



**Phase One Environmental Site Assessment
University of Ottawa
200 Lees Avenue Ottawa, Ontario**

FINAL REPORT

Prepared for:

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EXECUTIVE SUMMARY

Franz Environmental Inc. (FRANZ) was retained by the University of Ottawa to complete a phase one Environmental Site Assessment (ESA) at 200 Lees Avenue, in Ottawa, Ontario. The portion of the property under consideration in this phase one ESA (the "Site") is the eastern portion of the 200 Lees property. The phase one property is approximately 30,000 m² in area and is bordered by the Rideau River, the Queensway, and includes a one-storey building known as Building A. The University intends to redevelop the phase one property, which is currently used as a parking lot, into an open-air stadium.

The phase one ESA was conducted in accordance with Ontario Regulation 153/04 *Records of Site Condition – Part XV.1 of the Act* (as amended) under the *Environmental Protection Act*. As such, it can form the basis for an application for a Record of Site Condition under the Act.

In order to prepare this phase one ESA report, FRANZ conducted a records review, a site visit, interviews with persons knowledgeable about the phase one property, and an evaluation of the information gathered from the records review, site visit and interviews.

Based on the site visit observations and interviews, the phase one property is currently used primarily as a parking lot. Certain portions of the parking lot are used for storage, including recycling storage and composting. Building A falls within the western portion of the phase one property. The majority of the rooms in Building A are used for storage and work spaces. Some of the rooms have not been used since the property was transferred from Algonquin College in 2007.

According to aerial photographs, records review and interviews with site representatives, the phase one property was formerly used as a landfill in the first half of this century for material generated during the burning of domestic and commercial waste and gasification of coal. Once the landfill was closed, the phase one property other portions of 200 Lees Avenue were developed in the 1960s as a campus by Algonquin College of Ottawa. The campus was transferred to the University of Ottawa in 2007.

Based on the review of previous records, site visit and interviews, FRANZ identified four Areas of Potential Environmental Concern (APECs) at the phase one property.

APEC 1: Cinder and ash fill layer. This layer is present across most of the phase one property and has been observed to have an average thickness of 3 to 6 m. The layer contains soil exhibiting concentrations of various polycyclic aromatic hydrocarbons and metals in excess of Ontario Standards.

APEC 2: Fuel Storage. During the site visit, FRANZ identified fuel storage inside the mechanical room of Building A and a potential underground storage tank location adjacent to

the mechanical room. The storage tanks found inside Building A appeared to be well-contained and are not expected to have leaked; however, the sump beside the generator in the mechanical room and the lack of records pertaining to the suspected underground storage tank adjacent to the building indicate that this is an area of potential environmental concern. The contaminants of potential concern for this APEC are petroleum hydrocarbons and benzene, toluene, ethylbenzene and xylenes.

APEC 3: Rail Spur. Historical aerial photographs indicate that the parking lot covering most of the phase one property was constructed in two phases. A railroad historically cut across the current parking lot and marked the limit of the first phase of the parking lot. This railroad was also present during the landfilling period and may indicate the eastern limit of the landfill material. The surficial soil underneath the former railroad alignment may contain polycyclic aromatic hydrocarbons and metals.

APEC 4: Off-site coal tar impacts. An area of soil and groundwater polycyclic aromatic hydrocarbon contamination has been previously investigated, and is located on the northwestern portion of the 200 Lees property, beyond the phase one property boundary. This is referred to as the “coal tar” impact associated with activities at the former gasification plant. While these impacts are not on the phase one property, they have the potential to migrate over time, and therefore the western boundary of the phase one property is identified as an APEC.

Based on the Areas of Potential Environmental Concern identified in this phase one ESA, a Phase Two ESA is required at the phase one property before a Record of Site Condition can be submitted.

FRANZ has prepared a plan and for a Phase Two ESA at the phase one property, which is provided under separate cover.

This executive summary should be read in conjunction with the main report and is subject to the same limitations described in Section 9.0.

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1.0 INTRODUCTION

1.1 Phase One ESA Property Information

Franz Environmental Inc. (FRANZ) was retained by the University of Ottawa (uOttawa) to complete a phase one Environmental Site Assessment (ESA) on a portion of the 200 Lees Avenue property, in Ottawa, Ontario. This report has been prepared in accordance with FRANZ proposal dated May 27, 2011. The portion of the property under consideration in this phase one ESA is the eastern portion of the 200 Lees property, as shown in Figure 1, Appendix A. This portion of the 200 Lees property is the phase one property and is referred to as “the Site” or “phase one property” in this report.

The University intends to redevelop the phase one property, which is currently used as a parking lot, into an open-air stadium.

1.2 Site Location

The phase one property is located at 200 Lees Avenue in Ottawa, Ontario, as shown on Figure 1 (Appendix A). The phase one property is located on two parcels of land with Property Identifier Numbers of 042030732 and 042030731. The legal description of the parcel of land where the site is located is CON D RF PT LOT G RP4R 299; PARTS 6 9 & 10 LESS 5R 5009; PARTS 1 TO 8 LESS 5R 5015; PARTS 1 & 2.

A site survey, illustrating the 200 Lees property and the phase one property is presented in Appendix B.

1.3 Client Contact Information

FRANZ was retained by the University of Ottawa, specifically,

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1.4 Objectives

The objectives of this phase one ESA, in accordance with Ontario Regulation 153/04 *Records of Site Condition – Part XV.1 of the Act* (as amended by Ontario Regulations 179/11, 269/11, 245/10, 511/09, 66/08, 266/08, 444/06 and 366/05) under the *Environmental Protection Act* (“O.Reg. 153/04”) are as follows:

- To develop a preliminary determination of the likelihood that one or more contaminants have affected any land or water on, in or under the phase one property.
- To determine the need for a phase two environmental site assessment.
- To provide a basis for carrying out any phase two environmental site assessment required.
- To provide adequate preliminary information about environmental conditions in the land or water on, in or under the phase one property for the conduct of a risk assessment following completion of a phase two environmental site assessment.

2.0 SCOPE OF THE INVESTIGATION

2.1 Regulatory Framework

Applicable provincial and municipal regulations were reviewed to identify and assess potential or actual environmental contamination at the phase one property and to develop appropriate recommendations.

2.1.1 Provincial Regulations


Ontario's 2004 Environmental Protection Act (EPA), specifically Sections XV.1 and XV.2, outlines the regulatory requirements in Ontario for environmental site assessment, remediation, and the filing of records of site condition (RSCs). Under Part XV.1 of the EPA, a property owner may file a record of site condition on Ontario's Environmental Site Registry if the associated standards are met for soil, ground water and sediment.

An RSC is a record filed with the Ontario Ministry of the Environment, outlining the environmental condition of a site. The RSC allows the property owner, the Ministry and the public to be confident that the environmental condition of the site is appropriate for its intended use. An RSC can be obtained for any site, but is mandatory when the owner wishes to change the use of the site from a "less sensitive" land use to a "more sensitive" use. The types of land use are laid out in the regulation as follows:

- Agricultural or other use,
- Commercial use,
- Community use,
- Industrial use,
- Institutional use,
- Parkland use, and
- Residential use.

The types of property use are divided into three broad categories in the EPA, as shown below:

Figure 2-1 : Property Use Categories and Sensitivity in the Environmental Protection Act

Land Use	Industrial Commercial Community	Residential Parkland Institutional	Agricultural
Increasing Sensitivity			

To draw an example from Figure 2-1, an RSC would be required for a change in land use from industrial to residential, because the new land use is more sensitive.

Ontario Regulation 153/04 describes the requirements for filing an RSC. Recent amendments to O.Reg. 153/04 (including Regulations 511/09, 245/10 and 179/11) have provided specific instructions and formats for completing phase one and two ESAs and risk assessments in support of an RSC.

The phase one property is currently used as a parking lot and a university building. The proposed use of the site is as an open-air stadium. As defined by the regulation, the open-air stadium under consideration would be a “stadium.” Both of these uses are defined by the Regulation as Community land use.

Section 1 of O.Reg. 153/04 defines community use as:

use of land for a road or any of the following uses in a building on the property:

1. Use of a building for,
 - i. indoor recreational activities,
 - ii. travel purposes, such as use for a railway station or an airport passenger terminal, or like purposes,
 - iii. an indoor gathering of people for civic, religious or social purposes.
2. In respect of the classification of occupancies in Table 3.1.2.1. of Division B of Ontario Regulation 350/06 (Building Code) made under the Building Code Act, 1992, use that falls within,
 - i. Group A, Division 1, assembly occupancies intended for the production and viewing of the performing arts,
 - ii. Group A, Division 3, assembly occupancies of the arena type, or
 - iii. Group A, Division 4, assembly occupancies in which occupants are gathered in the open air and that is used for a stadium.

See: O. Reg. 179/11, ss. 1 (2), 11 (2).
3. Use of a classroom in a building by a,
 - i. a university that is authorized to operate pursuant to section 3 of the Post-secondary Education Choice and Excellence Act, 2000,
 - ii. a college established under the Ontario Colleges of Applied Arts and Technology Act, 2002,
 - iii. any other institution with authority to grant a degree or part of a degree under the Post-secondary Education Choice and Excellence Act, 2000,
 - iv. a private career college as defined and approved under the Private Career Colleges Act;

FRANZ has prepared this phase one ESA with the understanding that an RSC may eventually be filed for the site.

2.1.2 City of Ottawa

The City of Ottawa's Official Plan was adopted in May 2003 under By-Law No. 2003-203. This Plan "sets a policy framework for managing growth in ways that will reinforce the qualities of the city that are most valued by its residents: its distinctly liveable communities, its green and open character, and the landmarks and landforms that distinguish Ottawa from all other places." This official plan has many requirements on residents and businesses with respect to Environmental Protection (section 4.7 of the Plan) and the Protection of Health and Safety (section 4.8 of the Plan).

The Official Plan of also states that "[i]n order to prevent ... adverse effects, it is important prior to permitting development on [potentially contaminated] sites, to identify these sites and ensure that they are suitable or have been made suitable for the proposed use in accordance with provincial legislation and regulations." Specifically, development applications require the following supporting documentation information to be submitted:

- Documentation of the previous use of the site and adjacent properties;
- An affidavit from a qualified person indicating that a phase one ESA has been conducted in accordance with Ontario Regulation 153/04; and
- An affidavit from a qualified person indicating that a Phase Two ESA has been conducted in accordance with Ontario Regulation 153/04, where the phase one ESA indicated the potential for site contamination.

2.2 Records Review

FRANZ personnel completed a records review to obtain information about the phase one property pertaining to items of actual and/or potential environmental concern. The following sources of information were reviewed for information pertaining to the phase one property:

2.2.1 Databases

Records contained within the following Federal Government Source Databases:

- Environmental Effects Monitoring
- Environmental Issues Inventory System
- Federal Convictions
- Contaminated Sites on Federal Land
- Fisheries & Oceans Fuel Tanks
- Indian and Northern Affairs Fuel Tanks
- National Analysis of Trends in Emergencies System (NATES)
- National Defence & Canadian Forces Fuel Tanks
- National Defence & Canadian Forces Spills
- National Defence & Canadian Forces Waste Disposal Sites

- National Environmental Emergencies System (NEES)
- National PCB Inventory
- National Pollutant Release Inventory
- Parks Canada Fuel Storage Tanks
- Transport Canada Fuel Storage Tanks

Records contained within the following Provincial Government Source Databases:

- Abandoned Aggregate Inventory
- Aggregate Inventory
- Abandoned Mines Information System
- Boreholes
- Certificates of Approval
- Coal Gasification Plants
- TSSA Commercial Fuel Oil Tanks
- Compliance and Convictions
- Drill Holes
- Environmental Registry
- TSSA Fuel Storage Tanks
- Ontario Regulation 347 Waste Generators Summary
- Mineral Occurrences
- Non-Compliance Reports
- Ontario Oil and Gas Wells
- Ontario Inventory of PCB Storage Sites
- Pesticide Register
- Private and Retail Fuel Storage Tanks
- Ontario Regulation 347 Waste Receivers Summary
- Record of Site Condition
- Ontario Spills
- Wastewater Discharger Registration Database
- Waste Disposal Sites – MOE CA Inventory
- Waste Disposal Sites – MOE 1991 Historical Approval Inventory
- Water Well Information System

Records contained within the following Private Source Databases:

- Anderson's Waste Disposal Sites
- Automobile Wrecking and Supplies
- Chemical Register

- ERIS Historical Searches
- Canadian Mine Locations
- Oil and Gas Wells
- Canadian Pulp and Paper
- Retail Fuel Storage Tanks
- Scott's Manufacturing Directory
- Anderson's Storage Tanks

FRANZ obtained information contained in the databases listed above from EcoLog ERIS (Toronto, Ontario). Details about the sources of information and the years included for each database, as well as the pertinent information obtained from these databases, were summarized from the EcoLog ERIS report.

2.2.2 Land Title Search

A land title search was completed by EcoLog ERIS. Historical occupants of the phase one property and surrounding properties were noted.

2.2.3 Fire Insurance Plans

Fire insurance plans for the phase one property were obtained from the Library and Archives Canada in Ottawa, Ontario. Historical occupants of the phase one property and surrounding properties were noted.

2.2.4 Inspection Reports

No previous inspection reports for the phase one property were provided to FRANZ for review.

2.2.5 Site Specific Records/Reports

The following reports were provided by the University of Ottawa and have been reviewed by FRANZ. Titles, dates, report authors and the name of the property owner or other person funding the work and the report are presented in Table 2-1, below. For convenience, short titles (by which the reports will subsequently be referred to) are also presented in the table. Where reports are known to exist but have not been obtained by FRANZ, titles, dates and authors (where known) are also included for completeness. These reports are indicated in grey in the table below.

A description of data, analysis and findings relevant to this phase one environmental site assessment is presented subsequently.

Table 2-1: Previous Reports

Docu-ment #	Title of Report	Date of Report	Report Author	Report Funded by / Submitted to	Short Reference
1	Report on Foundation Investigation at Lees Avenue Ottawa Site for Eastern Ontario Institute of Technology Bldgs	1962	McRostie and Associates	Department of Public Works, Province of Ontario and Burgess, McLean & MacPhadyen Architects	McRostie Foundation Investigation (1962)
2	Methane Gas Migration and Impact Study Report Landfill Site Identification Phase City of Ottawa	August, 1980	Gartner Lee Associates Ltd.	Corporation of the City of Ottawa	Gartner Lee Methane Migration Study (1980)
3	Preliminary Methane Gas Study Selected Closed Landfill Sites City of Ottawa	May, 1984	Gartner Lee Associates Ltd.	Corporation of the City of Ottawa	Gartner Lee Methane Study (1984)
4	Letter re: Initial Sampling Results Lees Avenue Transitway. Reference No. 1886.	June 6, 1986	Conestoga-Rovers & Associates	Unknown (presumably Algonquin College)	CRA Sample Results (1986)
5	Coal Tar at Lees Avenue	Sept. 4, 1986	Ottawa-Carleton Regional Health Unit	Unknown (appears to be for general public release)	Health Unit Coal Tar Memo (1986)
6	Fact Sheets on "Lees Avenue Coal Tar Problem" #1 Outline #2 Gas Plants and Associated Wastes #3 Rideau River Cleanup Study #4 Groundwater Contaminant Migration Study #5 Environment Ontario – Air Monitoring #6 Environment Ontario – Water Quality Monitoring	Sept. 4, 1986	Ontario Ministry of the Environment	Unknown (appears to be for general public release)	Coal Tar Fact Sheets (1986)
7	Lees Avenue Hydrogeologic Study (in two volumes)	May 15, 1987	INTERA Technologies Ltd.	Ontario Ministry of the Environment	INTERA Hydrogeology Study (1987)
8	Algonquin College Rideau Campus Environmental Assessment. Reference No. K123787.80	Dec. 30, 1988	Canviro Consultants	Unknown (Presumably Algonquin College)	Canviro ESA (1988)
9	Review of Conestoga-Rovers and Associates' October 1989 Report on the Estimated Contribution from Algonquin College to Lees Avenue Leachate Collection System, revised September (first draft March 1990).	Sept., 1992	CH2M Hill Engineering Ltd.	Unknown (Presumably Algonquin College)	CH2M Hill Review of CRA (1992)

Docu- ment #	Title of Report	Date of Report	Report Author	Report Funded by / Submitted to	Short Reference
10	Sampling of Observation Wells on Algonquin College Property, letter to Mr. B. Slack, of Algonquin College	April 23, 1990	CH2M Hill Engineering	Algonquin College	CH2M Hill GW Results (1990)
11	Algonquin College Rideau Campus, Evaluation of PAH Contamination in Rideau Riverbank Soils	October, 1990	CH2M Hill Engineering	Unknown (Presumably Algonquin College)	CH2M Hill Riverbank Study (1990)
12	Characterization of Subsurface Materials / Conditions Geotechnical and Environmental Considerations Algonquin College Rideau Campus, Ottawa, Ontario	August, 2000	Golder Associates Ltd.	University of Ottawa Environmental Health and Safety Service	Golder Geotechnical Report (2000)
13	Final Report for MOE Submittal Human-Health and Ecological Site-Specific Risk Assessment Algonquin College, Rideau Campus	July 12, 2002	CH2M Hill Canada Ltd.	Algonquin College	CH2M Hill Risk Assessment (2002)
14	University of Ottawa – Rideau Campus Risk Management Health and Safety Plan Ottawa, Ontario	January, 2007	Franz Environmental Inc.	University of Ottawa	FRANZ Health and Safety Plan (2007)
15	Geotechnical and Environmental Overview Algonquin College Property – Rideau Campus Ottawa, Ontario	April, 2007	Golder Associates Ltd.	University of Ottawa	Golder Overview (2007)
16	Phase One Environmental Site Assessment Rideau Campus, former Algonquin College 200 Lees Avenue Ottawa, Ontario (DRAFT)	August 15, 2007	Franz Environmental Inc.	University of Ottawa	FRANZ Phase One ESA (2007)

Notes:

Report Reviewed by FRANZ
Report exists but was not obtained by FRANZ

2.2.6 Aerial Photographs

Aerial photographs (recent and historical) of the site and adjacent properties were reviewed. Historical land use changes as well as potential sources of environmental impacts observed from the photographs were noted. The historical photographs obtained from the National Air Photo Library in Ottawa, Ontario are presented in this report.

2.2.7 City Directories

A city directory search was completed at the National Archives in Ottawa, Ontario. Historical occupants of the site and surrounding properties were noted.

2.2.8 Geological Information

Geological and topographical maps of the site and surrounding properties were reviewed to obtain relevant geological information.

2.3 Interviews

FRANZ personnel conducted interviews to obtain information about the site pertaining to items of actual and/or potential environmental concern. Mr. Guy LeBlanc, Environmental Health and Safety Officer for the Physical Resources Department, was interviewed on June 29, 2011.

The interview was conducted based on a standard set of questions.

2.4 Site Visit

FRANZ personnel conducted three site visits to inspect the exterior site features and the interior of Building A, a portion which is slated for demolition for the construction of the open-air stadium, for indications of actual and/or potential environmental concerns. The site visits took place on June 29, 2011, July 11, 2011 and July 28, 2011. Mr. Guy LeBlanc escorted FRANZ personnel during each site visit.

Weather conditions during site visits were overcast, but humid, with temperatures ranging from 20 to 33°C.

A checklist was used to record observations made during the site visit. Exterior observations were made pertaining to:

- topography
- vegetation
- soil and rock types
- maintenance/operational areas
- surficial staining and evidence of spills
- drainage features and wastewater discharges
- sewage disposal
- wells
- underground services and power lines
- potential PCB-containing equipment
- fill materials
- pesticide and fertilizer use
- air quality
- waste generation
- storage tanks
- land use on adjacent properties

Interior observations were made pertaining to:

- staining
- mould growth
- sumps, floor drains and catch basins
- cracks
- heating equipment
- central air conditioning systems
- generators
- potential polychlorinated biphenyls containing material
- potential asbestos containing material
- potential lead containing material
- potential mercury containing material
- potential silica containing material
- potential ozone-depleting substances
- potential for radon gas
- sources of electromagnetic radiation
- urea formaldehyde foam insulation
- hazardous materials areas
- non-hazardous waste disposal areas
- air emissions
- effluent discharge
- garbage and maintenance areas
- fuel handling areas

3.0 RECORDS REVIEW

3.1 General

3.1.1 Phase One Study Area Determination

The phase one study area, as defined in O.Reg. 153/04, means the area that includes a phase one property, any other property that is located, wholly or partly, within 250 metres from the nearest point on a boundary of the phase one property. The phase one study area may also include any property that the qualified person determines should be included, outside of the 250 metre boundary. The phase one ESA Study Area is shown on Figure 3, Appendix A.

Current Site Use

Phase One Property

The irregular-shaped site covers an area of approximately 260 m by 170 m (approximately 31,000m²). The site is generally flat lying with a moderate slope to the southeast. The majority of the site is occupied by an asphalt parking lot. Building A, adjacent to the parking lot, occupies the west side of the site (See Figure 2; Appendix A). Building A is a rectangular shaped building located in the southeast portion of the 200 Lees building complex. This is a one-story building with a crawl space throughout except in the northeast corner where a boiler room is located in a basement area. The building has classrooms and laboratories. At the time of the site reconnaissance, only one lecture hall was in use as a classroom. The remaining classrooms and laboratories are used for work spaces and storage by a number of different departments at the university.

The southeast corner of the asphalt parking lot consists of a fenced-in enclosure that holds the Universities garbage and compost facilities. This area is also used to store larger outdoor items such as picnic tables. Just to the west of the fenced enclosure are exposed piles of landscaping materials, such as mulch and composted topsoil that are used for the upkeep of the main campus outdoor spaces. At the time of the site reconnaissance, the northeast corner of the parking lot was being used as storage for uOttawa construction equipment and supplies for an ongoing project on the main campus. A landscaped lawn is maintained along the entire perimeter of the parking lot including the area between Building A and the asphalt. A chain link fence separates the landscaped lawn and heavier vegetation along the bank of the Rideau River to the south and southeast of the parking lot.

Adjacent Properties

FRANZ took note of the current land uses on neighbouring properties and items of potential environmental concern on these properties (as could be observed from publicly accessible locations). The site is surrounded by residential and commercial properties.

The phase one ESA Site is bordered to the west by four interconnected buildings that are part of the 200 Lees complex and are owned and occupied by the University of Ottawa. The buildings have the following characteristics:

- Buildings B and C: The two sections make a L-shaped building located in the northwest portion of the 200 Lees building complex. Building B and the first story of Building C were constructed in 1963. The second story of Building C was added in 1993. The building has a one-story section and a two-story section. The building has a crawl space. The building has classrooms and laboratories.
- Building D: Rectangular shaped, located in the southwest section of the 200 Lees building complex. The building has a crawl space. This is a two-story building occupied by a gymnasium and some office spaces.
- Building E: Constructed in 1979, Building E is rectangular shaped located in the northeast portion of the building complex. This is a two-story building with full basement. The building has classrooms and laboratories.

Further west is the OC Transpo Transitway, which is a below-grade dedicated bus roadway.

Properties adjacent to each side of the subject property are as follows:

- North of the Site: Adjacent to the northwestern portion of the property is Lees Avenue. Adjacent to the northeastern portion of the property is a bike trail and Highway 417.
- East of the Site: Adjacent to the northeastern portion of the property is a Highway 417.
- Adjacent to the south and east portion of the property is the Rideau River.

Phase One ESA Study Area

Based on a review of the phase one property and adjacent properties within the required phase one ESA 250 m from the boundary of the phase one property, FRANZ determined that the boundary of the phase one study area did not need to be extended or include any additional properties. The Study Area considers an extensive area, as there are several substantial parcels that are slightly within the 250 metre boundary, and extend for hundreds of metres. FRANZ considers that major impacts in the area immediately surrounding the Site will likely act as a proxy for impacts at a further distance. In addition, the Rideau River will tend to act as a barrier to contaminant migration from the south and east.

3.1.2 Historical Site Use

Historical city directories for Ottawa were reviewed for the years 1914, 1920, 1924, 1929, 1934, 1940, 1944, 1951, 1955, 1958, 1961, 1964, 1968, 1972, 1976, 1980, 1986, 1992, and 2000. Pertinent information gathered from the city directory listings is summarized below.

Phase One Property

The first listing for 200 Lees Avenues was found in the 1964 city directory. The site was listed as the “Eastern Ontario Institute of Technology”. In 1972, “Armon’s Food Services Ltd – Vending Machines” is added to the site entries. In 1976, the site is listed as the “Algonquin College, Rideau Campus”. The site was not listed in any of the more recent city directories.

Surrounding Properties

Surrounding properties identified in the various directories reviewed were as follows:

To the west of the site along Lees Avenue: residential properties including high-rise apartment buildings, and commercial entities related to the gasification plant (i.e., Hamilton Tar Products Co Ltd.; Currie Products Ltd. Tar and Pitch Products; Ottawa Gas Co.; Ottawa Light, Heat, and Power Co. Ltd.; and Interprovincial Utilities Ltd. Gas Plant).

To the north of the site along Lees Avenue, Hurdman Avenue, and Robinson Road: residential properties, the railway properties (Canadian Northern Ontario Railway Station and Freight Sheds; Rideau Supply Co; and CN Tracks), the City work yard (City of Ottawa Roadway Division) and various commercial properties related to construction material and roofing (i.e., Ideal Corrugated Sheet Metal Co.; Dominion Reinforcing Steel Co. Ltd.; Ideal Roofing Co., White Grit Co. – Cement Blocks and Hayle Harry Building Material; Manufacturer’s Products Ltd – Contractors, Roofers; JPDL Woodworking; Green AP Fire Brick Co. Ltd; and Humish Waterproofing and Paving Ltd.), transportation and mechanics (Hayley and Sons Garage; Kelly’s Auto Body; Fournier Van & Storage Ltd – Storage Shed and Truck Yard; Lloyd and Sons Transport), and other commercial properties (Sphinx Mfg Oil Burners; and Ottawa Beef Abattoir).

3.1.3 First Developed Use Determination

According to aerial photographs, records review and interviews with site representatives; the site was formerly used as a landfill in the first half of this century for material generated during the burning of domestic and commercial waste from a nearby incinerator, from approximately 1913 to 1921. The site also received un-burned waste (possibly domestic and commercial) for several years early in the 20th century (i.e., from approximately 1906 to 1945). Some of the waste received was likely ash, slag, clinkers, dust, and offgrade coal from a nearby gasification plant (or coal tar plant). The plant was located across from Lees avenue site and operated from the 1920-1922 to 1939, approximately. It was identified in the INTERA Hydrogeology Study (1987) that the ash, cinder and garbage landfill layer is found across the entire site.

Once the landfill was closed, the site was developed in the 1960s as a campus by Algonquin College of Ottawa. The campus was transferred to the University of Ottawa in 2007.

3.1.4 Fire Insurance Plans

Fire insurance plans pertaining to the area surrounding the site were obtained for the following years: 1912; 1922, and 1956. Observations about current and historical land use on the subject property and surrounding properties that were made during review of these fire insurance maps are summarized in Table 3-1.

Table 3-1: Summary of Fire Insurance Maps Review

Date	Observations
1912	The subject property appears vacant. There is a city waste incinerator situated on the northwest of the site. The immediately adjacent properties to the northeast are the CNR railroad tracks and railway yard beyond which is a lumber yard. There are two wood sheds and an electrical and light powered planning mill building.
1922	Northwest of the subject property is a gasification plant with a coal shed, report house, condenser house, purifying house, boiler house, ammonia house, water house, steel gas holder with 1.5 million cubic feet capacity, underground tar tank, underground ammonia liquor well, underground lime tank, underground oil tank, oil tank, storage, meter house, store room, offices, wagon shed, electric siding and an electric steel crane.
1956	Northwest of the subject property is the gasification plant. A new 82,000 cubic feet gas holder was constructed as well as an underground ammonia well separator. West of the site is Currie Products Lid, with a tar tank and 6 additional tanks of unknown contents.

3.1.5 Chain of Title

A print out of the land transactions associated with the phase one property was obtained from the Ottawa Land Registry Office (Appendix C). The transactions relevant to this phase one study are summarized as follows:

- <1911: Exact registration difficult to established from transaction records but it would appear that the subject property was registered under private individuals.
- ~1911-1963: The subject property appears to be registered under “The Corporation of the City of Ottawa.
- 1962: Transferred easement for a gas main to “Consumer’s Gas Company”.
- 1963: Subject property registered under “The Corporation of the City of Ottawa”.
- 1968: Subject property registered under the “Board of Governors of the Algonquin College of Applied Arts and Technologies”.
- 2007: Land transferred from the “Board of Governors of the Algonquin College of Applied Arts and Technologies” to “University of Ottawa”.

3.1.6 Environmental Reports

The following provides a summary of findings from previous studies at and nearby the Site provided to FRANZ.

3.1.6.1 McRostie Foundation Investigation (1962)

The investigation was conducted prior to the construction of the technical institute which later became the Algonquin College, and was conducted to evaluate the foundation capacity of the material at the site to receive the institute buildings. The buildings and parking lot configuration used for this investigation corresponds to the current site layout.

Recommendations for building construction are presented in the report. The report presents a description of all boreholes completed. General site conditions at the site are described as: “consisting of approximately 6 m (20 feet) of fill comprised of soil and refuse plus a significant amount of ashes and cinders. Beneath the fill is about 7.6 m (25 feet) of medium dense to dense glacial till (a mixture of boulders, gravel, sand, silt and clay) and beneath the till is shale (rock) of the Billings Formation. The upper few feet of shale is weathered and in places is fractured. Groundwater levels were in general 4.6m (15 to 20 feet) below the present surface and these can be considered to be near the low point in the seasonal variation.”

3.1.6.2 Gartner Lee Methane Migration Study (1980)

The report was commissioned by the City to identify and document waste disposal areas within the City of Ottawa, to investigate their physical settings, and to determine whether methane gas migration from the sites would cause a hazard to specific structures. The report identifies nineteen abandoned waste disposal sites in the City, one of which is the 200 Lees Avenue property. The eastern portion of the 200 Lees Avenue property, the phase one property, appears to be part of the landfill as outlined by the report, although the extent of the landfill area appears to be only south of the former railway tracks.

Site 12 is the relevant landfill described in the report, although the Riverside Drive landfill (Site 10 in the report), the Nunts Farm landfill (Site 11) and unnamed Site 13 are within the phase one ESA study area. Sites 10, 11 and 13 are across the river from the phase one property.

The Site 12 landfill is described as a 15 acre site that received wastes primarily from the Lees Avenue incinerator, which was located on the north side of Lees Avenue. The report indicates that disposal began earlier than 1933 and continued until 1947. The majority of the waste is believed to consist of incinerator ash and other burnt wastes, approximately 3-5 metres deep.

The report recommends monitoring for methane around buildings on Site 12, including all Algonquin College buildings at 200 Lees that were present at the time.

3.1.6.3 Gartner Lee Methane Study (1984)

The 1984 methane study was conducted as a follow-up to the 1980 study, as further sites were identified. Site 28 is identified as “Government Property” on Lees Avenue, adjacent to Site 12, and opposite the former incinerator. This area was apparently filled from 1933 to 1938, and

consists mainly of ash and cinder. The report indicates that no gas was detected within refuse found in the area.

3.1.6.4 Health Unit Coal Tar Memo (1986)

This memo, produced by the Ottawa-Carleton Health Unit, describes the uses of coal tar and the potential health hazards associated with exposure. The memo indicates that the Medical Officer of Health and senior inspectors visited four apartment buildings on Lees Avenue to “evaluate whether coal tar presents a health hazard to residents of these buildings.”

Evidence of coal tar was found in the parking levels and basements of buildings to the west of the 200 Lees Avenue property (at 170 and 180 Lees); however, other buildings investigated (169 and 190 Lees) appeared unaffected.

Conditions under which coal tar can present a hazard were enumerated, and precautions for workers removing coal tar were advised.

3.1.6.5 Coal Tar Fact Sheets (1986)

Fact Sheet #1 describes the events leading to the contamination of the Rideau River by coal tar in April 1986. Coal tar was used in the production of gas for lighting and heating at the coal gasification plant on Lees Avenue which operated from approximately the early 1900s to the mid-1950s. The area became the site of the Lees Avenue transitway station and Queensway underpass in the 1980s. In 1986, coal tar material reached the Rideau River from a storm sewer connected to the Lees Avenue transitway pumping station. Consulting firms were hired at the time to control the contaminants on the transitway property (Conestoga Rovers contracted by the City of Ottawa), to study the extent of contamination in the Rideau River and collect and treat any coal tar material reaching the river (Proctor and Redfern Ltd., contracted by the Ontario Ministry of the Environment), and to conduct hydrogeological studies of the general area (Intera Technologies Ltd., contracted by the Ontario Ministry of the Environment).

Fact Sheet #2 describes waste from coal tar plants, which was one component of the waste material deposited at the 200 Lees Avenue property. At the Lees Avenue facility, the main by-products were tars and gas cleaning waste. The main constituents of the tars were mainly polycyclic aromatic hydrocarbons (PAHs) with minor amounts of light aromatics such as phenols, benzene, toluene, and xylenes. The gas cleaning waste originated from the use, typically, of iron oxide which resulted in waste containing various sulphur and nitrogen (i.e., cyanide, ammonia, and nitrate) compounds.

Fact Sheet #3 presents the results of the characterisation of the coal tar impact in the Rideau River and describes the contamination observed at the time. The fact sheet indicates that the contaminated area extends about 120 metres along the shoreline, by about 40 metres into the river. The contamination is commonly found as droplets mixed with the riverbed sediment. The

area of greatest concentration is by the transitway bridge. In that area, the riverbed is littered with debris such as trees, automobile parts, bicycles, rocks, steel girders and construction rubble.

Fact Sheet #4 describes the various areas impacted by contaminants along Lees Avenue. The fact sheet indicates that high levels of benzene, toluene and xylenes were found on the south side of Lees Avenue; lower levels were found on the 170 and 200 Lees Avenue properties.

Fact Sheet #5 presents the results of air monitoring conducted in the Lees Avenue transitway station area. The samples from ambient air were analysed for 25 PAHs and for BTEX. The results revealed no exceedance of air quality standards.

Fact Sheet #6 presents the results of surface water testing in the Rideau River. The results suggest that the water is essentially not contaminated by PAHs. The results suggest that the coal tar is not moving to any great extent into the water.

3.1.6.6 INTERA Hydrogeology Study (1987)

The INTERA hydrogeology study describes the investigation of soil and ground water conditions on Lees Avenue around the former coal gasification facility to the west of the phase one property. The study was prompted by the discovery of “oily and tar-like” material in the pump house of the Lees Transitway station.

The report reviews historical data from the National Map Collection, the City of Ottawa, the National Air Photo Library, Consumers’ Gas and Currie Products Ltd. to determine potential sources of environmental impacts. The report finds that the coal gasification plant was the “most important waste generating facility in the Lees Avenue area.” The gasification plant used coal to generate gas, which was used as a source of heat and lighting. The report identifies by-products of the plant as tars; sludges; tar liquors and ammonia liquors; spent iron oxide; ash, slag and clinkers; dust, off-grade coal and coke.

The report also identifies a tar distillation plant, on the site of what is now 170 Lees Avenue, as a potential source of environmental impacts. The tar distillation plant used some of the 4,000 L of tar generated by the coal gasification plant to produce roofing pitch, roof and foundation coatings, and lighter distillation fractions. The report indicates that liquid wastes were not disposed of on-site, although product storage did take place in aboveground storage tanks.

The report also identifies landfilling, railway use, coal yards (on the area that is now the Queensway), and snow dumping (to the north of the Queensway) as potential sources of environmental impacts.

INTERA performed an intrusive investigation of the subsurface by advancing 47 observation wells in the area around the former coal gasification plant and 15 miniature piezometers at the

shoreline of the Rideau River. INTERA also performed slug tests and pump tests to assess the groundwater conditions in the area. The slug and pump tests showed hydraulic conductivity values ranging from 3×10^{-5} to 2×10^{-5} m/s for the alluvium (i.e., glacial till), 1×10^{-5} to 8×10^{-6} m/s for the shale bedrock, and 1×10^{-4} to 3×10^{-7} for fill.

INTERA observed tar saturated soils in its intrusive investigation around the building at 170 Lees Avenue, and on the properties between Lees Avenue and the Queensway. One impacted location was observed on the 200 Lees property, in the northwest corner, well away from the phase one property. Concentrations of naphthalene, benzo(a)pyrene, benzene and ethylbenzene were observed in similar locations; however, ground water impacts were observed at 200 Lees Avenue much closer to the phase one property.

3.1.6.7 Golder Geotechnical Report (2000)

Before purchasing the 200 Lees property, the University of Ottawa retained Golder to provide a more complete assessment of the environmental and geotechnical conditions at the site. Golder advanced test pits and boreholes; installed monitoring wells; and collected soil and groundwater samples.

The Golder Geotechnical Report identified a fill layer underlying the site, varying from 0.6 to 5 metres in thickness. Bedrock was encountered between 10 to 12 metres below ground surface throughout the site. Ground water elevation was found to be between three and eight metres below ground surface, with the ground water on the northern half of the 200 Lees property flowing towards the transitway pumping station and ground water on the southern half of the 200 Lees property flowing towards the Rideau River.

Golder found that site soils exhibited exceedances of the then-current Ontario Standards for metals throughout the site, and PAHs in isolated locations. The impacts were associated with the cinder and ash fill. Golder did not find any exceedances of Ontario Standards in ground water.

3.1.6.8 CH2M Hill Risk Assessment (2002)

Algonquin College retained CH2M Hill to complete a human health and ecological risk assessment for the 200 Lees Avenue property.

The report describes the history of the site and indicates that it was used as a landfill by the City of Ottawa between 1906 and 1947. The major component of the waste shipped to the landfill was ash, cinder and other burnt waste from the Lees Avenue incinerator; however, the report indicates that the site “may also have received domestic waste, although it has been reported that historical geotechnical borehole logs have not shown any evidence of this.”

The CH2M Hill summarizes key findings of previous historical reviews, including the following:

- The City of Ottawa operated an incinerator between 1913 and 1921 at the site.
- Waste from the coal gasification plant may have been disposed of on site.
- The majority of material disposed was cinder and ash, with some brick, glass and metal fragments.

CH2M Hill conducted a site investigation in support of the risk assessment. The investigation included surface soil sampling, installing two ground water wells, measuring ground water elevations, collecting ground water samples, collecting vapour samples, and collecting soil samples from crawl spaces.

Exceedances of the Ontario Standards current at the time were found in the soil samples collected in the crawl space below Building A, for lead, boron and antimony. No exceedances of contemporary standards were found in soil samples collected in crawl spaces below buildings B, C or D. Surface soil sampling found lead, zinc and benzo(a)pyrene exceedances at surface soils in all areas sampled.

Ground water exceedances of Standards current at the time were found at two site wells (for copper and lead); however, the exceedances were attributed to sampling methodology as the samples were not field filtered.

CH2M Hill also collected 23 soil samples from the riverbank and five sediment samples from the Rideau River in support of the risk assessment. The report indicated that areas of the riverbank showed exposed cinder and ash fill, and that 22 of 23 soil samples collected on the bank exhibited exceedances of the contemporary Ontario Standard for lead. The soil samples also exhibited exceedances for other metals (arsenic, copper and zinc) and PAHs (benzo(a)pyrene and dibenzo(a,h)anthracene).

CH2M Hill found that Rideau River sediments adjacent to 200 Lees Avenue exhibited concentrations of lead and copper in excess of the lowest observable effects limits, as defined by Ontario. PAHs also observed effects levels in sediment at some samples. Subsequent upgradient sediment sampling confirmed that sediment quality adjacent to the site is not significantly different from sediment quality upstream in the Rideau River.

The human health portion of the risk assessment was conducted in accordance with the Ontario Guidelines in place at the time and the ecological portion was completed in accordance with Canadian Council of Ministers of the Environment guidance. The conclusions of the risk assessment were as follows:

- Risks to daily users of the site, now and in the future, were acceptable.
- Maintenance workers, who may come into contact with subsurface soils, should use proper protective equipment and perform their duties in accordance with a health and safety plan.

- Plants, soil invertebrates, mammals and birds should be able to survive, grow and reproduce at the site.
- The site has minimal impact on sediment in the Rideau River adjacent to the site.

As a result, “no significant remedial action or rehabilitation” was proposed for the site.

3.1.6.9 FRANZ Health and Safety Plan (2007)

The Risk Management Health and Safety Plan (HASP) was developed by FRANZ in support of the recommendations in the CH2M HILL Risk Assessment.

This Risk Management HASP set out responsibilities; established personnel protection standards and mandatory safety practices and procedures; and provided for contingencies that could arise during site activities that could involve encountering impacted subsurface soils and groundwater at the site.

The Risk Management HASP laid out precautions for maintenance workers, including use of personal protective equipment, minimizing subsurface work and dust reduction. The HASP also laid out maintenance and monitoring requirements for the site.

3.1.6.10 Golder Overview (2007)

Golder was retained by the University of Ottawa to summarize and consolidate previous environmental and geotechnical reports prepared for the 200 Lees property. The review did not include field work and was solely based on a review of previous studies.

The report details the history of the site and does not provide any information not found in previous reports.

Geotechnical conditions were summarized as follows: the cinder and ash fill layer is typically found to be approximately three to six metres thick across the 200 Lees property, ranging from very loosely to very densely packed. Native overburden is found below the cinder and ash fill. For the phase one ESA site, the native material is composed of heterogeneous glacial till. Bedrock is found at depths between 10 and 13 metres below ground surface. Ground water is found between 3 and 8.5 metres below ground surface.

The report describes environmental conditions in the subsurface, based on previous reports. The cinder and ash layer and coal tar impacts are discussed in similar terms as previous reports.

Golder also discusses site redevelopment considerations, including geotechnical aspects of new building construction. Golder also summarizes regulatory requirements for environmental issues at the site for redevelopment. The report indicates that the Ministry of the Environment has expressed concern that redevelopment of the shoreline could contaminate the Rideau

River. The report also indicates that the Rideau Valley Conservation Authority has jurisdiction inside the "Regulation Limit," which is defined as the 100 year flood limit plus 15 metres.

3.1.6.11 FRANZ Draft Phase One ESA (2007)

FRANZ was retained by the University of Ottawa to complete a phase one ESA for the entire 200 Lees Avenue property in support of potential redevelopment of the eastern portion of the property. The phase one ESA was never finalized.

FRANZ conducted the phase one ESA according to its standard procedures, which generally reflect the requirements outlined in the following documents:

- "Phase One Environmental Site Assessment", Canadian Standards Association (CSA) standard CSA Z768-01, 2001; and
- Environmental Site Investigation Procedures, Phase One Environmental Site Assessments", Canadian Mortgage and Housing Corporation (CHMC) standard 11 9907-02, 1993.

FRANZ identified the following issues of potential environmental concern during the phase one ESA:

- A fill layer of cinder and ash, as described in previous reports.
- An area of soil and groundwater PAH contamination in the northwestern portion of the 200 Lees property (and not on the current phase one property)
- Impacts associated with the rail spur, which formerly bisected the current phase one ESA property.
- The potential presence of heating oil AST and UST within the northeastern corner of Building A.
- Six unidentified structures within the southern limit of the western parking lot (i.e., outside the current phase one property). The draft phase one ESA indicated that it was not possible to confirm the nature of these structures or the fate of the construction material following demolition.
- The draft phase one ESA reported that site buildings housed various laboratory activities for almost 40 years. The fate of the liquid and dry waste produced at the laboratories was not confirmed. If disposed directly in the ground (i.e., via dry floor drains), the area underneath site buildings could be impacted by a variety of laboratory chemicals, including solvents. If disposed through the municipal sanitary sewer, waste water from the laboratory could have infiltrated below the buildings via potential leaks in the underground conduits.

No recommendations or conclusions were provided in the draft phase one ESA.

3.1.6.12 Other Documents

The files provided by the University of Ottawa and obtained by FRANZ during the preparation of the 2007 draft phase one ESA also contained several other documents, summarized below.

Heating Installations at 200 Lees Avenue – 1974 & 1979

The MOE file had a record of communication from an inspection conducted by the Air Management Branch on January 3, 1974 at 200 Lees Avenue. The inspection reported the usage of a boiler in the Building A mechanical room (i.e., adjacent to the phase one property) with number 2 oil. The inspection was completed following black smoke observed from a stack. It is indicated that adjustments were made to the boiler to reduce the black smoke. The inspector noted that the boiler was found to be in general good conditions. The inspector also noted the presence of a gas furnace.

The MOE file had a record for a C of A #8-4053-79-006 issued on October 30, 1979 to the Algonquin College Rideau Campus for the installation of one gas-fired volcano MF-700F-8 boiler and two gas-fire A.O Smith BT-500 domestic hot water heaters.

Air Quality Monitoring, Storm Sewer 200 Lees Avenue – 1987

Chapman (1987) presents the results of air quality monitoring in the storm sewer system and basements on Lees Avenue (at 169, 180, 190 Lees). This report indicated that the 169 Lees basement air quality might be affected by coal tar (levels beyond what is expected from cars and also have different signature). One sample collected from a storm sewer on Algonquin property along the parking lot adjacent to the transitway was tested for an extensive suite of VOCs. This document indicated that there was no (environmental) issue with that sample.

Sketches of Former Gasification Plant Contaminant Plumes – 1987

This is an internal MOE fax outlying four (4) contaminant plumes in the Lees Avenue area. One of the plumes extends from the Lees Avenue transitway onto the northwest portion of the 200 Lees property (but not onto the phase one property). This plume is described as being associated with the disturbance of gas tanks and structures from the gasification plant.

City of Ottawa Instructions for Construction Activities – July 1995

This is a letter from the City of Ottawa to Oliver, Mangione, McCalla and Associates Limited dated July 31, 1995 regarding proposed construction activities related to the pavement of a gravel parking lot. The gravel parking area is located within the phase one property, adjacent to an already paved parking area.

The letter indicates that a Municipal Environmental Evaluation Report (MEER) is required prior to any construction activities at the phase one property because it is located within the Waterway Corridor, and is also in part within, or near a Potentially Contaminated Site.

The letter presents the requirements for the pavement of the parking lot including:

- Appropriate grassed filter strip to mitigate impact of increased run-offs to the Rideau River.
- Construction of an adequately sized and marked pedestrian and bike route along the north and east side of the parking lot leading to the former CN Rail bridge.

MOE Approval of CH2M HILL Risk Assessment – June 2003

This is a letter from the Ministry of Environment and Energy to the Algonquin College dated June 9, 2003 regarding the approval of a Site Specific Risk Assessment (SSRA) conducted by CH2M Hill in 2002 for the phase one property. The letter indicates that the human health risk assessment was completed to the satisfaction of the Ministry. The letter further indicates that the Ministry will consider complete the ecological risk assessment for as long as the vegetation cover and the Rideau River banks are maintained and prevent soil erosion. Lastly, the Ministry indicates that although it will not request additional information, field work, risk communication and implementation of the three risk management strategies – the latter developed by CH2M Hill and described in the July 2002 report – are still needed for the phase one property.

Groundwater System at OC Transpo - 2004

This is a report from the City of Ottawa describing the monitoring and maintenance activities associated with the groundwater treatment facility at the Lees Avenue transitway station. A plan is provided which shows the configurations of the groundwater collection system. A 200mm horizontal perforated drain is located in the subsurface, below the station. The drain intercepts the coal tar impacted groundwater. The liquid is pumped to an above ground treatment facility via several vertical man holes. The groundwater collection system follows the alignment of the transitway over approximately the length of the station platforms.

3.2 Environmental Source Information

The EcoLog ERIS report completed for the site is included in Appendix D of this report.

The following databases, searched by EcoLog ERIS, contained information pertaining to sites within the phase one study area:

- Anderson's Waste Disposal Sites
- Boreholes (many sources)
- Certificates of Approval (Ontario Ministry of Environment)
- Coal Gasification Plant (Ontario Ministry of Environment)

- Environmental Registry
- ERIS Historical Searches
- Contaminated Sites on Federal Land
- Fuel Storage Tanks
- Ontario Regulation 347 Waste Generators Summary
- National PCB Inventory
- Ontario Spills (Ontario Ministry of Environment)
- Waste Disposal Sites – MOE 1991 Historical Approval Inventory
- Water Well Information System

Pertinent information contained within these databases is summarized as follows:

3.2.1 Anderson’s Waste Disposal Sites

The Anderson’s Waste Disposal Sites database identified a dump, “Algonquin College Dump”, that was active in the 1940s on the subject property (adjacent to the Rideau River and south of Lees Avenue. The location of the Algonquin College Dump is identified as ANDR-1 on the EcoLog ERIS Site Diagram in Appendix D. Given that the dump was located on the subject property, dumping activities are expected to have adversely impacted the environmental condition of the phase one property.

3.2.2 Boreholes

The information provided on boreholes includes geotechnical investigations or environmental site assessments, mineral exploration, or as a pilot hole for installing piers or underground utilities. A total of 103 boreholes were located within phase one study area. One borehole, BORE-1, is located in the northwest corner of the phase one property, adjacent to the Queensway. The use of this borehole was not specified, however, it does have a total depth of 1.3 m. All boreholes have been presented on the EcoLog ERIS Site Diagram in Appendix D.

3.2.3 Certificates of Approval

The Ontario Ministry of Environment Certificates of Approval database contained listings for eleven Certificates of Approval issued to properties located within the phase one study area.

The Certificates of Approval database contained a listing for a Certificate of Approval (C of A) issued in 1986 to the Regional Municipality of Ottawa Carleton (RMOC). The C of A, issued to the RMOC, was to 195 Lees Avenue for industrial air. The project is described as a coal treatment system where the emission control is activated charcoal filters. The location of 195 Lees Avenue is identified as CA-9 on the EcoLog ERIS Site Diagram in Appendix D. Air exhausted from the treatment system at 195 Lees Avenue is not expected to have adversely impacted the environmental condition of the phase one property. In addition, a C of A (CA-10),

was issued to the City of Ottawa in 2005 for municipal and private sewage works at 195 Lees Avenue.

The Certificates of Approval database contained a second listing for a Certificate of Approval (C of A) which was issued in 1990 to the City of Ottawa for municipal sewage. The address provided for the C of A was for the intersection of Lees Avenue, Hurdman Road and Robinson Avenue. The location of the C of A is identified as CA-1 on the EcoLog ERIS Site Diagram in Appendix D. Municipal sewage is not expected to have adversely impacted the environmental condition of the phase one property.

The Certificates of Approval database contained a listing for a C of A which was issued in 1997 to Algonquin College of Applied Arts & Technology for municipal water. The address provided for the C of A was for the intersection of Lees Avenue and Highway 417. The location of the C of A is identified as CA-6 on the EcoLog ERIS Site Diagram in Appendix D. Municipal water is not expected to have adversely impacted the environmental condition of the phase one property.

The Certificates of Approval database contained three listings for C of A's which were issued in 1997 to Danbar Holdings (Ottawa) Limited for municipal water and sewage. Two of the C of A's were for the intersection of Robinson Avenue and Lees Avenue, the third was for the intersection of Robinson Avenue and Hurdman Road. The location of the three C of A's has been identified as CA-4, CA-7 and CA-8 on the EcoLog ERIS Site Diagram in Appendix D. Municipal sewage and municipal water from each of these locations is not expected to have adversely impacted the environmental condition of the phase one property.

The Certificates of Approval database contained one listing for a new C of A which was issued in 2000 to Pegasus Development Corporation. The C of A was to 9 Robinson Avenue for municipal and private sewage. The location of 9 Robinson Avenue is identified as CA-3 on the EcoLog ERIS Site Diagram in Appendix D. Municipal and private sewage is not expected to have adversely impacted the environmental condition of the phase one property.

The Certificates of Approval database contained one listing for a new C of A which was issued in 2003 to Kelly's Auto Body (1984) Limited. The C of A was to 23 Hurdman Road for air emissions. The location of 23 Hurdman Road is identified as CA-2 on the EcoLog ERIS Site Diagram in Appendix D. It is suspected that the air C of A is for a spray paint booth and is not expected to have adversely impacted the environmental condition of the phase one property.

One Certificate of Approval has been issued for the University of Ottawa at 200 Lees Avenue in 2010. The C of A for 200 Lees Ave is for air emissions. This C of A is identified as CA-5 on the EcoLog ERIS Site Diagram in Appendix D. The C of A for air covers the backup generator and the fume hoods within laboratories on site which are not expected to have adversely impacted the environmental condition of the phase one property.

The Certificates of Approval database contained a listing for a C of A which was issued in 1998 to Public Works and Government Services Canada for industrial air. The project describes use for laboratory fume hoods and boilers. The address provided for the C of A is for 1200 Vanier Parkway. The location of the C of A is identified as CA-11 on the EcoLog ERIS Site Diagram in Appendix D. Industrial air emissions at 1200 Vanier Parkway are not expected to have adversely impacted the environmental condition of the phase one property.

3.2.4 Coal Gasification Plants

The Coal Gasification Plant database contained one listing for a manufactured gas plant at 175 Lees Avenue to Ottawa Gas Company. The location is identified as COAL-1 on the EcoLog ERIS Site Diagram in Appendix D. According to the EcoLog ERIS report, the plant operated between 1920 and 1957 and describes the site and potential environmental impacts as the following:

“Sometime between 1915 and 1920, the Ottawa Gas Co. relocated its gas works from the King Edward Street - York Street location to the site at 175 Lees Avenue. The Lees Avenue gas works was a large facility that operated for about 37 years or until 1957 when natural gas pipelines made the operation uneconomical. The plant was operated under different company names including the Ottawa Gas Co., Ottawa Heat, Light and Power Co., Interprovincial Utilities Ltd. and Consumers Gas Co. The site is located on the north side of Lees Avenue, south of Highway 417 and between Lees Avenue on ramps to the west and the Lees Avenue overpass to the east. Gas plant operations changed from retort coal gasification to carburetted water gas in the late 1930s. The site was demolished in 1966-67.

