

Corporation of the City of Cornwall

Redevelopment & Design of the Municipal Works Yard

Prepared by:

AECOM

302 – 1150 Morrison Drive

Ottawa, ON, Canada K2H 8S9

www.aecom.com

613 820 8282 tel

613 820 8338 fax

Project Number:

60337734

Date:

August 2016

Statement of Qualifications and Limitations

The attached Report (the "Report") has been prepared by AECOM Canada Ltd. ("Consultant") for the benefit of the client ("Client") in accordance with the agreement between Consultant and Client, including the scope of work detailed therein (the "Agreement").

The information, data, recommendations and conclusions contained in the Report (collectively, the "Information"):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the "Limitations");
- represents Consultant's professional judgement in light of the Limitations and industry standards for the preparation of similar reports;
- may be based on information provided to Consultant which has not been independently verified;
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- was prepared for the specific purposes described in the Report and the Agreement; and
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time.

Consultant shall be entitled to rely upon the accuracy and completeness of information that was provided to it and has no obligation to update such information. Consultant accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

Consultant agrees that the Report represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Report and the Agreement, but Consultant makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information or any part thereof.

Without in any way limiting the generality of the foregoing, any estimates or opinions regarding probable construction costs or construction schedule provided by Consultant represent Consultant's professional judgement in light of its experience and the knowledge and information available to it at the time of preparation. Since Consultant has no control over market or economic conditions, prices for construction labour, equipment or materials or bidding procedures, Consultant, its directors, officers and employees are not able to, nor do they, make any representations, warranties or guarantees whatsoever, whether express or implied, with respect to such estimates or opinions, or their variance from actual construction costs or schedules, and accept no responsibility for any loss or damage arising therefrom or in any way related thereto. Persons relying on such estimates or opinions do so at their own risk.

Except (1) as agreed to in writing by Consultant and Client; (2) as required by-law; or (3) to the extent used by governmental reviewing agencies for the purpose of obtaining permits or approvals, the Report and the Information may be used and relied upon only by Client.

Consultant accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on the Report or any of the Information ("improper use of the Report"), except to the extent those parties have obtained the prior written consent of Consultant to use and rely upon the Report and the Information. Any injury, loss or damages arising from improper use of the Report shall be borne by the party making such use.

This Statement of Qualifications and Limitations is attached to and forms part of the Report and any use of the Report is subject to the terms hereof.

August 31, 2016

Mr. Steve Wintle, C.E.T.
City Project Manager
City of Cornwall
1225 Ontario Street
Cornwall, Ontario
K6H 5T9

Dear Mr. Wintle:

Project No: 60337734

Regarding: Redevelopment & Design of the Municipal Works Yard

AECOM is pleased to submit the final report for the Redevelopment & Design of the Municipal Works Yard. The final report has been prepared incorporating City's comments. This report provides a high level review of existing buildings and the recommended plan for renewal of the Municipal Works Yard.

We have enjoyed working on this project for the City and look forward to further assisting the City with this project and their engineering needs. Should you have any questions or concerns please let me know.

Sincerely,
AECOM Canada Ltd.



Vanessa Skelton, P. Eng.
Senior Transportation Engineer
Vanessa.skelton@aecom.com

Distribution List

# of Hard Copies	PDF Required	Association / Company Name
6	1	City of Cornwall

Revision Log

Revision #	Revised By	Date	Issue / Revision Description
1	VS	August 2016	Based on Client comments

AECOM Signatures

Report Prepared By:

Michael Tracey
Planner

Arthur Diamond
Architect

Sarah McDonald, P.Eng.
Engineer

Shawn Zahrawi, P.Eng.
Engineer

Report Reviewed By:

Vanessa Skelton, P. Eng.
Senior Transportation Engineer



Table of Contents

Statement of Qualifications and Limitations

Letter of Transmittal

Distribution List

	page
1. Introduction	1
1.1 Study Purpose	1
1.2 Study Area	1
2. Project Need and Opportunities	3
2.1 Building Condition Assessment	3
2.1.1 Visual Assessment	3
2.1.2 Life Cycle Assessment	4
2.1.3 Overall Assessment.....	5
2.1.4 Replacement Strategy	6
2.2 Salt Storage	7
2.2.1 Operational Overview	7
2.2.2 Regulatory Requirements and Best Practices.....	8
2.2.3 Covered Storage Size	8
3. Existing Conditions	9
3.1 Environmental Site Assessment.....	9
3.2 Geotechnical and Hydrogeological.....	11
3.2.1 Background Studies.....	11
3.2.2 Geotechnical Conditions.....	12
3.3 Drainage and Stormwater Management.....	12
4. Alternative Solutions	13
4.1 Assessment & Evaluation of the Alternatives	13
5. Alternative Designs	15
5.1 Description of Alternatives	16
5.1.1 Municipal Works Yard - Design Option 1.....	16
5.1.2 Municipal Works Yard - Design Option 2.....	18
5.1.3 Municipal Works Yard - Design Option 3.....	19
5.2 Selection of Preferred Option	20
5.3 Staging.....	25
5.4 Cost Estimates.....	26
6. Conclusion	27

List of Figures

Figure 1. Municipal Work Yard Facility Location and Usage.....	2
Figure 2. Municipal Works Yard Design Option 1	17

Figure 3.	Municipal Works Yard Design Option 2	18
Figure 4.	Municipal Works Yard Design Option 3	19
Figure 5.	Preferred Municipal Works Yard Design	21
Figure 6.	Preferred Municipal Works Yard Staging Plan.....	22
Figure 7.	Municipal Works Yard Aerial View from Southwest.....	23
Figure 8.	Municipal Works Yard Aerial View from Northeast	24

List of Tables

Table 1.	Municipal Work Yard Buildings	1
Table 2.	Building Grading Scheme and Scoring Ranges.....	3
Table 3.	Building Assessment Point Ranges	4
Table 4.	Building Life Cycle Assessment	4
Table 5.	Building Condition Assessment Results	5
Table 6.	Building Replacement Timeline.....	6
Table 7.	Winter Operations Guidelines	7
Table 8.	Areas with Moderate to High Environmental Concern.....	9
Table 9.	Evaluation of Alternatives.....	14
Table 10.	Staging of Municipal Works Yard Construction.....	25
Table 11.	Total Cost Estimate for Municipal Works Yard	26

Appendices

Appendix A.	Photo inventory and deficiency list
Appendix B.	Visual Building Condition Assessment
Appendix C.	Phase I Environmental Site Assessment Report

1. Introduction

1.1 Study Purpose

The City of Cornwall undertook a study regarding proposed improvements to the municipal works yard on Ontario Street. The study provided a high level visual review of existing buildings and assessed the need for upgrades or replacements of the structures. A development plan for renewal of the municipal works yard was prepared as part of the study.

1.2 Study Area

The municipal works yard is located east of St. Michel Avenue and south of Optimist Park. There are 19 buildings within the facility, including several building that are interconnected. On the site there are:

- Administration Buildings
- Storage Facilities
- Shops, and;
- Maintenance Buildings

As well as

- Parking Lots/Open Space

The existing buildings were constructed between the years of 1954 and 1987 and range in size from 74 to 1,378 square metres. Buildings housing regular full-time staff typically include washrooms, lockers, and lunch rooms. The layout of the buildings within the municipal works yard is shown in **Figure 1**. A summary of information for the existing buildings is provided in **Table 1**. The building structures are typically comprised of wood, steel, or block/brick. The majority of buildings are single story with the exception of Building No.1 (Administration Building) which has two floors and Building No. 5 (Municipal Works Yard Garage), which has a second level in a portion of the building.

Table 1. Municipal Work Yard Buildings

Building #	Name	Size (m2)	Date Constructed	# Employees
1	Administration	902	1964	30
2	Public Property Section	310	1967-1986	10
3	Roads Section	581	1958	22
4	Tire Shed	74	1977	0
5	Municipal Works Yard Garage	1,378	1969	7
6	Equipment Storage	365	1977	0
7	Salt Storage Ovals (2)	446	1975	0
8	Water and Sewer Section	320	1960	30
9	Traffic Shop	202	1954	0
10	Stores Building	578	1981	0
11	Optimist Park Building	648	1977	9



300m NORTH IN OPTIMIST PARK

LEGEND

- ① Administration
- ②a Public Property Vehicles
- ②b Public Property Storage
- ②c Carpenter Shop
- ②d Paint Room
- ②e Shed
- ③a Road Section
- ③b Road Section Vehicles
- ④ Tire Shed
- ⑤a MW Garage - Welding
- ⑤b MW Garage
- ⑤c MW Garage - Office
- ⑥ Equipment Storage
- ⑦a Salt Storage Shed
- ⑦b Salt Storage Shed
- ⑧ Water and Sewer Section
- ⑨ Traffic Shop
- ⑩ Stores Building
- ⑪ Optimist Park Building
- ⑫ 0.425 Hectare Vacant Lot
- ⑬ Under Ground Fuel Storage Tanks
- ⑭ Water Dispensing Station
- ⑮ Construction Materials
- ⑯ Excavated Material - Temporary Storage
- ⑰ Standby Generator
- ⑱ Standby Generator
- ⑲ Transformer

Figure 1. Municipal Works Yard Facility location and Usage

2. Project Need and Opportunities

2.1 Building Condition Assessment

Each building in the municipal works yard was evaluated based on a visual assessment and as a function of its expected life cycle. A replacement strategy was prepared for the buildings.

2.1.1 Visual Assessment

A site visit of the municipal works yard was completed with City of Cornwall staff on February 11, 2015. A general review of each of the buildings was completed to examine structural and functional deficiencies. A detailed photo inventory and list of findings is provided in **Appendix A**. Generally, the deficiencies consisted of:

- Substandard roof ventilation
- Wall cracks
- Substandard floor slab in the loft area
- Bearing wall damage
- Severe rust
- Roof valley damage
- Roof Leakage

Following the site visit, a high-level site assessment was completed for each of the 19 structures. Each building was assessed independently by the attributes listed in **Table 2**. The weighting for each attribute varied depending on the building type and usage. Although the attributes are weighted differently for each building, the total score for each building equals 100% in all instances.

Table 2. Building Grading Scheme and Scoring Ranges

Building Attributes	Weight Range
Finishes and Envelopes	37% - 53%
Structure	25% - 55%
Electrical	5% - 15%
Plumbing	0% - 5%
HVAC	0% - 6%
Safety	1% - 4%
Total	100%

The condition for each attribute of every building was assessed and given a score out of 100. The score for each attribute was multiplied by the corresponding weight. For example, finishes and envelopes at the Administration building (building #1) is weighted at 48% and received a score of 60 points during the evaluation. Therefore, the score of finishes and envelopes at the Administration building is 28.8%. $(60 \times 48\%) = 28.8$. The sum of the scores for each of the attributes was the total score for the building.

The buildings were then assigned a rating based on the visual assessment score. The point ranges used to assign a rating are shown in **Table 3** together with the number of buildings that were assigned to each category. The detailed results of the visual assessment are found in **Appendix B**.

Table 3. Building Assessment Point Ranges

Point Ranges	Rating	# Buildings
0-10	Inadequate	2
10-25	Poor Quality	2
25-50	Needs Improvement	13
50-75	Satisfactory	2
75-100	High Quality	0

Based on the visual assessment, the two salt storage sheds are rated as *inadequate*. The public property storage building and equipment storage buildings are rated as *poor quality*. The administration building and municipal works garage buildings were both *satisfactory*. The remaining buildings all were rated as *needs improvement*. There were no buildings rated as *high quality*.

2.1.2 Life Cycle Assessment

The expected remaining service life of each building was calculated based on an assumed service life of 55 years. Using the construction date of each building (see **Table 1**), the remaining years of service were calculated. Each building was ranked based on the number of remaining services years. Buildings with:

- Fewer than 10 service years remaining were ranked a 5
- 10 to 19 service years remaining were ranked a 4
- 20 to 29 service years remaining were ranked a 3
- 30 to 39 service years remaining were ranked a 2
- 40 to 55 service years remaining were ranked a 1

The ranking of each building in the municipal works yard is indicated in **Table 4**. The Administrative Building was constructed in 1964 and the remaining service life should be only 4 years using the construction date as a reference point. However, there have been several upgrades to the roof, windows, flooring, and HVAC and electrical systems over the years. Considering these upgrades and based on the field assessment, the remaining service life was extended to 15 years.

Table 4. Building Life Cycle Assessment

Building No.	Name	Service Years Remaining	Ranking
1	Administration	15	4
2A	Public Property Vehicles	26	3
2B	Public Property Storage	15	4
2C	Carpenter Shop	7	5

Building No.	Name	Service Years Remaining	Ranking
2D	Paint Room	22	3
2E	Shed	22	3
3A	Roads Section	0	5
3B	Roads Section Vehicles	0	5
4	Tire Shed	17	4
5A	MW Garage – Welding	9	5
5B	MW Garage	9	5
5C	MW Garage – Office	9	5
6	Equipment Storage	17	4
7	Salt Storage Sheds (2)	15	4
8	Water and Sewer Section	0	5
9	Traffic Shop	0	5
10	Stores Building	21	3
11	Optimist Park Building	17	4

2.1.3 Overall Assessment

The overall building assessment was based on both the physical condition of the buildings and their expected life span. It was determined by taking the visual assessment results and dividing by the life cycle ranking. The results of the assessment are shown in the following table.

Table 5. Building Condition Assessment Results

Building No.	Name	Life Cycle Ranking	Visual Assessment Score	Overall Results
1	Administration	4	69%	17.3%
2A	Public Property Vehicles	3	49%	16.3%
2B	Public Property Storage	4	25%	6.1%
2C	Carpenter Shop	5	27%	5.4%
2D	Paint Room	3	32%	10.7%
2E	Shed	3	29%	9.7%
3A	Roads Section	5	42%	8.3%
3B	Roads Section Vehicles	5	32%	6.4%
4	Tire Shed	4	49%	12.3%
5A	MW Garage – Welding	5	52%	10.3%
5B	MW Garage	5	45%	8.9%

Building No.	Name	Life Cycle Ranking	Visual Assessment Score	Overall Results
5C	MW Garage – Office	5	32%	6.4%
6	Equipment Storage	4	15%	3.9%
7	Salt Storage Ovals (2)	4	10%	2.4%
8	Water and Sewer Section	5	10%	2.4%
9	Traffic Shop	5	42%	9.6%
10	Stores Building	3	32%	11.1%
11	Optimist Park Building	4	48%	11.9%

The buildings with the higher percentages are expected to be adequate for use for a longer period of time than the buildings that have lower percentage results.

2.1.4 Replacement Strategy

In the visual assessment, most buildings were rated as *inadequate*, *poor quality*, or *needs improvement*. When assessed alongside the remaining service years, most buildings rated very poorly. This indicates a need to replace the buildings rather than repair or leave as-is. To determine the timeline for replacement, the following timelines were applied to the results of the life cycle analysis:

- Critical (0 years), 3 buildings
- Immediate (1-3 years), 9 buildings
- Short Term (4-7 years), 6 buildings
- Mid Term (7-10 years), 1 building
- Long Term (10-15 years), 0 buildings

There were no buildings that fell into the long term category for replacement. The replacement classification for each building is shown in **Table 6**. The three buildings that are on the critical timeline include the two salt storage sheds and the equipment storage building. The building in the mid-term timeline (7-10 years) is the public property vehicles building. The remainder of the buildings were rated to be replaced in the 1-7 year timeframe.

Table 6. Building Replacement Timeline

Building Evaluation																			
Building ID	1	2					3		4	5			6	7		8	9	10	11
Building Section		A	B	C	D	E	A	B		A	B	C		A	B				
Classification																			

Legend

- Mid Term (7-10 years) ● Short Term (4-7 years) ● Immediate (1-3 years) ● Critical (0 years)

2.2 Salt Storage

2.2.1 Operational Overview

The City of Cornwall currently has two salt storage sheds available at their municipal works yard. The sheds were constructed in 1975 and 1976. They are on the critical timeline for replacement. In a typical winter season, the City uses 8000 tonnes of salt and 600 tonnes of winter sand. The size of the existing buildings requires multiple material deliveries each winter.

According to the 2014 Growth Forecast & Urban Land Need Analysis, the City's population growth rate is expected to average 0.2% per annum between 2011 and 2036. The Official Plan (2004) states that residential infill development will be encouraged with greenfield development being staged and contained within complete planning units such as communities and neighbourhoods.

The City currently maintains over 275 kilometres of roadways and 175 kilometres of sidewalks. The current winter operations guide divides the roadways into two classifications:

- Level 1, hard surfaced arterial and collector streets, including most bus routes
- Level 2, hard surfaced residential streets, including municipal parking lots and some bus routes

The current winter operations guide limits the use of materials in terms of quantity and frequency based on the roadway classification and level of service standards as outlined in **Table 7**. As a result, to reach their target level of service, level 1 streets are serviced earlier and more often during winter storm events than level 2 streets.

Table 7. Winter Operations Guidelines

Roadway	Icy Road			Snow Covered		
Classification	Time to Complete	Treatment	Result	Snow Depth	Time to Complete	Result
Level 1	4 hours	Salt + Mag. Chloride	Prevent bond Remove ice formation	5cm	6 hours	Bare pavement
Level 2	12 hours	Sand/Sand Mix + Mag. Chloride	Safe passage Remove ice formation	8cm	16 hours	Snow covered with adequate traction

A review of the City's GIS network indicates that approximately 85 kilometres of roadway are level 1 and 190 kilometres of roadway are level 2. An increase in winter materials in the future is expected to be minimal given that the expected growth in winter operations materials is primarily tied to the creation of new level 1 streets and that growth to the transportation network will primarily be for level 2 streets (Schedule 2 of the Official Plan).

An increase in the salt requirement of 100 tonnes is related to approximately 0.25 kilometres of new level 1 roadway based on the current annual salt usage of 8000 tonnes. An increase in the winter sand requirement of 100 tonnes is related to approximately 16 kilometres of new level 2 roadway based on the current annual sand usage of 600 tonnes. Since level 2 roadways are treated with a sand/salt mix (1 part salt to 5 parts sand), an additional 17 tonnes of salt would also be required for treating new level 2 roadways. Any future changes to the Provincial Minimum Maintenance Standards (O. Reg. 239/02) as related to roadways and sidewalks could affect future material usage.

2.2.2 Regulatory Requirements and Best Practices

The 2009 Salt Management Plan (SMP) indicates that “all salt and sand/salt mix is stored indoors in a shed with an asphalt pad. The storage facilities are undersized and open to the elements. They are in need of improvement.” As noted in the 2009 SMP, “the current yard and material storage are inadequate for current and future operations and lead to excessive salt use and inefficient operations.” Materials are delivered and unloaded outdoors and then loaded into a storage shed. Furthermore, the spreaders used for winter operations are all loaded outdoors which causes salt loss (airborne salt dust and spillage) into the environment where it could negatively impact wells, vegetation, groundwater and surface water.

The SMP lists a number of material storage and handling goals in SMP Section 4.4.4 that are in-line with best management practices for salt storage outlined in Environment Canada’s Code of Practice for the Environmental Management of Road Salt (April 2004), *Section 12 a*). These goals include:

- Store all materials indoors on impermeable floors
- Secure liquid tanks with spill control measures
- Implement drainage water management systems for material storage, handling, and loading areas

The Transportation Association of Canada (TAC) updated their Synthesis of Best Practices for Road Salt Management in April 2013. Section 7 of the TAC Best Practices discusses best practices for the Design and Operation of Maintenance Yards. It states that “there is a strong need to focus on salt loss, whether in the form of airborne salt dust, brine runoff, wastewater discharge from vehicle washing and surface drainage or simple loss of road salts through improper handling practices”. This need, as related to materials storage, is acknowledged by the material storage and handling goals outlined in the current SMP.

Furthermore, the TAC Best Practices for salt handling are to have a facility that allows for:

- Indoor loading and unloading of spreaders
- Sufficient area for material storage based on expected delivery size and frequency
- Sufficient area to load/unload delivered materials to reduce double handling
- Mix all sand/salt mixture indoors during good weather
- Keep sand as dry as possible to reduce the amount of salt required to prevent freezing
- Drainage of salt contaminated water to properly designed containment to reduce the environmental impact

A new facility will be able to address these recommendations.

2.2.3 Covered Storage Size

When considering an upgrade to the existing winter materials storage facility, the following criteria were considered:

- Existing materials storage
- Typical materials usage
- Network growth (roadways and sidewalks)
- Future materials usage
- Compliance with municipal policy, provincial/federal regulatory requirements, and best practices
- Desired deliveries per year vs. acceptable monthly expenditures

In our meeting on May 1, 2015, the City indicated that, while having materials for an entire winter season would be ideal, they prefer to spread the cost of winter materials over the winter season. Therefore, providing capacity for an entire season’s worth of materials in a new storage facility is not imperative.

Based on the above, we suggest a new materials storage facility large enough for 8000 tonnes of raw materials (the current seasonal salt usage) with a drive through bay for indoor truck loading. The suggested building footprint is approximately 60 metres by 20 metres (for storage), with an additional 20 metres by 30 metres (for indoor loading).

This size of facility will provide the City with indoor, unheated, storage for their winter materials (sand and salt), cold patch, and chemical tanks. Additional doors at the rear of the facility would provide the option to use removable barriers as partitions to provide indoor storage to other City departments.

3. Existing Conditions

3.1 Environmental Site Assessment

A Phase I Environmental Site Assessment (ESA) was completed by LRL for the municipal works yard located at 1225 and 1246 Ontario Street as well for the adjacent vacant parcel of land south of 1246 Ontario Street, the parcel of land north of 1225 Ontario Street and the parks building and associated property located at the north-central portion of 301 Sunnyside Avenue. The report is provided in **Appendix C** and summarized below.

Most of the land within the study area is part of the municipal works yard. The land immediately north of 1225 Ontario Street is currently a recreational field but according to the Anderson Waste Disposal Site Inventory, a landfill was active at this location until approximately 1960. A mobile home was located at the southern portion of 1246 Ontario Street until approximately 10 years ago when the City of Cornwall took ownership of this parcel of land and the structure was removed. The northern portion of the municipal works yard is used to temporarily store soil from water/sewer excavation and road work activities. City owned Hydrovac vehicles deposit their contents in a pit located at the eastern portion of the study area.

The Phase I ESA identifies the existing environmental conditions and potential environmental liabilities associated with the subject property, focusing on the possible presence of contamination on the property. It includes a review of available information (historical data and aerial photographs) and a visual site inspection to assess potential contamination of past or present activities conducted on the property itself and on adjacent properties.

Based on the results of the Phase I Environmental Site Assessment the following areas of potential environmental concern were identified.

Table 8. Areas with Moderate to High Environmental Concern

Environmental Risk	Potential Environmental Concern	Location	Comments	Contaminants of Potential Concern	Media Potentially Impacted
1225 Ontario Street					
High	Fuel dispensing equipment/installations	Along the west perimeter of the property, approximately midway north-south	Consists of three (3) UST containing gasoline and diesel and an associated pump island. Installed in 1987.	VOC, PHC	Soil and groundwater
Moderate to High	Waste Oil UST	Along north face of repair garage	900 L capacity.	VOC, PHC	Soil and groundwater

Environmental Risk	Potential Environmental Concern	Location	Comments	Contaminants of Potential Concern	Media Potentially Impacted
Moderate to High	Stationary in-ground hoists	In repair garage	One (1) observed at the time of the site visit	VOC, PHC	Soil and groundwater
Moderate to High	General repair garage activities and waste generated	Approximately center of the property	Minor surface staining observed across the garage	VOC, PHC, Metals, SVOC	Soil and groundwater
Moderate to High	MgCl storage	Northern portion of property, between salt storage sheds	15000 L capacity, used for road de-icing	Metals	Soil
Moderate to High	Salt Storage and Handling	North-central portion of the municipal yard	Stored in two (2) dome like structures	Sodium, chloride, electrical conductivity and sodium absorption ratio	Soil and groundwater
Moderate	Snow and Soil disposal	Northern portion of property	Temporary storage and disposal yard for snow, soil and Hydro-Vac activities	Metals, PHC, VOC	Soil and groundwater
1246 Ontario Street					
Moderate	Former Mobile Home	Southern portion of property	Potential for former oil heating tank and buried waste from removal	VOC, PHC, Metals	Soil and groundwater
Neighbouring Properties within 250 m of the Site					
High	Former Landfill Site	Immediately north of Lemay Street	Potentially encroached onto 1225 Ontario Street and across Lemay Street based on topographic observations and information provided by the client	Metals, VOC, General Inorganics	Soil and groundwater

The locations of the potential environmental concerns are shown in **Figure 3.1** and **Figure 3.2**.

Several low potential environmental concerns were identified on the site or in the area, including activities, incidents or spills. Also, asbestos containing materials have been confirmed on the site. Asbestos containing materials (ACM) were identified at the following locations:

- The administrative building was found to have what was identified as cheese cloth cement (parging) on small fittings and fiber cement boards on the walls in the work area and offices that were found to be asbestos containing materials (ACM). The vinyl floor tiles encountered in the file storage and print room were ACM as well as the vermiculite found behind the exterior face and electrical room. The pipes in the electrical room were assumed to be ACM;
- In the washrooms of the carpenter shop, the ceiling and wall joint compound was assumed ACM as it was not sampled to avoid damage; and
- Firestop material was encountered on the walls of the garage and was considered ACM.

The environmental concerns associated with ACM are low when the material is undisturbed. It is recommended that prior to any renovation, demolition or site alteration activities, these reports should be provided and reviewed to/by the parties involved so the proper procedures and precautions can be undertaken to minimize the impacts of ACM material to the environment and human health.

Based on the findings of the Phase 1 ESA, it is recommended that a Phase 2 ESA be conducted to confirm the impacts of the potential environmental concerns identified.

3.2 Geotechnical and Hydrogeological

3.2.1 Background Studies

The City of Cornwall has completed several studies that have helped to identify the subsurface characteristics in the study area and the possible implications for the Lemay Street project:

In 2002, the Thompson Rosemount Group (TRG) completed a soils and groundwater investigation on the west side of Optimist Park. This investigation identified silty sand and sand in the upper levels of soils. Silty sand/sand allows groundwater to flow more easily than the silty clay and clay layer below. More investigations were undertaken because of the concern that any lowering of groundwater could result in consolidation of the silty sand and sand. This in turn could result in settlement of buildings and municipal infrastructure in the area.

Following the TRG study, J.D. Paterson and Associates Ltd. (JDP) completed a series of settlement tests to assess the risks associated with lowering of groundwater in the area. The tests revealed that activities that result in substantially lowering of the groundwater could have an effect on neighbouring residences and other structures.

In 2004, St. Lawrence Testing and Inspection Co. Ltd. completed a soils and groundwater investigation along Lemay Street. Waste material from the former waste disposal site in Optimist Park was found in one borehole. Groundwater was found beneath the granular materials supporting the road (about 1.6m below the surface).

In 2005, JDP completed more settlement assessment work with a view to recommending measures to control groundwater. Four boreholes were drilled. Testing was completed and the analysis concluded that the subsurface material has sufficient strength so that there would not be significant settlements even with groundwater lowering.

Watermain construction along Lemay Street was undertaken in 2008 and as-built drawings indicated the presence of landfill material within Lemay Street immediately west of Ontario Street. The waste extended over about 6m and was 2m deep.

The former landfill site in Optimist Park was operational from the 1940's to the late 1950's. The park was then developed in the mid 1980's. TRG have been investigating and reporting on the environmental impacts of the former landfill to the City since 2002. A sub-drain was installed along the west side of the park to help control groundwater

and runoff. Sixteen groundwater monitoring wells were constructed and a monitoring program established. The most recent Groundwater Quality Investigation for Optimist Park available to this EA study was completed in 2009. Calculations of the travel time for groundwater through the landfill area indicates that the leachate from the landfill has by now migrated off the Optimist Park property. The sub-drain has helped to intercept the leachate and lower groundwater levels on the west side of the park.

3.2.2 Geotechnical Conditions

A review of geotechnical conditions was completed by LRL and based on the information from the review of previous reports, the following subsoil strata and conditions were encountered in vicinity of the municipal works yard.

Fill

It is noted that the fill material varies between 0.2 and 5.8 m and comprises of former landfill material, sand and gravel and topsoil with trace to some organics.

Silty Sand/Sand

A deposit of fine silty sand to sand in fully saturated condition underlies the fill material. It is generally considered that silts having more than 15% material finer than 0.005 millimeter are not liquefiable. However, as part of this study, no hydrometer analyses were carried-out to determine the percentage of finer material.

Silty Clay/Clay

The information obtained from the borehole advancement information provided by others has also determined that silty clay to clay deposit underlay the silty sand or sand deposit. The clayey soil at depth between 3.5 m and 4.0 m below the existing grade was found as over consolidated. An additional overburden pressure can be imposed up to ± 30.0 kPa without having any further settlement in the adjacent structure as established by the consolidation test (*Supplementary Consolidation Settlement Assessment, John D. Patterson & Associates Ltd., August 2005*). However, these test results are outdated and may not reflect current conditions or current geotechnical investigative procedures. The thickness of very soft clay was about 3.0 meters and the total thickness of clay stratum was measured approximately 7.6 metres where potential settlement will occur due to impose the additional surcharge or any changes/alteration to the effective over burden pressure.

Glacial Till

Glacial till was identified beneath the silty clay/clay strata. The consistency of glacial till is considered to be firm to stiff.

3.3 Drainage and Stormwater Management

The municipal works yard is located within the watershed boundaries represented by the Raisin River Conservation Authority. The public works yard is situated southeast of a former landfill site, an area which is now Optimist Park. Site topography is relatively flat and grades gently slope from northwest to southeast (1% to 2%). According to available site plans dating back to the 1980s, the site is serviced by an underground stormwater collection network located within the property boundaries.

Based on the site plans provided, the section of the public works yard located west of Ontario Street is serviced by a single catch basin located near the Stores building entrance. The catch basin is connected to a 100mm diameter sewer which appears to discharge into the 1050mm diameter sanitary sewer located in the utility corridor across from St. Michel Avenue.

The section of the public works yard located east of Ontario Street is serviced by a storm sewer system. The catch basin located just west of the Garage is connected to the Garage's sanitary sewer, which ultimately discharges into the 300mm diameter sanitary sewer located in Ontario Street. The eastern portion of the site is serviced by a series of catch basins connected by 250mm diameter sewers. According to the site plans, this storm sewer ultimately discharges through an outfall into the Fly Creek drain, which is located at the south limit of the property. A single catch basin located north of the Engineering and Public Works building captures runoff and discharges it to the Fly Creek drain through a 150 mm sewer and outfall. The Administrative building itself is serviced by a 100 mm diameter storm service that also discharges to Fly Creek through an outfall.

Fly Creek is an open drainage channel which was diverted into a large underground stormwater channel constructed in the 1990s and 2000s, which is commonly referred to as the Fly Creek Storm Diversion Sewer or the Fly Creek Municipal Drain (Fly Creek SDS). The Fly Creek SDS and stormwater management pond (SWMP) were constructed as part of a flood control project undertaken by the Raisin River Conservation Authority. The Fly Creek SWMP is located approximately 1.5 km east of the municipal works yard while the underground municipal drain runs parallel to or within the Twelfth Street East right-of-way.

