reliability: Overburden/Bedrock: Bedrock Casing Material: FRESH, MINERIAL	
--- Details ---					
Thickness:	BLUE			Original Depth:	17 ft
Material Colour:	CLAY			Material:	17 ft
+					
Thickness:				Original Depth:	27 ft
Material Colour:	MEDIUM SAND, BOULDERS			Material:	10 ft
+					
Thickness:				Original Depth:	32 ft
Material Colour:	LIMESTONE			Material:	5 ft
33	1 of 1	W/105.5	91.0	lot 25 con 4 ON	WWIS
Well ID: 1528767 Concession: 04 County: OTTAWA-CARLETON Easting Nad83: 434398.7 Zone: 18 Primary Water Use: Domestic Sec. Water Use: Pump Rate: 15 GPM Flow Rate: Specific Capacity: Construction Method: Air Percussion Elevation (m): 94.06 Depth to Bedrock: 46 Water Type: Not stated				Lot: 025 Concession Name: CON Municipality: RICHMOND VILLAGE (GOULBOURN) Northing Nad83: 5006028 Utm Reliability: margin of error : 100 m - 300 m Construction Date: 05-SEP-95 Well Depth: 47 ft Static Water Level: 8 ft Clear/Cloudy: CLOUDY Final Well Status: Water Supply Flowing (y/n): N Elevation Reliability: Overburden/Bedrock: Bedrock Casing Material: MINERIAL	
--- Details ---					
Thickness:	GREY			Original Depth:	47 ft
Material Colour:	ROCK, FRACTURED			Material:	1 ft
+					
Thickness:	GREY			Original Depth:	46 ft
Material Colour:	CLAY			Material:	46 ft
34	1 of 1	S/72.8	92.0	lot 25 con 4 ON	WWIS
Well ID: 1502438 Concession: 04 County: OTTAWA-CARLETON Easting Nad83: 434670.7 Zone: 18 Primary Water Use: Livestock				Lot: 025 Concession Name: CON Municipality: GOULBOURN TOWNSHIP Northing Nad83: 5005762 Utm Reliability: margin of error : 100 m - 300 m Construction Date: 28-JUN-66	

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Sec. Water Use:	Domestic			Well Depth:	83 ft
Pump Rate:	10 GPM			Static Water Level:	27 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.59			Elevation Reliability:	
Depth to Bedrock:	60			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	53 ft
Material Colour:	CLAY			Material:	53 ft
+					
Thickness:				Original Depth:	83 ft
Material Colour:	LIMESTONE			Material:	23 ft
+					
Thickness:				Original Depth:	60 ft
Material Colour:	GRAVEL			Material:	7 ft

35	1 of 1	SSW/148.4	92.0	ON	WWIS
Well ID:	7119097			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434570			Northing Nad83:	5005763
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:				Construction Date:	02-OCT-08
Sec. Water Use:				Well Depth:	65 ft
Pump Rate:				Static Water Level:	14 ft
Flow Rate:				Clear/Cloudy:	
Specific Capacity:				Final Well Status:	Alteration
Construction Method:				Flowing (y/n):	
Elevation (m):	94.51			Elevation Reliability:	
Depth to Bedrock:				Overburden/Bedrock:	
Water Type:				Casing Material:	
--- Details ---					
Thickness:				Original Depth:	65 ft
Material Colour:				Material:	65 ft

36	1 of 1	W/138.3	91.0	ON	WWIS
Well ID:	1509791			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434390.7			Northing Nad83:	5005987
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	27-JUN-68
Sec. Water Use:				Well Depth:	50 ft
Pump Rate:	8 GPM			Static Water Level:	4 ft
Flow Rate:				Clear/Cloudy:	CLEAR
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.16			Elevation Reliability:	
Depth to Bedrock:	45			Overburden/Bedrock:	Bedrock

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:	BLUE			Original Depth:	42 ft
Material Colour:	CLAY			Material:	42 ft
+					
Thickness:				Original Depth:	45 ft
Material Colour:	GRAVEL			Material:	3 ft
+					
Thickness:				Original Depth:	50 ft
Material Colour:	LIMESTONE			Material:	5 ft

37 **1 of 1** **SE/9.7** **91.0** **con 4** **WWIS**
RICHMOND ON

Well ID:	7209314	Lot:	
Concession:	04	Concession Name:	CON
County:	OTTAWA-CARLETON	Municipality:	GOULBOURN TOWNSHIP
Easting Nad83:	434806	Northing Nad83:	5005830
Zone:	18	Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Commerical	Construction Date:	15-AUG-13
Sec. Water Use:		Well Depth:	161 ft
Pump Rate:	30 GPM	Static Water Level:	8.24 ft
Flow Rate:		Clear/Cloudy:	CLEAR
Specific Capacity:		Final Well Status:	Water Supply
Construction Method:	Rotary (Convent.)	Flowing (y/n):	N
Elevation (m):		Elevation Reliability:	
Depth to Bedrock:		Overburden/Bedrock:	
Water Type:	FRESH	Casing Material:	FRESH, MINERIAL

--- Details ---			
Thickness:	BROWN	Original Depth:	25.75 ft
Material Colour:	CLAY, STONES, DENSE	Material:	25.75 ft
+			
Thickness:	BROWN	Original Depth:	152 ft
Material Colour:	LIMESTONE, LAYERED, LIMESTONE	Material:	126.25 ft
+			
Thickness:	GREY	Original Depth:	161 ft
Material Colour:	SANDSTONE	Material:	9 ft

38 **1 of 1** **WSW/167.7** **91.0** **ON** **WWIS**

Well ID:	1509757	Lot:	
Concession:		Concession Name:	
County:	OTTAWA-CARLETON	Municipality:	RICHMOND VILLAGE
Easting Nad83:	434390.7	Northing Nad83:	5005942
Zone:	18	Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic	Construction Date:	14-AUG-68
Sec. Water Use:		Well Depth:	47 ft
Pump Rate:	10 GPM	Static Water Level:	5 ft
Flow Rate:		Clear/Cloudy:	CLOUDY
Specific Capacity:		Final Well Status:	Water Supply
Construction Method:	Cable Tool	Flowing (y/n):	N
Elevation (m):	94.45	Elevation Reliability:	
Depth to Bedrock:	45	Overburden/Bedrock:	Bedrock

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	47 ft
Material Colour:	LIMESTONE			Material:	2 ft
+					
Thickness:				Original Depth:	45 ft
Material Colour:	CLAY			Material:	45 ft

39	1 of 1	S/139.9	92.0	ON	WWIS
Well ID:	1509814			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434590.7			Northing Nad83:	5005752
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	14-MAY-68
Sec. Water Use:				Well Depth:	40 ft
Pump Rate:	10 GPM			Static Water Level:	5 ft
Flow Rate:				Clear/Cloudy:	CLEAR
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.52			Elevation Reliability:	
Depth to Bedrock:	30			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:	BLUE			Original Depth:	20 ft
Material Colour:	CLAY			Material:	20 ft
+					
Thickness:				Original Depth:	30 ft
Material Colour:	GRAVEL, BOULDERS			Material:	10 ft
+					
Thickness:				Original Depth:	40 ft
Material Colour:	LIMESTONE			Material:	10 ft

40	1 of 1	SSW/174.0	92.0	ON	WWIS
Well ID:	1509764			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434545.7			Northing Nad83:	5005752
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	29-AUG-68
Sec. Water Use:				Well Depth:	51 ft
Pump Rate:	10 GPM			Static Water Level:	7 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.54			Elevation Reliability:	
Depth to Bedrock:	34			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Thickness:				Original Depth:	34 ft
Material Colour:	CLAY			Material:	34 ft
+					
Thickness:				Original Depth:	51 ft
Material Colour:	LIMESTONE			Material:	17 ft

41 **1 of 1** **S/134.5** **92.0** **ON** **WWIS**

Well ID:	1509779	Lot:	
Concession:		Concession Name:	
County:	OTTAWA-CARLETON	Municipality:	RICHMOND VILLAGE
Easting Nad83:	434610.7	Northing Nad83:	5005737
Zone:	18	Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic	Construction Date:	05-OCT-68
Sec. Water Use:		Well Depth:	40 ft
Pump Rate:	10 GPM	Static Water Level:	6 ft
Flow Rate:		Clear/Cloudy:	CLEAR
Specific Capacity:		Final Well Status:	Water Supply
Construction Method:	Cable Tool	Flowing (y/n):	N
Elevation (m):	94.51	Elevation Reliability:	
Depth to Bedrock:	33	Overburden/Bedrock:	Bedrock
Water Type:	FRESH	Casing Material:	FRESH, MINERIAL

--- Details ---

Thickness:		Original Depth:	24 ft
Material Colour:	CLAY	Material:	24 ft
+			
Thickness:		Original Depth:	33 ft
Material Colour:	CLAY, STONES	Material:	9 ft
+			
Thickness:		Original Depth:	40 ft
Material Colour:	LIMESTONE	Material:	7 ft

42 **1 of 1** **W/169.8** **91.0** **ON** **WWIS**

Well ID:	1509766	Lot:	
Concession:		Concession Name:	
County:	OTTAWA-CARLETON	Municipality:	RICHMOND VILLAGE
Easting Nad83:	434370.7	Northing Nad83:	5005962
Zone:	18	Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic	Construction Date:	27-AUG-68
Sec. Water Use:		Well Depth:	53 ft
Pump Rate:	10 GPM	Static Water Level:	7 ft
Flow Rate:		Clear/Cloudy:	CLEAR
Specific Capacity:		Final Well Status:	Water Supply
Construction Method:	Cable Tool	Flowing (y/n):	N
Elevation (m):	94.33	Elevation Reliability:	
Depth to Bedrock:	47	Overburden/Bedrock:	Bedrock
Water Type:	FRESH	Casing Material:	FRESH, MINERIAL

--- Details ---

Thickness:		Original Depth:	53 ft
Material Colour:	LIMESTONE	Material:	6 ft
+			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Thickness:				Original Depth:	47 ft
Material Colour:		CLAY		Material:	47 ft
43	1 of 2	SE/40.6	90.3	lot 26 con 4 ON	WWIS
Well ID:	7213068			Lot:	026
Concession:	04			Concession Name:	CON
County:	OTTAWA-CARLETON			Municipality:	GOULBOURN TOWNSHIP
Easting Nad83:	434846			Northing Nad83:	5005839
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:				Construction Date:	21-OCT-13
Sec. Water Use:				Well Depth:	
Pump Rate:				Static Water Level:	
Flow Rate:				Clear/Cloudy:	
Specific Capacity:				Final Well Status:	
Construction Method:				Flowing (y/n):	
Elevation (m):				Elevation Reliability:	
Depth to Bedrock:				Overburden/Bedrock:	
Water Type:				Casing Material:	
43	2 of 2	SE/40.6	90.3	lot 26 con 4 RICHMOND ON	WWIS
Well ID:	7159023			Lot:	026
Concession:	04			Concession Name:	CON
County:	OTTAWA-CARLETON			Municipality:	GOULBOURN TOWNSHIP
Easting Nad83:	434846			Northing Nad83:	5005839
Zone:	18			Utm Reliability:	margin of error : 10 - 30 m
Primary Water Use:	Domestic			Construction Date:	22-DEC-10
Sec. Water Use:				Well Depth:	203 ft
Pump Rate:	20 GPM			Static Water Level:	5.08 ft
Flow Rate:				Clear/Cloudy:	OTHER
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Air Percussion			Flowing (y/n):	
Elevation (m):				Elevation Reliability:	
Depth to Bedrock:				Overburden/Bedrock:	
Water Type:	Untested			Casing Material:	FRESH
--- Details ---					
Thickness:	GREY			Original Depth:	24 ft
Material Colour:	CLAY			Material:	24 ft
+					
Thickness:				Original Depth:	27.6 ft
Material Colour:	GRAVEL			Material:	3.6 ft
+					
Thickness:	GREY			Original Depth:	170 ft
Material Colour:	LIMESTONE			Material:	142.4 ft
+					
Thickness:	GREY			Original Depth:	198 ft
Material Colour:	SANDSTONE, LIMESTONE			Material:	28 ft
+					
Thickness:	GREY			Original Depth:	203 ft
Material Colour:	SANDSTONE, LIMESTONE			Material:	5 ft