The site is located 150 m northwest of the Rideau River. In 1981-83, the site was developed as a below ground bus transit way station by the Regional Municipality of Ottawa-Carleton. Continued pumping is required to prevent the bus station from flooding. A 1220 mm diameter storm sewer was constructed to discharge the pumped water from the transit way station directly to the Rideau River. The site is now occupied by the Lees Avenue transit way station and parking lot, a Consumers Gas metering station, an existing high rise apartment building (169 Lees Avenue - constructed in 1985) and vacant land proposed for development as a high rise apartment building.

Environmental impacts have already occurred for the Lees Avenue site. In late April 1986, tars were observed in the pumphouse of the Lees Avenue transit way station and in the adjacent Rideau River in the vicinity of the outfall from the pumping station. The discovery of this contamination resulted in closure of the Lees Avenue station and installation of a boom to contain the oil slick on the Rideau River. Subsequently, a leachate collection and treatment facility was constructed to collect and treat coal tar contaminated water at the transit way station and removal of an estimated 40 m³ of tar from the bottom of the River over a 100 m by 40 m area has been undertaken. Drilling and sampling investigations conducted on the property at

169 Lees Avenue have shown that the foundation of the 4,250 m³ gas holding tank is contaminated with coal tar. A potential environmental impact exists for this site as a result of excavation of buried wastes and exposure of these wastes to workers involved in the excavation. In addition to the gas works, a tar distillation plant operated south of the gas works and Lees Avenue from about 1920 to sometime in the late 1940s. This facility distilled coal tars received from the gas works and later from other sources”.”

3.2.5 Environmental Registry

The Environmental Registry database contained one listing for a proposal submitted by Kelly's Auto Body (1984) Limited and one listing for a decision for approval for discharge into the natural environment other than water (i.e., air) at its property located within 250 metres of the phase one property. The location of the property indicated on the Site Diagram included in the EcoLog ERIS report is denoted as EBR-1.

3.2.6 ERIS Historical Searches

The ERIS Historical Searches database contained ten listings for properties located within the phase one study area. The locations of these properties are indicated on the Site Diagram included in the EcoLog ERIS report, denoted as EHS-1 through EHS-10.

A historical search was completed for the subject property (200 Lees Avenue) on April 11, 2002 and June 1, 2007. Historical searches were also completed for the property located at 211 Lees Avenue on April 14, 2011 and at 190 Lees Ave in 2005, 2008 and 2009. Historical searches were completed for 29 Hurdman Avenue in January 2010 and 1 Robinson Avenue in March 2007. One historical search was completed for 1200 Vanier Parkway in May 2005. All searches included at least a 250 metre search radius.

3.2.7 Contaminated Sites on Federal Land

Two contaminated sites were identified in the EcoLog ERIS report and denoted as FCS-1 and FCS-2. No specific address was provided, however both site names are listed as Hurdman North and the reporting organization as National Capital Commission. FCS-1 is located on the south side of the Ottawa River. The description provided states that soil and groundwater is impacted by PHCs and BTEX, PAHs and metals. A total area of impact is listed as approximately 19.5 hectares. FCS-2 is also located on the south side of the Ottawa River adjacent to the transit way. The description provided indicates that soils and groundwater is impacted with metals with an approximate area of 2.9 hectares. These soil and groundwater impacts are not expected to have adversely impacted the environmental condition of the phase one property.

3.2.8 Fuel Storage Tanks

One fuel storage tank was identified at 229 Lees Avenue and denoted as FST-1 on the EcoLog ERIS Site Diagram in Appendix D. Two single walled underground storage tanks (UST) with capacities of 10,000L and 25,000L were installed on site in 1991 for a private fuel outlet service station. As of August 2007, both USTs were listed as non-active. It is not expected that these USTs would adversely impact the environmental conditions of the subject property.

3.2.9 Ontario Regulation 347 Waste Generators Summary

The Ontario Regulation 347 Waste Generators Summary contained listings for twenty six properties within the phase one study area that generate(d) hazardous waste. The locations of these properties are indicated on the Site Diagram included in the EcoLog ERIS report, denoted as GEN-1 to GEN-26.

As of January 2010, two waste generator numbers were issued to the University of Ottawa, the current occupant of the property, located at 200 Lees Avenue (GEN-4 and GEN-10). These were issued for the generation of acid and alkaline solution wastes, organic laboratory chemicals, wastes from pigments, paints, waste oils, pathological wastes and compressed gases. In addition, one generator number (GEN-8) was issued to Statistics Canada for the rear parking lot of 200 Lees Ave for the generation of pathological wastes.

Four waste generator numbers were issued to Algonquin College located at 200 Lees Avenue (GEN-5 through GEN-7 and GEN-9), the former occupant of the phase one property, for the generation of inorganic and organic laboratory chemicals, paint/pigment /coating residues, petroleum distillates, PCBs, oil skimmings, waste oils & lubricants. It is unclear whether any of these waste generator numbers relate to the phase one property; there is a single loading dock at the south end of Building A (on the phase one property) that may have been used for waste shipment.

Three waste generator numbers were issued to the City of Ottawa at 29 Hurdman Road (GEN-1 through GEN-3) for the generation of light fuels, oil skimmings and sludges, and waste oils and lubricants for years of approval from 1997 to 2008 and wastes from pigments, coatings and paints, and waste oils/sludges as of October 2010.

Four waste generator numbers were also issued to the City of Ottawa at 168 Lees Avenue (GEN-11 through GEN-14) for the generation of heavy fuels, light fuels, oil skimmings and sludges, and other specified inorganics for years of approval from 1996 to 2004.

Twelve waste generator numbers (GEN-15 through GEN-26) have been issued for 1200 Vanier Parkway from 1992 to 2010 to a number of different organizations including Canadian Security Intelligence, RCMP, and Public Works Government Services Canada. A number of waste generation descriptions were provided for each location but the most common are acid wastes,

light and heavy fuels, waste oils and lubricants, laboratory chemicals and pathological wastes. The locations of the waste generators at 1200 Vanier Parkway are identified on the EcoLog ERIS Site Diagram in Appendix D.

The generation of waste at these properties is assumed to be done as per regulatory requirements and as such it is not expected to have impacted the phase one property.

3.2.10 National PCB Inventory

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. The database listed one (NPCB-1) hit for the National PCB Inventory for 1200 Vanier Parkway under the direction of RCMP in 1996.

3.2.11 Ontario Spills

This database identifies information such as location (approximate), type and quantity of contaminant, date of spill, environmental impact, cause, nature of impact, etc. The Ontario Spills database contained nine listings for properties located within phase one study area. The location these properties are indicated on the Site Diagram included in the EcoLog ERIS report in Appendix D, denoted as SPL-1 to SPL-9.

In 1988, at 28 Robinson Avenue, furnace oil was noticed in the basement of the residence (SPL-3). The oil originated from a corroded above-ground storage tank. It was noted that the soil was contaminated but the amount of oil spilled is not provided. It is not expected that the furnace oil leak would have impacted the subject property due to the distance from the phase one property and because 28 Robinson Avenue it is located hydraulically downgradient of the phase one property.

In 1992, at 5-9 Hurdman Street (SPL-5) a small amount of motor oil (i.e., 10 L) was dumped on the road. Given the small volume, it is unlikely that the phase one property would have been impacted.

In 1999, sheen was observed on surface water present in an excavation hole at 190 Lees Avenue (SPL-6). It is stated that the source of the oil is unknown and that it is a multi media pollution. Given the historical usage of that site as a gasification plant and the proximity to the phase one property, it is possible that the contamination at 190 Lees Avenue could impact the phase one property. To control the migration of contaminants from the former gasification plant properties into the Rideau River and to the phase one property, a groundwater pump and treat system has been installed and is operated by the City of Ottawa.

In 2004, 115 L of non-PCB containing transformer oil leaked at 23 Hurdman Street (SPL-2). The spill was reported by Hydro-Ottawa. Given the volume and location, it is unlikely that the phase one property would have been impacted.

From 1996 to 2006, three spills were reported at 1200 Vanier Parkway (SPL-7 to SPL-9). In 2006, a natural gas leak occurred at the RCMP headquarters where the building was evacuated, in 2000, 800 pounds of Freon gas leaked at PWGSC and in 1996 a motor vehicle hose leak occurred in a construction area. Given the location and the type of spills, it is unlikely that the phase one property would have been adversely impacted.

3.2.12 Waste Disposal Sites – MOE 1991 Historical Approval Inventory

The *Waste Disposal Sites – MOE 1991 Historical Approval Inventory* indicates the presence of the closed waste disposal site at the phase one property. The Ecolog ERIS report indicates that the site was closed in 1947 and that it is classified as A5 (potential human impact – urban municipal/domestic waste). The location of the closed waste disposal site is indicated on the Site Diagram included in the EcoLog ERIS report, denoted as WDSH-1.

3.2.13 Water Well Information System

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. Nine water well information systems were identified within the phase one study area and are identified as WWIS-1 through WWIS-9 on the Site Diagram included in the EcoLog ERIS report. Addresses are not provided for each well, but rather by a geographic coordinate. All water wells are located on the opposite side of the Rideau River from the site.

The closest wells, labelled WWIS-1 and WWIS-2, are immediately south of the Queensway bridge, on the east bank of the river. According to the well records, they were installed in 1948 to depths of 20 metres and 28 metres. Depths to bedrock for the two wells are recorded as 2.5 and 3.5 metres. The primary water use is listed as “not used.”

Primary water use for other wells are listed as “domestic,” “commercial,” or “test hole.” Overburden encountered in well drilling close to the river was clay, with sand and gravel more likely with increasing distance from the river.

3.3 Physical Setting Sources

3.3.1 Aerial Photographs

The following tables describe observations about current and historical land use for the phase one property and surrounding properties that were noted during review of aerial photographs of the area taken between 1933 and 1996. Figure 4 (Appendix A) presents an overview of the historical land use at the site and surrounding properties. The aerial photographs are reproduced in Appendix E.

Table 3-2: Aerial Photograph Observations of the Phase One Property

Date	Roll # (Scale)	Observations
1933	A4570-27 (scale unknown)	The site appears to be vegetated with shrubs. A roadway leads diagonally across the property from a building on the adjacent property to the southeast corner. It appears that material has been deposited at the end of the roadway. A rail line runs diagonally through the site, north of the road, to the southeast and connects to a rail bridge. A small building is along the north side of the rail line, near the southeast property line. A second rail line runs along the north property and connects to a second rail bridge over the river. Overall, the most ground cover appears to be, or have been, disturbed.
1947	A10903-64 (1:6,000)	Due to the poor quality of the photograph, it is difficult to determine if the small building is still present. The rail line through the property and along the north property boundary as in the same configuration. The ground cover is disturbed in the southwest portion of the subject property.
1955	A14755-31 (1:30,000)	It appears that the small building north of the roadway is no longer present. No other significant changes were observed.
1966	A19810-38 (1:24,000)	Building A is present on the phase one property with a triangular parking lot to the east. The railway tracks alignment and related bridges are still visible; however, it appears that some of the track to the north of Building A have been removed and replaced with roadway.
1969	A21356-38 (1:25,000)	There are cars in all parking lots. Three portable classrooms have been added to the complex in the eastern parking lot. The rail line through the property and the associated rail bridge has been removed. The alignment of the rail lines along the north of the phase one property is in the same configuration as previously.
1971	A22574-8 (1:25,000)	An unpaved parking lot east of the paved parking lot has been constructed. All other site features remain in the same configuration as previously.
1981	A25708-26 (1:20,000)	Same as previously.
1988	A27276-74 (1:3,000)	One of the large portable classrooms to the east of Building A has been removed and replaced with two smaller buildings.
1996	A31736-113 (1:15,000)	The four portable classrooms have been removed. Both sections of the eastern parking lot appear paved.

Table 3-3: Aerial Photograph Observations of the Surrounding Properties

Date	Roll # (Scale)	Observations
1933	A4570-27 (scale unknown)	One building is present west of the phase one property. The presence of a stack adjacent to the building indicates that it is the waste incinerator. An unpaved roadway is present around the building. Beyond the railway tracks are a lumber yard and a residential neighbourhood. A number of buildings and wood piles are observed on the yard. The Rideau River borders the southern portion of the site. A gasification plant is located northwest of the site, beyond Lees Avenue. The gasification plant also has buildings, tanks and other infrastructures on the property located to the west of the site.
1947	A10903-64 (1:6,000)	This photograph is very dark. It looks like a building is still present west of the subject property. The same features are observed on the surrounding properties except for the gasification plant activities to the west of the site, south of Lees Avenue. The property to the west of the phase one property now appears vacant.

Date	Roll # (Scale)	Observations
1955	A14755-31 (1:30,000)	It appears that the building to the west of 200 Lees is no longer present. To the north of the phase one property, the railway tracks and residential properties are still visible. There are still activities in the lumber yard area; however, the nature of the activities can not be confirmed due to the smaller scale of the photograph. The gasification plant occupies the properties to the northwest and west of the site. Approximately 75% of the gasification plant properties are occupied by buildings, tanks, and related infrastructures. The remaining 25%, located west of the phase one property, is relatively vacant; however trails are visible.
1966	A19810-38 (1:24,000)	A building complex is present next to the phase one property with an asphalt parking lot to the north and west sides of the complex. One of the buildings, Building A, occupies a portion of the phase one property. The buildings appear interconnected by corridors. West of the phase one property appears to be still under construction. There are no cars in the parking lots. There are two rectangular, dark grey, structures in that area. Highway 417 had been built to the north of the site. Immediately north of the site, an overpass appears to be under construction. The railway tracks alignment and related bridges are still visible; however, the railway yard has been closed. The residential neighbourhood is still present to the north of the site. Large buildings now occupy the site of the former lumber yard. The gasification plant installations are still visible to the northwest and west of the site including the relatively vacant portion.
1969	A21356-38 (1:25,000)	A parking lot has been west of the phase one property and the two dark grey rectangular structures are still present. Construction of highway 417 is now complete. The residential neighbourhood and adjacent yard are still present to the north of the site. One of the railway bridges to the west of the site has been removed. The gasification plant property to the northwest has been converted to a parking lot and only one small structure/building is visible (This structure was identified in one document reviewed, Chapman (1987), as a meter house). Further west of the phase one property, an area appears relatively vacant and vegetated with grass and shrubs.
1971	A22574-8 (1:25,000)	The residential neighbourhood is still present to the north of the site but the lumber yard now appears vacant. The gasification properties to the northwest and west of the site appear vacant except for possibly one building on each side of Lees Avenue.
1981	A25708-26 (1:20,000)	The residential neighbourhood is still present to the north of the site. The adjacent lumber yard is vacant but the ground cover appears disturbed. Two high-rise buildings were constructed on the site of the former gasification plant to the west of the property. A third one appears to be under construction on that property. The property to the northwest (home of the former gasification plant) appears vacant with the exception of some small structure. The ground cover of that property appears disturbed, possibly in relation with the construction of the high-rise buildings across Lees Avenue.
1988	A27276-74 (1:3,000)	The parking lot west of the phase one property has been reduced by approximately half its size to accommodate OC Transpo Transit Bus system. The six square structures, west of the phase one property, have been removed; opening up more parking area. Further west of the phase one property is the OC Transpo Transit Bus system (transitway), beyond which are now three residential high rise buildings. To the north of the phase one property, beyond highway 417, are the residential neighbourhood and the City yard with 2 domes and one large building. To the north and northwest are the Lees Avenue transitway station and a parking lot area.

Date	Roll # (Scale)	Observations
1996	A31736-113 (1:15,000)	To the northwest of the phase one property, two high-rise buildings have been constructed within the former gasification plant, west of the transitway. No other significant changes were observed.

3.3.2 Topography, Hydrology, Geology

3.3.2.1 Topography and Drainage

The phase one property is generally flat (Figure 4; Appendix A). The south side of the phase one property slopes steeply to the Rideau River. Surface drainage from the phase one property is expected to flow towards the various storm drains located on the property and to be directed towards the storm outfall located along the west limit of the property that discharges to the Rideau River. An intermittent ditch is also located along the north side of the property.

3.3.2.2 Overburden and Bedrock Geology

The following overburden and bedrock description was taken from Golder (2007), CH2M Hill (2002), and Intera (1987). It represents a summary of several geotechnical and environmental investigations completed at and around the site.

The uppermost bedrock in the vicinity of the phase one property is composed of the Billings Formation dark grey to black, fine-grained fissile, thinly bedded shale. Shale bedrock is generally encountered at depths approximately 10 to 12 meters below ground surface (m bgs) at the phase one property and slopes to the southeast towards the Rideau River. Below the shale is the Eastview Formation limestone which is approximately 6 m thick and also dips to the southeast. There is localized bedrock low at the transitway at the Rideau River.

The overburden in the vicinity of the phase one property is complex in nature; however, three distinct hydrostratigraphic units were identified at 200 Lees Avenue, including fill, alluvium, and glacial till. Alluvium was found in previous reports on the western portion of the 200 Lees property and is thus not likely to be found (except in small deposits) on the phase one property.

The fill, as observed by others in previous reports, at or in the vicinity of the phase one property consists of a wide variety of materials from industrial, construction and landfill use. The fill varies widely in classification and description; however, common to all boreholes and test pits, the fill material consists of ash, cinders, sand, brick, wood, coal and glass. The fill layer is commonly referred to as the "cinder and ash fill layer". The fill was described as thickest at the phase one property. Historic records indicate that the fill, placed prior to the construction of the on-site buildings, has raised the site elevation by 7 to 8 metres. The thickness of fill in the borings varies between about 0.6 to 7.6 metres, but typically is about 3 to 6 metres across much of the property. Depth to fill on the phase one property ranges from immediately below the surface to one metre below ground surface.

The glacial or basal till overlies the bedrock. It varies in thickness and is discontinuous, sometimes increasing in thickness where the bedrock elevation decreases. The till is very dense and stiff and is generally sandy and silty with varying amounts of clay and gravel. The glacial till generally extends to the surface of the bedrock at depths of 10.2 to 13.1 metres bgs.

3.3.2.3 Hydrogeology

The current groundwater flow system is complex due to the presence of several hydraulic sinks. These sinks are a result of the transitway, the bus ramp and the parking garages of the high-rise buildings and their associated drainage/dewatering systems. The transitway has a drainage system that maintains the groundwater level several meters below Lees Avenue (Intera, 1987).

Previous studies (CH2M Hill, 2002; Golder, 2000; Intera, 1987) have indicated that the shallow groundwater flow direction at the site is multidirectional. The shallow groundwater from the north half of the site is expected to flow towards the west (i.e., towards the below grade transitway) and to the north (i.e., towards the Highway 417). Shallow groundwater from the southern half is expected to flow south and southeast towards the Rideau River.

An estimate of the historical groundwater flow direction pre-1973 was provided by Intera (1987). Intera estimated that the groundwater flow direction at the site, within the alluvium deposit, would also be multidirectional; however, their study also indicated that groundwater was migrating from the off-site property northwest of the phase one property (i.e., the former gasification plant) towards the phase one property. Their study suggests that this component of groundwater flow was apparently intercepted by the construction of the transitway.

Groundwater velocity was estimated to range between 0.21 to 210 m/yr, depending on the type of overburden material encountered. The groundwater flow in the fill is expected to be near the top of this range. Perched water tables in the fill were observed at the site. The fill at the phase one property, which consists of landfill and waste material, is very porous and considerably more permeable than the underlying fine alluvium material. The resulting effect is that infiltrating precipitation may pass quickly through the fill material but “ponds” at the surface of the natural material because of a lower infiltration rate.

3.3.3 Fill Material

Previous studies (CH2M Hill, 2007; Golder, 2000; Intera, 1987) have indicated that an extensive amount of fill materials have been used on the phase one property. The fill at or in the vicinity of the site consists of a wide variety of materials from industrial, construction and landfill use. The fill varies widely in classification and description; however, common to all boreholes and test pits, the fill material consists of ash, cinders, sand, brick, wood, coal and glass. The fill layer is commonly referred to as the “cinder and ash fill layer”. The fill was described as thickest at Building A. Historical records indicate that the fill, placed prior to the construction of the on-site buildings, has raised the site elevation by 7 to 8 metres. The thickness of fill in the borings

varies between about 0.6 to 7.6 metres, but typically is about 3 to 6 metres across much of the property.

3.3.4 Water Bodies and Areas of Natural Significance

The Rideau River forms the southern and eastern boundary of the property. The Rideau Valley Conservation Authority has jurisdiction inside the “Regulation Limit,” which is defined as the 100 year flood limit plus 15 metres.

According to O.Reg. 153/04 (as revised), an area of natural significance can be any one of the following:

- An area reserved or set apart as a provincial park or conservation reserve under the Provincial Parks and Conservation Reserves Act, 2006.
- An area of natural and scientific interest (life science or earth science) identified by the Ministry of Natural Resources as having provincial significance.
- A wetland identified by the Ministry of Natural Resources as having provincial significance.
- An area designated by a municipality in its official plan as environmentally significant, however expressed, including designations of areas as environmentally sensitive, as being of environmental concern and as being ecologically significant.
- An area designated as an escarpment natural area or an escarpment protection area by the Niagara Escarpment Plan under the Niagara Escarpment Planning and Development Act.
- An area identified by the Ministry of Natural Resources as significant habitat of a threatened or endangered species.
- An area which is habitat of a species that is classified under section 7 of the Endangered Species Act, 2007 as a threatened or endangered species.
- Property within an area designated as a natural core area or natural linkage area within the area to which the Oak Ridges Moraine Conservation Plan under the Oak Ridges Moraine Conservation Act, 2001 applies.
- An area set apart as a wilderness area under the Wilderness Areas Act;

FRANZ prepared Table 3-4 in order to assess whether the site, or any portion of the site, is an area of natural significance.

Table 3-4: Assessment of Areas of Natural Significance

Assessment Category	Accept or Reject as Applicable to the Site	Rationale
An area reserved or set apart as a provincial park or conservation reserve under the Provincial Parks and Conservation Reserves Act, 2006.	Reject	<p>According to Ontario's Crown Land Use Policy; there are no</p> <p>Provincial Parks, Recommended Provincial Parks, Conservation Reserves, Recommended Conservation Reserves, Forest Reserves, Wilderness Areas Enhanced Management Areas, General Use Areas, or Provincial Wildlife Areas</p> <p>In the Phase One Study Area.</p> <p>http://www.lio.ontario.ca/imf-ows/imf.jsp?site=clupa_en</p>
An area of natural and scientific interest (life science or earth science) identified by the Ministry of Natural Resources as having provincial significance.	Reject	<p>According to the Ministry of Natural Resources there are no areas of natural or scientific interest in the Phase one study area.</p> <p>https://www.biodiversityexplorer.mnr.gov.on.ca/nhicWEB/mainSubmit.do</p>
A wetland identified by the Ministry of Natural Resources as having provincial significance.	Reject	No wetlands present on site
An area designated by a municipality in its official plan as environmentally significant, however expressed, including designations of areas as environmentally sensitive, as being of environmental concern and as being ecologically significant.	Reject	No inclusion of the site in the City of Ottawa's Official Plan.
An area designated as an escarpment natural area or an escarpment protection area by the Niagara Escarpment Plan under the Niagara Escarpment Planning and Development Act.	Reject	The site is not within the Niagara Escarpment Area

Assessment Category	Accept or Reject as Applicable to the Site	Rationale
An area identified by the Ministry of Natural Resources as significant habitat of a threatened or endangered species.	Accept	The woodland area on the phase one property and the Rideau River have been identified by the Ministry of Natural Resources as species at risk and fish nursery habitat.
An area which is habitat of a species that is classified under section 7 of the Endangered Species Act, 2007 as a threatened or endangered species.	Accept	According to the Ministry of Natural Resources, Kemptville District there are is the potential for the habitat of 3 Threatened, 1 Endangered, and 2 species of Special Concern in the phase one study area. Additionally, the phase one property fronts the Rideau River which has documented fish nursery habitat. Mitigative measures have been provided for any work being done on the phase one property.
Property within an area designated as a natural core area or natural linkage area within the area to which the Oak Ridges Moraine Conservation Plan under the Oak Ridges Moraine Conservation Act, 2001 applies.	Reject	The site is not within the Oak Ridges Moraine

3.3.5 Well Records

Drinking water wells are not present within the phase one property. Numerous monitoring wells have been installed on the phase one property as part of previous environmental investigations. A compilation of the numerous monitoring points is shown on Figure 2; Appendix A. FRANZ inspected the location of each monitoring well on the phase one property during the site reconnaissance in order to confirm the presence or absence of the well and the condition when found. A summary of FRANZ' observations are provided in Table 3-3.

Table 3-3: Status of Monitoring Wells on the Phase One Property as observed in June 2011

Well ID	Type	General Condition
BH00-4	Flush	Good
BH00-5	Flush	Good
CH-MW01-2	Stick-up	Good

4.0 RESULTS OF THE INTERVIEWS

The information obtained from the interview with Guy LeBlanc (GL) on June 29, 2011 is summarized in Table 4-1. Mr. Guy LeBlanc is the Environmental Health and Safety Officer for the Physical Resources Department at the University of Ottawa. He has held this position with the University since January 2009. The interview with Mr. LeBlanc took place in person in the lobby of Building C, 200 Lees Ave. The interview was conducted by Ms. Julie Dittburner and Mr. Andrew Henderson, both of FRANZ. It is noted the statements made by the interviewees were not made categorically and are limited by their personal knowledge of, and experience with, the site. Therefore, no issues of environmental concern were discounted solely on the basis of these statements.

Table 4-1: Summary of Interview

Item of Concern	Interview Comments
Accidents/Spills	GL indicated that the Building A did have an indoor air/odour complaint in Sept. 2010. Contractors at the time had left numerous hypoxy paint cans open overnight causing air/odour issues. The City of Ottawa received a complaint that a liquid originating from a garbage compactor in loading zone Block E was leaking into the sewers in the summer of 2010. The situation was rectified by the University. GL was not aware of any other spills/accidents within the past 2 ½ years.
Previous Use of Site	GL indicated that Algonquin College owned and operated the site prior to the purchase of property by the University of Ottawa. GL stated that as far as he knew, Building A was used as classrooms and laboratories.
Adjacent Properties	GL stated that he was aware of the coal tar impacts on the north adjacent property beyond Lees Avenue. Other than that, he is not aware of environmental impacts from adjacent properties.
Operational Areas and Major Mechanical Equipment	GL stated that there are two boilers in the basement in Building A. These are run by natural gas. A back-up diesel generator is also present in the basement of Building A, however GL is not sure if it is in working order. No hoists or elevators are present in Building A. A backup generator is also present outside Building A, adjacent to the mechanical room. The outdoor backup generator has an on-board fuel storage tank.
Hazardous Materials Storage	GL stated that cleaning chemicals are stored on-site for indoor building maintenance. In addition, there are water treatment chemicals stored in the basement of Building A beside the water treatment system. These are labelled and stored in manufactured containers. Bulk fertilizer and salt brine (liquid road salt) for outdoor maintenance is stored in a storage room with a bay on the south side of Building A. GL is not aware of any other hazardous materials storage on site.
Fuel Storage Tanks	GL could not clearly remember if aboveground storage tanks (unspecified contents or volumes) were located within Building A on the property. He was not sure if one had been removed. He stated that he was not aware of any underground storage tanks present on site. During the site visit, GL was reminded of the existence of an AST in the mechanical room of Building A and the potential for an underground storage tank adjacent.
Odours	GL indicated that real-time methane monitoring was conducted in all buildings except Building #3. Methane was non-detect. GL also stated that the ventilation system in Building A is very old and inefficient sometimes causing stale air and slight odours.
Potable Water	GL stated that the site is supplied with municipal water.

Item of Concern	Interview Comments
Septic and Wastewater Discharges	GL stated that the site is attached to the municipal sewer system.
Pesticides and Herbicides	GL stated that bulk fertilizer and salt brine (liquid road salt) for outdoor maintenance is stored in a storage room with a bay on the south side of Building A. GL was not aware of any herbicides used on the site.
Mould	GL is not aware of any mould on site. GL did state that he has not received any complaints of mould but if there were any flooding or moisture issues, the Physical Resources Department would respond right away.
Heating and Cooling Systems	GL stated that the ventilation system in Building A is the oldest for all buildings on site. He believes that there is still a central air system in the basement. As previously stated, there are two boilers present in the basement of Building A that run on natural gas.
Waste oils, Solvents, Batteries	GL stated that there are waste oils in the basement of Building A from a chemical feed system, but these are in small amounts. GL also stated that used batteries are collected on campus and brought to a central location (main loading dock in Building C) for disposal by a licensed facility. Used paint cans collect on campus are also stored in the same location as the batteries prior to their proper disposal.
PCBs	GL stated that there are transformers on site, but not sure if they are PCB containing.
Asbestos	GL indicated that in 2007, prior to renovations, all accessible asbestos was removed from the site. Where the asbestos was encased and stable, it was left in place (i.e. under lab stations that will remain in place).
Lead Paint	GL stated that lead paint was present on the trim and doors in Building A. During renovations lead paint was removed. GL believes that the piping in Building A still contains lead as it has never been replaced.
ODS	GL is not aware of ODS-containing materials located on the site.
Electromagnetic Radiation	GL did not express any concerns about this issue. He stated that utilities are buried and connect to Building A from the east parking lot.
UFFI	The interviewee did not have any knowledge of UFFI being used in the buildings on the site. GL believes that the insulation is fibreglass insulation or was asbestos containing insulation.
Mercury	GL stated that the thermostats in Building A may contain mercury. He also stated that some of the equipment used in the nursing class rooms in Building B contains mercury, but he was unaware of the quantity.
Radon Gas	GL did not express any concerns about this issue. Radon gas has not been tested for in Building A; however, it has been tested on the main uOttawa campus and none was found.
Soil and Groundwater Conditions	GL was aware of soil and groundwater impacts on the site from the historical usage of the site and from adjacent properties.
Wells	GL was aware that there are monitoring wells on the property.
Waste Disposal and Recycling	Garbage generated on the property is temporarily stored in dumpsters in the parking lot east of Building A and disposed of by Waste Management. A compost centre is also presented adjacent to the dumpsters in this area. There is a recycling centre in Building C where all recycled materials from both the uOttawa campuses are sorted and pick-up every morning by Waste Management.
Fill Material	GL indicated that as part of the management activities required to mitigate the risk at the site; topsoil was added in October 2010 to provide a minimum cover of four (4) inches of thickness. A surficial spray on mixture of grass and fertilizer was added as well.
Other Concerns	GL did indicate that he and uOttawa employees are concerned with vapours beneath the buildings from the historical activities on site. GL stated that methane has been tested for with non detect results.

5.0 SITE RECONNAISSANCE

5.1 General Requirements

5.1.1 Reconnaissance Details

A site reconnaissance of the phase one property and phase one study area was conducted on the afternoon (2:00 pm – 4:30 pm) of June 29, 2011 by Mr. Andrew Henderson, P, Eng., QP_{ESA}, and Ms. Julie Dittburner, B.Sc. of FRANZ. Mr. Guy LeBlanc, Environmental Health and Safety Officer for the Physical Resources Department, was the on-site escort during the site reconnaissance. At the time of the site reconnaissance the weather was overcast and approximately 20 degrees Celsius. Another site reconnaissance to observe exterior features was conducted on July 11, 2010 by FRANZ from 2:00 to 3:00 pm. The weather was hot and humid with a temperature of 33 degrees Celsius. An additional site reconnaissance was conducted the afternoon (1:30 – 3:00 pm) of July 28, 2011. Weather conditions were similar to that of July 11th. Building A is presently in use by the University for classroom, work space and storage facilities for a number of educational departments. At the time of the site reconnaissance's the central air circulation and ventilation systems in Building A were operating.

5.1.2 Photographs

Photographs of the phase one property, both of the interior and exterior site features, were taken at the time of the site reconnaissance. Photos of the phase one study area were also taken during the site reconnaissance. Photographs are presented in Appendix F and include a written description and explanation with the orientation with respect to north.

5.2 Specific Observations at Phase One Property

5.2.1 Site Description

The irregular-shaped phase one property covers an area of approximately 120 m by 170 m (20,400m²). The site is generally flat lying with a moderate slope to the southeast. The majority of the site is occupied by an asphalt parking lot. Building A, adjacent to the parking lot, occupies the west side of the phase one property (See Figure 2; Appendix A).

Building A was built in 1963 and is approximately 6,800 metres square in size. Building A is a rectangular shaped building located in the southeast portion of the 200 Lees building complex. This is a one-story building with a crawl space throughout except in the northeast corner where a boiler room is located in a basement area. Each corridor of Building A has an access grate to the crawl space. The building has classrooms and laboratories. A total of 28 full size classrooms and a number of smaller office sized rooms are present. At the time of the site reconnaissance, only one lecture hall was in use as a classroom. The remaining classrooms and laboratories are used for work spaces, storage and archives by a number of departments at

the university. In addition, the building is used for the main shipping and receiving hub for the entire 200 Lees Avenue complex. In the summer of 2009, the roof of Building A was renovated.

Table 5-1, below, provides a description of all classrooms investigated during the site reconnaissance. One classroom (A126) and one unknown room adjacent to the boiler room were not accessible during the site reconnaissance on June 29th. However, during the site reconnaissance on July 28th Mr. LeBlanc was able to access these rooms.

Table 5-1: Summary of Building A Classrooms and Observed Contents during Site Reconnaissance

Classroom	Description
A101	Old office space. Currently used for the visual arts department storage room.
A102	Used as a storage room for shelving units. Miscellaneous items also present such as desks. Three pallets of fertilizer and 2 large containers of a salt brine solution observed.
A103	An old classroom that is now used as storage for Physical Services – contains door knobs, tools, etc.
A104	Door labelled “Organic Chemistry”. Still remains as the original Algonquin College Lab room, unchanged except floor removed. Floor drains and a strong chemical odour observed.
A104 A	Office space for the original lab. Floor has been coloured with chalk (reason unknown), an access door from this room to the roof space was observed.
A105	Currently used for the uOttawa’s Bike Co-op program.
A105 A and A105 D	Used to be the Chemical Storage rooms for the laboratories during Algonquin College days. The fire hydrant system was also housed here, however was removed two years ago. Currently used as the supply room for building maintenance materials. Cleaning supplies and products located in small room to the left of the door. Contain paper towels, toilet paper, mops etc. A large supply of shredded paper and wood shavings are also present.
A106	Currently the University of Ottawa’s Neurotrauma Impact Science Laboratory.
A106 A	Door labelled “Utility Room”. Small closet containing cleaning products etc.
A107 and A108	Old office spaces, now empty.
A109	An old classroom and office spaces attached. Currently used for storage. Contains a number of miscellaneous items like furniture, building materials.
A 110	Old laboratory, now used as storage that contains old unused paint and pallets of light bulbs.
A111	Storage room for Engineering department. Contains old computer parts, mechanical pieces and lab equipment. All appears to be older and un-used. Stain on floor observed, brown in colour, unknown substance.
A112	Storage room, miscellaneous items
A113	Door labelled as “Telecommunication Lab”. An old laboratory during Algonquin College days. Now used as a recycling storeroom and contains a large amount of Styrofoam. Water stains on ceiling observed.
A114	Old classroom with attached office space. Currently used for storage of building materials, however, very minimal amount present.

Classroom	Description
A115	Old classroom with attached office space. Currently used for storage of shelving units and building materials.
A117	Door labelled "Micro-Processor Laboratory". Was an old classroom/lab. Currently used for storage of old desks, doors, etc.
A118	Men's washroom.
A120 and A121	Old classrooms that were attached. Currently under construction to be classroom/lab for the Health Sciences Department.
A122	Door labelled "Electronics". Was an old classroom with an office attached. Currently under construction to make office space.
A123	Door labelled "Control Laboratory". Currently in use for old furniture storage.
A124	Door labelled "Linear Laboratory". An old classroom/lab. Now used as furniture storage by uOttawa. Contains old desks, tables, couches etc.
A125	Art department storage room that contains miscellaneous artwork.
A126	Was an old classroom with chalkboards still present. Now used as the electronics recycling centre. Contains old computers in a pile on the floor, a number of large recycle bins. An old switchboard is still present on the wall adjacent to the door.
A127	Currently used for Library Services "C.R.C.C.F." Storage for books and documents. There are 3 small rooms off main room that were originally offices (A127 B, C, D).
A127 A	Building A control room that contains electrical panels and a central computer station. Periodically used by staff, just to check to system on an irregular basis.
A128 and A128A	Was originally and classroom and office space. Now just an empty office space and classroom has been converted to a cold storage for the University's file storage.
A129	Door labelled "Physics Laboratory". Old classroom used for furniture storage.
A 130	Lecture hall. Has not been renovated since used during Algonquin College years. In a complete state of disrepair. Building materials and garbage everywhere.
A131	Lecture hall. Same size and same features as A130. Have been completely renovated and in use by the uOttawa as a classroom. Only classroom in Building A that is used as a teaching space.
A136	Engineering Department. University is expanding their aviation classes and this classroom is to be used as a flight simulator and teaching space.
A136 A	This room was an old office space, now used as a kitchen and meeting room for Library Services.
A138	Library Acquisition Services – Library services book repair space. Technicians fix book bindings, ripped pages etc.
A139	Engineering Department. A work space for engineering students for course projects. Currently in use by students.
A141	Engineering Department. Room used for mechanical engineering students laboratory. Currently contains project supplies like building materials and used for a workspace.
A142	Visual Arts Department storage and workshop. Currently in use.
A143	Visual Arts Department. Used as a workshop and storage for visual arts projects. In the centre of the room was a small enclosed structure that had a steel grate all the way around it. Grate appeared to be some sort of secondary containment (see photo 56, Appendix F). Previous use of room is unknown.
Public Washrooms	Both a women's and men's public washroom in Building A.
Janitor's Closet	Small room, door unlabelled. Located between the men's and women's washroom. Was originally a part of a washroom, now contains a large wash basin, shelves and an access to the roof. An electrical panel is also present.

Classroom	Description
Basement	Boiler Room. Contains the two hot water boilers and a number of other large equipment (compressors, generators etc.)
Room adjacent to exterior entrance to Boiler Room	Room was empty at time of site reconnaissance except for one chair in the corner and a piece of plywood. The current natural gas pipeline passes through room at the ceiling level. On the south side wall cut off pipes that have been capped are visible, similar to the north wall. It is believed that these are the original gas/fuel pipes that fed the boilers. A covered floor drain was also present in the centre of the room.

On northeast side of the exterior of Building A there are four entrances into the building and one loading dock bay. Between the building and the parking lot is a maintained lawn area. There are two large white antennas approximately 30 metres apart (see photo 2, Appendix F) within the lawn area and in the middle of these is a cement pad with a steel brace built in. According to Mr. LeBlanc these antennas are no longer in use and the cement pad is the former support pad for the antennas. The purpose of the antennas is unknown.

To the north of the antennas is a large black stack (see photo 39, Appendix F). This stack is the exhaust stack for the boilers in the basement of Building A. Adjacent to the black stack is what appears to be a fill and vent pipe for an underground storage tank stack (see photo 40, Appendix F). At the northeast corner of Building A is an emergency generator with an on-board storage tank and Municipality of Ottawa hydro and water metres. These metres are braced to the railing of a stairwell that leads down to the basement. There is an entry door to the boiler room and an entry door to what is suspected to be the former control room for Enbridge Gas Distribution Inc. At the time of the site reconnaissance on June 28th, the door was locked and no key was available. A placard was posted on the door indicating that Enbridge Gas Distribution (Enbridge) should be contacted for access. Mr. Guy LeBlanc contacted Enbridge, who reported that the room had formerly contained natural gas infrastructure now removed. Enbridge does not have a key to the room. The lock on the door was replaced and the room was accessed on July 29th. At that time, the room was empty except for a chair and piece of plywood (see photos 36 to 38, Appendix F). It did appear that the original pipes entering and exiting the room had been cut and capped. In addition, a number of pipes were observed connecting to Building A from the stairwell.

On the south side of Building A, another loading dock was observed near the southeast corner. A pipe stick-up and a bolted shut grate were observed on the ground beside the loading dock. A number of grates to the storm water system were also observed. Two additional entrances were observed on the west side of Building A.

All exterior utilities on the phase one property are underground. A total of sixteen light standards were observed in the parking lot. These appeared to be evenly spaced and in a grid pattern. Near the southwest corner of the parking lot a safety switch to the main power for the light standards is present.

FRANZ personnel did not observe any signs of stressed vegetation or stained areas that may indicate a historical or recent spill during the site reconnaissance.

5.2.2 Interior Observations

5.2.2.1 Potable Water Supply

Potable water is supplied to the phase one property from the Municipality of Ottawa water supply system. During the site reconnaissance, a drinking water fountain was observed in each corridor of Building A. In addition, potable water is supplied to all laboratories within the building.

5.2.2.2 Sewage Works

Building A is connected to the Municipality of Ottawa wastewater distribution system. Both potable water and sewage works connections to Building A are located at the northeast corner of the building. One male and one female bathroom are presently in use in Building A near the northwest corner. An additional male bathroom is in use adjacent to A106, the Neurotrauma Impact Science Laboratory.

5.2.2.3 Indoor Air Quality

No unusual odours, such as petroleum hydrocarbons (PHCs), were noted inside Building A during the site reconnaissance. As a whole, Building A did exhibit a musty odour, however, poor air circulation is likely responsible for this. One room, Classroom A104, labelled “Organic Chemistry” on the door did exhibit stronger chemical odours. Mr. LeBlanc did state that this lab is an original Algonquin College laboratory that has remained unchanged since the University purchased the property. These odours are likely attributed to poor air circulation and historical chemical storage.

5.2.2.4 Stains and Mould

During the site visit, Building A was reviewed for signs of mould and staining. One stained area was observed on the floor in classroom A111 in the northwest corner (see photo 46, Appendix F). The stained area was light brown in colour and appeared lighter in the middle with a darker ringed edge. The stained appear smeared. It is believed that the stain was the result of unknown spilled substance that was never cleaned. It did appear that these stains were historical and the area is now dry. Water stains were observed on the ceiling of classroom A113 (see photo 51, Appendix F), the telecommunications lab.

Mould was not observed at the time of the site reconnaissance. Mr. LeBlanc did indicate that he was not aware of any mould complaints in the past, but if ever there was a moisture or mould issue, the University would act immediately to fix the problem.

5.2.2.5 Radon Gas

Radon gas is formed by the natural breakdown of uranium in soil, rock and water. Certain types of geological material, such as bedrock containing black shale and/or granite, produce more radon gas than others. Radon gas can migrate through the ground and enter buildings through porous concrete or fractures, and tends to accumulate in poorly ventilated basements.

According to bedrock geology maps of Ottawa, glacial materials, which are not a likely source of radon gas, are present in the location of the property. Radon levels in the Ottawa area vary and in the area of the subject property are known to be low and to have little to no uranium thus it is unlikely that radon concentrations on the phase one property are of concern (Natural Resources Canada, http://geoscape.nrcan.gc.ca/ottawa/radon_e.php).

Radon gas has not been tested for at the phase one property. Radon gas was tested for at the main uOttawa campus with results of non-detect levels.

5.2.2.6 Polychlorinated Biphenyls (PCB) Containing Equipment

From the 1930s to the 1970s polychlorinated biphenyls were used as ingredients in hydraulic fluids, as well as coolants and lubricants in transformers and capacitors (Health Canada, 2002). PCBs are persistent in the environment (resistant to degradation and stored in animal fat tissue) and are suspected to be human carcinogens. By 1977, manufacturing and importing of PCBs was banned in North America. However, the ban did not cover existing PCBs that were used in electrical applications.

Fluorescent Lamp Ballasts

Operating fluorescent lamp ballasts were observed during the site reconnaissance in a number of classrooms in Building A. The fixtures were observed to be in good condition and did not show any signs of leakage. The age of the ballasts, and thus their likelihood of containing PCBs, is unknown. Given the uncertainty about the PCB content in the ballasts, their proper handling and disposal is recommended during any renovations that may occur.

Transformers

Two transformers were observed on the phase one property in the boiler room (basement) of Building A. One transformer was located in a small room that housed an electrical box and the transformer along the north wall of the boiler room. No distinguishing features were observed on the transformer box such as the manufacture date. A sticker on the front of the box indicated that the possible manufacturer is General Electric. It is unknown if the transformer is PCB containing, however it is likely that it does as there was no indication otherwise. The second transformer was in the main boiler room along the west wall (see photos 24 and 29, Appendix F). The transformer was a "Marcus Transformer", 45 KVA with a serial number of 6065-881. It is unknown if it contains PCBs, however, suspected to.

Hydraulic Equipment

No hydraulic equipment is present on the phase one property.

Paint

PCB-containing paint is not suspected to be present in the interior and exterior painted surfaces of Building A. However, cans of unopened paint cans were observed in classroom A110.

Other Materials

No other materials suspected of containing PCBs were observed on the property during the site reconnaissance.

5.2.2.7 Asbestos Containing Materials

When inhaled, asbestos fibres can cause asbestosis, mesothelioma, and lung cancer. Only airborne asbestos fibres are a human health concern. The common use of potentially friable (breakable by hand) asbestos-containing materials (mechanical insulation and fireproofing) in construction generally ceased voluntarily in the mid-1970s. However, in Ontario the spray application of asbestos-containing fireproofing and the application or installation of pipe or boiler insulation was not prohibited until 1986.

No potential asbestos containing materials were observed in Building A during the site reconnaissance. According to Guy LeBlanc, during the summer of 2007, all accessible asbestos containing materials were removed from each room in Building A including floor tiles, wall boards and ceiling tiles. If the asbestos containing material was in stable condition and enclosed (i.e., floor tiles under laboratory stations) then it was left in place.

Cutting, breaking or otherwise damaging the asbestos containing materials during renovation work could cause the asbestos fibres in materials to become airborne, which represents a potential health risk. Proper handling and disposing of materials during renovations is strongly recommended.

5.2.2.8 Lead

Paint

Lead paint from all doors and trim in Building A was removed during the summer of 2007. Given the age of Building A, lead-containing paint could still be present on interior and exterior painted surfaces.

Pipes

No exposed lead piping or solder was observed during the site visit. However, no piping has ever been replaced in Building A, therefore lead piping is likely present on the phase one

property. Proper handling and disposing of lead containing materials during renovations is recommended.

No other sources of lead were observed during the site reconnaissance.

5.2.2.9 Mercury

Mercury is a toxic substance; exposure to high levels can adversely affect the nervous system and kidneys. Short-term exposure to high levels of mercury can result in lung damage, nausea, vomiting, diarrhea, increases in blood pressure, skin rashes, and eye irritation (Environmental Protection Agency, <http://pasture.ecn.purdue.edu>).

Mercury is used as an ingredient in a number of devices that are commonly found in buildings including fluorescent lights, thermostats, and switches.

The thermostats and fluorescent lights in Building A could have mercury in them. Prior to renovations and disposal of building materials they should be inspected for mercury and disposed of accordingly, if present.

5.2.2.10 Urea Formaldehyde Foam Insulation (UFFI)

The majority of urea formaldehyde foam insulation (UFFI) was installed in new and existing buildings in Canada between 1977 and 1980 as part of the Canadian Home Insulation Program. The use of UFFI was banned in 1980 for human health related reasons due to its potential to produce formaldehyde gas (CMHC, 2002). Tests have shown that UFFI is not a source of over-exposure to formaldehyde after the initial curing and release of excess gas.

No potential UFFI was observed during the site reconnaissance. Mr. LeBlanc did indicate that he understands that the insulation in Building A is fibreglass and spray fibre insulation.

5.2.2.11 Ozone Depleting Substances (ODS)

Ozone-depleting substances include any substance containing chlorofluorocarbon (CFC), hydrochlorofluorocarbon (HCFC), halon, or any other material capable of destroying ozone in the atmosphere. Ozone-depleting substances have been used in rigid polyurethane foam and insulation, laminates, aerosols, air-conditioners, fire extinguishers, cleaning solvents and the sterilization of medical equipment. Federal regulations introduced in 1995 required the elimination of production and import of CFCs by January 1, 1996 (subject to certain essential uses) and a freeze on the production and import of HCFC-22 by the year 2020.

Building A does not contain any air conditioning units. No refrigerators were observed during the site reconnaissance.

5.2.2.12 Generators and Other Large Equipment

Heating and Ventilation

Two hot water boilers are located in the basement (Boiler Room) of Building A. The Boiler Room is at the northeast corner of the building. These boilers are situated side by side in the centre of the room. Both boilers appear to be in good working condition. No staining or odours were observed. The Unilux flexible water tube boilers are fuelled by natural gas (see photos 18 and 19, Appendix F). These boilers, as indicated in the MOE record of an inspection conducted by the Air Management Branch (see Section 3.1.6.12) indicate that site heating was previously fuelled by number 2 oil. This fuel was likely stored in the underground storage tank inferred by the existence of a fill and vent pipe during the site visit.

As stated on the manufacture label, the boilers have a maximum production of 10,000 M.B.H (thousands of BTU's per hour) and a minimum of 2,700 M.B.H. Both boilers were made in 1987; however, the year installed was not indicated on the label.

The ventilation system for Building A is the oldest out of all five buildings at 200 Lees Avenue. The system has not been updated since the original installation in 1963.

Four pressurized hot water tanks were located adjacent to the boilers. All four tanks are labelled EXTROL pre charged PSI tanks manufactured by NAT'L BD., certified by Amtrol Inc. with a design temperature of 115 degrees Celsius (see photo 30, Appendix F). No observable staining or odours were noted in or around the hot water tanks during the site reconnaissance. All appeared to be in good working order.

Generator

One emergency backup generator is present in northeast corner of the boiler room. The generator is enclosed in a small room that contains a sump hole and storage for engine parts. The generator is mounted on a steel frame (see photo 25, Appendix F). The generator is used as backup in the event of a municipal power outage. At the time of the site reconnaissance the generator was connected to the aboveground storage tank in the mechanical room but appeared to not be in use. The manufacturer's label on the generator was not legible. It appears to have been manufactured by a company called KOHLER (however that could be the model or brand).

Compressors

Two large compressors were observed in the northwest corner of the Boiler Room. Both compressors were mounted on cement blocks (see photo 20, Appendix F) and had stickers on them that indicated they were manufactured by a company called DeVilbiss Hankison. The date of manufacture or installation is unknown. Staining under or around the compressors was not observed.

5.2.2.13 Fuel Storage Tanks

One aboveground fuel storage tank (AST) is present in the Boiler Room. The AST is located west of the room with the generator. It appears that the AST stores diesel fuel for the emergency generator as the piping from the AST connects to the generator. The tank is approximately 1,100 litres in size. The tank is in excellent condition and has secondary containment present (see photos 22 and 23, Appendix F). Corrosion, staining or odours were not observed. The AST did not have a tag, therefore no specific details are available. Salient points from the AST inspection are summarized in the Table 5-4.

Table 5-2: Summary of Inspection of 1,100 L Diesel Fuel AST – Boiler Room

Item	1,100 Litre AST for Generator
Type	Aboveground
Fuel type	Diesel
Shape	Cylinder
Volume	1,100L
Installation date	unknown
Last inspection	unknown
Tank material	Steel
Condition	Good condition
Secondary containment	Yes
Safety devices	No overflow protection
Location of fill and vent pipes	Protected from traffic
Odours	None
Evidence of spills or leakage	None
Obstructions	None

5.2.2.14 Drains, Pits and Sumps

A sump pit is located beside the emergency generator. The pit has a steel plate covering that was removed (see photos 26 and 27, Appendix F) during site reconnaissance on July 29th. The sump hole is approximately one square metre in size and contained water approximately 5 inches in depth. The water was clear, but had a rusty color. A layer of sediments were observed at the bottom of the sump hole. No odours or sheen were observed.

During the site reconnaissance drains were observed in the floor of a number of classrooms, specifically the former laboratories (A104, A110 and A111). Although not confirmed, it is believed that the drains are connected to the Municipality of Ottawa wastewater distribution system. No other drains or pits were observed while on site.

5.2.2.15 Hazardous and Waste Materials

Waste oils, both covered and uncovered, were observed in the Boiler Room. On the floor beside the AST were two pails of Shell Corena P68 High Performance compressor oil (see photo 21, Appendix F). Adjacent to the compressors, three more pails labelled the same were present, one of which was open. Spills or stains around the waste oils were not observed.

Fourteen containers of Alco Trasar TRAC10, a salt solution for the water treatment system (similar to a water softener) were present on the floor beside the hot water tanks. All containers were properly closed and floor staining or odours were not observed.

The southeast corner of the Boiler Room contained shelving that housed spare parts, tools and a number of oils and lubricants for the maintenance of large equipment (see photo 28, Appendix F). Specific brands and use were not noted during the site visit; however, no spills, staining or odours were observed.

5.2.2.16 Pesticide and Fertilizer Storage

Fertilizer was being stored in classroom A102. This room was also being used as storage for shelving units. Three full pallets of fertilizer labelled "MAG" were observed in the southwest corner of the room. According to Mr. LeBlanc, this fertilizer is used for lawn maintenance of 200 Lees Avenue. In addition to the fertilizer, two large containers of a liquid salt brine solution were present next to the loading dock doors (see photos 42 to 44, Appendix F). This salt solution is used for the winter road maintenance of the facility.