The municipal drain located south of the municipal works yard between the St. Michel Avenue extension utility corridor and Rita Street is comprised of a 2400mm x 2400mm reinforced concrete channel, with the exception of a 35m long inverted siphon located near the intersection of Twelfth Street East and Paul Street. The inverted siphon is constructed of a 4000mm x 1100mm reinforced concrete channel.

Based on the storm sewer GIS data, runoff conveyed by the ditch located just south of the property is conveyed to a 300mm diameter PVC pipe, which eventually discharges into the Fly Creek SDS just downstream of the inverted siphon. Catch basins located on the east side of Ontario Street are connected to 300mm and 375mm diameter storm sewers, which convey drainage into the Fly Creek municipal drain on Twelfth Street.

4. Alternative Solutions

As part of the Environmental Assessment process, alternative solutions which address the identified problems are generated once the problem has been confirmed. Having established the need for further consideration of a new works facility, the study team developed three alternative planning solutions for further assessment as listed below:

- Status Quo ("do nothing");
- Construct a new facility in another location ; or
- Redevelop the existing Municipal Works Yard and site.

4.1 Assessment & Evaluation of the Alternatives

The "Redevelop the existing facility" alternative is preferred. This is because the "do nothing" alternative will not be sufficient to adequately address identified deficiencies. The existing location is central in the City and allows a phased approach to construction which will facilitate continued service. Nevertheless, a screening level evaluation of the three alternative solutions was undertaken to identify a preferred solution.

The assessment of the alternatives was undertaken using the following criteria:

- ability to meet service requirements;
- disruption of service;
- traffic impacts;
- environmental impact;
- construction staging, and;
- cost

Table 9. Evaluation of Alternatives

Evaluation Criteria	Option 1: Do Nothing	Option 2: Construct a new facility in another location	Option 3: Redevelop the existing Municipal Works Yard and site
Ability to meet service requirements	Inadequate buildings	Facility can be designed and constructed to accommodate staff, equipment and supplies required for the service requirements.	The existing site can be redesigned to reduce the redundancies related to having separate buildings for each department and meet the service requirements.
Disruption of service	Disruption of the City's everyday business due to inadequate and poor condition of the structures.	Possible disruption to the City's everyday business during construction when services will be located at different locations.	Moderate disruption of the City's business due to reconstruction or renovation of the existing facilities at the current location.
Impact on traffic	No Impact	Significant trip generation at the new location which may require improvements of roadways and intersections.	Minor impact on internal traffic circulation. Construction of Lemay Street connection will reduce impact on local traffic.
Environmental Impact	Leaving the site "as-is" will have several potential environmental liabilities for soil and ground water contaminations.	Construction of municipal works yard in new location will have to complete all regulatory requirements. Decommissioning of the existing facilities will require decontamination.	Improvement of the existing site will create favorable condition to the environment and will have less impact on the environment.
Staging of Construction	No construction staging.	Little opportunity for staged construction as all the facilities needs to be built in a functional condition at the same time.	The improvement or reconstruction of the existing facilities can be done in phases.
Cost	None	High cost	Less costly than Option-2 as everything will be reconstructed and renovated at the existing site.

By analyzing the pros and cons of the above 3 options, it was found that Option 3 i.e. improvement of the existing site would be the best solution for renewal of the Municipal Works Yard.

5. Alternative Designs

The new design for the municipal works yard is intended to reduce the redundancies related to having separate buildings for each department. There is a need to provide a larger salt storage shed and to improve the traffic flow within the Lemay Street works yard enclosure. A new design of the works yard will include accommodation for the Parks staff from the Optimist Park location which allows the existing Parks staff site to be used for potential parking spaces and other municipal needs. 10 shows the building areas and occupant loads of the existing design compared to the future design.

Table 10. Existing Building Area and Occupant Load vs Future Building Area and Occupant Load

Item	Unit Description	Existing Building Area	Future Building Area	Existing Occupant Load (# employees)	Future Occupant Load (# employees)
1	Municipal Works Yard Garage	1,378 m ²	1,375 m ²	6	10
2	Tire Shed	74 m ²	125 m ²	3	4
3	Road Section	581 m ²	575 m ²	25	30
4	Equipment Storage	365 m ²	365 m ²	0	2
5	Public Property Section	310 m ²	375 m ²	10	12
6	Stores Building	548 m ²	600 m ²	0	2
7	Optimist Park	648 m ²	625 m ²	12	15
8	Water & Sewer Shop	320 m ²	250 m ²	25	25
9	Traffic Shop	200 m ²	300 m ²	0	4
10	Administration Building	902 m ²	1200 m ²	33	60
11	Salt Storage	446 m ²	2450 m ²	0	2
12	Heated Parking Storage	0 m ²	1,520 m ²	0	0
13	Unheated Parking Storage	0 m ²	1,235 m ²	0	0
14	Construction Material Storage	0 m ²	900 m ²	0	0
15	Construction Material Open Area Storage	1,000 m ²	1,465 m ²	0	0
16	Excavated Material Storage	1,000 m ²	1,400 m ²	0	0
Total		7,772 m²	13,760 m²	114	166

The design consolidates all similar units and buildings together so common amenities can be shared. Consolidation of amenities in the municipal works yard such as bathrooms, lockers and lunchrooms will reduce unnecessary building costs and free space for other uses. This design will facilitate the flow of material and of municipal works yard staff. Each unit or building will have space for offices required by the staff.

The administration building will be designed as a separate structure, which will accommodate business unit managers, training rooms, meeting rooms, offices and public spaces. This will separate the general administration personnel from the municipal works yard staff and will restrict public access to areas of the municipal works yard where they are not allowed.

5.1 Description of Alternatives

Using the same conceptual spaces for each yard component as listed in Table 10, three alternative options were considered at the existing Municipal Works Yard. Each alternative provided a different site configuration. There were some similarities between all the options, including:

- The unheated parking spots and storage of construction and excavation materials were placed on the east side of the property to maintain a visual buffer from residential buildings in the neighbourhood;
- Several units were combined as a single building to allow for a better flow of staff inside the building. The combined units include the municipal works yard garage, the tire shed, the public property storage, the Optimist Park building, the stores building and the traffic shop;
- The fuel tanks and fuel pumps were located at the northwest corner of the site, close to the exit; and,
- The water dispensing station was located on the northern side of the site.

5.1.1 Municipal Works Yard - Design Option 1

Buildings in Option 1 were designed on an east-west axis with a general north-south traffic flow. A main entrance from Lemay Street and an exit onto St. Michel Avenue were required to improve the flow of interior traffic. A separate entry to the administration parking was located off of St. Michel Avenue.

The main building is connected to the administration building, which permits staff to access all sections of the building. In this option, the canteen, lockers, showers, and assembly hall are located on the first floor of the administration building. The salt storage facility is parallel to the main building and provides a flow through access from the main entrance. The building for the roads department and equipment storage is located at the south of the site and east of the administration building. Due to the orientation and location of the buildings, this option does not have space for the required heated garage. The design for Option 1 is shown in **Figure 2**.

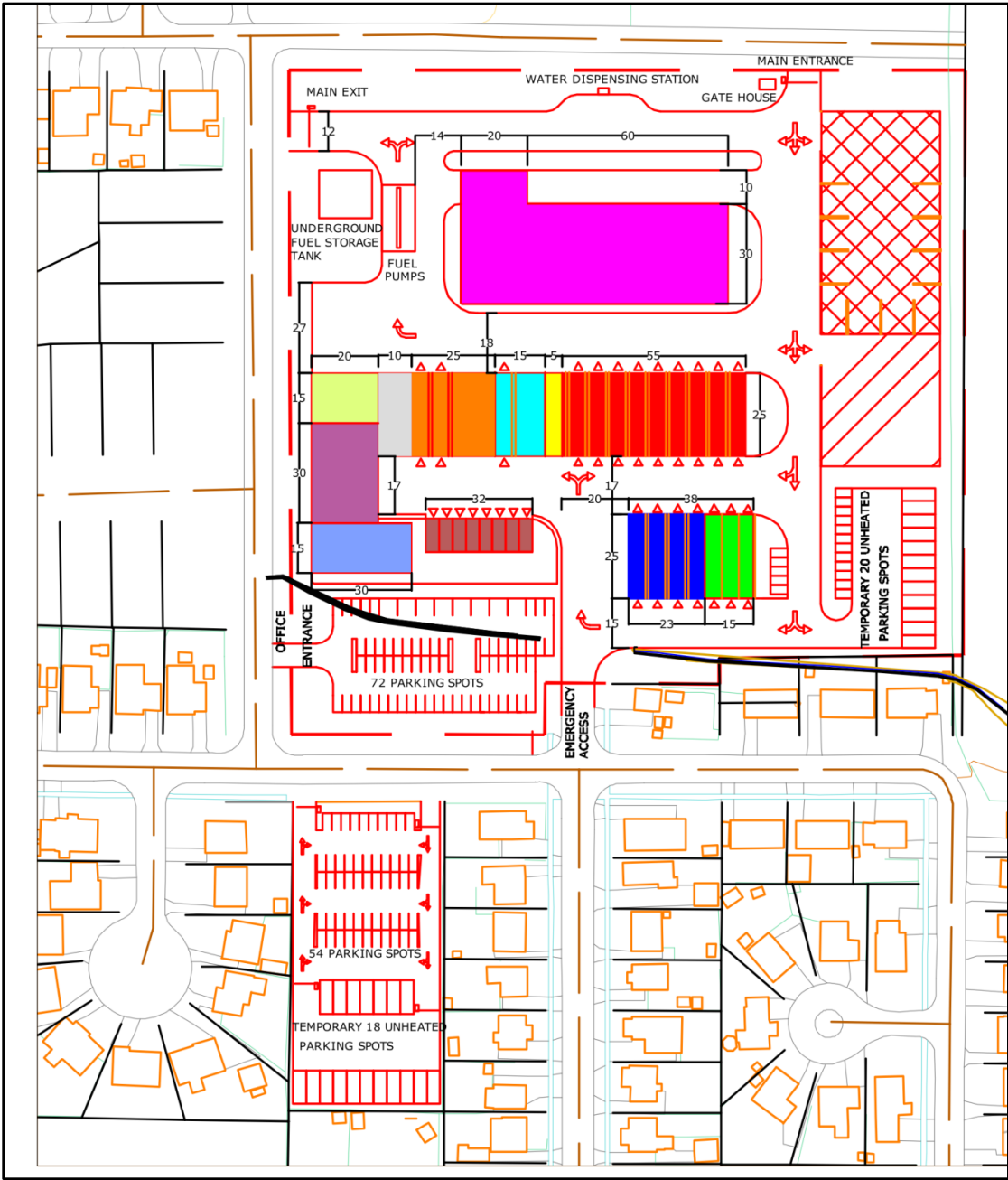


Figure 2. Municipal Works Yard Design Option 1

5.1.2 Municipal Works Yard - Design Option 2

In Option 2, there is a mixed design of buildings on north-south and east-west axes. This provides better traffic flow for the site and is a more efficient use of the land. The main entrance is located on Lemay Street and the main exit is on St. Michel Avenue. There is a separate entrance to the administration parking from Twelfth Street that also serves as an emergency entrance to the yard at the south of the site.

The main building is located near the south end of the site. This results in fewer parking spaces for the administration building and the relocation of the building for the roads department and equipment storage. In this option, the salt storage is located on a north-south axis and is parallel to a newly created interior heated storage. The design for Option 2 is shown in **Figure 3**.

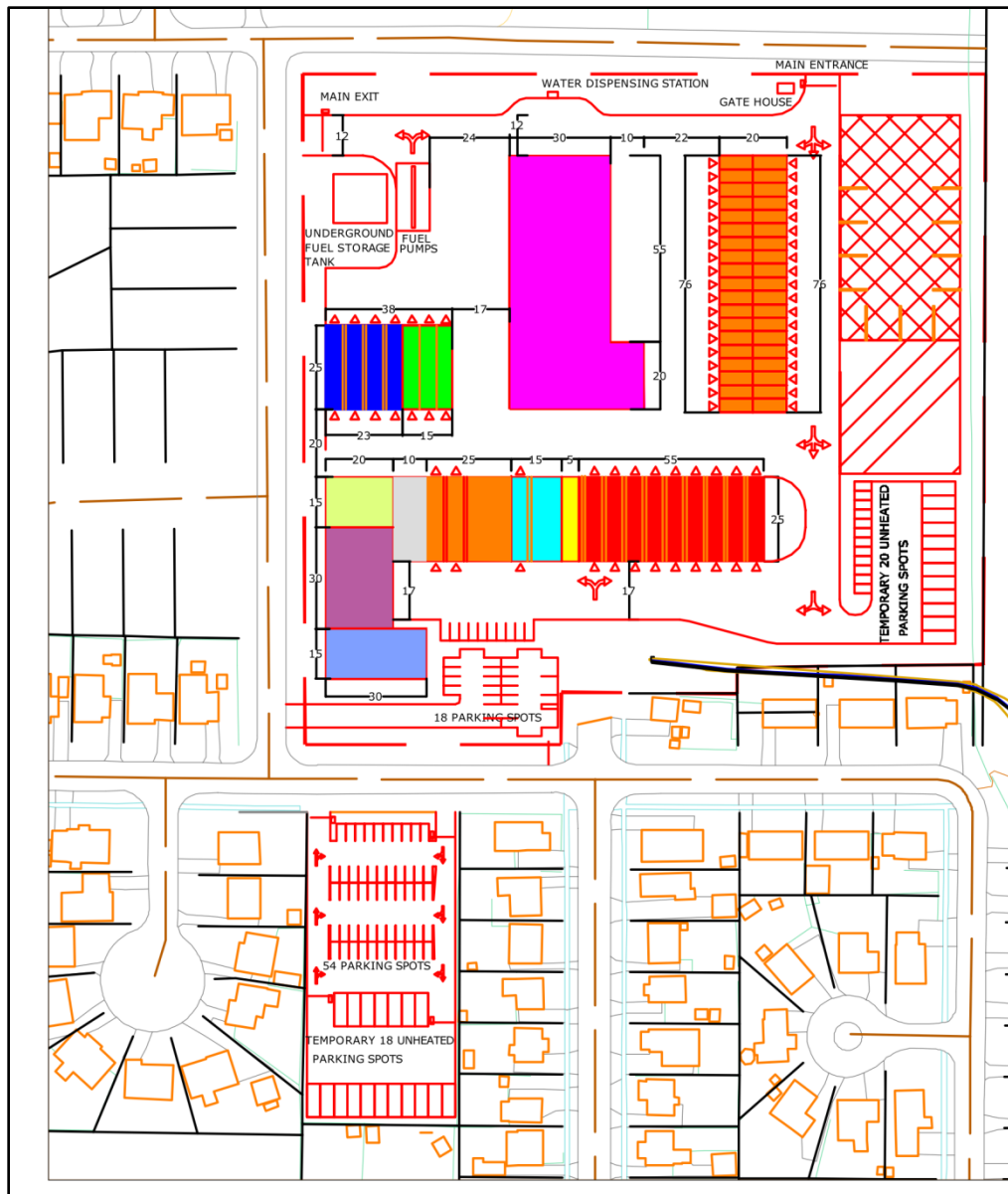


Figure 3. Municipal Works Yard Design Option 2

5.1.3 Municipal Works Yard - Design Option 3

In Option 3, there are three separate buildings that are located on a north-south axis. Traffic flow through the site is not as convenient as in Option 2. The main entrance is located on Lemay Street and the main exit is on St. Michel Avenue. There is a separate entrance to the administration parking from St. Michel Avenue. The main building is located near the south end of the site. The design for Option 2 is shown in **Figure 4** below.

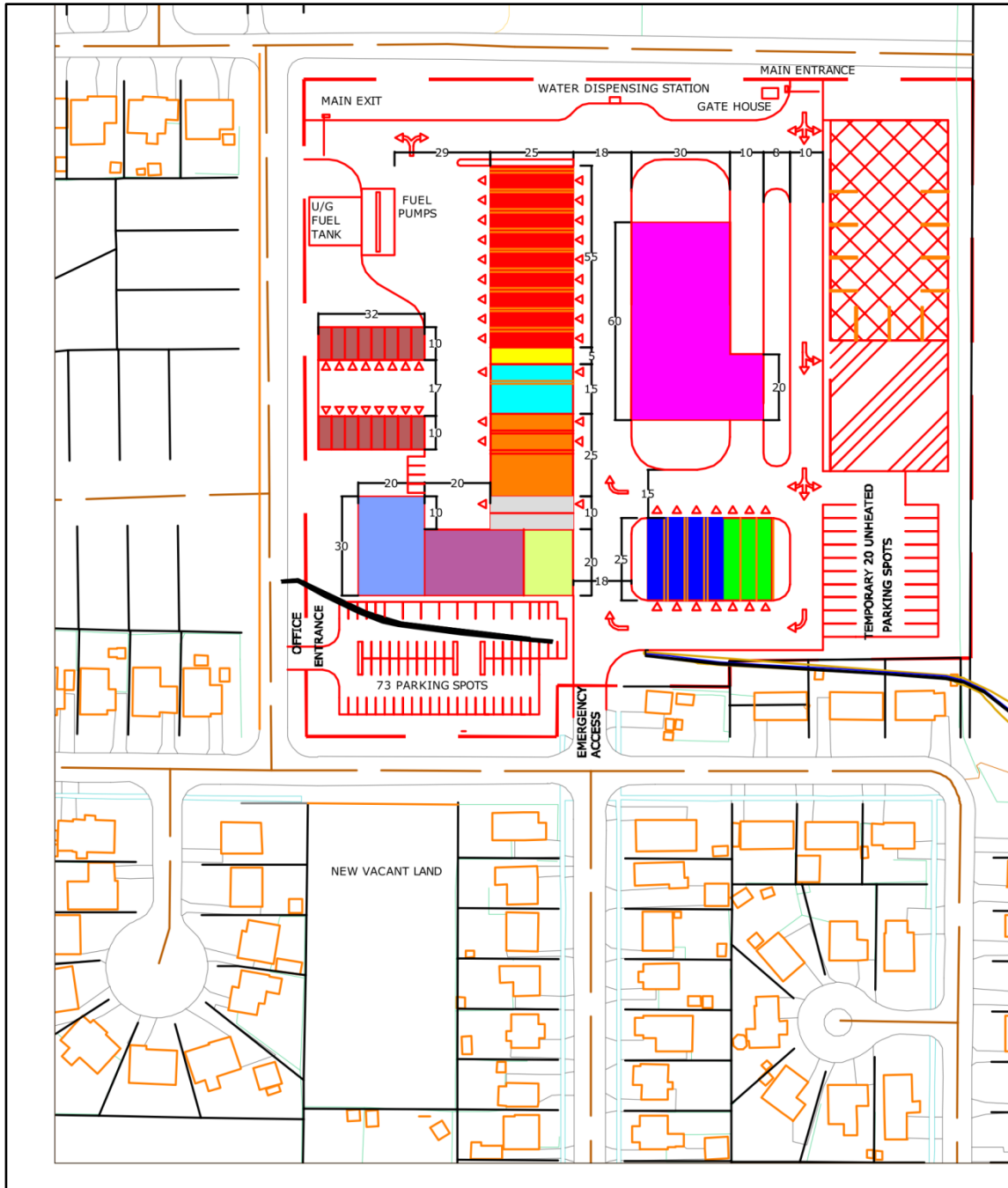
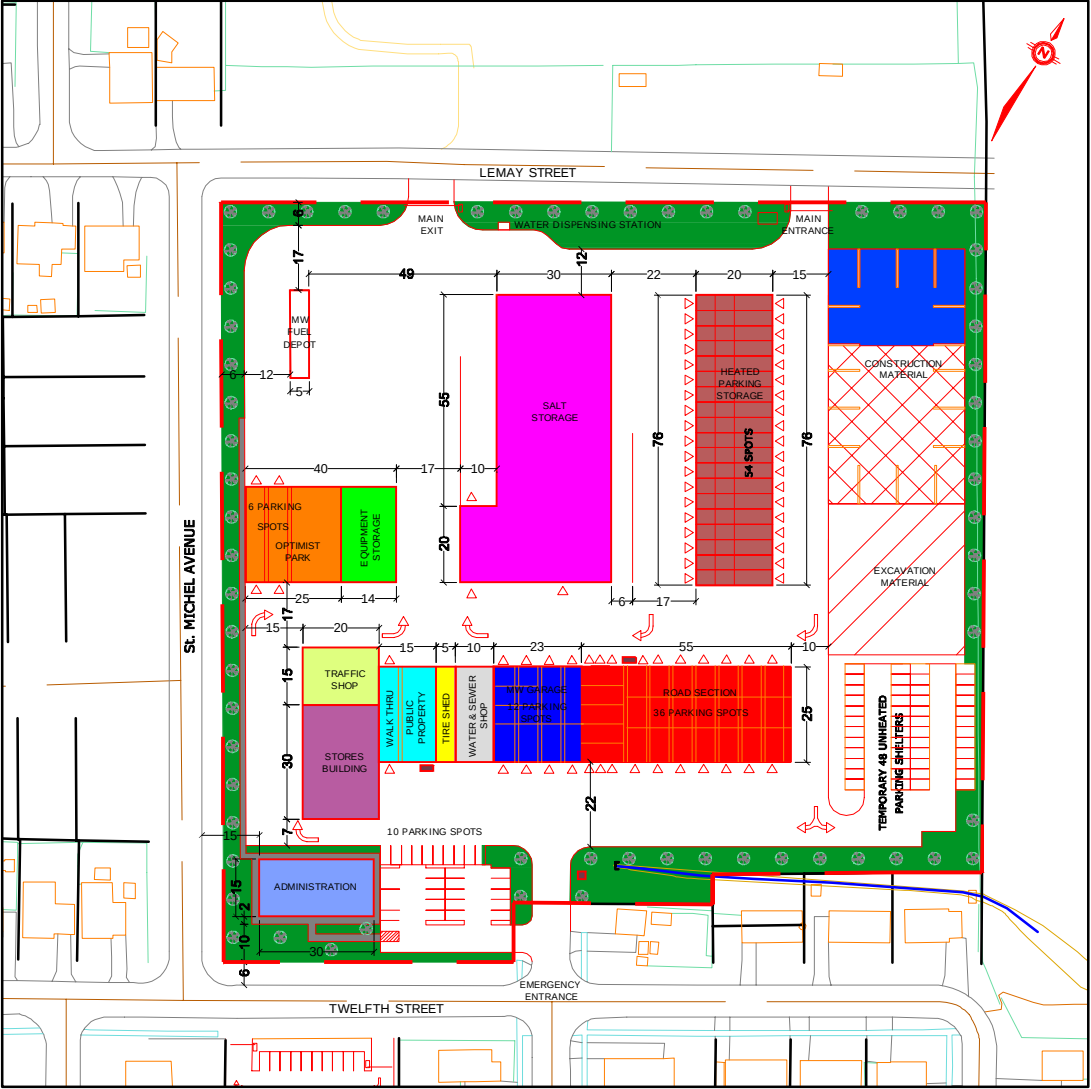


Figure 4. Municipal Works Yard Design Option 3

5.2 Selection of Preferred Option

The preferred design option for the municipal works yard is Option 2 with several modifications. The administration building was detached from the main building, which was shifted to the east to permit traffic to circulate around the entire building. The loading area for the salt trucks was moved to the west side of the building. The main exit was located on Lemay Street and the fuel pumps were shifted to the west. A portion of the construction material storage area was covered and the roads department space allocation was switched with the space allocation for the parks staff. The final design is shown in **Figure 5** and the staging of the municipal works yard project is shown in **Figure 6**. **Figure 7** and **Figure 8** indicate aerial views of the proposed municipal works yard design. This is the preferred option because:

- The construction staging reduces disruption of the daily operations of the municipal works yard as compared to other design options. Buildings can be sequentially constructed while maintaining the daily activities of the yard and staff relocation will happen after new buildings are constructed.
- The administration building is separated from the works yard, which prevents public access to restricted areas of the municipal works yard. This building has a separate, fenced-in parking lot.
- The preferred option will meet all stated requirements for the site, including heated and unheated parking garages and a large salt storage structure.
- The preferred option permits continuous traffic flow around the site without dead-ends.

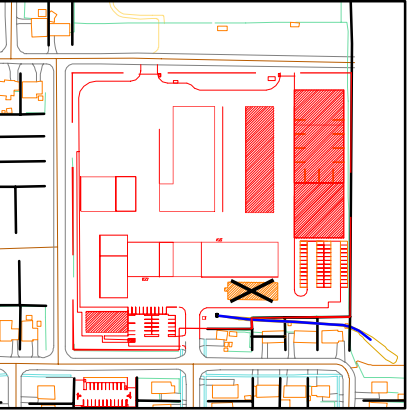
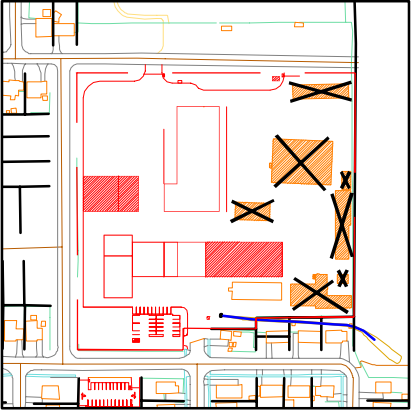
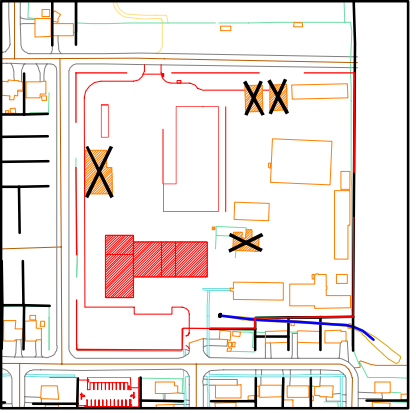
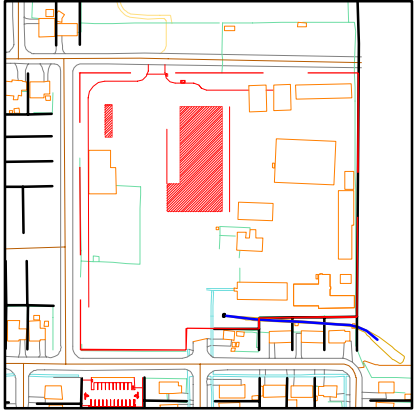


LEGEND

	MW GARAGE	1375 Sq.m
	TIRE SHED	125 Sq.m
	ROAD SECTION	575 Sq.m
	EQUIPMENT STORAGE	365 Sq.m
	PUBLIC PROPERTY	375 Sq.m
	UN-HEATED PARKING	1235 Sq.m
	STORES BUILDING	600 Sq.m
	OPTIMIST PARK	625 Sq.m
	ADMINISTRATION	1200 Sq.m
	WATER & SEWER SHOP	250 Sq.m
	TRAFFIC SHOP	300 Sq.m
	CONSTRUCTION MATERIAL STORAGE	900 Sq. m
	CONSTRUCTION MATERIAL OPEN AREA STORAGE	1465 Sq. m
	EXCAVATED MATERIAL STORAGE	1400 Sq. m
	SALT STORAGE	2450 Sq.m
	HEATED PARKING STORAGE	1520 Sq.m
	TRANSFORMER AND BACKUP GENERATORS	
	NEW CONSTRUCTION	
	DEMOLITION	

1 | SITE PLAN
Scale: 1:2500

2 | CONSTRUCTABILITY PLAN
Scale: 1:2500



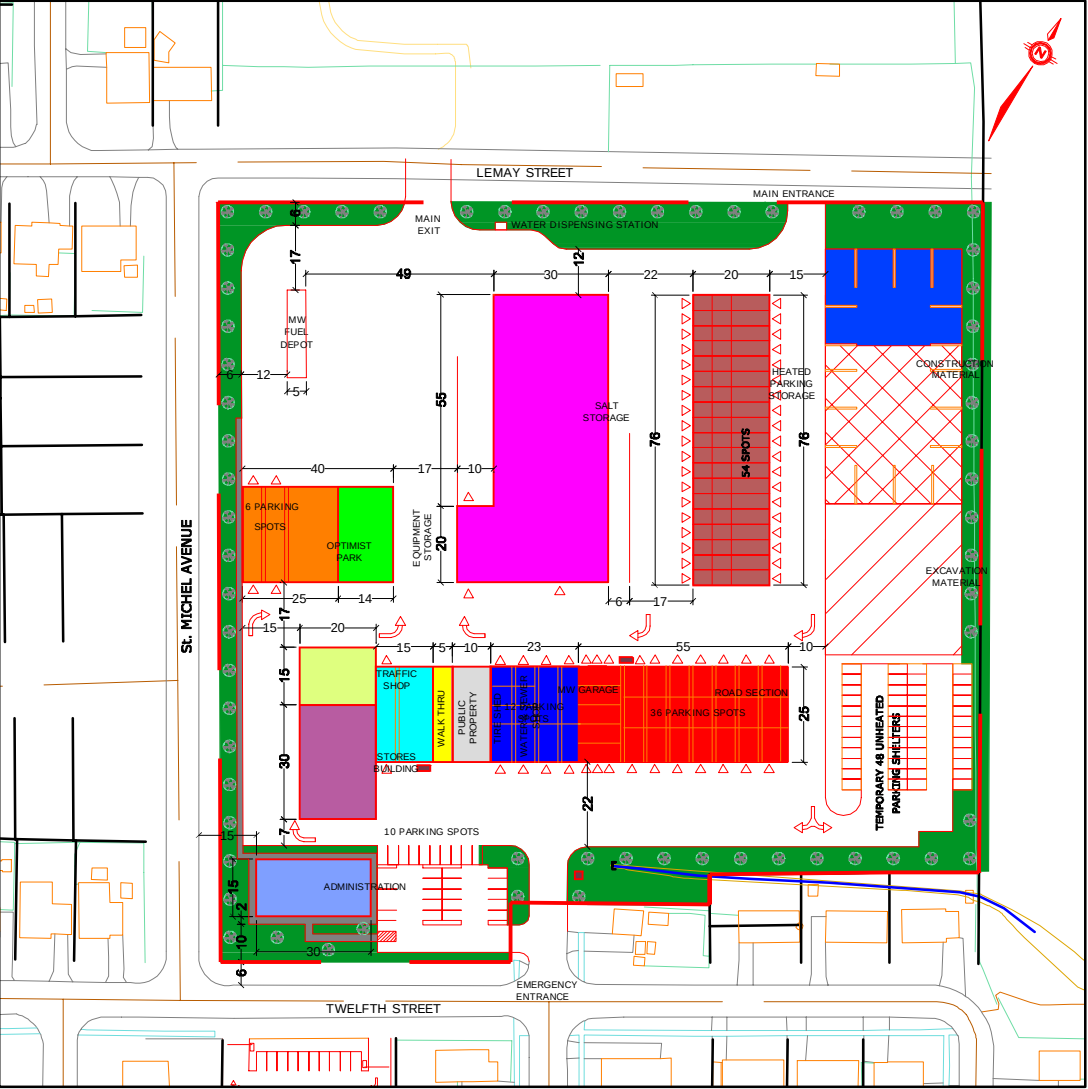
3 | STAGE 1
Scale: 1:5000

4 | STAGE 2
Scale: 1:5000

5 | STAGE 3
Scale: 1:5000

6 | STAGE 4
Scale: 1:5000

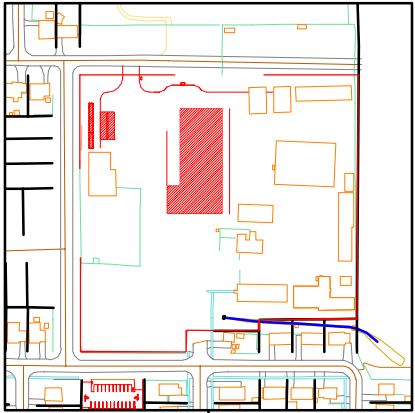
Figure 5. Preferred Municipal Works Yard Design



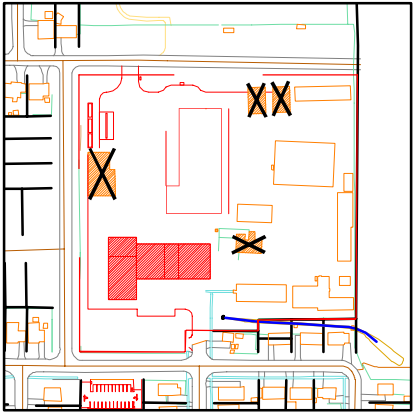
LEGEND

 MW GARAGE	1375 Sq.m
 TIRE SHED	125 Sq.m
 ROAD SECTION	575 Sq.m
 EQUIPMENT STORAGE	365 Sq.m
 PUBLIC PROPERTY	375 Sq.m
 UN-HEATED PARKING	1235 Sq.m
 STORES BUILDING	600 Sq.m
 OPTIMIST PARK	625 Sq.m
 ADMINISTRATION	1200 Sq.m
 WATER & SEWER SHOP	250 Sq.m
 TRAFFIC SHOP	300 Sq.m
 CONSTRUCTION MATERIAL STORAGE	900 Sq. m
 CONSTRUCTION MATERIAL OPEN AREA STORAGE	1465 Sq. m
 EXCAVATED MATERIAL STORAGE	1400 Sq. m
 SALT STORAGE	2450 Sq.m
 HEATED PARKING STORAGE	1520 Sq.m
 TRANSFORMER AND BACKUP GENERATORS	
 NEW CONSTRUCTION	
 X 	

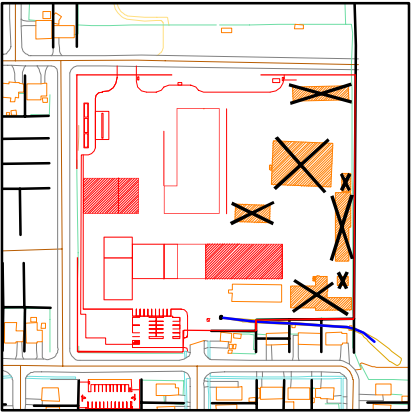
1 | SITE PLAN
Scale: 1:2500



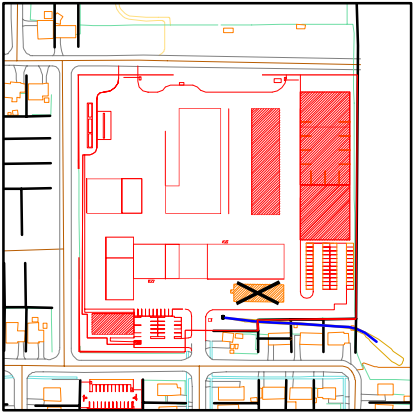
3 | STAGE 1
Scale: 1:5000



4 | STAGE 2
Scale: 1:5000



5 | STAGE 3
Scale: 1:5000



6 | STAGE 4
Scale: 1:5000

Figure 6. Preferred Municipal Works Yard Staging Plan



Figure 7. Municipal Works Yard Aerial View from Southwest



Figure 8. Municipal Works Yard Aerial View from Northeast

5.3 Staging

The construction of the municipal works yard will be conducted in four stages as listed in **Table 10** below.