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
44	1 of 1	SSW/175.7	92.0	ON	WWIS
Well ID:	1509762			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434560.7			Northing Nad83:	5005732
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	30-AUG-68
Sec. Water Use:				Well Depth:	37 ft
Pump Rate:	10 GPM			Static Water Level:	0 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.53			Elevation Reliability:	
Depth to Bedrock:	32			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	37 ft
Material Colour:	LIMESTONE			Material:	5 ft
+					
Thickness:				Original Depth:	28 ft
Material Colour:	CLAY			Material:	28 ft
+					
Thickness:				Original Depth:	32 ft
Material Colour:	HARDPAN			Material:	4 ft
45	1 of 1	NNE/181.2	90.0	5873 Perth Line, Ottawa ON	INC
Incident ID:	2737482				
Incident Number:	580938				
SR Type:	FS-Perform L1 Incident Insp				
Status Code:	Causal Analysis Complete				
Summary:	5873 Perth Line, Ottawa - Spill				
Drainage System:	Unknown				
Sub Surface Contam.:	unknown				
Aff. Prop. Use Water:	Yes				
Contam. Migrated:	Unknown				
Contact Natural Env.:	Yes				
Near Body of Water:	No				
Approx. Quant. Rel.:	unknown				
Equipment Model:					
Serial No:					
Residential App. Type:					
Commercial App. Type:					
Industrial App. Type:					
Institutional App. Type:					
Venting Type:					
Vent Connector Mater.:					
Vent Chimney Mater.:					
Notes:					
Pipeline Type:					
Pipeline Involved:					
Pipe Material:					
Depth Ground Cover:					
Regulator Location:					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Regulator Type: Operation Pressure: Pipeline Notes: Liquid Prop Make: Liquid Prop Model: Liquid Prop Serial No: Equipment Type: Cylinder Capacity: Cylinder Capac. Units: Cylinder Material Type: Tank Capacity: Tank Material Type: Tank Storage Type: Tank Location Type: Pump Flow Rate Capac.: Liquid Prop Notes:					

46	1 of 2	S/135.7	92.0	ON	BORE
Borehole ID:	610375			Type:	Borehole
Use:				Status:	
Drill Method:				UTM Zone:	18
Easting:	434631			Northing:	5005712
Location Accuracy:				Orig. Ground Elev m:	93
Elev. Reliability Note:				DEM Ground Elev m:	94.4
Total Depth m:	18.3			Primary Name:	
Township:				Concession:	
Lot:				Municipality:	
Completion Date:	MAY-1968			Static Water Level:	-999.9
Primary Water Use:				Sec. Water Use:	
--- Details ---					
Stratum ID:	218385414			Top Depth(m):	0.0
Bottom Depth(m):	5.5			Stratum Desc:	CLAY. BLUE.
+					
Stratum ID:	218385415			Top Depth(m):	5.5
Bottom Depth(m):	8.8			Stratum Desc:	GRAVEL,BOULDERS.
+					
Stratum ID:	218385416			Top Depth(m):	8.8
Bottom Depth(m):	18.3			Stratum Desc:	LIMESTONE. 00058SEISMIC VELOCITY = 6100. BEDROCK. SEISMIC VELOCITY = 15500. SILT. GREY,F

46	2 of 2	S/135.7	92.0	ON	WWIS
Well ID:	1509815			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434630.7			Northing Nad83:	5005712
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	13-MAY-68
Sec. Water Use:				Well Depth:	60 ft
Pump Rate:	8 GPM			Static Water Level:	4 ft
Flow Rate:				Clear/Cloudy:	CLEAR

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<i>Specific Capacity:</i> <i>Construction Method:</i> Cable Tool <i>Elevation (m):</i> 94.45 <i>Depth to Bedrock:</i> 29 <i>Water Type:</i> FRESH				<i>Final Well Status:</i> Water Supply <i>Flowing (y/n):</i> N <i>Elevation Reliability:</i> <i>Overburden/Bedrock:</i> Bedrock <i>Casing Material:</i> FRESH, MINERIAL	
--- Details ---					
<i>Thickness:</i> BLUE				<i>Original Depth:</i> 18 ft	
<i>Material Colour:</i> CLAY				<i>Material:</i> 18 ft	
+					
<i>Thickness:</i>				<i>Original Depth:</i> 29 ft	
<i>Material Colour:</i> GRAVEL, BOULDERS				<i>Material:</i> 11 ft	
+					
<i>Thickness:</i>				<i>Original Depth:</i> 60 ft	
<i>Material Colour:</i> LIMESTONE				<i>Material:</i> 31 ft	

47	1 of 1	S/166.0	92.0	ON	WWIS
<i>Well ID:</i> 1509808 <i>Concession:</i> <i>County:</i> OTTAWA-CARLETON <i>Easting Nad83:</i> 434590.7 <i>Zone:</i> 18 <i>Primary Water Use:</i> Domestic <i>Sec. Water Use:</i> <i>Pump Rate:</i> 8 GPM <i>Flow Rate:</i> <i>Specific Capacity:</i> <i>Construction Method:</i> Cable Tool <i>Elevation (m):</i> 94.46 <i>Depth to Bedrock:</i> 32 <i>Water Type:</i> FRESH				<i>Lot:</i> <i>Concession Name:</i> <i>Municipality:</i> RICHMOND VILLAGE <i>Northing Nad83:</i> 5005712 <i>Utm Reliability:</i> margin of error : 30 m - 100 m <i>Construction Date:</i> 23-JUL-68 <i>Well Depth:</i> 45 ft <i>Static Water Level:</i> 4 ft <i>Clear/Cloudy:</i> CLEAR <i>Final Well Status:</i> Water Supply <i>Flowing (y/n):</i> N <i>Elevation Reliability:</i> <i>Overburden/Bedrock:</i> Bedrock <i>Casing Material:</i> FRESH, MINERIAL	
--- Details ---					
<i>Thickness:</i> BLUE				<i>Original Depth:</i> 22 ft	
<i>Material Colour:</i> CLAY				<i>Material:</i> 22 ft	
+					
<i>Thickness:</i>				<i>Original Depth:</i> 32 ft	
<i>Material Colour:</i> MEDIUM SAND, BOULDERS				<i>Material:</i> 10 ft	
+					
<i>Thickness:</i>				<i>Original Depth:</i> 45 ft	
<i>Material Colour:</i> LIMESTONE				<i>Material:</i> 13 ft	

48	1 of 1	SSE/57.9	91.0	ON	WWIS
<i>Well ID:</i> 1509805 <i>Concession:</i> <i>County:</i> OTTAWA-CARLETON <i>Easting Nad83:</i> 434740.7 <i>Zone:</i> 18 <i>Primary Water Use:</i> Domestic <i>Sec. Water Use:</i> <i>Pump Rate:</i> 10 GPM <i>Flow Rate:</i>				<i>Lot:</i> <i>Concession Name:</i> <i>Municipality:</i> RICHMOND VILLAGE <i>Northing Nad83:</i> 5005732 <i>Utm Reliability:</i> margin of error : 30 m - 100 m <i>Construction Date:</i> 29-JUL-68 <i>Well Depth:</i> 34 ft <i>Static Water Level:</i> 4 ft <i>Clear/Cloudy:</i> CLEAR	

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Specific Capacity: Construction Method: Cable Tool Elevation (m): 94.36 Depth to Bedrock: 29 Water Type: FRESH				Final Well Status: Water Supply Flowing (y/n): N Elevation Reliability: Overburden/Bedrock: Bedrock Casing Material: FRESH, MINERIAL	
--- Details ---					
Thickness:				Original Depth:	34 ft
Material Colour: LIMESTONE				Material:	5 ft
+					
Thickness: BLUE				Original Depth:	19 ft
Material Colour: CLAY				Material:	19 ft
+					
Thickness:				Original Depth:	29 ft
Material Colour: BOULDERS, MEDIUM SAND				Material:	10 ft

49	1 of 1	NNE/194.8	90.0	Colonnade Development Incorporated 5873 Perth Richmond Ottawa ON	ECA
CofA Number:		8818-8Y3NCX			
Date:		9/13/2012			
Status:		Approved			
Project Type:		Municipal and Private Sewage			

50	1 of 1	SW/241.4	92.0	lot 25 con 4 ON	WWIS
Well ID:		1532033			
Concession:		04			
County:		OTTAWA-CARLETON			
Easting Nad83:		434394			
Zone:		18			
Primary Water Use:		Domestic			
Sec. Water Use:					
Pump Rate:		30 GPM			
Flow Rate:					
Specific Capacity:					
Construction Method:		Rotary (Air)			
Elevation (m):		94.39			
Depth to Bedrock:		48			
Water Type:		Not stated			
Lot:		025			
Concession Name:		CON			
Municipality:		GOULBOURN TOWNSHIP			
Northing Nad83:		5005825			
Utm Reliability:		margin of error : 10 - 30 m			
Construction Date:		20-JUN-01			
Well Depth:		245 ft			
Static Water Level:		12 ft			
Clear/Cloudy:		CLOUDY			
Final Well Status:		Water Supply			
Flowing (y/n):		N			
Elevation Reliability:					
Overburden/Bedrock:		Bedrock			
Casing Material:		FRESH, MINERIAL			
--- Details ---					
Thickness:				Original Depth:	12 ft
Material Colour: BROWN				Material:	12 ft
Material Colour: CLAY					
+					
Thickness: GREY				Original Depth:	245 ft
Material Colour: SANDSTONE				Material:	77 ft
+					
Thickness: GREY				Original Depth:	168 ft
Material Colour: LIMESTONE				Material:	120 ft
+					
Thickness: GREY				Original Depth:	44 ft

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Material Colour:	CLAY			Material:	32 ft
+					
Thickness:	GREY			Original Depth:	48 ft
Material Colour:	GRAVEL, PACKED			Material:	4 ft

<u>51</u>	1 of 1	WSW/227.8	91.5	lot 25 con 4 ON	WWIS
Well ID:	1533689			Lot:	025
Concession:	04			Concession Name:	CON
County:	OTTAWA-CARLETON			Municipality:	GOULBOURN TOWNSHIP
Easting Nad83:	434350			Northing Nad83:	5005897
Zone:	18			Utm Reliability:	margin of error : 300 m - 1 km
Primary Water Use:	Domestic			Construction Date:	06-MAR-03
Sec. Water Use:				Well Depth:	73 ft
Pump Rate:	15 GPM			Static Water Level:	18 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Rotary (Air)			Flowing (y/n):	N
Elevation (m):	94.21			Elevation Reliability:	
Depth to Bedrock:	38			Overburden/Bedrock:	Bedrock
Water Type:	Not stated			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:	BROWN			Original Depth:	12 ft
Material Colour:	CLAY			Material:	12 ft
+					
Thickness:	GREY			Original Depth:	38 ft
Material Colour:	CLAY			Material:	26 ft
+					
Thickness:	GREY			Original Depth:	73 ft
Material Colour:	LIMESTONE			Material:	35 ft

<u>52</u>	1 of 1	S/134.2	92.0	ON	WWIS
Well ID:	1509793			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434650.7			Northing Nad83:	5005692
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	07-JUN-68
Sec. Water Use:				Well Depth:	32 ft
Pump Rate:	8 GPM			Static Water Level:	6 ft
Flow Rate:				Clear/Cloudy:	CLEAR
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.47			Elevation Reliability:	
Depth to Bedrock:	29			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:	BLUE			Original Depth:	17 ft
Material Colour:	CLAY			Material:	17 ft
+					
Thickness:				Original Depth:	29 ft

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Material Colour:	BOULDERS, GRAVEL			Material:	12 ft
+					
Thickness:				Original Depth:	32 ft
Material Colour:	LIMESTONE			Material:	3 ft

53	1 of 1	S/167.7	92.0	ON	WWIS
Well ID:	1509809			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434605.7			Northing Nad83:	5005692
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	22-JUL-68
Sec. Water Use:				Well Depth:	36 ft
Pump Rate:	8 GPM			Static Water Level:	4 ft
Flow Rate:				Clear/Cloudy:	CLEAR
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.51			Elevation Reliability:	
Depth to Bedrock:	32			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:	BLUE			Original Depth:	22 ft
Material Colour:	CLAY			Material:	22 ft
+					
Thickness:				Original Depth:	32 ft
Material Colour:	MEDIUM SAND, BOULDERS			Material:	10 ft
+					
Thickness:				Original Depth:	36 ft
Material Colour:	LIMESTONE			Material:	4 ft

54	1 of 1	SSW/245.3	92.0	lot 25 con 4 ON	WWIS
Well ID:	1527949			Lot:	025
Concession:	04			Concession Name:	CON
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE (GOULBOURN)
Easting Nad83:	434463.7			Northing Nad83:	5005738
Zone:	18			Utm Reliability:	margin of error : 100 m - 300 m
Primary Water Use:	Domestic			Construction Date:	25-MAY-94
Sec. Water Use:				Well Depth:	63 ft
Pump Rate:	20 GPM			Static Water Level:	12 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Air Percussion			Flowing (y/n):	N
Elevation (m):	94.34			Elevation Reliability:	
Depth to Bedrock:	38			Overburden/Bedrock:	Bedrock
Water Type:	Not stated			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:	GREY			Original Depth:	63 ft
Material Colour:	LIMESTONE			Material:	25 ft
+					
Thickness:	GREY			Original Depth:	38 ft