No observable staining or spills were noted. The salt containers were sealed tight and all bags of fertilizer were intact.

5.2.2.17 Unidentifiable Substances

No unidentifiable substances were observed during the site reconnaissance.

5.2.3 Exterior Observations

5.2.3.1 Wells

FRANZ observed two groundwater monitoring wells in the centre of the parking lot and one near the southeast corner of Building A, which had been installed during previous environmental investigations. The wells were completed with flush mounts and one with a stick-up casing.

5.2.3.2 Hazardous Materials Storage and Waste Management Practices

No hazardous materials storage was observed during the site reconnaissance on the phase one property.

The southeast corner of the asphalt parking lot consists of a hording enclosure that holds the Universities garbage and compost facilities. This area is also used to store larger outdoor items such as picnic tables, dumpsters and the composting shed (see photos 10 through 14, Appendix F). The caretakers of Building A collect the garbage and composting items and transport, separate and dispose of said materials within acceptable receptacles. Building C at 200 Lees Ave. holds the Universities recycling centre where all recycled materials from both campuses are sorted and then pick up daily by Waste Management. Used batteries and empty paint cans collected across both campuses are also stored here until picked up for proper disposal.

5.2.3.3 Maintenance and Operational Areas

No exterior maintenance and/or operational areas were observed on the phase one property during the site reconnaissance.

5.2.3.4 Effluent/Wastewater Discharge

Sewage discharge is collected by the municipal sewage collection system and pumped to the municipal treatment plant. According to information obtained during the interview and the records review, all city services to Building A connect to the building at the northeast corner and run parallel to highway 417.

5.2.3.5 Underground and Overhead Utilities

No high-voltage power lines were observed in the vicinity of the phase one property. All utilities are underground and connect to Building A at the northeast corner of the building.

5.2.3.6 Transformers and Hydraulic Equipment (PCBs)

No transformers or hydraulic equipment that may contain PCBs were observed on the phase one property during the site reconnaissance.

5.2.3.7 Surficial Staining and Evidence of Spills

Surficial staining or evidence of spills (i.e. stressed vegetation) was not observed on the phase one property during the site reconnaissance.

5.2.3.8 Fill Materials

Imported fill material has historically been used on the phase one property. The quantity and source of this fill is unknown. During October 2010, a four inch layer of topsoil was added to the surface of the phase one property. A spray mixture of grass and fertilizer was then used to seal the topsoil.

5.2.3.9 Fuel Storage Tanks

No exterior ASTs were observed on the phase one property during the site reconnaissance.

One suspected underground storage tank (UST) was observed along the northeast wall of Building A just southeast of the large black exhaust stack for the boilers. What appeared to be a fill pipe and a vent pipe were observed (see photo 40, Appendix F). A grate was observed next to the pipes; however the cover could not be removed. Mr. LeBlanc did confirm on July 13, 2011 that there is a UST present in this location that previously served as the back-up fuel source for the hot water boilers in the basement of Building A. The tank has reportedly not been used during uOttawa's ownership of the site. Details of the UST are not known at this time.

5.2.3.10 Generators and Other Large Equipment

In addition to the emergency generator inside the mechanical room of Building A (see Section 5.2.2.12), an emergency generator was observed at the exterior of the northeast corner of Building A (see photo 33, Appendix F). The generator was located on a cement pad and has a fuel reserve that is self-contained. The size of the tank is approximately 360 litres. The unit appeared to be in good working condition. No leaks, staining or spills were observed.

The Municipality of Ottawa hydro and water meters were observed adjacent to the emergency generator (see photo 34, Appendix F).

5.2.3.11 Odours and Air Quality

Because Building A is being partially decommissioned and is now used for storage, the heating, ventilation and air conditioning (HVAC) system is not in operation in all areas of the building. As a result, the FRANZ field assessors noted musty odours in most building locations. The former laboratories on the south site of the building also exhibited a chemical odour.

No odour or air quality issues were noted outside the building.

5.3 Investigation of the Phase One Study Area

The phase one study area was investigated on July 11, 2011. The FRANZ field assessors observed the adjacent properties from publicly accessible locations and took photographs (see photos 65 through 74, Appendix F) documenting current site uses.

FRANZ field assessors investigated the bank of the Rideau River to the south and southeast of the phase one property. No observable impacts, such as stressed vegetation or staining, were observed. Aquatic plants, swans, ducks and fish were observed. FRANZ also investigated the opposite bank of the Rideau River, along a National Capital Commission pathway. One monitoring well was observed at the east end of the pedestrian bridge. The bank of the river was again heavily vegetated. No soil staining, stressed vegetation, or odours were noted.

FRANZ investigated the Transitway and apartment buildings to the west of phase one property. To the northwest of the phase one property is the Lees Avenue transit stop. The 417 highway runs parallel to the north property line. During the investigation of these publicly accessible areas, FRANZ field assessors did not observe any environmental impacts.

5.4 Written Description of Investigation

A description of the investigation is provided in Sections 5.2 and 5.3. During the site investigation FRANZ observed the following items relevant to the existence of an area of potential environmental concern:

- Underground fuel storage tank
- Site-wide fill materials

6.0 REVIEW AND EVALUATION OF INFORMATION

6.1 Current and Past Uses

Based on the site visit observations and interviews, the site is currently used primarily as a parking lot. Certain portions of the parking lot are used for storage, including recycling storage and composting. The majority of the classrooms and laboratories in Building A are used for storage or a work space. Some of the rooms have not been used since the property was transferred from Algonquin College in 2007.

According to aerial photographs, records review and interviews with site representatives; the phase one property was formerly used as a landfill in the first half of this century for material generated during the burning of domestic and commercial waste from a nearby incinerator (which operated from approximately 1913 to 1921). Subsequently, the site was used to dispose of by products of coal gasification. The City of Ottawa's records (as reported by Golder, 2007) indicate that use of the site as a landfill stopped in 1947.

Once the landfill was closed, the site was developed in the 1960s as a campus by Algonquin College of Ottawa. The campus was transferred to the University of Ottawa in 2007.

6.2 Potentially Contaminating Activities

During the phase one ESA investigation, FRANZ identified the following potentially contaminating activities at the site or in the phase one ESA study area. Potentially Contaminating Activities are defined in Table 2 of Schedule D of O.Reg. 153/04.

Table 6-1: Potentially Contaminating Activities

Potentially Contaminating Activity	Location (on- or off-site)	Source	Rationale for Consideration as an Area of Potential Environmental Concern
Asphalt and Bitumen Manufacturing	Tar Distillation Plant, Off-site, to the west, near current 170 Lees	INTERA report (1987) and associated fire insurance plans	Impacts are similar to coal gasification plant issues addressed below. The two off-site sources will be considered as a single area of potential environmental concern on the phase one property.

Potentially Contaminating Activity	Location (on- or off-site)	Source	Rationale for Consideration as an Area of Potential Environmental Concern
Coal Gasification	Off site, to the northwest.	INTERA report (1987) and associated fire insurance plans, Franz review of fire insurance plans, Ministry of the Environment fact sheets, etc.	Although the coal gasification plant was to the northwest of the 200 Lees Property (and thus not adjacent to the phase one property, which is the eastern portion of the 200 Lees property), impacts have migrated onto the 200 Lees property, and may migrate onto the phase one property.
Gasoline and Associated Products Stored in Fixed Tanks	On-site (although parts of the mechanical room in Building A are off-site)	Site visit observations, interview, previous reports (Draft FRANZ Phase One ESA, 2007)	The storage tanks found inside Building A appear to be well-contained and are not expected to have leaked; however, the sump beside the generator in the mechanical room and the lack of records pertaining to the suspected underground storage tank adjacent to the building indicate that this is an area of potential environmental concern.
	Off-site, to the north	Ecolog ERIS Report	Two single walled underground storage tanks (UST) with capacities of 10,000L and 25,000L were installed on site in 1991 for a private fuel outlet service station. As of August 2007, both USTs were listed as non-active. Fuel storage and handling issues will be addressed with the assessment of the on-site UST.
Commercial Autobody Shop	Off-site, to the north	Ecolog ERIS Report	One Commercial Autobody Shop was identified at 23 Hurdman Avenue, on the north side of highway 417. Due to the distance from the phase one property and the potential contaminants of concern (waste oils and air emissions) present, this was not identified as an area of potential environmental concern.

Potentially Contaminating Activity	Location (on- or off-site)	Source	Rationale for Consideration as an Area of Potential Environmental Concern
Rail Yards, Tracks and Spurs	On-site – bisecting the parking lot	Air photo observations	Rail lines are typically associated with PAHs and metals. Removal records for the rail spur are not available and, as a result, this is an area of potential environmental concern.
Waste Disposal and Waste Management	On-site, below surface of current parking lot.	Previous reports, particularly Golder (2007), CH2M Hill (2002), and Intera (1987) describe geology. Gartner Lee (1980) describes the waste disposal practices.	The site received wastes from the Lees Avenue Incinerator (on the north side of Lees Avenue) and the coal gasification plant from approximately 1913 to 1947. The fill consists of incinerator ash and other burnt waste. As a result, Franz considers the entirety of the phase one property as an Area of Potential Environmental Concern.
Treatment of Sewage	Off-site, to the north	Ecolog ERIS Report	A sewage treatment certificate of approval was issued for the City of Ottawa at the intersection of Hurdman Rd., Robinson Ave and Lees Ave in 1990. Previous environmental investigations on the phase one property have not identified impacts associated with sewage treatment. As a result, this is not considered an area of potential environmental concern.

6.3 Areas of Potential Environmental Concern

Based on the records review, interviews and field observations, FRANZ has identified the following areas of potential environmental concern at the site (Figure 6, Appendix A).

Table 6-2: Areas of Potential Environmental Concern

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Ground water, soil and/or sediment)
APEC 1: Cinder and ash fill layer	Across site	Waste Disposal and Waste Management	On-site	PAHs, metals	Soil, ground water
APEC 2: Fuel Storage	Northwest corner of site, adjacent to Building A	Gasoline and Associated Products Stored in Fixed Tanks	On-site (although some fuel storage is off-site in the area)	PHCs, BTEX	Soil, ground water
APEC 3: Rail Spur	Through the centre of the site, along the old rail alignment	Rail Yards, Tracks and Spurs	On-site	PAHs, metals	Soil, ground water
APEC 4: Off-site coal tar impacts	Western site boundary	Coal Gasification / Asphalt and Bitumen Manufacturing	Off-site	PAHs	Soil, ground water

6.4 Phase One Conceptual Site Model

The phase one ESA Conceptual Site Model (CSM) is shown on Figures 7 and 8, Appendix A. The CSM shows:

- Existing buildings and structures,
- Water bodies located in whole or in part on the phase one study area,
- Areas of natural significance located in whole or in part on the phase one study area,
- Drinking water wells on the site,
- Roads within the phase one study area
- Uses of properties adjacent to the phase one property,

- Areas where any potentially contaminating activity has occurred (including tank locations), and
- Areas of potential environmental concern.

6.4.1 Potentially Contaminating Activities

Potentially contaminating activities on-site (or that may have impacted areas on-site) are Asphalt and Bitumen Manufacturing, Coal Gasification; Gasoline and Associated Products Stored in Fixed Tanks; Commercial Autobody Shops, Treatment of Sewage, Rail Yards, Tracks and Spurs; and Waste Disposal and Waste Management. These activities and their locations are shown on the CSM figure, Figure 7 in Appendix A.

6.4.2 Contaminants of Potential Concern

Contaminants of potential concern that may be present on the site include PHCs, BTEX, PAHs and metals.

6.4.3 Underground Utilities, Migration and Transport

Site utilities are generally buried, including gas lines, power, water, sanitary and storm sewer. Ground water is found at the phase one property between three and five metres below ground surface. Utility trenches for hydro, gas and water are likely above this level and will therefore not act as preferential pathways for contaminants. Sanitary and storm sewer lines may be within the saturated zone of ground water and could act as preferential pathways.

Previous ground water sampling at the phase one ESA site has not indicated ground water impacts are present (with scattered exceptions), so contaminant migration is unlikely.

6.4.4 Regional and Site-Specific Geology and Hydrogeology

The uppermost bedrock in the vicinity of the site is composed of the Billings Formation dark grey to black, fine-grained fissile, thinly bedded shale. Shale bedrock is generally encountered at depths approximately 10 to 12 meters below ground surface (m bgs) at the phase one property and slopes to the southeast towards the Rideau River. Below the shale is the Eastview Formation limestone which is approximately 6 m thick and also dips to the southeast. There is localized bedrock low at the transitway at the Rideau River.

The overburden in the vicinity of the phase one property is complex; however, based on previous reports, there are at least two units above the bedrock: cinder and ash fill, and glacial till.

The fill at or in the vicinity of the phase one property consists of a wide variety of materials from industrial, construction and landfill use. The fill varies widely in classification and description; however, common to all boreholes and test pits, the fill material consists of ash, cinders, sand, brick, wood, coal and glass. The fill layer is commonly referred to as the “cinder and ash fill

layer". The fill was described as thickest at the site. Historic records indicate that the fill, placed prior to the construction of the on-site buildings, has raised the site elevation by 7 to 8 metres. This is observable by comparing the current site elevation to the Rideau River, assuming that the original elevation of the area was very close to the water. The thickness of fill in the borings varies between about 0.6 to 7.6 metres, but typically is about 3 to 6 metres across much of the property. The depth to the fill ranges from just below the surface to one metre below ground surface.

The glacial or basal till overlies the bedrock. It varies in thickness and is discontinuous, sometimes increasing in thickness where the bedrock elevation decreases. The till is very dense and stiff and is generally sandy and silty with varying amounts of clay and gravel. The glacial till generally extends to the surface of the bedrock at depths of 10.2 to 13.1 metres bgs.

The current groundwater flow system is complex due to the presence of several hydraulic sinks. These sinks are a result of the transitway, the bus ramp and the parking garages of the high-rise buildings and their associated drainage/dewatering systems. The transitway has a drainage system that maintains the groundwater level several meters below Lees Avenue.

The shallow groundwater from the north half of the site is expected to flow towards the west (i.e., towards the below grade transitway) and to the north (i.e., towards the Highway 417). Shallow groundwater from the southern half is expected to flow south and southeast towards the Rideau River. Depths to ground water were reported to be between 3 and 8 metres below ground surface at the 200 Lees property and 3 to 5 metres below ground surface on the phase one property.

Groundwater velocity was estimated by previous consultants working at the site to range between 0.21 to 210 m/yr, depending on the type of overburden material encountered. The groundwater flow in the fill is expected to be near the top of this range. Perched water tables in the fill were observed at the site. The fill at the site, which consists of landfill and waste material, is very porous and considerably more permeable than the underlying fine alluvium material. The resulting effect is that infiltrating precipitation passes quickly through the fill material but "ponds" at the surface of the natural material because of a lower infiltration rate.

6.4.5 Assessment of Uncertainty

Previous intrusive investigations have provided extensive characterization of the subsurface conditions at the 200 Lees property. As such, the conceptual site model provided in this phase one ESA is relatively certain. Investigations, however, have focussed on the area of the 200 Lees property closest to the transitway, i.e., not the phase one property. In general, FRANZ expects the conditions at the phase one property to be similar to the rest of the 200 Lees property.

The site has been extensively studied for at least thirty years. As a result, some data was collected using methods that would no longer be acceptable. FRANZ has used historical data as the source for some of this conceptual site model; contaminants of concern and media of interest may be different based on current methodology and Standards.

7.0 CONCLUSIONS

1. Franz Environmental Inc. (FRANZ) was retained by the University of Ottawa to complete a phase one Environmental Site Assessment (ESA) at 200 Lees Avenue, in Ottawa, Ontario. The portion of the property under consideration in this phase one ESA (the "Site") is the eastern portion of the 200 Lees property. The phase one property is approximately 30,000 m² in area and is bordered by the Rideau River, the Queensway, and includes all of Building A. The University intends to redevelop the phase one property, which is currently used as a parking lot, into an open-air stadium.
2. The phase one ESA was conducted in accordance with Ontario Regulation 153/04 Records of Site Condition – Part XV.1 of the Act (as amended) under the Environmental Protection Act. As such, it can form the basis for an application for a Record of Site Condition under the Act.
3. In order to prepare this phase one ESA report, FRANZ conducted a records review, a site visit, interviews with persons knowledgeable about the phase one property, and an evaluation of the information gathered from the records review, site visit and interviews.
4. Based on the site visit observations and interviews, the phase one property is currently used primarily as a parking lot. Certain portions of the parking lot are used for storage, including recycling storage and composting. Building A falls within the western portion of the phase one property. The majority of the rooms in Building A are used for storage or a work space. Some of the rooms have not been used since the property was transferred from Algonquin College in 2007.
5. According to aerial photographs, records review and interviews with site representatives, the phase one property was formerly used as a landfill in the first half of this century for material generated during the burning of domestic and commercial waste and gasification of coal. Once the landfill was closed, the phase one property other portions of 200 Lees Avenue were developed in the 1960s as a campus by Algonquin College of Ottawa. The campus was transferred to the University of Ottawa in 2007.
6. Based on the review of previous records, site visit and interviews, FRANZ identified four Areas of Potential Environmental Concern (APECs) at the phase one property.
7. **APEC 1: Cinder and ash fill layer.** This layer is present across most of the phase one property and has been observed to have an average thickness of 3 to 6 m. The layer contains soil exhibiting concentrations of various polycyclic aromatic hydrocarbons and metals in excess of Ontario Standards.
8. **APEC 2: Fuel Storage.** During the site visit, Franz identified fuel storage inside the mechanical room of Building A and a potential underground storage tank location adjacent

to the mechanical room. The storage tanks found inside Building A appeared to be well-contained and are not expected to have leaked; however, the sump beside the generator in the mechanical room and the lack of records pertaining to the suspected underground storage tank adjacent to the building indicate that this is an area of potential environmental concern. The contaminants of potential concern for this APEC are petroleum hydrocarbons and benzene, toluene, ethylbenzene and xylenes.

9. **APEC 3: Rail Spur.** Historical aerial photographs indicate that the parking lot covering most of the phase one property was constructed in two phases. A railroad historically cut across the current parking lot and marked the limit of the first phase of the parking lot. This railroad was also present during the landfilling period and may indicate the eastern limit of the landfill material. The surficial soil underneath the former railroad alignment may contain polycyclic aromatic hydrocarbons and metals.

10. **APEC 4: Off-site coal tar impacts.** An area of soil and groundwater polycyclic aromatic hydrocarbon contamination has been previously investigated, and is located on the northwestern portion of the 200 Lees property, beyond the phase one property boundary. This is referred to as the “coal tar” impact associated with activities at the former gasification plant. While these impacts are not on the phase one property, they have the potential to migrate over time, and therefore the western boundary of the phase one property is identified as an APEC.

7.1 Requirement for a Phase Two Environmental Site Assessment

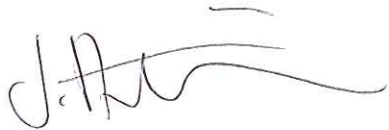
Based on the Areas of Potential Environmental Concern identified in this phase one ESA, a Phase Two ESA is required at the site before a Record of Site Condition can be submitted.

Documentation and rationale for this assessment is presented in the Conclusions, above. At the time of the Phase Two ESA further assessment of the habitat requirements of the species at risk in the phase one study area should be conducted.

FRANZ has prepared a plan and for a Phase Two ESA at the site, which is provided under separate cover.

7.2 Signatures

This phase one ESA report was prepared in accordance with Ontario Regulation 153/04 *Records of Site Condition – Part XV.1 of the Act* under the *Environmental Protection Act* as amended. The phase one ESA was supervised by Andrew Henderson, P.Eng., QP_{ESA}. All findings and conclusions of the phase one ESA are included in this report.



Julie Dittburner, B.Sc., Dipl. Tech.
Assessor



Catherine LeBlanc, B.Eng.
Assessor



Andrew Henderson, B.A.Sc., P.Eng., QP_{ESA}
Project Manager, Qualified Person



Chris Ludwig, M.Eng., P.Eng., PMP, QP_{ESA}
Senior Review

Z:\Projects\2011\1329-1101 University of Ottawa 200 Lees\Phase I ESA\Final\Phase I ESA_200 Lees_final.docx

8.0 REFERENCES

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Ottawa-Carleton Regional Health Unit. Coal Tar at Lees Avenue (memo). September 4, 1986

9.0 LIMITATIONS

This report has been prepared exclusively for the University of Ottawa. The report may not be relied upon by any other person or entity without the express written consent from Franz Environmental Inc.

Any use, which a third party makes of this report, or any reliance on decisions made based on it, is the responsibility of such third parties. Franz Environmental Inc. (FRANZ) accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Some of the information presented in this report was provided through existing documents and interviews. Although attempts were made, whenever possible, to obtain a minimum of two confirmatory sources of information, FRANZ, in certain instances, has been required to assume that the information provided is accurate.

The conclusions presented represent the best judgment of the assessors based on current environmental standards, previous reports, and on the site conditions observed in July, 2011. Due to the nature of the investigation and the limited data available, the assessors cannot warrant against undiscovered environmental liabilities.

Should additional information become available, FRANZ requests that this information be brought to our attention so that we may re-assess the conclusions presented herein.

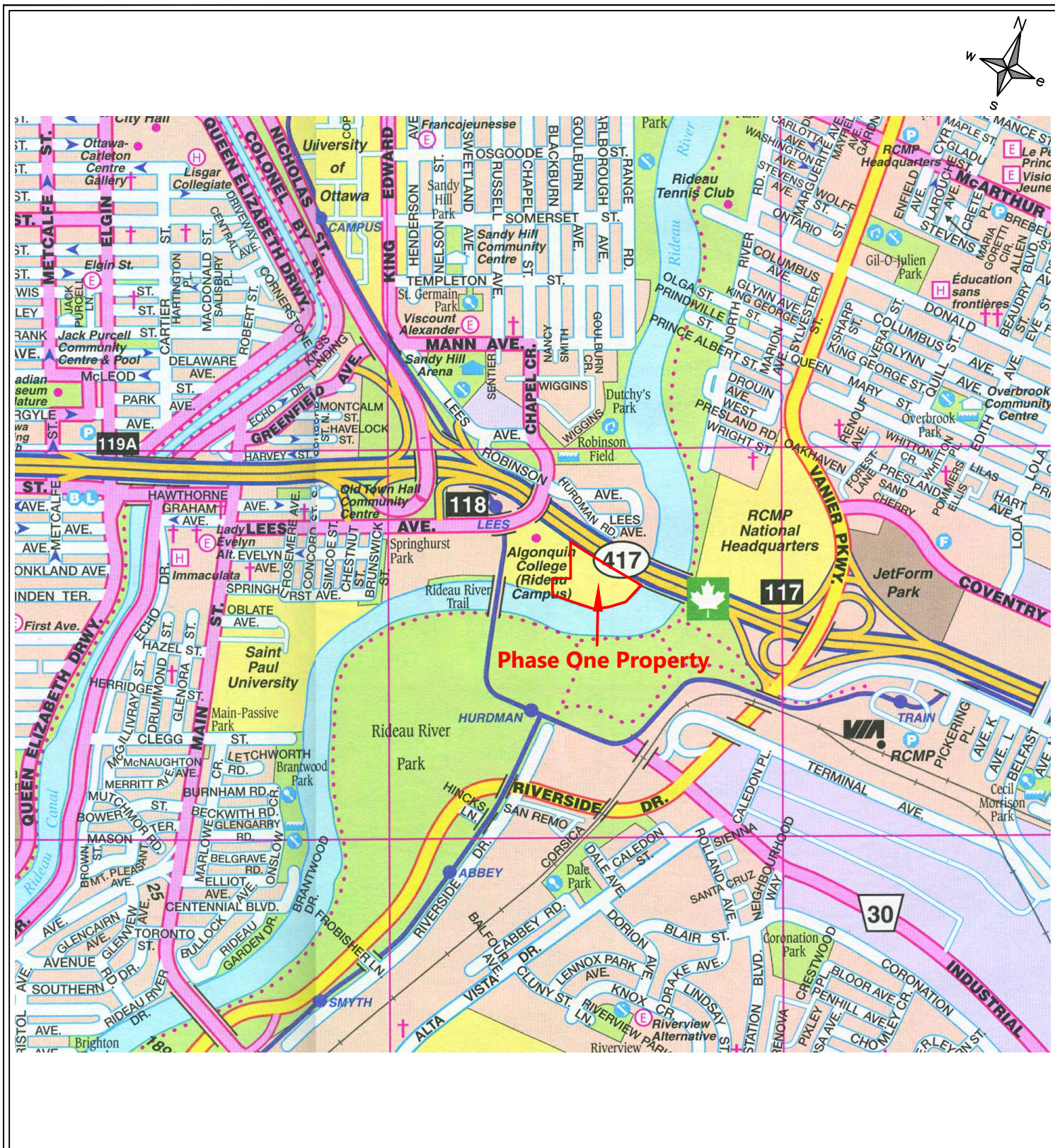
There is no warranty, expressed or implied that the work reported herein has uncovered all potential environmental liabilities, nor does the report preclude the possibility of contamination outside of the areas of investigation. The findings of this report were developed in a manner consistent with a level of care and skill normally exercised by members of the environmental science and engineering profession currently practicing under similar conditions in the area.

A potential remains for the presence of unknown, unidentified, or unforeseen surface and sub-surface contamination. Any evidence of such potential site contamination would require appropriate surface and sub-surface exploration and testing.


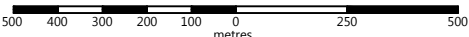
If new information is developed in future work (which may include excavations, borings, or other studies), FRANZ should be requested to re-evaluate the conclusions of this report, and to provide amendments as required.

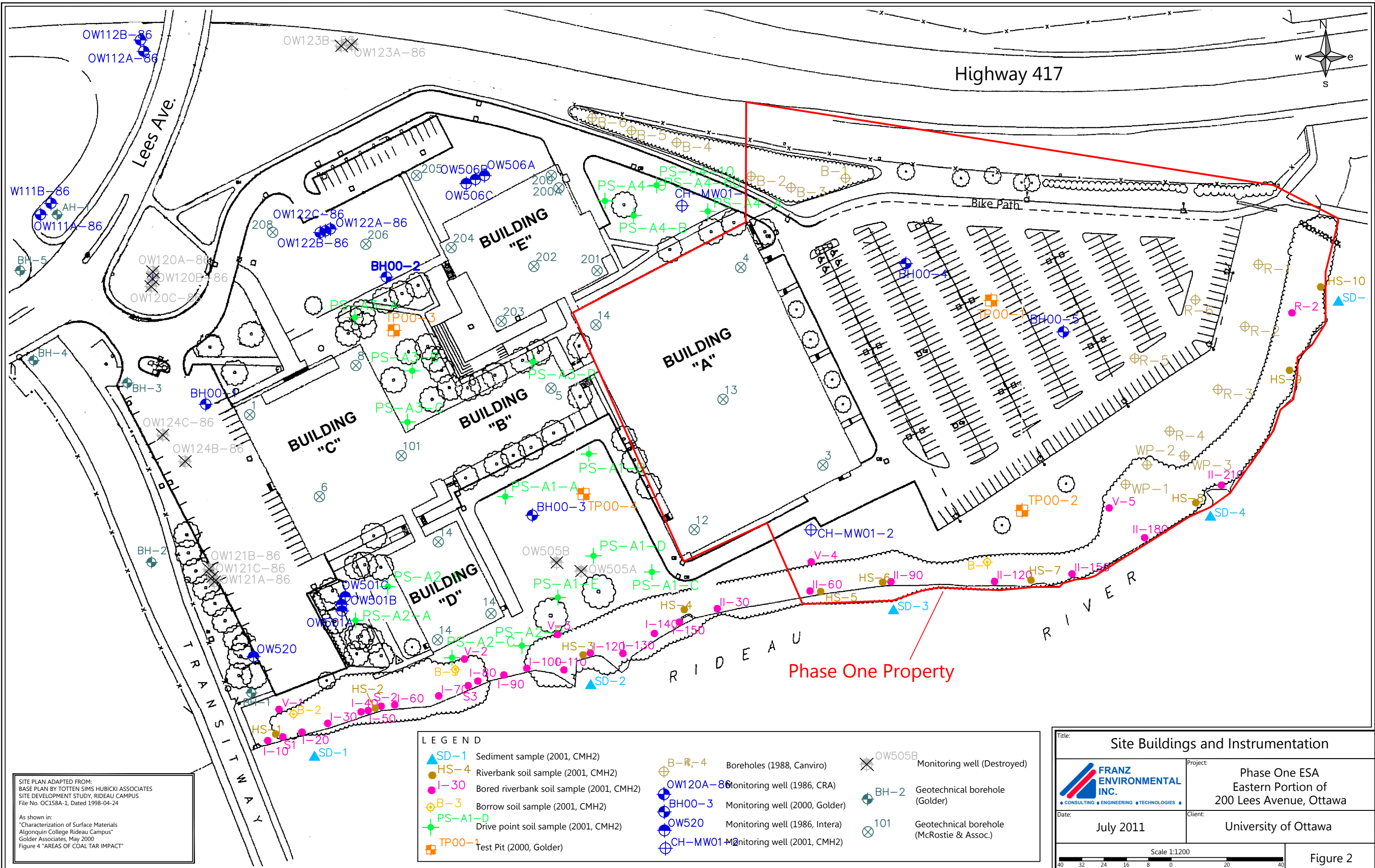
APPENDIX A

Figures



Reference:
 "Ottawa-Gatineau StreetFinder", Rand McNally Canada Inc., 2003

Title: Site Location	
	Project: Phase One ESA Eastern Portion of 200 Lees Avenue, Ottawa
	Date: July 2011	Client: University of Ottawa
Scale 1:17000 	
Figure 1	

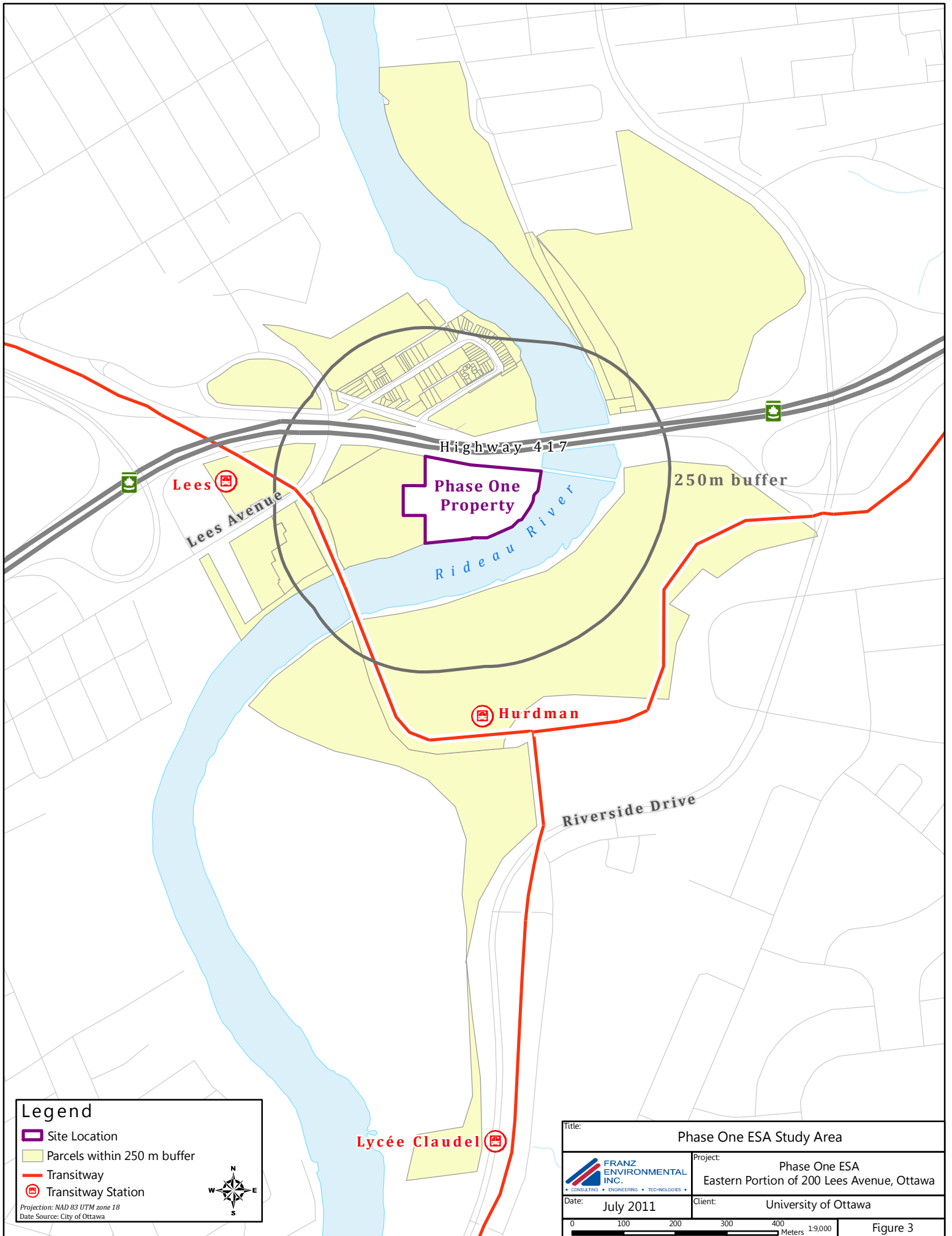


SITE PLAN ADAPTED FROM:
 BASE PLAN BY TOTTEN SIMS HUBICKI ASSOCIATES
 SITE DEVELOPMENT STUDY, RIDEAU CAMPUS
 File No. OC158A-1, Dated 1998-04-24

As shown in:
 "Characterization of Surface Materials
 Algonquin College Rideau Campus"
 Golder Associates, May 2000
 Figure 4 "AREAS OF COAL TAR IMPACT"

LEGEND			
▲ SD-1	Sediment sample (2001, CMH2)	⊗ OW505B	Monitoring well (Destroyed)
● HS-4	Riverbank soil sample (2001, CMH2)	⊕ B-R-4	Boreholes (1988, Canviro)
● I-30	Bored riverbank soil sample (2001, CMH2)	⊗ OW120A-86	Monitoring well (1986, CRA)
● B-3	Borrow soil sample (2001, CMH2)	● BH00-3	Monitoring well (2000, Golder)
● PS-A1-D	Drive point soil sample (2001, CMH2)	● OW520	Monitoring well (1986, Intera)
■ TP00-1	Test Pit (2000, Golder)	⊕ CH-MW01-1	Monitoring well (2001, CMH2)
		● BH-2	Geotechnical borehole (Golder)
		⊗ 101	Geotechnical borehole (McRostie & Assoc.)

Title: Site Buildings and Instrumentation	
 CONSULTING • ENGINEERING • TECHNOLOGIES	Project: Phase One ESA Eastern Portion of 200 Lees Avenue, Ottawa
	Client: University of Ottawa
Date: July 2011	
Scale 1:1200	

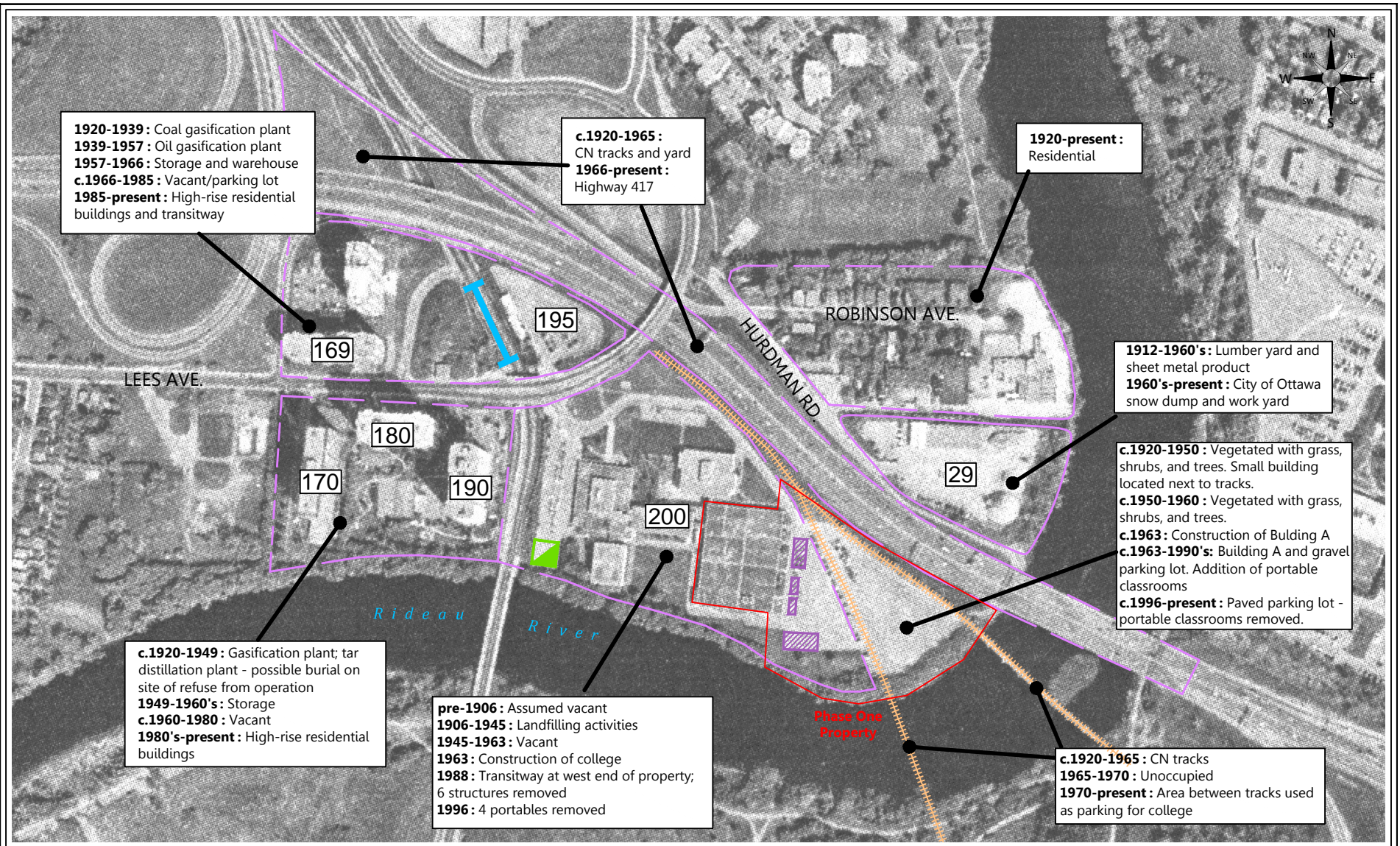


Legend

- Site Location
- Parcels within 250 m buffer
- Transitway
- Ⓜ Transitway Station

Projection: NAD 83 UTM zone 18
Date Source: City of Ottawa

Title: Phase One ESA Study Area	
 <small>• CONSULTING • ENGINEERING • TECHNOLOGIES •</small>	Project: Phase One ESA Eastern Portion of 200 Lees Avenue, Ottawa
	Date: July 2011	Client: University of Ottawa
 0 100 200 300 400 Meters 1:9,000	
Figure 3	



Legend

- Approximate historical property boundary
- Groundwater collection trench (current)
- Current civic address
- Former CN tracks
- Former location of 6 unidentified structures
- Former location of portable classroom

Reference:

Aerial Photograph A-31736-113
 May 27, 1996
 Original scale 1:15,000
 National Air Photo Library

Title:

Historical Land Use



Project:

Phase One ESA
 Eastern Portion of
 200 Lees Avenue, Ottawa

Date:

July 2011

Client:

University of Ottawa

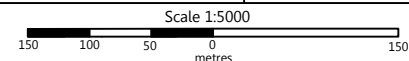
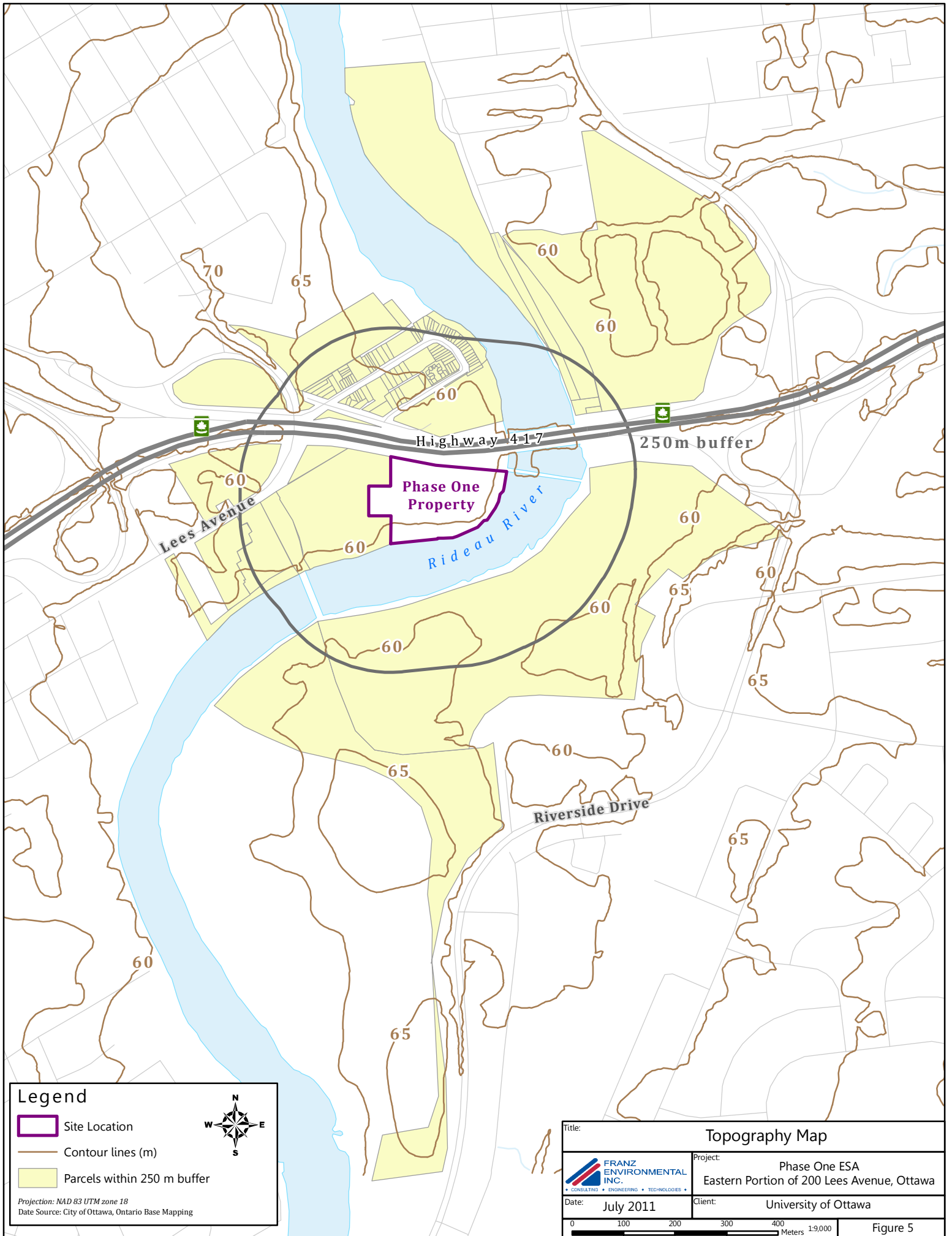





Figure 4



Legend

-  Site Location
-  Contour lines (m)
-  Parcels within 250 m buffer



Projection: NAD 83 UTM zone 18
 Date Source: City of Ottawa, Ontario Base Mapping


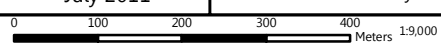
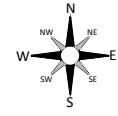
Title: Topography Map	
 Project: Phase One ESA Eastern Portion of 200 Lees Avenue, Ottawa	Client: University of Ottawa
	Date: July 2011
 0 100 200 300 400 1:9,000 Meters	

Figure 5



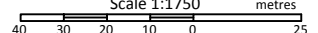
Legend

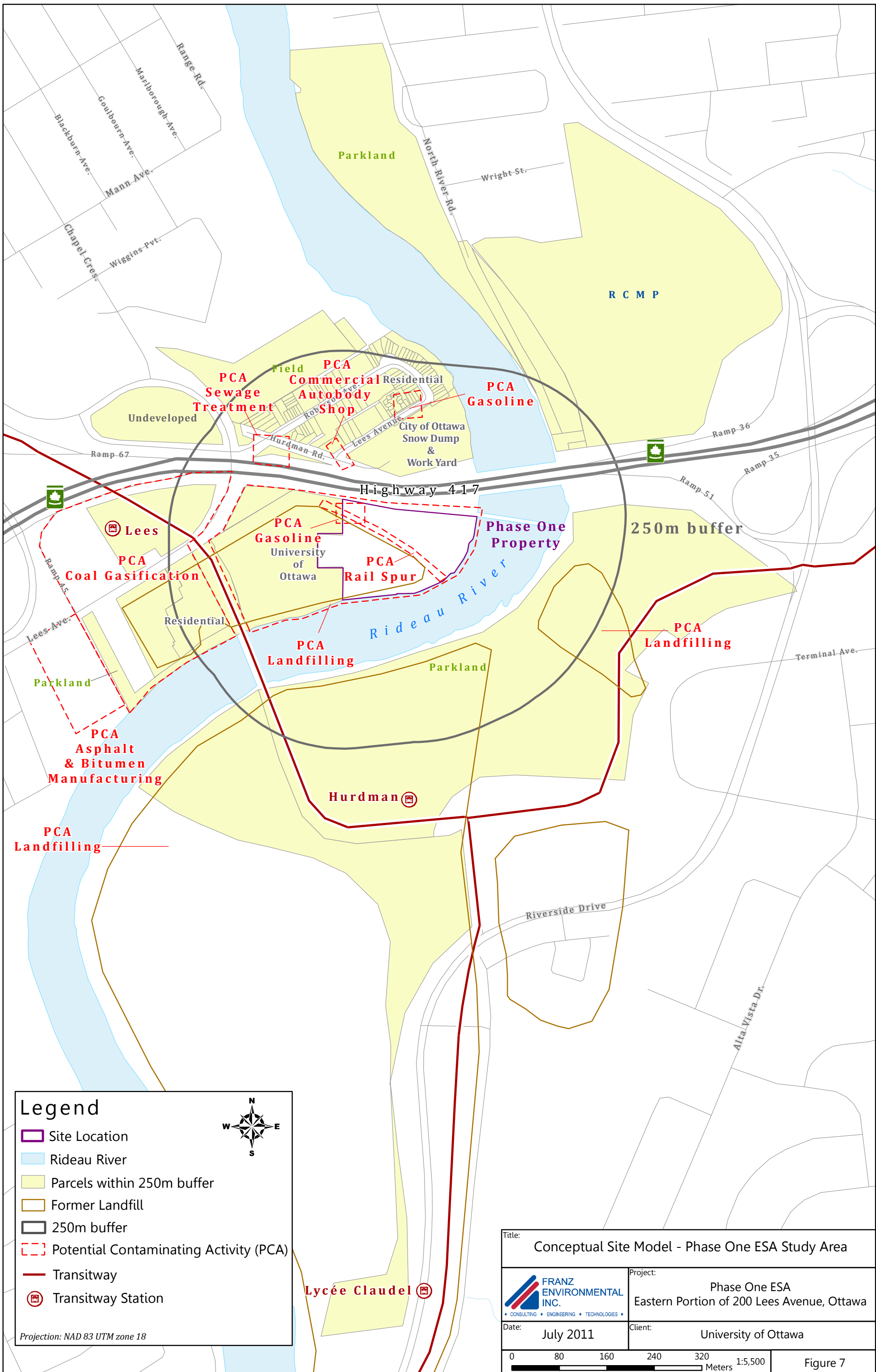
- Site Boundary
- Building
- Area of Potential Environmental Concern (APEC)
- Former Rail Alignment

Title: Areas of Potential Environmental Concern (APECs)

 <p>FRANZ ENVIRONMENTAL INC. CONSULTING • ENGINEERING • TECHNOLOGIES</p>	Project: Phase One ESA Eastern Portion of 200 Lees Avenue, Ottawa
	Date: July 2011

Client: University of Ottawa

<p>Scale 1:1750 metres</p> 	<p>Figure 6</p>
--	------------------------



Legend

- Site Location
- Rideau River
- Parcels within 250m buffer
- Former Landfill
- 250m buffer
- Potential Contaminating Activity (PCA)
- Transitway
- Transitway Station



Projection: NAD 83 UTM zone 18

Title: Conceptual Site Model - Phase One ESA Study Area	
 • CONSULTING • ENGINEERING • TECHNOLOGIES •	Project: Phase One ESA Eastern Portion of 200 Lees Avenue, Ottawa
	Date: July 2011
Client: University of Ottawa	
 0 80 160 240 320 Meters 1:5,500	
Figure 7	



Legend

- Site Boundary
- Building
- Area of Potential Environmental Concern (APEC)
- Former Rail Alignment
- ➔ Current Radial Groundwater Flow Direction (Golder, 2003)

Title: Conceptual Site - Phase One Property	
	Project: Phase One ESA Eastern Portion of 200 Lees Avenue, Ottawa
Date: July 2011	Client: University of Ottawa

Scale 1:1750 metres

40
30
20
10
0
25

Figure 8

APPENDIX B

Site Survey

SURVEYOR'S REAL PROPERTY REPORT - PART 1 AND TOPOGRAPHIC PLAN OF SURVEY OF PART OF LOT "G" CONCESSION "D" (Rideau Front) Geographic TOWNSHIP OF NEPEAN CITY OF OTTAWA
FARLEY SMITH & DENIS SURVEYING LTD
2002

SCALE 1:500
 0 5 10 15 20 25 30 35 40 45 50 metres

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

BEARING NOTE
 BEARINGS ARE ASTROMONIC AND ARE REFERRED TO A PORTION OF THE SOUTHERLY LIMIT OF PART 4, PLAN SR-5422, COURSE N79°09'40".

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

- THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.
- THE SURVEY WAS COMPLETED ON THE ...11th...DAY OF ...SEPTEMBER...2002

DATE ...SEPTEMBER 19, 2002

SEE ORIGINAL MYLAR

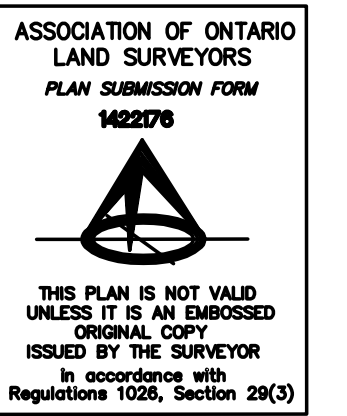
PETER G. SMITH
 ONTARIO LAND SURVEYOR

THIS REPORT WAS PREPARED FOR THE BOARD OF GOVERNORS OF UNIVERSITY OF OTTAWA

...the Client, the Client's solicitors, mortgagees and other related parties. The undersigned accepts no responsibility for use by other parties. See Part 2 of this Report.