Table 10. Staging of Municipal Works Yard Construction

Stage	Tasks
Stage 1	• Construct new employee parking lot • Move construction material to former employee parking lot • Construct the new fuel pumps. • Decommission the existing fuel pumps • Construct the new water dispensing station • Decommission the existing water dispensing station • Construct the new salt storage structure
Stage 2	• Construct building containing: - o Traffic shop - o Public property section - o Tire storage - o Water & sewer section - o Road section • Construct stores building • After completion of the new buildings, the existing salt storage building, traffic shop and stores building will be decommissioned and removed from the site.
Stage 3	• Construct: - o Optimist Park maintenance building - o Equipment storage building - o Municipal works yard garage • Demolish/decommission: - o Public property section building - o Roads section building - o Tire shed - o Water & sewer section building - o Equipment storage shed - o Optimist Park maintenance building - o Municipal works yard garage
Stage 4	• Construct: - o Administration building - o Heated parking storage after decommissioning and demolition of municipal works yard garage - o Construction material storage - o Construction material open area storage - o Excavated material storage - o Unheated covered parking spots • Decommission: - o Administration building

5.4 Cost Estimates

The total cost estimate for the new municipal works yard is divided into stages in the table below.

Table 11. Total Cost Estimate for Municipal Works Yard

Unit Description	Future Building Area (m ²)	Cost / m ²	Total Cost
Stage 1 Construction			
Salt Storage Structure	2450	\$ 425	\$ 1,041,250
Fuel Pumps			\$ 165,000
Water Dispensing Station	N/A	N/A	\$ 20,000
Employee Parking Lot	4000		\$ 229,500
Stage 1 Demolition / Decommission			
Fuel Pumps			\$ 290,000
Water Dispensing Station	N/A	N/A	\$ 2,000
Stage 1 Total Cost			\$ 1,747,750

Unit Description	Future Building Area (m ²)	Cost / m ²	Total Cost
Stage 2 Construction			
Tire Shed	125	\$ 3,450	\$ 431,250
Road Section	575	\$ 3,450	\$ 1,983,750
Public Property Section	375	\$ 3,450	\$ 1,293,750
Stores Building	600	\$ 3,450	\$ 2,070,000
Water & Sewer Shop	250	\$ 3,450	\$ 862,500
Traffic Shop	300	\$ 3,450	\$ 1,035,000
Stage 2 Demolition / Decommission			
Salt Storage			\$ 12,000
Traffic Shop			\$ 7,770
Stores Building			\$ 15,530
Stage 2 Total Cost			\$ 7,711,550

Unit Description	Future Building Area (m ²)	Cost / m ²	Total Cost
Stage 3 Construction			
Equipment Storage	365	\$ 3,450	\$ 1,259,250
Optimist Park	625	\$ 3,450	\$ 2,156,250
Municipal Works Yard Garage	1375	\$ 3,450	\$ 4,743,750
Stage 3 Demolition / Decommission			
Tire Shed			\$ 3,240
Road Section			\$ 14,890
Public Property Section			\$ 9,710
Equipment Storage			\$ 9,500
Water & Sewer Shop			\$ 6,470

Municipal Works Yard Garage			\$ 35,600
Optimist Park			\$ 16,180
Stage 3 Total Cost			\$ 8,254,840

Unit Description	Future Building Area (m ²)	Cost / m ²	Total Cost
Stage 4 Construction			
Heated Parking Storage	1,520	\$ 3,140	\$ 4,772,800
Unheated Parking Storage	1,235	\$ 400	\$ 494,000
Construction Material Storage	900	\$ 500	\$ 450,000
Construction Material Open Area Storage	1,465	\$ 100	\$ 146,500
Excavated Material Storage	1,400	\$ 100	\$ 140,000
Administration Building	1,200	\$ 2,470	\$ 2,964,000
Stage 4 Demolition / Decommission			
Administration Building			\$ 22,240
Stage 4 Total Cost			\$ 8,989,540
Sub-Total			\$ 26,703,680
20% Contingency			\$ 5,340,736
Total			\$ 32,044,416

6. Conclusion

This large project will be staged over several years based on the availability of funds. Three alternative design options with a different site configuration were considered for the municipal works yard. A preferred option was selected that will reduce the redundancies related to having separate buildings for each department. The new layout will provide a larger salt storage shed and improve the traffic flow within the Lemay Street works yard enclosure. A new design of the works yard will include accommodation for the Parks staff from the Optimist Park location which allows the existing Parks staff site to be used for potential parking spaces and other municipal needs.

The design consolidates all similar units and buildings together so common amenities can be shared. Consolidation of amenities in the municipal works yard such as bathrooms, lockers and lunchrooms will reduce unnecessary building costs and free space for other uses. This design will facilitate the flow of material and of municipal works yard staff. Each unit or building will have space for offices required by the staff.

The administration building will be designed as a separate structure, which will accommodate business unit managers, training rooms, meeting rooms, offices and public spaces. This will separate the general administration personnel from the municipal works yard staff and will restrict public access to areas of the municipal works yard where they are not allowed.

A detailed grading plan for the municipal works yard will be required to define utility corridors and alignments within the yard. Based on the topography of the site, it is believed that runoff will be discharged to the Fly Creek SDS. Since majority of the site will be comprised of impervious surfaces and that the downstream infrastructure has limited capacity, it is expected that the detailed drainage design will include on site stormwater runoff collection, conveyance, and management. The capacity of the downstream infrastructure and design criteria should be determined during the preliminary design stage to size stormwater management infrastructure.

Appendix A

Redevelopment & Design of the Municipal Works Yard

- Photo Inventory and Deficiency List

Building 2A



The building's two different roofs meet to create a roof valley, which causes water drainage issues.

Building 2A



Water and ice forming inside building on concrete floor, which is a sign of insufficient slab slope for drainage. Wet hairline cracks were also noted on the concrete floor.

Building 2C



If snow is not cleared around the building, outside and open electrical wall outlets and could be covered with snow, which creates a potential for electrical shock.

Building 2C



Support beam exposed through building walkway. No fire rating is evident. There appears to be combustible construction above (painted wood), which is not permitted by code.

Building 2C



Joist to column connection is not sufficient. Bracket is used to connect the steel joist to timber column. Looks like the joist was installed at a later stage. Some vertical splits were also noticed on the timber column.

Building 2C



Uneven joining of 2 roofs. There is potential for future leaking and retention of water/ice at the joints.

Building 2D



Equipment and materials stored in ceiling/trusses, which is a safety concern. Roof trusses are designed for overall loads and not designed for point loads. There is also a potential for overloading of roof trusses.

Building 2D



Concrete floor has typical settlement cracks and has become uneven with age.

Building 2D



Equipment storage and organization are potential safety concerns.

Building 2D



Equipment storage and organization are potential safety concerns.

Building 2E



Materials and equipment blocking entrances, which can affect safe egress in case of emergency. Temporary supports appear to be introduced at the door. It may be due to excessive deflection.

Building 3A and 3B



Ice formation around building entrances are a potential slip and fall hazard. Icicles are typically formed due to poor roof insulation and poor roof drainage.

Building 3A



Improper safety barrier notifying staff of potential hazard.

Building 3A



Heating and water tanks are gas fired appliances and need to be in their own fire rated room separated from other occupied areas. Equipment is exposed.

Building 3A



Interior walls and ceiling have exposed combustibles construction; OBC requires minimum 1 layer of gypsum board for fire rating in non-sprinklered buildings.

Building 3A



Electrical services exposed. No drywall or panels protecting the wiring.

Building 3B



Crack in exterior block wall could be signs structural deficiency.

Building 3B



Crack in exterior block wall could be signs of structural deficiency.

Building 3B



Exposed flammable insulation needs to be protected with fire rated membrane (i.e. continuous layer of gypsum board).

Building 3B



Major ice formation on side of building, which indicates potential damage due to moisture penetration.

Building 5A and 5B



Exposed combustible construction components. All construction materials should be non-combustible in this classification of building. Two separate roofs connecting at different angles cause drainage problems.

Building 5B



Significant ice formation on building and roof, which is likely caused by poor insulation.

Building 5B



Appears to have inadequate task lighting for job being performed. Needs further investigation of lighting levels.

Building 5B



Exposed conduits that are touching each other and unorganized wiring could cause a future flash over and potentially cause a fire.

Building 5B



Door on second storey without sufficient protection. It is a potential fall hazard.

Building 5B



Damage to bulkhead evident near steel column.

Building 5C



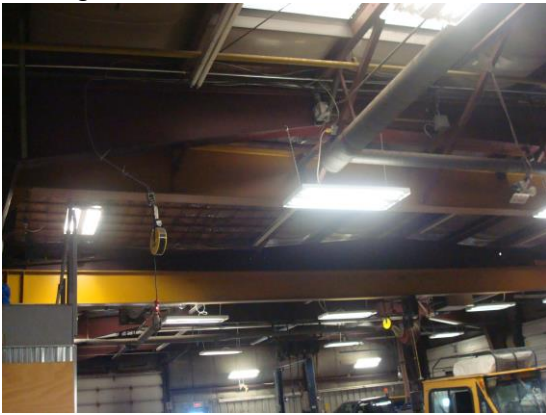
Exposed conduits that are touching each other and unorganized wiring could cause a future flash over and potentially cause a fire.

Building 5C



Exposed combustible construction needs fire rating. Temporary structural post.

Building 5C



Haphazard placement of lighting system indicates a poor electrical design.

Building 5C



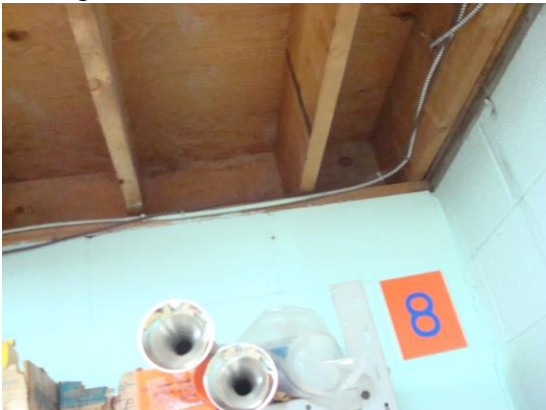
Improper HVAC construction. Exposed HVAC components are on the floor in occupied space.

Building 5C



It appears that the steel post and beam connection were installed without engineering review.

Building 5C



Unfinished ceiling with exposed wiring and exposed combustible construction. All structure supporting a mezzanine or second floor needs to be fire rated as per Ontario Building Code.

Building 5



Roof valley causes poor drainage and ice buildup. There is a potential for roof/wall leaks.

Building 6



Exterior doors on the cold storage buildings could better protect the equipment stored inside.

Building 6



Snow is pushed against the building, which is not good practice for a steel exterior building. Damage to existing siding caused by poor snow storage.

Building 6



Unsecured material rolls can be unstable.

Building 6



Outdoor storage building showing discolouration of the wooden roof trusses caused by moisture.

Building 6



Outdoor storage building showing discolouration of the wooden roof trusses caused by moisture and bird droppings.

Building 7A



Salt storage facility. Rust, holes and dents in the corrugated steel pipe structure.

Building 7B



Ice and snow formation around outdoor wiring and hoses. Brine is stored outside.

Building 8



Insufficient safety barrier/railing on second storey mezzanine.

Building 8



Low beam on catwalk is a safety concern.

Building 8



Snow penetration showing that weather seals around doorway need replacing.

Building 8



Overhead height concerns on the second floor mezzanine.

Building 8



Electric light and skylight indicate poor lighting design.

Building 8



Exhaust from vehicles in the garage could infiltrate office space, which is a potential hazard.

Building 8



Stairway railing not to current safety standards.

Building 9



Rot on wood walls could be a sign of moisture penetration.

Appendix B

Redevelopment & Design of the Municipal Works Yard

- Visual Building Condition Assessment

Visual Building Condition Assessment

Building:	01	Administration		69%	
		Standard	Ranking	Total	Notes
Finishes & Envelope		48.0%	60.0%	28.8%	
Structure		25.0%	80.0%	20.0%	
Electrical		15.0%	80.0%	12.0%	
Plumbing		5.0%	70.0%	3.5%	
HVAC		6.0%	70.0%	4.2%	
Fire Alarm		1.0%	50.0%	0.5%	
Hazardous material: Potential asbestos				Seismic assessment and heritage character not required	
Building:	02 A	Public Property Section		49%	Workshop
		Standard	Ranking	Total	Notes
Finishes & Envelope		49.0%	50.0%	24.5%	substandard roof ventilation roof valley
Structure		25.0%	50.0%	12.5%	
Electrical		15.0%	50.0%	7.5%	
Plumbing		2.0%	50.0%	1.0%	
HVAC		5.0%	50.0%	2.5%	
Part 3 of OBC		4.0%	25.0%	1.0%	CO sensor only
Hazardous material: Potential asbestos				Seismic assessment and heritage character not required	
Building:	02 B	Public Property Section		25%	Wood workshop
		Standard	Ranking	Total	Notes
Finishes & Envelope		48.0%	25.0%	12.0%	substandard roof ventilation
Structure		25.0%	25.0%	6.3%	
Electrical		15.0%	25.0%	3.8%	
Plumbing		5.0%	25.0%	1.3%	
HVAC		5.0%	25.0%	1.3%	
Part 3 of OBC		2.0%	0.0%	0.0%	
Hazardous material: Potential asbestos				Seismic assessment and heritage character not required	
Building:	02 C	Public Property Section		27%	Storage
		Standard	Ranking	Total	Notes
Finishes & Envelope		48.0%	25.0%	12%	substandard roof ventilation substandard structural retrofit
Structure		25.0%	25.0%	6%	
Electrical		15.0%	25.0%	4%	
Plumbing		5.0%	50.0%	3%	
HVAC		5.0%	50.0%	3%	
Part 3 of OBC		2.0%	0.0%	0%	
Hazardous material: Potential asbestos				Seismic assessment and heritage character not required	
Building:	02 D	Public Property Section		32%	Wooden Storage
		Standard	Ranking	Total	Notes
Finishes & Envelope		53.0%	30.0%	16%	substandard roof ventilation
Structure		25.0%	25.0%	6%	
Electrical		15.0%	50.0%	8%	
Plumbing		5.0%	50.0%	3%	
HVAC		0.0%	0.0%	0%	
Part 3 of OBC		2.0%	0.0%	0%	
Hazardous material: Unknown				Seismic assessment and heritage character not required	
Building:	02 E	Public Property Section		29%	Wooden Storage
		Standard	Ranking	Total	Notes
Finishes & Envelope		48.0%	30.0%	14%	substandard roof ventilation
Structure		25.0%	25.0%	6%	
Electrical		15.0%	30.0%	5%	
Plumbing		5.0%	30.0%	2%	
HVAC		5.0%	50.0%	3%	
Part 3 of OBC		2.0%	0.0%	0%	
Hazardous material: Unknown				Seismic assessment and heritage character not required	

Building:	03 A	Roads Section		42%	Steel structure
		Standard	Ranking	Total	Notes
Finishes & Envelope		48.0%	40.0%	19%	substandard roof ventilation
Structure		25.0%	40.0%	10%	
Electrical		15.0%	50.0%	8%	
Plumbing		5.0%	50.0%	3%	
HVAC		5.0%	50.0%	3%	
Part 3 of OBC		2.0%	0.0%	0%	
Hazardous material: Unknown					Seismic assessment and heritage character not required
Building:	03 B	Roads Section		32%	Steel structure
		Standard	Ranking	Total	Notes
Finishes & Envelope		48.0%	30.0%	14%	substandard roof ventilation crack in the wall
Structure		25.0%	20.0%	5%	
Electrical		15.0%	50.0%	8%	
Plumbing		5.0%	50.0%	3%	
HVAC		5.0%	50.0%	3%	
Part 3 of OBC		2.0%	0.0%	0%	
Hazardous material: Unknown					Seismic assessment and heritage character not required
Building:	04	Tire Shed		49%	Steel structure
		Standard	Ranking	Total	Notes
Finishes & Envelope		48.0%	50.0%	24%	substandard roof ventilation
Structure		25.0%	50.0%	13%	
Electrical		15.0%	50.0%	8%	
Plumbing		5.0%	50.0%	3%	
HVAC		5.0%	50.0%	3%	
Part 3 of OBC		2.0%	0.0%	0%	
Hazardous material: High, rubber					Seismic assessment and heritage character not required
Building:	05 A	MW Garage		52%	Steel structure
		Standard	Ranking	Total	Notes
Finishes & Envelope		48.0%	40.0%	19%	substandard roof ventilation
Structure		25.0%	80.0%	20%	
Electrical		15.0%	50.0%	8%	
Plumbing		5.0%	50.0%	3%	
HVAC		5.0%	50.0%	3%	
Part 3 of OBC		2.0%	0.0%	0%	
Hazardous material: Moderate, gas, fuel					Seismic assessment and heritage character not required
Building:	05 B	MW Garage		45%	Steel structure
		Standard	Ranking	Total	Notes
Finishes & Envelope		48.0%	40.0%	19%	substandard roof ventilation
Structure		25.0%	80.0%	20%	
Electrical		15.0%	20.0%	3%	
Plumbing		5.0%	25.0%	1%	
HVAC		5.0%	25.0%	1%	
Part 3 of OBC		2.0%	0.0%	0%	
Hazardous material: Moderate, gas, fuel					Seismic assessment and heritage character not required
Building:	05 C	MW Garage		32%	Steel structure
		Standard	Ranking	Total	Notes
Finishes & Envelope		48.0%	50.0%	24%	substandard roof ventilation attic slab is substandard
Structure		25.0%	10.0%	3%	
Electrical		15.0%	20.0%	3%	
Plumbing		5.0%	25.0%	1%	
HVAC		5.0%	25.0%	1%	
Part 3 of OBC		2.0%	0.0%	0%	
Hazardous material: Moderate, gas, fuel					Seismic assessment and heritage character not required

Building:	06	Equipment Storage		15%	Wood structure
		Standard	Ranking	Total	Notes
Finishes & Envelope		47.0%	20.0%	9%	substandard roof ventilation damage in bearing wall
Structure		40.0%	10.0%	4%	
Electrical		10.0%	20.0%	2%	
Plumbing		0.0%	0.0%	0%	
HVAC		0.0%	0.0%	0%	
Part 3 of OBC		3.0%	0.0%	0%	
Hazardous material: Moderate, gas, fuel				Seismic assessment and heritage character not required	
Building:	07 A	Salt Storage Ovals		10%	Steel structure
		Standard	Ranking	Total	Notes
Finishes & Envelope		37.0%	10.0%	4%	severe rust
Structure		55.0%	10.0%	6%	
Electrical		5.0%	10.0%	1%	
Plumbing		0.0%	0.0%	0%	
HVAC		0.0%	0.0%	0%	
Part 3 of OBC		3.0%	0.0%	0%	
Hazardous material: Moderate				Seismic assessment and heritage character not required	
Building:	07 B	Salt Storage Ovals		10%	Steel structure
		Standard	Ranking	Total	Notes
Finishes & Envelope		37.0%	10.0%	4%	severe rust
Structure		55.0%	10.0%	6%	
Electrical		5.0%	10.0%	1%	
Plumbing		0.0%	0.0%	0%	
HVAC		0.0%	0.0%	0%	
Part 3 of OBC		3.0%	0.0%	0%	
Hazardous material: Moderate				Seismic assessment and heritage character not required	
Building:	08	Water & Sewer Section		42%	Steel structure
		Standard	Ranking	Total	Notes
Finishes & Envelope		48.0%	50.0%	24%	substandard roof ventilation
Structure		25.0%	50.0%	13%	
Electrical		15.0%	20.0%	3%	
Plumbing		5.0%	25.0%	1%	
HVAC		5.0%	25.0%	1%	
Part 3 of OBC		2.0%	0.0%	0%	
Hazardous material: Moderate				Seismic assessment and heritage character not required	
Building:	09	Traffic Shop		48%	
		Standard	Ranking	Total	Notes
Finishes & Envelope		48.0%	50.0%	24%	substandard roof ventilation
Structure		25.0%	50.0%	13%	
Electrical		15.0%	50.0%	8%	
Plumbing		5.0%	50.0%	3%	
HVAC		5.0%	25.0%	1%	
Part 3 of OBC		2.0%	0.0%	0%	
Hazardous material: Moderate				Seismic assessment and heritage character not required	
Building:	10	Storage Building		33%	
		Standard	Ranking	Total	Notes
Finishes & Envelope		48.0%	30.0%	14%	substandard roof ventilation
Structure		25.0%	30.0%	8%	
Electrical		15.0%	50.0%	8%	
Plumbing		5.0%	50.0%	3%	
HVAC		5.0%	25.0%	1%	
Part 3 of OBC		2.0%	0.0%	0%	
Hazardous material: Moderate				Seismic assessment and heritage character not required	

Building:	11	Optimist Park	48%	
	Standard	Ranking	Total	Notes
Finishes & Envelope	48.0%	50.0%	24%	
Structure	25.0%	50.0%	13%	
Electrical	15.0%	50.0%	8%	
Plumbing	5.0%	50.0%	3%	
HVAC	5.0%	25.0%	1%	
Safety	2.0%	0.0%	0%	
Hazardous material: Moderate			Seismic assessment and heritage character not required	
Building:	12	1.05 Acre Vacant Lot	0%	
	Standard	Ranking	Total	Notes
Finishes & Envelope	0%		0%	
Structure	0%		0%	
Electrical	0%		0%	
Plumbing	0%		0%	
HVAC	0%		0%	
Safety	0%		0%	
Hazardous material: EA Phase 1 required			Seismic assessment and heritage character not required	
Building:	13	Under Ground Fuel Storage Tank	34%	
	Standard	Ranking	Total	Notes
Tank	70%	40%	28%	pg3, bldg 11 Building Deficiency Report , PWGSC 2006 pg3, bldg 11 Building Deficiency Report , PWGSC 2006
Structure	10%	40%	4%	
Electrical	0%	0%	0%	
Plumbing	0%	0%	0%	
HVAC	0%	0%	0%	
Safety	20%	10%	2%	
Hazardous material: High, fuel, oil, gas, Phase 1 EA required			Seismic assessment and heritage character not required	
Building:	14	Water Dispensing Station	37%	
	Standard	Ranking	Total	Notes
Tank	80%	40%	32%	
Structure	10%	40%	4%	
Electrical	0%	0%	0%	
Plumbing	0%	0%	0%	
HVAC	0%	0%	0%	
Safety	10%	10%	1%	
Hazardous material: High, mercury			Seismic assessment and heritage character not required	
Building:	15	Construction Material Stockpile	0%	
	Standard	Ranking	Total	Notes
Finishes & Envelope	0%		0%	
Structure	0%		0%	
Electrical	0%		0%	
Plumbing	0%		0%	
HVAC	0%		0%	
Safety	0%		0%	
Hazardous material: EA Phase 1 required			Seismic assessment and heritage character not required	
Building:	16	Excavated Material Temporary Station	0%	
	Standard	Ranking	Total	Notes
Finishes & Envelope	0%		0%	
Structure	0%		0%	
Electrical	0%		0%	
Plumbing	0%		0%	
HVAC	0%		0%	
Safety	0%		0%	
Hazardous material: EA Phase 1 required, mercury			Seismic assessment and heritage character not required	

Appendix C

Redevelopment & Design of the Municipal Works Yard

- Phase I Environmental Site Assessment Report



**Phase I
Environmental Site Assessment
Proposed Lemay Street Extension and
Municipal Work Yard Reconfiguration
Cornwall, Ontario**

Prepared for:

AECOM Canada Ltd.
1150 Morrison Drive, Suite 302
Ottawa, Ontario
K2H 8S9

Attention: Vanessa Skelton, P.Eng., Senior Transportation Engineer

LRL Associates Ltd.

5430 Canotek Road
Ottawa, Ontario
K1J 9G2

• **Tel:** (613) 842-3434 or (877) 632-5664
Website: www.LRL.ca
Fax: (613) 842-4338

EXECUTIVE SUMMARY

AECOM Canada Ltd. has retained LRL Associates Ltd. (LRL) to complete a Phase I Environmental Site Assessment (ESA) on the property located at 1225 and 1246 Ontario Street in Cornwall, Ontario as well as the adjacent vacant parcel of land south of 1246 Ontario Street following Twelfth Street East, the parcel of land north of 1225 Ontario Street and the parks building and associated property located at the north-central portion of 301 Sunnyside Avenue (herein referred to as the Site). The majority of the Site (1225 and 1246 Ontario Street) is developed with a municipal yard, storage and office space while the remainder of the Site is vacant or treed. 301 Sunnyside Avenue is developed with a storage building and office space. This assessment was conducted in the context of a proposed land development and site alteration.

The Site is set within a residential and recreational area. The St-Lawrence River is located approximately 2.6 km southeast of the Site. The topography of the Site and surrounding area is sloping gently towards the south with elevations between 58 and 62 m above mean sea level (amsl). The majority of the Site is generally flat with the exception to a notable slope from the northern portion of the Municipal yard extending west along Lemay Street and Ontario Street. The slope declines to the south at the municipal yard and along Ontario Street. Lemay Street slopes west near the west extent of the Site. It is suspected that the raised portion of the Site may be an extension of the waste mound to the north at Optimist Park, the former landfill site.

The Site (all parcels combined) is irregular with an approximate 58,560 m² (14.4 Acres) currently developed with a total of twelve (12) buildings ranging between 15 and 1220 m² in surface area. The southwestern and the northeastern portions of the Site are vacant and treed, respectively. A former mobile home was located at the southern portion of 1246 Ontario Street until approximately 10 years ago when the City of Cornwall took ownership of this Parcel of land and the structure was removed. The northern portion of the municipal yard is used to temporarily store snow and soil from snow removal and road work activities. City owned Hydro-vac vehicles deposit their contents in a pit located at the eastern portion of the area.

The currently 4.5 acre parcel of land immediately north of 1225 Ontario Street is currently used as a recreational field. According to the Anderson Waste Disposal Site Inventory, a landfill was active at this location since at least 1960. Several groundwater quality investigation reports prepared by TRG were provided to LRL for review by Aecom Canada as part of this Phase I ESA as well as part of other subsequent investigations. It was decided that the most recent groundwater quality report provided be reviewed as part of this assessment (2008). Optimist Park, immediately north public works municipal yard, was developed over a former landfill site in the mid 1980s. The former landfill site that occupied this parcel of land was operated by the City of Cornwall from the 1940s to the late 1950s. TRG concludes that the groundwater quality of the Site does have exceedances to the Table 3 provincial guidelines, however the exceedances are described as "minor". The leachate plume from the former landfill is found to impact the silty sand aquifer and appears to migrate south, southwesterly and southeast at a rate of approximately 1.4 m/yr. The former landfill site presents a high environmental risk for potential environmental concern.

Asbestos (Re-) Assessment reports for various City of Cornwall Public Works buildings were provided by the City of Cornwall for review. The buildings assessed included the Administration Building, Barricade Shed, Carpenter Shop, City Stores, Equipment Storage Shed, Garage, Roads Shop, Salt/Sand Shed #1, Salt/Sand Shed #2, Tire Shed, Traffic Shop and

Waterworks/Sewer Shed. Asbestos containing materials were identified at select locations on the Site.