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Material Colour:	CLAY			Material:	38 ft
55	1 of 1	ESE/128.2	90.0	lot 26 con 4 ON	WWIS
Well ID:	1524127			Lot:	026
Concession:	04			Concession Name:	CON
County:	OTTAWA-CARLETON			Municipality:	GOULBOURN TOWNSHIP
Easting Nad83:	434926.7			Northing Nad83:	5005884
Zone:	18			Utm Reliability:	margin of error : 100 m - 300 m
Primary Water Use:	Domestic			Construction Date:	26-OCT-89
Sec. Water Use:				Well Depth:	64 ft
Pump Rate:	15 GPM			Static Water Level:	6 ft
Flow Rate:				Clear/Cloudy:	
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Rotary (Air)			Flowing (y/n):	N
Elevation (m):	92.73			Elevation Reliability:	
Depth to Bedrock:	33			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	SULPHUR
--- Details ---					
Thickness:	GREY			Original Depth:	24 ft
Material Colour:	CLAY			Material:	24 ft
+					
Thickness:	GREY			Original Depth:	33 ft
Material Colour:	HARDPAN, STONES			Material:	9 ft
+					
Thickness:	GREY			Original Depth:	64 ft
Material Colour:	LIMESTONE			Material:	31 ft

56	1 of 1	S/138.1	92.0	ON	WWIS
Well ID:	1509792			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434670.7			Northing Nad83:	5005672
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	06-JUN-68
Sec. Water Use:				Well Depth:	36 ft
Pump Rate:	8 GPM			Static Water Level:	6 ft
Flow Rate:				Clear/Cloudy:	CLEAR
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.49			Elevation Reliability:	
Depth to Bedrock:	31			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:	BLUE			Original Depth:	17 ft
Material Colour:	CLAY			Material:	17 ft
+					
Thickness:				Original Depth:	31 ft
Material Colour:	BOULDERS, GRAVEL			Material:	14 ft
+					
Thickness:				Original Depth:	36 ft

Map Key	Number of Records	Direction/Distance m	Elevation m	Site	DB
Material Colour:	LIMESTONE			Material:	5 ft
57	1 of 1	SSE/92.2	91.0	ON	WWIS
Well ID:	1509971			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434770.7			Northing Nad83:	5005702
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	22-JAN-69
Sec. Water Use:				Well Depth:	40 ft
Pump Rate:	10 GPM			Static Water Level:	10 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.3			Elevation Reliability:	
Depth to Bedrock:	25			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	12 ft
Material Colour:	CLAY			Material:	12 ft
+					
Thickness:				Original Depth:	25 ft
Material Colour:	HARDPAN, BOULDERS			Material:	13 ft
+					
Thickness:				Original Depth:	40 ft
Material Colour:	LIMESTONE			Material:	15 ft
58	1 of 1	NW/104.3	90.0	ON	BORE
Borehole ID:	610389			Type:	Borehole
Use:				Status:	
Drill Method:				UTM Zone:	18
Easting:	434411			Northing:	5006232
Location Accuracy:				Orig. Ground Elev m:	91.4
Elev. Reliability Note:				DEM Ground Elev m:	92.5
Total Depth m:	-999			Primary Name:	
Township:				Concession:	
Lot:				Municipality:	
Completion Date:				Static Water Level:	-999.9
Primary Water Use:				Sec. Water Use:	
--- Details ---					
Stratum ID:	218385453			Top Depth(m):	0.0
Bottom Depth(m):	18.6			Stratum Desc:	CLAY.
+					
Stratum ID:	218385454			Top Depth(m):	18.6
Bottom Depth(m):				Stratum Desc:	BEDROCK,LIMESTONE. 90. BEDROCK. SEISMIC VELOCITY = 16000. BEDROCK. SEISMIC VELOCITY =

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
59	1 of 1	S/173.1	92.0	ON	WWIS
Well ID:	1509763			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434620.7			Northing Nad83:	5005667
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	29-AUG-68
Sec. Water Use:				Well Depth:	35 ft
Pump Rate:	10 GPM			Static Water Level:	7 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.44			Elevation Reliability:	
Depth to Bedrock:	30			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	18 ft
Material Colour:	CLAY			Material:	18 ft
+					
Thickness:				Original Depth:	30 ft
Material Colour:	HARDPAN			Material:	12 ft
+					
Thickness:				Original Depth:	35 ft
Material Colour:	LIMESTONE			Material:	5 ft
60	1 of 1	SE/108.6	91.0	lot 25 con 4 ON	WWIS
Well ID:	1517613			Lot:	025
Concession:	04			Concession Name:	CON
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434829.7			Northing Nad83:	5005721
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	21-JUL-81
Sec. Water Use:				Well Depth:	48 ft
Pump Rate:	60 GPM			Static Water Level:	8 ft
Flow Rate:				Clear/Cloudy:	CLEAR
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	93.86			Elevation Reliability:	
Depth to Bedrock:	46			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:	BROWN			Original Depth:	18 ft
Material Colour:	CLAY, PACKED			Material:	18 ft
+					
Thickness:	BLUE			Original Depth:	46 ft
Material Colour:	CLAY, LOOSE			Material:	28 ft
+					
Thickness:	GREY			Original Depth:	48 ft
Material Colour:	LIMESTONE, HARD			Material:	2 ft

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
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61	1 of 1	S/176.8	92.0	ON	WWIS
Well ID:	1509761			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434645.7			Northing Nad83:	5005642
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	16-AUG-68
Sec. Water Use:				Well Depth:	30 ft
Pump Rate:	10 GPM			Static Water Level:	5 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.37			Elevation Reliability:	
Depth to Bedrock:	29			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL

--- Details ---

Thickness:		Original Depth:	18 ft
Material Colour:	CLAY	Material:	18 ft
+			
Thickness:		Original Depth:	29 ft
Material Colour:	HARDPAN	Material:	11 ft
+			
Thickness:		Original Depth:	30 ft
Material Colour:	LIMESTONE	Material:	1 ft

62	1 of 1	SSE/139.4	92.0	ON	WWIS
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Well ID:	1514883			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434730.7			Northing Nad83:	5005651
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	25-JUN-75
Sec. Water Use:				Well Depth:	41 ft
Pump Rate:	8 GPM			Static Water Level:	5 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Air Percussion			Flowing (y/n):	N
Elevation (m):	94.61			Elevation Reliability:	
Depth to Bedrock:	33			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH

--- Details ---

Thickness:	GREY	Original Depth:	33 ft
Material Colour:	CLAY, STONES	Material:	33 ft
+			
Thickness:	GREY	Original Depth:	41 ft
Material Colour:	LIMESTONE	Material:	8 ft

63	1 of 2	SSE/127.3	91.0	ON	BORE
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Borehole ID:	610372	Type:	Borehole
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Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Use: Drill Method: Easting: 434791 Location Accuracy: Elev. Reliability Note: Total Depth m: 10.7 Township: Lot: Completion Date: JAN-1969 Primary Water Use:				Status: UTM Zone: 18 Northing: 5005672 Orig. Ground Elev m: 92.7 DEM Ground Elev m: 94.4 Primary Name: Concession: Municipality: Static Water Level: -999.9 Sec. Water Use:	
--- Details ---					
Stratum ID: 218385406				Top Depth(m): 0.0	
Bottom Depth(m): 6.1				Stratum Desc: CLAY.	
+					
Stratum ID: 218385407				Top Depth(m): 6.1	
Bottom Depth(m): 8.5				Stratum Desc: GRAVEL,BOULDERS.	
+					
Stratum ID: 218385408				Top Depth(m): 8.5	
Bottom Depth(m): 10.7				Stratum Desc: LIMESTONE. 000350 FEET.FEET.T. GREY,BROWN,VERY STIFF, WEATHERED. CLAY,SILT.	
63	2 of 2	SSE/127.3	91.0	ON	WWIS
Well ID: 1509970 Concession: County: OTTAWA-CARLETON Easting Nad83: 434790.7 Zone: 18 Primary Water Use: Domestic Sec. Water Use: Pump Rate: 10 GPM Flow Rate: Specific Capacity: Construction Method: Cable Tool Elevation (m): 94.45 Depth to Bedrock: 28 Water Type: FRESH				Lot: Concession Name: Municipality: RICHMOND VILLAGE Northing Nad83: 5005672 Utm Reliability: margin of error : 30 m - 100 m Construction Date: 23-JAN-69 Well Depth: 35 ft Static Water Level: 15 ft Clear/Cloudy: CLOUDY Final Well Status: Water Supply Flowing (y/n): N Elevation Reliability: Overburden/Bedrock: Bedrock Casing Material: FRESH, MINERIAL	
--- Details ---					
Thickness:				Original Depth: 28 ft	
Material Colour: GRAVEL, BOULDERS				Material: 8 ft	
+					
Thickness:				Original Depth: 35 ft	
Material Colour: LIMESTONE				Material: 7 ft	
+					
Thickness:				Original Depth: 20 ft	
Material Colour: CLAY				Material: 20 ft	
64	1 of 1	S/186.9	92.0	ON	WWIS
Well ID: 1509741 Concession:				Lot: Concession Name:	

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434660.7			Northing Nad83:	5005622
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	30-SEP-68
Sec. Water Use:				Well Depth:	28 ft
Pump Rate:	10 GPM			Static Water Level:	6 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.43			Elevation Reliability:	
Depth to Bedrock:	27			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH
--- Details ---					
Thickness:				Original Depth:	28 ft
Material Colour:	LIMESTONE			Material:	1 ft
+					
Thickness:				Original Depth:	18 ft
Material Colour:	CLAY, BOULDERS			Material:	18 ft
+					
Thickness:				Original Depth:	23 ft
Material Colour:	GRAVEL			Material:	5 ft
+					
Thickness:				Original Depth:	27 ft
Material Colour:	HARDPAN			Material:	4 ft
65	1 of 2	S/197.9	92.0	ON	BORE
Borehole ID:	610370			Type:	Borehole
Use:				Status:	
Drill Method:				UTM Zone:	18
Easting:	434681			Northing:	5005602
Location Accuracy:				Orig. Ground Elev m:	93
Elev. Reliability Note:				DEM Ground Elev m:	94.4
Total Depth m:	10.7			Primary Name:	
Township:				Concession:	
Lot:				Municipality:	
Completion Date:	JUL-1968			Static Water Level:	-999.9
Primary Water Use:				Sec. Water Use:	
--- Details ---					
Stratum ID:	218385401			Top Depth(m):	0.0
Bottom Depth(m):	6.1			Stratum Desc:	CLAY. BLUE.
+					
Stratum ID:	218385402			Top Depth(m):	6.1
Bottom Depth(m):	9.1			Stratum Desc:	BOULDERS, GRAVEL.
+					
Stratum ID:	218385403			Top Depth(m):	9.1
Bottom Depth(m):	10.7			Stratum Desc:	LIMESTONE. 0003403.0 FEET. T. GREY, BROWN, VERY STIFF, WEATHERED. CLAY, SILT. GREY, F
65	2 of 2	S/197.9	92.0	ON	WWIS

Map Key	Number of Records	Direction/Distance m	Elevation m	Site	DB
Well ID:	1509790			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434680.7			Northing Nad83:	5005602
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	09-JUL-68
Sec. Water Use:				Well Depth:	35 ft
Pump Rate:	8 GPM			Static Water Level:	4 ft
Flow Rate:				Clear/Cloudy:	CLEAR
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.36			Elevation Reliability:	
Depth to Bedrock:	30			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:	BLUE			Original Depth:	20 ft
Material Colour:	CLAY			Material:	20 ft
+					
Thickness:				Original Depth:	30 ft
Material Colour:	BOULDERS, GRAVEL			Material:	10 ft
+					
Thickness:				Original Depth:	35 ft
Material Colour:	LIMESTONE			Material:	5 ft
<hr/>					
66	1 of 1	SSE/189.2	92.0	ON	WWIS
Well ID:	1509778			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434720.7			Northing Nad83:	5005602
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	09-OCT-68
Sec. Water Use:				Well Depth:	31 ft
Pump Rate:	10 GPM			Static Water Level:	9 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.33			Elevation Reliability:	
Depth to Bedrock:	27			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	15 ft
Material Colour:	CLAY			Material:	15 ft
+					
Thickness:				Original Depth:	27 ft
Material Colour:	CLAY, BOULDERS			Material:	12 ft
+					
Thickness:				Original Depth:	31 ft
Material Colour:	LIMESTONE			Material:	4 ft
<hr/>					
67	1 of 1	S/214.3	92.0	ON	WWIS