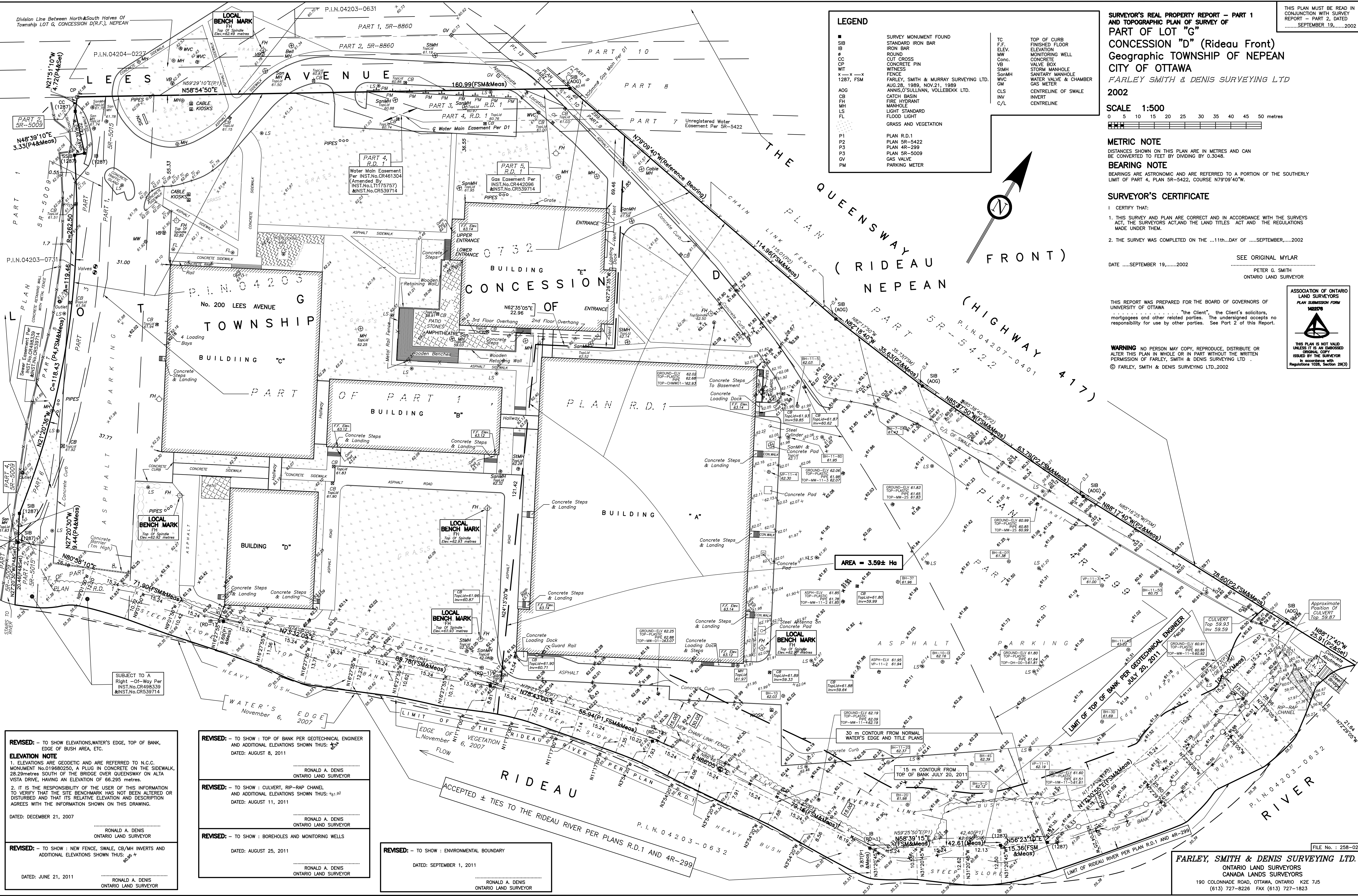
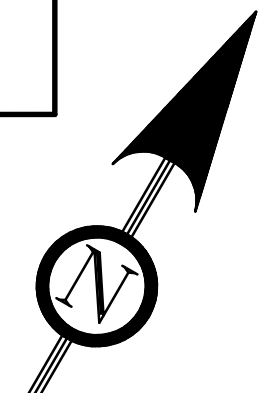
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LEGEND

■	SURVEY MONUMENT FOUND	TC	TOP OF CURB
SIB	STANDARD IRON BAR	F.F.	FINISHED FLOOR ELEVATION
IB	IRON BAR	MON	MONITORING WELL
CC	CUT CROSS	Conc.	CONCRETE
CP	CONCRETE PIN	VB	VALVE BOX
WIT	WITNESS FENCE	SMH	STORM MANHOLE
x - x	FARLEY, SMITH & MURRAY SURVEYING LTD. AUG. 28, 1989, NOV. 21, 1989, ANNIS O'SULLIVAN, VOLLEBECK LTD.	SanMH	SANITARY MANHOLE
W	WATER MAIN EASEMENT PER SR-5422	WVC	WATER VALVE & CHAMBER
AGG	AGGREGATE	GM	GAS METER
CB	CATCH BASIN	CLS	CENTRELINE OF SWALE
FH	FIRE HYDRANT	INV	INVERT
MH	MANHOLE	C/L	CENTRELINE
LS	LIGHT STANDARD		
FL	FLOOD LIGHT		
	GRASS AND VEGETATION		
P1	PLAN R.D.1		
P2	PLAN SR-5422		
P3	PLAN 4R-299		
P4	PLAN SR-5009		
GV	GAS VALVE		
PM	PARKING METER		



REVISED: - TO SHOW ELEVATIONS, WATER'S EDGE, TOP OF BANK, EDGE OF BUSH AREA, ETC.

ELEVATION NOTE
 1. ELEVATIONS ARE GEODETIC AND ARE REFERRED TO N.C.C. MONUMENT No. 01968250, A PLUG IN CONCRETE ON THE SIDEWALK, 28.29 METRES SOUTH OF THE BRIDGE OVER QUEENSWAY ON ALTA VISTA DRIVE, HAVING AN ELEVATION OF 66.295 METRES.
 2. IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY THAT THE SITE BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION SHOWN ON THIS DRAWING.

DATED: DECEMBER 21, 2007

RONALD A. DENIS
 ONTARIO LAND SURVEYOR

REVISED: - TO SHOW : NEW FENCE, SWALE, CB/MH INVERTS AND ADDITIONAL ELEVATIONS SHOWN THUS: 80.35±

DATED: JUNE 21, 2011

RONALD A. DENIS
 ONTARIO LAND SURVEYOR

REVISED: - TO SHOW : TOP OF BANK PER GEOTECHNICAL ENGINEER AND ADDITIONAL ELEVATIONS SHOWN THUS: 80.35±

DATED: AUGUST 8, 2011

RONALD A. DENIS
 ONTARIO LAND SURVEYOR

REVISED: - TO SHOW : CULVERT, RIP-RAP CHANNEL AND ADDITIONAL ELEVATIONS SHOWN THUS: 81.92

DATED: AUGUST 11, 2011

RONALD A. DENIS
 ONTARIO LAND SURVEYOR

REVISED: - TO SHOW : BOREHOLES AND MONITORING WELLS

DATED: AUGUST 25, 2011

RONALD A. DENIS
 ONTARIO LAND SURVEYOR

REVISED: - TO SHOW : ENVIRONMENTAL BOUNDARY

DATED: SEPTEMBER 1, 2011

RONALD A. DENIS
 ONTARIO LAND SURVEYOR

FARLEY, SMITH & DENIS SURVEYING LTD.
 ONTARIO LAND SURVEYORS
 CANADA LANDS SURVEYORS
 190 COLONNADE ROAD, OTTAWA, ONTARIO K2E 7J5
 (613) 727-8226 FAX (613) 727-1823

APPENDIX C

Chain of Title Records

part of south half & west part of north part of lot 9, com. & ... Nelson Trust

No.	Description	City/Town	Quantity of Land	Remarks	WHEN PART
171100	Sept 15 1922 Sept 28 1923	Ottawa Gas Co	Montreal Trust Co	Part of ...	
171153	Oct 1 1923 Oct 5 1923	Ottawa Gas Co	Ottawa Gas Co	Part of ...	
179185	June 15 1925 June 17 1925	Edward G. Grant	Herry Hayley	Part of ...	
179184	June 15 1925 June 17 1925	Herry Hayley	Herry Hayley	Part of ...	
183026	March 31 1926 April 7 1926	Herry Hayley	Canada P. West Corp	Part of ...	
183361	Sept 15 1926 Oct 29 1926	Edward G. Grant	Herry Hayley	Part of ...	
188234	June 1 1926 June 8 1926	Robertson & Co		Part of ...	
190701	Oct 1 1927 Dec 27 1927	Ottawa Gas Co	The Royal Trust Co	Part of ...	
190727	Dec 27 1927 Dec 27 1927	Ottawa Gas Co	Ottawa Gas Co	Part of ...	
190734	Dec 27 1927 Dec 27 1927	Ottawa Gas Co	Ottawa Gas Co	Part of ...	
196539	May 23 1929 May 24 1929	Cooperation of Ottawa	Cooperation of Ottawa	Part of ...	
203117	Jan 27 1931 Feb 13 1931	The Hamilton Tr	Carrie Cook	Part of ...	
206674	Jan 19 1932 Feb 19 1932	Canada P. West		Part of ...	
235799	Dec 20 1930 Aug 1 1931	Royal Trust Co	Ottawa Gas Co	Part of ...	
235802	Aug 31 1930 Aug 27 1931	Ottawa Gas Co	Ottawa Gas Co	Part of ...	
235803	Aug 27 1931 Aug 27 1931	Ottawa Gas Co	Ottawa Gas Co	Part of ...	
255500	Sept 1 1931 Sept 1 1931	Ottawa Gas Co	Royal Trust Co	Part of ...	
267554	Oct 6 1937 Oct 11 1937	Cooperation of Ottawa	By Law 9865	Part of ...	
275795	Jan 1 1939 Jan 1 1939	Herry Hayley	Herry Hayley & Sons Limited	Part of ...	
275854	Jan 1 1939 Oct 1 1939	Herry Hayley & Sons Limited	Cooperation of Ottawa	Part of ...	
284600	Jan 27 1939 Jan 27 1939	Royal Trust Co	Ottawa Light & Power Co	Part of ...	
295880	Aug 31 1939 Oct 31 1939	Cooperation of Ottawa	George Hays	Part of ...	
357772	Nov 16 1936 Apr 23 1937	Montreal and Ottawa	Federal Trust	Part of ...	
359071	Mar 31 1939 May 15 1939	Ottawa Light & Power Co	Interventional Utilities Limited	Part of ...	
359955	Mar 31 1939 June 6 1939	Ottawa Light & Power Co	Ottawa Light & Power Co	Part of ...	
368443	Feb 1 1938 Feb 1 1938	Cooperation of Ottawa	Cooperation of Ottawa	Part of ...	

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No.	Intestment	Date	Recorded	ORANTON	GRANTED	Quantity of land	REMARKS	WHEN SEARCH PART PLEASE IN PART
377856	Plan		1/6/14	1915	Navigable Water Protection Act	city water mains		
396653	Grant	Mar 21 1950	Oct 22 1957	Attorney Gas Company	Attorney Light Heat & Power Company Limited	part dec. plan 102		
396654	Grant	May 15 1957	Oct 22 1957	Interprovincial	Interprovincial	part dec. etc. plan 102 etc.		
398578	Plan	21/11/1957	20/11/1957	Market Street	Company	part dec. etc. plan 102 etc.		
399210	G.P.D.	31 Mar 1958	8 Dec 1958	Attorney Light Heat & Power Company Limited	Attorney Light Heat & Power Company Limited	Commencing at a point in West boundary of East half of Lot 102... North a short part of Lot 102. Thence N.E. 1/4 of 35 ft thence S.E. 66 ft. thence S.W. 462 ft. thence N.W. 66 ft. Cont. 7.00		
412774	Plan	Sept. 20/61	Oct. 3/60	Department of Highway				
425333	Plan	Mar. 17, 1960	June 15, 1961	National Capital Commission	Espropriation	part dec. etc. sketch attached		
435197	By-law	Nov 7/61	Nov 15/61	Corp. of Ottawa	By-law No. 382-61	Part dec. etc. Dedication of		
437211	Grant	Sept 1/61	Dec 20/61	Corp. of Ottawa	The Crown in Right of Ontario	Part dec. Cont. 5.00 etc. Subj. to conditions sketch attached.		
4372096	Grant	Feb. 23/62	Apr. 26/62	The Crown in Right of Ontario	Consumers' Gas Company	Part dec. as shown on sketch attached. Re Saw Main		
4372097	Notice	Dec 8 1961	Dec 21 1961	Attorney Light Heat & Power Company	abandoned of	part dec. etc.		
4372098	By-law	Aug 2/62	Aug 24/62	By-law 332-62	Corp. of Ottawa	Part dec. etc. except part, No of Way & Cont. 1.00 for Housing Project.		
4372099	Release	Oct 19/62	Oct 17/62	Harry Hayley	The Bank of Nova Scotia	Part of cont. 1/2 of the full part 1/2 of way \$350,000.00 6-7		
4372100	Trust	Jan 15/63	Jan 11/63	The Consumers' Gas Company	Canada Permanent Trusts Limited	Part dec. etc. To secure Bonds.		
4372101	Appt.	Jan 27/63	Jan 19/63	The Crown by the Minister of Public Works	Corp. of Ottawa	Part dec. against re sketch attached.		
4372102	Acq.	Nov 20/64	July 10/64	Marion H. Wright	Consumers' Gas Company	Part dec. etc. Acq. of Parcel and Subj. except part together with documents.		
4372103	By-law	Aug. 4/64	Aug. 19/64	By-law 213-64	Corp. of Ottawa	Part of E 1/2 of South part dec. sketch attached. Espropriation for emergency purposes.		
4372104	By-law	Jan 17/65	Jan 21/65	By-law 204-65	City of Ottawa	Part dec. etc. By-law 204-65		
4372105	Grant	Feb 24/65	Mar 7/65	Carrie Products Limited	The Corporation of the City of Ottawa	Commencing at point of intersection of South West of Line 102 and North West of 6 1/2 ft. of South part of 102 ft. thence South 602 ft. thence East 175.5 ft. thence North 100 ft. thence West 175.5 ft. Cont. 1.00		
4372106	Plan	Nov 5/65	Jan 24/65	Consumers Gas Company		Part dec. sketch attached. Re. Water Lot opposite Lot 6 Consumer D. R. F.		

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East part of the south part of West part of site south part of Lot 6 Concession D Riding Farm

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NUMBER	DATE OF INSTRUMENT	DATE OF REGISTRATION	GRANTOR	GRANTEE	SECTION	REMARKS
495229	Grant May 14/66	Aug 16/66	The Corporation of the City of Ottawa	The Dominion		East of above on abutment attached to 5.00 subject to conditions
515232	Grant Aug 25/66	Sept 16/66	The Dominion	Madro Leasehold Ltd		East side of the above
515233	Grant Aug 11/66	Sept 16/66	Madro Leasehold Ltd	Madro Leasehold Ltd		1/16/66
515234	Grant Sept 16/66	Sept 16/66	The Dominion	The Dominion		1/16/66
519345	Grant Sept 22/66	Dec 7/66	The Dominion	Corporation of the City of Ottawa		East of above on abutment attached to above
519236	Grant Dec 11/66	Dec 15/66	Madro Leasehold Ltd	Madro Leasehold Ltd		1/16/66
520521	Release June 27/66	Jan 11/67	Canada Permanent Trust Company	The Dominion		1/16/66
520522	Grant June 15/66	Jan 11/67	Canada Permanent Trust Company	Canada Permanent Trust Company		1/16/66
521397	Grant Dec 21/67	Jan 28/67	Municipal Wharfedale Limited	Municipal Wharfedale Limited		1/16/66
522354	Grant Mar 4/67	Mar 4/67	Wharfedale Limited	Wharfedale Limited		1/16/66
527220	Grant Mar 14/67	Mar 14/67	Wharfedale Limited	Wharfedale Limited		1/16/66
529957	Grant Sept 14/67	Sept 14/67	Wharfedale Limited	Wharfedale Limited		1/16/66
539714	Grant Sept 21/67	Mar 19/69	The Crown	The Crown		1/16/66

F. E. W. S. J.

27-10

East part of south part & west part of south part of Lot 6 Concession D. Rideau River

WHEN SEARCHING THIS PART PLEASE SEARCH IN PART ALSO

NUMBER	DATE OF INSTRUMENT	DATE OF REGISTRATION	CITY	GRANTOR	GRANTEE	PORTION OF LOT	REMARKS
552762	Dec 10/69	Dec 15/69	Montreal	National Holdings Limited (Anon) & S.L. Henry Taylor & Sons Limited, in liquidation	National Holdings Limited (Anon)	Part of	except part desc
552763	Jan 7/69	Jan 9/69	Montreal	S.L. Henry Taylor & Sons Limited, in liquidation	Truster	Part of	and E of south part of Lot 6
552764	Oct 19/68	Jan 21/69	Montreal	Canadian Pacific Railway Company	National Hospital Commission	Part of	Appointment of Truster Re: 17th Amburst St. Con. F. 2.00
552765	Mar 4/69	Mar 19/69	Montreal	Canadian Pacific Railway Company	Commission	Part of	17th Amburst St. Con. F. 2.00
552766	Mar 7/69	Mar 17/69	Montreal	Canadian Pacific Railway Company	Commission	Part of	17th Amburst St. Con. F. 2.00
552767	Mar 13/69	Mar 23/69	Montreal	Canadian Pacific Railway Company	Commission	Part of	17th Amburst St. Con. F. 2.00
552768	Feb 26/69	Apr 15/69	Montreal	Canadian Pacific Railway Company	Commission	Part of	17th Amburst St. Con. F. 2.00
552769	Oct 10/68	Dec 15/68	Montreal	National Holdings Limited (Anon) & S.L. Henry Taylor & Sons Limited, in liquidation	National Holdings Limited (Anon)	Part of	except part desc
552770	Jan 7/69	Jan 9/69	Montreal	S.L. Henry Taylor & Sons Limited, in liquidation	Truster	Part of	and E of south part of Lot 6
552771	Oct 19/68	Jan 21/69	Montreal	Canadian Pacific Railway Company	National Hospital Commission	Part of	Appointment of Truster Re: 17th Amburst St. Con. F. 2.00
552772	Mar 4/69	Mar 19/69	Montreal	Canadian Pacific Railway Company	Commission	Part of	17th Amburst St. Con. F. 2.00
552773	Mar 7/69	Mar 17/69	Montreal	Canadian Pacific Railway Company	Commission	Part of	17th Amburst St. Con. F. 2.00
552774	Mar 13/69	Mar 23/69	Montreal	Canadian Pacific Railway Company	Commission	Part of	17th Amburst St. Con. F. 2.00
552775	Feb 26/69	Apr 15/69	Montreal	Canadian Pacific Railway Company	Commission	Part of	17th Amburst St. Con. F. 2.00

Forward to F.D. Co.

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N. PART ALSO

East part of south part of lot 100 of south part of lot 101 of subdivision of land in the Parish of St. Charles, Louisiana, as shown on plat of said subdivision filed for record in the office of the Clerk of the Court of the Parish of St. Charles, Louisiana, on the 15th day of August, 1911, and as the same appears on page 101 of the record of said Parish.

INSTRUMENT NUMBER	DATE OF INSTRUMENT	DATE OF REGISTRATION	GRANTOR	GRANTEE	NATURE OF INTEREST	REMARKS
554455 DISCHARGED	May 19/69	May 19/69	James H. McLaughlin & Company Limited	James H. McLaughlin & Company Limited	Part of lot 100 of south part of lot 101 of subdivision of land in the Parish of St. Charles, Louisiana, as shown on plat of said subdivision filed for record in the office of the Clerk of the Court of the Parish of St. Charles, Louisiana, on the 15th day of August, 1911, and as the same appears on page 101 of the record of said Parish.	Part of lot 100 of south part of lot 101 of subdivision of land in the Parish of St. Charles, Louisiana, as shown on plat of said subdivision filed for record in the office of the Clerk of the Court of the Parish of St. Charles, Louisiana, on the 15th day of August, 1911, and as the same appears on page 101 of the record of said Parish.
554476	May 29/69	May 29/69	James H. McLaughlin & Company Limited	James H. McLaughlin & Company Limited	Part of lot 100 of south part of lot 101 of subdivision of land in the Parish of St. Charles, Louisiana, as shown on plat of said subdivision filed for record in the office of the Clerk of the Court of the Parish of St. Charles, Louisiana, on the 15th day of August, 1911, and as the same appears on page 101 of the record of said Parish.	Part of lot 100 of south part of lot 101 of subdivision of land in the Parish of St. Charles, Louisiana, as shown on plat of said subdivision filed for record in the office of the Clerk of the Court of the Parish of St. Charles, Louisiana, on the 15th day of August, 1911, and as the same appears on page 101 of the record of said Parish.
554478	May 29/69	May 29/69	James H. McLaughlin & Company Limited	James H. McLaughlin & Company Limited	Part of lot 100 of south part of lot 101 of subdivision of land in the Parish of St. Charles, Louisiana, as shown on plat of said subdivision filed for record in the office of the Clerk of the Court of the Parish of St. Charles, Louisiana, on the 15th day of August, 1911, and as the same appears on page 101 of the record of said Parish.	Part of lot 100 of south part of lot 101 of subdivision of land in the Parish of St. Charles, Louisiana, as shown on plat of said subdivision filed for record in the office of the Clerk of the Court of the Parish of St. Charles, Louisiana, on the 15th day of August, 1911, and as the same appears on page 101 of the record of said Parish.
561821	A.C.D.	July 15/69	James H. McLaughlin & Company Limited	James H. McLaughlin & Company Limited	Part of lot 100 of south part of lot 101 of subdivision of land in the Parish of St. Charles, Louisiana, as shown on plat of said subdivision filed for record in the office of the Clerk of the Court of the Parish of St. Charles, Louisiana, on the 15th day of August, 1911, and as the same appears on page 101 of the record of said Parish.	Part of lot 100 of south part of lot 101 of subdivision of land in the Parish of St. Charles, Louisiana, as shown on plat of said subdivision filed for record in the office of the Clerk of the Court of the Parish of St. Charles, Louisiana, on the 15th day of August, 1911, and as the same appears on page 101 of the record of said Parish.
562885	A.C.D.	August 25/69	James H. McLaughlin & Company Limited	James H. McLaughlin & Company Limited	Part of lot 100 of south part of lot 101 of subdivision of land in the Parish of St. Charles, Louisiana, as shown on plat of said subdivision filed for record in the office of the Clerk of the Court of the Parish of St. Charles, Louisiana, on the 15th day of August, 1911, and as the same appears on page 101 of the record of said Parish.	Part of lot 100 of south part of lot 101 of subdivision of land in the Parish of St. Charles, Louisiana, as shown on plat of said subdivision filed for record in the office of the Clerk of the Court of the Parish of St. Charles, Louisiana, on the 15th day of August, 1911, and as the same appears on page 101 of the record of said Parish.

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E. Pt. of S. Pt. & V. Pt. of S. Pt. of Lot & Concession for Eidean Front

Registration Number	Instrument	Date of Instrument	Registration Date	Grantor	Grantee	Comments	Land and Remarks
C99801	B. & S.	Apr. 20/09	May 3, 1909	Walter & Mortimer C. Odiell et uxors	Victor V. Rogers		Parts as therein Con \$70,000.00
C99802	Part	Apr 30/10	May 3/09	Victor V. Rogers et ux	John J. MacCormack et ux of Margaret Lindsay		Parts as therein \$10,000.00 & \$5 (29/6/77 WH D.R.)
C91554	B. & S.	July 24/09	July 31/09	Ottawa & Gloucester Road Co. Corporation of Ottawa Ltd.			Parts as therein etc. Con \$24,912.00
C92285	B. & S.	July 15/09	Sept 22/09	Les Reverendis Peres	Les Seours Du Sacree Coeur		Part as therein etc. & R. of way Con \$2398.00
C92852	B. & S.	July 6/09	Oct 22/09	Victor V. Rogers et ux	Riverdale Estates Ltd.		Part as therein Con \$70,000.00 Sub to Mort & Taxes
C93733	Plan	Nov 15/09	Dec 15/09	J. B. Lewis O.L.S.	Riverdale Estates Ltd.		Subdn Pt. Lot & Con D. R. P. Being part of parcel 1 as desc. in 92852
C94007	Lease	Jan 3/10	Jan 4/10	Ottawa Lumber Co. Ltd.	William H. McAnliffe		Pt. of E. 1/4 of Sly pt. etc.
C94193	By Lay	Jan 10/10	Jan 15/10	By Law 2976			Sly 1/4 of Sly pt. etc.
C95415	B. & S.	Mar. 10/10	Mar. 22/10	William A. D. Lees et ux Victoria M. W. Jessie I. P. Lees, Elizabeth J. Brown & Anna Preston	Corporation of Ottawa		Pt. of E. 1/4 of Sly pt. Rs. of way etc. Con \$10,000.00
C97162	Plan	Apr 18/10	May 28/10	J. B. Lewis O.L.S.	Riverdale Estates Ltd.		Subdn. Pt. Lot & Con D. R. P. Repeal
C98507	B. & S.	July 30/10	Aug 9/10	Riverdale Estates Ltd.	William J. Lewis		desc. as Part Parcel 1 in 92852
C99147	B. & S.	July 22/10	Sept 16/10	Riverdale Estates Ltd.	Moses S. O'Brien		Pt. desc & R. of way Con \$550.00 Sub. to Taxes See as to Bldg. Covenants
101920	Plan	Dec 9/10	Feb 3/11	Frank E. Patterson O.L.S.	Wm. Robertson		Pt. desc & R. of way Con \$450.00 Sub to taxes See covenant as to Bldg. etc.
106078	Caution	June 5/11	July 29/11	William C. Edwards Executor of William Wilson, Catherine M. Edwards, Individually & Admrx. of George J. Wilson, Helen E. & Edward A. Petrie, Edith V., Reginald C., Norman F. & Charles W. Wilson, John A. Cameron Individually & Adm. of Ida P. Cameron, Kleanor X. & Ruth A. Cameron, Corrine M. & Carolyn P. Wilson, P.W. Farcourt G.C.	Wm. Wilson		Subdn. Pt. Lot & Con D Repeal
							Pt. of Sly 1/4 of Sly part Rs. of way etc Undivided 1/2 Interest.

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6 Part of South part and west part of South part Lot 6 Concession D R.P. & R. cont

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PART PLEASE SEARCH
IN PART ALSO

(CONTINUED FROM PRECEDING PAGE)

REGISTRATION NUMBER	INSTRUMENT	DATE OF INSTRUMENT	REGISTRATION DATE	GRANTOR	GRANTEE	CONSIDERATION, ETC.	LAND AND REWARDS
106227	B & S	June 13/11	Aug 10/11	William C. Edwards, Executors of William Wilson, Catherine M Edwards, individually & adm of George J. Wilson, Helena & Edward A. Petre, Edith V. Reginald C. Wilson, Norman Charles W. Wilson, et uxors. John A. Cameron individually & admr. of Ida F. Cameron, Eleanor M & Ruth A. Cameron, P.W. Harecourt D.C.	Corporation of Ottawa	\$5000.	Part of S'ly 1/4 of S'ly part B of way etc. undivided & interest
106228	B & S	June 19/11	Aug 10/11	John R. Allan et ux	Corporation of Ottawa	\$1.00	North S'ly 3/4 of B 1/4 of S'ly of way etc. etc. etc.
106229	B & S	June 19/11	Aug 10/11	Corporation of Ottawa	John K. Allan	\$1.00	Pt. of S'ly 1/4 of S'ly-part B of way etc.

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6 Pt of S. Pt. of A. Pt. of
Lot 5 Gen S. Urban Dist

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LEGAL	PAYMENT	DATE OF INSTRUMENT	INSTRUMENT NUMBER	GRANTOR	GRANTEE	PORTION OF LOT	REMARKS
154475	Grant	Jan 24/1911	154475	John A. ...	John A. ...		Part of lot 1 of 1st 1st 1st
154476	Grant	Jan 24/1911	154476	John A. ...	John A. ...		Part of lot 1 of 1st 1st 1st
154477	Grant	Jan 24/1911	154477	John A. ...	John A. ...		Part of lot 1 of 1st 1st 1st
154478	Grant	Jan 24/1911	154478	John A. ...	John A. ...		Part of lot 1 of 1st 1st 1st
154479	Grant	Jan 24/1911	154479	John A. ...	John A. ...		Part of lot 1 of 1st 1st 1st
154480	Grant	Jan 24/1911	154480	John A. ...	John A. ...		Part of lot 1 of 1st 1st 1st
154481	Grant	Jan 24/1911	154481	John A. ...	John A. ...		Part of lot 1 of 1st 1st 1st
154482	Grant	Jan 24/1911	154482	John A. ...	John A. ...		Part of lot 1 of 1st 1st 1st

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PART PLEASE SEARCH
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(CONTINUED FROM PRECEDING PAGE)

Subdivision of Ept. of 1st & 2d pt. off. Part of Lot No. 1
Within limits of Ottawa East

Concession D. R. 9. Township of Nepean.

NUMBER OF INSTRUMENT	INSTRUMENT	ITS DATE	DATE OF REGISTER	GRANTOR	GRANTEE	QUANTITY OF LAND	CONSIDERATION	REMARKS
NP 79 73	Deed	23 Sep 1892	30 Oct 1892	Robert Lees et al	C. A. R. Coy.	Pl. of 1/2 pt. lot 3 25 + 25/100		
NP 97 49	73 L.	17 Apr 1894	18 Apr 1894	Hon Alex Vidal (les.)	John Hey Dechre.	Pl. as described less pt.		
NP 94 63	Pl. D. M.	18 Apr 1894	23 Apr 1894	M. B. S. Sav. Co.	Hon. A. Vidal	See no. 4424.		
NP 94 64	Pl. D. M.	18 Apr 1894	23 Apr 1894	George Gray	Hon. A. Vidal	See no. 4425 pt. D. M.		
NP 77 65	73 L.	23 Apr 1894	23 Apr 1894	John H. Leung et al	H. B. Odell	Pls less Pls.		
NP 102 25	73 L.	8 Oct 1894	30 Jan 1895	H. B. Odell et al	H. B. Odell	Pl.		
NP 142 13	Deed	31 Dec 1897	17 Jan 1898	Jane Hadsworth et al	Robert Lees	1/2 pt. of 1/2 pt. or undivided, Part.		
NP 152 84	Deed	17 Apr 1897	20 Apr 1897	Adeline Odell et al	Clarence H. Odell et al	Therein ment ^d parts		
NP 154 36	Deed	21 May 1897	20 May 1897	Clarence H. Odell et al	M. B. Odell	See instrument's parts		
OE 125	Will	25 Mar 1890	23 Aug 1897	Robert Lees	W. A. S. Lees et al	see instrument.		
OE 125	Deed	26 Sep 1894	28 Sep 1897	Toronto & Trusts Co.	W. A. S. Lees et al	w. by pt. of 7/8 pt. less pt.		
NP 171 54	mortgage	30 Aug 1897	30 Aug 1897	John B. Allan et al	Trust of 1/2 pt. of 1/2 pt. less pt.	Pl. described \$200.		
NP 172 23	Deed	31 Mar 1896	9 Apr 1896	C. F. H. A. H. 150 1/2 Acre	of Charity P. A. P. S. Coy	13 ^a \$50. ⁰⁰ Pl. described		
NP 172 23	Will	16 Apr 1897	8 June 1896	H. B. Odell	C. H. Odell	w. pt. of 1/2 pt. lot 3 & pt. of 20 pt. of lot 4. A. O. S.		
NP 177 13	Deed	11 Dec 1897	13 Jan 1898	Toronto & Trusts Coy (adm ^r Robert Lees)	Walter S. Odell	pt. lot 6 #12 42. ⁰⁰		
NP 177 14	Deed	11 Dec 1897	13 Jan 1898	John B. Allan et al	Thomas Tait	pts. lot 3. \$1500. ⁰⁰		
NP 177 14	Deed	11 Dec 1897	13 Jan 1898	Cath W. Edwards	Chan. W. Spencer	"		
NP 177 14	Deed	11 Dec 1897	13 Jan 1898	John D. Cameron	"	"		
NP 177 14	Deed	11 Dec 1897	13 Jan 1898	Helena E. Peblee	"	"		
NP 177 14	Deed	11 Dec 1897	13 Jan 1898	Edith V. Wilson	"	"		
NP 177 14	Deed	11 Dec 1897	13 Jan 1898	Geo. J. Wilson	"	"		
NP 177 14	Deed	11 Dec 1897	13 Jan 1898	Reginald C. Wilson	"	"		
NP 177 14	Deed	11 Dec 1897	13 Jan 1898	Norman D. Wilson	"	"		
NP 177 14	Deed	11 Dec 1897	13 Jan 1898	Chan. W. Wilson	"	"		
OE 14 13	73 L.	8 Nov 1898	7 Nov 1898	John Bunsler et al	Clarence H. Odell	part described		
OE 14 13	73 L.	8 Nov 1898	7 Nov 1898	John Bunsler et al	Walter S. Odell	\$500		
OE 14 13	73 L.	8 Nov 1898	7 Nov 1898	John Bunsler et al	Wm. Turner B. Odell			

FORWARD TO NEXT PAGE

(CONTINUED FROM PRECEDING PAGE)

WHEN SEA
PART PLE
N PA

Subdivision of E 1/2 of S 1/4 of Twp of S. Part of Lot No. 1
Within Limits of Ottawa East

Concession D. R. D. Township of Nepean

NUMBER OF INSTRUMENT	INSTRUMENT	ISS DATE	DATE OF REGISTRY	GRANTOR	GRANTEE	QUANTITY OF LAND	CONSIDERATION	REMARKS
NP 78193	Wm. P. ...	15 May 1899	17 May 1899	J. W. M. ...	John ...	...	...	...
OE 710	Wm. P. ...	10 Oct 1900	18 Jan 1901	R. P. Robinson Ella Preston Victoria M. W. Lees Elyth. Brown Wm. A. D. Lees Jessie D. B. Lees Geo. R. Allan Cath. M. Edwards Ida F. Cameron Helena C. Petrie Edith V. Wilson Geo. J. Wilson Reginald C. Wilson Norman J. Wilson Chas. W. Wilson	Edward C. Grant	4 3/4 ac	150000	...
168	Wm. P. ...	...	...	Wm. Graham	Edward C. Grant	...	...	...
OE 771	Wm. Lees	7 Sep 1901	7 Sep 1901	Sam'l S. Kyle	Edward C. Grant	4 3/4 ac	...	...
OE 779	Lin. Penn.	29 Oct 1901	29 Oct 1901	High Court of J.	Wm. Bramham plaintiff Edward C. Grant defendant P. Ellement	...	...	...
OE 873	Conveyance	1 Apr 1903	9 Apr 1903	Clarence H. O'Leell Walter S. O'Leell Mortimer S. O'Leell	Henry A. Burbridge	...	...	...
OE 874	Conveyance	1 Apr 1903	9 Apr 1903	Henry A. Burbridge	Walter S. O'Leell
OE 875	Wm. P. ...	1 May 1904	1 May 1904	Wm. P. ...	James Henry

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APPENDIX D
EcoLog ERIS Report



Canada's Primary Environmental Risk Information Service

Project Site: Un-named
200 Lees Ave
Ottawa, ON

Client: Catherine LeBlanc
Franz Environmental Inc.
200-329 Churchill St North
Ottawa, ON K1Z5B8

ERIS Project No: 20110615038

Report Type: Custom Report - .25km Search Radius

Prepared By: Daniela Nigro
dnigro@eris.ca

Date: June 24, 2011

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Order Number: 20110615038
Site Name: Un-named
Site Address: 200 Lees Ave Ottawa, ON
Report Type: Custom Report, 0.25 km Search Radius

	<u>Section</u>
Report Summary <i>This outlines the number of records from each database that fall on the site, and within various distances from the site.</i>	i
Site Diagram <i>The records that were found within a specified distance from the project property (the primary search radius) have been plotted on a diagram to provide you with a visual representation of the information available. Sites will be plotted on the diagram if there is sufficient information from the database source to determine accurate geographic coordinates. Each plotted site is marked with an acronym identifying the database in which the record was found (i.e., WDS for Waste Disposal Sites). These are referred to as "Map Keys". A variety of problems are inherent when attempting to associate various government or private source records with locations. EcoLog ERIS has attempted to make the best fit possible between the available data and their positions on the site diagram.</i>	ii
Site Profile <i>This table describes the records that relate directly to the property that is being researched.</i>	iii
Detail Report <i>This section represents information, by database, for the records found within the primary search radius. Listed at the end of each database are the sites that could not be plotted on the locator diagram because of insufficient address information. These records will not have map keys. They have been included because they may be found to be relevant during a more detailed investigation.</i>	iv

	<u>Page</u>
Anderson's Waste Disposal Sites	1
Borehole	2
Certificates of Approval	105
Coal Gasification Plants	109
Environmental Registry	111
ERIS Historical Searches	112
Contaminated Sites on Federal Land	113
Fuel Storage Tank	115
Ontario Regulation 347 Waste Generators Summary	116
National PCB Inventory	125
Private and Retail Fuel Storage Tanks	126
Retail Fuel Storage Tanks	127
Scott's Manufacturing Directory	128
Ontario Spills	129
Waste Disposal Sites - MOE 1991 Historical Approval Inventory	131
Water Well Information System	132

Appendix: Database Descriptions

Report Summary

Order Number: 20110615038
 Site Name: Un-named
 Site Address: 200 Lees Ave Ottawa, ON
 Report Type: Custom Report, 0.25 km Search Radius

Number of Mappable Records Surrounding the Site

Database	Selected	On-site	Within 0.25	0.25km to 0.25km	Total
AAGR	Abandoned Aggregate Inventory	Y	0	0	0
AGR	Aggregate Inventory	Y	0	0	0
AMIS	Abandoned Mine Information System	Y	0	0	0
ANDR	Anderson's Waste Disposal Sites	Y	0	4	4
AUWR	Automobile Wrecking & Supplies	Y	0	0	0
BORE	Borehole	Y	0	103	103
CA	Certificates of Approval	Y	0	11	11
CFOT	Commercial Fuel Oil Tanks	Y	0	0	0
CHEM	Chemical Register	Y	0	0	0
COAL	Coal Gasification Plants	Y	0	1	1
CONV	Compliance and Convictions	Y	0	0	0
DRL	Drill Hole Database	Y	0	0	0
EBR	Environmental Registry	Y	0	1	1
EEM	Environmental Effects Monitoring	Y	0	0	0
EHS	ERIS Historical Searches	Y	0	10	10
EIIS	Environmental Issues Information System	Y	0	0	0
FCON	Federal Convictions	Y	0	0	0
FCS	Contaminated Sites on Federal Land	Y	0	2	2
FOFT	Fisheries & Oceans Fuel Storage Tanks	Y	0	0	0
FST	Fuel Storage Tank	Y	0	1	1
GEN	Ontario Regulation 347 Waste Generators Summary	Y	0	26	26
IAFT	Indian & Northern Affairs Fuel Tanks	Y	0	0	0
MINE	Canadian Mine Locations	Y	0	0	0
MNR	Mineral Occurrences	Y	0	0	0
NATE	National Analysis of Trends in Emergencies System (NATES)	Y	0	0	0
NCPL	Non-Compliance Reports	Y	0	0	0
NDFT	National Defence & Canadian Forces Fuel Storage Tanks	Y	0	0	0
NDSP	National Defence & Canadian Forces Spills	Y	0	0	0
NDWD	National Defence & Canadian Forces Waste Disposal Sites	Y	0	0	0
NEES	National Environmental Emergencies System (NEES)	Y	0	0	0
NPCB	National PCB Inventory	Y	0	1	1
NPRI	National Pollutant Release Inventory	Y	0	0	0
OGW	Oil and Gas Wells	Y	0	0	0
OOGW	Ontario Oil and Gas Wells	Y	0	0	0
OPCB	Inventory of PCB Storage Sites	Y	0	0	0
PAP	Canadian Pulp and Paper	Y	0	0	0
PCFT	Parks Canada Fuel Storage Tanks	Y	0	0	0
PES	Pesticide Register	Y	0	0	0
PRT	Private and Retail Fuel Storage Tanks	Y	0	1	1
REC	Ontario Regulation 347 Waste Receivers Summary	Y	0	0	0
RSC	Record of Site Condition	Y	0	0	0
RST	Retail Fuel Storage Tanks	Y	0	1	1

Report Summary

Order Number: 20110615038
Site Name: Un-named
Site Address: 200 Lees Ave Ottawa, ON
Report Type: Custom Report, 0.25 km Search Radius

Database		Selected	On-site	Within 0.25	0.25km to 0.25km	Total
SCT	Scott's Manufacturing Directory	Y	0	1	0	1
SPL	Ontario Spills	Y	0	9	0	9
SRDS	Wastewater Discharger Registration Database	Y	0	0	0	0
TANK	Anderson's Storage Tanks	Y	0	0	0	0
TCFT	Transport Canada Fuel Storage Tanks	Y	0	0	0	0
WDS	Waste Disposal Sites - MOE CA Inventory	Y	0	0	0	0
WDSH	Waste Disposal Sites - MOE 1991 Historical Approval Inventory	Y	0	1	0	1
WWIS	Water Well Information System	Y	0	9	0	9
		TOTAL	0	182	0	182

The databases chosen by the client as per the submitted order form are denoted in the 'Selected' column in the above table. Counts have been provided outside the primary buffer area for cursory examination only. These records have not been examined or verified, therefore, they are subject to change.



Pinpointing Your Environmental Risks

12 Concorde Pl, Suite 800 North York, ON M3C 4J2
416-510-5204

Project Property: Un-named
200 Lees Ave
Ottawa, ON

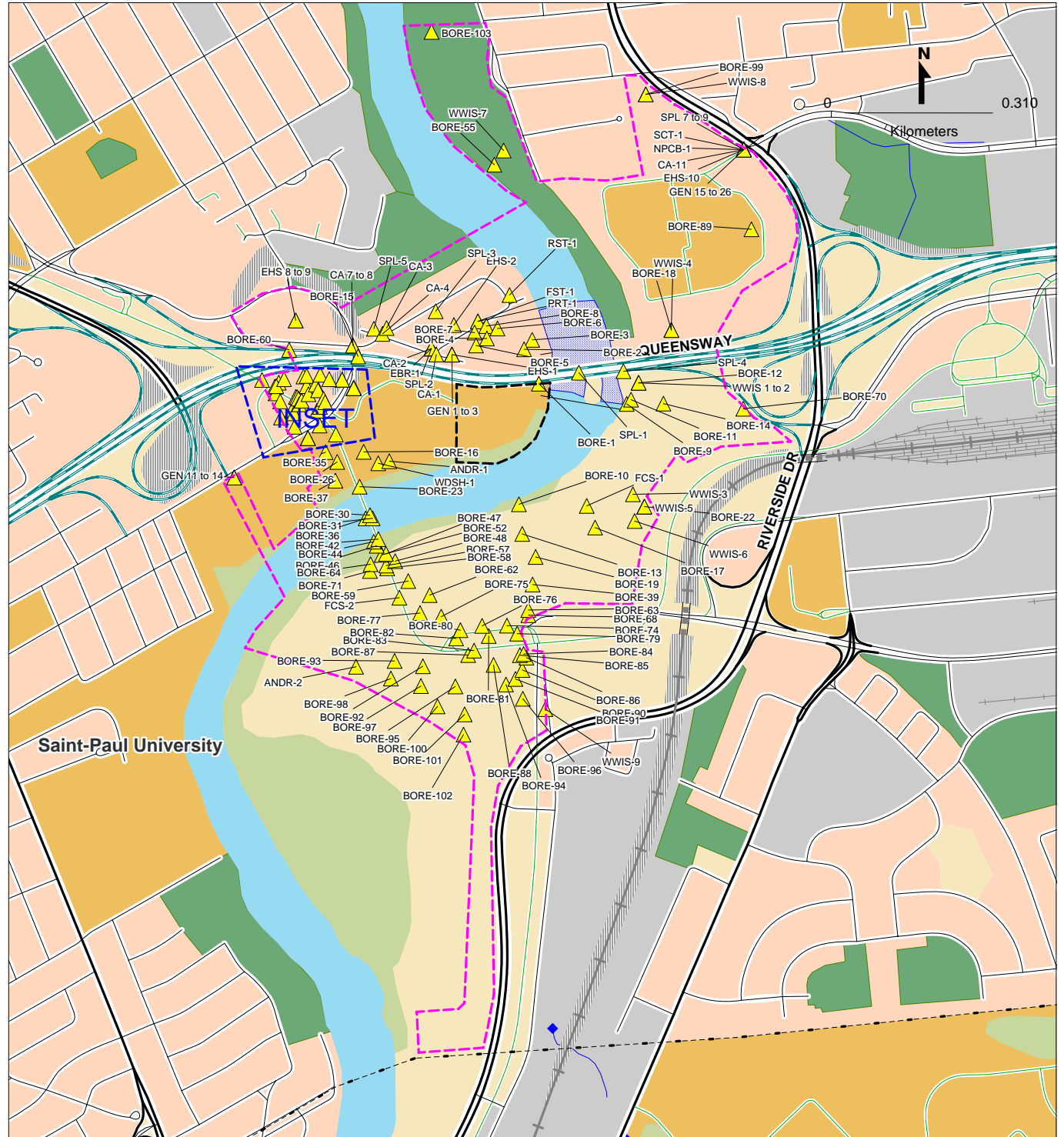
ERIS Project #: 20110615038

Date: JUN-15-2011

LEGEND

	Project Property	Landuse Classifications
	Database Location	Open Area
Points of Interest		Residential
	Chimney	Commercial
	Silo	Resource and Industrial
Pipe & Transmission Lines		Government and Institutional
	Pipeline	Parks and Recreational
	Transmission Line	Waterbody
	Transmission Tower	Recreation
	Transformer Station	Golf Course/Driving Range
Rail		Park/Sports Field
	Railway - Main	Other Recreation Area
	Railway - Sidetrack	Sports/Race Track
	Railway - Abandoned	Cemetery
	Bridge	Campground
	Tunnel	Vegetation
Transportation - Other		Wooded Area
	Embankment	Orchard
	Trail	Vineyard
	Runway	Industrial Resources
Hydrographic Features		Conveyor
	Permanent Waterway	Crane: Moveable
	Intermittent Waterway	Crane: Stationary
	Open Reservoir	Tank
	Dyke/Levee	Rock Cut
	Dam	Auto Wrecker
	Breakwall	Lumber Yard
	Wetland	Pit

SITE DIAGRAM



This diagram is to be used solely for relative street location purposes. It may not accurately portray street or site positions.



Pinpointing Your Environmental Risks

12 Concorde Pl, Suite 800 North York, ON M3C 4J2
416-510-5204

Project Property: Un-named
200 Lees Ave
Ottawa, ON

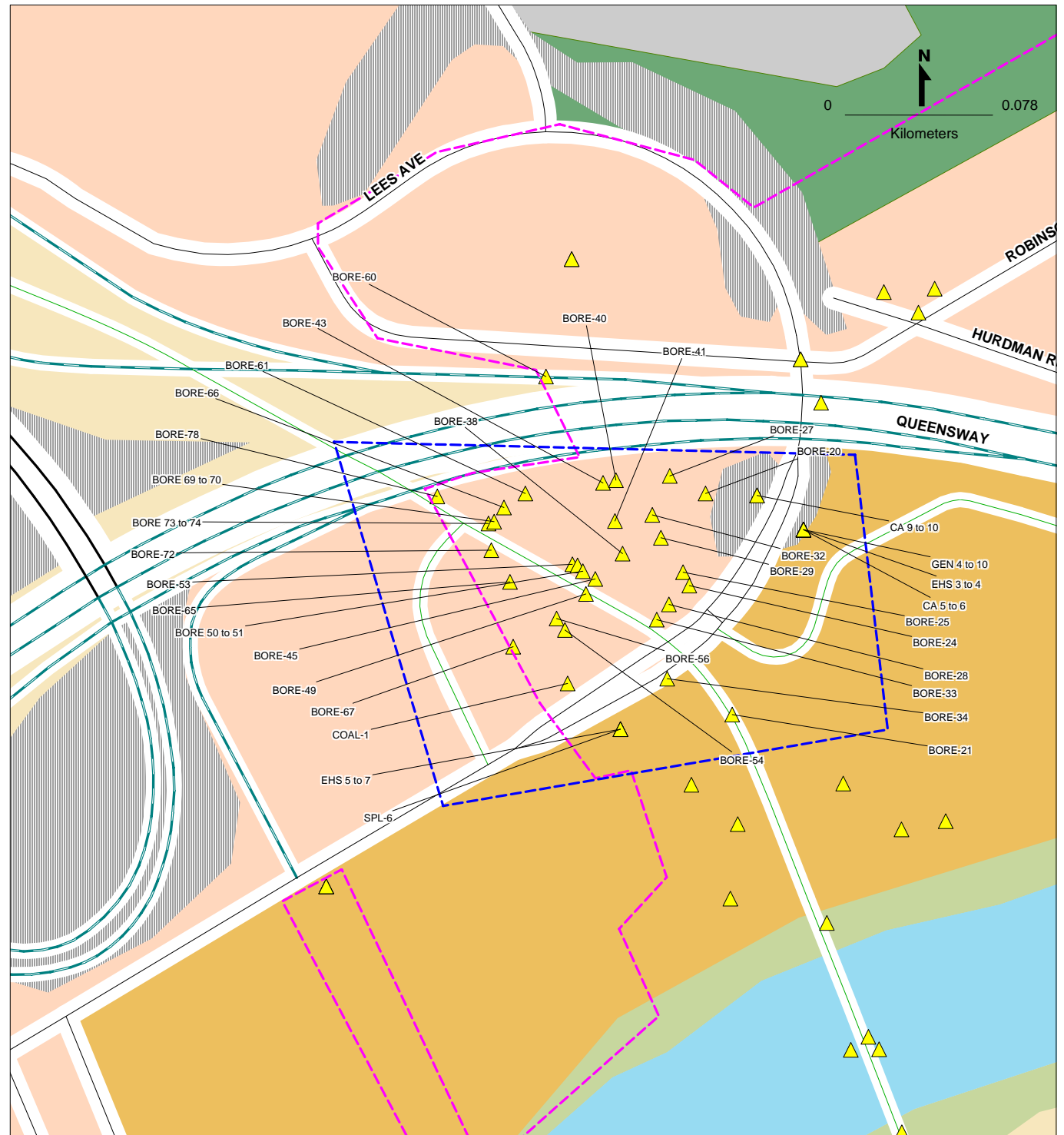
ERIS Project #: 20110615038

Date: JUN-15-2011

LEGEND

	Project Property	Landuse Classifications	
	Database Location		Open Area
Points of Interest			Residential
	Chimney		Commercial
	Silo		Resource and Industrial
Pipe & Transmission Lines			Government and Institutional
	Pipeline		Parks and Recreational
	Transmission Line		Waterbody
	Transmission Tower	Recreation	
	Transformer Station		Golf Course/Driving Range
Rail			Park/Sports Field
	Railway - Main		Other Recreation Area
	Railway - Sidetrack		Sports/Race Track
	Railway - Abandoned		Cemetery
	Bridge		Campground
	Tunnel	Vegetation	
Transportation - Other			Wooded Area
	Embankment		Orchard
	Trail		Vineyard
	Runway	Industrial Resources	
Hydrographic Features			Conveyor
	Permanent Waterway		Crane: Moveable
	Intermittent Waterway		Crane: Stationary
	Open Reservoir		Tank
	Dyke/Levee		Rock Cut
	Dam		Auto Wrecker
	Breakwall		Lumber Yard
	Wetland		Pit

SITE DIAGRAM



This diagram is to be used solely for relative street location purposes. It may not accurately portray street or site positions.

Site Report

Order Number: 20110615038

Site Name: Un-named

Site Address: 200 Lees Ave Ottawa, ON

Report Type: Custom Report, 0.25 km Search Radius

FOR COMPLETE INFORMATION, REFER TO DETAIL REPORT

A search has been conducted for this site (address) and company name. No records were found, within the database(s) selected, that meet either of these criteria.

Detail Report

Order Number: 20110615038
Site Name: Un-named
Site Address: 200 Lees Ave Ottawa ON
Report Type: Custom Report, 0.25 km Search Radius

If information is required for sites located beyond the selected address, please contact your ERIS representative.