Correspondence with the TSSA revealed that on January 4, 1990, three (3) active 25,000 L single walled steel underground petroleum storage tank were inspected on the Site. The tanks were installed in 1987 and diesel (one) and gasoline (two). The risks for environmental concerns associated with these installations are high. Three (3) records of TSSA Historic Incidents were retrieved within 300 m of the Site. The risk for environmental concerns associated with these incidents is low due to its location down and trans-gradient of the Site or due to their compositional attributes.

Between 1988 and 1990, 1992 and 2004 the Site was registered as a generator of Paint/Pigment/Coating Residues, Inorganic Laboratory Chemicals, Petroleum Distillates, Light Fuels, Halogenated Pesticides, Waste Oils and Lubricants, Organic Laboratory Chemicals and Waste Compressed Gases. In 2009 through 2013, the Site was registered as a generator of Aliphatic Solvents and Waste Oils and Lubricants. Between 1998 and 2008 the Site was listed as a generator of Oil Skimming and Sludges, Aliphatic Solvents and Waste Oils and Lubricants. As of April 2014, the Site has been registered as a generator of Aliphatic Solvents and Residues and Waste Crankcase Oils and Lubricants. The wastes generated at the Site from between the late 1980s and April 2014, present a moderate to high environmental risk of potential environmental concern. It is assumed that these wastes, are associated with the repair garage activities.

A 900 L underground waste oil tank is located along the north face of the repair garage. Waste oil generated on Site is disposed of into the tank which is then removed by a licenced contractor for offsite disposal. A 15000 L capacity aboveground container is located at the northern portion of the Site between the two (2) salt/sand storage sheds. It is used to store de-icing brine (MgCl). Within the repair garage, along the north face of the building, four (4) plastic containers are present used to store automotive transmission fluid, *Preston*, Hydraulic oil and motor oil used during the associated activities. The waste oil UST and other storage container present a moderate to high environmental risk of potential environmental concern. Hydraulically operated devices that can contain hydraulic oils (i.e. piston type elevators, vehicle hoist and compactors) were observed. In-ground, stationary hoists are present in the repair garage which presents a moderate to high environmental risk of potential environmental concern

Several other containers, pails and drums are present across the Site used to store various chemicals associated with the City's Public Works activities. They are all in generally good contention with no evidence of punctures or corrosion. Some evidence of spills of oils was observed in the repair garage in proximity to select storage containers.

Records of six (6) spills within 300 m of the Site were retrieved, one of which occurred on the Site, 1225 Ontario Street. The records retrieved present low environmental risk generally due to their distance from the Site. The spill that occurred at 1225 Ontario Street was found to present a low environmental risk as the spill was to a municipal service and is likely contained rather to the natural environment.

Maps were reviewed by LRL to obtain the regional geology and information on the surficial soil and bedrock. The surficial geology of the Site consists of Clay. Silty clay and silt. The bedrock geology is found to be the St Martin Formation which consists of Limestone, minor shale and dolomite. The presence of significant amounts of fill material (beyond that required for normal construction and/or grading) was generally not observed across the Site with the exception to the northern portion of the 1225 Ontario Street. The northern portion of the Municipal Yard is elevated in comparison to the remainder of the surround land which continues west along

Lemay Street. Similar topography is noted to the north at the former landfill site. It is suspected that this is a result of buried waste encompassing this area. The inferred groundwater flow direction of the Site is south following the general topography towards the St Lawrence River.

A potentially contaminating activity is a use or activity set out in Table 2 of Schedule D of the O. Reg. 153/04.

The activities on the site and lands within 250 m generally consist of vacant, residential and commercial (retail, fitness center and office space).

Based on the results of the Phase I Environmental Site Assessment the following areas of potential environmental concern were identified:

Potential Environmental Concern	Location	Comments	Contaminants of Potential Concern	Media Potentially Impacted
1225 Ontario Street				
Fuel dispensing equipment/ installations	Along the west perimeter of the property, approximately midway north-south	Consists of three (3) UST containing gasoline and diesel and an associated pump island. Installed in 1987.	VOC, PHC	Soil and groundwater
Waste Oil UST	Along north face of repair garage	900 L capacity.	VOC, PHC	Soil and groundwater
Stationary in-ground hoists	In repair garage	One (1) observed at the time of the Site visit	VOC, PHC	Soil and groundwater
General repair garage activities and waste generated	Approximately center of the property	Minor surface staining observed across the garage	VOC, PHC, Metals, SVOC	Soil and groundwater
MgCl storage	Northern portion of property, between salt storage sheds	15000 L capacity, used for road de-icing	Metals	Soil
Snow and Soil disposal	Northern portion of property	Temporary storage and disposal yard for snow, soil and hydro-Vac activities	Metals, PHC, VOC	Soil and groundwater
1246 Ontario Street				
Former Mobile Home	Southern portion of property	Potential for former oil heating tank and buried waste from removal	VOC, PHC, Metals	Soil and groundwater
Neighbouring Properties within 250 m of the Site				
Former Landfill Site	Immediately north of Lemay Street	Potentially encroached onto 1225 Ontario Street and across Lemay Street based on topographic observations and information provided by the client	Metals, VOC, General Inorganics	Soil and groundwater

Based on the findings of the Phase I ESA, it was recommended that a Phase II ESA be conducted on the site to confirm the impacts of the potential environmental concerns identified.

TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	Property Information.....	1
1.2	Site Occupancy.....	2
2	SCOPE OF INVESTIGATION.....	2
3	RECORDS REVIEW.....	3
3.1	General	3
3.1.1	Phase I Study Area Determination	3
3.1.2	First Developed Use Determination	3
3.1.3	Fire Insurance Plans	3
3.1.4	Property Underwriters's Report.....	3
3.2	Chain of Title	3
3.3	Environmental Reports.....	4
3.4	Environmental Source Information.....	6
3.4.1	City of Cornwall Freedom of Information Request	6
3.4.2	Ontario Ministry of Environment's Freedom of Information Act.....	7
3.4.3	Inventory of Coal Tar Industrial Sites in Ontario	9
3.4.4	Technical Standards and Safety Authority	9
3.5	Ecolog Eris Databases	10
3.5.1	Anderson Waste Disposal Sites	10
3.5.2	Certificates of Approvals	10
3.5.3	Environmental Registry	10
3.5.4	ERIS Historical Searches.....	11
3.5.5	Fuel Storage Tank	11
3.5.6	Fuel Storage Tank- Historic	12
3.5.7	Ontario Regulation 347 Waste Generators Summary	12
3.5.8	TSSA Historic Incidents	13
3.5.9	National Pollutant Release Inventory	13
3.5.10	Pesticides Registry	14
3.5.11	Private and Retail Fuel Storage Tanks.....	14
3.5.12	Ontario Spills	15
3.5.13	Scott's Manufacturing Directories.....	15
3.5.14	Waste Disposal Sites i MOE 1991 Historical Approval Inventory	16

3.5.15	Water Well Information System.....	16
3.6	Material Safety Data Sheets	17
3.7	Physical Setting Sources	18
3.7.1	Aerial Photographs	18
3.7.2	Topography, Hydrology & Geology	19
4	INTERVIEWS	20
5	SITE RECONNAISSANCE	21
5.1	Site Visit Information	21
5.2	General	21
5.2.1	Hazardous Materials & Unidentified Substances.....	21
5.2.2	Storage Tanks & Containers	21
5.2.3	Odours.....	22
5.3	Exterior Observations.....	22
5.3.1	Topographic Geologic & Hydrogeologic.....	22
5.3.2	Structures	23
5.3.3	Other Observations.....	27
5.4	Utilities.....	28
5.5	Interior of Structures	28
5.6	Adjacent Land Use.....	29
5.7	Special Attention Items	30
5.7.1	Designated Substances	30
5.7.2	Other Hazardous Building Materials/Items	31
6	REVIEW AND EVALUATION OF INFORMATION	32
6.1	Current and Past Uses.....	32
7	PHASE I CONCEPTUAL SITE MODEL	32
8	POTENTIALLY CONTAMINATING ACTIVITY & AREAS OF POTENTIAL ENVIRONMENTAL CONCERN	34
9	CONCLUSIONS	36
10	LIMITATIONS AND USE OF REPORT	36
11	REFERENCES.....	37

FIGURES

(In order following text)

Figure 1 Site location.

Figure 2 Zoning within 250 m of the Site.

Figure 3.1 Site plan and potential environmental concerns on the site and within 250 m of the Site.

Figure 3.2 Site plan and potential environmental concerns on the site and within 250 m of the Site.

APPENDICES

(In order following Figures)

Appendix A	Chain of Title
Appendix B	Ecolog Eris Report
Appendix C	Aerial Photographs
Appendix D	Topographic Maps
Appendix E	Site Visit Photographs

1 INTRODUCTION

AECOM Canada Ltd. has retained LRL Associates Ltd. (LRL) to complete a Phase I Environmental Site Assessment (ESA) on the property located at 1225 and 1246 Ontario Street in Cornwall, Ontario as well as the adjacent vacant parcel of land south of 1246 Ontario Street following Twelfth Street East, the parcel of land north of 1225 Ontario Street and the parks building and associated property located at the north-central portion of 301 Sunnyside Avenue (herein referred to as the Site). The location of the Site is presented in **Figure 1**. The majority of the Site (1225 and 1246 Ontario Street) is developed with a municipal yard, storage and office space while the remainder of the site is vacant or treed. 301 Sunnyside Avenue is developed with a storage building and office space. This assessment was conducted in the context of a proposed land development and site alteration.

The Phase I ESA identifies the existing environmental conditions and potential environmental liabilities associated with the subject property, focusing on the possible presence of contamination on the property. It includes a review of available information (historical data and aerial photographs) and a visual site inspection to assess potential contamination of past or present activities conducted on the property itself and on adjacent properties.

Potential contamination represents the uncontrolled release of foreign substances within the natural environment. Such an event can result in air, soil and groundwater contamination that may represent environmental liabilities towards the site and perhaps towards adjacent properties. The ESA evaluates in a consistent manner, within the time constraints imposed for this report, whether such events have occurred at this site. This level of work is a method of risk reduction and does not eliminate risk for the client.

1.1 Property Information

Address:	1225 and 1246 Ontario Street; Concession 2 part lot 8 Reference Plan 52r6444; part 2, Part of Concession 2 part lot 7 Reference Plan 52r4061 parts 1 to 6 and 8; and South Part of Concession 2 part lot 8d 1753.91, Cornwall, Ontario; and 301 Sunnyside Avenue.
Frontage:	1225 and 1246 Ontario Street: Ontario Street Concession 2 part lot 8 Reference Plan 52r6444; part 2: Twelfth Street East South part of Concession 2 part lot 7 Reference Plan 52r4061 parts 1 to 6 and 8, and South Part of Concession 2 part lot 8d 1753.91: Not Applicable 301 Sunnyside Avenue: Sunnyside Avenue

Zoning:	1225 and 1246 Ontario Street: Residential (RES 20) Concession 2 part lot 8 Reference Plan 52r6444; part 2: Residential (RES 20) South part of Concession 2 part lot 7 Reference Plan 52r4061 parts 1 to 6 and 8: Residential (RES 20) Part of Concession 2 part lot 8d 1753.91: OSP 10 (Open Space Commercial) 301 Sunnyside Avenue: OSP 10 (Open Space Commercial) The various zoning of the properties within 250 m of the Site is shown in Figure 2 .
Legal description:	Plan 113 lot 12 & Concession 2 Part east ½ lot 8, reference plan 52r6444, Concession 2 Part lot 8d 1753.91 and part, Concession 2 part lot 7 reference plan 52r4061 parts 1 to 6 and 8.
Dimensions:	Irregular: Between approximately 45 and 520 m wide (east-west) by between 30 and 320 m deep. The portion of 301 Sunnyside Avenue included in this assessment is approximately
Area:	58,560 m ² (14.4 Acres)

The Site's location is shown in **Figure 1** and the general site configuration is shown on the Site Plan in **Figure 3.1 and 3.2**. For the purposes of this report, Ontario Street will be inferred as running in a north-south direction.

1.2 Site Occupancy

Current owner:	The Municipal Corporation of the Town of Cornwall
Owner since:	1944
Current use:	The majority of the Site is used as The City of Cornwall municipal yard and office space. The parcel of land to the southwest is vacant and the area of the proposed Lemay Street Extension is generally treed.
Current use since:	At least the mid 1950s

2 SCOPE OF INVESTIGATION

LRL conducted this work in accordance to the standard Phase I ESA procedures, which generally reflect the requirements of:

- Canadian Standards Association (CSA) Phase I Environmental Site Assessment, Z768-01 (2001); and
- O. Reg. 153/04 as amended.

The scope of work for the Phase I ESA consisted of the following:

- Reviewing reasonably ascertainable records regarding the occupancy of the site and surrounding properties (i.e. business directories, fire insurance plans and aerial photographs);
- Interviewing current and previous owners and/or tenants and local and provincial authorities;

- Conducting a site visit that consists of a walk-through visual assessment of the site and adjacent properties (from publicly accessible areas); and
- Evaluation of the information collected.

This report will present the results of the ESA carried out between April 13 and June 3, 2015.

3 RECORDS REVIEW

3.1 General

3.1.1 Phase I Study Area Determination

Study area:	250 m
Rational for extending study area beyond the minimum 250 m	
Select searches were carried out within a 300 m of the Site for a more detailed assessment of the area of concern.	

3.1.2 First Developed Use Determination

First developed use is defined by O. Reg. 153/04 section 22(1) as the first property use after 1875 that resulted in a building or structure or the first potentially contaminating activity, whichever is earlier.

First developed use:	Municipal yard, garages and office space
Year	Mid 1940s.
Basis for determination of first developed use	
Interview and Aerial Photographs.	

3.1.3 Fire Insurance Plans

Fire Insurance Plans (FIP) mapped streets and buildings of urban Canada in great detail and illustrate building construction, occupancy and potential fire hazards. They also provide detailed information regarding storage tanks, transformers, boilers and electrical rooms. The original plans were produced between 1875 and 1923 and continued to be produced and updated until production ceased in 1974. No Fire Insurance Plans were found for the Site.

3.1.4 Property Underwriters Report

Property Underwriters Site Plans and Reports provide detailed information on a site-specific basis and include descriptions of building construction, heating sources, production processes, and the presence of chemicals or materials which may be stored on site. They also indicate the presence of environmental hazards such as electrical rooms, transformers, boilers, and storage tanks. No Property Underwriters Reports were found for the Site.

3.2 Chain of Title

Land Titles contain legal title information concerning property ownership, transfer details, and any encumbrances such as mortgages or easements. Each time a new transaction occurs, property records are updated as soon as the instrument is registered. A copy of the Chain of Title is included in **Appendix A**.

Records search provider:	Service Ontario Land Registry Office
Date of search:	April 2, 2014
Pertinent Information:	The search covered the parcel of land identified as 1225 Ontario Street. The searched covered the period from 1944 to present. The site was transferred to The Municipal Corporation of the Town of Cornwall in 1944. An easement was transferred to Trans-Northern Pipe Line Company in 1952.

3.3 Environmental Reports

Reports:	Optimist Park 2008 Groundwater Quality Investigation Report
Date:	April 2009
Author:	The Thompson Rosemount Group Inc.
Prepared for:	The City of Cornwall
Description of data, analysis and findings relevant to the Phase I ESA: Several groundwater quality investigation reports were provided to LRL for review by Aecom Canada as part of this Phase I ESA as well as part of other subsequent investigations. It was decided that the most recent groundwater quality report provided be reviewed as part of this assessment (2008). Optimist Park, immediately north public works municipal yard, was developed over a former landfill site in the mid 1980's. The former landfill site that occupied this parcel of land was operated by the City of Cornwall from the 1940's to the late 1950's. As of 2002, The Thompson Rosemount Group Inc. (TRG) have actively evaluated the potential for environmental impacts of the former site activities to the groundwater, soil and surface water in association with the Ontario Ministry of the Environment regulations and recommendations/orders. The local geological conditions across the site were found to generally consist of a between 1 and 2 m thick silty sand stratum over clay. The thickness of the waste ranges between 3.1 and 3.8 m based on the advancement of two (2) boreholes within the waste mound. A sub drain was installed by the City of Cornwall along the west perimeter of the property to aid of controlling the excess groundwater as well as run-off. Sixteen groundwater monitoring wells have been constructed across the area, in and within proximity to the former landfill site. Surface water sample locations have also been established by TRG. These samples locations and monitoring wells are utilized to establish the environmental conditions and potential impacts as a result of the former landfill activities. Two (2) groundwater and surface water sampling events were carried out in 2008 (May and October) by TRG. The laboratory analysis results of the sampling events were compared to the <i>Table 3 Soil, Groundwater and Sediment Standards for use Under Part XV.1 of the Environmental Protection Act, Non-Potable Groundwater Conditions, All Types of Property Use</i>. The surface water samples collected were also compared against the Provincial Water Quality Objectives (PWQO). Elevated levels, above the applicable provincial Table 3 criteria, were found for Zinc, Copper, Benzo(a)pyrene, Benzo(k)fluoranthene, Benzo(g,h,i)perylene, Chrysene, and Indeno(1,2,3-cd)pyrene parameters at select groundwater monitoring locations within the waste mound and slightly side gradient. Select surface water samples collected in 2008 were found to have values	

of Iron, Boron and Zinc above the PWQO. All parameters analyzed meet the Table 3 provincial standards.

TRG concludes that the groundwater quality of the Site does have exceedances to the Table 3 provincial guidelines, however the exceedances are described as "minor". The leachate plume from the former landfill is found to impact the silty sand aquifer and appears to migrate south, southwesterly and southeast at a rate of approximately 1.4 m/yr.

Reports:	Asbestos Re-Assessment Survey – Update Report; and Asbestos Assessment Survey Report
Date:	December 5, 2014 and January 30, 2015
Author:	Abacon Environmental Consultants Inc.
Prepared for:	The City of Cornwall
Description of data, analysis and findings relevant to the Phase I ESA:	
Asbestos (Re-) Assessment reports for various City of Cornwall Public Works buildings were provided by the City of Cornwall for review. The buildings assessed included the Administration Building, Barricade Shed, Carpenter Shop, City Stores, Equipment Storage Shed, Garage, Roads Shop, Salt/Sand Shed #1, Salt/Sand Shed #2, Tire Shed, Traffic Shop and Waterworks/Sewer Shed. Asbestos containing materials were identified at the following locations: • The administrative building was found to have what was identified as cheese cloth cement (parging) on small fittings and transite on the walls in the work area and offices that were found to be asbestos containing materials (ACM). The vinyl floor tiles encountered in the file storage and print room were ACM as well as the vermiculite found behind the exterior face and electrical room. The transite on the pipes in the electrical room were assumed ACM; • In the washrooms of the carpenter shop, the ceiling and wall joint compound was assumed ACM as it was not sampled to avoid damage; and • Firestop material was encountered on the walls of the garage and was considered ACM. The environmental concerns associated with ACM are low when the material is undisturbed. It is recommended that prior to any renovation, demolition or site alteration activities, these reports should be provided and reviewed to/by the parties involved so the proper procedures and precautions can be undertaken to minimize the impacts of ACM material to the environment and human health.	

Reports:	Proposed 150 mm Watermain Construction on Lemay Street From St. Michel to Ontario Street Site Plan
Date:	December 17, 2006
Author:	Cornwall Infrastructure and Municipal Works Department Engineering Division
Prepared for:	The City of Cornwall
Description of data, analysis and findings relevant to the Phase I ESA: AECOM Canada provided LRL with a site plan depicting the locations of the municipal underground utilities along Lemay Street between the intersections of St. Michel Street and Ontario Street. The site plan revealed that east of the Michel Street and Lemay Street intersection, buried waste was encountered along the south portion of Lemay Street. The waste is likely from the adjacent former landfill site immediately north. The buried waste was encountered between 1.0 to 3.0 m below grade for at least 6 metres from the west to east. The full depth of the waste is not known as well as the full extent of the buried waste to the south and east. It is possible that the waste continues on Lemay Street east towards 1225 Ontario Street and south onto 1246 and 1225 Ontario Street.	

3.4 Environmental Source Information

3.4.1 City of Cornwall Freedom of Information Request

The City of Cornwall was contacted to obtain available information for the Site.

Interview subject:	Karl Doyle, Zoning and Site Plan Control Coordinator
Date:	June 3, 2015
Pertinent information: A freedom of Information Request was made to the City of Cornwall. According to the City of Cornwall's Official Plan, Schedule 4, there is no indication that the Site is a Brownfield or that it was a former Waste Disposal Site, including bark disposal. The Site was found not to have been a coal tar site. According to the City of Cornwall's GIS mapping system, a former waste disposal site is present to the north of 1225 Ontario Street. Several environmental monitoring reports were available for review pertaining to the former waste disposal site. A second former waste disposal site was identified approximately 300 m southeast of the Site following McConnell Avenue. The former waste disposal site north of 1225 Ontario Street poses high potential for environmental concern to the Site.	

3.4.2 Ontario Ministry of Environment's Freedom of Information Act

The Ontario Ministry of the Environment (MOE) was contacted under the Freedom of Information Act (FOI) to obtain available information for the Site regarding:

- Certificates of Approvals or any permits relating to air emissions (including noise), water taking and discharging, waste disposal sites, septic systems, pesticides storage or other similar instruments;
- Incidents, orders, offences, spills, discharges of contaminants or inspections;
- Waste management records, including current and historical waste storage locations and waste generator and waste receiver information; and
- Reports submitted to the MOE related to the environmental conditions of the property.

Interview subject:	Heidi Ritscher, FOI Manager
Date:	May 5, 2015
Pertinent information:	Under the Freedom of Information Act, a freedom of Information Request was made to the MOE. A search of the Ministry's Cornwall District Office, Investigations and Enforcement Branch, Environmental Monitoring and Reporting Branch, Sector Compliance Branch and Safe Drinking Water Branch, records were retrieved pertaining to the Site. The records retrieved are summarised as follows: • June 24, 1986, The Corporation of the City of Cornwall was issued a Generator Registry Number for the property located at 1225 Ontario Street in Cornwall. The registry number was for the generation of oil waste (252 L); • December 13, 1990, the MOE was notified of an oil sheen in Fly Creek (approximately 300 m east to southeast of the Site) from a drain at the City's municipal yard. The impacts were identified by the MOE as not significant and a recommendation to install an oil water separator was made to the City; • April 15, 1996, The Corporation of The City of Cornwall was issued a Generator Registry Number for the property located at 1225 Ontario Street, Cornwall for the following waste material: Paint/Pigment/Coating Wastes, Miscellaneous Inorganic Chemicals, Petroleum Distillates, Light Fuels, Halogenated Pesticides, Waste Oils and Lubricants, Miscellaneous Organic Chemicals and Waste Compressed Gases; • An inspection of the Site was carried out by the MOE on January 23, 2004 to confirm that the Site is in compliance with Ontario Regulation 347, Waste management pertaining to Waste i Hazardous and Liquid Industrial generator facility at 1225 Ontario Street. According to the inspection reports, the Site was registered as a waste generator, however select wastes generated at the Site are not part of the registry. The oil water separator is registered however the glycol waste generated in the repair garage is not registered. It was stated that the City must register the glycol waste; • On February 5, 2004 a spill was reported to the MOE by the City of Cornwall. Approximately 20 litres of hydraulic oil was uncovered by a City worker in a manhole at 1225 Ontario Street. It is likely the result of a City vehicle or equipment leaking hydraulic oil which ended up in the service. A contractor was obtained to clean up the spill. The file was closed in April 2004; • On January 15, 2010, A Certificate of Approval (Environmental Compliance Approval) for Air was issued to The Corporation of the City of Cornwall located at 1225 Ontario Street, Cornwall. The Certificate of Approval is in support of a backup diesel generator that would be used to provide power to the Site in the case of a power outage; and • October 28, 2010, the City of Cornwall contacted the MOE to requesting aid in registering as a Hazardous Waste Information Network as a Waste i Hazardous and Liquid Industrial generator. No further information was provided pertaining to the type of waste, quantity and source.

3.4.3 Inventory of Coal Tar Industrial Sites in Ontario

The MOE has created an inventory of all known and historical coal gasification plants. It identifies industrial sites that produced and continue to produce or use coal tar or other related tars. The program was discontinued in 1988.

Database:	Inventory of Industrial Sites Producing or Using Coal Tar and Related Tars in Ontario
Years covered:	Up to 1988
Search radius:	250 m
Description of data, analysis and findings relevant to the Phase I ESA: No records were found within a 250 m radius from the Site.	

3.4.4 Technical Standards and Safety Authority

Fuel storage at commercial and industrial facilities is regulated by the Technical Standards and Safety Authority (TSSA). Records of aboveground storage tanks are maintained for bulk storage facilities only. Underground storage tanks are required to be registered with the TSSA. There are no requirements to register private underground and aboveground fuel oil storage tanks for heating or waste oil. Records of registered and licensed tanks have been maintained since 1990.

Interview subject:	Sarah Quibell, Public Information Agent
Date:	April 13, 2015
Pertinent information: TSSA was contacted regarding available information concerning the presence of petroleum storage tanks, fuel spill records, accidents or fuel-related incidents which may be registered on the site or surrounding properties. The following records were retrieved for 1225 Ontario Street, Cornwall: - On January 4, 1990, three (3) 25,000 L single walled steel underground petroleum storage tank were inspected. The tanks were installed in 1987 and diesel (one) and gasoline (two). These tanks are found to be active to date; - An inspection by the TSSA on October 27, 1995 stated that the Site conforms with the applicable regulations pertaining to fuel dispensing facilities; - Recommendations pertaining to signage at the fuel dispensing facility were made by the TSSA following an inspection on July 23, 2002; and - July 23, 2005, the TSSA performed a site visit to inspect the petroleum installations. Deficiencies were found including the lack of corrosion protection and the records of the corrosion test were not available on Site. It was recommended by the TSSA that the steel piping and vents from the tanks be provided with corrosion protection. The underground storage tank system should be tested for corrosion protection by a qualified person.	

3.5 Ecolog Eris Databases

Databases accessed through Ecolog Eris, a database service provider from Toronto, Ontario are detailed below. Their report is included in **Appendix B**.

3.5.1 Anderson Waste Disposal Sites

This database is a collection of information from historical documents pertaining to the location of former waste disposal sites dating back to 1860 through present. This database was compiled to include those waste disposal sites that may be missing from the Ontario MOE Waste Disposal Site Inventory as well as correct the approximate locations and descriptions of facilities previously listed. Select auto wrecking facilities and scrap yards are included in the database.

Database:	Anderson's Waste Disposal Sites
Years covered:	1860's to Present
Search radius:	300 m
Date accessed:	April 16, 2015
Description of data, analysis and findings relevant to the Phase I ESA:	
Two (2) records were retrieved within 300 m of the Site. Both records are for the Ontario and Lemay Dump OP located immediately north of the Site at Cornwall Concession 2, Lots 7 and 8 parts. The former dump site was active in 1960 and encompasses an area of approximately 4.5 hectare. They present a high environmental risk for potential environmental concern to the Site.	

3.5.2 Certificates of Approvals

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 (C of A) before it can operate lawfully.

Database:	MOE Certificates of Approval
Years covered:	1985 to October 2011
Search radius:	300 m
Date accessed:	April 16, 2015
Description of data, analysis and findings relevant to the Phase I ESA:	
The Corporation of the City of Cornwall, 1225 Ontario Street, was issued a Certificate of Approval (CofA) for air in January 2010. No further details were provided. Two (2) CofA were issued to the City of Cornwall for municipal water and municipal sewage at the McConnell Avenue and Lemay Avenue in 1991. They present a low environmental risk for potential environmental concern due to their compositional attributes.	

3.5.3 Environmental Registry

In October 2011, a smarter, faster environmental approvals system came into effect in Ontario. The EASR allows businesses to register certain activities (heating systems, standby power system and automotive refinishing) with the ministry rather than apply for an approval.

Database:	Environmental Activity and Sector Registry
Years covered:	October 2011 to February 2014
Search radius:	300 m
Date accessed:	April 16, 2015
Description of data, analysis and findings relevant to the Phase I ESA:	
1675755 Ontario Inc. at 125 Eleventh Street West, approximately 240 m south of the Site, has an approval to discharge into the natural environment, other than water (likely air). No further details are provided other than it is related to an instrument proposal. It presents a low environmental risk for potential environmental concern due to its distances and likely compositional attributes.	

3.5.4 ERIS Historical Searches

EcoLog Eris has compiled a database of all environmental reports completed since March 1999.

Database:	ERIS Historical Searches
Years covered:	1999 to August 2014
Search radius:	300 m
Date accessed:	April 16, 2015
Description of data, analysis and findings relevant to the Phase I ESA:	
ERIS searches were conducted on a property located approximately 120 m southwest of the Site at 1107 Gretchen Court. The search was carried out in May 2010. It presents a low risk for environmental concern.	

3.5.5 Fuel Storage Tank

The Technical Standards and Safety Authority maintain a database of registered and private fuel storage tanks located throughout Ontario. The database is created in accordance with the TSSA Act of 2000. The database includes information on the location of the fuel storage tank, tank status, the date that the license was obtained, details of the tank including construction, size and content, the type of facility and the date the tank was installed.

Database:	Fuel Storage Tank
Years covered:	2010 to November 2014
Search radius:	300 m
Date accessed:	April 16, 2015
Description of data, analysis and findings relevant to the Phase I ESA:	
Three (3) records of active fuel storage tanks were retrieved for the Site, 1225 Ontario Street. The tanks were installed in 1987 and are of single walled steel construction. The tanks are 25,000 L capacity. Two (2) of them contain gasoline and one (1) contains diesel. The tanks present a high risk for environmental concern.	

3.5.6 Fuel Storage Tank- Historic

The Technical Standards and Safety Authority maintain a database of registered and private fuel storage tanks located throughout Ontario. The database is created in accordance with the TSSA Act of 2000. The database includes information on the location of the fuel storage tank, tank status, the date that the license was obtained, details of the tank including construction, size and content, the type of facility and the date the tank was installed.

Database:	Fuel Storage Tank - Historic
Years covered:	Pre- January 2010
Search radius:	300 m
Date accessed:	April 16, 2015
Description of data, analysis and findings relevant to the Phase I ESA:	
Two (2) records of Fuel Storage Tank i Historic were retrieved on the Site, 1225 Ontario Street. Both records. The records were for the tank status described on August 2007 and December 2008. The records indicate three (3) liquid fuel single wall underground storage tanks installed in 1987. They each have a capacity of 25,000 L and contain gasoline and diesel. The tank status described in the reports is those of August 2007 and December 2008. The tanks present a high risk for environmental concern.	

3.5.7 Ontario Regulation 347 Waste Generators Summary

The MOE's Waste Management branch maintains an inventory of Waste Generators in Ontario.