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Well ID:	1509788			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434690.7			Northing Nad83:	5005582
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	10-JUL-68
Sec. Water Use:				Well Depth:	34 ft
Pump Rate:	8 GPM			Static Water Level:	4 ft
Flow Rate:				Clear/Cloudy:	CLEAR
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.34			Elevation Reliability:	
Depth to Bedrock:	30			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:	BLUE			Original Depth:	17 ft
Material Colour:	CLAY			Material:	17 ft
+					
Thickness:				Original Depth:	30 ft
Material Colour:	MEDIUM SAND, BOULDERS			Material:	13 ft
+					
Thickness:				Original Depth:	34 ft
Material Colour:	LIMESTONE			Material:	4 ft
68	1 of 1	SSE/197.9	91.5	ON	WWIS
Well ID:	1509769			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE
Easting Nad83:	434745.7			Northing Nad83:	5005592
Zone:	18			Utm Reliability:	margin of error : 30 m - 100 m
Primary Water Use:	Domestic			Construction Date:	10-OCT-68
Sec. Water Use:				Well Depth:	35 ft
Pump Rate:	10 GPM			Static Water Level:	7 ft
Flow Rate:				Clear/Cloudy:	CLOUDY
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Cable Tool			Flowing (y/n):	N
Elevation (m):	94.42			Elevation Reliability:	
Depth to Bedrock:	28			Overburden/Bedrock:	Bedrock
Water Type:	FRESH			Casing Material:	FRESH, MINERIAL
--- Details ---					
Thickness:				Original Depth:	35 ft
Material Colour:	LIMESTONE			Material:	7 ft
+					
Thickness:				Original Depth:	28 ft
Material Colour:	CLAY			Material:	28 ft
69	1 of 1	SSE/207.9	91.2	ON	WWIS
Well ID:	1509981			Lot:	
Concession:				Concession Name:	
County:	OTTAWA-CARLETON			Municipality:	RICHMOND VILLAGE

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Easting Nad83: 434740.7 Zone: 18 Primary Water Use: Domestic Sec. Water Use: Pump Rate: 10 GPM Flow Rate: Specific Capacity: Construction Method: Cable Tool Elevation (m): 94.36 Depth to Bedrock: 28 Water Type: FRESH				Northing Nad83: 5005582 Utm Reliability: margin of error : 30 m - 100 m Construction Date: 09-JAN-69 Well Depth: 35 ft Static Water Level: 6 ft Clear/Cloudy: CLOUDY Final Well Status: Water Supply Flowing (y/n): N Elevation Reliability: Overburden/Bedrock: Bedrock Casing Material: FRESH, MINERIAL	
--- Details ---					
Thickness:				Original Depth: 20 ft	
Material Colour: CLAY				Material: 20 ft	
+					
Thickness:				Original Depth: 28 ft	
Material Colour: HARDPAN				Material: 8 ft	
+					
Thickness:				Original Depth: 35 ft	
Material Colour: LIMESTONE				Material: 7 ft	
70	1 of 1	SSE/216.7	91.0	ON	BORE
Borehole ID: 610369 Use: Drill Method: Easting: 434851 Location Accuracy: Elev. Reliability Note: Total Depth m: -999 Township: Lot: Completion Date: Primary Water Use:				Type: Borehole Status: UTM Zone: 18 Northing: 5005602 Orig. Ground Elev m: 93 DEM Ground Elev m: 93.9 Primary Name: Concession: Municipality: Static Water Level: .6 Sec. Water Use:	
--- Details ---					
Stratum ID: 218385399				Top Depth(m): 0.0	
Bottom Depth(m): 8.8				Stratum Desc: CLAY,BOULDERS.	
+					
Stratum ID: 218385400				Top Depth(m): 8.8	
Bottom Depth(m):				Stratum Desc: BEDROCK,LIMESTONE. WATER STABLE AT 303.0 FEET.T. GREY,BROWN,VERY STIFF, WEATHERED. CL	
71	1 of 1	SSE/217.4	91.0	lot 25 con 4 RICHMOND ON	WWIS
Well ID: 7139861 Concession: 04 County: OTTAWA-CARLETON Easting Nad83: 434857 Zone: 18 Primary Water Use: Public Sec. Water Use: Domestic				Lot: 025 Concession Name: CON Municipality: GOULBOURN TOWNSHIP Northing Nad83: 5005605 Utm Reliability: margin of error : 10 - 30 m Construction Date: 29-OCT-09 Well Depth: 45.1 m	

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Pump Rate:	54.6 LPM			Static Water Level:	2.2 m
Flow Rate:				Clear/Cloudy:	CLEAR
Specific Capacity:				Final Well Status:	Water Supply
Construction Method:	Rotary (Air)			Flowing (y/n):	
Elevation (m):	93.84			Elevation Reliability:	
Depth to Bedrock:				Overburden/Bedrock:	
Water Type:	Untested			Casing Material:	FRESH
--- Details ---					
Thickness:	BROWN			Original Depth:	3.04 m
Material Colour:	CLAY, , PACKED			Material:	3.04 m
+					
Thickness:	GREY			Original Depth:	8.53 m
Material Colour:	CLAY, SANDY, STONES			Material:	5.49 m
+					
Thickness:	GREY			Original Depth:	45.1 m
Material Colour:	LIMESTONE			Material:	36.57 m
+					
Thickness:				Original Depth:	m
Material Colour:				Material:	m

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1 of 1

SSE/225.8

91.0

ON

WWIS

Well ID:	1502436	Lot:	
Concession:		Concession Name:	
County:	OTTAWA-CARLETON	Municipality:	RICHMOND VILLAGE
Easting Nad83:	434830.7	Northing Nad83:	5005582
Zone:	18	Utm Reliability:	margin of error : 100 m - 300 m
Primary Water Use:	Domestic	Construction Date:	30-JUN-50
Sec. Water Use:		Well Depth:	62 ft
Pump Rate:	3 GPM	Static Water Level:	8 ft
Flow Rate:		Clear/Cloudy:	CLEAR
Specific Capacity:		Final Well Status:	Water Supply
Construction Method:	Cable Tool	Flowing (y/n):	N
Elevation (m):	94.04	Elevation Reliability:	
Depth to Bedrock:	28	Overburden/Bedrock:	Bedrock
Water Type:	FRESH	Casing Material:	FRESH, MINERIAL

--- Details ---

Thickness:		Original Depth:	28 ft
Material Colour:	CLAY, GRAVEL	Material:	28 ft
+			
Thickness:		Original Depth:	62 ft
Material Colour:	LIMESTONE	Material:	34 ft

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1 of 6

SSE/226.7

91.0

MacEwen Petroleum Inc.
5925 Perth St Village of Richmond
Ottawa ON

CA

Certificate #:	9353-7USSC5
Application Year:	2009
Issue Date:	8/11/2009
Approval Type:	Industrial Sewage Works
Status:	Approved
Application Type:	

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erisinfo.com | EcoLog ERIS Ltd.
Shea Road Part of Lot 26, Concession 4 Richmond ON

Order #: 20150407019

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
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Client Name:
 Client Address:
 Client City:
 Client Postal Code:
 Project Description:
 Contaminants:
 Emission Control:

73	2 of 6	SSE/226.7	91.0	MACEWEN PETROLEUM INC 5925 PERTH ST RICHMOND ON K0A 2Z0	FST
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Instance Number: 64488456
 Cont Name:
 Instance Type: FS Liquid Fuel Tank
 Fuel Type: Other
 Status: Active
 Capacity: 50000
 Tank Material: Fiberglass (FRP)
 Corrosion Protection: Fiberglass
 Tank Type: Double Wall UST
 Install Year: 2009
 Parent Facility Type: FS Gasoline Station - Self Serve
 Facility Type: FS Liquid Fuel Tank

73	3 of 6	SSE/226.7	91.0	MACEWEN PETROLEUM INC 5925 PERTH ST RICHMOND ON K0A 2Z0	FST
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Instance Number: 64488457
 Cont Name:
 Instance Type: FS Liquid Fuel Tank
 Fuel Type: Diesel
 Status: Active
 Capacity: 20000
 Tank Material: Fiberglass (FRP)
 Corrosion Protection: Fiberglass
 Tank Type: Double Wall UST
 Install Year: 2009
 Parent Facility Type: FS Gasoline Station - Self Serve
 Facility Type: FS Liquid Fuel Tank

73	4 of 6	SSE/226.7	91.0	MACEWEN PETROLEUM INC 5925 PERTH ST RICHMOND ON K0A 2Z0	FST
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Instance Number: 64488455
 Cont Name:
 Instance Type: FS Liquid Fuel Tank
 Fuel Type: Gasoline
 Status: Active
 Capacity: 50000
 Tank Material: Fiberglass (FRP)
 Corrosion Protection: Fiberglass
 Tank Type: Double Wall UST
 Install Year: 2009
 Parent Facility Type: FS Gasoline Station - Self Serve

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Facility Type:		FS Liquid Fuel Tank			
73	5 of 6	SSE/226.7	91.0	MACEWEN PETROLEUM INC 5925 PERTH ST RR 2 RICHMOND ON K0A 2Z0	RST
Facility Description:		SERVICE STATIONS-GASOLINE, OIL & NATURAL GAS			
73	6 of 6	SSE/226.7	91.0	MACEWEN PETROLEUM INC 5925 PERTH ST RR 2 RICHMOND ON K0A2Z0	RST
Facility Description:		SERVICE STATIONS GASOLINE OIL & NATURAL			
74	1 of 1	SE/230.1	90.0	lot 26 con 4 ON	WWIS
Well ID:		1510797		Lot: 026	
Concession:		04		Concession Name: CON	
County:		OTTAWA-CARLETON		Municipality: GOULBOURN TOWNSHIP	
Easting Nad83:		434970.7		Northing Nad83: 5005682	
Zone:		18		Utm Reliability: margin of error : 30 m - 100 m	
Primary Water Use:		Domestic		Construction Date: 31-AUG-70	
Sec. Water Use:				Well Depth: 57 ft	
Pump Rate:		12 GPM		Static Water Level: 6 ft	
Flow Rate:				Clear/Cloudy: CLOUDY	
Specific Capacity:				Final Well Status: Water Supply	
Construction Method:		Cable Tool		Flowing (y/n): N	
Elevation (m):		93.13		Elevation Reliability:	
Depth to Bedrock:		31		Overburden/Bedrock: Bedrock	
Water Type:		FRESH		Casing Material: FRESH, MINERIAL	
--- Details ---					
Thickness:		GREY		Original Depth: 57 ft	
Material Colour:		LIMESTONE		Material: 26 ft	
+					
Thickness:		GREY		Original Depth: 31 ft	
Material Colour:		CLAY		Material: 31 ft	
75	1 of 1	SSE/235.5	91.0	5931 Perth Street Ottawa ON	CA
Certificate #:					
Application Year:		02			
Issue Date:		9/5/02			
Approval Type:		Municipal & Private water			
Status:		Cancelled			
Application Type:		New Certificate of Approval			
Client Name:		Richmond Inn Motor Hotel Ltd.			
Client Address:		5931 Perth Street			
Client City:		Ottawa			
Client Postal Code:					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
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Project Description: Water supply system for sixteen apartments.
Contaminants:
Emission Control:

Unplottable Summary

DB	Company Name/Site Name	Address	City	Postal
CA	Roman Catholic Episcopal Corporation of Ottawa	Shea Road	Ottawa ON	
CA	Colonnade Development Incorporated		Ottawa ON	
CA	Colonnade Development Incorporated		Ottawa ON	
ECA	Colonnade Development Incorporated	From Queen Charlotte St. to Shea Rd	Ottawa ON	
SPL	Robinson Consultants Inc<UNOFFICIAL>	At the end of Ferry Road on the Ottawa River	Ottawa ON	
SPL	MacEwen Petroleum Inc.		Ottawa ON	

Unplottable Report

Site: *Roman Catholic Episcopal Corporation of Ottawa
Shea Road Ottawa ON*

Database:
CA

Certificate #: 6399-6Y5NKD
Application Year: 2007
Issue Date: 2/7/2007
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: *Colonnade Development Incorporated
Ottawa ON*

Database:
CA

Certificate #: 8748-7DGQCH
Application Year: 2008
Issue Date: 4/25/2008
Approval Type: Industrial Sewage Works
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: *Colonnade Development Incorporated
Ottawa ON*

Database:
CA

Certificate #: 1314-7Z8TPU
Application Year: 2010
Issue Date: 1/4/2010
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: **Colonnade Development Incorporated**
From Queen Charlotte St. to Shea Rd Ottawa ON

Database:
ECA

CofA Number: 9564-8X8GVL
Date: 8/23/2012
Status: Approved
Project Type: Municipal and Private Sewage

Site: **Robinson Consultants Inc<UNOFFICIAL>**
At the end of Ferry Road on the Ottawa River Ottawa ON

Database:
SPL

Ref No.: 2308-6MQLNM
Incident Dt: 3/9/2006
MOE Reported Dt: 3/9/2006
Contaminant Name: HYDRAULIC OIL
Contaminant Quantity: 14 L
Incident Summary: Moores Landing: approx 14 L hydraulic oil to ground
Incident Cause: Pipe Or Hose Leak
Incident Reason:
Nature of Impact: Soil Contamination; Surface Water Pollution
Receiving Medium: Land & Water
Environmental Impact: Not Anticipated

Site: **MacEwen Petroleum Inc.**
Ottawa ON

Database:
SPL

Ref No.: 8700-8QT5DV
Incident Dt: 23-JAN-12
MOE Reported Dt: 23-JAN-12
Contaminant Name: FUEL (N.O.S.)
Contaminant Quantity:
Incident Summary: MacEwen Fuels <54000L on board tanker in ditch, spill cont.
Incident Cause: Overturn - Truck Or Trailer
Incident Reason: Unknown - Reason not determined
Nature of Impact: Soil Contamination
Receiving Medium: Sewage - Municipal/Private and Commercial
Environmental Impact: Confirmed

Appendix: Database Descriptions

Ecolog Environmental Risk Information Services Ltd can search the following databases. The extent of Historical information varies with each database and current information is determined by what is publicly available to Ecolog ERIS at the time of update. **Note:** Databases denoted with " * " indicates that the database will no longer be updated. See the individual database description for more information.