Anderson's Waste Disposal Sites

Borehole

Certificates of Approval

Coal Gasification Plants

Environmental Registry

ERIS Historical Searches

Contaminated Sites on Federal Land

Fuel Storage Tank

Ontario Regulation 347 Waste Generators Summary

National PCB Inventory

Private and Retail Fuel Storage Tanks

Retail Fuel Storage Tanks

Scott's Manufacturing Directory

Ontario Spills

Waste Disposal Sites - MOE 1991 Historical Approval Inventory

Water Well Information System

Anderson's Waste Disposal Sites

Map Key	Name	Facility	Location	City/Town	Known Active Decade	Reference #
ANDR-1	Algonquin College Dump Related Site(s)	Dump	Lees Ave (Algonquin College), S side of High School [?], adj. Rideau River, S of Lees Ave*	Ottawa	1940s	MOEE 1017
ANDR-2	Rideau Riv Pk Dump (alt 2) Related Site(s)	Dump	in Rideau River Park*	Ottawa	1940s, 1950s	MOEE 1095 (alt 2)
ANDR-3	Rideau Riv Pk Dump (alt 1) Related Site(s)	Dump	in Rideau River Park*	Ottawa	1940s, 1950s	MOEE 1095 (alt 1)
ANDR-4	Rideau Riv Pk Dump (official) Related Site(s)	Dump	nr Rideau R Park, residential area, N of Pleasant Park Rd*, E of Leslie Ave*, NW of former CNR R-O-W, S of Billings Ave*	Ottawa	1940s, 1950s	MOEE 1095

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-1			613301	Borehole		
<p> Status: Drill Method: UTM Zone: 18 Easting: 448041.000 Northing: 5029462.000 Location Accuracy: Orig. Ground Elevation(m): 58.700001 Elev. Reliability Note: DEM Ground Elevation(m): 61 Total Depth(m): 1.300000 Primary Name: Township: Concession: Lot: Municipality: Completion Date: Static Water Level: -2.300000 Primary Water Use: Secondary Water Use: Location Description: </p>						
			Geology	Top Depth(m)	Bottom Depth(m)	Stratum Desc
			Stratum ID			
			218394570	0	1.100000	ARTIFICIAL.
			218394571	1.100000	1.300000	ARTIFICIAL, SOFT. SOFT. CLAY. GREY, FIRM. CLAY. GREY, FIRM. TILL. COMPACT. BEDROCK. FO

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-2			802687	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 448010.329
Northing: 5029534.228
Location Accuracy:
Orig. Ground Elevation(m): 61.599998
Elev. Reliability Note:
DEM Ground Elevation(m): 60.099998
Total Depth(m): 5.200000
Primary Name: BH 6
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level:
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218573138	0	0.200000	Concrete
218573139	0.200000	0.500000	Brown Fill-Misc Sand With: Gr W Cob
218573140	0.500000	2.200000	Dark Grey to Black Dense to Very Loose Cinder Ash With: Brk Frag
218573141	2.200000	2.900000	Brown Very Loose Silt With: Sa Trace: Cl Tr Gr
218573142	2.900000	5.200000	Brown Loose to Very Dense Till sand silt With: Cl W Gr

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-3			802691	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 448027.631
Northing: 5029553.902
Location Accuracy:
Orig. Ground Elevation(m): 59.900002
Elev. Reliability Note:
DEM Ground Elevation(m): 58.099998
Total Depth(m): 5.900000
Primary Name: BH 7
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 3.300000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218573161	0	0.200000	Cinder Ash
218573162	0.200000	0.400000	Brown Silt - Sand
218573163	0.400000	1.700000	Brown Very Loose Silt - Sand
218573164	1.700000	5.800000	Dark Brown to Grey Compact to Loose Till sand silt With: Cl W Gr Occasional: Cob Occ Blds
218573165	5.800000	5.900000	Bedrock Shale

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-4			802682	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447932.278
Northing: 5029557.680
Location Accuracy:
Orig. Ground Elevation(m): 61.799999
Elev. Reliability Note:
DEM Ground Elevation(m): 59.799999
Total Depth(m): 6.700000
Primary Name: BH 4
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level:
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218573114	0.100000	1.200000	Dark Grey to Black Cinder Ash
218573115	1.200000	1.400000	Dark Brown Topsoil Silt
218573116	1.400000	2	Brown Compact sand silt
218573117	2	6.700000	Dark Brown to Grey Dense to Loose Till sand silt With: CI W Gr Occasional: Cob Occ Blds
218573113	0	0.100000	Concrete

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-5			802676	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447909.479
Northing: 5029543.108
Location Accuracy:
Orig. Ground Elevation(m): 61.500000
Elev. Reliability Note:
DEM Ground Elevation(m): 60.900002
Total Depth(m): 10.200000
Primary Name: BH 1
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 4.300000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218573078	0	0.100000	Concrete
218573079	0.100000	0.600000	Dark Brown Fill-Misc sand silt Trace: Gr Tr Brk Frag
218573080	0.600000	1.100000	Dark Brown sand silt With: Org M
218573081	1.100000	2.900000	Brown Compact to Dense Till sand silt With: Cl W Gr
218573082	2.900000	4	Brown Dense Sand
218573083	4	5.500000	Grey Dense Till Silt - Sand With: Gr W Cob Trace: Cl
218573084	5.500000	10.100000	Dark Grey Compact to Dense Till Silt - Sand With: Cl W Gr W Blds
218573085	10.100000	10.200000	Bedrock Shale

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																
BORE-6			802685	Borehole	Geotechnical/Geological Investigation																
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447954.878 Northing: 5029578.256 Location Accuracy: Orig. Ground Elevation(m): 61.799999 Elev. Reliability Note: DEM Ground Elevation(m): 59.700001 Total Depth(m): 9.100000 Primary Name: BH 5 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 4.400000 Primary Water Use: Secondary Water Use: Location Description:</p>																					
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> </thead> <tbody> <tr> <td><u>Stratum ID</u> 218573129</td> <td>0</td> <td>1.500000</td> <td>Dark Grey Very Loose Fill- Misc sand silt With: Brk Frag W Blds W Org M</td> </tr> <tr> <td>218573130</td> <td>1.500000</td> <td>2</td> <td>Brown Compact Layered Sandy Silt & Silty Sand</td> </tr> <tr> <td>218573131</td> <td>2</td> <td>9.100000</td> <td>Dark Brown to Grey Compact to Loose Till sand silt With: Cl W Gr Occasional: Cob Occ Blds</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u> 218573129	0	1.500000	Dark Grey Very Loose Fill- Misc sand silt With: Brk Frag W Blds W Org M	218573130	1.500000	2	Brown Compact Layered Sandy Silt & Silty Sand	218573131	2	9.100000	Dark Brown to Grey Compact to Loose Till sand silt With: Cl W Gr Occasional: Cob Occ Blds
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																		
<u>Stratum ID</u> 218573129	0	1.500000	Dark Grey Very Loose Fill- Misc sand silt With: Brk Frag W Blds W Org M																		
218573130	1.500000	2	Brown Compact Layered Sandy Silt & Silty Sand																		
218573131	2	9.100000	Dark Brown to Grey Compact to Loose Till sand silt With: Cl W Gr Occasional: Cob Occ Blds																		

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-7			802678	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447906.702
Northing: 5029570.155
Location Accuracy:
Orig. Ground Elevation(m): 61.200001
Elev. Reliability Note:
DEM Ground Elevation(m): 59.500000
Total Depth(m): 6.700000
Primary Name: BH 2
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 4.400000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218573092	0	0.300000	Dark Grey Fill-Misc sand silt With: Gr W Brk Frag
218573093	0.300000	0.500000	Concrete
218573094	0.500000	1.200000	Dark Brown Fill-Misc sand silt With: Gr W Brk Frag
218573095	1.200000	1.400000	Brown sand silt With: Org M
218573096	1.400000	6.700000	Dark Brown to Grey Compact to Loose Till sand silt With: Cl W Gr Occasional: Cob Occ Blds

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																				
BORE-8			802680	Borehole	Geotechnical/Geological Investigation																				
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447931.389 Northing: 5029583.693 Location Accuracy: Orig. Ground Elevation(m): 60.900002 Elev. Reliability Note: DEM Ground Elevation(m): 59.400002 Total Depth(m): 12 Primary Name: BH 3 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 4.700000 Primary Water Use: Secondary Water Use: Location Description:</p>																									
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> </thead> <tbody> <tr> <td><u>Stratum ID</u></td> <td></td> <td></td> <td></td> </tr> <tr> <td>218573105</td> <td>0.400000</td> <td>0.500000</td> <td>Brown Topsoil Silt</td> </tr> <tr> <td>218573106</td> <td>0.500000</td> <td>12</td> <td>Dark Brown to Grey Compact to Loose Till sand silt With: Cl W Gr Occasional: Cob Occ Blds</td> </tr> <tr> <td>218573104</td> <td>0</td> <td>0.400000</td> <td>Dark Grey Cinder Ash</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u>				218573105	0.400000	0.500000	Brown Topsoil Silt	218573106	0.500000	12	Dark Brown to Grey Compact to Loose Till sand silt With: Cl W Gr Occasional: Cob Occ Blds	218573104	0	0.400000	Dark Grey Cinder Ash
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																						
<u>Stratum ID</u>																									
218573105	0.400000	0.500000	Brown Topsoil Silt																						
218573106	0.500000	12	Dark Brown to Grey Compact to Loose Till sand silt With: Cl W Gr Occasional: Cob Occ Blds																						
218573104	0	0.400000	Dark Grey Cinder Ash																						

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-9			803225	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 448225.688
Northing: 5029417.728
Location Accuracy:
Orig. Ground Elevation(m): 59.799999
Elev. Reliability Note:
DEM Ground Elevation(m): 57.799999
Total Depth(m): 9.600000
Primary Name: BH 102
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 3.800000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575425	0	1	Dark Brown Fill-Misc sand silt With: Gr W Blds
218575426	1	2.200000	Brown Compact Fill-Misc Silt - Sand With: Cl W Gr
218575427	2.200000	4.800000	Brown to Grey Compact to Very Dense Till clay silt With: Gr
218575428	4.800000	5	Bedrock Shale
218575429	5	9.600000	Dark Grey Bedrock Shale

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-10			803590	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447997.016
Northing: 5029209.023
Location Accuracy:
Orig. Ground Elevation(m): 56.799999
Elev. Reliability Note:
DEM Ground Elevation(m): 56.400002
Total Depth(m): 6.200000
Primary Name: BH 83-16
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level:
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218577095	0	0.700000	Dark Brown Silt With: Org M
218577096	0.700000	1.200000	Grey-Brown Weathered Crust Silty Clay
218577097	1.200000	2.100000	Brown to Grey Very Dense Silt - Sand With: Gr W Cob W Blds
218577098	2.100000	6.200000	Dark Grey to Grey Compact to Very Dense Till sand silt With: Cl W Gr Occasional: Cob Occ Blds

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-11			803217	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 448234.695
Northing: 5029426.559
Location Accuracy:
Orig. Ground Elevation(m): 60.200001
Elev. Reliability Note:
DEM Ground Elevation(m): 57.599998
Total Depth(m): 9.200000
Primary Name: BH 101
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 5.900000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575372	2.200000	3.300000	Dark Grey Compact Fill-Misc sand silt With: Cl W Gr Trace: Brk Frag Tr Constr Debris
218575370	0	1.700000	Brown Compact Fill-Misc Sand Trace: Si Tr Gr
218575371	1.700000	2.200000	Brown Compact Fill-Misc Silt - Sand With: Gr
218575373	3.300000	3.500000	Topsoil
218575374	3.500000	5.800000	Dark Brown to Grey Compact to Very Dense Till Silt - Sand With: Cl W Gr
218575375	5.800000	9.200000	Dark Grey Bedrock Shale

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-12			613302	Borehole		
<p> Status: Drill Method: UTM Zone: 18 Easting: 448251.000 Northing: 5029462.000 Location Accuracy: Orig. Ground Elevation(m): 57.900002 Elev. Reliability Note: DEM Ground Elevation(m): 58.500000 Total Depth(m): 28 Primary Name: Township: Concession: Lot: Municipality: Completion Date: Static Water Level: -3.100000 Primary Water Use: Secondary Water Use: Location Description: </p>						
			Geology	Top Depth(m)	Bottom Depth(m)	Stratum Desc
			Stratum ID			
			218394572	0	3.700000	CLAY.
			218394573	3.700000	28	SHALE, 00085 SOFT, SOFT, CLAY, GREY, FIRM. CLAY, GREY, FIRM, TILL, COMPACT, BEDROC

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-13			803584	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 448003.419
Northing: 5029146.913
Location Accuracy:
Orig. Ground Elevation(m): 59
Elev. Reliability Note:
DEM Ground Elevation(m): 58.599998
Total Depth(m): 6.700000
Primary Name: BH 83-15
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 2.200000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218577062	0	0.900000	Brown Fill-Misc sand silt With: Cl W Gr
218577063	0.900000	2.700000	Fill-Misc With: Constr Debris
218577064	2.700000	5.500000	Dark Grey Compact to Very Dense Fill-Misc Silt - Sand With: Gr W Cob W Blds
218577065	5.500000	6.700000	Grey Compact to Very Dense Till sand silt With: Cl W Gr Occasional: Cob Occ Blds
218577066	6.700000	6.700000	Bedrock Shale

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-14			803231	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 448302.678
Northing: 5029417.792
Location Accuracy:
Orig. Ground Elevation(m): 59
Elev. Reliability Note:
DEM Ground Elevation(m): 59.200001
Total Depth(m): 8.100000
Primary Name: BH 103
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 2.100000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575458	0	1.200000	Brown Loose Fill-Misc sand silt With: Cl W Gr
218575459	1.200000	1.500000	Topsoil
218575460	1.500000	4.800000	Brown to Grey Compact to Very Dense Till Silt - Sand With: Cl W Gr
218575461	4.800000	5.200000	Bedrock Shale
218575462	5.200000	8.100000	Dark Grey Bedrock Shale

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-15			613310	Borehole		
<p> Status: Drill Method: UTM Zone: 18 Easting: 447661.000 Northing: 5029522.000 Location Accuracy: Orig. Ground Elevation(m): 60.299999 Elev. Reliability Note: DEM Ground Elevation(m): 62.200001 Total Depth(m): 1.400000 Primary Name: Township: Concession: Lot: Municipality: Completion Date: Static Water Level: -6.600000 Primary Water Use: Secondary Water Use: Location Description: </p>						
			<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
			<u>Stratum ID</u>			
			218394595	0	0.800000	ARTIFICIAL.
			218394596	0.800000	1.400000	ARTIFICIAL. WN,HARD. TILL. GREY,FIRM. BEDROCK. GREY,FRACTURED, WATER STABLE AT 219.4 FEET.

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-16			613284	Borehole		
<p> Status: Drill Method: UTM Zone: 18 Easting: 447671.000 Northing: 5029322.000 Location Accuracy: Orig. Ground Elevation(m): 60.799999 Elev. Reliability Note: DEM Ground Elevation(m): 61.200001 Total Depth(m): 9.600000 Primary Name: Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description: </p>						
			<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
			<u>Stratum ID</u>			
			218394494	0	1.500000	ARTIFICIAL.
			218394495	1.500000	4	ARTIFICIAL.
			218394496	4	6.100000	CLAY. BLUE,GREY,STIFF TO VERY STIFF,FISSURED.
			218394497	6.100000	7.600000	SILT. DENSE.
			218394498	7.600000	9.600000	UNSPECIFIED. DENSE. 00000 018 00050 017 00130 038 00200 023 00250 012 0000003

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																
BORE-17			804701	Borehole	Geotechnical/Geological Investigation																
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 448156.998 Northing: 5029159.047 Location Accuracy: Orig. Ground Elevation(m): Elev. Reliability Note: DEM Ground Elevation(m): 59.299999 Total Depth(m): 3.800000 Primary Name: BH.88-1 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description:</p>																					
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> </thead> <tbody> <tr> <td><u>Stratum ID</u> 218581717</td> <td>0</td> <td>0.500000</td> <td>Dark Brown Loose Fill-Misc Silt - Sand With: Gr W Org M AND SANDY SILT</td> </tr> <tr> <td>218581718</td> <td>0.500000</td> <td>3.700000</td> <td>Brown Compact to Loose Fill-Misc Sand With: Cl W Gr Occasional: Cob AND SANDY SILT</td> </tr> <tr> <td>218581719</td> <td>3.700000</td> <td>3.800000</td> <td>Black Shale</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u> 218581717	0	0.500000	Dark Brown Loose Fill-Misc Silt - Sand With: Gr W Org M AND SANDY SILT	218581718	0.500000	3.700000	Brown Compact to Loose Fill-Misc Sand With: Cl W Gr Occasional: Cob AND SANDY SILT	218581719	3.700000	3.800000	Black Shale
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																		
<u>Stratum ID</u> 218581717	0	0.500000	Dark Brown Loose Fill-Misc Silt - Sand With: Gr W Org M AND SANDY SILT																		
218581718	0.500000	3.700000	Brown Compact to Loose Fill-Misc Sand With: Cl W Gr Occasional: Cob AND SANDY SILT																		
218581719	3.700000	3.800000	Black Shale																		

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-18			613320	Borehole		
<p> Status: Drill Method: UTM Zone: 18 Easting: 448321.000 Northing: 5029572.000 Location Accuracy: Orig. Ground Elevation(m): 57.900002 Elev. Reliability Note: DEM Ground Elevation(m): 58.700001 Total Depth(m): 27.400000 Primary Name: Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 1.800000 Primary Water Use: Secondary Water Use: Location Description: </p>						
			<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
			<u>Stratum ID</u>			
			218394639	0	9.100000	CLAY.
			218394640	9.100000	27.400000	SHALE. 00075ED. BEDROCK. BEDROCK. STIFF. CLAY. GREY,STIFF. SAND. LOOSE, WATER

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																																								
BORE-19			803581	Borehole	Geotechnical/Geological Investigation																																								
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 448031.291 Northing: 5029098.400 Location Accuracy: Orig. Ground Elevation(m): 59.099998 Elev. Reliability Note: DEM Ground Elevation(m): 59.099998 Total Depth(m): 7.600000 Primary Name: BH 83-14 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description:</p>																																													
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> <tr> <th><u>Stratum ID</u></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>218577048</td> <td>0</td> <td>1.500000</td> <td>Brown Dense Fill-Misc sand silt With: Gr W Blds Trace: Constr Debris</td> </tr> <tr> <td>218577049</td> <td>1.500000</td> <td>3.900000</td> <td>Fill-Misc With: Constr Debris</td> </tr> <tr> <td>218577050</td> <td>3.900000</td> <td>4.100000</td> <td>Greenish Grey Fill-Misc Silty Clay</td> </tr> <tr> <td>218577051</td> <td>4.100000</td> <td>4.300000</td> <td>Dark Brown Peat</td> </tr> <tr> <td>218577052</td> <td>4.300000</td> <td>5</td> <td>Dark Grey Loose Sand Trace: Si Tr Gr</td> </tr> <tr> <td>218577053</td> <td>5</td> <td>5.800000</td> <td>Grey Loose Silt - Sand Trace: Gr</td> </tr> <tr> <td>218577054</td> <td>5.800000</td> <td>7.500000</td> <td>Dark Grey Very Dense Till sand silt With: Gr Trace: Cl Occasional: Cob Occ Blds</td> </tr> <tr> <td>218577055</td> <td>7.500000</td> <td>7.600000</td> <td>Bedrock Shale</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u>				218577048	0	1.500000	Brown Dense Fill-Misc sand silt With: Gr W Blds Trace: Constr Debris	218577049	1.500000	3.900000	Fill-Misc With: Constr Debris	218577050	3.900000	4.100000	Greenish Grey Fill-Misc Silty Clay	218577051	4.100000	4.300000	Dark Brown Peat	218577052	4.300000	5	Dark Grey Loose Sand Trace: Si Tr Gr	218577053	5	5.800000	Grey Loose Silt - Sand Trace: Gr	218577054	5.800000	7.500000	Dark Grey Very Dense Till sand silt With: Gr Trace: Cl Occasional: Cob Occ Blds	218577055	7.500000	7.600000	Bedrock Shale
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																																										
<u>Stratum ID</u>																																													
218577048	0	1.500000	Brown Dense Fill-Misc sand silt With: Gr W Blds Trace: Constr Debris																																										
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218577050	3.900000	4.100000	Greenish Grey Fill-Misc Silty Clay																																										
218577051	4.100000	4.300000	Dark Brown Peat																																										
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218577054	5.800000	7.500000	Dark Grey Very Dense Till sand silt With: Gr Trace: Cl Occasional: Cob Occ Blds																																										
218577055	7.500000	7.600000	Bedrock Shale																																										

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-20			803265	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447599.751
Northing: 5029474.894
Location Accuracy:
Orig. Ground Elevation(m): 59.900002
Elev. Reliability Note:
DEM Ground Elevation(m): 60.799999
Total Depth(m): 9.100000
Primary Name: BH.86-13
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level:
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575657	0	0.100000	Asphalt
218575658	0.100000	1	Crushed Stone 50 mm minus
218575659	1	3	Sand
218575660	3	4.600000	Brown Compact Sand
218575661	4.600000	6.100000	Dark Brown to Black Compact Sand
218575662	6.100000	7	Grey Compact Sand Trace: Si
218575663	7	7.500000	Grey Very Dense Silt - Sand
218575664	7.500000	9.100000	Grey Very Dense Sand With: Gr Trace: Si

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-21			806867	Borehole	Geotechnical/Geological Investigation	
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447612.831 Northing: 5029358.667 Location Accuracy: Orig. Ground Elevation(m): 61.200001 Elev. Reliability Note: DEM Ground Elevation(m): 57.099998 Total Depth(m): 12.800000 Primary Name: BH 3 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description:</p>						
			Geology	Top Depth(m)	Bottom Depth(m)	Stratum Desc
			Stratum ID			
			218590459	0	0.100000	Asphalt
			218590460	0.100000	0.500000	Crushed Stone
			218590461	0.500000	0.700000	Brown Fill-Misc Sand
			218590462	0.700000	3.600000	Black Construction Debris
			218590463	3.600000	5.800000	Grey Compact sand silt Trace: Gr
			218590464	5.800000	7.800000	Grey Compact Till Silt - Sand Trace: Cl Tr Gr
			218590465	7.800000	10.400000	Grey Compact to Very Dense Sand With: Si Occasional: Cob Occ Blds
			218590466	10.400000	10.900000	Grey Very Dense Sand - Gravel
			218590467	10.900000	11.600000	Dark Grey Very Dense sand silt Trace: Gr
			218590468	11.600000	12.800000	Dark Grey Very Dense Till sand silt With: Cl

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-22			613259	Borehole		
<p> Status: Drill Method: UTM Zone: 18 Easting: 448261.000 Northing: 5029202.000 Location Accuracy: Orig. Ground Elevation(m): 57.900002 Elev. Reliability Note: DEM Ground Elevation(m): 59.299999 Total Depth(m): 34.400002 Primary Name: Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description: </p>						
			<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
			<u>Stratum ID</u>			
			218394385	0	1.500000	SOIL.
			218394386	1.500000	5.500000	CLAY.
			218394387	5.500000	6.100000	SAND. GREY.
			218394388	6.100000	34.400002	BEDROCK. 00113ROCK. . 00000 012 00050 064 00080 070 00000011D. TILL. BED

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																																												
BORE-23			806865	Borehole	Geotechnical/Geological Investigation																																												
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447661.775 Northing: 5029248.770 Location Accuracy: Orig. Ground Elevation(m): 61.700001 Elev. Reliability Note: DEM Ground Elevation(m): 57.799999 Total Depth(m): 20 Primary Name: BH 1 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 6.100000 Primary Water Use: Secondary Water Use: Location Description:</p>																																																	
<table border="1"> <thead> <tr> <th><u>Geology Stratum ID</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> </thead> <tbody> <tr> <td>218590438</td> <td>0</td> <td>0.100000</td> <td>Topsoil</td> </tr> <tr> <td>218590439</td> <td>0.100000</td> <td>4.700000</td> <td>Brown Very Loose to Loose Fill-Misc Silt - Sand With: Constr Debris</td> </tr> <tr> <td>218590440</td> <td>4.700000</td> <td>5</td> <td>Brown Silty Clay Trace: Org M</td> </tr> <tr> <td>218590441</td> <td>5</td> <td>7.200000</td> <td>Grey-Brown Very Stiff Weathered Crust Silty Clay</td> </tr> <tr> <td>218590442</td> <td>7.200000</td> <td>9.100000</td> <td>Grey Loose to Compact Layered Clayey Silt & Sandy Silt</td> </tr> <tr> <td>218590443</td> <td>9.100000</td> <td>10.200000</td> <td>Grey Compact sand silt</td> </tr> <tr> <td>218590444</td> <td>10.200000</td> <td>12</td> <td>Dark Grey Compact Sand</td> </tr> <tr> <td>218590445</td> <td>12</td> <td>16.600000</td> <td>Very Dense Till sand silt With: Gr Occasional: Cob</td> </tr> <tr> <td>218590446</td> <td>16.600000</td> <td>16.799999</td> <td>Dark Grey Shale</td> </tr> <tr> <td>218590447</td> <td>16.799999</td> <td>20</td> <td>Dark Grey Bedrock Shale</td> </tr> </tbody> </table>						<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	218590438	0	0.100000	Topsoil	218590439	0.100000	4.700000	Brown Very Loose to Loose Fill-Misc Silt - Sand With: Constr Debris	218590440	4.700000	5	Brown Silty Clay Trace: Org M	218590441	5	7.200000	Grey-Brown Very Stiff Weathered Crust Silty Clay	218590442	7.200000	9.100000	Grey Loose to Compact Layered Clayey Silt & Sandy Silt	218590443	9.100000	10.200000	Grey Compact sand silt	218590444	10.200000	12	Dark Grey Compact Sand	218590445	12	16.600000	Very Dense Till sand silt With: Gr Occasional: Cob	218590446	16.600000	16.799999	Dark Grey Shale	218590447	16.799999	20	Dark Grey Bedrock Shale
<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																																														
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218590443	9.100000	10.200000	Grey Compact sand silt																																														
218590444	10.200000	12	Dark Grey Compact Sand																																														
218590445	12	16.600000	Very Dense Till sand silt With: Gr Occasional: Cob																																														
218590446	16.600000	16.799999	Dark Grey Shale																																														
218590447	16.799999	20	Dark Grey Bedrock Shale																																														

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-24			803253	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447590.757
Northing: 5029426.569
Location Accuracy:
Orig. Ground Elevation(m): 60.700001
Elev. Reliability Note:
DEM Ground Elevation(m): 59.700001
Total Depth(m): 7.900000
Primary Name: BH.86-9
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level:
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575594	0	0.100000	Asphalt
218575595	0.100000	0.200000	Crushed Stone 20 mm minus
218575596	0.200000	0.400000	Brown Fill-Misc Sand - Gravel
218575597	0.400000	4.100000	Fill-Misc Sand With: Gr
218575598	4.100000	5.200000	Brown Compact Sand
218575599	5.200000	7.300000	Brown to Grey Dense to Compact Silt - Sand
218575600	7.300000	7.900000	Grey Very Dense Silt - Sand With: Cob Trace: Gr

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-25			803274	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447587.483
Northing: 5029433.629
Location Accuracy:
Orig. Ground Elevation(m): 60.500000
Elev. Reliability Note:
DEM Ground Elevation(m): 59.799999
Total Depth(m): 11.500000
Primary Name: BH.86-15
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 9.700000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575715	9.900000	11.100000	Grey Very Dense sand silt With: Gr W Cob
218575716	11.100000	11.500000	Dark Grey Bedrock Shale
218575707	0	0.100000	Asphalt
218575708	0.100000	0.200000	Crushed Stone 20 mm minus
218575709	0.200000	2	Crushed Stone
218575710	2	2.100000	Concrete or Boulder
218575711	2.100000	5.900000	Brown Compact to Dense Sand
218575712	5.900000	7.200000	Light Brown to Grey Dense to Very Dense Silt - Sand
218575713	7.200000	9.500000	Grey Very Dense Sand With: Gr W Cob
218575714	9.500000	9.900000	Grey Very Dense Sand

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																																																				
BORE-26			806866	Borehole	Geotechnical/Geological Investigation																																																				
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447615.289 Northing: 5029301.130 Location Accuracy: Orig. Ground Elevation(m): 61.500000 Elev. Reliability Note: DEM Ground Elevation(m): 60.500000 Total Depth(m): 14.700000 Primary Name: BH 2 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 7.100000 Primary Water Use: Secondary Water Use: Location Description:</p>																																																									
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> <tr> <th><u>Stratum ID</u></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>218590458</td> <td>14</td> <td>14.700000</td> <td>Dark Grey Bedrock Shale</td> </tr> <tr> <td>218590448</td> <td>0</td> <td>0.100000</td> <td>Asphalt</td> </tr> <tr> <td>218590449</td> <td>0.100000</td> <td>0.200000</td> <td>Crushed Stone</td> </tr> <tr> <td>218590450</td> <td>0.200000</td> <td>1.600000</td> <td>Dark Grey Fill-Misc sand silt With: Brk Frag W Constr Debris</td> </tr> <tr> <td>218590451</td> <td>1.600000</td> <td>4.300000</td> <td>Grey Loose Cinder Ash Trace: Constr Debris</td> </tr> <tr> <td>218590452</td> <td>4.300000</td> <td>4.500000</td> <td>Dark Grey Silty Clay With: Org M</td> </tr> <tr> <td>218590453</td> <td>4.500000</td> <td>5.600000</td> <td>Grey-Brown Very Stiff Weathered Crust Silty Clay</td> </tr> <tr> <td>218590454</td> <td>5.600000</td> <td>7.800000</td> <td>Brown to Grey Loose to Compact Silt Trace: Cl</td> </tr> <tr> <td>218590455</td> <td>7.800000</td> <td>12.700000</td> <td>Dark Grey Compact to Very Dense Silt - Sand With: Gr W Cob W Blds</td> </tr> <tr> <td>218590456</td> <td>12.700000</td> <td>13.500000</td> <td>Dark Grey Very Dense Till sand silt With: Cl W Gr</td> </tr> <tr> <td>218590457</td> <td>13.500000</td> <td>14</td> <td>Dark Grey Shale</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u>				218590458	14	14.700000	Dark Grey Bedrock Shale	218590448	0	0.100000	Asphalt	218590449	0.100000	0.200000	Crushed Stone	218590450	0.200000	1.600000	Dark Grey Fill-Misc sand silt With: Brk Frag W Constr Debris	218590451	1.600000	4.300000	Grey Loose Cinder Ash Trace: Constr Debris	218590452	4.300000	4.500000	Dark Grey Silty Clay With: Org M	218590453	4.500000	5.600000	Grey-Brown Very Stiff Weathered Crust Silty Clay	218590454	5.600000	7.800000	Brown to Grey Loose to Compact Silt Trace: Cl	218590455	7.800000	12.700000	Dark Grey Compact to Very Dense Silt - Sand With: Gr W Cob W Blds	218590456	12.700000	13.500000	Dark Grey Very Dense Till sand silt With: Cl W Gr	218590457	13.500000	14	Dark Grey Shale
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																																																						
<u>Stratum ID</u>																																																									
218590458	14	14.700000	Dark Grey Bedrock Shale																																																						
218590448	0	0.100000	Asphalt																																																						
218590449	0.100000	0.200000	Crushed Stone																																																						
218590450	0.200000	1.600000	Dark Grey Fill-Misc sand silt With: Brk Frag W Constr Debris																																																						
218590451	1.600000	4.300000	Grey Loose Cinder Ash Trace: Constr Debris																																																						
218590452	4.300000	4.500000	Dark Grey Silty Clay With: Org M																																																						
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218590454	5.600000	7.800000	Brown to Grey Loose to Compact Silt Trace: Cl																																																						
218590455	7.800000	12.700000	Dark Grey Compact to Very Dense Silt - Sand With: Gr W Cob W Blds																																																						
218590456	12.700000	13.500000	Dark Grey Very Dense Till sand silt With: Cl W Gr																																																						
218590457	13.500000	14	Dark Grey Shale																																																						

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-27			803260	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447580.928
Northing: 5029484.244
Location Accuracy:
Orig. Ground Elevation(m): 59.700001
Elev. Reliability Note:
DEM Ground Elevation(m): 60.200001
Total Depth(m): 5.600000
Primary Name: BH.86-11
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 4.800000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575627	0	0.100000	Asphalt
218575628	0.100000	0.200000	Crushed Stone
218575629	0.200000	3.800000	Fill-Misc Sand With: Gr W Cob
218575630	3.800000	5.600000	Grey Loose to Compact Fill- Misc Silty Clay With: Sa W Constr Debris

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-28			807053	Borehole	Geotechnical/Geological Investigation	
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447579.920 Northing: 5029416.773 Location Accuracy: Orig. Ground Elevation(m): 59.500000 Elev. Reliability Note: DEM Ground Elevation(m): 57.500000 Total Depth(m): 1.500000 Primary Name: AH 11 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description:</p>						
			<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
			<u>Stratum ID</u>			
			218591333	0	0.500000	Brown Fill-Misc Silt - Sand With: Gr
			218591334	0.500000	1.500000	Dark Grey Fill-Misc sand silt With: Brk Frag W Constr Debris

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-29			803257	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447576.012
Northing: 5029451.841
Location Accuracy:
Orig. Ground Elevation(m): 60.200001
Elev. Reliability Note:
DEM Ground Elevation(m): 59.700001
Total Depth(m): 9.800000
Primary Name: BH.86-10
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 7.800000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575611	0	0.100000	Asphalt
218575612	0.100000	0.300000	Crushed Stone
218575613	0.300000	2.700000	Fill-Misc Silt - Sand With: Gr W Cob
218575614	2.700000	3.700000	Sand
218575615	3.700000	6.500000	Grey to Black Compact to Dense Sand
218575616	6.500000	6.900000	Grey Dense Silt - Sand With: Gr
218575617	6.900000	8.500000	Grey Dense to Very Dense Sand With: Si W Gr W Cob
218575618	8.500000	9.600000	Grey Dense to Compact Sand With: Gr
218575619	9.600000	9.800000	Grey Compact clay silt With: Sa Trace: Gr

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																												
BORE-30			802911	Borehole	Geotechnical/Geological Investigation																												
<p>Status: Drill Method: Boring UTM Zone: 18 Easting: 447683.217 Northing: 5029188.879 Location Accuracy: Orig. Ground Elevation(m): 56.299999 Elev. Reliability Note: DEM Ground Elevation(m): 55.700001 Total Depth(m): 14.200000 Primary Name: BH 202 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description:</p>																																	
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> <tr> <th><u>Stratum ID</u></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>218574084</td> <td>5.500000</td> <td>6.900000</td> <td>Grey Dense Sand With: Si</td> </tr> <tr> <td>218574085</td> <td>6.900000</td> <td>8.100000</td> <td>Light Grey Very Dense Silt - Sand With: Gr</td> </tr> <tr> <td>218574086</td> <td>8.100000</td> <td>14.200000</td> <td>Black Bedrock Shale</td> </tr> <tr> <td>218574082</td> <td>0</td> <td>5.100000</td> <td>Water</td> </tr> <tr> <td>218574083</td> <td>5.100000</td> <td>5.500000</td> <td>Dark Grey Compact sand silt With: Gr</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u>				218574084	5.500000	6.900000	Grey Dense Sand With: Si	218574085	6.900000	8.100000	Light Grey Very Dense Silt - Sand With: Gr	218574086	8.100000	14.200000	Black Bedrock Shale	218574082	0	5.100000	Water	218574083	5.100000	5.500000	Dark Grey Compact sand silt With: Gr
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																														
<u>Stratum ID</u>																																	
218574084	5.500000	6.900000	Grey Dense Sand With: Si																														
218574085	6.900000	8.100000	Light Grey Very Dense Silt - Sand With: Gr																														
218574086	8.100000	14.200000	Black Bedrock Shale																														
218574082	0	5.100000	Water																														
218574083	5.100000	5.500000	Dark Grey Compact sand silt With: Gr																														

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-31			805946	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Boring
UTM Zone: 18
Easting: 447688.749
Northing: 5029182.277
Location Accuracy:
Orig. Ground Elevation(m): 55.799999
Elev. Reliability Note:
DEM Ground Elevation(m): 55.200001
Total Depth(m): 10.800000
Primary Name: BH 100
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level:
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218586941	0	3.800000	Water
218586942	3.800000	5.200000	Grey Dense Sand Trace: Gr Occasional: Cob Occ Blds
218586943	5.200000	7	Grey Very Dense Sand Trace: Si Tr Gr
218586944	7	10.800000	Dark Grey to Black Bedrock Shale

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
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BORE-32			803277	Borehole	Geotechnical/Geological Investigation
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Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447571.550
Northing: 5029463.922
Location Accuracy:
Orig. Ground Elevation(m): 51
Elev. Reliability Note:
DEM Ground Elevation(m): 59.900002
Total Depth(m): 11.500000
Primary Name: BH.86-16
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level:
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575722	0	0.100000	Asphalt
218575723	0.100000	0.200000	Crushed Stone 20 mm minus
218575724	0.200000	4.300000	Grey to Black Compact to Very Loose Fill-Misc Silt - Sand With: Gr W Cob Trace: Constr Debris
218575725	4.300000	5.300000	Dark Grey Compact Sand
218575726	5.300000	6.200000	Dark Grey Compact Silt - Sand
218575727	6.200000	6.700000	Grey Dense sand silt With: Gr W Cob
218575728	6.700000	8.700000	Compact to Very Dense Silt - Sand
218575729	8.700000	9.500000	Grey to Black Very Dense Silt - Sand With: Gr W Cob

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-33			806869	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447573.430
Northing: 5029408.895
Location Accuracy:
Orig. Ground Elevation(m): 59.599998
Elev. Reliability Note:
DEM Ground Elevation(m): 56.099998
Total Depth(m): 15.300000
Primary Name: BH 5
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 4.100000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218590478	0	0.300000	Brown Fill-Misc Sand - Gravel
218590479	0.300000	0.600000	Black Cinder Ash
218590480	0.600000	2.300000	Brown Fill-Misc Sand - Gravel
218590481	2.300000	3	Light Brown Dense Silt - Sand With: Gr
218590482	3	4.600000	Light Brown to Grey Dense to Very Dense Sand
218590483	4.600000	6.100000	Grey Dense to Very Dense Sand Trace: Si
218590484	6.100000	6.600000	Grey Very Dense Sand With: Gr
218590485	6.600000	8.200000	Dark Grey Very Dense Sand Trace: Si
218590486	8.200000	9.900000	Dark Grey Compact Sand - Gravel With: Si
218590487	9.900000	10.800000	Dark Grey Very Dense Till sand silt With: Cl
218590488	10.800000	12.100000	Black Shale
218590489	12.100000	15.300000	Dark Grey Bedrock Shale

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-34			806868	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447578.724
Northing: 5029377.801
Location Accuracy:
Orig. Ground Elevation(m): 60.500000
Elev. Reliability Note:
DEM Ground Elevation(m): 59.400002
Total Depth(m): 17.200001
Primary Name: BH 4
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 5.500000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218590469	0	0.200000	Topsoil
218590470	0.200000	3.200000	Brown Fill-Misc sand silt With: Constr Debris
218590471	3.200000	4.700000	Brown to Grey Loose Layered Clayey Silt & Sandy Silt
218590472	4.700000	5.500000	Grey Compact Till sand silt With: Cl W Gr
218590473	5.500000	7.300000	Grey Dense Sand
218590474	7.300000	8.500000	Grey Dense Silt - Sand With: Gr W Cob
218590475	8.500000	11.600000	Grey Very Dense Sand
218590476	11.600000	12.500000	Dark Grey Very Dense Till Silt - Sand With: Gr
218590477	12.500000	17.200001	Dark Grey Bedrock Shale

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-35			613283	Borehole		
<p> Status: Drill Method: UTM Zone: 18 Easting: 447591.000 Northing: 5029322.000 Location Accuracy: Orig. Ground Elevation(m): 59.599998 Elev. Reliability Note: DEM Ground Elevation(m): 58.500000 Total Depth(m): 12.800000 Primary Name: Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 5.700000 Primary Water Use: Secondary Water Use: Location Description: </p>						
			Geology	Top Depth(m)	Bottom Depth(m)	Stratum Desc
			Stratum ID			
			218394486	1.500000	2.300000	ARTIFICIAL.
			218394487	2.300000	3	SAND. LOOSE TO COMPACT.
			218394488	3	6.600000	CLAY. BROWN, GREY, STIFF TO VERY STIFF.
			218394489	6.600000	7.600000	UNSPECIFIED. DENSE TO VERY DENSE, WATER STABLE AT 176.9 FEET.
			218394490	7.600000	8.400000	SAND. DENSE TO VERY DENSE.
			218394491	8.400000	8.800000	SILT. VERY DENSE.
			218394492	8.800000	10.300000	BOULDERS. VERY DENSE.
			218394493	10.300000	12.800000	BEDROCK. 00000 012 00050 023 00076 020 00100 040 00215 010 00250 012 00275
			218394485	0	1.500000	ARTIFICIAL.

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-36			802910	Borehole	Geotechnical/Geological Investigation	
<p>Status: Drill Method: Boring UTM Zone: 18 Easting: 447673.904 Northing: 5029182.054 Location Accuracy: Orig. Ground Elevation(m): 56.299999 Elev. Reliability Note: DEM Ground Elevation(m): 56.099998 Total Depth(m): 12.900000 Primary Name: BH 201 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description:</p>						
			Geology	Top Depth(m)	Bottom Depth(m)	Stratum Desc
			Stratum ID			
			218574077	0	5	Water River Bottom
			218574078	5	5.800000	Dark Grey Dense sand silt With: Gr
			218574079	5.800000	7.200000	Grey Dense Sand Trace: Si
			218574080	7.200000	8.400000	Light Grey Very Dense Silt - Sand Trace: Gr
			218574081	8.400000	12.900000	Black Bedrock Shale

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
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BORE-37

613267 Borehole

Status:
Drill Method:
UTM Zone: 18
Easting: 447611.000
Northing: 5029262.000
Location Accuracy:
Orig. Ground Elevation(m): 57.200001
Elev. Reliability Note:
DEM Ground Elevation(m): 60.099998
Total Depth(m): 10.700000
Primary Name:
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level:
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218394423	0	1.700000	ARTIFICIAL.
218394424	1.700000	3	CLAY. BROWN,GREY,STIFF.
218394425	3	4.600000	SILT.
218394426	4.600000	5.300000	SILT. GREY,LOOSE.
218394427	5.300000	5.800000	SILT. LOOSE.
218394428	5.800000	6.600000	SILT. DENSE.
218394429	6.600000	7.500000	SAND. DENSE.
218394430	7.500000	7.700000	UNSPECIFIED. VERY DENSE.
218394431	7.700000	10.700000	BEDROCK. 00000 018 00055 053 00100 035 00150 025 00175 028 00190 020 00215

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-38			803247	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447555.738
Northing: 5029443.720
Location Accuracy:
Orig. Ground Elevation(m): 60
Elev. Reliability Note:
DEM Ground Elevation(m): 58.099998
Total Depth(m): 10.200000
Primary Name: BH.86-7
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 8.200000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575565	9.900000	10.200000	Grey Very Dense clay silt With: Sa
218575556	0	0.100000	Asphalt
218575557	0.100000	0.200000	Crushed Stone 20 mm minus
218575558	0.200000	0.600000	Crushed Stone 50 mm minus
218575559	0.600000	4.600000	Brown Compact to Loose Fill- Misc Sand With: Si W Gr W Cob
218575560	4.600000	5.900000	Brown Loose to Compact Sand
218575561	5.900000	6.600000	Grey Compact Sand With: Si
218575562	6.600000	7.900000	Grey Compact to Very Dense Silt - Sand With: Gr
218575563	7.900000	9.100000	Grey Very Dense Silt - Sand With: Gr
218575564	9.100000	9.900000	Brown Dense Sand

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-39			803575	Borehole	Geotechnical/Geological Investigation	
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 448024.276 Northing: 5029040.540 Location Accuracy: Orig. Ground Elevation(m): 58.900002 Elev. Reliability Note: DEM Ground Elevation(m): 59.099998 Total Depth(m): 7.900000 Primary Name: BH 83-13 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 2.800000 Primary Water Use: Secondary Water Use: Location Description:</p>						
			<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
			<u>Stratum ID</u>			
			218577025	0	1.400000	Brown to Grey Compact Fill-Misc sand silt With: Gr Trace: Brk Frag
			218577026	1.400000	2	Concrete With: Brk Frag
			218577027	2	4.900000	Fill-Misc With: Constr Debris
			218577028	4.900000	5.300000	Dark Brown Silt With: Org M
			218577029	5.300000	5.900000	Grey Compact Silt - Sand With: Gr Trace: Cl
			218577030	5.900000	7.900000	Dark Grey Dense Till sand silt With: Cl W Gr Occasional: Cob Occ Blds

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-40			803262	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447552.552
Northing: 5029482.274
Location Accuracy:
Orig. Ground Elevation(m): 59.500000
Elev. Reliability Note:
DEM Ground Elevation(m): 58.599998
Total Depth(m): 8.200000
Primary Name: BH.86-12
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 6.800000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575639	0	0.100000	Asphalt
218575640	0.100000	1.700000	Grey Crushed Stone
218575641	1.700000	1.800000	Concrete
218575642	1.800000	3.300000	Grey Loose to Compact Crushed Stone
218575643	3.300000	3.700000	Grey Compact Fill-Misc Silt - Sand With: Gr
218575644	3.700000	4.900000	Grey to Black Compact Sand
218575645	4.900000	8.200000	Grey Dense to Very Dense Sand With: Si W Gr

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-41			803269	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447551.839
Northing: 5029460.790
Location Accuracy:
Orig. Ground Elevation(m): 59.900002
Elev. Reliability Note:
DEM Ground Elevation(m): 58.400002
Total Depth(m): 9.600000
Primary Name: BH.86-14
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level:
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575682	0	0.100000	Asphalt
218575683	0.100000	0.200000	Crushed Stone 20 mm minus
218575684	0.200000	2.600000	Fill-Misc Sand With: Gr
218575685	2.600000	3.800000	Light Brown Compact Sand Trace: Si
218575686	3.800000	4.100000	Dark Grey Very Dense Silt - Sand With: Gr
218575687	4.100000	6.100000	Grey Dense to Compact Sand With: Gr W Cob
218575688	6.100000	6.700000	Grey Very Dense Silt - Sand With: Gr
218575689	6.700000	8.400000	Dark Grey to Grey Very Dense to Dense Silt - Sand
218575690	8.400000	9.600000	Dark Grey Very Dense Sand Trace: Si

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																																								
BORE-42			802913	Borehole	Geotechnical/Geological Investigation																																								
<p>Status: Drill Method: Boring UTM Zone: 18 Easting: 447700.370 Northing: 5029138.566 Location Accuracy: Orig. Ground Elevation(m): 56.099998 Elev. Reliability Note: DEM Ground Elevation(m): 60.299999 Total Depth(m): 15.200000 Primary Name: BH 204 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description:</p>																																													
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> <tr> <th><u>Stratum ID</u></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>218574096</td> <td>2.100000</td> <td>3.200000</td> <td>Grey-Brown Loose Alluvium Silt - Sand With: Org M</td> </tr> <tr> <td>218574097</td> <td>3.200000</td> <td>3.800000</td> <td>Grey Loose clay silt Occasional: F Sa</td> </tr> <tr> <td>218574098</td> <td>3.800000</td> <td>4.900000</td> <td>Grey Compact Silt - Sand</td> </tr> <tr> <td>218574099</td> <td>4.900000</td> <td>7.400000</td> <td>Grey Very Dense Silt - Sand With: Gr</td> </tr> <tr> <td>218574100</td> <td>7.400000</td> <td>11.300000</td> <td>Black Bedrock Shale</td> </tr> <tr> <td>218574101</td> <td>11.300000</td> <td>15.200000</td> <td>Black Bedrock Shale</td> </tr> <tr> <td>218574094</td> <td>0</td> <td>0.700000</td> <td>Water</td> </tr> <tr> <td>218574095</td> <td>0.700000</td> <td>2.100000</td> <td>Grey-Brown Very Soft Alluvium clay silt With: Org M Trace: Sa Tr Constr Debris</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u>				218574096	2.100000	3.200000	Grey-Brown Loose Alluvium Silt - Sand With: Org M	218574097	3.200000	3.800000	Grey Loose clay silt Occasional: F Sa	218574098	3.800000	4.900000	Grey Compact Silt - Sand	218574099	4.900000	7.400000	Grey Very Dense Silt - Sand With: Gr	218574100	7.400000	11.300000	Black Bedrock Shale	218574101	11.300000	15.200000	Black Bedrock Shale	218574094	0	0.700000	Water	218574095	0.700000	2.100000	Grey-Brown Very Soft Alluvium clay silt With: Org M Trace: Sa Tr Constr Debris
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																																										
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218574100	7.400000	11.300000	Black Bedrock Shale																																										
218574101	11.300000	15.200000	Black Bedrock Shale																																										
218574094	0	0.700000	Water																																										
218574095	0.700000	2.100000	Grey-Brown Very Soft Alluvium clay silt With: Org M Trace: Sa Tr Constr Debris																																										

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-43			803283	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447545.683
Northing: 5029480.902
Location Accuracy:
Orig. Ground Elevation(m): 59.500000
Elev. Reliability Note:
DEM Ground Elevation(m): 57.900002
Total Depth(m): 8.200000
Primary Name: BH.86-18
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level:
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575755	0	0.100000	Asphalt
218575756	0.100000	3.200000	Grey Dense to Very Dense Crushed Stone With: Sa W Gr
218575757	3.200000	3.400000	Brown Compact Silt - Sand
218575758	3.400000	5.500000	Brown Compact Sand With: Gr
218575759	5.500000	6.600000	Very Dense Silt - Sand With: Gr W Cob
218575760	6.600000	8.200000	Light Dark Grey to Grey Dense to Very Dense Sand

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																																				
BORE-44			802912	Borehole	Geotechnical/Geological Investigation																																				
<p>Status: Drill Method: Boring UTM Zone: 18 Easting: 447690.710 Northing: 5029133.247 Location Accuracy: Orig. Ground Elevation(m): 56.200001 Elev. Reliability Note: DEM Ground Elevation(m): 58.900002 Total Depth(m): 13.400000 Primary Name: BH 203 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description:</p>																																									
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> <tr> <th><u>Stratum ID</u></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>218574087</td> <td>0</td> <td>0.900000</td> <td>Water</td> </tr> <tr> <td>218574088</td> <td>0.900000</td> <td>2</td> <td>Grey-Brown Very Soft Alluvium clay silt With: Org M W Constr Debris</td> </tr> <tr> <td>218574089</td> <td>2</td> <td>3.100000</td> <td>Grey-Brown Very Loose Alluvium Silt - Sand With: Org M</td> </tr> <tr> <td>218574090</td> <td>3.100000</td> <td>3.800000</td> <td>Grey Loose clay silt Occasional: F Sa</td> </tr> <tr> <td>218574091</td> <td>3.800000</td> <td>5.300000</td> <td>Grey Compact Silt - Sand</td> </tr> <tr> <td>218574092</td> <td>5.300000</td> <td>7.500000</td> <td>Dark Grey Dense to Very Dense Silt - Sand With: Gr</td> </tr> <tr> <td>218574093</td> <td>7.500000</td> <td>13.400000</td> <td>Black Bedrock Shale</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u>				218574087	0	0.900000	Water	218574088	0.900000	2	Grey-Brown Very Soft Alluvium clay silt With: Org M W Constr Debris	218574089	2	3.100000	Grey-Brown Very Loose Alluvium Silt - Sand With: Org M	218574090	3.100000	3.800000	Grey Loose clay silt Occasional: F Sa	218574091	3.800000	5.300000	Grey Compact Silt - Sand	218574092	5.300000	7.500000	Dark Grey Dense to Very Dense Silt - Sand With: Gr	218574093	7.500000	13.400000	Black Bedrock Shale
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																																						
<u>Stratum ID</u>																																									
218574087	0	0.900000	Water																																						
218574088	0.900000	2	Grey-Brown Very Soft Alluvium clay silt With: Org M W Constr Debris																																						
218574089	2	3.100000	Grey-Brown Very Loose Alluvium Silt - Sand With: Org M																																						
218574090	3.100000	3.800000	Grey Loose clay silt Occasional: F Sa																																						
218574091	3.800000	5.300000	Grey Compact Silt - Sand																																						
218574092	5.300000	7.500000	Dark Grey Dense to Very Dense Silt - Sand With: Gr																																						
218574093	7.500000	13.400000	Black Bedrock Shale																																						

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-45			807158	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447541.244
Northing: 5029430.492
Location Accuracy:
Orig. Ground Elevation(m): 59.200001
Elev. Reliability Note:
DEM Ground Elevation(m): 55.900002
Total Depth(m): 10.700000
Primary Name: BH 29
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 3.100000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218591835	0	2.400000	Dark Brown Fill-Misc Silt - Sand With: Gr Occasional: Blds
218591836	2.400000	5.900000	Light Brown Dense Sand
218591837	5.900000	7	Dark Grey Dense Silt - Sand With: Gr
218591838	7	8.300000	Grey Very Dense Sand
218591839	8.300000	10	Grey Very Dense sand silt
218591840	10	10.700000	Dark Grey Bedrock Shale

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
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BORE-46			805949	Borehole	Geotechnical/Geological Investigation
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Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447696.985
Northing: 5029124.632
Location Accuracy:
Orig. Ground Elevation(m): 57.099998
Elev. Reliability Note:
DEM Ground Elevation(m): 59.400002
Total Depth(m): 16.400000
Primary Name: BH 101
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 1.400000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218586953	0	3.100000	Brown to Grey Very Loose to Loose Alluvium sand silt Trace: Org M Tr Constr Debris Occasional: Cl
218586954	3.100000	4.400000	Grey Stiff to Very Stiff Layered Silty Clay & Clayey Silt Occasional: F Sa
218586955	4.400000	6.100000	Grey Loose to Compact sand silt Trace: Gr
218586956	6.100000	7	Dark Grey Very Dense Till sand silt With: Gr Trace: Cl
218586957	7	8.400000	Dark Grey Very Dense Sand With: Si Trace: Gr
218586958	8.400000	12.100000	Black Bedrock Shale Fractured
218586959	12.100000	16.400000	Dark Grey to Black Bedrock Shale Fractured to Fairly Sound

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-47			806027	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447716.096
Northing: 5029107.278
Location Accuracy:
Orig. Ground Elevation(m): 56.099998
Elev. Reliability Note:
DEM Ground Elevation(m): 59.599998
Total Depth(m): 12
Primary Name: BH 123
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level:
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218587227	0	0.700000	Dark Brown Peat
218587228	0.700000	1.500000	Grey-Brown to Grey Firm Silty Clay
218587229	1.500000	2.200000	Brown Soft Peat
218587230	2.200000	3.700000	Grey Loose to Very Loose Silt Trace: Sa
218587231	3.700000	4.900000	Grey Very Loose to Compact Sand With: Si
218587232	4.900000	8.200000	Dark Grey Dense to Very Dense Sand With: Si W Gr
218587233	8.200000	12	Dark Grey to Black Bedrock Shale

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																
BORE-48			805955	Borehole	Geotechnical/Geological Investigation																
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447735.495 Northing: 5029091.918 Location Accuracy: Orig. Ground Elevation(m): 56.700001 Elev. Reliability Note: DEM Ground Elevation(m): 59.900002 Total Depth(m): 3.700000 Primary Name: BH 102 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description:</p>																					
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> </thead> <tbody> <tr> <td><u>Stratum ID</u> 218586978</td> <td>0</td> <td>1.400000</td> <td>Black Loose Alluvium clay silt With: Gr</td> </tr> <tr> <td>218586979</td> <td>1.400000</td> <td>2.700000</td> <td>Grey Very Stiff Layered Silty Clay & Clayey Silt Trace: Org M</td> </tr> <tr> <td>218586980</td> <td>2.700000</td> <td>3.700000</td> <td>Grey Loose Silt Trace: Sa Occasional: Gr</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u> 218586978	0	1.400000	Black Loose Alluvium clay silt With: Gr	218586979	1.400000	2.700000	Grey Very Stiff Layered Silty Clay & Clayey Silt Trace: Org M	218586980	2.700000	3.700000	Grey Loose Silt Trace: Sa Occasional: Gr
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																		
<u>Stratum ID</u> 218586978	0	1.400000	Black Loose Alluvium clay silt With: Gr																		
218586979	1.400000	2.700000	Grey Very Stiff Layered Silty Clay & Clayey Silt Trace: Org M																		
218586980	2.700000	3.700000	Grey Loose Silt Trace: Sa Occasional: Gr																		