Database:	Ontario Regulation 347 Waste Generators Summary
Years covered:	1986 to July 2013
Search radius:	300 m
Date accessed:	April 16, 2015
Description of data, analysis and findings relevant to the Phase I ESA:	
Twelve records of were found for the Site, 1225 Ontario Street, and three (3) for select properties within 300 m of the Site.	
Between 1988 and 1990, 1992 and 2004 the Site was registered as a generator of Paint/Pigment/Coating Residues, Inorganic Laboratory Chemicals, Petroleum Distillates, Light Fuels, Halogenated Pesticides, Waste Oils and Lubricants, Organic Laboratory Chemicals and Waste Compressed Gases. In 2009 through 2013, the Site was registered as a generator of Aliphatic Solvents and Waste Oils and Lubricants. Between 1998 and 2008 the Site was listed as a generator of Oil Skimming and Sludges, Aliphatic Solvents and Waste Oils and Lubricants. As of April 2014, the Site has been registered as a generator of Aliphatic Solvents and Residues and Waste Crankcase Oils and Lubricants. The wastes generated at the Site from between the late 1980's and April 2014, present a moderate to high environmental risk of potential environmental concern.	
Approximately 280 m east of the Site, Mr. Rudy Ladouceur at 11223 McConnell Avenue, is listed as a waste generator in 2003 and 2004. The details of the material generated were not provided. The wastes generated at this property present a low environmental risk due to its location side-gradient of the Site according to the assumed groundwater flow direction to the south.	

ESSO Petroleum Canada, located approximately 250 m south of the Site at 1020 Adolphus Street is listed as a generator of Light Fuels and Oil Skimming and Sludges wastes between 1992 and 1998. The waste generated at this property presents a low environmental risk of potential environmental concern on the Site due to its location down-gradient of the Site according to the assumed groundwater flow direction to the south.

3.5.8 TSSA Historic Incidents

This database covers TSSA incidences reordered under the former reporting system. The database provides information pertaining to fuel-safety related services that are associated the handling of the use of fuels, the transportation of fuels, and the storage of fuels (such as gasoline, propane or diesel). This database also provides information regarding historical spills and leaks or fuel.

Database:	TSSA Historic Incidents
Years covered:	2006 to June 2009
Search radius:	300 m
Date accessed:	April 16, 2015
Description of data, analysis and findings relevant to the Phase I ESA:	
Three (3) records of TSSA Historic Incidents were retrieved within 300 m of the Site. The records are as follows:	
- Approximately 100 m southeast of the Site at 12 Leduc Circle a fuel oil leak was reported in July 2007. The property is a private dwelling. The risk for environmental concern associated with this incident is low due to its location down and side-gradient of the Site; - In September 2008, a natural gas pipeline strike occurred approximately 160 m east of the Site at 1126 Larin Avenue. The risk for environmental concern associated with this incident is low due to the compositional attributes of the released material; and - A fuel oil leak occurred in March 2009 at 1356 Marc Street, approximately 160 m northwest of the Site. The property is a private dwelling and it is indicated that an unknown amount of heating oil (fuel oil) was released however the area in proximity to the furnace as well as the walls was soaked with fuel. The risk for environmental concern associated with this incident is low to medium due to its distance from the Site.	

3.5.9 National Pollutant Release Inventory

The National Pollutant Release Inventory is a database compiled of over 300 substances by the federal government of Canada that have been released into the natural environment by either land, air or water, and waste transfers for recycling.

Database:	National Pollutant Release Inventory
Years covered:	1993 -2013
Search radius:	300 m
Date accessed:	April 16, 2015
Description of data, analysis and findings relevant to the Phase I ESA:	
The Site, 1225 Ontario Street, is listed as a pollutant release facility in 2004. The substances released include Total Particulate Matter, Particulate Matter (≤ 10 microns), Nitrous Oxide, Nitrogen Oxide, Carbon Dioxide, Particulate Matter (≤ 2.5 micron), Carbon Monoxide, Sulfur Dioxide, Hydrofluorocarbon, Methane and Volatile Organic Compounds. The release of these substances presents a low risk for environmental concern as they are generally gaseous.	

3.5.10 Pesticides Registry

A database of all Ontario manufactures and vendors of pesticides is maintained by the Ontario Ministry of Environment.

Database:	Pesticides Registry
Years covered:	1988 to June 2013
Search radius:	300 m
Date accessed:	April 16, 2015
Description of data, analysis and findings relevant to the Phase I ESA:	
Jean-Pierre Labelle O/A P T Environmental Services, located at 1131 Larin Avenue, approximately 200 m east of the Site, is listed in the Pesticides Registry database. No further information is provided. It presents a low risk for environmental concern due to its distance side-gradient of the Site based on assumed groundwater flow direction.	

3.5.11 Private and Retail Fuel Storage Tanks

The Ontario Ministry of Environment Fuels Safety Branch maintains a database of all Ontario registered private fuel storage tanks and licensed retail fuel facilities. This database includes the locations of registered oil, gasoline, waste oil and natural gas or propane storage tanks. The database only includes information up to 1996. Thereafter, the TSSA maintains a similar database.

Database:	Private and Retail Fuel Storage Tanks
Years covered:	1989 - 1996
Search radius:	300 m
Date accessed:	April 16, 2015
Description of data, analysis and findings relevant to the Phase I ESA:	
The Site, 1225 Ontario Street, is listed as containing a private 75,000 L fuel storage tank. It is likely that this record combined the three (3) 25,000 L gasoline and diesel present on the Site and presented it as a total capacity of 75,000 L. The fuel storage tanks present a high risk for environmental concern.	

3.5.12 Ontario Spills

The database identifies information such as location, type and quantity of contaminant, date of spill, environmental impact, cause, nature of impact etc.

Database:	Ontario Spills
Years covered:	1988 to June 2013
Search radius:	300 m
Date accessed:	April 16, 2015
Description of data, analysis and findings relevant to the Phase I ESA:	
Records of six (6) spills within 300 m of the Site were retrieved, one of which occurred on the Site, 1225 Ontario Street.	
A spill occurred on February 5, 2004 on the Site, 1225 Ontario Street. Approximately 20 L of hydraulic oil was spilt to a catch basin by an undetermined incident. Environmental impacts were not identified. Further details of this spill are provided in Section 3.4.1 of this report. It presents a low environmental risk as the spill was to a municipal service and is likely contained rather to the natural environment.	
On March 27, 2009, approximately 160 m northwest of the site at 1356 Marc Street an unknown amount of furnace oil was leaked from a residential furnace. Possible environmental impacts were identified. It presents a low to medium environmental risk due to its distance from the Site.	
On June 9, 2011, a spill was reported at the Cornwall Street Railway Light and Power Company Limited at 1336 Marc Street, approximately 195 m northwest of the Site. It is reported that 3 L of transformer oil was spilt to the ground. The reason for the spill is not known and environmental impacts were identified as not anticipated. It presents a low environmental risk due to its distance from the Site.	
110 L of non- Polychlorinated Biphenyls (PCB) mineral oil was spilt at the intersection of 11 th Street and Cooper Street, approximately 250 m southeast of the Site. The spill occurred on March 4, 2009 as a result of transportation accident. Vegetation damage was reported and environmental impacts were identified as possible. It presents a low environmental risk due to its distance from the Site and its down-gradient location according to the assumed groundwater flow direction.	
A furnace oil spill occurred on March 27, 2003 at 1123 McConnell Avenue, approximately 280 m east of the Site. The spill was the result of an aboveground furnace oil storage tank leak as a result of equipment malfunction. Soil and groundwater impacts were identified. It presents a low environmental risk due to its distance from the Site.	
On May 10, 1993, a Delaney Bus Lines vehicle spilt 220 L of diesel to the ground at the intersection of 11 th Street and Amelia Street, approximately 230 m south of the Site. The spill was identified as a result of a damaged fuel line on the vehicle. Soil contamination was identified and environmental impacts were confirmed. It presents a low environmental risk due to its distance from the Site and its down-gradient location according to the assumed groundwater flow direction.	

3.5.13 Scott's Manufacturing Directories

Scott's Directories is a data bank containing information on over 70000 manufacturers in Ontario.

Database:	Scott's Manufacturing Directory
Years covered:	1992 to March 2011
Search radius:	300 m
Date accessed:	April 16, 2015
Description of data, analysis and findings relevant to the Phase I ESA:	
Versus Business Forms Inc. located at 1065 Roy Avenue, approximately 285 m southeast of the Site is a wholesale trade agents and brokers facility established in September 1991. They present a low environmental risk because of their distance and their down-gradient location with respect to the assumed groundwater flow direction.	

3.5.14 Waste Disposal Sites - MOE 1991 Historical Approval Inventory

The MOE's Waste Management branch maintains an inventory of known open (active or inactive) and closed disposal site in Ontario as of October 31, 1990. The database includes the location of the site, the site number, the type of waste that is/was accepted, the site status and classification, and the date the facility was closed (when applicable).

Database:	Waste Disposal Sites - MOE 1991 Historical Approval Inventory
Years covered:	Up to October 1990
Search radius:	300 m
Date accessed:	April 16, 2015
Description of data, analysis and findings relevant to the Phase I ESA:	
Immediately north of the Site, at Lot 8 Concession 2, Cornwall is a closed waste disposal site. The waste disposal site has been closed since 1960 and formerly accepted urban municipal/domestic waste. This former waste disposal site is classified as A5 which is identified as having potential human impacts. The former waste disposal site presents a high environmental risk because of its distance and immediately up-gradient location with respect to the assumed groundwater flow direction.	

3.5.15 Water Well Information System

The database provides information on the locations and characteristics of water wells throughout Ontario in accordance with Ontario Regulation 903. Information of the stratigraphy, depth to bedrock and approximate depth to the water table are also provided.

Database:	Water Well Information System
Years covered:	1955 to March 2014
Search radius:	300 m
Date accessed:	April 16, 2015
Description of data, analysis and findings relevant to the Phase I ESA:	
Two (2) wells were located within a 300 m radius from the Site. They are detailed below:	
- Well # 7044387 is located on the adjacent property to the southeast of the Site. The well is an observation well and was installed in March 2007. The well extends to a depth of 4.5 m. Soils encountered consisted of 0.7 m of brown silty sand followed by till, grey over brown to depths of 2.3 m. Beneath the till was brown gravel with clay to 4.5m where the well was terminated. - Well # 5804811 is located on the adjacent property immediately northwest of the Site. The well is an observation well that was constructed in February 2004. The water encountered was identified as fresh, gas. No further information was provided.	
It is suspected that these observation wells are associated with the former waste disposal site immediately north of the Site.	

3.6 Material Safety Data Sheets

Various chemicals are stored throughout the Site including paints, oils, and asphalt laying related products. Material Safety Data Sheets were available for review on Site however. Select chemicals stored on site are as follows:

Chemical/Common Name	Description/Application	Approximate Quantity
Magnesium chloride hexahydrate	Road de-icing brine. Stored in sealed container at the northern portion of the municipal yard.	15000 L
Chlorine	Chlorination of City recreational facility pools. Stored in locked storage shed at 301 Sunnyside Avenue.	Uncertain
<i>RELEASE</i> Asphalt Release Agent	Used during road/utility repair. Stored in locked <i>TrRoads Building</i>	60 L
<i>Seal Tight 1220</i> White Pigmented Curing Compound	Surface curing compound used in concrete to limit thermal cracking. Stored in locked <i>TrRoads Building</i>	60 L
Organic Tar Remover <i>ECONO-OTEC</i>	Degreaser. Stored in locked <i>TrRoads Building</i>	40 L
Propylene Glycol	Used during sub-zero temperatures in select fire hydrants to limit freezing or the utility. Stored in <i>TrRoad Building</i>	140 L
Diesel Exhaust Fluid	General use in equipment. Stored in sealed containers in <i>TrRoad Building</i>	200 L
<i>Lift Off Lift Station</i>	Road work activities. Stored in sealed containers in <i>TrRoad Building</i>	60 L
<i>BIO-SAFE</i> Drain & Sewage Grease Digester	Road work activities. Stored in sealed containers in <i>TrRoad Building</i>	60 L

3.7 Physical Setting Sources

3.7.1 Aerial Photographs

Aerial photographs were obtained from the National Air Photo Library in Ottawa, Ontario. The review of the photographs was done to develop a general history of the development of the site and surrounding properties. The aerial photographs may be at a scale that limits a detailed review of the site and surrounding properties. Copies of select aerial photographs are included in **Appendix C**.

Year	Photo Number	Scale
1946	A10245-158	1:15,000
1958	A16135-166	1:12,000
1964	A18371-10	1:25,000
1973	A23293-5	1:20,000
1979	A25283-110	1:25,000
1987	A27191-175	1:50,000
1994	A28135-80	1:20,000
Rational for time period between aerial photographs used		
A regular interval of approximately 10 years was used, when possible.		
Summary of information obtained from aerial photographs		
The Site and the adjacent properties are generally vacant in 1946 (AP1). Ontario Street is present bisection the Site in a north-south direction. The waste disposal site is present immediately north of the Site and some development on the properties to the south are present. In 1958 at 1225 Ontario Street is developed as well as the northern portion of the vacant lot to southwest on the subject site. Further development is present south of the Site and the waste disposal site appears larger than in the 1946 aerial photograph. Additional development along the south portion of the Site is observed in the 1964 aerial photograph. Earth moving activities appear to have occurred at the northwest corner of the Site. In 1973 the western portion of the Site appears developed and the waste disposal site north of the site does not appear to be active. Additional development is observed in 1979 (AP2) on the western portion of the Site. No significant changes were observed in 1987 other than an increase in development in the general area. The structure at the north portion of the Site (Parks Building) is present in 1979. In 1994 (AP3), the Site and the adjacent properties appear similar to that of their current condition.		
Relevant information regarding potentially contaminating activity and areas of potential environmental concern		
The waste disposal site to the north of the Site is identified as a potentially contaminating activity. The former development on the southwest portion of the Site, now the vacant parcel of land is identified as a potential environmental concern.		

3.7.2 Topography, Hydrology & Geology

A topographic map was obtained to illustrate the location of the Site in relation to any water bodies in the area and to document the regional topography. The map is included in **Appendix D**.

Map:	Ontario Base Map
Approximate elevation:	Between 58 and 62 m above mean sea level
Topography:	Sloping towards the south
Nearest open water body:	St-Lawrence River, approximately 2.6 km to the southeast.

Maps were obtained from Ecolog Eris to review the regional geology and information on the surficial soil and bedrock. The maps are included in **Appendix D**.

Generalized surficial geology:	Offshore Marine Deposits: Clay. Silty clay and silt.
Generalized bedrock geology:	St. Martin Formation: Limestone, minor shale and dolomite.

4 INTERVIEWS

Interview subject:	Bill de Wit, C.E.T., Division Manager of Municipal Works
Date:	May 29, 2015
Pertinent information: - Mr. de Wit has worked with City of Cornwall since the mid 1980's, specifically at 1225 Ontario Street since 2005. - The eastern portion of the Site has been owned by the City of Cornwall Since the 1940's and has been used as a municipal yard since that time. Prior to the municipal yard, the property was used as agriculture. It is understood that the western portion of the property was agricultural until between 1950's - 1960's when it was developed with the current storage building. A mobile home was present on the southwest portion of the Site until approximately 2005 when it was removed when the City purchased the parcel. - Mr. de Wit has indicated that select buildings on the Site do have issues with either leaking roofs or settling. - It is suspected that a former potable water well and septic may have serviced the Site prior to municipal services, however the locations of these features are not known. - The Site is currently equipped with a card-lock fueling station, three (3) underground 25,000 L petroleum storage tanks, and a vehicle repair garage with a 900 L underground waste oil storage tank. A former waste disposal site is present immediately north of the Site however, Mr. de Wit indicated that it is suspected that the waste mound encroached onto the current municipal yard based on the slope along the north of the property. - The north portion of the municipal yard is used to store soil from emergency road work activities (such as water main breaks). The material is not tested for potential contaminants prior to being disposed of at the property. The material is later transported to the City of Cornwall waste disposal site. Snow is also stored in this location. Material from City hydro-vac activities is disposed of in the open pit at the northeast portion of the Site. - Magnesium Chloride, used during de-icing activities is stored at the north portion of the municipal yard. - Waste oil and filters produced in the repair garage is disposed of off-site by a licensed hauler. - Mr. de Wit is not aware of any notices of environmental violations from any agency, any investigations by government agency of potential responsibility for environmental contamination, including off-site contamination or of any law suites, disputes or administrative proceeding regarding environmental concerns associated with the site or activities conducted on the site.	

5 SITE RECONNAISSANCE

5.1 Site Visit Information

Date:	May 29, 2015
Time:	8:15 am – 10:15 am
Weather Conditions:	Sunny, 15°C.
Person conducting site visit:	Jessica Arthurs, Environmental Technician
Limitation to visit:	The tire storage shed was not accessible at the time of the site visit.
Property Use	City of Cornwall Publics Works municipal yard, office space, equipment maintenance garage and storage. The north east portion is treed and the southwest portion is a vacant grassed area.

Photographs from the site visit are included in **Appendix E**.

5.2 General

5.2.1 Hazardous Materials & Unidentified Substances

Hazardous materials:	Chemicals used during typical property maintenance and on-site activities are stored across the Site. These materials include paints, solvents and petroleum based oils and lubricants, road de-icing solution and other infrastructure maintenance related chemicals (described on section 3.6).
Unidentified substances:	Not observed

5.2.2 Storage Tanks & Containers

Aboveground storage tanks (ASTs):	Not observed.
Underground storage tanks (USTs):	Three (3) petroleum storage tanks located along the west perimeter of the central portion of 1225 Ontario Street. The tanks are active and were installed in 1987. They each have a capacity of 25000 L and are of single steel walled construction. Two (2) of the tanks contain gasoline, and the third contains diesel. A 900 L capacity waste oil UST is located along the north face of the repair garage. No further details are provided.
Fill ports, vent pipes:	Along west-central perimeter of the Site associated with the three (3) petroleum dispensing USTs. Waste oil is disposed of into the 900 L UST through the cap of the tank that extends about 30 cm above the ground surface.

Storage containers:	A 15000 L capacity aboveground container is located at the northern portion of the Site between the two (2) salt/sand storage sheds. It is used to store de-icing brine (MgCl). Within the repair garage, along the north face of the building, four (4) plastic containers are present used to store automotive transmission fluid, <i>Preston</i>, Hydraulic oil and motor oil used during the associated activities. Several other containers, pails and drums are present across the Site used to store various chemicals associated with the City's Public Works activities. They are all in generally good contention with no evidence of punctures or corrosion. Some evidence of spills of oils were observed in the repair garage in proximity to select storage containers.
----------------------------	--

5.2.3 Odours

Odours:	Not observed.
Air emissions:	Other than those associated with the natural gas heating systems of the building on the Site, a hood exhaust is located in the Sign Building. It does not appear to be use and its former purpose is not known. However, as mentioned in Section 3.5.9, the Site was listed as a pollutant release facility in 2004. The substances released included Total Particulate Matter, Particulate Matter (≤ 10 microns), Nitrous Oxide, Nitrogen Oxide, Carbon Dioxide, Particulate Matter (≤ 2.5 micron), Carbon Monoxide, Sulfur Dioxide, Hydrofluorocarbon, Methane and Volatile Organic Compounds. It is assumed that this hood vent was the source of the released substances. The release of these substances presents a low risk for environmental concern as they are generally gaseous.

5.3 Exterior Observations

5.3.1 Topographic Geologic & Hydrogeologic

Landscaped & vegetated area:	The northeast portion of the Site extending east towards Lemay Street is treed. The southwestern portion of the Site is grassed.
Pavement, roads & driveways:	The majority of the municipal yard is asphalted with the exception to the northern portion that is gravel and used for snow/soil dumping. A parking area is present at the east-central portion of the Site at the Stores Building and at the northern portion at the 301 Sunnyside Avenue. Lemay Street bisects (east-west) the northern portion of the Site and Ontario Street bisects the central portion along the west of 1225 Ontario Street. Twelfth Street bisects the southwestern portion of the Site (east-west).

Topography	The majority of the Site is generally flat with the exception to a notable slope from the northern portion of the Municipal yard extending west along Lemay Street and Ontario Street. The slope declines to the south at the municipal yard and along Ontario Street. Lemay Street slopes west near the west extent of the Site. It is suspected that the raised portion of the Site may be an extension of the waste mound to the north at Optimist Park, the former landfill site.
Surface drainage	Generally following the topography of the Site towards storm drain catch basins across the Site. The direction of surface drainage at the southwest portion of the Site is unknown as this portion of the Site is generally flat.
Drainage improvements:	Storm drain catch basins across the Site. A swale is present across the northern portion of the southwest portion of the Site. Ditches are present along northern western perimeter of the municipal yard as well as along east and north perimeter of the Stores building parcel of land.
Receives drainage from adjacent sites:	Potential from Optimist Park, north of 1225 Ontario Street, towards municipal yard.
Watercourses, ditches or standing water:	Ditches are present along northern western perimeter of the municipal yard as well as along east and north perimeter of the Stores building parcel of land. A pond is present on the adjacent property to the east of the northern portion of the municipal yard. Hydro-vac truck, owned and operated by The City of Cornwall dispose of their contents following infrastructure work at the northeastern portion of the municipal yard in the Sediment Disposal Pit shown in Figure 3-1 . The pit allows for sediment to settle to the base which is emptied by City staff. The liquid flows onto the neighbouring site into a saturated land causing a ponding area along the perimeter of the Site.
Other observations:	The northern portion of the municipal yard is used to temporarily store snow and soil from snow removal and road work activities. City owned Hydro-vac vehicles deposit their contents in a pit located at the eastern portion of the area.

5.3.2 Structures

Structures:	Barricade Storage Shed (LRL Ref. # 1)
Location:	Southeast portion of Municipal Yard (1225 Ontario Street)
Use:	Storage of Traffic Barricade Equipment
Construction date:	Est. 2000

Foot print:	Approximately 50 m ²
Floors:	Single Storey
Basement:	No. Slab on-grade
Exterior finish:	Metal clad siding with a shingled roof.

Structures:	Public Property Building (LRL Ref. #2)
Location:	Southeast portion of Municipal Yard (1225 Ontario Street)
Use:	Equipment and supplies storage and carpentry shop
Construction date:	1950s with additions in the 1960s and early to mid-2000s
Foot print:	Approximately 580 m ²
Floors:	Single Storey
Basement:	No. Slab on-grade
Exterior finish:	Metal clad roof and siding

Structures:	City of Cornwall Public Works Office Space (LRL Ref. #3)
Location:	Southwestern portion of Municipal Yard (1225 Ontario Street)
Use:	Office Space
Construction date:	1970s
Foot print:	Approximately 450 m ²
Floors:	Two-Stories
Basement:	No. Slab on-grade
Exterior finish:	Cement block and metal clad siding with tar & gravel roof

Structures:	Repair Garage (LRL Ref. #4)
Location:	Central portion of the Municipal Yard (1225 Ontario Street)
Use:	Vehicle and equipment (machinery) maintenance and repair locations
Construction date:	1960s
Foot print:	Approximately 1220 m ²
Floors:	Open two-stories with mezzanine at the southwest portion used for parts storage
Basement:	No. Slab on-grade
Exterior finish:	Metal clad roof and siding

Structures:	Water Distribution Shop (LRL Ref. #5)
Location:	South western portion of the Municipal Yard (1225 Ontario Street)
Use:	Office space, storage and staff facilities (locker rooms, lunch room) for water distribution department
Construction date:	1970s
Foot print:	Approximately 300 m ²
Floors:	Open two-stories with mezzanines across the southern and the northern and the southern portions used for storage
Basement:	No. Slab on-grade
Exterior finish:	Metal clad roof and siding

Structures:	Signs Building (LRL Ref. #6)
Location:	South western portion of the Municipal Yard (1225 Ontario Street)
Use:	Storage and repair of City signs
Construction date:	Est. 1960s
Foot print:	Approximately 180 m ²
Floors:	Open two-stories
Basement:	No. Slab on-grade
Exterior finish:	Metal clad dome like structure

Structures:	Roads Building (LRL Ref. #7)
Location:	Along the east-central portion of the Municipal Yard (1225 Ontario Street)
Use:	Road maintenance equipment and supplies storage and tire storage
Construction date:	1960s with an addition in the 1970s and mid-2000s
Foot print:	Approximately 580 m ²
Floors:	Open two-stories
Basement:	No. Slab on-grade
Exterior finish:	Metal clad roof and siding

Structures:	Equipment Storage Shed (LRL Ref. #8)
Location:	Northeast portion of the Municipal Yard (1225 Ontario Street)
Use:	Equipment storage (such as snow removal plows)
Construction date:	1970s
Foot print:	Approximately 390 m ²
Floors:	Single Storey
Basement:	None.
Exterior finish:	Metal clad siding and roof.

Structures:	Salt Storage Sheds (LRL Ref. #9)
Location:	North-central portion of the Municipal Yard (1225 Ontario Street)
Use:	Seasonal road salt and sand storage.
Construction date:	1970 (western structure) and 1972 (eastern structure)
Foot print:	Both are approximately 150 m ²
Floors:	Open two-stories
Basement:	None.
Exterior finish:	Metal clad dome like structure

Structures:	Stores Building (LRL Ref. #10)
Location:	Western portion of 1246 Ontario Street
Use:	Supplies storage and office space
Construction date:	Early 1980s
Foot print:	Approximately 500 m ²
Floors:	Single Storey
Basement:	No. Slab on-grade
Exterior finish:	Metal clad roof and siding

Structures:	Parks Building (LRL Ref. #11)
Location:	North-central portion of 301 Sunnyside Avenue
Use:	Equipment and supplies for parks department and office space
Construction date:	Unknown
Foot print:	Approximately 550 m ²
Floors:	Open two-storey
Basement:	No. Slab on-grade
Exterior finish:	Metal clad roof and siding

Structures:	Chlorine Storage Shed (LRL Ref. #12)
Location:	North-eastern portion of 301 Sunnyside Avenue
Use:	Storage of choline for City owned pools
Construction date:	Unknown
Foot print:	Approximately 15 m ²
Floors:	Single Storey
Basement:	No. Slab on-grade
Exterior finish:	Cement block and metal clad siding

5.3.3 Other Observations

Wells:	Not observed.
Sewage disposal:	Not observed.
Pits and lagoons:	Hydro-vac [®] , owned and operated by the City of Cornwall, empty their contents from road/utility work carried out within the City into a pit located at the northeast portion of 1225 Ontario Street. The content is allowed to settle in the pit so that soil and sediments settle to the base of the bit and the liquid portion migrates east onto the adjacent property where a pond is situated. According to City staff, the sediment settles to the base of the pit and is removed regularly for offsite disposal.
Wastewater:	Not observed.
Solid waste:	Domestic wastes, typical of office space, are generated on Site. The repair garage produces waste oils and automotive parts that are disposed of accordingly offsite. The waste oil produced is kept on site in a 900 L UST awaiting disposal by a licensed contractor.

Stained material:	Minor surface staining was observed on the floor in the repair garage. Areas where absorbent material was placed over a spill was also noted across the garage.
Stressed vegetation:	Not observed.
Fill or previous fill activities:	The presence of significant amounts of fill material (beyond that required for normal construction and/or grading) was generally not observed across the Site with the exception to the northern portion of the 1225 Ontario Street. The northern portion of the Municipal Yard is elevated in comparison to the remainder of the surround land which continues west along Lemay Street. Similar topography is noted to the north at the former landfill site. It is suspected that this is a result of buried waste encompassing this area.
Earth-moving activity:	Not observed.
Other	A water distribution area is located at the northwestern portion of the Municipal Yard. Material aggregates are stored across the majority of the northern portion 1246 Ontario Street.

5.4 Utilities

Potable Water:	Municipal water
Wastewater:	Municipal sanitary sewer
Storm Sewer:	Yes
Electricity:	Yes
Telephone:	Yes
Natural Gas:	Yes

5.5 Interior of Structures

Heating Systems	Generally, the majority of the structures are heated by natural gas. The office building is heated by an electric packaged terminal (PTAC) system. Some buildings are not heated, namely those that are solely used for storage. Electric baseboard units were noted in the select locations of the office building.
Cooling Systems	The majority of the buildings are not cooled. Wall mounted air conditioning units are present in select buildings. The office building is cooled by an electric PTAC unit.
Floor drains:	Floor drains are present throughout the buildings that are suspected of tying into the municipal storm services.
Sumps:	Not observed.
Paint booth:	Not observed.
Staining or corrosion (other than water):	Minor surface staining was observed on the floor in the repair garage. Areas where absorbent material was placed over a spill was also noted across the garage.

Mechanical equipment:	Hydraulically operated devices that can contain hydraulic oils (i.e. piston type elevators, vehicle hoist and compactors) were observed. In-ground, stationary hoists are present in the repair garage.
Interior finishing	The interior finishes varied amounts the buildings throughout the Site. Generally, the garages and storage sheds had exposed metals clad walls and ceilings with cement slab or granular crushed stone floors. Gyp-roc and ply-wood walls and ceilings, acoustic ceiling tiles, vinyl floor tiles, terrazzo flooring and cement block walls were observed throughout the remainder of the buildings. Fluorescent lighting was encountered throughout.
Other:	Not observed.

5.6 Adjacent Land Use

The current land uses of the adjoining properties were observed from the property limits and publicly accessible locations to assess potential impacts to the site that may arise from off-site operations. The properties surrounding the subject site are as follows:

North:	301 Sunnyside Avenue: Hydro Transmission Line 1225 Ontario Street: Optimist Park (recreational) - former landfill site 1246 Ontario Street: Lemay Street followed by Optimist Park (recreational) - former landfill site Concession 2 part lot 8 Reference Plan 52r6444; part 2, Part of Concession 2 part lot 7 Reference Plan 52r4061 parts 1 to 6 and 8: Treed South Part of Concession 2 part lot 8d 1753.91: Twelfth Street East followed by grassed area
South:	301 Sunnyside Avenue: Optimist Park (recreational) - former landfill site 1225 Ontario Street: Residential 1246 Ontario Street: Twelfth Street East followed by grassed area Concession 2 part lot 8 Reference Plan 52r6444; part 2, Part of Concession 2 part lot 7 Reference Plan 52r4061 parts 1 to 6 and 8: Treed and residential South Part of Concession 2 part lot 8d 1753.91: Residential
East:	301 Sunnyside Avenue: Optimist Park (recreational) - former landfill site followed by treed. 1225 Ontario Street: Treed 1246 Ontario Street: Ontario Street followed by City of Cornwall Municipal Yard (1225 Ontario Street) Concession 2 part lot 8 Reference Plan 52r6444; part 2, Part of Concession 2 part lot 7 Reference Plan 52r4061 parts 1 to 6 and 8: McConnell Avenue followed by residential South Part of Concession 2 part lot 8d 1753.91: Residential

West: **301 Sunnyside Avenue:** Residential
1225 Ontario Street: Ontario Street followed by 1246 Ontario Street Stores Building and associated storage yard and parking facility
1246 Ontario Street: St-Michael Street followed by residential
Concession 2 part lot 8 Reference Plan 52r6444; part 2, Part of Concession 2 part lot 7 Reference Plan 52r4061 parts 1 to 6 and 8: Lemay Street
South Part of Concession 2 part lot 8d 1753.91: Residential

5.7 Special Attention Items

Eleven chemical contaminants have been identified under the Occupational Health and Safety Act (OHSA) and regulations have been set in place to prohibit, regulate restrict, limit or control workers exposure to these substances. Other hazardous materials not included in the OHSA but under the Environmental Protection Act were also observed. The observations presented herein do not constitute a designated substance/hazardous material survey but are rather for information purposes only.