Abandoned Aggregate Inventory:

Provincial [AAGR](#)

The MAAP Program maintains a database of all abandoned pits and quarries. Please note that the database is only referenced by lot and concession and city/town location. The database provides information regarding the location, type, size, land use, status and general comments.*

*Government Publication Date: Sept 2002**

Aggregate Inventory:

Provincial [AGR](#)

The Ontario Ministry of Natural Resources maintains a database of all active pits and quarries. The database provides information regarding the registered owner/operator, location name, operation type, approval type, and maximum annual tonnage.

Government Publication Date: Up to Aug 2012

Abandoned Mine Information System:

Provincial [AMIS](#)

The Abandoned Mines Information System contains data on known abandoned and inactive mines located on both Crown and privately held lands. The information was provided by the Ministry of Northern Development and Mines (MNDM), with the following disclaimer: "the database provided has been compiled from various sources, and the Ministry of Northern Development and Mines makes no representation and takes no responsibility that such information is accurate, current or complete". Reported information includes official mine name, status, background information, mine start/end date, primary commodity, mine features, hazards and remediation.

Government Publication Date: 1800-Jan 2014

Anderson's Waste Disposal Sites:

Private [ANDR](#)

The information provided in this database was collected by examining various historical documents which aimed to characterize the likely position of former waste disposal sites from 1860 to present. The research initiative behind the creation of this database was to identify those sites that are missing from the Ontario MOE Waste Disposal Site Inventory, as well as to provide revisions and corrections to the positions and descriptions of sites currently listed in the MOE inventory. In addition to historic waste disposal facilities, the database also identifies certain auto wreckers and scrap yards that have been extrapolated from documentary sources. Please note that the data is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

Government Publication Date: 1860s-Present

Automobile Wrecking & Supplies:

Private [AUWR](#)

This database provides an inventory of all known locations that are involved in the scrap metal, automobile wrecking/recycling, and automobile parts & supplies industry. Information is provided on the company name, location and business type.

Government Publication Date: 2001-Jul 2014

Borehole:Provincial [BORE](#)

A borehole is the generalized term for any narrow shaft drilled in the ground, either vertically or horizontally. The information here includes geotechnical investigations or environmental site assessments, mineral exploration, or as a pilot hole for installing piers or underground utilities. Information is from many sources such as the Ministry of Transportation (MTO) boreholes from engineering reports and projects from the 1950 to 1990's in Southern Ontario. Boreholes from the Ontario Geological Survey (OGS) including The Urban Geology Analysis Information System (UGAIS) and the York Peel Durham Toronto (YPDT) database of the Conservation Authority Moraine Coalition. This database will include fields such as location, stratigraphy, depth, elevation, year drilled, etc. For all water well data or oil and gas well data for Ontario please refer to WWIS and OOGW.

Government Publication Date: 1875-Jul 2014

Certificates of Approval:Provincial [CA](#)

This database contains the following types of approvals: Air & Noise, Industrial Sewage, Municipal & Private Sewage, Waste Management Systems and Renewable Energy Approvals. The MOE in Ontario states that any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste, must have a Certificate of Approval before it can operate lawfully. Fields include approval number, business name, address, approval date, approval type and status. This database will no longer be updated, as CofA's have been replaced by either Environmental Activity and Sector Registry (EASR) or Environmental Compliance Approval (ECA). Please refer to those individual databases for any information after Oct.31, 2011.

*Government Publication Date: 1985-Oct 30, 2011**

Commercial Fuel Oil Tanks:Provincial [CFOT](#)

Since May 2002, Ontario developed a new act where it became mandatory for fuel oil tanks to be registered with Technical Standards & Safety Authority (TSSA). This data would include all commercial underground fuel oil tanks in Ontario with fields such as location, registration number, tank material, age of tank and tank size.

Government Publication Date: 1948-2014

Chemical Register:Private [CHEM](#)

This database includes information from both a one time study conducted in 1992 and private source and is a listing of facilities that manufacture or distribute chemicals. The production of these chemical substances may involve one or more chemical reactions and/or chemical separation processes (i.e. fractionation, solvent extraction, crystallization, etc.).

Government Publication Date: 1992, 1999-Jul 2014

Inventory of Coal Gasification Plants and Coal Tar Sites:Provincial [COAL](#)

This inventory includes both the "Inventory of Coal Gasification Plant Waste Sites in Ontario-April 1987" and the Inventory of Industrial Sites Producing or Using Coal Tar and Related Tars in Ontario-November 1988) collected by the MOE. It identifies industrial sites that produced and continue to produce or use coal tar and other related tars. Detailed information is available and includes: facility type, size, land use, information on adjoining properties, soil condition, site operators/occupants, site description, potential environmental impacts and historic maps available. This was a one-time inventory.*

*Government Publication Date: Apr 1987 and Nov 1988**

Compliance and Convictions:Provincial [CONV](#)

This database summarizes the fines and convictions handed down by the Ontario courts beginning in 1989. Companies and individuals named here have been found guilty of environmental offenses in Ontario courts of law.

Government Publication Date: 1989-Feb 2014

Certificates of Property Use:Provincial [CPU](#)

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all CPU's on the registry such as (EPA s. 168.6) - Certificate of Property Use.

Government Publication Date: 1994-Jan 2015

Drill Hole Database:

Provincial [DRL](#)

The Ontario Drill Hole Database contains information on more than 113,000 percussion, overburden, sonic and diamond drill holes from assessment files on record with the department of Mines and Minerals. Please note that limited data is available for southern Ontario, as it was the last area to be completed. The database was created when surveys submitted to the Ministry were converted in the Assessment File Research Image Database (AFRI) project. However, the degree of accuracy (coordinates) as to the exact location of drill holes is dependent upon the source document submitted to the MNM. Levels of accuracy used to locate holes are: centering on the mining claim; a sketch of the mining claim; a 1:50,000 map; a detailed company map; or from submitted a "Report of Work".

Government Publication Date: 1886-Jan 2014

Environmental Activity and Sector Registry:

Provincial [EASR](#)

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. The EASR allows businesses to register certain activities with the ministry, rather than apply for an approval. The registry is available for common systems and processes, to which preset rules of operation can be applied. The EASR is currently available for: heating systems, standby power systems and automotive refinishing. Businesses whose activities aren't subject to the EASR may apply for an ECA (Environmental Compliance Approval), Please see our ECA database.

Government Publication Date: Oct 31 2011-Mar 2015

Environmental Registry:

Provincial [EBR](#)

The Environmental Registry lists proposals, decisions and exceptions regarding policies, Acts, instruments, or regulations that could significantly affect the environment. Through the Registry, thirteen provincial ministries notify the public of upcoming proposals and invite their comments. For example, if a local business is requesting a permit, license, or certificate of approval to release substances into the air or water; these are notified on the registry. Data includes: Approval for discharge into the natural environment other than water (i.e. Air) - EPA s. 9, Approval for sewage works - OWRA s. 53(1), and EPA s. 27 - Approval for a waste disposal site. For information regarding Permit to Take Water (PTTW), Certificate of Property Use (CPU) and (ORD) Orders please refer to those individual databases.

Government Publication Date: 1994-Jan 2015

Environmental Compliance Approval:

Provincial [ECA](#)

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. In the past, a business had to apply for multiple approvals (known as certificates of approval) for individual processes and pieces of equipment. Today, a business either registers itself, or applies for a single approval, depending on the types of activities it conducts. Businesses whose activities aren't subject to the EASR may apply for an ECA. A single ECA addresses all of a business's emissions, discharges and wastes. Separate approvals for air, noise and waste are no longer required. This database will also include Renewable Energy Approvals. For CofA's prior to Nov 1st, 2011, please refer to the CA database. For all Waste Disposal Sites please refer to the WDS database.

Government Publication Date: Oct 31, 2011-Mar 2015

Environmental Effects Monitoring:

Federal [EEM](#)

The Environmental Effects Monitoring program assesses the effects of effluent from industrial or other sources on fish, fish habitat and human usage of fisheries resources. Since 1992, pulp and paper mills have been required to conduct EEM studies under the Pulp and Paper Effluent Regulations. This database provides information on the mill name, geographical location and sub-lethal toxicity data.

*Government Publication Date: 1992-2007**

ERIS Historical Searches:

Private [EHS](#)

EcoLog ERIS has compiled a database of all environmental risk reports completed since March 1999. Available fields for this database include: site location, date of report, type of report, and search radius. As per all other databases, the ERIS database can be referenced on both the map and "Statistical Profile" page.

Government Publication Date: 1999-Aug 2014

Environmental Issues Inventory System:

Federal [EIS](#)

The Environmental Issues Inventory System was developed through the implementation of the Environmental Issues and Remediation Plan. This plan was established to determine the location and severity of contaminated sites on inhabited First Nation reserves, and where necessary, to remediate those that posed a risk to health and safety; and to prevent future environmental problems. The EIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

*Government Publication Date: 1992-2001**

List of TSSA Expired Facilities:

Provincial [EXP](#)

This is a list of all expired facilities that fall under the TSSA (TSSA Act & Safety Regulations), including the six regulations that exist under the Fuels Safety Division. It will include facilities such as private fuel outlets, bulk plants, fuel oil tanks, gasoline stations, marinas, propane filling stations, liquid fuel tanks, piping systems, etc. These tanks have been removed and automatically fall under the expired facilities inventory held by TSSA.

Government Publication Date: Current to Nov 2014

Federal Convictions:

Federal [FCON](#)

Environment Canada maintains a database referred to as the "Environmental Registry" that details prosecutions under the Canadian Environmental Protection Act (CEPA) and the Fisheries Act (FA). Information is provided on the company name, location, charge date, offence and penalty.

*Government Publication Date: 1988-Jun 2007**

Contaminated Sites on Federal Land:

Federal [FCS](#)

The Federal Contaminated Sites Inventory includes information on all known federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations as well as those that are being or have been investigated to determine whether they have contamination arising from past use that could pose a risk to human health or the environment. The inventory also includes non-federal contaminated sites for which the Government of Canada has accepted some or all financial responsibility. It does not include sites where contamination has been caused by, and which are under the control of, enterprise Crown corporations, private individuals, firms or other levels of government.

Government Publication Date: June 2000-Jan 2015

Fisheries & Oceans Fuel Tanks:

Federal [FOFT](#)

Fisheries & Oceans Canada maintains an inventory of all aboveground & underground fuel storage tanks located on Fisheries & Oceans property or controlled by DFO. Our inventory provides information on the site name, location, tank owner, tank operator, facility type, storage tank location, tank contents & capacity, and date of tank installation.

Government Publication Date: 1964-Sept 2003

Fuel Storage Tank:

Provincial [FST](#)

The Technical Standards & Safety Authority (TSSA), under the Technical Standards & Safety Act of 2000 maintains a database of registered private and retail fuel storage tanks in Ontario with fields such as location, tank status, license date, tank type, tank capacity, fuel type, installation year and facility type.

Government Publication Date: 2010-Nov 2014

Fuel Storage Tank - Historic:

Provincial [FSTH](#)

The Technical Standards & Safety Authority (TSSA), under the Technical Standards & Safety Act of 2000 maintains a database of registered private and retail fuel storage tanks in Ontario with fields such as location, tank status, license date, tank type, tank capacity, fuel type, installation year and facility type.

*Government Publication Date: Pre-Jan 2010**

Ontario Regulation 347 Waste Generators Summary:

Provincial GEN

Regulation 347 of the Ontario EPA defines a waste generation site as any site, equipment and/or operation involved in the production, collection, handling and/or storage of regulated wastes. A generator of regulated waste is required to register the waste generation site and each waste produced, collected, handled, or stored at the site. This database contains the registration number, company name and address of registered generators including the types of hazardous wastes generated. It includes data on waste generating facilities such as: drycleaners, waste treatment and disposal facilities, machine shops, electric power distribution etc. This information is a summary of all years from 1986 including the most currently available data. Some records may contain, within the company name, the phrase "See & Use..." followed by a series of letters and numbers. This occurs when one company is amalgamated with or taken over by another registered company. The number listed as "See & Use", refers to the new ownership and the other identification number refers to the original ownership. This phrase serves as a link between the 2 companies until operations have been fully transferred.

Government Publication Date: 1986-Apr 2014

TSSA Historic Incidents:

Provincial HINC

This database will cover all incidences recorded by TSSA with their older system, before they moved to their new management system. TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. The TSSA works to protect the public, the environment and property from fuel-related hazards such as spills, fires and explosions. This database will include spills and leaks from pipelines, diesel, fuel oil, gasoline, natural gas, propane and hydrogen recorded by the TSSA.