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-49			803250	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447536.253
Northing: 5029422.586
Location Accuracy:
Orig. Ground Elevation(m): 53.599998
Elev. Reliability Note:
DEM Ground Elevation(m): 55.200001
Total Depth(m): 5.500000
Primary Name: BH.86-8
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level:
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575576	0	0.200000	Asphalt
218575577	0.200000	0.400000	Crushed Stone 20 mm minus
218575578	0.400000	0.800000	Crushed Stone 50 mm minus
218575579	0.800000	0.900000	Insulation
218575582	3.500000	4	Grey Very Dense Fill-Misc Silt - Sand With: Gr
218575583	4	5.200000	Grey Dense sand silt
218575584	5.200000	5.500000	Dark Grey Shale
218575580	0.900000	0.900000	Brown Sand
218575581	0.900000	3.500000	Brown Loose Fill-Misc Sand With: Gr W Cob Trace: Si

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-50			807159	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447534.790
Northing: 5029434.612
Location Accuracy:
Orig. Ground Elevation(m): 59.200001
Elev. Reliability Note:
DEM Ground Elevation(m): 55.599998
Total Depth(m): 9.600000
Primary Name: BH 30
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 3.600000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218591841	0	0.800000	Brown Fill-Misc Sand With: Gr W Brk Frag W Constr Debris
218591842	0.800000	0.900000	Topsoil
218591843	0.900000	1.500000	Brown Sand Trace: Gr
218591847	5.300000	7.500000	Grey Dense Silt - Sand With: Gr W Cob
218591848	7.500000	9.400000	Grey Very Dense Sand With: Gr
218591849	9.400000	9.600000	Dark Grey Till Silt - Sand With: Cl W Gr
218591844	1.500000	2.900000	Grey sand silt With: Gr W Cob
218591845	2.900000	4.300000	Grey Compact Sand Occasional: Gr
218591846	4.300000	5.300000	Grey Dense Sand

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-51			807163	Borehole	Geotechnical/Geological Investigation	
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447531.973 Northing: 5029437.664 Location Accuracy: Orig. Ground Elevation(m): 59.200001 Elev. Reliability Note: DEM Ground Elevation(m): 55.500000 Total Depth(m): 6.800000 Primary Name: BH 31 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 3.300000 Primary Water Use: Secondary Water Use: Location Description:</p>						
			<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
			<u>Stratum ID</u>			
			218591864	0	1.500000	Brown Fill-Misc Sand With: Gr W Brk Frag
			218591865	1.500000	6.800000	Light Brown to Grey Sand

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-52			803951	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447707.314
Northing: 5029105.442
Location Accuracy:
Orig. Ground Elevation(m): 59.099998
Elev. Reliability Note:
DEM Ground Elevation(m): 59.700001
Total Depth(m): 2.100000
Primary Name: AH 82-3
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level:
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218578588	0	0.800000	Dark Brown Soft Alluvium Silty Clay Trace: Sa
218578589	0.800000	2	Dark Greenish Grey Stiff Alluvium Silty Clay
218578590	2	2.100000	Dark Brown Silt - Sand With: Gr

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-53			807156	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447529.202
Northing: 5029438.216
Location Accuracy:
Orig. Ground Elevation(m): 59.200001
Elev. Reliability Note:
DEM Ground Elevation(m): 55.200001
Total Depth(m): 9.500000
Primary Name: BH 28
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 3.300000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218591826	0	0.300000	Brown Fill-Misc Sand - Gravel
218591827	0.300000	3.100000	Dark Brown Fill-Misc Silt - Sand With: Gr Occasional: Blds
218591828	3.100000	4.100000	Light Brown Compact to Very Dense Sand
218591829	4.100000	5.200000	Light Brown Very Dense Sand
218591830	5.200000	5.900000	Light Brown Very Dense Silt - Sand With: Gr
218591831	5.900000	9.500000	Dense to Very Dense Sand

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
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BORE-54			807026	Borehole	Geotechnical/Geological Investigation
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Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447525.030
Northing: 5029403.798
Location Accuracy:
Orig. Ground Elevation(m): 59.299999
Elev. Reliability Note:
DEM Ground Elevation(m): 58.099998
Total Depth(m): 9.800000
Primary Name: BH 6
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 3.500000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218591203	0	0.200000	Fill-Misc Sand - Gravel
218591204	0.200000	1.500000	Brown Fill-Misc sand silt With: Brk Frag
218591205	1.500000	2.300000	Light Brown Loose Sand With: Gr
218591206	2.300000	3.100000	Grey Loose sand silt
218591207	3.100000	4.900000	Grey Compact to Very Dense Sand
218591208	4.900000	5	Grey Very Dense sand silt
218591209	5	5.800000	Dark Grey Very Dense Till Sand With: Gr Trace: Si
218591210	5.800000	9.100000	Grey Very Dense to Compact Till Sand
218591211	9.100000	9.800000	Dark Grey Very Dense Till Silt - Sand With: Gr

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-55			613392	Borehole		
<p> Status: Drill Method: UTM Zone: 18 Easting: 447951.000 Northing: 5029922.000 Location Accuracy: Orig. Ground Elevation(m): 54.900002 Elev. Reliability Note: DEM Ground Elevation(m): 56.099998 Total Depth(m): -999.000000 Primary Name: Township: Concession: Lot: Municipality: Completion Date: Static Water Level: -10.400000 Primary Water Use: Secondary Water Use: Location Description: </p>						
			Geology	Top Depth(m)	Bottom Depth(m)	Stratum Desc
			Stratum ID			
			218394936	0	6.100000	SAND.
			218394937	6.100000		BEDROCK. ENSE. UNSPECIFIED. DENSE. UNSPECIFIED. LOOSE, DENSE. BEDROCK. WATER STABLE AT 214

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
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BORE-56			803240	Borehole	Geotechnical/Geological Investigation
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Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447520.644
Northing: 5029409.879
Location Accuracy:
Orig. Ground Elevation(m): 59
Elev. Reliability Note:
DEM Ground Elevation(m): 57.700001
Total Depth(m): 10.500000
Primary Name: BH.86-5
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 8.500000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575514	4.100000	10.100000	Brown Very Dense Sand With: Gr
218575515	10.100000	10.400000	Grey Very Dense sand silt With: Gr W Cob
218575516	10.400000	10.500000	Bedrock Shale
218575513	0	4.100000	Fill-Misc Sand

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																																				
BORE-57			803939	Borehole	Geotechnical/Geological Investigation																																				
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447716.452 Northing: 5029082.774 Location Accuracy: Orig. Ground Elevation(m): 56.200001 Elev. Reliability Note: DEM Ground Elevation(m): 61.299999 Total Depth(m): 6.700000 Primary Name: BH 82-1 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description:</p>																																									
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> <tr> <th><u>Stratum ID</u></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>218578545</td> <td>0</td> <td>0.600000</td> <td>Dark Grey-Brown Alluvium clay silt With: Org M</td> </tr> <tr> <td>218578546</td> <td>0.600000</td> <td>1.500000</td> <td>Dark Greenish Grey Stiff Alluvium Silty Clay With: Org M</td> </tr> <tr> <td>218578547</td> <td>1.500000</td> <td>1.700000</td> <td>Dark Grey Silt - Sand With: Gr</td> </tr> <tr> <td>218578548</td> <td>1.700000</td> <td>3.500000</td> <td>Grey Stiff Layered Silty Clay & Clayey Silt</td> </tr> <tr> <td>218578549</td> <td>3.500000</td> <td>4.700000</td> <td>Grey Loose Layered Clayey Silt & Sandy Silt</td> </tr> <tr> <td>218578550</td> <td>4.700000</td> <td>5.600000</td> <td>Grey Compact Silt - Sand</td> </tr> <tr> <td>218578551</td> <td>5.600000</td> <td>6.700000</td> <td>Dark Grey Compact Silt - Sand With: Gr</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u>				218578545	0	0.600000	Dark Grey-Brown Alluvium clay silt With: Org M	218578546	0.600000	1.500000	Dark Greenish Grey Stiff Alluvium Silty Clay With: Org M	218578547	1.500000	1.700000	Dark Grey Silt - Sand With: Gr	218578548	1.700000	3.500000	Grey Stiff Layered Silty Clay & Clayey Silt	218578549	3.500000	4.700000	Grey Loose Layered Clayey Silt & Sandy Silt	218578550	4.700000	5.600000	Grey Compact Silt - Sand	218578551	5.600000	6.700000	Dark Grey Compact Silt - Sand With: Gr
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																																						
<u>Stratum ID</u>																																									
218578545	0	0.600000	Dark Grey-Brown Alluvium clay silt With: Org M																																						
218578546	0.600000	1.500000	Dark Greenish Grey Stiff Alluvium Silty Clay With: Org M																																						
218578547	1.500000	1.700000	Dark Grey Silt - Sand With: Gr																																						
218578548	1.700000	3.500000	Grey Stiff Layered Silty Clay & Clayey Silt																																						
218578549	3.500000	4.700000	Grey Loose Layered Clayey Silt & Sandy Silt																																						
218578550	4.700000	5.600000	Grey Compact Silt - Sand																																						
218578551	5.600000	6.700000	Dark Grey Compact Silt - Sand With: Gr																																						

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-58			802914	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447718.505
Northing: 5029077.237
Location Accuracy:
Orig. Ground Elevation(m): 56.500000
Elev. Reliability Note:
DEM Ground Elevation(m): 61.200001
Total Depth(m): 7.700000
Primary Name: BH 205
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 0.800000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218574102	0	0.600000	Grey-Brown Fill-Misc Silty Clay With: Gr W Cob
218574103	0.600000	1.200000	Dark Brown Alluvium clay silt With: Org M
218574104	1.200000	1.400000	Grey-Brown Silty Clay Trace: Org M
218574105	1.400000	1.800000	Dark Grey Compact Silt - Sand With: Gr
218574106	1.800000	4.400000	Grey Very Stiff Silty Clay
218574107	4.400000	5.600000	Grey Loose Layered Clayey Silt & Sandy Silt
218574108	5.600000	6.400000	Grey Loose Silt - Sand
218574109	6.400000	7	Dark Grey Compact Silt - Sand With: Gr
218574110	7	7.600000	Dark Grey Till sand silt
218574111	7.600000	7.700000	Bedrock Shale

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																				
BORE-59			805957	Borehole	Geotechnical/Geological Investigation																				
<p> Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447762.614 Northing: 5029049.918 Location Accuracy: Orig. Ground Elevation(m): 58.900002 Elev. Reliability Note: DEM Ground Elevation(m): 60.299999 Total Depth(m): 4.400000 Primary Name: BH 103 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 2.100000 Primary Water Use: Secondary Water Use: Location Description: </p>																									
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> <tr> <th><u>Stratum ID</u></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>218586986</td> <td>0</td> <td>1.400000</td> <td>Grey Loose to Compact Fill-Misc sand silt With: Cl W Gr</td> </tr> <tr> <td>218586987</td> <td>1.400000</td> <td>3</td> <td>Loose to Compact Construction Debris Garbage Fill</td> </tr> <tr> <td>218586988</td> <td>3</td> <td>4.400000</td> <td>Grey-Brown to Grey Very Stiff to Stiff Silty Clay</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u>				218586986	0	1.400000	Grey Loose to Compact Fill-Misc sand silt With: Cl W Gr	218586987	1.400000	3	Loose to Compact Construction Debris Garbage Fill	218586988	3	4.400000	Grey-Brown to Grey Very Stiff to Stiff Silty Clay
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																						
<u>Stratum ID</u>																									
218586986	0	1.400000	Grey Loose to Compact Fill-Misc sand silt With: Cl W Gr																						
218586987	1.400000	3	Loose to Compact Construction Debris Garbage Fill																						
218586988	3	4.400000	Grey-Brown to Grey Very Stiff to Stiff Silty Clay																						

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																				
BORE-60			807146	Borehole	Geotechnical/Geological Investigation																				
<p> Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447516.139 Northing: 5029536.945 Location Accuracy: Orig. Ground Elevation(m): 61.200001 Elev. Reliability Note: DEM Ground Elevation(m): 60.500000 Total Depth(m): 1.500000 Primary Name: AH 23 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description: </p>																									
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> </thead> <tbody> <tr> <td><u>Stratum ID</u></td> <td></td> <td></td> <td></td> </tr> <tr> <td>218591788</td> <td>0.100000</td> <td>0.500000</td> <td>Light Brown Fill-Misc Sand</td> </tr> <tr> <td>218591789</td> <td>0.500000</td> <td>1.500000</td> <td>Dark Brown Fill-Misc Sand With: Gr</td> </tr> <tr> <td>218591787</td> <td>0</td> <td>0.100000</td> <td>Topsoil</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u>				218591788	0.100000	0.500000	Light Brown Fill-Misc Sand	218591789	0.500000	1.500000	Dark Brown Fill-Misc Sand With: Gr	218591787	0	0.100000	Topsoil
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																						
<u>Stratum ID</u>																									
218591788	0.100000	0.500000	Light Brown Fill-Misc Sand																						
218591789	0.500000	1.500000	Dark Brown Fill-Misc Sand With: Gr																						
218591787	0	0.100000	Topsoil																						

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-61			803244	Borehole	Geotechnical/Geological Investigation	
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447504.717 Northing: 5029475.667 Location Accuracy: Orig. Ground Elevation(m): 59.400002 Elev. Reliability Note: DEM Ground Elevation(m): 58.599998 Total Depth(m): 10.700000 Primary Name: BH.86-6 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 7.100000 Primary Water Use: Secondary Water Use: Location Description:</p>						
			Geology	Top Depth(m)	Bottom Depth(m)	Stratum Desc
			Stratum ID			
			218575533	0	0.100000	Asphalt
			218575534	0.100000	0.200000	Crushed Stone 20 mm minus
			218575538	4.600000	5.200000	Brown to Grey Very Dense Fill-Misc Sand - Gravel With: Cob
			218575539	5.200000	5.900000	Limestone Boulders
			218575540	5.900000	6.600000	Grey Very Dense Sand With: Gr
			218575541	6.600000	8.700000	Grey Dense to Very Dense Silt - Sand With: Gr
			218575542	8.700000	9.100000	Grey Very Dense sand silt With: Gr
			218575543	9.100000	10.700000	Bedrock Shale
			218575535	0.200000	0.600000	Crushed Stone 50 mm minus
			218575536	0.600000	4.100000	Brown Dense Fill-Misc Sand With: Gr
			218575537	4.100000	4.600000	Brown Dense Fill-Misc Silt - Sand

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-62			805961	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447807.364
Northing: 5029020.088
Location Accuracy:
Orig. Ground Elevation(m): 59.700001
Elev. Reliability Note:
DEM Ground Elevation(m): 60.799999
Total Depth(m): 5.200000
Primary Name: BH 104
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 3.100000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218587000	0	1.700000	Brown Loose to Dense Fill- Misc sand silt With: Gr W Brk Frag
218587001	1.700000	4.100000	Grey Loose Construction Debris Trace: Brk Frag Garbage Fill
218587002	4.100000	5.200000	Grey-Brown Very Stiff Weathered Crust Silty Clay

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																												
BORE-63			803570	Borehole	Geotechnical/Geological Investigation																												
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 448014.627 Northing: 5028987.227 Location Accuracy: Orig. Ground Elevation(m): 59.200001 Elev. Reliability Note: DEM Ground Elevation(m): 59.099998 Total Depth(m): 7.600000 Primary Name: BH 83-12 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description:</p>																																	
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> </thead> <tbody> <tr> <td><u>Stratum ID</u> 218577012</td> <td>4</td> <td>4.300000</td> <td>Grey-Brown Silty Clay With: Org M</td> </tr> <tr> <td>218577013</td> <td>4.300000</td> <td>4.500000</td> <td>Dark Brown Peat</td> </tr> <tr> <td>218577014</td> <td>4.500000</td> <td>5</td> <td>Grey Very Dense Till Silt - Sand With: Gr W Blds Trace: Cl</td> </tr> <tr> <td>218577015</td> <td>5</td> <td>7.600000</td> <td>Dark Grey Compact to Very Dense Till sand silt With: Cl W Gr W Cob W Blds</td> </tr> <tr> <td>218577010</td> <td>0</td> <td>1.400000</td> <td>Brown Fill-Misc sand silt With: Cl W Gr</td> </tr> <tr> <td>218577011</td> <td>1.400000</td> <td>4</td> <td>Fill-Misc With: Constr Debris</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u> 218577012	4	4.300000	Grey-Brown Silty Clay With: Org M	218577013	4.300000	4.500000	Dark Brown Peat	218577014	4.500000	5	Grey Very Dense Till Silt - Sand With: Gr W Blds Trace: Cl	218577015	5	7.600000	Dark Grey Compact to Very Dense Till sand silt With: Cl W Gr W Cob W Blds	218577010	0	1.400000	Brown Fill-Misc sand silt With: Cl W Gr	218577011	1.400000	4	Fill-Misc With: Constr Debris
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																														
<u>Stratum ID</u> 218577012	4	4.300000	Grey-Brown Silty Clay With: Org M																														
218577013	4.300000	4.500000	Dark Brown Peat																														
218577014	4.500000	5	Grey Very Dense Till Silt - Sand With: Gr W Blds Trace: Cl																														
218577015	5	7.600000	Dark Grey Compact to Very Dense Till sand silt With: Cl W Gr W Cob W Blds																														
218577010	0	1.400000	Brown Fill-Misc sand silt With: Cl W Gr																														
218577011	1.400000	4	Fill-Misc With: Constr Debris																														

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
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BORE-64			803948	Borehole	Geotechnical/Geological Investigation
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447683.484 Northing: 5029085.889 Location Accuracy: Orig. Ground Elevation(m): 56.200001 Elev. Reliability Note: DEM Ground Elevation(m): 58.299999 Total Depth(m): 5 Primary Name: BH 82-2 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description:</p>					

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218578576	0	0.200000	Topsoil
218578577	0.200000	0.900000	Brown Stiff Alluvium Silty Clay Trace: Org M
218578578	0.900000	1.400000	Dark Greenish Grey Stiff Alluvium Silty Clay With: Org M
218578579	1.400000	1.700000	Dark Grey Silt - Sand With: Gr
218578580	1.700000	2.600000	Grey Stiff Silty Clay
218578581	2.600000	4.300000	Grey Loose Layered Clayey Silt & Sandy Silt
218578582	4.300000	5	Grey Compact Silt - Sand

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-65			803236	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447496.322
Northing: 5029429.330
Location Accuracy:
Orig. Ground Elevation(m): 59
Elev. Reliability Note:
DEM Ground Elevation(m): 57.099998
Total Depth(m): 7.600000
Primary Name: BH.86-4
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 6.800000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575485	0	0.200000	Topsoil
218575486	0.200000	0.500000	Grey Fill-Misc Silt - Sand With: Gr W Cob
218575487	0.500000	4	Brown Very Loose to Compact Fill-Misc Sand With: Si
218575488	4	5.900000	Brown Compact to Loose Fill- Misc Sand Occasional: Si
218575489	5.900000	7	Dark Grey to Grey Dense to Loose Fill-Misc Sand With: Si W Gr W Cob
218575490	7	7.300000	Dark Grey Dense Till Silt - Sand With: Gr W Cob
218575491	7.300000	7.600000	Grey Dense sand silt

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-66			803234	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447493.426
Northing: 5029468.378
Location Accuracy:
Orig. Ground Elevation(m): 59.700001
Elev. Reliability Note:
DEM Ground Elevation(m): 57.500000
Total Depth(m): 7.900000
Primary Name: BH.86-3
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 7.200000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575478	4.900000	7.300000	Grey Loose to Very Loose Fill-Misc Silt - Sand With: Gr
218575479	7.300000	7.900000	Grey Very Loose Fill-Misc Sand With: Gr W Cob
218575474	0	0.200000	Topsoil
218575475	0.200000	0.500000	Brown Fill-Misc Sand With: Si
218575476	0.500000	4.100000	Light Brown Compact to Loose Fill-Misc Sand Trace: Si Tr Gr
218575477	4.100000	4.900000	Grey Compact Fill-Misc Sand With: Gr W Cob

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-67			807055	Borehole	Geotechnical/Geological Investigation	
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447497.688 Northing: 5029395.309 Location Accuracy: Orig. Ground Elevation(m): 59.500000 Elev. Reliability Note: DEM Ground Elevation(m): 59.200001 Total Depth(m): 1.500000 Primary Name: AH 12 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description:</p>						
			<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
			<u>Stratum ID</u>			
			218591341	1	1.500000	Brown Sand
			218591340	0	1	Brown Fill-Misc sand silt With: Gr W Brk Frag

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-68			806003	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 448014.797
Northing: 5028976.226
Location Accuracy:
Orig. Ground Elevation(m): 59.200001
Elev. Reliability Note:
DEM Ground Elevation(m): 59.200001
Total Depth(m): 5.200000
Primary Name: BH 112
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 3.400000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218587163	4.600000	5.200000	Dark Grey Compact Sand - Gravel
218587159	0	0.900000	Brown Fill-Misc sand silt With: Gr W Blds
218587160	0.900000	1.200000	Grey-Brown Fill-Misc Silty Clay Trace: Gr
218587161	1.200000	3.800000	Loose Construction Debris Garbage Fill
218587162	3.800000	4.600000	Dark Brown Very Stiff clay silt With: Org M

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																																				
BORE-69			807033	Borehole	Geotechnical/Geological Investigation																																				
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447488.195 Northing: 5029460.977 Location Accuracy: Orig. Ground Elevation(m): 59.500000 Elev. Reliability Note: DEM Ground Elevation(m): 56 Total Depth(m): 10.800000 Primary Name: BH 7 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 3.300000 Primary Water Use: Secondary Water Use: Location Description:</p>																																									
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> </thead> <tbody> <tr> <td><u>Stratum ID</u></td> <td></td> <td></td> <td></td> </tr> <tr> <td>218591228</td> <td>0</td> <td>1.700000</td> <td>Dark Brown Fill-Misc Silt - Sand With: Gr</td> </tr> <tr> <td>218591229</td> <td>1.700000</td> <td>3</td> <td>Brown Compact to Dense Sand - Gravel</td> </tr> <tr> <td>218591230</td> <td>3</td> <td>5.600000</td> <td>Grey Dense Sand</td> </tr> <tr> <td>218591231</td> <td>5.600000</td> <td>8.400000</td> <td>Dark Grey Compact to Very Dense Sand - Gravel With: Si</td> </tr> <tr> <td>218591232</td> <td>8.400000</td> <td>9</td> <td>Grey Very Dense sand silt</td> </tr> <tr> <td>218591233</td> <td>9</td> <td>10.400000</td> <td>Dark Grey Very Dense Till sand silt With: Cl W Gr</td> </tr> <tr> <td>218591234</td> <td>10.400000</td> <td>10.800000</td> <td>Dark Grey Bedrock Shale</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u>				218591228	0	1.700000	Dark Brown Fill-Misc Silt - Sand With: Gr	218591229	1.700000	3	Brown Compact to Dense Sand - Gravel	218591230	3	5.600000	Grey Dense Sand	218591231	5.600000	8.400000	Dark Grey Compact to Very Dense Sand - Gravel With: Si	218591232	8.400000	9	Grey Very Dense sand silt	218591233	9	10.400000	Dark Grey Very Dense Till sand silt With: Cl W Gr	218591234	10.400000	10.800000	Dark Grey Bedrock Shale
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																																						
<u>Stratum ID</u>																																									
218591228	0	1.700000	Dark Brown Fill-Misc Silt - Sand With: Gr																																						
218591229	1.700000	3	Brown Compact to Dense Sand - Gravel																																						
218591230	3	5.600000	Grey Dense Sand																																						
218591231	5.600000	8.400000	Dark Grey Compact to Very Dense Sand - Gravel With: Si																																						
218591232	8.400000	9	Grey Very Dense sand silt																																						
218591233	9	10.400000	Dark Grey Very Dense Till sand silt With: Cl W Gr																																						
218591234	10.400000	10.800000	Dark Grey Bedrock Shale																																						

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																				
BORE-70			803789	Borehole	Geotechnical/Geological Investigation																				
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 448470.864 Northing: 5029405.657 Location Accuracy: Orig. Ground Elevation(m): 59.799999 Elev. Reliability Note: DEM Ground Elevation(m): 59.900002 Total Depth(m): 1.500000 Primary Name: BH 83-15 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 1 Primary Water Use: Secondary Water Use: Location Description:</p>																									
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> </thead> <tbody> <tr> <td><u>Stratum ID</u></td> <td></td> <td></td> <td></td> </tr> <tr> <td>218577951</td> <td>0</td> <td>0.600000</td> <td>Brown Fill-Misc Silt - Sand With: Gr W Org M</td> </tr> <tr> <td>218577952</td> <td>0.600000</td> <td>1.200000</td> <td>Brown Dense Till sand silt With: Cl W Gr</td> </tr> <tr> <td>218577953</td> <td>1.200000</td> <td>1.500000</td> <td>Dark Grey Bedrock Shale</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u>				218577951	0	0.600000	Brown Fill-Misc Silt - Sand With: Gr W Org M	218577952	0.600000	1.200000	Brown Dense Till sand silt With: Cl W Gr	218577953	1.200000	1.500000	Dark Grey Bedrock Shale
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																						
<u>Stratum ID</u>																									
218577951	0	0.600000	Brown Fill-Misc Silt - Sand With: Gr W Org M																						
218577952	0.600000	1.200000	Brown Dense Till sand silt With: Cl W Gr																						
218577953	1.200000	1.500000	Dark Grey Bedrock Shale																						

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-71			803954	Borehole	Geotechnical/Geological Investigation	
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447682.286 Northing: 5029071.913 Location Accuracy: Orig. Ground Elevation(m): 57.599998 Elev. Reliability Note: DEM Ground Elevation(m): 59 Total Depth(m): 2 Primary Name: AH 82-4 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description:</p>						
			<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
			<u>Stratum ID</u>			
			218578597	0	1.300000	Brown Fill-Misc sand silt With: Constr Debris
			218578598	1.300000	2	Dark Greenish Grey Stiff Alluvium Silty Clay

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-72			803230	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447486.604
Northing: 5029446.009
Location Accuracy:
Orig. Ground Elevation(m): 53.599998
Elev. Reliability Note:
DEM Ground Elevation(m): 54.900002
Total Depth(m): 1.400000
Primary Name: BH.86-1
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level:
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575455	1	1	Insulation
218575456	1	1.100000	Brown Sand
218575457	1.100000	1.400000	Grey Crushed Stone With: Sa 20mm Minus
218575452	0	0.200000	Asphalt
218575453	0.200000	0.400000	Crushed Stone 20 minus
218575454	0.400000	1	Crushed Stone 50 mm Minus

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-73			803233	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447485.209
Northing: 5029460.033
Location Accuracy:
Orig. Ground Elevation(m): 53.400002
Elev. Reliability Note:
DEM Ground Elevation(m): 55.500000
Total Depth(m): 1.400000
Primary Name: BH.86-2
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level:
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218575468	0	0.200000	Asphalt
218575469	0.200000	0.400000	Crushed Stone 20 mm minus
218575470	0.400000	0.800000	Crushed Stone 50 mm minus
218575471	0.800000	0.800000	Insulation
218575472	0.800000	1.400000	Crushed Stone 20 mm minus
218575473	1.400000	1.400000	Brown Sand

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																								
BORE-74			805998	Borehole	Geotechnical/Geological Investigation																								
<p> Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447969.524 Northing: 5028954.573 Location Accuracy: Orig. Ground Elevation(m): 59.700001 Elev. Reliability Note: DEM Ground Elevation(m): 59.700001 Total Depth(m): 5.200000 Primary Name: BH 111 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 3.800000 Primary Water Use: Secondary Water Use: Location Description: </p>																													
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> </thead> <tbody> <tr> <td><u>Stratum ID</u></td> <td></td> <td></td> <td></td> </tr> <tr> <td>218587144</td> <td>0</td> <td>1.100000</td> <td>Brown Fill-Misc sand silt With: Gr W Cob</td> </tr> <tr> <td>218587145</td> <td>1.100000</td> <td>1.800000</td> <td>Dark Grey-Brown Fill-Misc sand silt Trace: Constr Debris</td> </tr> <tr> <td>218587146</td> <td>1.800000</td> <td>4</td> <td>Dark Grey Loose Construction Debris garbage Fill</td> </tr> <tr> <td>218587147</td> <td>4</td> <td>5.200000</td> <td>Dark Brown to Grey Dense Till sand silt With: Gr Trace: Cl</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u>				218587144	0	1.100000	Brown Fill-Misc sand silt With: Gr W Cob	218587145	1.100000	1.800000	Dark Grey-Brown Fill-Misc sand silt Trace: Constr Debris	218587146	1.800000	4	Dark Grey Loose Construction Debris garbage Fill	218587147	4	5.200000	Dark Brown to Grey Dense Till sand silt With: Gr Trace: Cl
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																										
<u>Stratum ID</u>																													
218587144	0	1.100000	Brown Fill-Misc sand silt With: Gr W Cob																										
218587145	1.100000	1.800000	Dark Grey-Brown Fill-Misc sand silt Trace: Constr Debris																										
218587146	1.800000	4	Dark Grey Loose Construction Debris garbage Fill																										
218587147	4	5.200000	Dark Brown to Grey Dense Till sand silt With: Gr Trace: Cl																										

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-75			805963	Borehole	Geotechnical/Geological Investigation	
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447831.388 Northing: 5028974.647 Location Accuracy: Orig. Ground Elevation(m): 61 Elev. Reliability Note: DEM Ground Elevation(m): 60.599998 Total Depth(m): 5.900000 Primary Name: BH 105 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description:</p>						
			<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
			<u>Stratum ID</u>			
			218587009	0	2.100000	Grey Loose to Very Loose Fill- Misc sand silt With: Cl W Gr
			218587010	2.100000	4.600000	Loose Construction Debris Garbage Fill
			218587011	4.600000	5.900000	Grey-Brown Very Stiff Weathered Crust Silty Clay

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-76			805993	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447917.313
Northing: 5028954.547
Location Accuracy:
Orig. Ground Elevation(m): 60.400002
Elev. Reliability Note:
DEM Ground Elevation(m): 60
Total Depth(m): 5.200000
Primary Name: BH 110
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 4.400000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218587126	0	0.500000	Grey-Brown Fill-Misc Silty Clay With: Gr
218587127	0.500000	1.800000	Brown Loose to Dense Fill-Misc sand silt With: Gr W Cob
218587128	1.800000	4.200000	Construction Debris garbage Fill
218587129	4.200000	5.200000	Grey to Grey Brown Very Stiff Silty Clay

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-77			802915	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447786.852
Northing: 5028982.476
Location Accuracy:
Orig. Ground Elevation(m): 59.200001
Elev. Reliability Note:
DEM Ground Elevation(m): 60.700001
Total Depth(m): 9.300000
Primary Name: BH 206
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 3.100000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218574112	0	0.600000	Grey-Brown Fill-Misc Silty Clay With: Gr W Cob
218574113	0.600000	3.800000	Dark Grey Construction Debris Trace: Si Tr Sa Garbage Fill
218574114	3.800000	4.600000	Grey Silty Clay
218574115	4.600000	5.800000	Grey Loose Layered Clayey Silt & Sandy Silt
218574116	5.800000	7.200000	Grey Loose Silt - Sand
218574117	7.200000	9.300000	Dark Grey Dense to Very Dense Silt - Sand With: Gr

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-78			807051	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447458.358
Northing: 5029474.532
Location Accuracy:
Orig. Ground Elevation(m): 58.900002
Elev. Reliability Note:
DEM Ground Elevation(m): 57.500000
Total Depth(m): 12.900000
Primary Name: BH 10
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 2.200000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218591321	0	0.800000	Brown Fill-Misc Sand
218591322	0.800000	1.700000	Dark Brown Fill-Misc Sand
218591323	1.700000	7.200000	Grey Dense to Very Dense Silt - Sand
218591324	7.200000	9.300000	Dark Grey Very Dense sand silt
218591325	9.300000	9.900000	Dark Grey Very Dense Till sand silt With: Gr
218591326	9.900000	12.900000	Black Bedrock Shale SOME CALCITE FILLED JOINTS

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-79			803593	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447991.019
Northing: 5028937.675
Location Accuracy:
Orig. Ground Elevation(m): 59.799999
Elev. Reliability Note:
DEM Ground Elevation(m): 59.799999
Total Depth(m): 8.800000
Primary Name: BH 83-17
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level:
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218577112	0	1.800000	Brown to Grey Brown Fill-Misc Silty Clay Occasional: Gr
218577113	1.800000	4.100000	Fill-Misc With: Constr Debris Occasional: Blds
218577114	4.100000	4.300000	Dark Brown Silt With: Org M
218577115	4.300000	4.700000	Greenish Grey Very Stiff Weathered Crust Silty Clay Trace: Org M
218577116	4.700000	8.500000	Dark Grey Compact to Very Dense Till sand silt With: Cl W Gr Occasional: Cob Occ Blds
218577117	8.500000	8.800000	Bedrock Shale

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-80			805966	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447871.689
Northing: 5028945.899
Location Accuracy:
Orig. Ground Elevation(m): 61
Elev. Reliability Note:
DEM Ground Elevation(m): 60.099998
Total Depth(m): 5.200000
Primary Name: BH 106
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 4.400000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218587022	0	1.100000	Brown Fill-Misc sand silt With: Cl W Gr W Blds
218587023	1.100000	1.800000	Grey to Grey Brown Fill-Misc Silty Clay Trace: Gr
218587024	1.800000	2.900000	Dark Grey Loose Fill-Misc sand silt Trace: Gr
218587025	2.900000	4.700000	Grey Compact Construction Debris Garbage Fill
218587026	4.700000	5.200000	Grey to Grey Brown Very Stiff Silty Clay

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-81			803598	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447931.008
Northing: 5028933.295
Location Accuracy:
Orig. Ground Elevation(m): 60.500000
Elev. Reliability Note:
DEM Ground Elevation(m): 60.400002
Total Depth(m): 13.900000
Primary Name: BH 83-18
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 4.300000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218577137	0	0.500000	Grey-Brown Fill-Misc Silty Clay With: Gr
218577138	0.500000	1.400000	Brown Compact Fill-Misc sand silt With: Gr W Blds
218577139	1.400000	1.800000	Dark Grey Fill-Misc Silt - Sand With: Gr
218577140	1.800000	4.500000	Fill-Misc With: Constr Debris
218577141	4.500000	4.700000	Silty Clay With: Org M
218577142	4.700000	5.800000	Brown to Grey Loose to Compact sand silt
218577143	5.800000	6.100000	Grey Compact Silt - Sand
218577144	6.100000	10.400000	Dark Grey Compact to Very Dense Till sand silt With: Cl W Gr
218577145	10.400000	11	Dark Grey Bedrock Shale
218577146	11	13.900000	Dark Grey Bedrock Shale

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
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BORE-82			803603	Borehole	Geotechnical/Geological Investigation
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447862.430 Northing: 5028928.574 Location Accuracy: Orig. Ground Elevation(m): 61 Elev. Reliability Note: DEM Ground Elevation(m): 60.599998 Total Depth(m): 11.800000 Primary Name: BH 83-19 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 5 Primary Water Use: Secondary Water Use: Location Description:</p>					

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218577165	0	1.700000	Grey-Brown Stiff Fill-Misc Silty Clay With: Sa W Gr Occasional: Blds
218577166	1.700000	2.900000	Brown Dense to Compact Fill-Misc sand silt With: Cl W Gr
218577167	2.900000	4.600000	Fill-Misc With: Constr Debris TRACE SANDY SILT
218577168	4.600000	5.600000	Grey-Brown Very Stiff Weathered Crust Silty Clay
218577169	5.600000	6.600000	Brown to Grey Loose sand silt
218577170	6.600000	7.800000	Grey Compact Silt - Sand
218577171	7.800000	10.400000	Dark Grey Dense to Very Dense Till sand silt With: Cl W Gr
218577172	10.400000	10.700000	Dark Grey Bedrock Shale
218577173	10.700000	11.800000	Dark Grey Bedrock Shale

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-83			805978	Borehole	Geotechnical/Geological Investigation	
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447900.070 Northing: 5028902.876 Location Accuracy: Orig. Ground Elevation(m): 61.099998 Elev. Reliability Note: DEM Ground Elevation(m): 60.200001 Total Depth(m): 5.900000 Primary Name: BH 107 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 5.100000 Primary Water Use: Secondary Water Use: Location Description:</p>						
			<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
			<u>Stratum ID</u>			
			218587071	0	1.800000	Grey Compact Fill-Misc Sand - Gravel With: Si W Blds
			218587072	1.800000	4.600000	Loose to Compact Construction Debris With: Sa Garbage Fill
			218587073	4.600000	5.900000	Grey-Brown Loose Silt

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																				
BORE-84			802917	Borehole	Geotechnical/Geological Investigation																				
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 448004.032 Northing: 5028894.938 Location Accuracy: Orig. Ground Elevation(m): 59.900002 Elev. Reliability Note: DEM Ground Elevation(m): 59.900002 Total Depth(m): 9 Primary Name: BH 208 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 1.500000 Primary Water Use: Secondary Water Use: Location Description:</p>																									
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> </thead> <tbody> <tr> <td><u>Stratum ID</u> 218574127</td> <td>4.900000</td> <td>9</td> <td>Dark Grey Compact to Very Dense Till sand silt With: Gr Trace: Cl</td> </tr> <tr> <td>218574124</td> <td>0</td> <td>2.400000</td> <td>Grey-Brown Fill-Misc Silty Clay Trace: Gr</td> </tr> <tr> <td>218574125</td> <td>2.400000</td> <td>3.800000</td> <td>Construction Debris Fill</td> </tr> <tr> <td>218574126</td> <td>3.800000</td> <td>4.900000</td> <td>Grey-Brown Very Stiff Weathered Crust Silty Clay</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u> 218574127	4.900000	9	Dark Grey Compact to Very Dense Till sand silt With: Gr Trace: Cl	218574124	0	2.400000	Grey-Brown Fill-Misc Silty Clay Trace: Gr	218574125	2.400000	3.800000	Construction Debris Fill	218574126	3.800000	4.900000	Grey-Brown Very Stiff Weathered Crust Silty Clay
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																						
<u>Stratum ID</u> 218574127	4.900000	9	Dark Grey Compact to Very Dense Till sand silt With: Gr Trace: Cl																						
218574124	0	2.400000	Grey-Brown Fill-Misc Silty Clay Trace: Gr																						
218574125	2.400000	3.800000	Construction Debris Fill																						
218574126	3.800000	4.900000	Grey-Brown Very Stiff Weathered Crust Silty Clay																						

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-85			803563	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447996.364
Northing: 5028892.582
Location Accuracy:
Orig. Ground Elevation(m): 60.299999
Elev. Reliability Note:
DEM Ground Elevation(m): 60
Total Depth(m): 7.500000
Primary Name: BH 83-10
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level:
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218576981	0	2	Grey-Brown Very Stiff Fill-Misc Silty Clay Trace: Gr Tr Org M
218576982	2	4.600000	Fill-Misc With: Constr Debris
218576983	4.600000	4.900000	Greenish Grey Very Stiff Silty Clay
218576984	4.900000	7.500000	Dark Grey Compact to Very Dense Till sand silt With: Cl W Gr W Cob W Blds

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-86			806023	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 448009.952
Northing: 5028887.329
Location Accuracy:
Orig. Ground Elevation(m): 59.299999
Elev. Reliability Note:
DEM Ground Elevation(m): 60
Total Depth(m): 5
Primary Name: BH 121
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 3.300000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218587216	0	1.800000	Loose to Very Loose Fill-Misc sand silt With: Gr Trace: Cl
218587217	1.800000	3.800000	Black Very Loose Construction Debris With: Sa Garbage Fill
218587218	3.800000	4	Grey-Brown to Grey Stiff Silty Clay
218587219	4	5	Dark Grey Compact Till sand silt

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-87			802916	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447887.368
Northing: 5028893.614
Location Accuracy:
Orig. Ground Elevation(m): 61.200001
Elev. Reliability Note:
DEM Ground Elevation(m): 60.700001
Total Depth(m): 9.600000
Primary Name: BH 207
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 5.200000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218574118	0	0.700000	Brown Fill-Misc sand silt With: Cl W Gr
218574119	0.700000	4.600000	Grey Compact Fill-Misc sand silt With: Constr Debris
218574120	4.600000	5.600000	Grey-Brown Very Stiff Weathered Crust Silty Clay
218574121	5.600000	6.600000	Grey Loose Layered Clayey Silt & Sandy Silt
218574122	6.600000	7.300000	Grey Silt - Sand
218574123	7.300000	9.600000	Dark Grey Compact to Dense Silt - Sand With: Gr

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-88			805982	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447940.750
Northing: 5028872.622
Location Accuracy:
Orig. Ground Elevation(m): 60.799999
Elev. Reliability Note:
DEM Ground Elevation(m): 61.099998
Total Depth(m): 5.900000
Primary Name: BH 108
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 4.100000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218587090	4.600000	5.300000	Grey-Brown Very Stiff Weathered Crust Silty Clay
218587091	5.300000	5.900000	Grey Dense Till sand silt With: Gr
218587087	0	1.500000	Grey Fill-Misc Silty Clay Trace: Sa
218587088	1.500000	2.100000	Brown Loose Fill-Misc Silt - Sand With: Gr
218587089	2.100000	4.600000	Black Loose Construction Debris Garbage Fill

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-89			613362	Borehole		
<p> Status: Drill Method: UTM Zone: 18 Easting: 448491.000 Northing: 5029782.000 Location Accuracy: Orig. Ground Elevation(m): 61.500000 Elev. Reliability Note: DEM Ground Elevation(m): 60.099998 Total Depth(m): -999.000000 Primary Name: Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 1.500000 Primary Water Use: Secondary Water Use: Location Description: </p>						
			<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
			<u>Stratum ID</u>			
			218394800	0	0.300000	SOIL. LOOSE.
			218394801	0.300000	2.400000	SILT. FIRM.
			218394802	2.400000	3.700000	SILT. COMPACT, WATER STABLE AT 196.7 FEET.
			218394803	3.700000		BEDROCK. . DARK GREY, VERY DENSE. 00128 010 00225 010 000070100012809600225100 00202

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																				
BORE-90			806022	Borehole	Geotechnical/Geological Investigation																				
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 448001.128 Northing: 5028861.497 Location Accuracy: Orig. Ground Elevation(m): 60 Elev. Reliability Note: DEM Ground Elevation(m): 60.299999 Total Depth(m): 4.400000 Primary Name: BH 120 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 3.600000 Primary Water Use: Secondary Water Use: Location Description:</p>																									
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> <tr> <th><u>Stratum ID</u></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>218587213</td> <td>0</td> <td>2.100000</td> <td>Grey-Brown Loose to Compact Fill-Misc sand silt With: Gr Trace: Org M</td> </tr> <tr> <td>218587214</td> <td>2.100000</td> <td>3.300000</td> <td>Black Loose to Compact Construction Debris Garbage Fill</td> </tr> <tr> <td>218587215</td> <td>3.300000</td> <td>4.400000</td> <td>Grey-Brown to Grey Stiff Silty Clay Trace: Org M</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u>				218587213	0	2.100000	Grey-Brown Loose to Compact Fill-Misc sand silt With: Gr Trace: Org M	218587214	2.100000	3.300000	Black Loose to Compact Construction Debris Garbage Fill	218587215	3.300000	4.400000	Grey-Brown to Grey Stiff Silty Clay Trace: Org M
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																						
<u>Stratum ID</u>																									
218587213	0	2.100000	Grey-Brown Loose to Compact Fill-Misc sand silt With: Gr Trace: Org M																						
218587214	2.100000	3.300000	Black Loose to Compact Construction Debris Garbage Fill																						
218587215	3.300000	4.400000	Grey-Brown to Grey Stiff Silty Clay Trace: Org M																						

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-91			803559	Borehole	Geotechnical/Geological Investigation	
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447986.624 Northing: 5028842.771 Location Accuracy: Orig. Ground Elevation(m): 60 Elev. Reliability Note: DEM Ground Elevation(m): 60.799999 Total Depth(m): 7.500000 Primary Name: BH 83-9 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 4.300000 Primary Water Use: Secondary Water Use: Location Description:</p>						
			<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
			<u>Stratum ID</u>			
			218576969	0	2.100000	Brown Loose to Compact Fill-Misc sand silt With: Cl W Gr W Blds
			218576970	2.100000	4.500000	Fill-Misc With: Sa W Constr Debris
			218576971	4.500000	7.500000	Dark Grey Compact to Very Dense Till sand silt With: Cl W Gr Occasional: Cob Occ Blds

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-92			803529	Borehole	Geotechnical/Geological Investigation	
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447791.865 Northing: 5028870.899 Location Accuracy: Orig. Ground Elevation(m): 60.799999 Elev. Reliability Note: DEM Ground Elevation(m): 64.400002 Total Depth(m): 5.800000 Primary Name: BH 83-1 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 3.200000 Primary Water Use: Secondary Water Use: Location Description:</p>						
			<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
			<u>Stratum ID</u>			
			218576850	0	2.600000	Grey-Brown to Grey Very Stiff Fill-Misc Silty Clay With: Sa Trace: Gr Tr Org M
			218576851	2.600000	4.600000	Fill-Misc With: Constr Debris SOME SANDY SILT
			218576852	4.600000	5.800000	Grey-Brown Very Stiff Weathered Crust Silty Clay

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																				
BORE-93			803538	Borehole	Geotechnical/Geological Investigation																				
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447732.465 Northing: 5028882.505 Location Accuracy: Orig. Ground Elevation(m): 59.599998 Elev. Reliability Note: DEM Ground Elevation(m): 64.400002 Total Depth(m): 4 Primary Name: BH 83-3 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 2.200000 Primary Water Use: Secondary Water Use: Location Description:</p>																									
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> </thead> <tbody> <tr> <td><u>Stratum ID</u> 218576888</td> <td>0.900000</td> <td>2.900000</td> <td>Fill-Misc With: Constr Debris TRACE SANDY SILT</td> </tr> <tr> <td>218576889</td> <td>2.900000</td> <td>3</td> <td>Dark Brown Silt With: Org M</td> </tr> <tr> <td>218576890</td> <td>3</td> <td>4</td> <td>Grey-Brown Very Stiff Weathered Crust Silty Clay With: Sa W Gr</td> </tr> <tr> <td>218576887</td> <td>0</td> <td>0.900000</td> <td>Grey-Brown Stiff Fill-Misc Silty Clay With: Gr W Brk Frag W Org M</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u> 218576888	0.900000	2.900000	Fill-Misc With: Constr Debris TRACE SANDY SILT	218576889	2.900000	3	Dark Brown Silt With: Org M	218576890	3	4	Grey-Brown Very Stiff Weathered Crust Silty Clay With: Sa W Gr	218576887	0	0.900000	Grey-Brown Stiff Fill-Misc Silty Clay With: Gr W Brk Frag W Org M
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																						
<u>Stratum ID</u> 218576888	0.900000	2.900000	Fill-Misc With: Constr Debris TRACE SANDY SILT																						
218576889	2.900000	3	Dark Brown Silt With: Org M																						
218576890	3	4	Grey-Brown Very Stiff Weathered Crust Silty Clay With: Sa W Gr																						
218576887	0	0.900000	Grey-Brown Stiff Fill-Misc Silty Clay With: Gr W Brk Frag W Org M																						

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-94			805986	Borehole	Geotechnical/Geological Investigation	
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447966.535 Northing: 5028831.147 Location Accuracy: Orig. Ground Elevation(m): 60.500000 Elev. Reliability Note: DEM Ground Elevation(m): 61.500000 Total Depth(m): 5.900000 Primary Name: BH 109 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 4.600000 Primary Water Use: Secondary Water Use: Location Description:</p>						
			<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
			<u>Stratum ID</u>			
			218587104	0	2.100000	Grey to Brown Loose to Compact Fill-Misc sand silt With: Gr W Brk Frag
			218587105	2.100000	5.200000	Black Compact Construction Debris With: Si W Sa Garbage Fill
			218587106	5.200000	5.900000	Grey Compact Till sand silt With: Gr Trace: Cl

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-95			803550	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447860.120
Northing: 5028828.132
Location Accuracy:
Orig. Ground Elevation(m): 60.500000
Elev. Reliability Note:
DEM Ground Elevation(m): 65.400002
Total Depth(m): 5.200000
Primary Name: BH 83-6
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 3.700000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218576938	0	1.500000	Grey Compact Fill-Misc sand silt With: Cl W Gr Trace: Constr Debris
218576939	1.500000	2.100000	Fill-Misc With: Constr Debris
218576940	2.100000	3	Greenish Grey Very Stiff Fill- Misc Silty Clay Trace: Org M
218576941	3	4.300000	Fill-Misc With: Constr Debris
218576942	4.300000	5.200000	Grey-Brown Very Stiff Weathered Crust Silty Clay

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																								
BORE-96			806019	Borehole	Geotechnical/Geological Investigation																								
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 448001.812 Northing: 5028800.993 Location Accuracy: Orig. Ground Elevation(m): 58.200001 Elev. Reliability Note: DEM Ground Elevation(m): 60.900002 Total Depth(m): 3.700000 Primary Name: BH 119 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 1.500000 Primary Water Use: Secondary Water Use: Location Description:</p>																													
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> <tr> <th><u>Stratum ID</u></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>218587205</td> <td>0</td> <td>0.300000</td> <td>Topsoil</td> </tr> <tr> <td>218587206</td> <td>0.300000</td> <td>2.900000</td> <td>Black Loose Construction Debris Occasional: Cl Occ Si Occ Sa Garbage Fill</td> </tr> <tr> <td>218587207</td> <td>2.900000</td> <td>3.300000</td> <td>Grey Compact Silt Trace: Gr</td> </tr> <tr> <td>218587208</td> <td>3.300000</td> <td>3.700000</td> <td>Grey Compact Till</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u>				218587205	0	0.300000	Topsoil	218587206	0.300000	2.900000	Black Loose Construction Debris Occasional: Cl Occ Si Occ Sa Garbage Fill	218587207	2.900000	3.300000	Grey Compact Silt Trace: Gr	218587208	3.300000	3.700000	Grey Compact Till
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																										
<u>Stratum ID</u>																													
218587205	0	0.300000	Topsoil																										
218587206	0.300000	2.900000	Black Loose Construction Debris Occasional: Cl Occ Si Occ Sa Garbage Fill																										
218587207	2.900000	3.300000	Grey Compact Silt Trace: Gr																										
218587208	3.300000	3.700000	Grey Compact Till																										

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-97			803541	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447787.312
Northing: 5028829.490
Location Accuracy:
Orig. Ground Elevation(m): 60.400002
Elev. Reliability Note:
DEM Ground Elevation(m): 67
Total Depth(m): 5.200000
Primary Name: BH 83-4
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 3.200000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218576902	0	0.200000	Ice
218576903	0.200000	2.100000	Grey-Brown Very Stiff Fill-Misc Silty Clay With: Sa W Gr Trace: Brk Frag
218576904	2.100000	4.300000	Fill-Misc Silt - Sand With: Constr Debris
218576905	4.300000	5.200000	Grey-Brown Very Stiff Weathered Crust Silty Clay

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																				
BORE-98			803532	Borehole	Geotechnical/Geological Investigation																				
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447724.372 Northing: 5028845.661 Location Accuracy: Orig. Ground Elevation(m): 60 Elev. Reliability Note: DEM Ground Elevation(m): 65.300003 Total Depth(m): 4.600000 Primary Name: BH 83-2 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 3.200000 Primary Water Use: Secondary Water Use: Location Description:</p>																									
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> <tr> <th><u>Stratum ID</u></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>218576864</td> <td>0</td> <td>2.400000</td> <td>Grey-Brown Very Stiff Fill-Misc Silty Clay With: Sa Trace: Org M</td> </tr> <tr> <td>218576865</td> <td>2.400000</td> <td>3.700000</td> <td>Fill-Misc With: Constr Debris TRACE ASH</td> </tr> <tr> <td>218576866</td> <td>3.700000</td> <td>4.600000</td> <td>Grey-Brown Very Stiff Weathered Crust Silty Clay</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u>				218576864	0	2.400000	Grey-Brown Very Stiff Fill-Misc Silty Clay With: Sa Trace: Org M	218576865	2.400000	3.700000	Fill-Misc With: Constr Debris TRACE ASH	218576866	3.700000	4.600000	Grey-Brown Very Stiff Weathered Crust Silty Clay
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																						
<u>Stratum ID</u>																									
218576864	0	2.400000	Grey-Brown Very Stiff Fill-Misc Silty Clay With: Sa Trace: Org M																						
218576865	2.400000	3.700000	Fill-Misc With: Constr Debris TRACE ASH																						
218576866	3.700000	4.600000	Grey-Brown Very Stiff Weathered Crust Silty Clay																						

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-99			613428	Borehole		
<p> Status: Drill Method: UTM Zone: 18 Easting: 448271.000 Northing: 5030067.000 Location Accuracy: Orig. Ground Elevation(m): 61 Elev. Reliability Note: DEM Ground Elevation(m): 60.500000 Total Depth(m): 42.700001 Primary Name: Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description: </p>						
			<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
			<u>Stratum ID</u>			
			218395115	0	10.700000	CLAY. BLUE.
			218395116	10.700000	42.700001	LIMESTONE. BLUE. 00080BEDROCK. GREY. 00040005 BEDROCK. ILL. COMPACT. BEDROCK.