5.7.1 Designated Substances

Asbestos Containing Material (ACM)

Since the late 1970s the manufacture and use of asbestos containing building materials started to decrease. It is commonly presumed that buildings constructed prior to 1980 are more likely to contain both friable and non-friable forms of asbestos. General building constructed up to the mid 1980s are more likely to contain non-friable asbestos (flooring, joint compound).

Due to the construction date of the building (between the 1950s and mid 2000s) the presence of ACM is possible in the majority of the buildings. Potential friable and non-friable asbestos containing material was observed throughout the building (joint compound, vinyl floor tiles and acoustic ceiling tiles). Based on our review of a previous Designated Substance Survey report prepared by Abacon Environmental Consultants Inc. in December 2014 and January 2015, potential ACM materials were encountered throughout the buildings assessed at the time.

Asbestos containing materials was confirmed at the following locations:

- The administrative building was found to have what was identified as cheese cloth cement (parging) on small fittings and transite on the walls in the work area and offices that were found to be asbestos containing materials (ACM). The vinyl floor tiles encountered in the file storage and print room were ACM as well as the vermiculite found behind the exterior face and electrical room. The transite on the pipes in the electrical room were assumed ACM;
- In the washrooms of the carpenter shop, the ceiling and wall joint compound was assumed ACM as it was not sampled to avoid damage; and
- Firestop material was encountered on the walls of the garage and was considered ACM.

Lead

Lead may be present in a variety of building materials including paint and water distributions pipes, however lead based paints (LBP) are considered the most significant hazard. According to published information by Health Canada concerning LBP, buildings constructed before 1980 may contain lead based interior and exterior paints.

Due to the construction date of the buildings (between the 1950s and the mid-2000s), the presence of lead-based piping and paints are possible.

Mercury

Minor amounts of mercury are commonly found in a variety of building material including mercury vapour lamps, fluorescent light tubing and thermostats and other electrically control switches.

Fluorescent lighting and thermostats were observed which may contain mercury.

Others

No other designated substances were identified (i.e. arsenic, ethylene oxide, silica, vinyl chloride, benzene, coke oven emissions, acrylonitrile or isocyanates).

5.7.2 Other Hazardous Building Materials/Items

Microbial Contamination and Mould:

Areas of possible sources of mould (i.e. water damage, poor housekeeping, poor ventilation) were identified. No significant amounts of water infiltration and damage were observed however according to City staff, there have been leaks from the roof on occasions.

Ozone-Depleting Substances (ODS):

ODS such as chlorofluorocarbons (CFC) and hydrochlorofluorocarbon (HCFC) are typically found in refrigeration equipment, air conditioners, aerosols, cleaning solvents and fire extinguishers. Federal regulations required the elimination of production and import of CFC and a freeze on the production and import of HCFC by January 1, 1996. The regulations govern only the production and import therefore these materials are still used as long as a supply is in place.

Several refrigerators were observed throughout generally in staff kitchen areas in the buildings. Fire extinguishers and wall mounted air conditioning units are present which possibly contain ODS.

Polychlorinated Biphenyls (PCB):

The Federal Chlorobiphenyls Regulation, SOR/91-152 prohibits PCBs from being used in products, equipment, machinery, electrical transformers and capacitors which were manufactured or imported into the country after July 1, 1980. However, older equipment in use after this date may still contain PCBs if the equipment fluid has not been replaced. PCB-containing equipment can also include fluorescent, mercury, and sodium vapour light ballasts.

Due to the construction date of the building (between the 1950s and mid-2000s) the presence of PCBs is possible. The light ballast throughout the building were not verified at the time of the assessment therefore, unless confirmed otherwise, they are considered PCB containing. An electrical transformer is present along the west perimeter of the 1225 Ontario Street parcel of land.

Urea Formaldehyde Foam Insulation (UFFI):

UFFI was widely used as an insulating material until December 1980 when a ban was enacted under the Hazardous Products Act. UFFI was commonly injected through walls by drilling injections holes in roof structures, ceilings and overhangs.

Due to the construction date of the building (between the 1950s and mid-2000s) the presence of UFFI is possible.

Radon:

Radon gas is a product of the decay series of uranium that is commonly found in geological units that contain black shale, sandstone or granite. Radon can percolate up through the soil where it may accumulate in basement of buildings with cracks or joints in the foundation. Because the existence of radon is dependent upon geological factors, it is more a regional concern than site specific.

Electric and Magnetic Fields:

Electromagnetic fields are generally associated with high frequency power lines. High voltage power lines are present immediately north of 301 Sunnyside Avenue .

Noise and Vibration:

Noise and vibration is typical of an urban environment (i.e. traffic).

Methane:

Methane gas is a colourless and odourless gas commonly formed by the decomposition of organic material. The land immediately north of 1225 and 1246 Ontario Street, immediately south of 301 Sunnyside Avenue, is a former landfill site there methane is a concern.

6 REVIEW AND EVALUATION OF INFORMATION

6.1 Current and Past Uses

Below is a summary of the current and past uses of 1225 and 1246 Ontario Street in Cornwall, Ontario as well as the adjacent vacant parcel of land south of 1246 Ontario Street following Twelfth Street East, the parcel of land north of 1225 Ontario Street and the parks building and associated property located at the north-central portion of 301 Sunnyside:

Year	Name of Owner	Description of Property Use	Property Use	Source of Information
Prior to 1944	Unknown	Vacant	Vacant	Interview
1944 to mid 1950s	The corporation of the City of Cornwall	Vacant	Vacant	Aerial Photographs, chain of title, interview
Mid 1950s - present	The corporation of the City of Cornwall	Municipal and vacant	Office space, storage and municipal yard, vacant.	Land Title Search, aerial photograph, interview

7 PHASE I CONCEPTUAL SITE MODEL

The location of the Site is shown in the attached **Figure 1** and the current layout of the Site is shown in the attached **Figure 3.1** and **Figure 3.2**. The St-Lawrence River is located approximately 2.6 km southeast of the Site. The topography of the Site and surrounding area is sloping gently towards the south with elevations between 58 and 62 m above mean sea level

(amsl). The majority of the Site is generally flat with the exception to a notable slope from the northern portion of the Municipal yard extending west along Lemay Street and Ontario Street. The slope declines to the south at the municipal yard and along Ontario Street. Lemay Street slopes west near the west extent of the Site. It is suspected that the raised portion of the Site may be an extension of the waste mound to the north at Optimist Park, the former landfill site.

The Site (all parcels combined) is irregular with an approximate 58,560 m² (14.4 Acres) currently developed with a total of twelve (12) buildings ranging between 15 and 1220 m² in surface area. The southwestern and the northeastern portions of the Site are vacant and treed, respectively. A former mobile home was located at the southern portion of 1246 Ontario Street until approximately 10 years ago when the City took ownership of this Parcel of land and the structure was removed. The northern portion of the municipal yard is used to temporarily store snow and soil from snow removal and road work activities. City owned Hydro-vac vehicles deposit their contents in a pit located at the eastern portion of the area.

The currently 4.5 acre parcel of land immediately north of 1225 Ontario Street is currently used as a recreational field. According to the Anderson Waste Disposal Site Inventory, a landfill was active at this location since at least 1960. Several groundwater quality investigation reports prepared by TRG were provided to LRL for review by Aecom Canada as part of this Phase I ESA as well as part of other subsequent investigations. It was decided that the most recent groundwater quality report provided be reviewed as part of this assessment (2008). Optimist Park, immediately north public works municipal yard, was developed over a former landfill site in the mid 1980s. The former landfill site that occupied this parcel of land was operated by the City of Cornwall from the 1940s to the late 1950s. TRG concludes that the groundwater quality of the Site does have exceedances to the Table 3 provincial guidelines, however the exceedances are described as "minor". The leachate plume from the former landfill is found to impact the silty sand aquifer and appears to migrate south, southwesterly and southeast at a rate of approximately 1.4 m/yr. The former landfill site presents a high environmental risk for potential environmental concern.

Additional information provided by AECOM Canada, Proposed 150 mm Watermain Construction on Lemay Street from St. Michel Street to Ontario Street site plan revealed that waste from the former landfill site immediately north of the Site has encroached onto Lemay Street. The buried waste was encountered between 1.0 to 3.0 m below grade for at least 6 metres from the west to east. The full depth of the waste is not known as well as the full extent of the buried waste to the south and east. It is possible that the waste continues on Lemay Street east towards 1225 Ontario Street and south onto 1246 and 1225 Ontario Street.

Asbestos (Re-) Assessment reports for various City of Cornwall Public Works buildings were provided by the City of Cornwall for review. The buildings assessed included the Administration Building, Barricade Shed, Carpenter Shop, City Stores, Equipment Storage Shed, Garage, Roads Shop, Salt/Sand Shed #1, Salt/Sand Shed #2, Tire Shed, Traffic Shop and Waterworks/Sewer Shed. Asbestos containing materials were identified at select locations on the Site.

Correspondence with the TSSA revealed that on January 4, 1990, three (3) active 25,000 L single walled steel underground petroleum storage tank were inspected on the Site. The tanks were installed in 1987 and diesel (one) and gasoline (two). The risks for environmental concerns associated with these installations are high. Three (3) records of TSSA Historic Incidents were retrieved within 300 m of the Site. The risk for environmental concerns associated with these incidents is low due to its location down and side-gradient of the Site or due to their compositional attributes.

Between 1988 and 1990, 1992 and 2004 the Site was registered as a generator of Paint/Pigment/Coating Residues, Inorganic Laboratory Chemicals, Petroleum Distillates, Light Fuels, Halogenated Pesticides, Waste Oils and Lubricants, Organic Laboratory Chemicals and Waste Compressed Gases. In 2009 through 2013, the Site was registered as a generator of Aliphatic Solvents and Waste Oils and Lubricants. Between 1998 and 2008 the Site was listed as a generator of Oil Skimming and Sludges, Aliphatic Solvents and Waste Oils and Lubricants. As of April 2014, the Site has been registered as a generator of Aliphatic Solvents and Residues and Waste Crankcase Oils and Lubricants. The wastes generated at the Site from between the late 1980s and April 2014, present a moderate to high environmental risk of potential environmental concern. It is assumed that these wastes, are associated with the repair garage activities.

A 900 L underground waste oil tank is located along the north face of the repair garage. Waste oil generated on Site is disposed of into the tank which is then removed by a licenced contractor for offsite disposal. A 15000 L capacity aboveground container is located at the northern portion of the Site between the two (2) salt/sand storage sheds. It is used to store de-icing brine (MgCl). Within the repair garage, along the north face of the building, four (4) plastic containers are present used to store automotive transmission fluid, *Preston*, Hydraulic oil and motor oil used during the associated activities. The waste oil UST and other storage container present a moderate to high environmental risk of potential environmental concern. Hydraulically operated devices that can contain hydraulic oils (i.e. piston type elevators, vehicle hoist and compactors) were observed. In-ground, stationary hoists are present in the repair garage which presents a moderate to high environmental risk of potential environmental concern.

Several other containers, pails and drums are present across the Site used to store various chemicals associated with the City's Public Works activities. They are all in generally good contention with no evidence of punctures or corrosion. Some evidence of spills of oils was observed in the repair garage in proximity to select storage containers.

Records of six (6) spills within 300 m of the Site were retrieved, one of which occurred on the Site, 1225 Ontario Street. The records retrieved present low environmental risk generally due to their distance from the Site. The spill that occurred at 1225 Ontario Street was found to present a low environmental risk as the spill was to a municipal service and is likely contained rather than to the natural environment.

Maps were reviewed by LRL to obtain the regional geology and information on the surficial soil and bedrock. The surficial geology of the Site consists of Clay. Silty clay and silt. The bedrock geology is found to be the St Martin Formation which consists of Limestone, minor shale and dolomite. The presence of significant amounts of fill material (beyond that required for normal construction and/or grading) was generally not observed across the Site with the exception to the northern portion of the 1225 Ontario Street. The northern portion of the Municipal Yard is elevated in comparison to the remainder of the surround land which continues west along Lemay Street. Similar topography is noted to the north at the former landfill site. It is suspected that this is a result of buried waste encompassing this area. The inferred groundwater flow direction of the Site is south following the topography of the land towards the St Lawrence River.

8 POTENTIALLY CONTAMINATING ACTIVITY & AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

A potentially contaminating activity is a use or activity set out in Table 2 of Schedule D of the O. Reg. 153/04.

The activities on the site and lands within 250 m generally consist of vacant, residential and commercial (retail, fitness center and office space).

Based on the results of the Phase I Environmental Site Assessment the following areas of potential environmental concern were identified:

Potential Environmental Concern	Location	Comments	Contaminants of Potential Concern	Media Potentially Impacted
1225 Ontario Street				
Fuel dispensing equipment/ installations	Along the west perimeter of the property, approximately midway north-south	Consists of three (3) UST containing gasoline and diesel and an associated pump island. Installed in 1987.	VOC, PHC	Soil and groundwater
Waste Oil UST	Along north face of repair garage	900 L capacity.	VOC, PHC	Soil and groundwater
Stationary in-ground hoists	In repair garage	One (1) observed at the time of the Site visit	VOC, PHC	Soil and groundwater
General repair garage activities and waste generated	Approximately center of the property	Minor surface staining observed across the garage	VOC, PHC, Metals, SVOC	Soil and groundwater
MgCl storage	Northern portion of property, between salt storage sheds	15000 L capacity, used for road de-icing	Metals	Soil
Snow and Soil disposal	Northern portion of property	Temporary storage and disposal yard for snow, soil and hydro-Vac activities	Metals, PHC, VOC	Soil and groundwater
1246 Ontario Street				
Former Mobile Home	Southern portion of property	Potential for former oil heating tank and buried waste from removal	VOC, PHC, Metals	Soil and groundwater
Neighbouring Properties within 250 m of the Site				
Former Landfill Site	Immediately north of Lemay Street	Potentially encroached onto 1225 Ontario Street and across Lemay Street based on topographic observations and information provided by the client	Metals, VOC, General Inorganics	Soil and groundwater

The locations of the potential environmental concerns are shown in **Figure 3.1** and **Figure 3.2**.

9 CONCLUSIONS

Based on the findings of the Phase I ESA, it was recommended that a Phase II ESA be conducted on the site to confirm the impacts of the potential environmental concerns identified.

10 LIMITATIONS AND USE OF REPORT

The results of this Phase I ESA should not be considered a warranty that the subject property is free from any and all contaminants from former and current practices, other than those noted in this report, nor that all compliance issues have been addressed.

The findings contained in this report are based on data and information collected during the Phase I ESA of the subject property conducted by LRL Associates Ltd. The conclusions and recommendations are based solely on site conditions encountered at the time of our inspection on May 29, 2015, supplemented by historical information and data obtained as described in this report. No assurance is made regarding changes in conditions subsequent to the time of this investigation. If additional information is discovered or obtained, LRL Associates Ltd. should be requested to re-evaluate the conclusions presented in this report and to provide amendments as required.

In evaluating the subject property, LRL Associates Ltd. has relied in good faith on information provided by individuals as noted in this report. We assume that the information provided is factual and accurate. We accept no responsibility for any deficiencies, misstatements or inaccuracies contained in this report as a result of omissions, misinterpretation or fraudulent acts of the persons contacted.

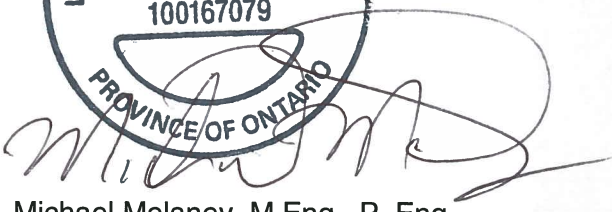
This report is intended for the sole use of the AECOM Canada Ltd. and their authorized agents. LRL Associates Ltd. will not be responsible for any use of the information contained within this report by any third party.

In addition, LRL Associates Ltd. will not be responsible for the real or perceived decrease in the property value, its saleability or ability to gain financing, through the reporting of factual information.

Yours truly,
LRL Associates Ltd.



Jessica Arthurs
Environmental Technician



Michael Melaney, M.Eng., P. Eng.

11 REFERENCES

Abacon Environmental Consultants Inc., Asbestos Assessment Survey for Public Works Barricade Shed, 1225 Ontario Street, Cornwall, Ontario, December 5, 2014.

Abacon Environmental Consultants Inc., Asbestos Assessment Survey for Public Works Equipment Storage Shed, 1225 Ontario Street, Cornwall, Ontario, December 5, 2014.

Abacon Environmental Consultants Inc., Asbestos Assessment Survey for Public Works Salt/Sand Shed #1, 1225 Ontario Street, Cornwall, Ontario, December 5, 2014.

Abacon Environmental Consultants Inc., Asbestos Assessment Survey for Public Works Salt/Sand Shed #2, 1225 Ontario Street, Cornwall, Ontario, December 5, 2014.

Abacon Environmental Consultants Inc., Asbestos Assessment Survey for Public Works Tire Shed, 1225 Ontario Street, Cornwall, Ontario, December 5, 2014.

Abacon Environmental Consultants Inc., Asbestos Assessment Survey for Public Works Tire Shed, 1225 Ontario Street, Cornwall, Ontario, January 30, 2015.

Abacon Environmental Consultants Inc., Asbestos Re-Assessment Survey i Update Report for Public Works Administration Building, 1225 Ontario Street, Cornwall, Ontario, December 5, 2014.

Abacon Environmental Consultants Inc., Asbestos Re-Assessment Survey i Update Report for Public Works Carpenter Shop, 1225 Ontario Street, Cornwall, Ontario, December 5, 2014.

Abacon Environmental Consultants Inc., Asbestos Re-Assessment Survey i Update Report for Public Works City Stores, 1225 Ontario Street, Cornwall, Ontario, December 5, 2014.

Abacon Environmental Consultants Inc., Asbestos Re-Assessment Survey i Update Report for Public Works - Garage, 1225 Ontario Street, Cornwall, Ontario, December 5, 2014.

Abacon Environmental Consultants Inc., Asbestos Re-Assessment Survey i Update Report for Public Works - Garage, 1225 Ontario Street, Cornwall, Ontario, January 30, 2015.

Abacon Environmental Consultants Inc., Asbestos Re-Assessment Survey i Update Report for Public Works Roads Shop, 1225 Ontario Street, Cornwall, Ontario, December 5, 2014.

Abacon Environmental Consultants Inc., Asbestos Re-Assessment Survey i Update Report for Public Works Traffic Shop, 1225 Ontario Street, Cornwall, Ontario, December 5, 2014.

Abacon Environmental Consultants Inc., Asbestos Re-Assessment Survey i Update Report for Public Works Waterworks/Sewer Shed, 1225 Ontario Street, Cornwall, Ontario, December 5, 2014.

Canadian Standards Association, Z768-01 Phase I Environmental Site Assessment, November 2001.

City of Cornwall Interactive Map: <http://maps.cornwall.ca/mapguide/cornwallmaps.php>

Ministry of Environment and Energy, Coal Tar Site Investigations 1986 i 1995, January 1997.

Ministry of Environment, Environmental Protection Act, Ontario Regulation 511/09, Records of Site Condition-Part 15.1 of the Act, Parts 1-7.

Ministry of the Environment, Guide for Completing Phase I Environmental Site Assessments Under Ontario Regulation 153/04, June 2011.

Ministry of the Environment, Well Records Interactive Map: <http://www.ontario.ca/environment-and-energy/map-well-record-data>.

St-Onge, D.A., Surficial Geology, Geological Survey of Canada, Lower Ottawa Valley, Ontario-Quebec, Map 2140A, Scale 1:125 000, 2009.

Thompson Rosemount Group Inc., Optimist Park 2008 Groundwater Quality Investigation Report, April 2009.

Waste Management Branch, Ontario Ministry of the Environment, Waste Disposal Site Inventory, June 1991.

Wilson, A.E., Geological Survey, Department of Mines and Resources, Ottawa-Cornwall, Ontario and Quebec, Map 852A, Scale 1:253 440, 1946.

FIGURES



5430 Canotek Road
Ottawa, Ontario
K1J 9G2

Tel: (613) 842-3434
(877) 632-5664
Website: www.LRL.ca
Fax: (613) 842-4338

PROJECT

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED LEMAY STREET EXTENSION AND MUNICIPAL
WORK YARD RECONFIGURATION
CORNWALL, ONTARIO

DRAWING TITLE

SITE LOCATION
(NOT TO SCALE)

CLIENT

AECOM CANADA

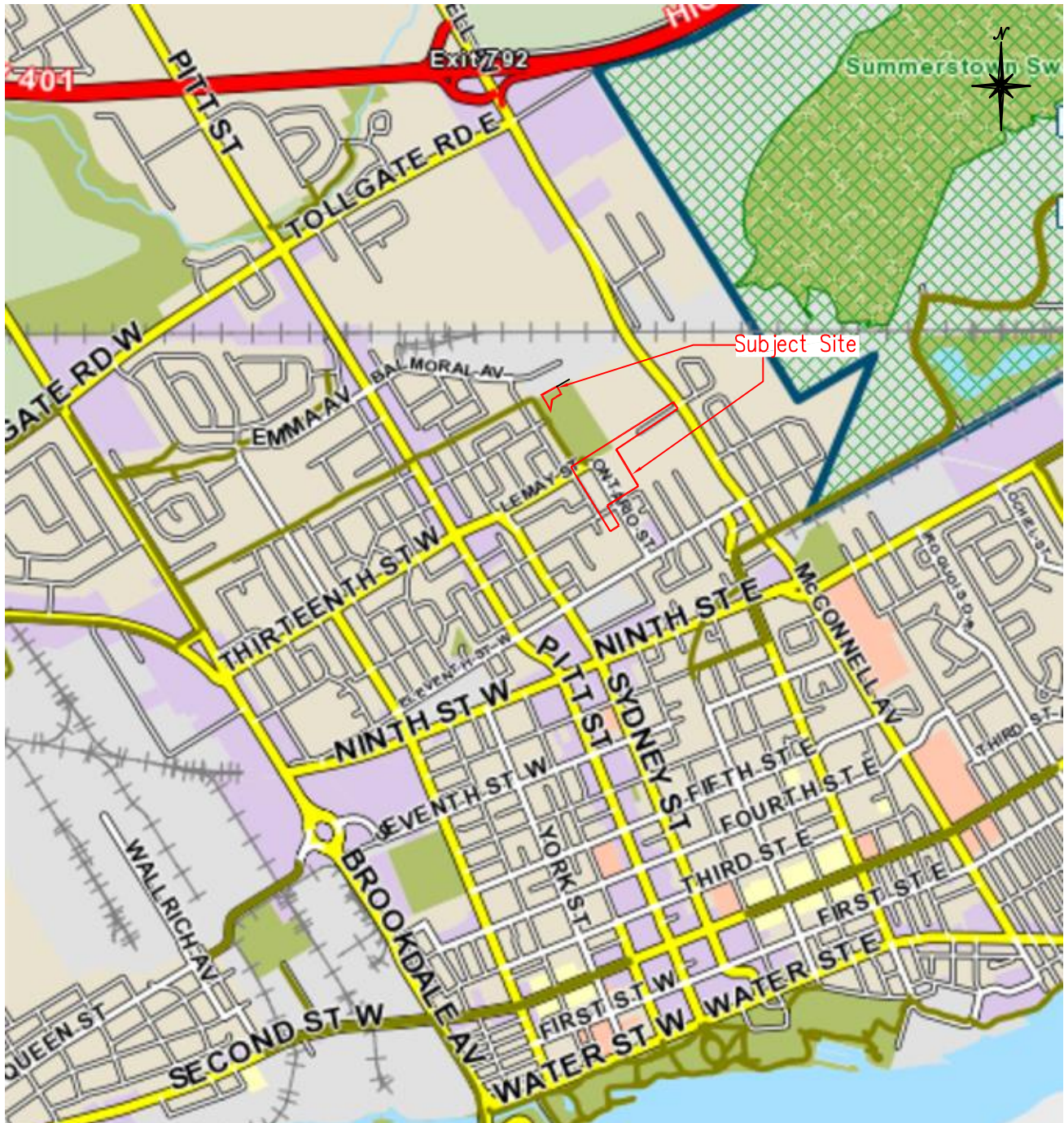
DATE

JULY 2015

PROJECT

140750

FIGURE1



LEGEND

SITE

EXTENT OF 250 M RADIUS FROM SITE

PROPERTY LINE

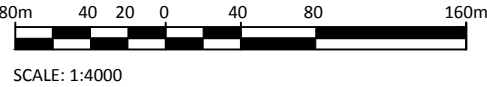
ZONING

MANUFACTURING (MFR)

RESIDENTIAL (RES)

PARKLAND

OPEN SPACE (OPC)



01	ISSUED FOR REVIEW	J.A.	06/29/15
No.	REVISIONS	BY	DATE

LRL

ASSOCIATES ASSOCIES
ENGINEERS INGENIEURS

5430 Canotek Road
Ottawa, Ontario
K1J 9G2

Tel: (613) 842-3434
(877) 632-5664
Website: www.LRL.ca
Fax: (613) 842-4338

CLIENT

AECOM CANADA

DESIGNED BY:	DRAWN BY:	APPROVED BY:
J.A.	J.A.	M.M.

PROJECT

PHASE I

ENVIRONMENTAL SITE ASSESSMENT
PROPOSED LEMAY STREET EXTENSION
AND MUNICIPAL WORK YARD
RECONFIGURATION
CORNWALL, ONTARIO

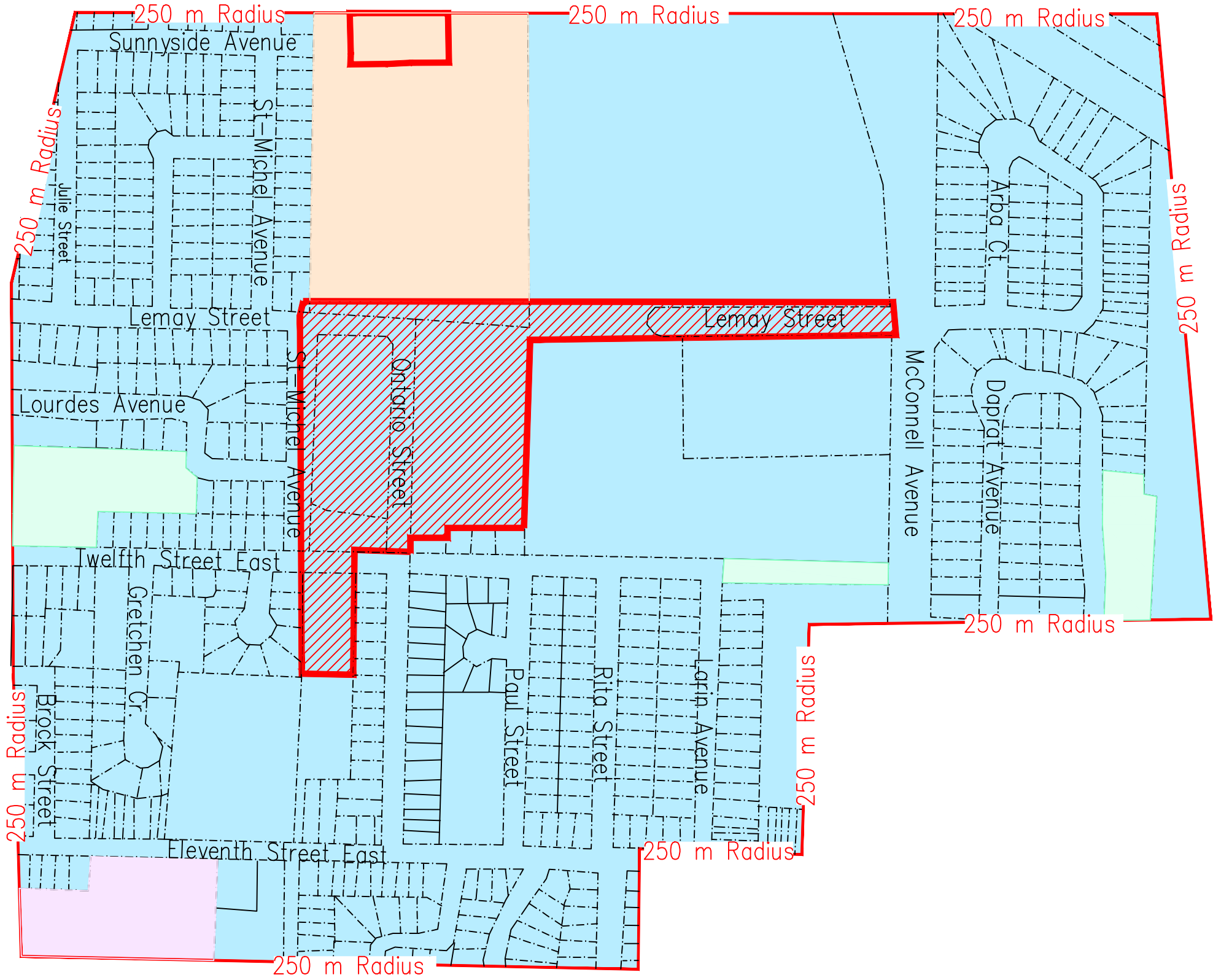
DRAWING TITLE

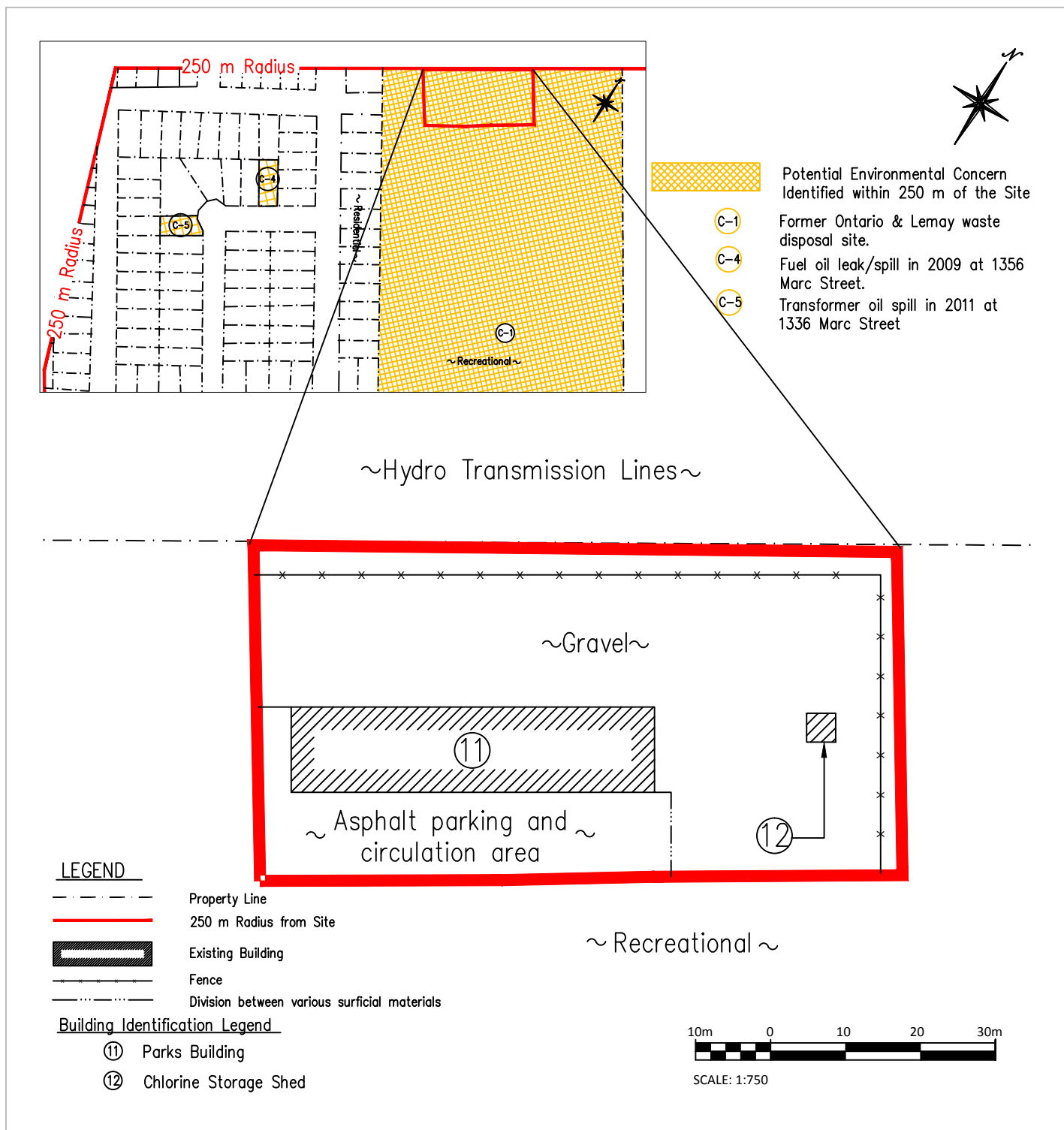
ZONING WITHIN 250 M OF THE SITE

PROJECT NO.
140750

DATE
JUNE 29, 2015

FIGURE2





APPENDIX A
LAND TITLE SEARCH

PROPERTY DESCRIPTION: PT LT 8 CON 2 CORNWALL AS IN S69018 & TC27063 EXCEPT PT 1 52R600; EXCEPT THE EASEMENT THEREIN; S/T TC37536; CORNWALL