*Government Publication Date: 2006-June 2009**

Indian & Northern Affairs Fuel Tanks:

Federal IAFT

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of all aboveground & underground fuel storage tanks located on both federal and crown land. Our inventory provides information on the reserve name, location, facility type, site/facility name, tank type, material & ID number, tank contents & capacity, and date of tank installation.

*Government Publication Date: 1950-Aug 2003**

TSSA Incidents:

Provincial INC

TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. Includes incidents from fuel-related hazards such as spills, fires and explosions. This database will include spills and leaks from diesel, fuel oil, gasoline, natural gas, propane and hydrogen recorded by the TSSA.

Government Publication Date: June 2009-2014

Landfill Inventory Management Ontario:

Provincial LIMO

The Landfill Inventory Management Ontario (LIMO) database is updated every year, as the ministry compiles new and updated information. The inventory will include small and large landfills. Additionally, each year the ministry will request operators of the larger landfills complete a landfill data collection form that will be used to update LIMO and will include the following information from the previous operating year. This will include additional information such as estimated amount of total waste received, landfill capacity, estimated total remaining landfill capacity, fill rates, engineering designs, reporting and monitoring details, size of location, service area, approved waste types, leachate of site treatment, contaminant attenuation zone and more. The small landfills will include information such as site owner, site location and certificate of approval # and status.

Government Publication Date: 2012

Canadian Mine Locations:

Private MINE

This information is collected from the Canadian & American Mines Handbook. The Mines database is a national database that provides over 290 listings on mines (listed as public companies) dealing primarily with precious metals and hard rocks. Listed are mines that are currently in operation, closed, suspended, or are still being developed (advanced projects). Their locations are provided as geographic coordinates (x, y and/or longitude, latitude). As of 2002, data pertaining to Canadian smelters and refineries has been appended to this database.

*Government Publication Date: 1998-2009**

Mineral Occurrences:

Provincial MNR

In the early 70's, the Ministry of Northern Development and Mines created an inventory of approximately 19,000 mineral occurrences in Ontario, in regard to metallic and industrial minerals, as well as some information on building stones and aggregate deposits. Please note that the "Horizontal Positional Accuracy" is approximately +/- 200 m. Many reference elements for each record were derived from field sketches using pace or chain/tape measurements against claim posts or topographic features in the area. The primary limiting factor for the level of positional accuracy is the scale of the source material. The testing of horizontal accuracy of the source materials was accomplished by comparing the planimetric (X and Y) coordinates of that point with the coordinates of the same point as defined from a source of higher accuracy.

Government Publication Date: 1846-Apr 2013

National Analysis of Trends in Emergencies System (NATES):

Federal NATE

In 1974 Environment Canada established the National Analysis of Trends in Emergencies System (NATES) database, for the voluntary reporting of significant spill incidents. The data was to be used to assist in directing the work of the emergencies program. NATES ran from 1974 to 1994. Extensive information is available within this database including company names, place where the spill occurred, date of spill, cause, reason and source of spill, damage incurred, and amount, concentration, and volume of materials released.

*Government Publication Date: 1974-1994**

Non-Compliance Reports:

Provincial NCPL

The Ministry of the Environment provides information about non-compliant discharges of contaminants to air and water that exceed legal allowable limits, from regulated industrial and municipal facilities. A reported non-compliance failure may be in regard to a Control Order, Certificate of Approval, Sectoral Regulation or specific regulation/act.

Government Publication Date: 1994-2012

National Defence & Canadian Forces Fuel Tanks:

Federal NDFT

The Department of National Defence and the Canadian Forces maintains an inventory of all aboveground & underground fuel storage tanks located on DND lands. Our inventory provides information on the base name, location, tank type & capacity, tank contents, tank class, date of tank installation, date tank last used, and status of tank as of May 2001. This database will no longer be updated due to the new National Security protocols which have prohibited any release of this database.

*Government Publication Date: Up to May 2001**

National Defence & Canadian Forces Spills:

Federal NDSP

The Department of National Defence and the Canadian Forces maintains an inventory of spills to land and water. All spill sites have been classified under the "Transportation of Dangerous Goods Act - 1992". Our inventory provides information on the facility name, location, spill ID #, spill date, type of spill, as well as the quantity of substance spilled & recovered.

Government Publication Date: Mar 1999-Aug 2010

National Defence & Canadian Forces Waste Disposal Sites:

Federal NDWD

The Department of National Defence and the Canadian Forces maintains an inventory of waste disposal sites located on DND lands. Where available, our inventory provides information on the base name, location, type of waste received, area of site, depth of site, year site opened/closed and status.

*Government Publication Date: 2001-Apr 2007**

National Environmental Emergencies System (NEES):

Federal [NEES](#)

In 2000, the Emergencies program implemented NEES, a reporting system for spills of hazardous substances. For the most part, this system only captured data from the Atlantic Provinces, some from Quebec and Ontario and a portion from British Columbia. Data for Alberta, Saskatchewan, Manitoba and the Territories was not captured. However, NEES is also a repository for all previous Environment Canada spill datasets. NEES is composed of the historic datasets ' or Trends ' which dates from approximately 1974 to present. NEES Trends is a compilation of historic databases, which were merged and includes data from NATES (National Analysis of Trends in Emergencies System), ARTS (Atlantic Regional Trends System), and NEES. In 2001, the Emergencies Program determined that variations in reporting regimes and requirements between federal and provincial agencies made national spill reporting and trend analysis difficult to achieve. As a consequence, the department has focused efforts on capturing data on spills of substances which fall under its legislative authority only (CEPA and FA). As such, the NEES database will be decommissioned in December 2004.

*Government Publication Date: 1974-2003**

National PCB Inventory:

Federal [NPCB](#)

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. All federal out-of-service PCB containing equipment and all PCB waste owned by the federal government or by federally regulated industries such as airlines, railway companies, broadcasting companies, telephone and telecommunications companies, pipeline companies, etc. are also listed. Although it is not Environment Canada's mandate to collect data on non-federal PCB waste, the National PCB inventory includes some information on provincial and private PCB waste and storage sites. Some addresses provided may be Head Office addresses and are not necessarily the location of where the waste is being used or stored.

*Government Publication Date: 1988-2008**

National Pollutant Release Inventory:

Federal [NPRI](#)

Environment Canada has defined the National Pollutant Release Inventory ("NPRI") as a federal government initiative designed to collect comprehensive national data regarding releases to air, water, or land, and waste transfers for recycling for more than 300 listed substances.

Government Publication Date: 1993-2013

Oil and Gas Wells:

Private [OGW](#)

The Nickle's Energy Group (publisher of the Daily Oil Bulletin) collects information on drilling activity including operator and well statistics. The well information database includes name, location, class, status and depth. The main Nickle's database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at www.nickles.com.

Government Publication Date: 1988-Mar 2015

Ontario Oil and Gas Wells:

Provincial [OOGW](#)

In 1998, the MNR handed over to the Ontario Oil, Gas and Salt Resources Corporation, the responsibility of maintaining a database of oil and gas wells drilled in Ontario. The OGSR Library has over 20,000+ wells in their database. Information available for all wells in the ERIS database include well owner/operator, location, permit issue date, well cap date, licence no., status, depth and the primary target (rock unit) of the well being drilled. All geology/stratigraphy table information, plus all water table information is also provide for each well record.

Government Publication Date: 1800-2013

Inventory of PCB Storage Sites:

Provincial [OPCB](#)

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of PCB storage sites within the province. Ontario Regulation 11/82 (Waste Management - PCB) and Regulation 347 (Generator Waste Management) under the Ontario EPA requires the registration of inactive PCB storage equipment and/or disposal sites of PCB waste with the Ontario Ministry of Environment. This database contains information on: 1) waste quantities; 2) major and minor sites storing liquid or solid waste; and 3) a waste storage inventory.

Government Publication Date: 1987-Oct 2004

Orders:Provincial [ORD](#)

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all Orders on the registry such as (EPA s. 17) - Order for remedial work, (EPA s. 18) - Order for preventative measures, (EPA s. 43) - Order for removal of waste and restoration of site, (EPA s. 44) - Order for conformity with Act for waste disposal sites, (EPA s. 136) - Order for performance of environmental measures.

Government Publication Date: 1994-Jan 2015

Canadian Pulp and Paper:Private [PAP](#)

This information is part of the Pulp and Paper Canada Directory. The Directory provides a comprehensive listing of the locations of pulp and paper mills and the products that they produce.

Government Publication Date: 1999, 2002, 2004, 2005, 2009

Parks Canada Fuel Storage Tanks:Federal [PCFT](#)

Canadian Heritage maintains an inventory of all known fuel storage tanks operated by Parks Canada, in both National Parks and at National Historic Sites. The database details information on site name, location, tank install/removal date, capacity, fuel type, facility type, tank design and owner/operator.

*Government Publication Date: 1920-Jan 2005**

Pesticide Register:Provincial [PES](#)

The Ontario Ministry of Environment maintains a database of all manufacturers and vendors of registered pesticides.

Government Publication Date: 1988-Jun 2013

TSSA Pipeline Incidents:Provincial [PINC](#)

TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. This database will include spills, strike and leaks from recorded by the TSSA.

Government Publication Date: June 2009-2014

Private and Retail Fuel Storage Tanks:Provincial [PRT](#)

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks and licensed retail fuel outlets. This database includes an inventory of locations that have gasoline, oil, waste oil, natural gas and/or propane storage tanks on their property. The MCCR no longer collects this information. This information is now collected by the Technical Standards and Safety Authority (TSSA).

*Government Publication Date: 1989-1996**

Permit to Take Water:Provincial [PTTW](#)

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all PTTW's on the registry such as OWRA s. 34 - Permit to take water.

Government Publication Date: 1994-Jan 2015

Ontario Regulation 347 Waste Receivers Summary:Provincial [REC](#)

Part V of the Ontario Environmental Protection Act ("EPA") regulates the disposal of regulated waste through an operating waste management system or a waste disposal site operated or used pursuant to the terms and conditions of a Certificate of Approval or a Provisional Certificate of Approval. Regulation 347 of the Ontario EPA defines a waste receiving site as any site or facility to which waste is transferred by a waste carrier. A receiver of regulated waste is required to register the waste receiving facility. This database represents registered receivers of regulated wastes, identified by registration number, company name and address, and includes receivers of waste such as: landfills, incinerators, transfer stations, PCB storage sites, sludge farms and water pollution control plants. This information is a summary of all years from 1986 including the most currently available data.

Government Publication Date: 1986-2013

Record of Site Condition:

Provincial RSC

The Record of Site Condition (RSC) is part of the Ministry of the Environment's Brownfields Environmental Site Registry. Protection from environmental cleanup orders for property owners is contingent upon documentation known as a record of site condition (RSC) being filed in the Environmental Site Registry. In order to file an RSC, the property must have been properly assessed and shown to meet the soil, sediment and groundwater standards appropriate for the use (such as residential) proposed to take place on the property. The Record of Site Condition Regulation (O. Reg. 153/04) details requirements related to site assessment and clean up.

RSCs filed after July 1, 2011 will also be included as part of the new (O.Reg. 511/09).

Government Publication Date: 1997-Sept 2001, Oct 2004-Mar 2015

Retail Fuel Storage Tanks:

Private RST

This database includes an inventory of retail fuel outlet locations (including marinas) that have on their property gasoline, oil, waste oil, natural gas and / or propane storage tanks.

Government Publication Date: 1999-Jul 2014

Scott's Manufacturing Directory:

Private SCT

Scott's Directories is a data bank containing information on over 200,000 manufacturers across Canada. Even though Scott's listings are voluntary, it is the most comprehensive database of Canadian manufacturers available. Information concerning a company's address, plant size, and main products are included in this database.

Government Publication Date: 1992-Mar 2011

Ontario Spills:

Provincial SPL

This database identifies information such as location (approximate), type and quantity of contaminant, date of spill, environmental impact, cause, nature of impact, etc. Information from 1988-2002 was part of the ORIS (Occurrence Reporting Information System). The SAC (Spills Action Centre) handles all spills reported in Ontario. Regulations for spills in Ontario are part of the MOE's Environmental Protection Act, Part X.

Government Publication Date: 1988-Feb 2014

Wastewater Discharger Registration Database:

Provincial SRDS

Information under this heading is combination of the following 2 programs. The Municipal/Industrial Strategy for Abatement (MISA) division of the Ontario Ministry of Environment maintained a database of all direct dischargers of toxic pollutants within nine sectors including: Electric Power Generation; Mining; Petroleum Refining; Organic Chemicals; Inorganic Chemicals; Pulp & Paper; Metal Casting; Iron & Steel; and Quarries. All sampling information is now collected and stored within the Sample Result Data Store (SRDS).