Borehole

Map Key	Company	Address	Borehole ID	Type	Use																																
BORE-100			803545	Borehole	Geotechnical/Geological Investigation																																
<p>Status: Drill Method: Hollow stem auger UTM Zone: 18 Easting: 447822.065 Northing: 5028786.348 Location Accuracy: Orig. Ground Elevation(m): 60.200001 Elev. Reliability Note: DEM Ground Elevation(m): 68.400002 Total Depth(m): 6.400000 Primary Name: BH 83-5 Township: Concession: Lot: Municipality: Completion Date: Static Water Level: 3.300000 Primary Water Use: Secondary Water Use: Location Description:</p>																																					
<table border="1"> <thead> <tr> <th><u>Geology</u></th> <th><u>Top Depth(m)</u></th> <th><u>Bottom Depth(m)</u></th> <th><u>Stratum Desc</u></th> </tr> <tr> <th><u>Stratum ID</u></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>218576919</td> <td>3.200000</td> <td>4.400000</td> <td>Fill-Misc With: Constr Debris</td> </tr> <tr> <td>218576920</td> <td>4.400000</td> <td>5.300000</td> <td>Greenish Grey to Brown Fill-Misc Silty Clay With: Org M Trace: Constr Debris</td> </tr> <tr> <td>218576921</td> <td>5.300000</td> <td>6.100000</td> <td>Brown Very Stiff Silt With: F Sa W Org M</td> </tr> <tr> <td>218576922</td> <td>6.100000</td> <td>6.400000</td> <td>Brown Compact Sand</td> </tr> <tr> <td>218576917</td> <td>0</td> <td>2</td> <td>Brown Loose to Dense Fill-Misc sand silt With: Cl W Gr</td> </tr> <tr> <td>218576918</td> <td>2</td> <td>3.200000</td> <td>Grey-Brown Very Stiff Fill-Misc Silty Clay With: Sa W Brk Frag W Org M</td> </tr> </tbody> </table>						<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>	<u>Stratum ID</u>				218576919	3.200000	4.400000	Fill-Misc With: Constr Debris	218576920	4.400000	5.300000	Greenish Grey to Brown Fill-Misc Silty Clay With: Org M Trace: Constr Debris	218576921	5.300000	6.100000	Brown Very Stiff Silt With: F Sa W Org M	218576922	6.100000	6.400000	Brown Compact Sand	218576917	0	2	Brown Loose to Dense Fill-Misc sand silt With: Cl W Gr	218576918	2	3.200000	Grey-Brown Very Stiff Fill-Misc Silty Clay With: Sa W Brk Frag W Org M
<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>																																		
<u>Stratum ID</u>																																					
218576919	3.200000	4.400000	Fill-Misc With: Constr Debris																																		
218576920	4.400000	5.300000	Greenish Grey to Brown Fill-Misc Silty Clay With: Org M Trace: Constr Debris																																		
218576921	5.300000	6.100000	Brown Very Stiff Silt With: F Sa W Org M																																		
218576922	6.100000	6.400000	Brown Compact Sand																																		
218576917	0	2	Brown Loose to Dense Fill-Misc sand silt With: Cl W Gr																																		
218576918	2	3.200000	Grey-Brown Very Stiff Fill-Misc Silty Clay With: Sa W Brk Frag W Org M																																		

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-101			803553	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447879.051
Northing: 5028769.288
Location Accuracy:
Orig. Ground Elevation(m): 60.299999
Elev. Reliability Note:
DEM Ground Elevation(m): 67.300003
Total Depth(m): 4.600000
Primary Name: BH 83-7
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 3.500000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218576949	0	0.700000	Brown Fill-Misc sand silt With: Cl W Gr
218576950	0.700000	2.400000	Fill-Misc With: Constr Debris
218576951	2.400000	3.800000	Brown to Greenish Grey Very Stiff Fill-Misc Silty Clay Trace: Gr Tr Org M
218576952	3.800000	4.600000	Greenish Grey Very Stiff Weathered Crust Silty Clay Trace: Org M Occasional: Sa

Borehole

Map Key	Company	Address	Borehole ID	Type	Use
BORE-102			803554	Borehole	Geotechnical/Geological Investigation

Status:
Drill Method: Hollow stem auger
UTM Zone: 18
Easting: 447876.135
Northing: 5028726.848
Location Accuracy:
Orig. Ground Elevation(m): 60
Elev. Reliability Note:
DEM Ground Elevation(m): 68.400002
Total Depth(m): 5.500000
Primary Name: BH 83-8
Township:
Concession:
Lot:
Municipality:
Completion Date:
Static Water Level: 3.500000
Primary Water Use:
Secondary Water Use:
Location Description:

<u>Geology</u> <u>Stratum ID</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
218576953	0	2.100000	Brown to Grey Loose to Dense Fill-Misc sand silt With: Cl W Gr
218576954	2.100000	4	Fill-Misc With: Constr Debris SOME SANDY SILT
218576955	4	5	Greenish Grey Very Stiff Fill-Misc Silty Clay Trace: Org M
218576956	5	5.300000	Brown Silt With: Org M
218576957	5.300000	5.500000	Brown Silt - Sand With: Gr

Borehole

Map Key	Company	Address	Borehole ID	Type	Use	
BORE-103			613454	Borehole		
<p> Status: Drill Method: UTM Zone: 18 Easting: 447821.000 Northing: 5030202.000 Location Accuracy: Orig. Ground Elevation(m): 55.799999 Elev. Reliability Note: DEM Ground Elevation(m): 57.200001 Total Depth(m): -999.000000 Primary Name: Township: Concession: Lot: Municipality: Completion Date: Static Water Level: Primary Water Use: Secondary Water Use: Location Description: </p>						
			<u>Geology</u>	<u>Top Depth(m)</u>	<u>Bottom Depth(m)</u>	<u>Stratum Desc</u>
			<u>Stratum ID</u>			
			218395226	0	3	UNSPECIFIED.
			218395227	3		BEDROCK. GREY,VERY STIFF TO HARD,FISSURED. CLAY. BROWN,GREY,STIFF,FISSU RED. UNSPECIFIED. LOOS

Certificates of Approval

Map Key	Company	Address	Certificate #	Application Year	Issue Date	Approval Type	Status	Application Type
CA-1	OTTAWA CITY-LEES AVE.	LEES AVE./HURDMAN RD./ROBINSON OTTAWA CITY	3-0584-90-	90	4/18/1990	Municipal sewage	Approved	
			Client Name: Client Address: Client City: Client Postal Code: Project Description: Contaminants: Emission Control:					
CA-2	Kelly's Auto Body (1984) Limited	23 Hurdman Road Ottawa K1N 8N7	2062-5JRU49	2003	3/4/2003	Air	Approved	
			Client Name: Client Address: Client City: Client Postal Code: Project Description: Contaminants: Emission Control:					
CA-3		9 Robinson Ave. Ottawa K1N 8N8	7132-4N2QFS	00	8/11/00	Municipal & Private sewage	Approved	New Certificate of Approval
			Client Name: Pegasus Development Corporation Client Address: 1914 Merivale Rd. Client City: Nepean Client Postal Code: K2G 1E8 Project Description: Storm & Sanitary Sewers Contaminants: Emission Control:					
CA-4	DANBAR HOLDINGS (OTTAWA) LIMITED	ROBINSON AVE/HURDMAN RD. OTTAWA CITY	7-1132-97-	97	10/17/1997	Municipal water	Approved	
			Client Name: Client Address: Client City: Client Postal Code: Project Description: Contaminants: Emission Control:					

Certificates of Approval

Map Key	Company	Address	Certificate #	Application Year	Issue Date	Approval Type	Status	Application Type
CA-5	University of Ottawa	200 Lees Ave Ottawa K1S 5S9	0628-8BRMB3	2010	12/18/2010	Air	Approved	
			Client Name: Client Address: Client City: Client Postal Code: Project Description: Contaminants: Emission Control:					
CA-6	ALGONQUIN COLLEGE OF APPLIED ARTS & TECH	LEES AVE/HIGHWAY 417 OTTAWA CITY	7-0998-97-	97	9/10/1997	Municipal water	Approved	
			Client Name: Client Address: Client City: Client Postal Code: Project Description: Contaminants: Emission Control:					
CA-7	DANBAR HOLDINGS (OTTAWA) LIMITED	LEES AVE./ROBINSON AVE., CSO OTTAWA CITY	3-1213-97-	97	8/27/1997	Municipal sewage	Approved	
			Client Name: Client Address: Client City: Client Postal Code: Project Description: Contaminants: Emission Control:					
CA-8	DANBAR HOLDINGS (OTTAWA) LIMITED	ROBINSON AVE/LEES AVE. OTTAWA CITY	7-0924-97-	97	8/28/1997	Municipal water	Approved	
			Client Name: Client Address: Client City: Client Postal Code: Project Description: Contaminants: Emission Control:					

Certificates of Approval

Map Key	Company	Address	Certificate #	Application Year	Issue Date	Approval Type	Status	Application Type
CA-9	REGIONAL MUNICIPALITY OF OTTAWA CARLETON	195 LEES AVE. OTTAWA CITY	8-4059-86-	86	11/21/1986	Industrial air	Approved	
			Client Name: Client Address: Client City: Client Postal Code: Project Description: COAL-FOR TREATMENT SYSTEM EXHAUST Contaminants: Benzene (Carcinogen Requires Bact), Toluene(Pentyl Methane)(Methyl Benzene), Xylene, Ethyl Benzene, Other Organic Compounds Emission Control: Act. Charcoal Filter					
CA-10	City of Ottawa	195 Lees Avenue Ottawa	3-1458-86-006	2005	1/6/2005	Municipal and Private Sewage Works	Approved	
			Client Name: Client Address: Client City: Client Postal Code: Project Description: Contaminants: Emission Control:					
CA-11	PUBLIC WORKS & GOVT. SERVICES CANADA, RC	1200 VANIER PARKWAY OTTAWA K1A 0R2	8-4023-98-	98	6/24/1998	Industrial air	Approved	
			Client Name: Client Address: Client City: Client Postal Code: Project Description: 3) LABORATORY FUME HOODS, 2) BOILERS Contaminants: Emission Control:					
n/a	R.M. OF OTTAWA-CARLETON	LEES AVE. OTTAWA CITY	3-1317-86-	86	9/23/1986	Municipal sewage	Revised	
			Client Name: Client Address: Client City: Client Postal Code: Project Description: Contaminants: Emission Control:					

Certificates of Approval

Map Key	Company	Address	Certificate #	Application Year	Issue Date	Approval Type	Status	Application Type
n/a		Lees Avenue Ottawa	8377-4MUJUZ	00	8/8/00	Municipal & Private water	Approved	New Certificate of Approval
			Client Name:	Corporation of the Regional Municipality of Ottawa-Carleton				
			Client Address:	4475 Trail Rd.				
			Client City:	Nepean				
			Client Postal Code:	K0A 2Z0				
			Project Description:	Rehabilitation of existing watermain with new watermain & hydrants on Lees Avenue				
			Contaminants:					
			Emission Control:					

Coal Gasification Plants

Map Key	Company	Address	Facility Type	Size	NTS Map Sheet
COAL-1	Ottawa Gas Company	175 Lees Ave Ottawa	Manufactured Gas Plant		
			<p>Planned Landuse:</p> <p>Present Landuse:</p> <p>Landuse Adj Prop:</p> <p>Ungrd Utilities:</p> <p>Soil Conditions:</p> <p>Site Access:</p> <p>Operating Period: 1920-1957</p> <p>Surface Water:</p> <p>Surface Water Prox:</p> <p>Surface Water Use:</p> <p>Groundwater Prox:</p> <p>Groundwater Use:</p> <p>Existing Wells Prox:</p> <p>Historical Map/Photo:</p> <p>Operators:</p> <p>Present Occupants:</p> <p>Excavation History:</p> <p>Visible Wastes:</p> <p>Odour:</p> <p>Water Pollution:</p> <p>Site Investigations:</p> <p>Comments/Remarks:</p> <p>Site Desc:</p>		
			<p>Sometime between 1915 and 1920, the Ottawa Gas Co. relocated its gas works from the King Edward Street - York Street location to the site at 175 Lees Avenue. The Lees Avenue gas works was a large facility that operated for about 37 years or until 1957 when natural gas pipelines made the operation uneconomical. The plant was operated under different company names including the Ottawa Gas Co., Ottawa Heat, Light and Power Co., Interprovincial Utilities Ltd. and Consumers Gas Co. The site is located on the north side of Lees Avenue, south of Highway 417 and between Lees Avenue on ramps to the west and the Lees Avenue overpass to the east. Gas plant operations changed from retort coal gasification to carburetted water gas in the late 1930s. Comprehensive air photo coverage of the site is available for the period 1925 to present. The site was demolished in 1966-67. The site is located 150 m northwest of the Rideau River. In 1981-83, the site was developed as a below ground bus transitway station by the Regional Municipality of Ottawa-Carleton. Because the bus station is below the groundwater table, continued pumping is required to prevent the bus station from flooding. A 1220 mm diameter storm sewer was constructed to discharge the pumped water from the transitway station directly to the Rideau River. The site is now occupied by the Lees Avenue transitway station and parking lot, a Consumers Gas metering station, an existing high rise apartment building (169 Lees Avenue - constructed in 1985) and vacant land proposed for development as a high rise apartment building.</p> <p>Poten Environ Impact: Environmental impacts have already occurred for the Lees Avenue site. In late April 1986, tars were observed in the pumphouse of the Lees Avenue transitway station and in the adjacent Rideau River in the vicinity of the outfall from the pumping station. The discovery of this contamination resulted in closure of the Lees Avenue station and installation of a boom to contain the oil slick on the Rideau River. Subsequently, a leachate collection and treatment facility was constructed to collect and treat coal tar contaminated water at the transitway station and removal of an estimated 40 m3 of tar from the bottom of the River over a 100 m by 40 m area has been undertaken. Clean-up of the River is ongoing and will resume in spring 1987. Drilling and sampling investigations conducted on the property at 169 Lees Avenue have shown that the foundation of the 4,250 m3 gas holding tank is contaminated with coal tar. An underground parking lot and a second high-rise apartment building are planned for this property. A potential environmental impact exists for this site as a result of excavation of buried wastes and exposure of these wastes to workers involved in the excavation. Approval for this development is pending subject to the results of site investigations undertaken by the Ontario Ministry of the Environment. In addition to the gas works, a tar distillation plant operated south of the gas works and Lees Avenue from about 1920 to sometime in the late 1940s. This facility distilled coal tars received from the gas works and later from other sources. Because this facility</p>		

Coal Gasification Plants

Map Key	Company	Address	Facility Type	Size	NTS Map Sheet
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handled and processed coal tars, it is a second industrial source of coal tar contamination in the Lees Avenue area. The plant was located on what is now 170 Lees Avenue. A high-rise apartment building now occupies the site. Soil and groundwater contamination have been discovered at this site, beside and below the 170 Lees Avenue apartment building.

Environmental Registry

Map Key	Company	Address	Year	EBR Registry No.	Ministry Ref. No.	Type
EBR-1	Kelly's Auto Body (1984) Limited	23 Hurdman Road Ottawa K1N 8N7	2002	IA02E1108		Instrument
				Instrument Type:	EPA s. 9 - Approval for discharge into the natural environment other than water (i.e. Air)	
				Proposal Date:	9/18/02	
				Location:	23 Hurdman Road,Ottawa, Ontario, K1N 8N7Ottawa	
				Proponent Address:	Kelly's Auto Body (1984) Limited23 Hurdman Road,Ottawa, Ontario, K1N 8N7	

ERIS Historical Searches

Map Key	Company	Address	Order No.	Report Date	Report Type	Search Radius (km)
EHS-1		29 Hurdman Road Ottawa	20100111005	1/19/2010	Standard Report	0.25
			Addit. Info Ordered:			
EHS-2		211 Lees Avenue Ottawa	20110405028	4/14/2011	Standard Report	0.25
			Addit. Info Ordered:	Fire Insur. Maps and/or Site Plans		
EHS-3		200 Lees Avenue Ottawa K1S 5S9	20020403002	4/11/02	Complete Report	0.25
			Addit. Info Ordered:			
EHS-4		200 Lees Avenue Ottawa K1S 5S9	20070523011	6/1/2007	CAN - Complete Report	0.25
			Addit. Info Ordered:			
EHS-5		190 Lees Avenue Ottawa K1S 5L5	20090710028	7/21/2009	Standard Report	0.25
			Addit. Info Ordered:			
EHS-6		190 Lees Avenue Ottawa K1S 5L5	20050518025	5/30/2005		0.3
			Addit. Info Ordered:			
EHS-7		190 Lees Avenue Ottawa K1S 5L5	20080312024	3/24/2008	Complete Report	0.25
			Addit. Info Ordered:			
EHS-8		1 Robinson Avenue Ottawa	20070221010	3/1/2007	CAN - Basic Report	0.25
			Addit. Info Ordered:	Fire Insur. Maps And /or Site Plans		
EHS-9		1 Robinson Avenue Ottawa	20070315035	3/26/2007	CAN - Custom Report	0.5
			Addit. Info Ordered:	Title Search		
EHS-10		1200 Vanier Parkway Ottawa K1A 0R2	20050422017	5/2/2005		0.3
			Addit. Info Ordered:			

Contaminated Sites on Federal Land

Map Key	Company	Address	Site Id	Departmental Id	Property No.	Site Name
FCS-1		Ottawa	00022822	243993	04177	Hurdman North

Location:
Municipality: Ottawa
Census Division: Ottawa
Federal Electoral District: Ottawa South
Nearest Populated Area:
Longitude: -75.662794
Latitude: 45.414439
Reporting Organization: National Capital Commission
Reason for Involvement: Federal Real Property
Est m³ Contaminated:
Est Ha Contaminated: 19.5
Est Tons Contaminated:
Site Management Strategy: Periodic Monitoring
Highest Step Completed: Detailed Testing Program
Action Plan: Human Health and Ecological Risk Assessment, additional monitoring and remedial activities to be completed.
Additional Info:

<u>Medium</u>	<u>Contaminant</u>
Groundwater	PHCs (petroleum hydrocarbons)
Soil	PHCs (petroleum hydrocarbons)
Soil	BTEXs (benzene, toluene, ethylbenzene, and xylene)
Groundwater	PAHs (polycyclic aromatic hydrocarbon)
Soil	PAHs (polycyclic aromatic hydrocarbon)
Groundwater	Metal, metalloid, and organometallic
Soil	Metal, metalloid, and organometallic
Groundwater	Other Physical/Chemical (pH, temperature, dissolved solids, turbidity, etc.)

Contaminated Sites on Federal Land

Map Key	Company	Address	Site Id	Departmental Id	Property No.	Site Name
FCS-2		Ottawa	00023352	243989	04176	Hudrman North
<p>Location: Municipality: Ottawa Census Division: Ottawa Federal Electoral District: Ottawa South Nearest Populated Area: Longitude: -75.667834 Latitude: 45.412705 Reporting Organization: National Capital Commission Reason for Involvement: Federal Real Property Est m³ Contaminated: Est Ha Contaminated: 2.9 Est Tons Contaminated: Site Management Strategy: Assessment Highest Step Completed: Detailed Testing Program Action Plan: Additional Info:</p>						
					<u>Medium</u>	<u>Contaminant</u>
					Groundwater	Metal, metalloid, and organometallic
					Soil	Metal, metalloid, and organometallic

Fuel Storage Tank

Map Key	Company	Address	License Issue Date	Tank Status	Tank Status As Of	Operation Type	Facility Type
FST-1	CAPITAL BEEF ATTN:FRANK VELLENERUVE	229 LEES AVE OTTAWA K1N 8P1	1/17/1991	Licensed	August 2007	Private Fuel Outlet	Gasoline Station - Self Serve
			<u>Status</u>	<u>Capacity (L)</u>	<u>Year of Installation</u>	<u>Corrosion Protection</u>	<u>Tank Fuel Type</u>
			Not-Active	10000	1991		Liquid Fuel Single Wall UST - Gasoline
			Not-Active	25000	1991		Liquid Fuel Single Wall UST - Diesel

Ontario Regulation 347 Waste Generators Summary

Map Key	Company	Address	SIC Code	SIC Description	Waste Code	Waste Description
GEN-1	OTTAWA, CORPORATION OF THE CITY OF	29 HURDMAN ROAD OTTAWA	8373	ENVIRON. ADMIN.	221	LIGHT FUELS
					251	OIL SKIMMINGS & SLUDGES
					252	WASTE OILS & LUBRICANTS
				Generator #: ON0136222		
				Approval Yrs: 99,00,01,02,03,04,05,06,07, .08		
GEN-2	OTTAWA, CITY OF	29 HURDMAN ROAD OTTAWA	8373	ENVIRON. ADMIN.	221	LIGHT FUELS
					251	OIL SKIMMINGS & SLUDGES
					252	WASTE OILS & LUBRICANTS
				Generator #: ON0136222		
				Approval Yrs: 97,98		
GEN-3	OTTAWA, CORPORATION OF THE CITY OF	29 HURDMAN ROAD OTTAWA K1N 0A3			145	Wastes from the use of pigments, coatings and paints
					251	Waste oils/sludges (petroleum based)
					252	Waste crankcase oils and lubricants
				Generator #: ON0136222		
				Approval Yrs: As of Oct 2010		
GEN-4	UNIVERSITY OF OTTAWA	200 LEES AVENUE OTTAWA K1S 5S9			112	Acid solutions - containing heavy metals
					121	Alkaline slutions - containing heavy metals
					145	Wastes from the use of pigments, coatings and paints
					146	Other specified inorganic sludges, slurries or solids
					251	Waste oils/sludges (petroleum based)
					263	Misc. waste organic chemicals
					312	Pathological wastes
					331	Waste compressed gases including cylinders
GEN-5	ALGONQUIN COLLEGE	200 LECS AVE. OTTAWA K2G 1B8	8521	POST-SEC. NON-UNIV.	148	INORGANIC LABORATORY CHEMICALS
					263	ORGANIC LABORATORY CHEMICALS
					Generator #: ON0213601	
		Approval Yrs: 88,89,90				

Ontario Regulation 347 Waste Generators Summary

Map Key	Company	Address	SIC Code	SIC Description	Waste Code	Waste Description
GEN-6	ALGONQUIN COLLEGE	200 LEES AVENUE OTTAWA K1S 0C5	8521	POST-SEC. NON-UNIV. Generator #: ON0213601 Approval Yrs: 92,93,97,98,99,00,01,02,03, 04,05,06	145	PAINT/PIGMENT/COATING RESIDUES
					148	INORGANIC LABORATORY CHEMICALS
					213	PETROLEUM DISTILLATES
					243	PCB'S
					251	OIL SKIMMINGS & SLUDGES
					252	WASTE OILS & LUBRICANTS
					263	ORGANIC LABORATORY CHEMICALS
					312	PATHOLOGICAL WASTES
GEN-7	ALGONQUIN COLLEGE 02-223	200 LEES AVE. OTTAWA K1S 5S9	8521	POST-SEC. NON-UNIV. Generator #: ON0213601 Approval Yrs: 94	148	INORGANIC LABORATORY CHEMICALS
					263	ORGANIC LABORATORY CHEMICALS
					312	PATHOLOGICAL WASTES
GEN-8	Statistics Canada PHMD	200 Lees Ave rear parking lot Ottawa K1S 5S9			312	Pathological wastes
GEN-9	ALGONQUIN COLLEGE 02-223	200 LEES AVENUE OTTAWA K1S 0C5	8521	POST-SEC. NON-UNIV. Generator #: ON0213601 Approval Yrs: 95,96	148	INORGANIC LABORATORY CHEMICALS
					213	PETROLEUM DISTILLATES
					263	ORGANIC LABORATORY CHEMICALS
					312	PATHOLOGICAL WASTES

Ontario Regulation 347 Waste Generators Summary

Map Key	Company	Address	SIC Code	SIC Description	Waste Code	Waste Description
GEN-17	Royal Canadian Mounted Police	1200 Vanier Parkway Ottawa K1G 3M8		Generator #: ON4538755 Approval Yrs: 02,03,04,05,06,07,08	251	OIL SKIMMINGS & SLUDGES
					267	ORGANIC ACIDS
					211	AROMATIC SOLVENTS
					211	AROMATIC SOLVENTS
					146	OTHER SPECIFIED INORGANICS
					243	PCB'S
					998	NONHAZARDOUS WASTE
					112	ACID WASTE - HEAVY METALS
					122	ALKALINE WASTES - OTHER METALS
					145	PAINT/PIGMENT/COATING RESIDUES
					148	INORGANIC LABORATORY CHEMICALS
					212	ALIPHATIC SOLVENTS
					213	PETROLEUM DISTILLATES
					232	POLYMERIC RESINS
					252	WASTE OILS & LUBRICANTS
					261	PHARMACEUTICALS
					263	ORGANIC LABORATORY CHEMICALS
264	PHOTOPROCESSING WASTES					
331	WASTE COMPRESSED GASES					
312	PATHOLOGICAL WASTES					
GEN-18	GVT. OF CAN. - R.C.M.P.	RCMP COMPLEX P.O. BOX 8885, 1200 VANIER PARKWAY OTTAWA K1A 0R2	911230	Federal Police Services		
				Generator #: ON0283104 Approval Yrs: 03,04		
GEN-19	GVT. OF CAN-PUBLICWORKS CANADA	CHP RCMP HDQTRS RM F1, 1200 VANIER PKWY VANIER, C/O 140 PROMENADE DU PORTAGE, VANIER K1A 0M3	8159	OTHER GEN. ADMIN.	221	LIGHT FUELS
				Generator #: ON0144766 Approval Yrs: 90	241	HALOGENATED SOLVENTS
					252	WASTE OILS & LUBRICANTS

Ontario Regulation 347 Waste Generators Summary

Map Key	Company	Address	SIC Code	SIC Description	Waste Code	Waste Description
GEN-20	GVT. OF CAN. - R.C.M.P.	RCMP COMPLEX 1200 VANIER PARKWAY OTTAWA K1A 0R2	8123	POLICE SERVICES	112	ACID WASTE - HEAVY METALS
					121	ALKALINE WASTES - HEAVY METALS
					122	ALKALINE WASTES - OTHER METALS
					148	INORGANIC LABORATORY CHEMICALS
					212	ALIPHATIC SOLVENTS
					213	PETROLEUM DISTILLATES
					221	LIGHT FUELS
					241	HALOGENATED SOLVENTS
					243	PCB'S
					252	WASTE OILS & LUBRICANTS
					263	ORGANIC LABORATORY CHEMICALS
					264	PHOTOPROCESSING WASTES
					266	PHENOLIC WASTES
					312	PATHOLOGICAL WASTES

Ontario Regulation 347 Waste Generators Summary

Map Key	Company	Address	SIC Code	SIC Description	Waste Code	Waste Description
GEN-21	Royal Canadian Mounted Police	1200 Vanier Parkway Ottawa K1A 0R2		Generator #: ON4538755 Approval Yrs: As of Oct 2010	112	Acid solutions - containing heavy metals
					122	Alkaline slutions - containing other metals and non-metals (not cyanide)
					145	Wastes from the use of pigments, coatings and paints
					146	Other specified inorganic sludges, slurries or solids
					148	Misc. wastes and inorganic chemicals
					211	Aromatic solvents and residues
					212	Aliphatic solvents and residues
					221	Light fuels
					251	Waste oils/sludges (petroleum based)
					252	Waste crankcase oils and lubricants
					263	Misc. waste organic chemicals
					267	Organic acids
					312	Pathological wastes
					331	Waste compressed gases including cylinders

Ontario Regulation 347 Waste Generators Summary

Map Key	Company	Address	SIC Code	SIC Description	Waste Code	Waste Description
GEN-22	PUBLIC WORKS CANADA	RCMP HEADQUARTERS-CENTRAL HEATING PLANT 1200 VANIER PARKWAY OTTAWA K1A 0R2	8159	OTHER GEN. ADMIN. Generator #: ON0144766 Approval Yrs: 98,99,00,01,02,03,04,05,06,07,08	213	PETROLEUM DISTILLATES
					112	ACID WASTE - HEAVY METALS
					121	ALKALINE WASTES - HEAVY METALS
					145	PAINT/PIGMENT/COATING RESIDUES
					146	OTHER SPECIFIED INORGANICS
					148	INORGANIC LABORATORY CHEMICALS
					212	ALIPHATIC SOLVENTS
					221	LIGHT FUELS
					241	HALOGENATED SOLVENTS
					243	PCB'S
					252	WASTE OILS & LUBRICANTS
					263	ORGANIC LABORATORY CHEMICALS
					331	WASTE COMPRESSED GASES
GEN-23	PUBLIC WORKS & GOVERNMENT SERVICES CAN.	RCMP HEADQUARTERS-CENTRAL HEATING PLANT 1200 VANIER PARKWAY OTTAWA K1A 0R2	8159	OTHER GEN. ADMIN. Generator #: ON0144766 Approval Yrs: 92,93,94,95,96,97	148	INORGANIC LABORATORY CHEMICALS
					212	ALIPHATIC SOLVENTS
					221	LIGHT FUELS
					241	HALOGENATED SOLVENTS
					252	WASTE OILS & LUBRICANTS
					263	ORGANIC LABORATORY CHEMICALS

Ontario Regulation 347 Waste Generators Summary

Map Key	Company	Address	SIC Code	SIC Description	Waste Code	Waste Description
GEN-24	GVT. OF CAN. - R.C.M.P.	1200 VANIER PARKWAY OTTAWA K1G 3M8	8123	POLICE SERVICES Generator #: ON0283104 Approval Yrs: 98,99,00,01	112	ACID WASTE - HEAVY METALS
					121	ALKALINE WASTES - HEAVY METALS
					122	ALKALINE WASTES - OTHER METALS
					148	INORGANIC LABORATORY CHEMICALS
					212	ALIPHATIC SOLVENTS
					213	PETROLEUM DISTILLATES
					221	LIGHT FUELS
					241	HALOGENATED SOLVENTS
					243	PCB'S
					252	WASTE OILS & LUBRICANTS
					263	ORGANIC LABORATORY CHEMICALS
					264	PHOTOPROCESSING WASTES
					266	PHENOLIC WASTES
					312	PATHOLOGICAL WASTES

Ontario Regulation 347 Waste Generators Summary

Map Key	Company	Address	SIC Code	SIC Description	Waste Code	Waste Description
GEN-25	GVT. OF CAN. - R.C.M.P. 18-164	RCMP COMPLEX 1200 VANIER PARKWAY OTTAWA K1A 0R2	8123	POLICE SERVICES Generator #: ON0283104 Approval Yrs: 92,93,94,95,96	112	ACID WASTE - HEAVY METALS
					121	ALKALINE WASTES - HEAVY METALS
					122	ALKALINE WASTES - OTHER METALS
					148	INORGANIC LABORATORY CHEMICALS
					212	ALIPHATIC SOLVENTS
					213	PETROLEUM DISTILLATES
					221	LIGHT FUELS
					241	HALOGENATED SOLVENTS
					243	PCB'S
					252	WASTE OILS & LUBRICANTS
					263	ORGANIC LABORATORY CHEMICALS
					264	PHOTOPROCESSING WASTES
					266	PHENOLIC WASTES
312	PATHOLOGICAL WASTES					
GEN-26	PUBLIC WORKS CANADA	RCMP HEADQUARTERS-CENTRAL HEATING PLANT 1200 VANIER PARKWAY OTTAWA K1A 0R2		Generator #: ON0144766 Approval Yrs: As of Oct 2010	146	Other specified inorganic sludges, slurries or solids
					212	Aliphatic solvents and residues

National PCB Inventory

Map Key	Company	Address	Company Code	Transaction Date	Inspection Date	Industry	Site Status
NPCB-1	ROYAL CANADIAN MOUNTED POLICE	F.S.S. BRANCH; 1200 VANIER PARKWAY CPIC/ALTA VISTA DR. OTTAWA K1A 0R2	O3098	2/9/1996	4/21/1993	RCMP	

<u>Label</u>	<u>No. of Items</u>	<u>Contents</u>	<u>Serial No.</u>	<u>Item/State</u>	<u>Status</u>	<u>PCB Type/Code</u>	<u>Location</u>	<u>Manufacturer</u>
		20.00 L			Stored for Disposal	Askarel		
		202.00 KG			Stored for Disposal	Unknown concentration		
		270.00 KG			Stored for Disposal	Unknown concentration		
		600.00 KG			Stored for Disposal	Unknown concentration		
		770.00 KG			Stored for Disposal	Askarel		
		1197.00 L			In-Use	Inerteen		

Private and Retail Fuel Storage Tanks

Map Key	Company	Address	Location ID	Type	Expiry Date	Capacity (L)	Licence #
PRT-1	CAPITAL BEEF ATTN:FRANK VELLENERUVE	229 LEES AV OTTAWA K1N 8P1	10985	private		35000.00	0001055614

Retail Fuel Storage Tanks

Map Key	Company	Address	Facility	Description
RST-1	CANADIAN TIRE PIT STOP	85 ROBINSON AVE OTTAWA K1N 8N8	Oil Changes & Lubrication Service	

Scott's Manufacturing Directory

Map Key	Company	Address	Established	Plant Size (ft ²)	Employment	SIC/NAICS Code	Description
SCT-1	RCMP Veteran's Association	1200 Vanier Pky Ottawa K1A 0R2	01-DEC-00			813920	Professional Organizations

Ontario Spills

Map Key	Company	Address	Ref No.	Incident Dt	MOE Reported Dt	Contaminant Name	Contaminant Quantity
SPL-1	UNKNOWN	HURDMAN BRIDGE OUTFALL OTTAWA CITY	18417	5/12/1989	5/12/1989		
			Incident Summary:	OTTAWA CITY- FUEL SPILL ON RIDEAU RIVER			
			Incident Cause:	UNKNOWN			
			Incident Reason:	OTHER			
			Nature of Impact:				
			Receiving Medium:	WATER			
			Environmental Impact:				
SPL-2	Hydro Ottawa Limited	23 HURDMAN<UNOFFICIAL> OTTAWA K1N 8N7	8445- 62AMYH	6/25/2004	6/25/2004	TRANSFORMER OIL (N.O.S.)	115 L
			Incident Summary:	Hydro-Ottawa, 110-115L non-PCB transf. oil			
			Incident Cause:				
			Incident Reason:				
			Nature of Impact:				
			Receiving Medium:	Land			
			Environmental Impact:	Not Anticipated			
SPL-3	UNKNOWN	PRIVATE HOUSE MR. BERNARD SEQUIN 28 ROBINSON AVE 613- 235-4130(741-81210) OTTAWA CITY K1N 8N9	1788	3/26/1988	3/29/1988		
			Incident Summary:	PRIVATE HOUSE- NOTICED FURNACE OIL ENTERING THE BASEMENT.			
			Incident Cause:	ABOVE-GROUND TANK LEAK			
			Incident Reason:	CORROSION			
			Nature of Impact:	SOIL CONTAMINATION			
			Receiving Medium:	LAND			
			Environmental Impact:	POSSIBLE			
SPL-4	MOTOR VEHICLE	QUEENSWAY EASTBOUND EAST SIDE OF HURDAN BRIDGE MOTOR VEHICLE (OPERATING FLUID) OTTAWA CITY	58408	10/9/1991	10/9/1991		
			Incident Summary:	MOTOR VEHICLE: GASOLINE FOUND IN STORM CATCHBASIN			
			Incident Cause:	UNKNOWN			
			Incident Reason:	UNKNOWN			
			Nature of Impact:	Water course or lake			
			Receiving Medium:	WATER			
			Environmental Impact:	POSSIBLE			
SPL-5	PRIVATE OWNER	5-9 HURDMAN STREET MOTOR VEHICLE (OPERATING FLUID) OTTAWA CITY K1N 8N6	74304	8/6/1992	8/6/1992		
			Incident Summary:	PRIVATE VEHICLE: 10 L MOTOR OIL DUMPED ON ROAD/CATCHBASIN			
			Incident Cause:	OTHER CONTAINER LEAK			
			Incident Reason:	INTENTIONAL/PLANNED			
			Nature of Impact:				
			Receiving Medium:	LAND			
			Environmental Impact:	NOT ANTICIPATED			

Ontario Spills

Map Key	Company	Address	Ref No.	Incident Dt	MOE Reported Dt	Contaminant Name	Contaminant Quantity
SPL-6	UNKNOWN	AT 190 LEE'S AVENUE OTTAWA CITY K1S 5L5	170189	7/13/1999	7/14/1999		
			Incident Summary:	SOURCE UNKNOWN - OIL SHEEN ON WATER SURFACE IN EXCAVATION HOLE.			
			Incident Cause:	UNKNOWN			
			Incident Reason:	UNKNOWN			
			Nature of Impact:	Multi Media Pollution			
			Receiving Medium:	WATER			
			Environmental Impact:	POSSIBLE			
SPL-7	Enbridge Gas Distribution Inc.	1200 VANIER PARKWAY RCMP HEADQUARTERS<UNOFFICIAL> Ottawa K1A 0R2	2454-6P7P4L	4/25/2006	4/25/2006	NATURAL GAS (METHANE)	unknown L
			Incident Summary:	TSSA: gas leak at RCMP headquarters. Evacuation.			
			Incident Cause:				
			Incident Reason:				
			Nature of Impact:	Human Health/Safety			
			Receiving Medium:	Air			
			Environmental Impact:	Not Anticipated			
SPL-8	PUBLIC WORKS CANADA	1200 VANIER PKWY GOVERNMENT BUILDING OR PROPERTY OTTAWA	188826	9/4/2000	10/19/2000		
			Incident Summary:	PUBLIC WORKS CANADA:SPILLOF APPROX 800 LBS FREON ON 00/09/04.INVESTIGATING			
			Incident Cause:	OTHER CONTAINER LEAK			
			Incident Reason:	OTHER			
			Nature of Impact:	Air Pollution			
			Receiving Medium:	AIR			
			Environmental Impact:	POSSIBLE			
SPL-9	CONSTRUCTION COMPANY	1200 VANIER PKWY MOTOR VEHICLE (OPERATING FLUID) OTTAWA CITY	130455	8/13/1996	8/13/1996		
			Incident Summary:	FERRANO CONSTRUCTION-HYDROIL TO PVMT.CLEANED.NO ENV IMPACT. EWGR# ISSUED.			
			Incident Cause:	PIPE/HOSE LEAK			
			Incident Reason:	OVERSTRESS/OVERPRESSURE			
			Nature of Impact:				
			Receiving Medium:	LAND			
			Environmental Impact:	NOT ANTICIPATED			

Waste Disposal Sites - MOE 1991 Historical Approval Inventory

**Note: Status as of October 30, 1990.

Map Key	Company	Address	Site No.	Region	County	Concession	Lot
WDSH-1		Lees Ave. (Algonquin College) OTTAWA	X1017	SOUTHEAST	OTTAWA CARLETON		Lees Ave. (Algonquin College)
			Easting:		447700		
			Northing:		5029080		
			Zone:		18		
			Date Closed		1947		
			Status:		CLOSED		
			Classification:		A5 - POTENTIAL HUMAN IMPACT-URBAN MUNICIPAL/DOMESTIC WASTE - CLOSED 10-20 YRS		
			%CommercialWste:		n/a		
			%DomesticWste Rec:		n/a		
			%LiquidWste Rec:		n/a		
			%HazardousWste Rec:		n/a		
			%Non-haz.Wste Rec:		n/a		
			%Sewage/Sludge Rec:		n/a		
			%Other Wste Rec:		n/a		

Water Well Information System

Map Key	Company	Address	Well Id	Lot	Concession	Concession Name	County	Municipality												
WWIS-1		lot 10	1500408	010		JG	OTTAWA-CARLETON	OTTAWA CITY (GLOUCESTER)												
<p> Easting Nad83: 448250.7 Northing Nad83: 5029462 Zone: 18 Utm Reliability: unknown UTM Construction Date: 11/30/1948 Primary Water Use: Not Used Secondary Water Use: Well Depth: 92 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): 58.441143 Elevation Reliability: Depth to Bedrock: 12 Overburden/Bedrock: Bedrock Water Type: FRESH Casing Material: STEEL, OPEN HOLE </p> <table border="1"> <thead> <tr> <th><u>Thickness</u></th> <th><u>Original Depth</u></th> <th><u>Material Colour</u></th> <th><u>Material</u></th> </tr> </thead> <tbody> <tr> <td>12 ft</td> <td>12 ft</td> <td></td> <td>CLAY, STONES</td> </tr> <tr> <td>80 ft</td> <td>92 ft</td> <td></td> <td>SHALE</td> </tr> </tbody> </table>									<u>Thickness</u>	<u>Original Depth</u>	<u>Material Colour</u>	<u>Material</u>	12 ft	12 ft		CLAY, STONES	80 ft	92 ft		SHALE
<u>Thickness</u>	<u>Original Depth</u>	<u>Material Colour</u>	<u>Material</u>																	
12 ft	12 ft		CLAY, STONES																	
80 ft	92 ft		SHALE																	

Water Well Information System

Map Key	Company	Address	Well Id	Lot	Concession	Concession Name	County	Municipality																
WWIS-2		lot 10	1500406	010		JG	OTTAWA-CARLETON	OTTAWA CITY (GLOUCESTER)																
<p> Easting Nad83: 448250.7 Northing Nad83: 5029462 Zone: 18 Utm Reliability: unknown UTM Construction Date: 6/19/1948 Primary Water Use: Not Used Secondary Water Use: Well Depth: 65 ft Pump Rate: 10 GPM Static Water Level: Flow Rate: Clear/Cloudy: CLEAR Specific Capacity: Final Well Status: Water Supply Construction Method: Cable Tool Flowing (y/n): N Elevation (m): 58.441143 Elevation Reliability: Depth to Bedrock: 8 Overburden/Bedrock: Bedrock Water Type: FRESH Casing Material: OPEN HOLE, STEEL </p> <table border="1"> <thead> <tr> <th><u>Thickness</u></th> <th><u>Original Depth</u></th> <th><u>Material Colour</u></th> <th><u>Material</u></th> </tr> </thead> <tbody> <tr> <td>8 ft</td> <td>8 ft</td> <td>BROWN</td> <td>CLAY, MEDIUM SAND, STONES</td> </tr> <tr> <td>2 ft</td> <td>10 ft</td> <td></td> <td>SHALE</td> </tr> <tr> <td>55 ft</td> <td>65 ft</td> <td>GREY</td> <td>ROCK</td> </tr> </tbody> </table>									<u>Thickness</u>	<u>Original Depth</u>	<u>Material Colour</u>	<u>Material</u>	8 ft	8 ft	BROWN	CLAY, MEDIUM SAND, STONES	2 ft	10 ft		SHALE	55 ft	65 ft	GREY	ROCK
<u>Thickness</u>	<u>Original Depth</u>	<u>Material Colour</u>	<u>Material</u>																					
8 ft	8 ft	BROWN	CLAY, MEDIUM SAND, STONES																					
2 ft	10 ft		SHALE																					
55 ft	65 ft	GREY	ROCK																					

Water Well Information System

Map Key	Company	Address	Well Id	Lot	Concession	Concession Name	County	Municipality												
WWIS-4		lot 11	1500413	011		JG	OTTAWA-CARLETON	OTTAWA CITY (GLOUCESTER)												
<p> Easting Nad83: 448320.7 Northing Nad83: 5029572 Zone: 18 Utm Reliability: unknown UTM Construction Date: 5/15/1949 Primary Water Use: Domestic Secondary Water Use: Well Depth: 90 ft Pump Rate: 8 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): 58.722507 Elevation Reliability: Depth to Bedrock: 30 Overburden/Bedrock: Bedrock Water Type: SULPHUR Casing Material: OPEN HOLE, STEEL </p> <table border="1"> <thead> <tr> <th><u>Thickness</u></th> <th><u>Original Depth</u></th> <th><u>Material Colour</u></th> <th><u>Material</u></th> </tr> </thead> <tbody> <tr> <td>30 ft</td> <td>30 ft</td> <td></td> <td>CLAY, MEDIUM SAND</td> </tr> <tr> <td>60 ft</td> <td>90 ft</td> <td></td> <td>SHALE</td> </tr> </tbody> </table>									<u>Thickness</u>	<u>Original Depth</u>	<u>Material Colour</u>	<u>Material</u>	30 ft	30 ft		CLAY, MEDIUM SAND	60 ft	90 ft		SHALE
<u>Thickness</u>	<u>Original Depth</u>	<u>Material Colour</u>	<u>Material</u>																	
30 ft	30 ft		CLAY, MEDIUM SAND																	
60 ft	90 ft		SHALE																	

Water Well Information System

Map Key	Company	Address	Well Id	Lot	Concession	Concession Name	County	Municipality																				
WWIS-5		lot 11	1500411	011		JG	OTTAWA-CARLETON	OTTAWA CITY (GLOUCESTER)																				
<p> Easting Nad83: 448260.7 Northing Nad83: 5029202 Zone: 18 Utm Reliability: unknown UTM Construction Date: 7/2/1948 Primary Water Use: Commerical Secondary Water Use: Well Depth: 113 ft Pump Rate: 8 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): 59.281497 Elevation Reliability: Depth to Bedrock: 20 Overburden/Bedrock: Bedrock Water Type: FRESH Casing Material: OPEN HOLE, STEEL </p> <table border="1"> <thead> <tr> <th><u>Thickness</u></th> <th><u>Original Depth</u></th> <th><u>Material Colour</u></th> <th><u>Material</u></th> </tr> </thead> <tbody> <tr> <td>5 ft</td> <td>5 ft</td> <td></td> <td>TOPSOIL</td> </tr> <tr> <td>13 ft</td> <td>18 ft</td> <td></td> <td>CLAY</td> </tr> <tr> <td>2 ft</td> <td>20 ft</td> <td>GREY</td> <td>FINE SAND</td> </tr> <tr> <td>93 ft</td> <td>113 ft</td> <td></td> <td>ROCK, SLATE</td> </tr> </tbody> </table>									<u>Thickness</u>	<u>Original Depth</u>	<u>Material Colour</u>	<u>Material</u>	5 ft	5 ft		TOPSOIL	13 ft	18 ft		CLAY	2 ft	20 ft	GREY	FINE SAND	93 ft	113 ft		ROCK, SLATE
<u>Thickness</u>	<u>Original Depth</u>	<u>Material Colour</u>	<u>Material</u>																									
5 ft	5 ft		TOPSOIL																									
13 ft	18 ft		CLAY																									
2 ft	20 ft	GREY	FINE SAND																									
93 ft	113 ft		ROCK, SLATE																									

Water Well Information System

Map Key	Company	Address	Well Id	Lot	Concession	Concession Name	County	Municipality
WWIS-6		lot 11 OTTAWA	1535299	011		JG	OTTAWA-CARLETON	GLOUCESTER TOWNSHIP
<p> Easting Nad83: 448240 Northing Nad83: 5029172 Zone: 18 Utm Reliability: margin of error : 10 - 30 m Construction Date: 7/30/2004 Primary Water Use: Commerical Secondary Water Use: Well Depth: Pump Rate: Static Water Level: Flow Rate: Clear/Cloudy: Specific Capacity: Final Well Status: Abandoned-Other Construction Method: Flowing (y/n): Elevation (m): 60.007343 Elevation Reliability: Depth to Bedrock: Overburden/Bedrock: No formation data Water Type: Casing Material: PLASTIC </p>								
			<u>Thickness</u>	<u>Original Depth</u>		<u>Material Colour</u>		<u>Material</u>

Water Well Information System

Map Key	Company	Address	Well Id	Lot	Concession	Concession Name	County	Municipality
WWIS-7			1508861				OTTAWA-CARLETON	OTTAWA CITY
			<p> Easting Nad83: 447970.7 Northing Nad83: 5029952 Zone: 18 Utm Reliability: margin of error : 100 m - 300 m Construction Date: 10/15/1951 Primary Water Use: Domestic Secondary Water Use: Well Depth: 140 ft Pump Rate: 3 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): 57.456027 Elevation Reliability: Depth to Bedrock: 20 Overburden/Bedrock: Bedrock Water Type: FRESH Casing Material: STEEL, OPEN HOLE </p>					
			<u>Thickness</u>	<u>Original Depth</u>			<u>Material Colour</u>	<u>Material</u>
			20 ft	20 ft				GRAVEL
			120 ft	140 ft				LIMESTONE

Water Well Information System

Map Key	Company	Address	Well Id	Lot	Concession	Concession Name	County	Municipality												
WWIS-8			1508661				OTTAWA-CARLETON	OTTAWA CITY												
<p> Easting Nad83: 448270.7 Northing Nad83: 5030067 Zone: 18 Utm Reliability: unknown UTM Construction Date: 1/22/1951 Primary Water Use: Domestic Secondary Water Use: Well Depth: 140 ft Pump Rate: 3 GPM Static Water Level: 15 ft Flow Rate: Clear/Cloudy: CLEAR Specific Capacity: Final Well Status: Water Supply Construction Method: Cable Tool Flowing (y/n): N Elevation (m): 60.454216 Elevation Reliability: Depth to Bedrock: 35 Overburden/Bedrock: Bedrock Water Type: FRESH Casing Material: STEEL, OPEN HOLE </p> <table border="1"> <thead> <tr> <th><u>Thickness</u></th> <th><u>Original Depth</u></th> <th><u>Material Colour</u></th> <th><u>Material</u></th> </tr> </thead> <tbody> <tr> <td>35 ft</td> <td>35 ft</td> <td>BLUE</td> <td>CLAY</td> </tr> <tr> <td>105 ft</td> <td>140 ft</td> <td>BLUE</td> <td>LIMESTONE</td> </tr> </tbody> </table>									<u>Thickness</u>	<u>Original Depth</u>	<u>Material Colour</u>	<u>Material</u>	35 ft	35 ft	BLUE	CLAY	105 ft	140 ft	BLUE	LIMESTONE
<u>Thickness</u>	<u>Original Depth</u>	<u>Material Colour</u>	<u>Material</u>																	
35 ft	35 ft	BLUE	CLAY																	
105 ft	140 ft	BLUE	LIMESTONE																	

Water Well Information System

Map Key	Company	Address	Well Id	Lot	Concession	Concession Name	County	Municipality																
WWIS-9		OTTAWA	7150285				OTTAWA-CARLETON	OTTAWA CITY																
<p> Easting Nad83: 448049 Northing Nad83: 5028779 Zone: 18 Utm Reliability: margin of error : 10 - 30 m Construction Date: 7/26/2010 Primary Water Use: Test Hole Secondary Water Use: Monitoring Well Depth: 7.62 m Pump Rate: Static Water Level: Flow Rate: Clear/Cloudy: Specific Capacity: Final Well Status: Test Hole Construction Method: Rotary (Convent.) Flowing (y/n): Elevation (m): 59.349773 Elevation Reliability: Depth to Bedrock: Overburden/Bedrock: Water Type: Casing Material: PLASTIC </p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Thickness</u></th> <th style="text-align: left;"><u>Original Depth</u></th> <th style="text-align: left;"><u>Material Colour</u></th> <th style="text-align: left;"><u>Material</u></th> </tr> </thead> <tbody> <tr> <td>1.22 m</td> <td>1.22 m</td> <td>BROWN</td> <td>TOPSOIL, SAND, SOFT</td> </tr> <tr> <td>4.57 m</td> <td>5.79 m</td> <td>BROWN</td> <td>GRAVEL, SAND, HARD</td> </tr> <tr> <td>1.83 m</td> <td>7.62 m</td> <td>BROWN</td> <td>SILT, GRAVEL, HARD</td> </tr> </tbody> </table>									<u>Thickness</u>	<u>Original Depth</u>	<u>Material Colour</u>	<u>Material</u>	1.22 m	1.22 m	BROWN	TOPSOIL, SAND, SOFT	4.57 m	5.79 m	BROWN	GRAVEL, SAND, HARD	1.83 m	7.62 m	BROWN	SILT, GRAVEL, HARD
<u>Thickness</u>	<u>Original Depth</u>	<u>Material Colour</u>	<u>Material</u>																					
1.22 m	1.22 m	BROWN	TOPSOIL, SAND, SOFT																					
4.57 m	5.79 m	BROWN	GRAVEL, SAND, HARD																					
1.83 m	7.62 m	BROWN	SILT, GRAVEL, HARD																					

Appendix: Ontario 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 descriptions for more information.

Provincial Government Source Databases:

Abandoned Aggregate Inventory Up to Sept 2002

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.

Aggregate Inventory Up to Jun 2010

AGR

The Ontario Ministry of Natural Resources maintains a database of all active pits and quarries. Please note that the database is only referenced by lot\concession and city/town location. The database provides information regarding the registered owner/operator, location, status, licence type, and maximum tonnage.

Abandoned Mines Information System 1800-2005

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.

Borehole 1875-Sept 2010

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.

Certificates of Approval 1985-Mar 2011

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.

TSSA Commercial Fuel Oil Tanks 1948-Aug 2010

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.

Coal Gasification Plants 1987, 1988*

COAL

This inventory of all known and historical coal gasification plants was collected by the Ministry of Environment. 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, landuse, soil condition, site operators/occupants, site description, and potential environmental impacts. This information is effective to 1988, but the program has since been discontinued.

Compliance and Convictions 1989-Apr 2011

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.

Drill Holes 1886-2005

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 MNDM. 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".