PROPERTY REMARKS:

ESTATE/QUALIFIER:
FEE SIMPLE
LT CONVERSION QUALIFIED

RECENTLY:
FIRST CONVERSION FROM BOOK

PIN CREATION DATE:
2006/08/21

OWNERS' NAMES

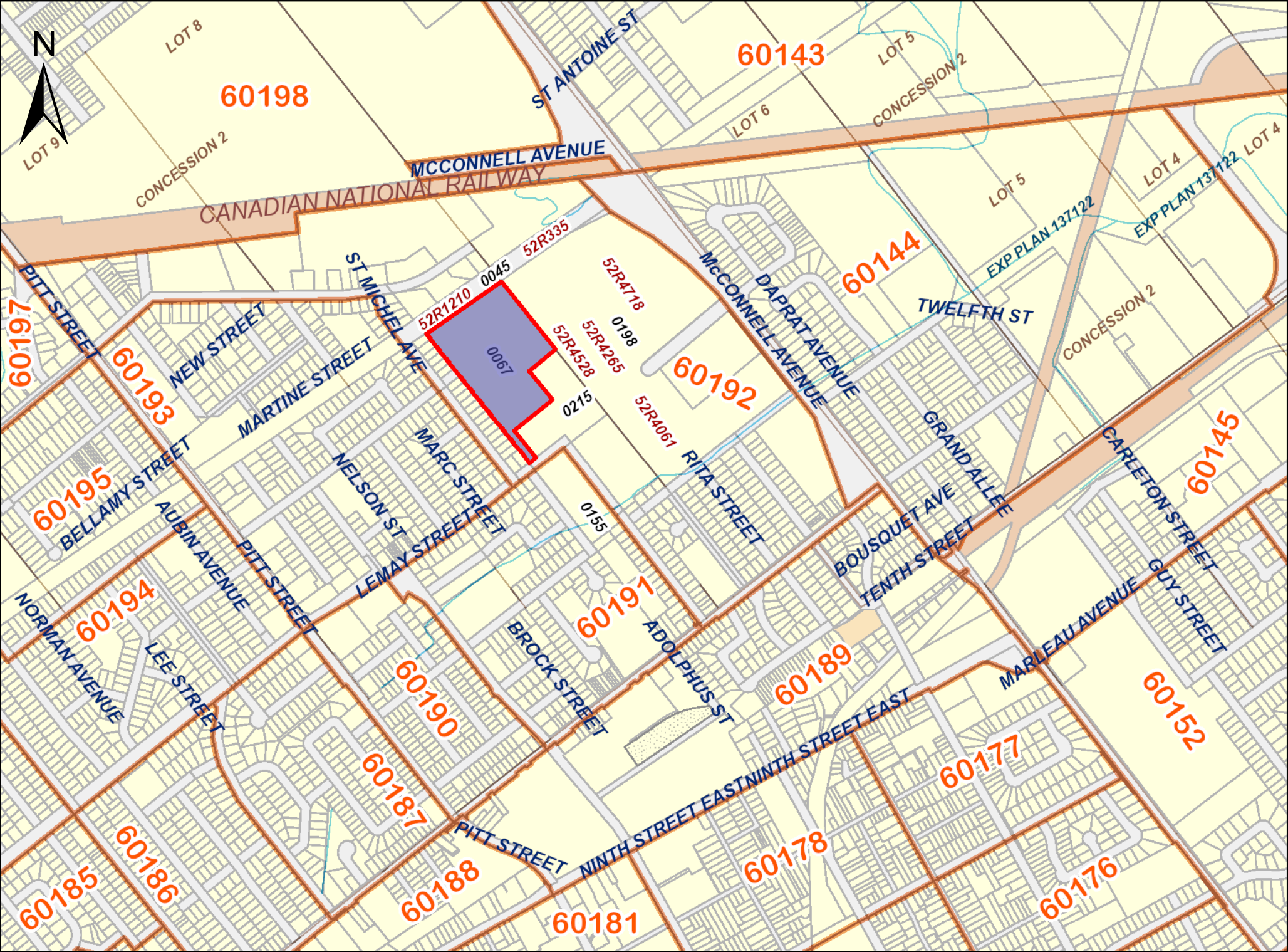
THE MUNICIPAL CORPORATION OF THE TOWN OF CORNWALL
THE CORPORATION OF THE CITY OF CORNWALL

CAPACITY SHARE

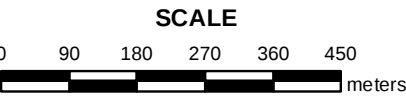
ROWN
ROWN

REG. NUM.	DATE	INSTRUMENT TYPE	AMOUNT	PARTIES FROM	PARTIES TO	CERT/CHKD
** PRINTOUT INCLUDES ALL DOCUMENT TYPES (DELETED INSTRUMENTS NOT INCLUDED) **						
**SUBJECT, ON FIRST REGISTRATION UNDER THE LAND TITLES ACT, TO:						
** SUBSECTION 44(1) OF THE LAND TITLES ACT, EXCEPT PARAGRAPH 11, PARAGRAPH 14, PROVINCIAL SUCCESSION DUTIES *						
** AND ESCHEATS OR FORFEITURE TO THE CROWN.						
** THE RIGHTS OF ANY PERSON WHO WOULD, BUT FOR THE LAND TITLES ACT, BE ENTITLED TO THE LAND OR ANY PART OF						
** IT THROUGH LENGTH OF ADVERSE POSSESSION, PRESCRIPTION, MISDESCRIPTION OR BOUNDARIES SETTLED BY						
** CONVENTION.						
** ANY LEASE TO WHICH THE SUBSECTION 70(2) OF THE REGISTRY ACT APPLIES.						
**DATE OF CONVERSION TO LAND TITLES: 2006/08/21 **						
TC27063	1944/04/17	TRANSFER	\$900		THE MUNICIPAL CORPORATION OF THE TOWN OF CORNWALL	C
TC37536	1952/12/19	TRANSFER EASEMENT			TRANS-NORTHERN PIPE LINE COMPANY	C
S69018	1969/10/03	TRANSFER	\$4,000		THE CORPORATION OF THE CITY OF CORNWALL	C
REMARKS: SKETCH ATTACHED.						
S237723	1992/04/08	NOTICE				C
REMARKS: MULTI						

NOTE: ADJOINING PROPERTIES SHOULD BE INVESTIGATED TO ASCERTAIN DESCRIPTIVE INCONSISTENCIES, IF ANY, WITH DESCRIPTION REPRESENTED FOR THIS PROPERTY.
NOTE: ENSURE THAT YOUR PRINTOUT STATES THE TOTAL NUMBER OF PAGES AND THAT YOU HAVE PICKED THEM ALL UP.



PRINTED ON 13 APR, 2015 AT 09:25:51
FOR EEGOOLAB



PROPERTY INDEX MAP
STORMONT(No. 52)

LEGEND

FREEHOLD PROPERTY	
LEASEHOLD PROPERTY	
LIMITED INTEREST PROPERTY	
CONDOMINIUM PROPERTY	
RETIRED PIN (MAP UPDATE PENDING)	
PROPERTY NUMBER	0449
BLOCK NUMBER	08050
GEOGRAPHIC FABRIC	
EASEMENT	

THIS IS NOT A PLAN OF SURVEY

NOTES

REVIEW THE TITLE RECORDS FOR COMPLETE
PROPERTY INFORMATION AS THIS MAP MAY
NOT REFLECT RECENT REGISTRATIONS

THIS MAP WAS COMPILED FROM PLANS AND
DOCUMENTS RECORDED IN THE LAND
REGISTRATION SYSTEM AND HAS BEEN PREPARED
FOR PROPERTY INDEXING PURPOSES ONLY

FOR DIMENSIONS OF PROPERTIES BOUNDARIES SEE
RECORDED PLANS AND DOCUMENTS

ONLY MAJOR EASEMENTS ARE SHOWN

REFERENCE PLANS UNDERLYING MORE RECENT
REFERENCE PLANS ARE NOT ILLUSTRATED



APPENDIX B
ECOLOG ERIS REPORT



DATABASE REPORT



Project Property: *Lemay Street Extention
Lemay Street @ Ontario Street
Cornwall ON
140750*

P.O. Number *140750*

Report Type: *RSC Report - Quote*

Order #: *20150413002*

Requested by: *LRL Associates Ltd.*

Date: *April 16, 2015*

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

Table of Contents

Table of Contents.....	1
Executive Summary.....	2
Executive Summary: Report Summary.....	3
Executive Summary: Site Report Summary - Project Property.....	5
Executive Summary: Site Report Summary - Surrounding Properties.....	7
Executive Summary: Summary By Data Source.....	9
Map.....	14
Aerial.....	15
Detail Report.....	16
Unplottable Summary.....	35
Unplottable Report.....	37
Appendix: Database Descriptions.....	50
Definitions.....	60

Notice: IMPORTANT LIMITATIONS and YOUR LIABILITY

Reliance on information in Report: This report DOES NOT replace a full Phase I Environmental Site Assessment but is solely intended to be used as a database review on environmental records.

License for use of information in Report: No page of this report can be used without this cover page, this notice and the project property identifier. The information in Report(s) may not be modified or re-sold.

Your Liability for misuse: Using this Service and/or its reports in a manner contrary to this Notice or your agreement will be in breach of copyright and contract and ERIS may obtain damages for such mis-use, including damages caused to third parties, and gives ERIS the right to terminate your account, rescind your license to any previous reports and to bar you from future use of the Service.

No warranty of Accuracy or Liability for ERIS: The information contained in this report has been produced by EcoLog Environmental Risk Information Services Ltd ("ERIS") using various sources of information, including information provided by Federal and Provincial government departments. The report applies only to the address and up to the date specified on the cover of this report, and any alterations or deviation from this description will require a new report. This report and the data contained herein does not purport to be and does not constitute a guarantee of the accuracy of the information contained herein and does not constitute a legal opinion nor medical advice. Although ERIS has endeavored to present you with information that is accurate, EcoLog ERIS disclaims, any and all liability for any errors, omissions, or inaccuracies in such information and data, whether attributable to inadvertence, negligence or otherwise, and for any consequences arising therefrom. Liability on the part of EcoLog ERIS is limited to the monetary value paid for this report.

Trademark and Copyright: You may not use the ERIS trademarks or attribute any work to ERIS other than as outlined above. This Service and Report(s) are protected by copyright owned by EcoLog ERIS Ltd. Copyright in data used in the Service or Report(s) (the "Data") is owned by EcoLog ERIS or its licensors. The Service, Report(s) and Data may not be copied or reproduced in whole or in any substantial part without prior written consent of EcoLog ERIS.

Executive Summary

Property Information:

Project Property: *Lemay Street Extention
Lemay Street @ Ontario Street Cornwall ON*

P.O. Number: *140750*

Order Information:

Order No.: *20150413002*

Date Requested: *16/04/2015*

Requested by: *LRL Associates Ltd.*

Report Type: *RSC Report - Quote*

Additional Products:

Fire Insurance Maps *Canadian Fire Insurance Maps*

Land Title Search *Title Search*

Topographic Map *Ontario Base Map (OBM)*

Executive Summary: Report Summary

Database	Name	Searched	Project Property	Boundary to 0.30km	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	2	2
AUWR	Automobile Wrecking & Supplies	Y	0	0	0
BORE	Borehole	Y	0	3	3
CA	Certificates of Approval	Y	1	2	3
CFOT	Commercial Fuel Oil Tanks	Y	0	0	0
CHEM	Chemical Register	Y	0	0	0
COAL	Inventory of Coal Gasification Plants and Coal Tar Sites	Y	0	0	0
CONV	Compliance and Convictions	Y	0	0	0
CPU	Certificates of Property Use	Y	0	0	0
DRL	Drill Hole Database	Y	0	0	0
EASR	Environmental Activity and Sector Registry	Y	0	0	0
EBR	Environmental Registry	Y	0	1	1
ECA	Environmental Compliance Approval	Y	0	0	0
EEM	Environmental Effects Monitoring	Y	0	0	0
EHS	ERIS Historical Searches	Y	0	1	1
EIIS	Environmental Issues Inventory System	Y	0	0	0
EXP	List of TSSA Expired Facilities	Y	0	0	0
FCON	Federal Convictions	Y	0	0	0
FCS	Contaminated Sites on Federal Land	Y	0	0	0
FOFT	Fisheries & Oceans Fuel Tanks	Y	0	0	0
FST	Fuel Storage Tank	Y	3	0	3
FSTH	Fuel Storage Tank - Historic	Y	2	0	2
GEN	Ontario Regulation 347 Waste Generators Summary	Y	12	3	15
HINC	TSSA Historic Incidents	Y	0	3	3
IAFT	Indian & Northern Affairs Fuel Tanks	Y	0	0	0
INC	TSSA Incidents	Y	0	0	0
LIMO	Landfill Inventory Management Ontario	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 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

Database	Name	Searched	Project Property	Boundary to 0.30km	Total
NEES	National Environmental Emergencies System (NEES)	Y	0	0	0
NPCB	National PCB Inventory	Y	0	0	0
NPRI	National Pollutant Release Inventory	Y	1	0	1
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
ORD	Orders	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	1	1
PINC	TSSA Pipeline Incidents	Y	0	0	0
PRT	Private and Retail Fuel Storage Tanks	Y	1	0	1
PTTW	Permit to Take Water	Y	0	0	0
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	0	0
SCT	Scott's Manufacturing Directory	Y	0	1	1
SPL	Ontario Spills	Y	1	5	6
SRDS	Wastewater Discharger Registration Database	Y	0	0	0
TANK	Anderson's Storage Tanks	Y	0	0	0
TCFT	Transport Canada Fuel Storage Tanks	Y	0	0	0
VAR	TSSA Variances for Abandonment of Underground Storage Tanks	Y	0	0	0
WDS	Waste Disposal Sites - MOE CA Inventory	Y	0	0	0
WDSH	Waste Disposal Sites - MOE 1991 Historical Approval Inventory	Y	0	1	1
WWIS	Water Well Information System	Y	0	2	2
Total:			21	25	46

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Dir/Dist m	Elev diff m	Page Number
2	CA	The Corporation of the City of Cornwall	1225 Ontario St Cornwall ON K6H 4E1	-/0.0	59.88	16
2	FST	CITY OF CORNWALL	1225 ONTARIO ST CORNWALL ON K6H 4E1	-/0.0	59.88	16
2	FST	CITY OF CORNWALL	1225 ONTARIO ST CORNWALL ON K6H 4E1	-/0.0	59.88	16
2	FST	CITY OF CORNWALL	1225 ONTARIO ST CORNWALL ON K6H 4E1	-/0.0	59.88	17
2	FSTH	CITY OF CORNWALL	1225 ONTARIO ST CORNWALL ON K6H 4E1	-/0.0	59.88	17
2	FSTH	CITY OF CORNWALL	1225 ONTARIO ST CORNWALL ON K6H 4E1	-/0.0	59.88	17
2	GEN	CORNWALL, CORPORATION OF THE CITY OF	1225 ONTARIO STREET CITY WORKSHOP CORNWALL ON K6H 4E1	-/0.0	59.88	18
2	GEN	CORNWALL, CORPORATION OF THE CITY OF	PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	-/0.0	59.88	18
2	GEN	CORNWALL, CORP. OF THE CITY OF	CITY WORKSHOP 1225 ONTARIO ST. C/O 360 PITT ST (HOUSEHOLD HAZ. WASTE) CORNWALL ON K6H 4E1	-/0.0	59.88	19
2	GEN	CORNWALL, CORP OF THE CITY OF	PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	-/0.0	59.88	19
2	GEN	CORNWALL, CORPORATION OF THE CITY OF	PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON	-/0.0	59.88	20
2	GEN	CORNWALL, CORPORATION OF THE CITY OF	PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	-/0.0	59.88	20
2	GEN	CORNWALL, CORPORATION OF THE CITY OF	PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	-/0.0	59.88	20
2	GEN	CORNWALL, CORPORATION OF THE CITY OF	PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	-/0.0	59.88	20
2	GEN	CORNWALL, CORPORATION OF THE CITY OF	PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	-/0.0	59.88	21
2	GEN	CORNWALL, CORPORATION OF THE CITY OF	PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	-/0.0	59.88	21

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Dir/Dist m</i>	<i>Elev diff m</i>	<i>Page Number</i>
<u>2</u>	GEN	CORNWALL, CORPORATION OF THE CITY OF	CITY WORKSHOP 1225 ONTARIO STREET CORNWALL ON K6H 4E1	-/0.0	59.88	<u>21</u>
<u>2</u>	GEN	CORNWALL, CORP. OF THE CITY OF 09-143	CITY WORKSHOP 1225 ONTARIO ST. C/O 360 PITT ST (HOUSEHOLD HAZ. WASTE) CORNWALL ON K6H 4E1	-/0.0	59.88	<u>22</u>
<u>2</u>	NPRI	CITY OF CORNWALL	1225 ONTARIO Street CORNWALL ON K6H4E1	-/0.0	59.88	<u>23</u>
<u>2</u>	PRT	CITY OF CORNWALL	1225 ONTARIO ST CORNWALL ON K6H 4E1	-/0.0	59.88	<u>24</u>
<u>2</u>	SPL	The Corporation of the City of Cornwall	1225 Ontario Street Cornwall ON K6H 4E1	-/0.0	59.88	<u>24</u>

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Dir/Dist m	Elev diff m	Page Number
1	WWIS		lot 7 con 2 CORNWELL ON	SE/1.2	59.88	24
3	WWIS		CORNWALL ON	WNW/1.1	59.88	25
4	ANDR	Ontario & Lemay Dump OP	Cornwall ON K6	NNW/74.6	59.88	25
5	ANDR	Ontario & Lemay Dump (official)	Cornwall ON K6	NW/70.8	59.88	26
6	WDSH		8 2 CORNWALL ON	WNW/81.3	59.88	26
7	HINC		12 Leduc Circle CORNWALL ON K6H 4E3	SSE/105.6	59.88	26
8	HINC		1126 LARIN AVENUE CORNWALL ON K6H 4C6	ESE/160.3	59.88	27
9	PES	JEAN-PIERRE LABELLE O/A P T ENVIRONMENTAL SERVICES	1131 LARIN AVE CORNWALL ON K6H 4C7	E/201.6	59.78	27
10	HINC		1356 MARC STREET CORNWALL ON K6H 3M3	W/161.1	59.88	28
10	SPL	Residence<UNOFFICIAL>	1356 Marc St Cornwall ON K6H 3M3	W/161.1	59.88	28
11	EHS		1107 Gretchen Court Cornwall ON K6H 6T2	SSW/123.0	59.88	28
12	CA	CORNWALL CITY - TENDER NO. 6-90	MCCONNELL AVE/LEMAY ST. CORNWALL CITY ON	NE/7.9	58.88	28
12	CA	CORNWALL MUNICIPAL NON-PROFIT HSG. CORP.	MCCONNELL AVE./LEMAY AVE. CORNWALL CITY ON	NE/7.9	58.88	29
13	SPL	Cornwall Street Railway Light and Power Company Limited	1336 Marc St Cornwall ON K6H 3M3	W/195.8	59.88	29
14	SPL		11th and Cooper St Cornwall ON	SE/247.0	59.88	29
15	BORE		ON	NNE/189.2	59.82	30

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Dir/Dist m</i>	<i>Elev diff m</i>	<i>Page Number</i>
<u>16</u>	GEN	MR. RUDY LADOUCEUR	1123 McCONNELL AVENUE CORNWALL ON K6H 4N2	E/281.9	58.88	<u>30</u>
<u>16</u>	SPL	S. 21	1123 McConnell Ave. (corner of 12th and McConnell) Cornwall ON	E/281.9	58.88	<u>31</u>
<u>17</u>	BORE		ON	N/254.4	59.88	<u>31</u>
<u>18</u>	SPL	DELANEY BUS LINES	11TH ST./AMELIA ST. MOTOR VEHICLE (OPERATING FLUID) CORNWALL CITY ON	S/228.7	59.88	<u>32</u>
<u>19</u>	SCT	Versus Business Forms Inc.	1065 Roy Ave Cornwall ON K6H 4C2	SSE/285.3	59.88	<u>32</u>
<u>20</u>	GEN	ESSO PETROLEUM CANADA 14-169	1020 ADOLPHUS STREET CORNWALL ON K0C 1V0	S/255.3	59.88	<u>32</u>
<u>20</u>	GEN	ESSO PETROLEUM CANADA	1020 ADOLPHUS STREET CORNWALL ON K0C 1V0	S/255.3	59.88	<u>32</u>
<u>21</u>	EBR	1675755 Ontario Inc.	125 Eleventh Street West Cornwall ON K6H 3B3	S/238.5	59.88	<u>33</u>
<u>22</u>	BORE		ON	N/299.6	59.88	<u>33</u>

Executive Summary: Summary By Data Source

ANDR - Anderson's Waste Disposal Sites

A search of the ANDR database, dated 1860s-Present has found that there are 2 ANDR site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
Ontario & Lemay Dump OP	Cornwall ON K6	74.6	<u>4</u>
Ontario & Lemay Dump (official)	Cornwall ON K6	70.8	<u>5</u>

BORE - Borehole

A search of the BORE database, dated 1875-Jul 2014 has found that there are 3 BORE site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
	ON	189.2	<u>15</u>
	ON	254.4	<u>17</u>
	ON	299.6	<u>22</u>

CA - Certificates of Approval

A search of the CA database, dated 1985-Oct 30, 2011* has found that there are 3 CA site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
The Corporation of the City of Cornwall	1225 Ontario St Cornwall ON K6H 4E1	0.0	<u>2</u>
CORNWALL MUNICIPAL NON-PROFIT HSG. CORP.	MCCONNELL AVE./LEMAY AVE. CORNWALL CITY ON	7.9	<u>12</u>
CORNWALL CITY - TENDER NO. 6-90	MCCONNELL AVE/LEMAY ST. CORNWALL CITY ON	7.9	<u>12</u>

EBR - Environmental Registry

A search of the EBR database, dated 1994-Jan 2015 has found that there are 1 EBR site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
1675755 Ontario Inc.	125 Eleventh Street West Cornwall ON K6H 3B3	238.5	<u>21</u>

EHS - ERIS Historical Searches

A search of the EHS database, dated 1999-Aug 2014 has found that there are 1 EHS site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
	1107 Gretchen Court Cornwall ON K6H 6T2	123.0	<u>11</u>

FST - Fuel Storage Tank

A search of the FST database, dated 2010-Nov 2014 has found that there are 3 FST site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
CITY OF CORNWALL	1225 ONTARIO ST CORNWALL ON K6H 4E1	0.0	<u>2</u>
CITY OF CORNWALL	1225 ONTARIO ST CORNWALL ON K6H 4E1	0.0	<u>2</u>
CITY OF CORNWALL	1225 ONTARIO ST CORNWALL ON K6H 4E1	0.0	<u>2</u>

FSTH - Fuel Storage Tank - Historic

A search of the FSTH database, dated Pre-Jan 2010* has found that there are 2 FSTH site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
CITY OF CORNWALL	1225 ONTARIO ST CORNWALL ON K6H 4E1	0.0	<u>2</u>
CITY OF CORNWALL	1225 ONTARIO ST CORNWALL ON K6H 4E1	0.0	<u>2</u>

GEN - Ontario Regulation 347 Waste Generators Summary

A search of the GEN database, dated 1986-Apr 2014 has found that there are 15 GEN site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
CORNWALL, CORPORATION OF THE CITY OF	PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	0.0	<u>2</u>

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
CORNWALL, CORPORATION OF THE CITY OF	PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	0.0	<u>2</u>
CORNWALL, CORPORATION OF THE CITY OF	CITY WORKSHOP 1225 ONTARIO STREET CORNWALL ON K6H 4E1	0.0	<u>2</u>
CORNWALL, CORP. OF THE CITY OF 09-143	CITY WORKSHOP 1225 ONTARIO ST. C/O 360 PITT ST (HOUSEHOLD HAZ. WASTE) CORNWALL ON K6H 4E1	0.0	<u>2</u>
CORNWALL, CORPORATION OF THE CITY OF	PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	0.0	<u>2</u>
CORNWALL, CORPORATION OF THE CITY OF	1225 ONTARIO STREET CITY WORKSHOP CORNWALL ON K6H 4E1	0.0	<u>2</u>
CORNWALL, CORP OF THE CITY OF	PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	0.0	<u>2</u>
CORNWALL, CORPORATION OF THE CITY OF	PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON	0.0	<u>2</u>
CORNWALL, CORP. OF THE CITY OF	CITY WORKSHOP 1225 ONTARIO ST. C/O 360 PITT ST (HOUSEHOLD HAZ. WASTE) CORNWALL ON K6H 4E1	0.0	<u>2</u>
CORNWALL, CORPORATION OF THE CITY OF	PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	0.0	<u>2</u>
CORNWALL, CORPORATION OF THE CITY OF	PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	0.0	<u>2</u>
CORNWALL, CORPORATION OF THE CITY OF	PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	0.0	<u>2</u>
MR. RUDY LADOUCEUR	1123 McCONNELL AVENUE CORNWALL ON K6H 4N2	281.9	<u>16</u>
ESSO PETROLEUM CANADA	1020 ADOLPHUS STREET CORNWALL ON K0C 1V0	255.3	<u>20</u>
ESSO PETROLEUM CANADA 14-169	1020 ADOLPHUS STREET CORNWALL ON K0C 1V0	255.3	<u>20</u>

HINC - TSSA Historic Incidents

A search of the HINC database, dated 2006-June 2009* has found that there are 3 HINC site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
	12 Leduc Circle CORNWALL ON K6H 4E3	105.6	<u>7</u>
	1126 LARIN AVENUE CORNWALL ON K6H 4C6	160.3	<u>8</u>
	1356 MARC STREET CORNWALL ON K6H 3M3	161.1	<u>10</u>

NPRI - National Pollutant Release Inventory

A search of the NPRI database, dated 1993-2013 has found that there are 1 NPRI site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
CITY OF CORNWALL	1225 ONTARIO Street CORNWALL ON K6H4E1	0.0	<u>2</u>

PES - Pesticide Register

A search of the PES database, dated 1988-Jun 2013 has found that there are 1 PES site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
JEAN-PIERRE LABELLE O/A P T ENVIRONMENTAL SERVICES	1131 LARIN AVE CORNWALL ON K6H 4C7	201.6	<u>9</u>

PRT - Private and Retail Fuel Storage Tanks

A search of the PRT database, dated 1989-1996* has found that there are 1 PRT site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
CITY OF CORNWALL	1225 ONTARIO ST CORNWALL ON K6H 4E1	0.0	<u>2</u>

SCT - Scott's Manufacturing Directory

A search of the SCT database, dated 1992-Mar 2011 has found that there are 1 SCT site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
Versus Business Forms Inc.	1065 Roy Ave Cornwall ON K6H 4C2	285.3	<u>19</u>

SPL - Ontario Spills

A search of the SPL database, dated 1988-Feb 2014 has found that there are 6 SPL site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
The Corporation of the City of Cornwall	1225 Ontario Street Cornwall ON K6H 4E1	0.0	<u>2</u>
Residence<UNOFFICIAL>	1356 Marc St Cornwall ON K6H 3M3	161.1	<u>10</u>

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
Cornwall Street Railway Light and Power Company Limited	1336 Marc St Cornwall ON K6H 3M3	195.8	<u>13</u>
	11th and Cooper St Cornwall ON	247.0	<u>14</u>
S. 21	1123 McConnell Ave. (corner of 12th and McConnell) Cornwall ON	281.9	<u>16</u>
DELANEY BUS LINES	11TH ST./AMELIA ST. MOTOR VEHICLE (OPERATING FLUID) CORNWALL CITY ON	228.7	<u>18</u>

WDSH - Waste Disposal Sites - MOE 1991 Historical Approval Inventory

A search of the WDSH database, dated Up to Oct 1990* has found that there are 1 WDSH site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
	8 2 CORNWALL ON	81.3	<u>6</u>

WWIS - Water Well Information System

A search of the WWIS database, dated 1955-Mar 2014 has found that there are 2 WWIS site(s) within approximately 0.30 kilometers of the project property.