Government Publication Date: 1990-2011

Anderson's Storage Tanks:

Private TANK

The information provided in this database was collected by examining various historical documents, which identified the location of former storage tanks, containing substances such as fuel, water, gas, oil, and other various types of miscellaneous products. Information is available in regard to business operating at tank site, tank location, permit year, permit & installation type, no. of tanks installed & configuration and tank capacity. Data contained within this database pertains only to the city of Toronto and is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

*Government Publication Date: 1915-1953**

Transport Canada Fuel Storage Tanks:

Federal TCFT

List of fuel storage tanks currently or previously owned or operated by Transport Canada. This inventory also includes tanks on The Pickering Lands, which refers to 7,530 hectares (18,600 acres) of land in Pickering, Markham, and Uxbridge owned by the Government of Canada since 1972; properties on this land has been leased by the government since 1975, and falls under the Site Management Policy of Transport Canada, but is administered by Public Works and Government Services Canada. This inventory provides information on the site name, location, tank age, capacity and fuel type.

Government Publication Date: 1970-Mar 2007

TSSA Variances for Abandonment of Underground Storage Tanks:

Provincial VAR

The TSSA, Under the Liquid Fuels Handling Code and the Fuel Oil Code, all underground storage tanks must be removed within two years of disuse. If removal of a tank is not feasible, you may apply to seek a variance from this code requirement. This is a list of all variances granted for abandoned tanks.

Government Publication Date: Current to Nov 2014

Waste Disposal Sites - MOE CA Inventory:

Provincial WDS

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of known open (active or inactive) and closed disposal sites in the Province of Ontario. Active sites maintain a Certificate of Approval, are approved to receive and are receiving waste. Inactive sites maintain Certificate(s) of Approval but are not receiving waste. Closed sites are not receiving waste. The data contained within this database was compiled from the MOE's Certificate of Approval database. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number. All new Environmental Compliance Approvals handed out after Oct 31, 2011 for Waste Disposal Sites will still be found in this database.

Government Publication Date: 1970-Mar 2015

Waste Disposal Sites - MOE 1991 Historical Approval Inventory:

Provincial WDSH

In June 1991, the Ontario Ministry of Environment, Waste Management Branch, published the "June 1991 Waste Disposal Site Inventory", of all known active and closed waste disposal sites as of October 30st, 1990. For each "active" site as of October 31st 1990, information is provided on site location, site/CA number, waste type, site status and site classification. For each "closed" site as of October 31st 1990, information is provided on site location, site/CA number, closure date and site classification. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number.

*Government Publication Date: Up to Oct 1990**

Water Well Information System:

Provincial WWIS

This database describes locations and characteristics of water wells found within Ontario in accordance with Regulation 903. It includes such information as coordinates, construction date, well depth, primary and secondary use, pump rate, static water level, well status, etc. Also included are detailed stratigraphy information, approximate depth to bedrock and the approximate depth to the water table.

Government Publication Date: 1955-Mar 2014

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries". All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and were included as reference.

Natural. Valued. Protected.

Endangered Species Act, 2007 & Species At Risk in Ontario

Background

Endangered Species Act: http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statues-07e06_e.htm

Species at Risk in Ontario List: www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/246809.html

The Endangered Species Act (ESA) 2007 protects both species and habitat. Section 9 of the ESA “prohibits killing, harming, harassing, capturing, possessing, collecting, buying, selling, trading, leasing or transporting species that are listed as threatened, endangered or extirpated”. Section 10 of the ESA, 2007 prohibits damaging or destroying habitat of endangered or threatened species. Protected habitat is either based on general definition in the Act or prescribed through a regulation. The ESA 2007 defines general habitat as an area on which the species depends, directly or indirectly, to carry on its life processes, including reproduction, rearing, hibernation, migration or feeding.

It is important to be aware that changes may occur in both species and habitat protection. The ESA applies to listed species on the Species at Risk in Ontario List (SARO). The Committee on the Status of Species in Ontario (COSSARO) meets regularly to evaluate species for listing and/or re-evaluate species already listed. As a result, species’ designations may change that could in turn change the level of protection they receive under the ESA 2007. Also, habitat protection provisions for a species may change e.g. if a species-specific habitat regulation comes into effect. The regulation would establish the area that is protected as habitat for the species.

Information with respect to SAR can be found in the online database at the Natural Heritage Information Centre (NHIC) - <http://nhic.mnr.gov.on.ca/nhic.cfm> . The NHIC compiles, maintains and distributes information on species at risk and updates its information on a regular basis. We encourage you to routinely check the NHIC database to obtain the most up to date SAR information for proposed work locations. However, while the NHIC database is the best available source of data, even when there are no known occurrences documented at a site, there is a possibility that SAR may occur at a proposed work location.

All data represents the MNR’s best current available information, it is important to note that a lack of occurrence at a site does not mean that there are no Species at Risk (SAR) at the location. The MNR continues to encourage ecological site assessments to determine the potential for other SAR occurrences. When a SAR does occur on a proposed site, it is recommended that the proponent contact the MNR for technical advice and to discuss what activities can occur without contravention of the Act. If an activity is proposed that will contravene the Act (such as Section 9 or 10), the proponent must contact the MNR to discuss the potential for application of certain permits (Section 17) or agreement (Regulation 242/08). For specific questions regarding the Endangered Species Act (2007) or species at risk, please contact a district Species at Risk Biologist at sar.kemptville@ontario.ca.

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Natural Heritage Information Centre

Land Information Ontario

Natural Heritage Information Centre: <http://nhic.mnr.gov.on.ca/>

Biodiversity Explorer (mapping): <https://www.biodiversityexplorer.mnr.gov.on.ca/nhicWEB/main.jsp>

Land Information Ontario: <http://www.mnr.gov.on.ca/en/Business/LIO/index.html>

Ontario Geospatial Data Exchange: http://www.mnr.gov.on.ca/en/Business/LIO/2ColumnSubPage/STEL02_167959.html

LIO Make-a-Map: http://www.mnr.gov.on.ca/en/Business/LIO/2ColumnSubPage/STDPROD_068999.html

Ontario Maps: http://www.mnr.gov.on.ca/en/Business/LIO/2ColumnSubPage/STDPROD_068512.html

The **Natural Heritage Information Centre** (NHIC) compiles, maintains and distributes information on natural species, plant communities and spaces of conservation concern in Ontario. This information is stored in a spatial database used for tracking this information. The Centre also has a library with conservation-related literature, reports, books, and maps, which are accessible for conservation applications, land use planning, and natural resource management. The NHIC website makes much of this information available through the internet.

Natural Heritage Information Centre

300 Water Street, 2nd Floor, North Tower
P.O. Box 7000, Peterborough, ON, K9J 8M5
Tel.:(705) 755-2159 Fax:(705) 755-2168

Land Information Ontario (LIO) manages key provincial datasets. LIO makes these and hundreds of other data sets available to registered users at no charge. LIO also coordinates public and private sector organizations to collect high resolution satellite imagery for Ontario providing significant cost savings for all partners. Technical bulletins, newsletters and more are available online. More details regarding Ontario imagery and data can be searched, ordered and accessed online.

LIO's Ontario Geospatial Data Exchange (OGDE) allows more than 400 public sector organizations to easily share and use digital geographic information under a single legal agreement. Membership is available to eligible public organizations at no costs.

Through the website, Maps & Map Tools are made available, including online mapping software: LIO Make-a-Map.

Land Information Ontario

lio@ontario.ca

LIO Support Team: (705) 755-1878

Or for specifics, see online at:

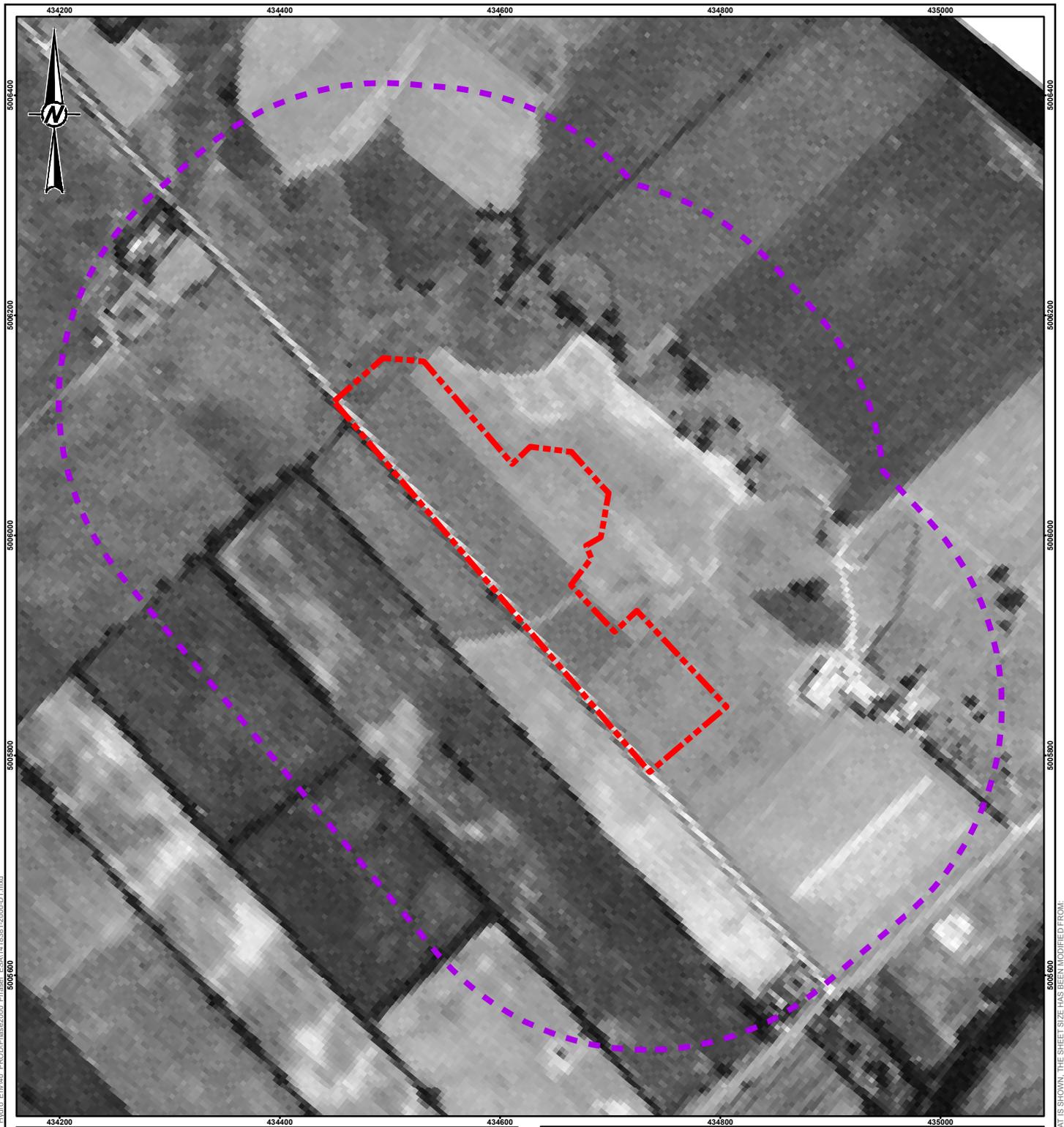
http://www.mnr.gov.on.ca/en/Business/LIO/2ColumnSubPage/STDPROD_068510.html

Additional Information pertaining to NHIC, LIO and other Natural Heritage and Data and Information tools is available in the **MNR Kemptville Information Request Guide (2012)**.