Environmental Registry 1994-Apr 2011

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, licence, or certificate of approval to release substances into the air or water; these are notified on the registry. Data includes things like; Approval for discharge into the natural environment other than water (i.e. Air), Permit to Take Water (PTTW), Certificate of Property Use (CPU), Approval for a waste disposal site, Order for preventative measures.(EPA s. 18), Order for conformity with Act for waste disposal sites.(EPA s. 44), Order for remedial work.(EPA s. 17) and many more.

TSSA Fuel Storage Tanks Current to Jun 2010

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.

Ontario Regulation 347 Waste Generators Summary 1986-Oct 2010

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.

Mineral Occurrences 1846-Nov 2010

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.

Non-Compliance Reports 1992(water only), 1994-2009

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.

Ontario Oil and Gas Wells 1800-Nov 2010

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.

Ontario Inventory of PCB Storage Sites 1987-Oct 2004

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.

Pesticide Register 1988-Mar 2011

PES

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

Private and Retail Fuel Storage Tanks 1989-1996*

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).

Ontario Regulation 347 Waste Receivers Summary 1986-2008

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.

Record of Site Condition 1997-Sept 2001, Oct 2004-Apr 2011

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. Information available includes Registration Number, Filing Owner, Property Address, Filing Date and Municipality.

Ontario Spills 1988-Nov 2010

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.

Wastewater Discharger Registration Database 1990-2009

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).

Waste Disposal Sites - MOE CA Inventory 1970-Mar 2011

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. For more current information for Waste Disposal Sites please see the EBR database, which will include information such as 'Approval for a waste disposal site (EPA s.27)' and 'Approval for use of a former waste disposal site (EPA s.46)'.

Waste Disposal Sites - MOE 1991 Historical Approval Inventory Up to Oct 1990*

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.

Water Well Information System 1955-Mar 2011

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.

Federal Government Source Databases:

Diagram Identifier:

Environmental Effects Monitoring 1992-2007*

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.

Environmental Issues Inventory System 1992-2001*

EIIS

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 EIIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

Federal Convictions 1988-Jun 2007

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.

Contaminated Sites on Federal Land June 2000-May 2011

FCS

The Treasury Board of Canada Secretariat maintains an inventory of all known contaminated sites held by various Federal departments and agencies. This inventory does not include properties owned by Crown corporations, but does contain non-federal sites for which the Government of Canada has accepted some or all financial responsibility. All sites have been classified through a system developed by the Canadian Council of Ministers of the Environment. The database provides information on company name, location, site ID #, property use, classification, current status, contaminant type and plan of action for site remediation.

Fisheries & Oceans Fuel Tanks 1964-Sept 2003

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.

Indian & Northern Affairs Fuel Tanks 1950-Aug 2003

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.

National Analysis of Trends in Emergencies System (NATES) 1974-1994*

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.

National Defence & Canadian Forces Fuel Tanks Up to May 2001*

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.

National Defence & Canadian Forces Spills Mar 1999-Aug 2010

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.

National Defence & Canadian Forces Waste Disposal Sites 2001-April 2007

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.

National Environmental Emergencies System (NEES) 1974-2003

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.

National PCB Inventory 1988-2008

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.

National Pollutant Release Inventory 1993-2009

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.

Parks Canada Fuel Storage Tanks 1920-Jan 2005

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.

Transport Canada Fuel Storage Tanks 1970-March 2007

TCFT

With the provinces of BC, MB, NB, NF, ON, PE, and QC; Transport Canada currently owns and operates 90 fuel storage tanks. This inventory will also include The Pickering Lands, which refers to the 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, falls under the Site Management Policy of Transport Canada, but administered by Public Works and Government Services Canada. Our inventory provides information on the site name, location, tank age, capacity and fuel type.

Private Source Databases:

Anderson's Waste Disposal Sites 1860s-Present

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.*

Automobile Wrecking & Supplies 2001-Jun 2010

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.

Chemical Register 1992, 1999-Jun 2010

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.).

ERIS Historical Searches 1999-Apr 2011

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.

Canadian Mine Locations 1998-2009

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.

Oil and Gas Wells Oct 2001-Mar 2011

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 Nickles' database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at www.nickles.com.

Canadian Pulp and Paper 1999, 2002, 2004, 2005, 2009

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.

Retail Fuel Storage Tanks 2000-Jun 2010

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. Information is provided on company name, location and type of business.

Scott's Manufacturing Directory 1992-Mar 2011

SCT

Scott's Directories is a data bank containing information on over 70,000 manufacturers in Ontario. Even though Scott's listings are voluntary, it is the most comprehensive database of Ontario manufacturers available. Information concerning a company's address, plant size, and main products are included in this database. This database begins with 1992 information and is updated annually.

Anderson's Storage Tanks 1915-1953*

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.*



Canada's Primary Environmental Risk Information Service

Project Site: University of Ottawa
180 Lees Ave
Ottawa, ON

Client: Catherine LeBlanc
Franz Environmental Inc.
200-329 Churchill St North
Ottawa, ON K1Z5B8

ERIS Project No: 20110720056

Report Type: Site Report - .25km Search Radius

Prepared By: Rafal Wojtasik
rwojtasik@eris.ca

Date: July 21, 2011

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Site Address: 180 Lees Ave Ottawa, ON
Report Type: Site Report, 0.25 km Search Radius

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Report Summary <i>This outlines the number of records from each database that fall on the site, and within various distances from the site.</i>	i
Site Diagram <i>The records that were found within a specified distance from the project property (the primary search radius) have been plotted on a diagram to provide you with a visual representation of the information available. Sites will be plotted on the diagram if there is sufficient information from the database source to determine accurate geographic coordinates. Each plotted site is marked with an acronym identifying the database in which the record was found (i.e., WDS for Waste Disposal Sites). These are referred to as "Map Keys". A variety of problems are inherent when attempting to associate various government or private source records with locations. EcoLog ERIS has attempted to make the best fit possible between the available data and their positions on the site diagram.</i>	ii
Site Profile <i>This table describes the records that relate directly to the property that is being researched.</i>	iii
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Appendix: Database Descriptions	<u>Page</u>

Report Summary

Order Number: 20110720056
 Site Name: University of Ottawa
 Site Address: 180 Lees Ave Ottawa, ON
 Report Type: Site Report, 0.25 km Search Radius

Number of Mappable Records Surrounding the Site

Database	Selected	On-site	Within 0.25	0.25km to 2.00km	Total	
AAGR	Abandoned Aggregate Inventory	Y	0	0	0	
AGR	Aggregate Inventory	Y	0	0	0	
AMIS	Abandoned Mine Information System	Y	0	0	0	
ANDR	Anderson's Waste Disposal Sites	Y	0	1	7	8
AUWR	Automobile Wrecking & Supplies	Y	0	0	4	4
BORE	Borehole	Y	0	51	915	966
CA	Certificates of Approval	Y	0	5	270	275
CFOT	Commercial Fuel Oil Tanks	Y	0	0	3	3
CHEM	Chemical Register	Y	0	0	0	0
COAL	Coal Gasification Plants	Y	0	2	0	2
CONV	Compliance and Convictions	Y	0	0	0	0
DRL	Drill Hole Database	Y	0	0	0	0
EBR	Environmental Registry	Y	0	0	13	13
EEM	Environmental Effects Monitoring	Y	0	0	0	0
EHS	ERIS Historical Searches	Y	0	5	198	203
EIIS	Environmental Issues Information System	Y	0	0	0	0
FCON	Federal Convictions	Y	0	0	0	0
FCS	Contaminated Sites on Federal Land	Y	0	0	17	17
FOFT	Fisheries & Oceans Fuel Storage Tanks	Y	0	0	0	0
FST	Fuel Storage Tank	Y	0	0	44	44
GEN	Ontario Regulation 347 Waste Generators Summary	Y	0	24	793	817
IAFT	Indian & Northern Affairs Fuel Tanks	Y	0	0	0	0
MINE	Canadian Mine Locations	Y	0	0	0	0
MNR	Mineral Occurrences	Y	0	0	2	2
NATE	National Analysis of Trends in Emergencies System (NATES)	Y	0	0	0	0
NCPL	Non-Compliance Reports	Y	0	0	0	0
NDFT	National Defence & Canadian Forces Fuel Storage Tanks	Y	0	0	1	1
NDSP	National Defence & Canadian Forces Spills	Y	0	0	10	10
NDWD	National Defence & Canadian Forces Waste Disposal Sites	Y	0	0	0	0
NEES	National Environmental Emergencies System (NEES)	Y	0	0	1	1
NPCB	National PCB Inventory	Y	0	0	29	29
NPRI	National Pollutant Release Inventory	Y	0	0	25	25
OGW	Oil and Gas Wells	Y	0	0	0	0
OOGW	Ontario Oil and Gas Wells	Y	0	0	4	4
OPCB	Inventory of PCB Storage Sites	Y	0	0	19	19
PAP	Canadian Pulp and Paper	Y	0	0	0	0
PCFT	Parks Canada Fuel Storage Tanks	Y	0	0	0	0
PES	Pesticide Register	Y	0	0	48	48
PRT	Private and Retail Fuel Storage Tanks	Y	0	0	40	40
REC	Ontario Regulation 347 Waste Receivers Summary	Y	0	0	0	0
RSC	Record of Site Condition	Y	0	1	18	19
RST	Retail Fuel Storage Tanks	Y	0	0	10	10

Report Summary

Order Number: 20110720056
Site Name: University of Ottawa
Site Address: 180 Lees Ave Ottawa, ON
Report Type: Site Report, 0.25 km Search Radius

Database		Selected	On-site	Within 0.25	0.25km to 2.00km	Total
SCT	Scott's Manufacturing Directory	Y	0	0	199	199
SPL	Ontario Spills	Y	0	2	182	184
SRDS	Wastewater Discharger Registration Database	Y	0	0	0	0
TANK	Anderson's Storage Tanks	Y	0	0	0	0
TCFT	Transport Canada Fuel Storage Tanks	Y	0	0	0	0
WDS	Waste Disposal Sites - MOE CA Inventory	Y	0	0	0	0
WDSH	Waste Disposal Sites - MOE 1991 Historical Approval Inventory	Y	0	1	5	6
WWIS	Water Well Information System	Y	0	0	121	121
		TOTAL	0	92	2,978	3,070

The databases chosen by the client as per the submitted order form are denoted in the 'Selected' column in the above table. Counts have been provided outside the primary buffer area for cursory examination only. These records have not been examined or verified, therefore, they are subject to change.



Pinpointing Your Environmental Risks

12 Concorde Pl, Suite 800 North York, ON M3C 4J2
416-510-5204

Project Property: University of Ottawa
180 Lees Ave
Ottawa, ON

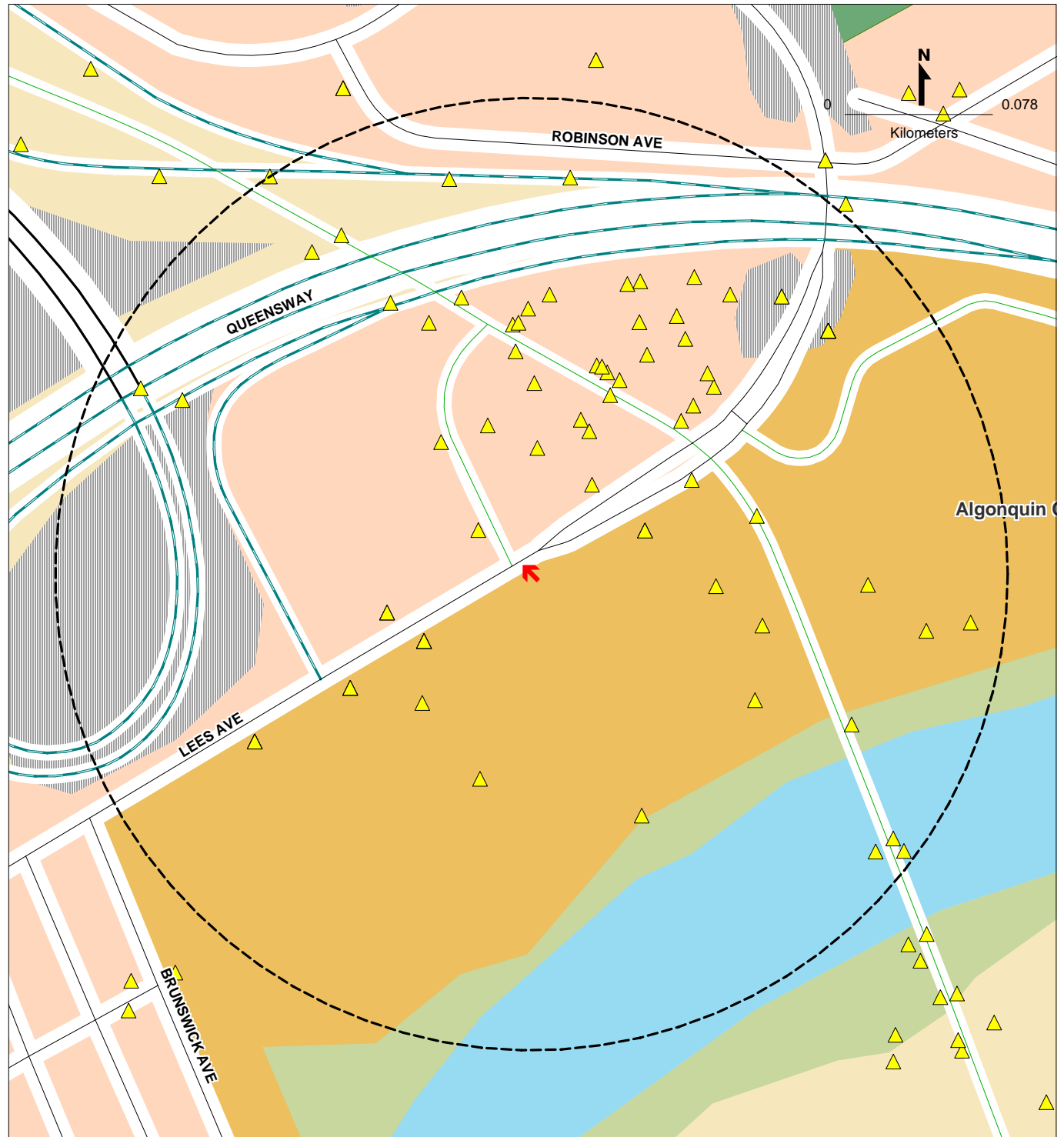
ERIS Project #: 20110720056

Date: JUL-21-2011

LEGEND

Project Property	Landuse Classifications
Database Location	Open Area
Points of Interest	Residential
Chimney	Commercial
Silo	Resource and Industrial
Pipe & Transmission Lines	Government and Institutional
Pipeline	Parks and Recreational
Transmission Line	Waterbody
Transmission Tower	Recreation
Transformer Station	Golf Course/Driving Range
Rail	Park/Sports Field
Railway - Main	Other Recreation Area
Railway - Sidetrack	Sports/Race Track
Railway - Abandoned	Cemetery
Bridge	Campground
Tunnel	Vegetation
Transportation - Other	Wooded Area
Embankment	Orchard
Trail	Vineyard
Runway	Industrial Resources
Hydrographic Features	Conveyor
Permanent Waterway	Crane: Moveable
Intermittent Waterway	Crane: Stationary
Open Reservoir	Tank
Dyke/Levee	Rock Cut
Dam	Auto Wrecker
Breakwall	Lumber Yard
Wetland	Pit

SITE DIAGRAM



*This diagram is to be used solely for relative street location purposes.
It may not accurately portray street or site positions.*

Site Report

Order Number: 20110720056

Site Name: University of Ottawa

Site Address: 180 Lees Ave Ottawa, ON

Report Type: Site Report, 0.25 km Search Radius

FOR COMPLETE INFORMATION, REFER TO DETAIL REPORT

A search has been conducted for this site (address) and company name. No records were found, within the database(s) selected, that meet either of these criteria.

Detail Report

Order Number: 20110720056

Site Name: University of Ottawa

Site Address: 180 Lees Ave Ottawa ON

Report Type: Site Report, 0.25 km Search Radius

If information is required for sites located beyond the selected address, please contact your ERIS representative.

A search has been conducted for this site (address) and company name. No records were found, within the database, that meet either of these criteria

Appendix: Ontario 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 descriptions for more information.

Provincial Government Source Databases:

Abandoned Aggregate Inventory Up to Sept 2002

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.

Aggregate Inventory Up to Jun 2010

AGR

The Ontario Ministry of Natural Resources maintains a database of all active pits and quarries. Please note that the database is only referenced by lot\concession and city/town location. The database provides information regarding the registered owner/operator, location, status, licence type, and maximum tonnage.

Abandoned Mines Information System 1800-2005

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.

Borehole 1875-Sept 2010

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.

Certificates of Approval 1985-Mar 2011

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.

TSSA Commercial Fuel Oil Tanks 1948-Aug 2010

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.

Coal Gasification Plants 1987, 1988*

COAL

This inventory of all known and historical coal gasification plants was collected by the Ministry of Environment. 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, landuse, soil condition, site operators/occupants, site description, and potential environmental impacts. This information is effective to 1988, but the program has since been discontinued.

Compliance and Convictions 1989-Jun 2011

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.

Drill Holes 1886-2005

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 MNDM. 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".

Environmental Registry 1994-Jun 2011

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, licence, or certificate of approval to release substances into the air or water; these are notified on the registry. Data includes things like; Approval for discharge into the natural environment other than water (i.e. Air), Permit to Take Water (PTTW), Certificate of Property Use (CPU), Approval for a waste disposal site, Order for preventative measures.(EPA s. 18), Order for conformity with Act for waste disposal sites.(EPA s. 44), Order for remedial work.(EPA s. 17) and many more.

TSSA Fuel Storage Tanks Current to Jun 2011

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.

Ontario Regulation 347 Waste Generators Summary 1986-Oct 2010

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.

Mineral Occurrences 1846-Nov 2010

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.

Non-Compliance Reports 1992(water only), 1994-2009

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.

Ontario Oil and Gas Wells 1800-Nov 2010

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.

Ontario Inventory of PCB Storage Sites 1987-Oct 2004

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.

Pesticide Register 1988-Mar 2011

PES

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

Private and Retail Fuel Storage Tanks 1989-1996*

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).

Ontario Regulation 347 Waste Receivers Summary 1986-2008

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.

Record of Site Condition 1997-Sept 2001, Oct 2004-Jun 2011

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. Information available includes Registration Number, Filing Owner, Property Address, Filing Date and Municipality.

Ontario Spills 1988-Nov 2010

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.

Wastewater Discharger Registration Database 1990-2009

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).

Waste Disposal Sites - MOE CA Inventory 1970-Mar 2011

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. For more current information for Waste Disposal Sites please see the EBR database, which will include information such as 'Approval for a waste disposal site (EPA s.27)' and 'Approval for use of a former waste disposal site (EPA s.46)'.

Waste Disposal Sites - MOE 1991 Historical Approval Inventory Up to Oct 1990*

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.

Water Well Information System 1955-Mar 2011

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.

Federal Government Source Databases:

Diagram Identifier:

Environmental Effects Monitoring 1992-2007*

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.

Environmental Issues Inventory System 1992-2001*

EIIS

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 EIIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

Federal Convictions 1988-Jun 2007

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.

Contaminated Sites on Federal Land June 2000-May 2011

FCS

The Treasury Board of Canada Secretariat maintains an inventory of all known contaminated sites held by various Federal departments and agencies. This inventory does not include properties owned by Crown corporations, but does contain non-federal sites for which the Government of Canada has accepted some or all financial responsibility. All sites have been classified through a system developed by the Canadian Council of Ministers of the Environment. The database provides information on company name, location, site ID #, property use, classification, current status, contaminant type and plan of action for site remediation.

Fisheries & Oceans Fuel Tanks 1964-Sept 2003

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.

Indian & Northern Affairs Fuel Tanks 1950-Aug 2003

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.

National Analysis of Trends in Emergencies System (NATES) 1974-1994*

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.

National Defence & Canadian Forces Fuel Tanks Up to May 2001*

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.

National Defence & Canadian Forces Spills Mar 1999-Aug 2010

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.

National Defence & Canadian Forces Waste Disposal Sites 2001-April 2007

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.

National Environmental Emergencies System (NEES) 1974-2003

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.

National PCB Inventory 1988-2008

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.

National Pollutant Release Inventory 1993-2009

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.

Parks Canada Fuel Storage Tanks 1920-Jan 2005

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.

Transport Canada Fuel Storage Tanks 1970-March 2007

TCFT

With the provinces of BC, MB, NB, NF, ON, PE, and QC; Transport Canada currently owns and operates 90 fuel storage tanks. This inventory will also include The Pickering Lands, which refers to the 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, falls under the Site Management Policy of Transport Canada, but administered by Public Works and Government Services Canada. Our inventory provides information on the site name, location, tank age, capacity and fuel type.

Private Source Databases:

Anderson's Waste Disposal Sites 1860s-Present

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.*

Automobile Wrecking & Supplies 2001-Jun 2010

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.

Chemical Register 1992, 1999-Jun 2010

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.).

ERIS Historical Searches 1999-Apr 2011

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.

Canadian Mine Locations 1998-2009

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.

Oil and Gas Wells Oct 2001-Mar 2011

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 Nickles' database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at www.nickles.com.

Canadian Pulp and Paper 1999, 2002, 2004, 2005, 2009

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.

Retail Fuel Storage Tanks 2000-Jun 2010

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. Information is provided on company name, location and type of business.

Scott's Manufacturing Directory 1992-Mar 2011

SCT

Scott's Directories is a data bank containing information on over 70,000 manufacturers in Ontario. Even though Scott's listings are voluntary, it is the most comprehensive database of Ontario manufacturers available. Information concerning a company's address, plant size, and main products are included in this database. This database begins with 1992 information and is updated annually.

Anderson's Storage Tanks 1915-1953*

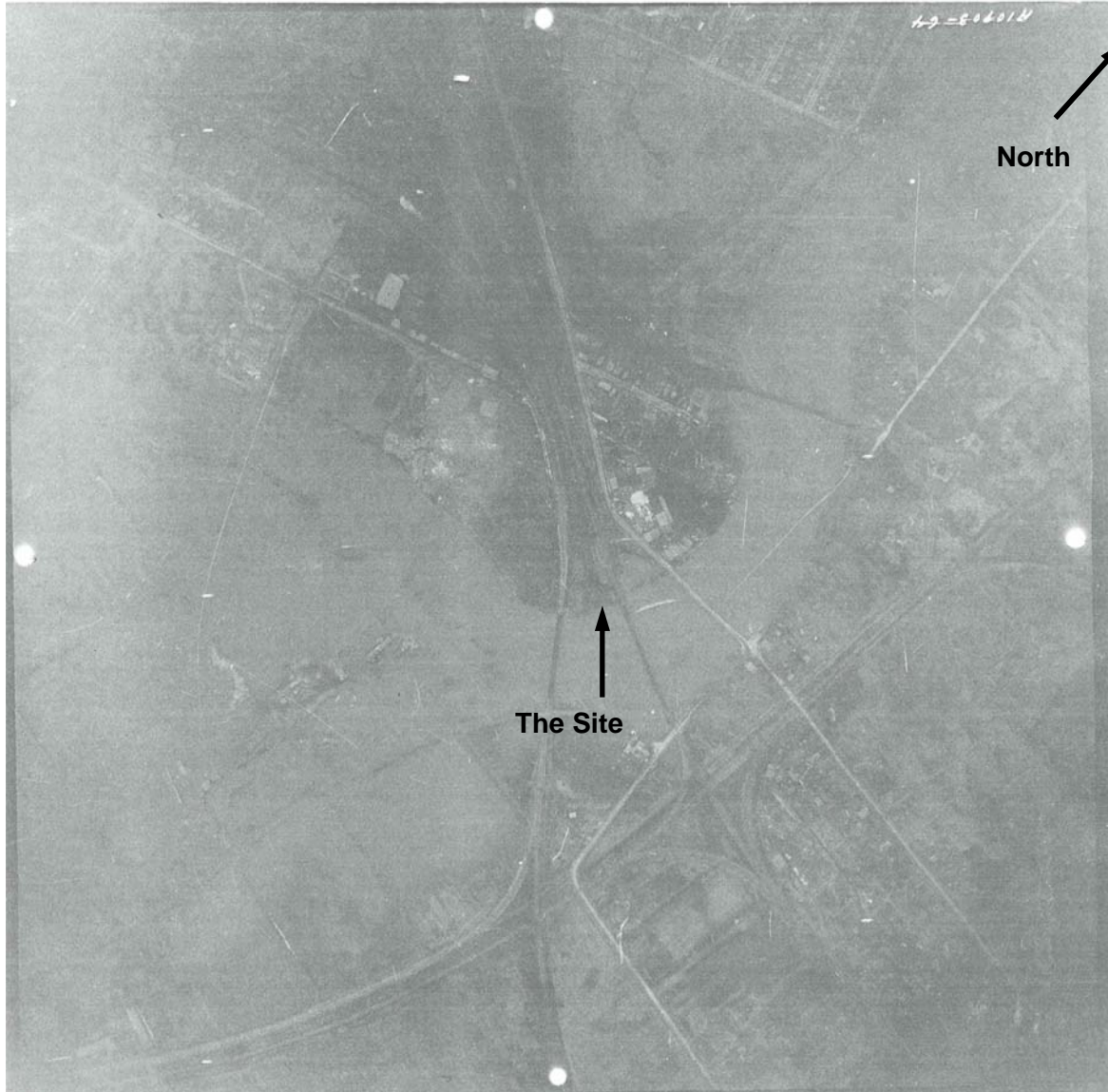
TANK

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.*

APPENDIX E
Historical Aerial Photographs



Aerial Photograph Date: 1933
Photo Number: A4570-27
Scale: Unknown



Aerial Photograph Date: 1947
Photo Number: A10903-44
Scale: 1: 6,000



Aerial Photograph Date: 1955
Photo Number: A14755-31
Scale: 1: 30,000



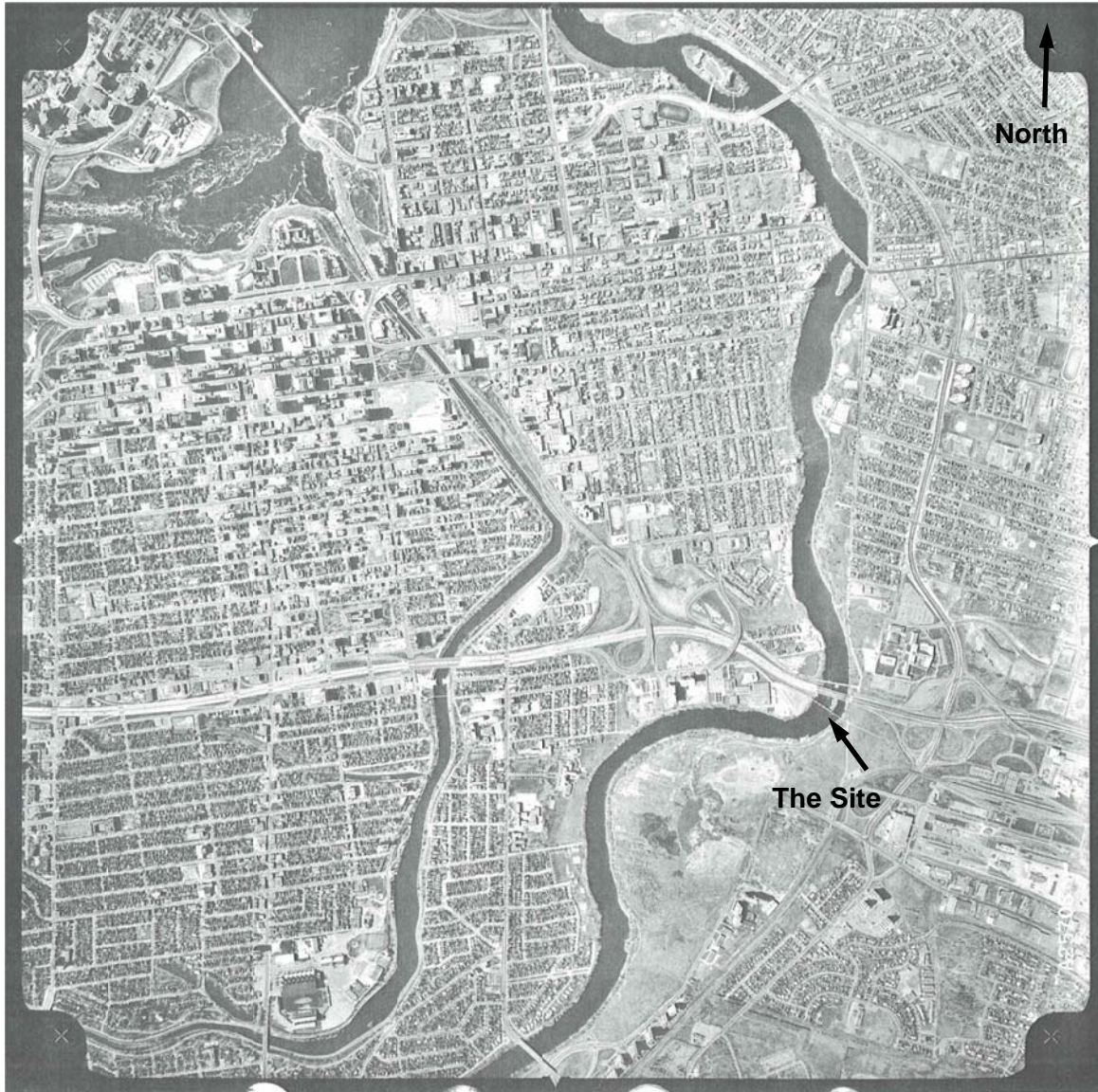
Aerial Photograph Date: 1966
Photo Number: A19810-39
Scale: 1: 24,000



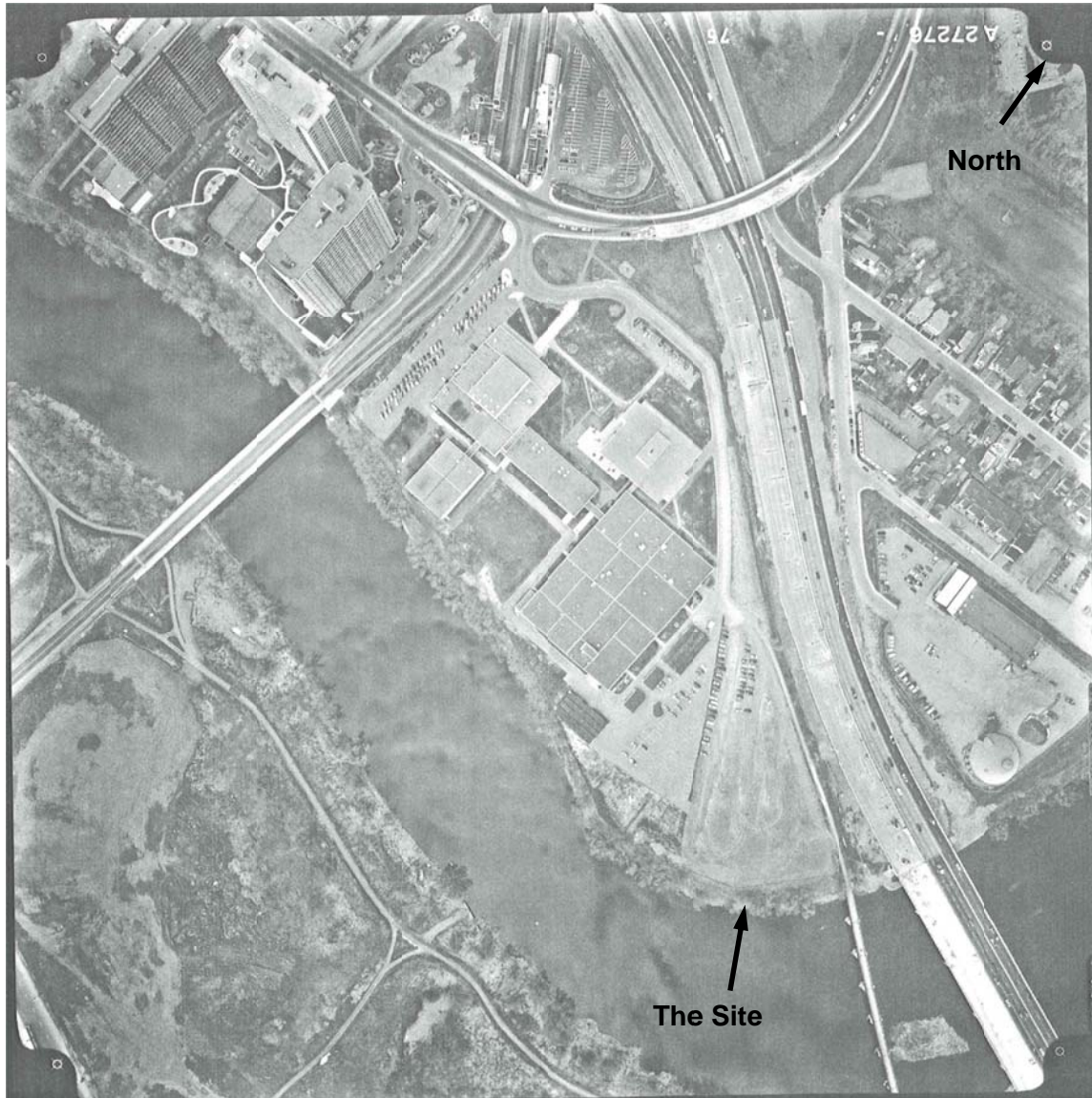
Aerial Photograph Date: 1969
Photo Number: A21356-38
Scale: 1: 25,000



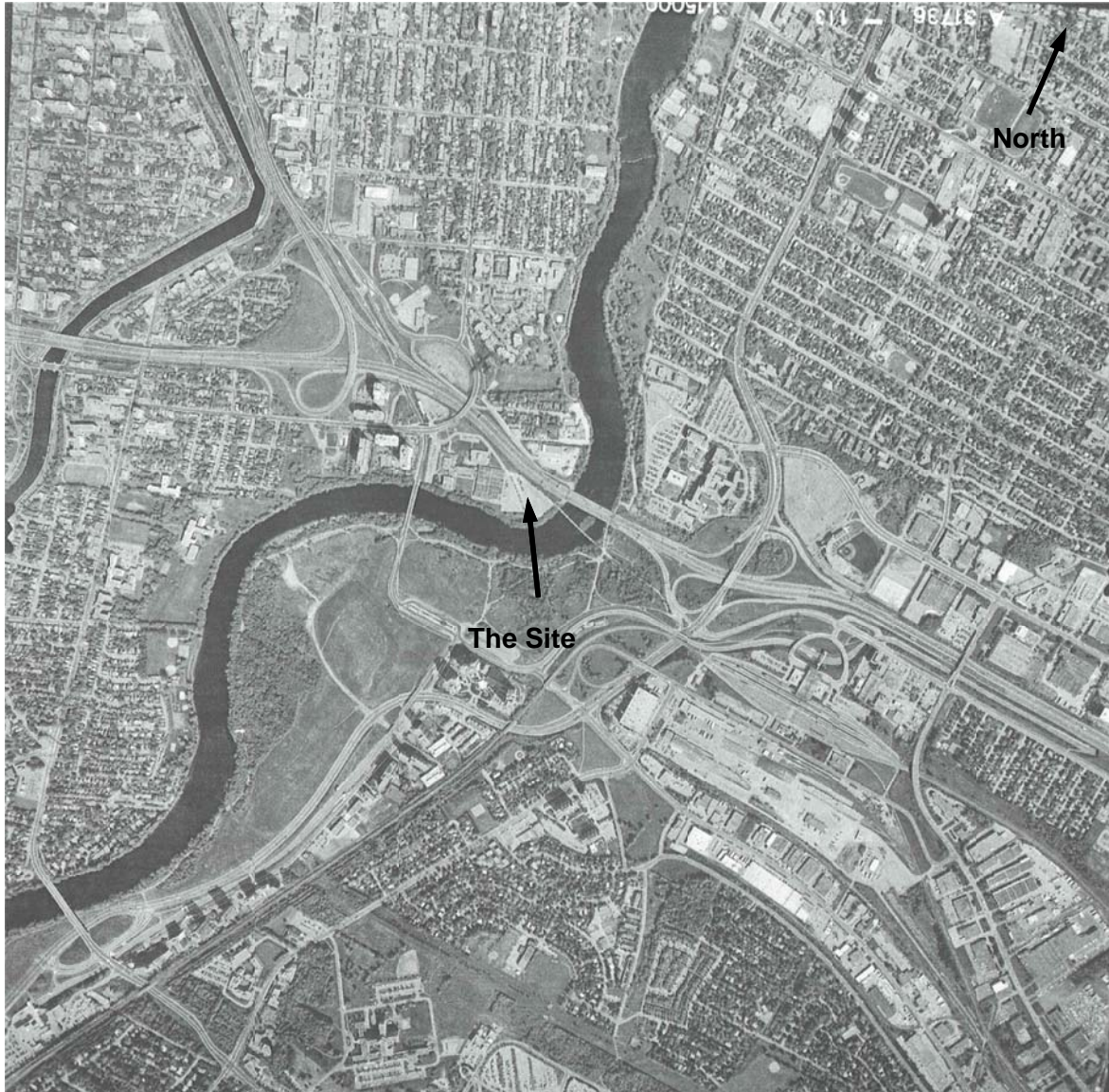
Aerial Photograph Date: 1971
Photo Number: A22574-8
Scale: 1: 6,000



Aerial Photograph Date: 1981
Photo Number: A25708-26
Scale: 1: 20,000





Aerial Photograph Date: 1988
Photo Number: A27276-24
Scale: 1: 3,000




Aerial Photograph Date: 1996
Photo Number: A31769-113
Scale: 1: 5,000


APPENDIX F
Site Visit Photographs

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 1		
Date 11/07/2011		
Direction W		
Description View of east side of Building A. Note exhaust stack and antenna towers in front of building.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 2		
Date 11/07/2011		
Direction NW		
Description View of Building A looking at the SE corner. Note the loading dock at left of photo.		


PHOTOGRAPHIC LOG


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 3		
Date 11/07/2011		
Direction N		
Description View of Building A towards the NE corner and west side of parking lot.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 4		
Date 29/6/2011		
Direction SE		
Description View SE of parking lot and looking towards fenced storage and garbage/compost area.		

PHOTOGRAPHIC LOG


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 5		
Date 29/6/2011		
Direction S		
Description View towards the south of parking lot. Fence storage on left and Building A on right.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 6		
Date 29/06/2011		
Direction SE		
Description View of exposed piles of landscaping materials. Note fenced area in background.		

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 7		
Date 29/06/2011		
Direction S		
Description Fenced outdoor storage area. Consists of picnic tables and wooden pallets. Located at the SE corner of the parking lot.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 8		
Date 29/06/2011		
Direction SSE		
Description View of composter shed at the southeast corner of the parking lot.		


PHOTOGRAPHIC LOG

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 9		
Date 29/6/2011		
Direction E		
Description Garbage area for wastes at the southeast corner of the parking lot.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 10		
Date 29/06/2011		
Direction E		
Description Garbage area for metal materials at the southeast corner of the parking lot.		


PHOTOGRAPHIC LOG


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 11		
Date 29/6/2011		
Direction SE		
Description Rm.131 Lecture hall that has been renovated and is used as a learning space by the U of O.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 12		
Date 29/6/2011		
Direction NW		
Description Rm. 130. Lecture Hall that has not been renovated and remains in a state of disrepair.		

PHOTOGRAPHIC LOG


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 13		
Date 29/6/2011		
Direction N/A		
Description View of the crawl space of Building A. This area was accessed in the stairwell down to the boiler room. Note the numerous piping infrastructure.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 14		
Date 29/06/2011		
Direction E		
Description Side by side hot water boilers in basement of Building A. Looking towards the east.		

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 15		
Date 29/06/2011		
Direction SE		
Description Side by side hot water boilers in basement of Building A. Looking towards the SE corner of the building.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 16		
Date 29/06/2011		
Direction NW		
Description Compressors in the NW corner of the boiler room. Note the pails of oils/lubricants to the left of the orange compressor.		


PHOTOGRAPHIC LOG

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 17		
Date 29/06/2011		
Direction N/A		
Description Oil/lubricants on the floor beside the compressors. Pails labelled as Shell Corena P68 High Performance compressor oil. Note the open pail.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 18		
Date 29/06/2011		
Direction NE		
Description AST along the north wall of the boiler room. This AST feeds the back-up generator. Note the secondary containment under AST.		


PHOTOGRAPHIC LOG

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 19		
Date 29/06/2011		
Direction N/A		
Description Two pails of Shell Corena P68 High Performance compressor oil beside AST.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 20		
Date 29/06/2011		
Direction W		
Description Transformer in a small room housing electrical panels. Unknown if contains PCBs.		


PHOTOGRAPHIC LOG


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 21		
Date 29/06/2011		
Direction E		
Description Back-up diesel generator located in the NE corner of the boiler room. It appears to have not been in use for some time. Note the sump hole to the right on floor.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 22		
Date 29/6/2011		
Direction N/A		
Description Sump hole adjacent to generator. Grate was not able to be removed. Approx. 2 ft x 2 ft in size.		


PHOTOGRAPHIC LOG


<p>Phase I Environmental Site Assessment Rideau Campus, University of Ottawa</p>		<p>1329-1101</p>
<p>Photo ID 23</p>		
<p>Date 29/06/2011</p>		
<p>Direction SE</p>		
<p>Description Spare engine parts and equipment in the boiler room. Adjacent to the generator.</p>		


<p>Phase I Environmental Site Assessment Rideau Campus, University of Ottawa</p>		<p>1329-1101</p>
<p>Photo ID 24</p>		
<p>Date 29/06/2011</p>		
<p>Direction W</p>		
<p>Description Transformer in a small room housing electrical panels along the north wall. Unknown if contains PCBs. AST is directly behind wall.</p>		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 25		
Date 29/6/2011		
Direction W		
Description Hot water tanks along west wall of boiler room. Four tanks in total.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 26		
Date 29/06/2011		
Direction N/A		
Description Fluorescent light ballasts and piping (utilities) entering Building A on the eastern exterior wall of the boiler room.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 27		
Date 29/6/2011		
Direction N/A		
Description Example of piping clearly labelled in boiler room. Suspected that the light oil lines connect to UST on the exterior of Building A.		

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 28		
Date 29/6/2011		
Direction W		
Description Emergency generator at NE exterior corner of Building A. Generator is housed on a cement pad and internal fuel source of approx. 360 litres.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 29		
Date 29/6/2011		
Direction W		
Description Municipality of Ottawa water and hydro metres. Directly behind is a stairwell to the basement boiler room and unknown room (could not open door at time of site recon.).		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 30		
Date 29/6/2011		
Direction N/A		
Description Stairwell to basement. Dark blue door on right leads to boiler room. Light blue door on left could not be opened.		

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 31		
Date 29/6/2011		
Direction SE		
Description Large exhaust stack for boiler room. Behind note the two large white antennas where purpose of them is unknown.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 32		
Date 29/6/2011		
Direction N/A		
Description Exhaust pipes leading from door could not open in stairwell at NE corner of Building A.		


PHOTOGRAPHIC LOG

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 33		
Date 29/6/2011		
Direction NW		
Description Fill and vent pipes. Confirmed UST location. Boiler room exhaust in background. Loading dock to right of Building A entrance.		

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 34		
Date 29/6/2011		
Direction SE		
Description Large white antennas. Purpose is unknown. There is a cement anchor in grass directly between the two antennas (near stairs at bottom of photo).		

PHOTOGRAPHIC LOG

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 35		
Date 29/6/2011		
Direction SW		
Description Rm. A102. Used as storage. Liquid salt solution in contains along back wall.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 36		
Date 29/6/2011		
Direction N/A		
Description Container with the liquid salt solution for winter road maintenance.		


PHOTOGRAPHIC LOG

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 37		
Date 29/6/2011		
Direction W		
Description Rm. A102 – Pallets of fertilizer. One pallet along left hand wall and second along back wall on right.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 38		
Date 29/6/2011		
Direction N/A		
Description Rm. A111 – Engineering department storage.		


PHOTOGRAPHIC LOG

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 39		
Date 29/6/2011		
Direction N/A		
Description Rm. A111 – Floor stain. Unknown substance, but has been smeared. Dry during site recon. No odours noted.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 40		
Date 29/6/2011		
Direction N/A		
Description Rm. A110 – An old laboratory. Closed and sealed paint cans. No odours or spills noted.		


PHOTOGRAPHIC LOG

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 41		
Date 29/6/2011		
Direction SW		
Description Rm. A104. "Organic Chemistry" lab room. Original to Algonquin college days. Room had a strong chemical odour, all chemicals had been removed.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 42		
Date 29/6/2011		
Direction N/A		
Description Floor drains present in all old laboratory room. Suspected connected to municipal storm/sewer system but not confirmed.		


PHOTOGRAPHIC LOG

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 43		
Date 29/6/2011		
Direction SE		
Description Rm. A113. Old laboratory. Now used as recycling storage. Full of styrofoam during site reconnaissance.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 44		
Date 29/6/2011		
Direction N/A		
Description Water stains on ceiling of Rm. A113.		


PHOTOGRAPHIC LOG

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 45		
Date 29/6/2011		
Direction S		
Description Rm. A124. Used for furniture recycling and storage.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 46		
Date 29/6/2011		
Direction N		
Description Rm. A112. Old office space now used as storage. Full of miscellaneous items.		


PHOTOGRAPHIC LOG

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 47		
Date 29/6/2011		
Direction SSW		
Description Current view of typical corridor in Building A.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 48		
Date 29/6/2011		
Direction SSE		
Description Control room beside stairwell to basement. Rm. # unknown. Houses computer system and electrical panels. Rarely used.		


PHOTOGRAPHIC LOG

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 49		
Date 11/07/2011		
Direction SE		
Description View towards the Rideau River looking SE. Note the U of O property fence in bottom right corner. Heavily vegetated and steep bank from fence to river.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 50		
Date 11/07/2011		
Direction S		
Description View toward the Rideau River looking south from fence line. Steep bank down to river evident.		


PHOTOGRAPHIC LOG

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 51		
Date 11/07/2011		
Direction SSE		
Description Power supply master switch near SW corner of parking lot. The property line fence is visible in background.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 52		
Date 11/07/2011		
Direction W		
Description View of phase one property shoreline from the south side of Rideau River.		


PHOTOGRAPHIC LOG


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 53		
Date 11/07/2011		
Direction SE		
Description View of National Capital Commission pathway on the south side of Rideau River. Area heavily vegetated. Rideau River on right of pathway.		


Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 54		
Date 11/07/2011		
Direction W		
Description View of highway 417 towards the west. U of O property fence line in forefront.		

PHOTOGRAPHIC LOG

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 55		
Date 11/07/2011		
Direction S		
Description View of the south side bank of the Rideau River.		

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 56		
Date 11/07/2011		
Direction N		
Description View north towards highway 417 and City of Ottawa municipal yard (large cone in background).		

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 57		
Date 11/07/2011		
Direction SSW		
Description View of transitway looking south towards the Rideau River. Residential properties in the background to the right.		

Phase I Environmental Site Assessment Rideau Campus, University of Ottawa		1329-1101
Photo ID 58		
Date 11/07/2011		
Direction SW		
Description 200 Lees Ave. Building C and parking lot for Building C. Residential properties in the background, west of transitway.		

APPENDIX G

Natural Resources and Heritage Search



Ministry of Natural Resources

Kemptville District
P.O. Box 2002
10 Campus Drive
Kemptville, ON K0G 1J0

Tel.: (613) 258-8470
Fax.: (613) 258-3920

Ministère des Richesses naturelles

District de Kemptville
CP 2002
10 Campus Drive
Kemptville, ON K0G 1J0

Tél.: (613) 258-8470
Télééc.: (613) 258-3920

August 2, 2011

Catherine LeBlanc
Franz Environmental
329 Churchill Ave. North, Suite 200
Ottawa, Ontario K1Z 5B8
613-721-0555
cleblanc@franzenvironmental.com

Attention: Ms. LeBlanc

Subject: Information Request – Phase I Environmental Site Assessment, Lot G, Concession D, Geographic Township of Nepean
Our File No. 2011_NEP_1435

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 in the area.

Following a review of natural heritage values and data, there are no Provincially Significant Wetlands (PSWs) or Areas of Natural and Scientific Interest (ANSI) within the area; however there is a small amount of woodland area within the property. Woodlands provide habitat for a diversity of species, including species at risk. The property is located on the Rideau River and fronts onto documented fish nursery habitat for several species.

If any in-water works are to occur in relation to the project, there is a timing restriction period for which work in water can take place. In addition, where at all possible, the bed of waterbodies should not be disturbed so as not to alter the existing rock material. Proper sediment and erosion controls are required to be employed during this project.

If there is to be work in water and/or disturbance of the river bed, additional and more detailed plans are requested by the MNR for review. A work permit from the Ministry of Natural Resources may be required pending further details regarding the proposed works. Furthermore, the local Conservation Authority should be contacted regarding possible permitting required for these particular works at the site in question.

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 indicate that there is a

potential for butternut (Endangered Species-END) on-site where trees are present and Bobolink (threatened-THR) in proximity to the area. Aerial photographs suggest the presence of potential habitat for Chimney Swift (THR) and eastern musk turtle (THR) on the site or in proximity to it. Care should be taken during the proposed work to ensure mitigation measures are in place so that no impact on these species occurs. Given the proximity and scale of the proposed work, these species may be directly affected, therefore due diligence should be taken during the work to ensure no impact on these species occurs. If the proposed activity is known to have an impact on the species mentioned above or any other SAR, an ESA permit is required. Species listed as Special Concern on the SARO list are not protected under the Endangered Species Act, 2007. However, please note that some of these species may be protected under the Fish and Wildlife Conservation Act. Suggested search and mitigation measures for the aforementioned species are listed below:

Turtles: A thorough sweep of the aquatic area should take place before any in water work occurs. A sweep of the area will encourage any turtles possibly utilizing the site to move away before any equipment or work which could impact the species occurs. Furthermore, extra care and precaution should be taken during the snapping turtle species nesting season in June and early July. Turtles may utilize the embankment to come up and nest during this time. If the proposed work will occur during this timeline, Ministry of Natural Resources (MNR) recommends fencing off the site in early spring to prevent the turtles from nesting there and to visually inspect the embankment and surrounding area to ensure that no turtles are present before proceeding with any work. In addition, caution should be taken from October 16th to March 15th as turtles could be hibernating. Turtles could use the area to burrow in for the winter. If the proposed work will occur during this timeline, Ministry of Natural Resources (MNR) recommends fencing off the site in early fall to prevent the turtles from hibernating there.

Snakes: A thorough search of the area should take place before terrestrial activity and work is being conducted. Temperature and weather conditions will drive their behaviour and they are much more visible on warm summer days when basking or moving more frequently. Extra precaution should be taken in spring emergence conditions when snakes are in concentrated areas. Vegetation at this time is undeveloped increasing visibility, and outside of spring they are more active. Snakes may use open areas to bask, but avoid these areas when it is too hot. Searches could include trees, logs, ground, stumps, rock outcrops and ledges. Skin sheds can be a good indication of presence. Oviposition sites of egg laying snakes may be identified by young snakes in the fall and are usually in old trees, stumps, logs, manure piles or other decaying materials. If hibernacula and oviposition sites are suspected or known they must not be destroyed if encountered and MNR recommends fencing off the areas before proceeding with any work.

Butternut: If any of the proposed work will require harming or killing of Butternut trees, a Butternut Health Assessor will have to be contacted to assess the health of the tree before proceeding with potential permit application (prior to proposed activity). If a Butternut tree will be impacted during the work proposed, please contact your local MNR office to enquire further about the process dealing with Butternut trees.

Fish: Proper mitigation and care should be taken to mitigate impact on water quality and fish habitat, 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 including selecting locations with sand, silt or clay substrates and where aquatic vegetation is scarce or absent.

A rigorous check/survey should be completed each day prior to activities commencing to ensure all species are outside the project area to avoid harming the species. 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.

Bobolink receives general habitat protection and thus any potential works should consider disturbance of possible important habitat. None of the other species listed above currently receive habitat protection, however the listed Endangered and Threatened species all receive species protection under Section 9 of the Endangered Species Act, 2007 (ESA).

Although no other threatened or endangered species or their habitat have been documented in the area, these features may be present and this list should not be considered complete.

There are several species listed by SARO as Special Concern that may be encountered within the project area. Habitat has been identified within the project area that appears suitable for one or more of these species, or one or more of these species has been documented to occur either on-site or nearby. Species listed as Special Concern on the SARO list are not protected under the Endangered Species Act, 2007. However, please note that some of these species may be protected under the Fish and Wildlife Conservation Act. Please consider the following Special Concern species prior to any activities being carried out:

- Snapping turtle
- Milksnake

Endangered Species Act, 2007, and Species at Risk in Ontario Background

The ESA 2007 (http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statues-07e06_e.htm) 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) (www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/246809.html). 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.

Please note: The advice in this letter is valid until **August 2, 2012** and may become invalid if:

1. 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.
2. Additional occurrences of species are discovered.
3. Habitat protection comes into force for one of the above-mentioned species through the creation of a habitat regulation.

This letter has been prepared to provide preliminary information to support compliance with the ESA 2007 and does not address other requirements under other federal or provincial laws and regulations.

Although this 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.

Sincerely,



Laura Melvin
Resource Management Planner
laura.melvin@ontario.ca