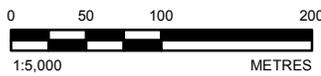
APPENDIX D

Aerial Photographs



LEGEND

-  PHASE ONE ESA SITE BOUNDARY
-  PHASE ONE ESA STUDY AREA



NOTE(S)
 1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT NO. 1418381/2000

REFERENCE(S)
 1. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
 COORDINATE SYSTEM: UTM ZONE 18 VERTICAL DATUM: CGVD28

CLIENT
CARDEL HOMES

PROJECT
**PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
 PROPOSED RESIDENTIAL SUBDIVISION, 5873 PERTH STREET,
 OTTAWA (VILLAGE OF RICHMOND), ONTARIO**

TITLE
1946 AIR PHOTO

CONSULTANT	YYYY-MM-DD	2015-04-06
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	PREPARED	JEM
	REVIEWED	JL
	APPROVED	DHP

PROJECT NO.	PHASE	REV.	FIGURE
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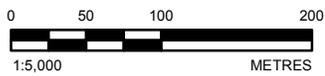
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LEGEND

-  PHASE ONE ESA SITE BOUNDARY
-  PHASE ONE ESA STUDY AREA



NOTE(S)
 1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT NO. 1418381/2000

REFERENCE(S)
 1. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
 COORDINATE SYSTEM: UTM ZONE 18 VERTICAL DATUM: CGVD28

CLIENT
CARDEL HOMES

PROJECT
**PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
 PROPOSED RESIDENTIAL SUBDIVISION, 5873 PERTH STREET,
 OTTAWA (VILLAGE OF RICHMOND), ONTARIO**

TITLE
1963 AIR PHOTO

CONSULTANT	YYYY-MM-DD	2015-04-06
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	APPROVED	DHP

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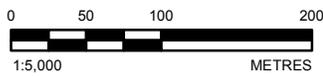
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LEGEND

-  PHASE ONE ESA SITE BOUNDARY
-  PHASE ONE ESA STUDY AREA



NOTE(S)

1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT NO. 1418381/2000

REFERENCE(S)

1. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
 COORDINATE SYSTEM: UTM ZONE 18 VERTICAL DATUM: CGVD28

CLIENT

CARDEL HOMES

PROJECT

PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
 PROPOSED RESIDENTIAL SUBDIVISION, 5873 PERTH STREET,
 OTTAWA (VILLAGE OF RICHMOND), ONTARIO

TITLE

1978 AIR PHOTO

CONSULTANT



YYYY-MM-DD 2015-04-06

DESIGNED ----

PREPARED JEM

REVIEWED JL

APPROVED DHP

PROJECT NO.
1418381

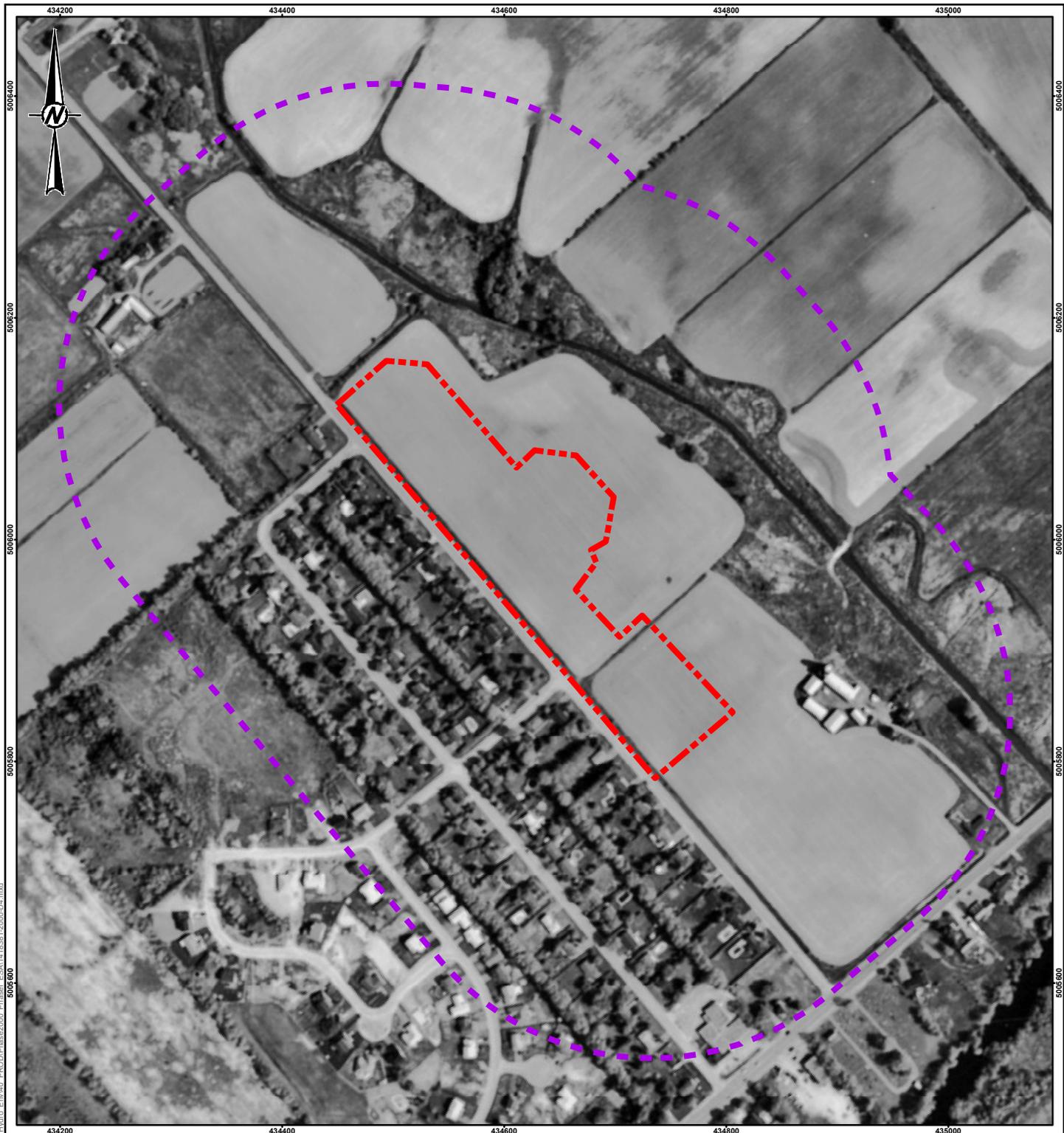
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REV.
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FIGURE
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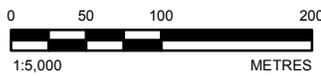
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LEGEND

-  PHASE ONE ESA SITE BOUNDARY
-  PHASE ONE ESA STUDY AREA



NOTE(S)
 1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT NO. 1418381/2000

REFERENCE(S)
 1. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
 COORDINATE SYSTEM: UTM ZONE 18 VERTICAL DATUM: CGVD28

CLIENT
CARDEL HOMES

PROJECT
**PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
 PROPOSED RESIDENTIAL SUBDIVISION, 5873 PERTH STREET,
 OTTAWA (VILLAGE OF RICHMOND), ONTARIO**

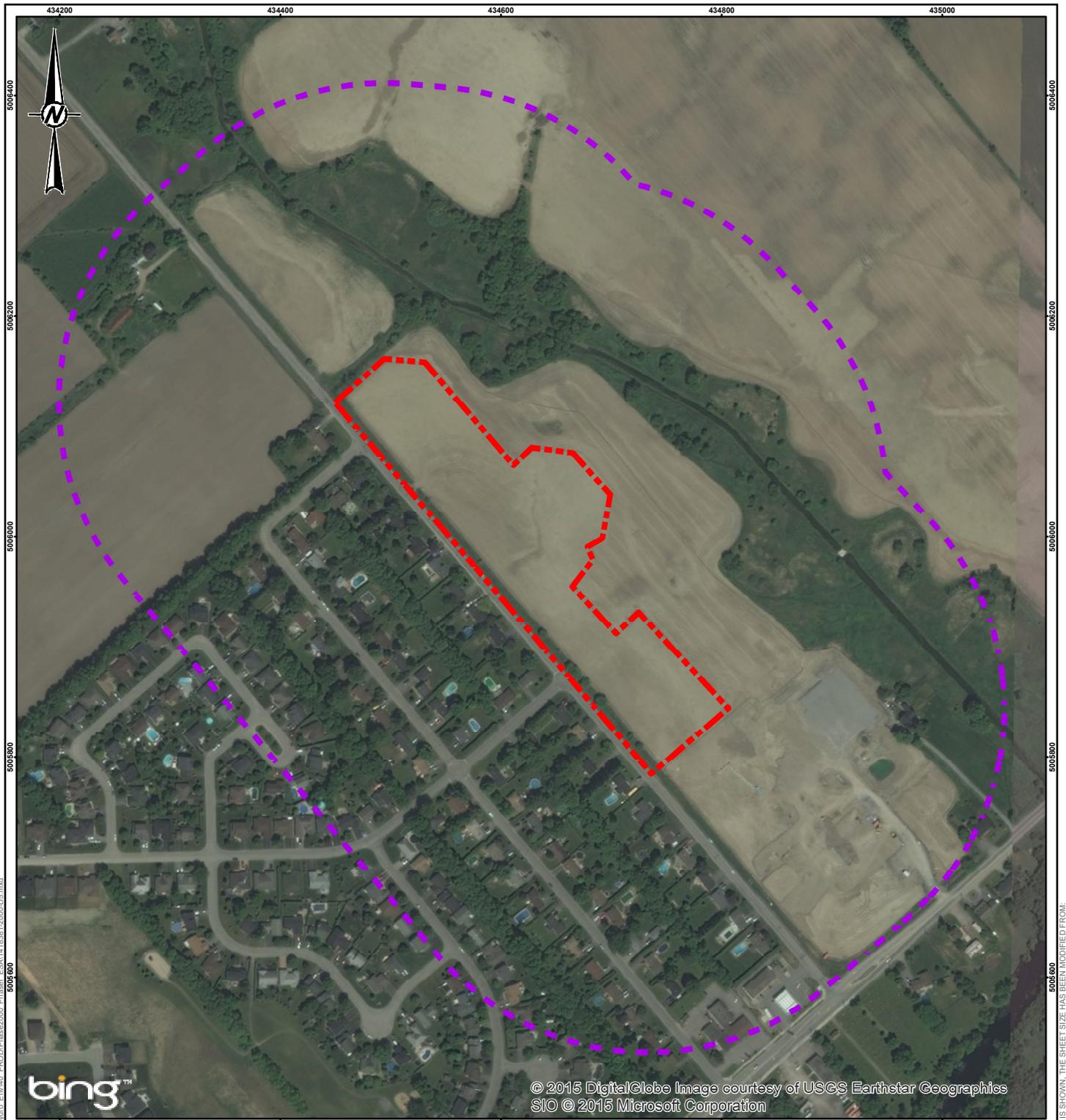
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	REVIEWED	JL
	APPROVED	DHP

PROJECT NO.	PHASE	REV.	FIGURE
1418381	2000	0	D4

Path: N:\Active\Spatial\JM\Cardel_Custom_Homes\5873_perth_s009_PROJ\1418381_Cardel_Hydro_Env\40_PROJ\Phase2000_Phase1_ESA\1418381_2000-D4.mxd

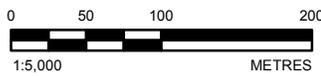
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm



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SIO © 2015 Microsoft Corporation

LEGEND

-  PHASE ONE ESA SITE BOUNDARY
-  PHASE ONE ESA STUDY AREA



NOTE(S)
1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT NO. 1418381/2000

REFERENCE(S)
1. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: UTM ZONE 18 VERTICAL DATUM: CGVD28

CLIENT
CARDEL HOMES

PROJECT
**PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL SUBDIVISION, 5873 PERTH STREET,
OTTAWA (VILLAGE OF RICHMOND), ONTARIO**

TITLE
2012 AIR PHOTO

CONSULTANT	YYYY-MM-DD	2015-04-06
	DESIGNED	----
	PREPARED	JEM
	REVIEWED	JL
	APPROVED	DHP

PROJECT NO.	PHASE	REV.	FIGURE
1418381	2000	0	D5

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm



APPENDIX E

Site Photographs



APPENDIX E - Site Photographs
5873 Perth Street, Ottawa (Richmond), ON



Photograph 1: On-Site. Facing east (towards Independent grocery store).



Photograph 2: On-Site. Facing southeast, looking along Shea Road towards Perth Street.



APPENDIX E - Site Photographs
5873 Perth Street, Ottawa (Richmond), ON



Photograph 3: On-Site, facing northwest, towards the residences along Shea Road.



Photograph 4: On-Site. Facing northwest, looking across the Site towards agricultural land.



APPENDIX E - Site Photographs
5873 Perth Street, Ottawa (Richmond), ON



Photograph 5: On-Site. Facing northeast, looking across the Site towards the watercourse and agricultural land.



Photograph 6: On-Site monitoring well.



APPENDIX E - Site Photographs
5873 Perth Street, Ottawa (Richmond), ON



Photograph 7: Off-Site debris pile of asphalt (located near the pad mounted transformer #1).



Photograph 8: Off-Site pad mounted transformer #1 (grocery store property, near Shea Road).



APPENDIX E - Site Photographs
5873 Perth Street, Ottawa (Richmond), ON



Photograph 9: Off-Site construction debris (northwest of the grocery store).



Photograph 10: Off-Site utility building at the grocery store property.



APPENDIX E - Site Photographs
5873 Perth Street, Ottawa (Richmond), ON



Photograph 11: Pad mounted transformer #2 (located southwest of the grocery store building).



Photograph 12: Off-Site, looking southeast along Shea Road. Natural Gas line signs are visible.



APPENDIX E - Site Photographs
5873 Perth Street, Ottawa (Richmond), ON



Photograph 13: Off-Site construction debris pile, located adjacent to the grocery store.



Photograph 14: Image showing elevation change between the Site and the grocery store property.



APPENDIX E - Site Photographs
5873 Perth Street, Ottawa (Richmond), ON



Photograph 15: Off-Site. Looking northwest. Watercourse is shown.



Photograph 16: Off-Site. Watercourse northeast of the Site.



APPENDIX E - Site Photographs
5873 Perth Street, Ottawa (Richmond), ON



Photograph 17: Off-Site. Area that appears burnt.



Photograph 18: Off-Site water well.

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For more information, visit golder.com

Africa	+ 27 11 254 4800
Asia	+ 86 21 6258 5522
Australasia	+ 61 3 8862 3500
Europe	+ 44 1628 851851
North America	+ 1 800 275 3281
South America	+ 56 2 2616 2000

solutions@golder.com
www.golder.com

**Golder Associates Ltd.
1931 Robertson Road
Ottawa, Ontario, K2H 5B7
Canada
T: +1 (613) 592 9600**