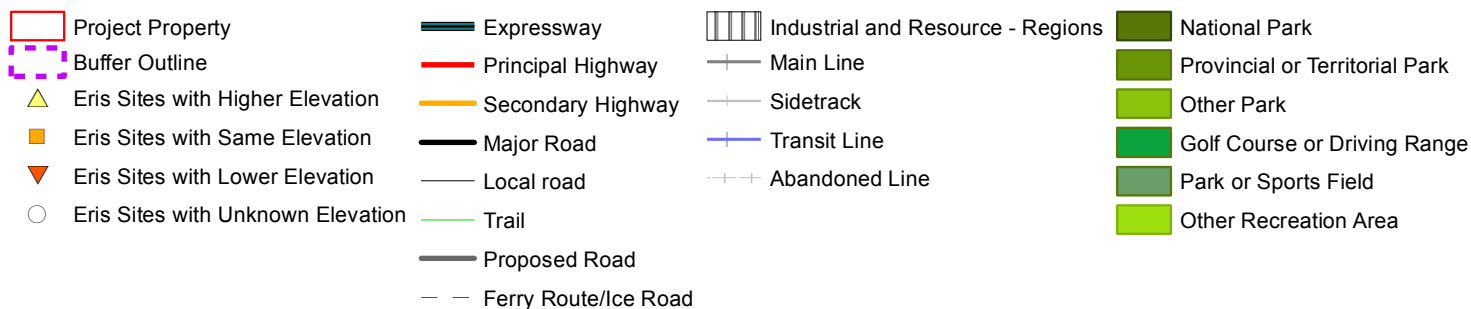
<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
	lot 7 con 2 CORNWELL ON	1.2	<u>1</u>
	CORNWALL ON	1.1	<u>3</u>



Map

Order No: 20150413002

Address: Lemay Street @ Ontario Street, Cornwall, ON





Aerial

Order No: 20150413002

Address: Lemay Street @ Ontario Street, Cornwall, ON

Detail Report

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
2	1 of 21	-/0.0	59.9	The Corporation of the City of Cornwall 1225 Ontario St Cornwall ON K6H 4E1	CA
Certificate #: 2372-7ZNS5D Application Year: 2010 Issue Date: 1/15/2010 Approval Type: Air Status: Approved Application Type: Client Name: Client Address: Client City: Client Postal Code: Project Description: Contaminants: Emission Control:					
2	2 of 21	-/0.0	59.9	CITY OF CORNWALL 1225 ONTARIO ST CORNWALL ON K6H 4E1	FST
Instance Number: 10703677 Cont Name: Instance Type: FS Liquid Fuel Tank Fuel Type: Gasoline Status: Active Capacity: 25000 Tank Material: Steel Corrosion Protection: Sacrificial anode Tank Type: Single Wall UST Install Year: 1987 Parent Facility Type: Fuels Safety Private Fuel Outlet - Self Serve Facility Type: FS Liquid Fuel Tank					
2	3 of 21	-/0.0	59.9	CITY OF CORNWALL 1225 ONTARIO ST CORNWALL ON K6H 4E1	FST
Instance Number: 10703525 Cont Name: Instance Type: FS Liquid Fuel Tank Fuel Type: Diesel Status: Active Capacity: 25000 Tank Material: Steel Corrosion Protection: Sacrificial anode Tank Type: Single Wall UST Install Year: 1987					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Parent Facility Type: Facility Type:		Fuels Safety Private Fuel Outlet - Self Serve FS Liquid Fuel Tank			
2	4 of 21	-/0.0	59.9	CITY OF CORNWALL 1225 ONTARIO ST CORNWALL ON K6H 4E1	FST
Instance Number:		10703606			
Cont Name:					
Instance Type:		FS Liquid Fuel Tank			
Fuel Type:		Gasoline			
Status:		Active			
Capacity:		25000			
Tank Material:		Steel			
Corrosion Protection:		Sacrificial anode			
Tank Type:		Single Wall UST			
Install Year:		1987			
Parent Facility Type:		Fuels Safety Private Fuel Outlet - Self Serve			
Facility Type:		FS Liquid Fuel Tank			
2	5 of 21	-/0.0	59.9	CITY OF CORNWALL 1225 ONTARIO ST CORNWALL ON K6H 4E1	FSTH
License Issue Date:		6/4/1990			
Tank Status:		Licensed			
Tank Status As Of:		August 2007			
Operation Type:		Private Fuel Outlet			
Facility Type:		Gasoline Station - Self Serve			
--- Details ---					
Status:		Active			
Capacity (L):		25000			
Year of Installation:		1987			
Corrosion Protection:					
Tank Fuel Type:		Liquid Fuel Single Wall UST - Diesel			
+					
Status:		Active			
Capacity (L):		25000			
Year of Installation:		1987			
Corrosion Protection:					
Tank Fuel Type:		Liquid Fuel Single Wall UST - Gasoline			
+					
Status:		Active			
Capacity (L):		25000			
Year of Installation:		1987			
Corrosion Protection:					
Tank Fuel Type:		Liquid Fuel Single Wall UST - Gasoline			
2	6 of 21	-/0.0	59.9	CITY OF CORNWALL 1225 ONTARIO ST CORNWALL ON K6H 4E1	FSTH
License Issue Date:		6/4/1990			
Tank Status:		Licensed			
Tank Status As Of:		December 2008			
Operation Type:		Private Fuel Outlet			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Facility Type:		Gasoline Station - Self Serve			
--- Details ---					
Status:		Active			
Capacity (L):		25000			
Year of Installation:		1987			
Corrosion Protection:					
Tank Fuel Type:		Liquid Fuel Single Wall UST - Diesel			
+					
Status:		Active			
Capacity (L):		25000			
Year of Installation:		1987			
Corrosion Protection:					
Tank Fuel Type:		Liquid Fuel Single Wall UST - Gasoline			
+					
Status:		Active			
Capacity (L):		25000			
Year of Installation:		1987			
Corrosion Protection:					
Tank Fuel Type:		Liquid Fuel Single Wall UST - Gasoline			
2	7 of 21	-/0.0	59.9	CORNWALL, CORPORATION OF THE CITY OF 1225 ONTARIO STREET CITY WORKSHOP CORNWALL ON K6H 4E1	GEN
Generator #:		ON0324803			
Approval Yrs:		92,93,95,96,97			
SIC Code:		8373			
SIC Description:		ENVIRON. ADMIN.			
--- Details ---					
Waste Code:		145			
Waste Description:		PAINT/PIGMENT/COATING RESIDUES			
+					
Waste Code:		148			
Waste Description:		INORGANIC LABORATORY CHEMICALS			
+					
Waste Code:		213			
Waste Description:		PETROLEUM DISTILLATES			
+					
Waste Code:		221			
Waste Description:		LIGHT FUELS			
+					
Waste Code:		242			
Waste Description:		HALOGENATED PESTICIDES			
+					
Waste Code:		252			
Waste Description:		WASTE OILS & LUBRICANTS			
+					
Waste Code:		263			
Waste Description:		ORGANIC LABORATORY CHEMICALS			
+					
Waste Code:		331			
Waste Description:		WASTE COMPRESSED GASES			
2	8 of 21	-/0.0	59.9	CORNWALL, CORPORATION OF THE CITY OF PUBLIC WORKS GARAGE 1225 ONTARIO STREET	GEN

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
CORNWALL ON K6H 4E1					
Generator #:	ON0324800				
Approval Yrs:	2009				
SIC Code:	485110				
SIC Description:	Urban Transit Systems				
--- Details ---					
Waste Code:	212				
Waste Description:	ALIPHATIC SOLVENTS				
+					
Waste Code:	252				
Waste Description:	WASTE OILS & LUBRICANTS				
2	9 of 21	-/0.0	59.9	CORNWALL, CORP. OF THE CITY OF CITY WORKSHOP 1225 ONTARIO ST. C/O 360 PITT ST (HOUSEHOLD HAZ. WASTE) CORNWALL ON K6H 4E1	GEN
Generator #:	ON0324803				
Approval Yrs:	88,89,90				
SIC Code:	8373				
SIC Description:	ENVIRON. ADMIN.				
--- Details ---					
Waste Code:	148				
Waste Description:	INORGANIC LABORATORY CHEMICALS				
+					
Waste Code:	213				
Waste Description:	PETROLEUM DISTILLATES				
+					
Waste Code:	221				
Waste Description:	LIGHT FUELS				
+					
Waste Code:	242				
Waste Description:	HALOGENATED PESTICIDES				
+					
Waste Code:	252				
Waste Description:	WASTE OILS & LUBRICANTS				
+					
Waste Code:	263				
Waste Description:	ORGANIC LABORATORY CHEMICALS				
+					
Waste Code:	331				
Waste Description:	WASTE COMPRESSED GASES				
2	10 of 21	-/0.0	59.9	CORNWALL, CORP OF THE CITY OF PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	GEN
Generator #:	ON0324800				
Approval Yrs:	92,93,97				
SIC Code:	8371				
SIC Description:	TRANSPORTATION ADMIN				
--- Details ---					
Waste Code:	252				
Waste Description:	WASTE OILS & LUBRICANTS				

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
2	11 of 21	-/0.0	59.9	CORNWALL, CORPORATION OF THE CITY OF PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON	GEN
Generator #:		ON0324800			
Approval Yrs:		2013			
SIC Code:		485110			
SIC Description:					
--- Details ---					
Waste Code:		212			
Waste Description:		ALIPHATIC SOLVENTS			
+					
Waste Code:		252			
Waste Description:		WASTE OILS & LUBRICANTS			
2	12 of 21	-/0.0	59.9	CORNWALL, CORPORATION OF THE CITY OF PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	GEN
Generator #:		ON0324800			
Approval Yrs:		2010			
SIC Code:		485110			
SIC Description:		Urban Transit Systems			
--- Details ---					
Waste Code:		212			
Waste Description:		ALIPHATIC SOLVENTS			
+					
Waste Code:		252			
Waste Description:		WASTE OILS & LUBRICANTS			
2	13 of 21	-/0.0	59.9	CORNWALL, CORPORATION OF THE CITY OF PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	GEN
Generator #:		ON0324800			
Approval Yrs:		2011			
SIC Code:		485110			
SIC Description:		Urban Transit Systems			
--- Details ---					
Waste Code:		212			
Waste Description:		ALIPHATIC SOLVENTS			
+					
Waste Code:		252			
Waste Description:		WASTE OILS & LUBRICANTS			
2	14 of 21	-/0.0	59.9	CORNWALL, CORPORATION OF THE CITY OF PUBLIC WORKS GARAGE 1225 ONTARIO STREET	GEN

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
CORNWALL ON K6H 4E1					
Generator #:	ON0324800				
Approval Yrs:	2012				
SIC Code:	485110				
SIC Description:	Urban Transit Systems				
--- Details ---					
Waste Code:	252				
Waste Description:	WASTE OILS & LUBRICANTS				
+					
Waste Code:	212				
Waste Description:	ALIPHATIC SOLVENTS				
2	15 of 21	-/0.0	59.9	CORNWALL, CORPORATION OF THE CITY OF PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	GEN
Generator #:	ON0324800				
Approval Yrs:	98,99,00,01,02,03,04,05,06,07,08				
SIC Code:	8371				
SIC Description:	TRANSPORTATION ADMIN.				
--- Details ---					
Waste Code:	251				
Waste Description:	OIL SKIMMINGS & SLUDGES				
+					
Waste Code:	212				
Waste Description:	ALIPHATIC SOLVENTS				
+					
Waste Code:	252				
Waste Description:	WASTE OILS & LUBRICANTS				
2	16 of 21	-/0.0	59.9	CORNWALL, CORPORATION OF THE CITY OF PUBLIC WORKS GARAGE 1225 ONTARIO STREET CORNWALL ON K6H 4E1	GEN
Generator #:	ON0324800				
Approval Yrs:	As of April 2014				
SIC Code:					
SIC Description:					
--- Details ---					
Waste Code:	212				
Waste Description:	Aliphatic solvents and residues				
+					
Waste Code:	252				
Waste Description:	Waste crankcase oils and lubricants				
2	17 of 21	-/0.0	59.9	CORNWALL, CORPORATION OF THE CITY OF CITY WORKSHOP 1225 ONTARIO STREET CORNWALL ON K6H 4E1	GEN
Generator #:	ON0324803				

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Approval Yrs:		98,99,00,01,02,03,04			
SIC Code:		8373			
SIC Description:		ENVIRON. ADMIN.			
--- Details ---					
Waste Code:		145			
Waste Description:		PAINT/PIGMENT/COATING RESIDUES			
+					
Waste Code:		148			
Waste Description:		INORGANIC LABORATORY CHEMICALS			
+					
Waste Code:		213			
Waste Description:		PETROLEUM DISTILLATES			
+					
Waste Code:		221			
Waste Description:		LIGHT FUELS			
+					
Waste Code:		242			
Waste Description:		HALOGENATED PESTICIDES			
+					
Waste Code:		252			
Waste Description:		WASTE OILS & LUBRICANTS			
+					
Waste Code:		263			
Waste Description:		ORGANIC LABORATORY CHEMICALS			
+					
Waste Code:		331			
Waste Description:		WASTE COMPRESSED GASES			
2	18 of 21	-/0.0	59.9	CORNWALL, CORP. OF THE CITY OF 143 CITY WORKSHOP 1225 ONTARIO ST. C/O 360 PITT ST (HOUSEHOLD HAZ. WASTE) CORNWALL ON K6H 4E1	09- GEN
Generator #:		ON0324803			
Approval Yrs:		94			
SIC Code:		8373			
SIC Description:		ENVIRON. ADMIN.			
--- Details ---					
Waste Code:		148			
Waste Description:		INORGANIC LABORATORY CHEMICALS			
+					
Waste Code:		213			
Waste Description:		PETROLEUM DISTILLATES			
+					
Waste Code:		221			
Waste Description:		LIGHT FUELS			
+					
Waste Code:		242			
Waste Description:		HALOGENATED PESTICIDES			
+					
Waste Code:		252			
Waste Description:		WASTE OILS & LUBRICANTS			
+					
Waste Code:		263			
Waste Description:		ORGANIC LABORATORY CHEMICALS			
+					
Waste Code:		331			
Waste Description:		WASTE COMPRESSED GASES			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
2	19 of 21	-/0.0	59.9	CITY OF CORNWALL 1225 ONTARIO Street CORNWALL ON K6H4E1	NPRI
NPRI #:		8800000002			
Year:		2004			
Longitude:					
Latitude:					
--- Details ---					
Air:					
Water:					
Land:					
Units:		tonnes			
Substances Released:		PM - Total Particulate Matter			
+					
Air:					
Water:					
Land:					
Units:		tonnes			
Substances Released:		PM10 - Particulate Matter <= 10 Microns			
+					
Air:					
Water:					
Land:					
Units:		tonnes			
Substances Released:		Nitrous oxide			
+					
Air:					
Water:					
Land:					
Units:		tonnes			
Substances Released:		Nitrogen oxides (expressed as NO2)			
+					
Air:					
Water:					
Land:					
Units:		tonnes			
Substances Released:		Carbon dioxide			
+					
Air:					
Water:					
Land:					
Units:		tonnes			
Substances Released:		PM2.5 - Particulate Matter <= 2.5 Microns			
+					
Air:					
Water:					
Land:					
Units:		tonnes			
Substances Released:		Carbon monoxide			
+					
Air:					
Water:					
Land:					
Units:		tonnes			
Substances Released:		Sulphur dioxide			
+					
Air:					
Water:					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Land: Units: tonnes Substances Released: HFC-134a Hydrofluorocarbon + Air: Water: Land: Units: tonnes Substances Released: Methane + Air: Water: Land: Units: tonnes Substances Released: Volatile Organic Compounds (VOCs)					
2	20 of 21	-/0.0	59.9	CITY OF CORNWALL 1225 ONTARIO ST CORNWALL ON K6H 4E1	PRT
Location ID: 3553 Type: private Expiry Date: Capacity (L): 75000.00 Licence #: 0001007472					
2	21 of 21	-/0.0	59.9	The Corporation of the City of Cornwall 1225 Ontario Street Cornwall ON K6H 4E1	SPL
Ref No.: 7014-5VVQBR Incident Dt: 2/5/2004 MOE Reported Dt: 2/5/2004 Contaminant Name: HYDRAULIC OIL Contaminant Quantity: Incident Summary: City of Cornwall: 19L Hyd. Oil to Catchbasin Incident Cause: Discharge Or Bypass To A Watercourse Incident Reason: Unknown - Reason not determined Nature of Impact: Surface Water Pollution Receiving Medium: Water Environmental Impact: Not Anticipated					
1	1 of 1	SE/1.2	59.9	lot 7 con 2 CORNWELL ON	WWIS
Well ID: 7044387 Concession: 02 County: STORMONT Easting Nad83: 521207 Zone: 18 Primary Water Use: Sec. Water Use: Pump Rate: Flow Rate: Specific Capacity: Construction Method: Other Method Elevation (m): 57.43					
Lot: 007 Concession Name: Municipality: CORNWALL CITY Northing Nad83: 4987036 Utm Reliability: margin of error : 10 - 30 m Construction Date: 02-MAR-07 Well Depth: 4.5 m Static Water Level: Clear/Cloudy: Final Well Status: Observation Wells Flowing (y/n): Elevation Reliability:					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Depth to Bedrock: Water Type:				Overburden/Bedrock: Casing Material:	Overburden Not stated
--- Details ---					
Thickness:	BROWN			Original Depth:	.7 m
Material Colour:	SAND, SILTY			Material:	.7 m
+					
Thickness:	GREY			Original Depth:	4.5 m
Material Colour:	TILL, SAND, SILTY			Material:	.8 m
+					
Thickness:	BROWN			Original Depth:	1.5 m
Material Colour:	TILL, SAND			Material:	.8 m
+					
Thickness:	BROWN			Original Depth:	2.3 m
Material Colour:	TILL, SANDY			Material:	.8 m
+					
Thickness:	BROWN			Original Depth:	3.7 m
Material Colour:	CLAY, FINE GRAVEL, WATER-BEARING			Material:	1.4 m

<u>3</u>	1 of 1	WNW/1.1	59.9	CORNWALL ON	WWIS
Well ID:	5804811			Lot:	
Concession:				Concession Name:	
County:	STORMONT			Municipality:	CORNWALL CITY
Easting Nad83:	520985			Northing Nad83:	4987145
Zone:	18			Utm Reliability:	margin of error : 100 m - 300 m
Primary Water Use:	Not Used			Construction Date:	26-FEB-04
Sec. Water Use:				Well Depth:	
Pump Rate:				Static Water Level:	
Flow Rate:				Clear/Cloudy:	
Specific Capacity:				Final Well Status:	Observation Wells
Construction Method:	Not Known			Flowing (y/n):	
Elevation (m):	62.69			Elevation Reliability:	
Depth to Bedrock:				Overburden/Bedrock:	No formation data
Water Type:	FRESH, GAS			Casing Material:	Not stated

<u>4</u>	1 of 1	NNW/74.6	59.9	Ontario & Lemay Dump OP	ANDR
Cornwall ON K6					
Legal Description:	Cornwall Con 2 Lots 7-8 pt				
Location Description:	E of line of Ontario St, N of line of Lemay St, SW of Transcanada Pipeline, pt of Optimists Park				
Municipality:	Cornwall City				
Current Municipality:	Cornwall City				
RM:	Stormont, Dundas & Glengarry Counties				
Facility:	Dump				
Date Active:	1960?				
Date Begun:					
Date Complete:					
Area (Ha):	4.5				
Landfill Type:					
Group Name:					
Operated By:					
Serial:	MOEE 1024 OP				

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
NTS: Diameter (m): Waste Type: UTM X Nad 27: UTM Y Nad 27: UTM Zone:		31G02 225 521025 4987050 18			
5	1 of 1	NW/70.8	59.9	Ontario & Lemay Dump (official) Cornwall ON K6	ANDR
Legal Description: Location Description: Municipality: Current Municipality: RM: Facility: Date Active: Date Begun: Date Complete: Area (Ha): Landfill Type: Group Name: Operated By: Serial: NTS: Diameter (m): Waste Type: UTM X Nad 27: UTM Y Nad 27: UTM Zone:		Cornwall Con 2 Lot 8 Ontario St Cornwall City Cornwall City Stormont, Dundas & Glengarry Counties Dump 1960 1960 MOEE 1024 31G02 520950 4987000 18			
6	1 of 1	WNW/81.3	59.9	8 2 CORNWALL ON	WDSH
Site No.: Region: County: Concession: Lot: Easting: Northing: Zone: Date Closed: Status: Classification: %CommercialWste: %DomesticWste Rec: %LiquidWste Rec: %HazardousWste Rec: %Non-haz.Wste Rec: %Sewage/Sludge Rec: %Other Wste Rec:		X1024 SOUTHEAST STORMONT 2 8 520950 4987000 18 1960 CLOSED A5 - POTENTIAL HUMAN IMPACT-URBAN MUNICIPAL/DOMESTIC WASTE - CLOSED 10-20 YRS n/a n/a n/a n/a n/a n/a n/a			
7	1 of 1	SSE/105.6	59.9	12 Leduc Circle CORNWALL ON K6H 4E3	HINC

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
External File Num: Date of Occurrence: Fuel Occurrence Type: Fuel Type Involved: Status Desc: Job Type Desc: Oper. Type Involved: Service Interruptions: Property Damage: Fuel Life Cycle Stage: Root Cause: Reported Details: Fuel Category: Occurrence Type: Affiliation: County Name: Approx. Quant. Rel: Nearby body of water: Enter Drainage Syst.: Approx. Quant. Unit: Environmental Impact: FS INC 0707-03990 7/26/2007 Leak Fuel Oil Completed - Causal Analysis(End) Incident/Near-Miss Occurrence (FS) Private Dwelling Yes Yes Utilization Root Cause: Equipment/Material/Component:Yes Procedures:No Maintenance:No Design:Yes Training:No Management:No Human Factors:No Liquid Fuel Incident Industry Stakeholder (Licensee/Registration/Certificate Holder, Facility Owner, etc.) Stormont, Dundas and Glengarry					
8	1 of 1	ESE/160.3	59.9	1126 LARIN AVENUE CORNWALL ON K6H 4C6	HINC
External File Num: Date of Occurrence: Fuel Occurrence Type: Fuel Type Involved: Status Desc: Job Type Desc: Oper. Type Involved: Service Interruptions: Property Damage: Fuel Life Cycle Stage: Root Cause: Reported Details: Fuel Category: Occurrence Type: Affiliation: County Name: Approx. Quant. Rel: Nearby body of water: Enter Drainage Syst.: Approx. Quant. Unit: Environmental Impact: FS INC 0809-05602 9/18/2008 Pipeline Strike Natural Gas Completed - Causal Analysis(End) Incident/Near-Miss Occurrence (FS) Construction Site (pipeline strike) No Yes Transmission, Distribution and Transportation Root Cause: Equipment/Material/Component:No Procedures:Yes Maintenance:No Design:Yes Training:No Management:Yes Human Factors:Yes Gaseous Fuel Incident Industry Stakeholder (Licensee/Registration/Certificate Holder, Facility Owner, etc.) Stormont, Dundas and Glengarry					
9	1 of 1	E/201.6	59.8	JEAN-PIERRE LABELLE O/A P T ENVIRONMENTAL SERVICES 1131 LARIN AVE CORNWALL ON K6H 4C7	PES
Licence No.: Licence Type:					

28	erisinfo.com EcoLog ERIS Ltd. Lemay Street Extention Lemay Street @ Ontario Street Cornwall ON	Order #: 20150413002
----	--	----------------------

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Certificate #: Application Year: Issue Date: Approval Type: Status: Application Type: Client Name: Client Address: Client City: Client Postal Code: Project Description: Contaminants: Emission Control:					
12	2 of 2	NE/7.9	58.9	CORNWALL MUNICIPAL NON-PROFIT HSG. CORP. MCCONNELL AVE./LEMAY AVE. CORNWALL CITY ON	CA
Certificate #: Application Year: Issue Date: Approval Type: Status: Application Type: Client Name: Client Address: Client City: Client Postal Code: Project Description: Contaminants: Emission Control:					
13	1 of 1	W/195.8	59.9	Cornwall Street Railway Light and Power Company Limited 1336 Marc St Cornwall ON K6H 3M3	SPL
Ref No.: Incident Dt: MOE Reported Dt: Contaminant Name: Contaminant Quantity: Incident Summary: Incident Cause: Incident Reason: Nature of Impact: Receiving Medium: Environmental Impact:					
14	1 of 1	SE/247.0	59.9	11th and Cooper St Cornwall ON	SPL
Ref No.: Incident Dt: MOE Reported Dt:					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Contaminant Name:		MINERAL OIL			
Contaminant Quantity:		110 L			
Incident Summary:		MVA: 110 L of non PCB min Oil to front lawn			
Incident Cause:		Other Transport Accident			
Incident Reason:		Spill			
Nature of Impact:		Vegetation Damage			
Receiving Medium:					
Environmental Impact:		Possible			
15	1 of 1	NNE/189.2	59.8	ON	BORE
Borehole ID:		880653		Type:	Borehole
Use:		Geotechnical/Geological Investigation		Status:	Decommissioned
Drill Method:		Diamond Drill		UTM Zone:	18
Easting:		521265		Northing:	4987535
Location Accuracy:				Orig. Ground Elev m:	57.7
Elev. Reliability Note:				DEM Ground Elev m:	63.5
Total Depth m:		12.5		Primary Name:	
Township:		CORNWALL		Concession:	CON 2
Lot:		LOT 7		Municipality:	
Completion Date:		17-FEB-1964		Static Water Level:	-999.9
Primary Water Use:				Sec. Water Use:	
--- Details ---					
Stratum ID:		8002617		Top Depth(m):	0.0
Bottom Depth(m):		0.3		Stratum Desc:	TOPSOIL
+					
Stratum ID:		8002618		Top Depth(m):	0.3
Bottom Depth(m):		1.4		Stratum Desc:	LOOSE BROWN SAND
+					
Stratum ID:		8002619		Top Depth(m):	1.4
Bottom Depth(m):		4.0		Stratum Desc:	UNIFORM GREY CLAY
+					
Stratum ID:		8002620		Top Depth(m):	4.0
Bottom Depth(m):		6.4		Stratum Desc:	STIFF VARVED GREY SILT AND CLAY
+					
Stratum ID:		8002621		Top Depth(m):	6.4
Bottom Depth(m):		7.9		Stratum Desc:	MEDIUM DENSE GREY SAND WITH SILT, OCCASIONAL COBBLE, TILL TEXTURE
+					
Stratum ID:		8002622		Top Depth(m):	7.9
Bottom Depth(m):		10.7		Stratum Desc:	VERY DENSE GREY SAND WITH SILT, OCCASIONAL COBBLE, TILL TEXTURE
+					
Stratum ID:		8002623		Top Depth(m):	10.7
Bottom Depth(m):		12.5		Stratum Desc:	BLACK LIMESTONE BEDROCK
16	1 of 2	E/281.9	58.9	MR. RUDY LADOUCEUR 1123 McCONNELL AVENUE CORNWALL ON K6H 4N2	GEN

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Generator #:		ON5924455			
Approval Yrs:		03,04			
SIC Code:					
SIC Description:					
16	2 of 2	E/281.9	58.9	S. 21 1123 McConnell Ave. (corner of 12th and McConnell) Cornwall ON	SPL
Ref No.:		8583-5L2PND			
Incident Dt:		3/27/2003			
MOE Reported Dt:		3/27/2003			
Contaminant Name:		FURNACE OIL			
Contaminant Quantity:		other - see incident description			
Incident Summary:		Res-strong oil odour, soil contamination fr tank			
Incident Cause:		Tank (Above Ground) Leak			
Incident Reason:		Equipment Failure - Malfunction of system components			
Nature of Impact:		Groundwater Pollution; Soil Contamination			
Receiving Medium:		Land & Water			
Environmental Impact:		Possible			
17	1 of 1	N/254.4	59.9	ON	BORE
Borehole ID:		880652		Type:	Borehole
Use:		Geotechnical/Geological Investigation		Status:	Decommissioned
Drill Method:		Diamond Drill		UTM Zone:	18
Easting:		521222		Northing:	4987586
Location Accuracy:				Orig. Ground Elev m:	58.4
Elev. Reliability Note:				DEM Ground Elev m:	66.7
Total Depth m:		12		Primary Name:	
Township:		CORNWALL		Concession:	CON 2
Lot:		LOT 7		Municipality:	
Completion Date:		18-FEB-1964		Static Water Level:	-999.9
Primary Water Use:				Sec. Water Use:	
--- Details ---					
Stratum ID:		8002610		Top Depth(m):	0.0
Bottom Depth(m):		0.3		Stratum Desc:	TOPSOIL
+					
Stratum ID:		8002611		Top Depth(m):	0.3
Bottom Depth(m):		2.1		Stratum Desc:	BROWN FINE SAND
+					
Stratum ID:		8002612		Top Depth(m):	2.1
Bottom Depth(m):		3.7		Stratum Desc:	STIFF UNIFORM GREY CLAY
+					
Stratum ID:		8002613		Top Depth(m):	3.7
Bottom Depth(m):		5.9		Stratum Desc:	STIFF GREY VARVED CLAY AND SILT
+					
Stratum ID:		8002614		Top Depth(m):	5.9
Bottom Depth(m):		8.2		Stratum Desc:	MEDIUM DENSE GREY SAND WITH SILT, OCCASIONAL COBBLE, TILL TEXTURE

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
+					
Stratum ID:	8002615			Top Depth(m):	8.2
Bottom Depth(m):	10.3			Stratum Desc:	VERY DENSE GREY SAND WITH SILT, OCCASIONAL COBBLE, TILL TEXTURE
+					
Stratum ID:	8002616			Top Depth(m):	10.3
Bottom Depth(m):	12.0			Stratum Desc:	BLACK LIMESTONE BEDROCK
18	1 of 1	S/228.7	59.9	DELANEY BUS LINES 11TH ST./AMELIA ST. MOTOR VEHICLE (OPERATING FLUID) CORNWALL CITY ON	SPL
Ref No.:	85341				
Incident Dt:	//				
MOE Reported Dt:	5/10/1993				
Contaminant Name:					
Contaminant Quantity:					
Incident Summary:	DELANEY BUS LINES -220L DIESEL TO GROUND, DAMAGEDBUS FUEL LINE, VANDALISM.				
Incident Cause:	PIPE/HOSE LEAK				
Incident Reason:	VANDALISM				
Nature of Impact:	Soil contamination				
Receiving Medium:	LAND				
Environmental Impact:	CONFIRMED				
19	1 of 1	SSE/285.3	59.9	Versus Business Forms Inc. 1065 Roy Ave Cornwall ON K6H 4C2	SCT
Established:	01-SEP-91				
Plant Size (ft²):					
Employment:					
--- Details ---					
SIC/NAICS Code:	419120				
Description:	Wholesale Trade Agents and Brokers				
20	1 of 2	S/255.3	59.9	ESSO PETROLEUM CANADA 1020 ADOLPHUS STREET CORNWALL ON K0C 1V0	14-169 GEN
Generator #:	ON0552351				
Approval Yrs:	92,93,94,95,96,97,98				
SIC Code:	5111				
SIC Description:	PETROLEUM PROD., WH.				
--- Details ---					
Waste Code:	221				
Waste Description:	LIGHT FUELS				
+					
Waste Code:	251				
Waste Description:	OIL SKIMMINGS & SLUDGES				
20	2 of 2	S/255.3	59.9	ESSO PETROLEUM CANADA 1020 ADOLPHUS STREET	GEN

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
CORNWALL ON K0C 1V0					
Generator #:		ON0552351			
Approval Yrs:		86,87,88,89			
SIC Code:		5111			
SIC Description:		PETROLEUM PROD., WH.			
--- Details ---					
Waste Code:		221			
Waste Description:		LIGHT FUELS			
+					
Waste Code:		251			
Waste Description:		OIL SKIMMINGS & SLUDGES			
<u>21</u>	1 of 1	S/238.5	59.9	1675755 Ontario Inc. 125 Eleventh Street West Cornwall ON K6H 3B3	EBR
Year:		2007			
EBR Registry No.:		010-0078			
Ministry Ref. No.:		4782-6Z8RK5			
Type:		Instrument Proposal			
Instrument Type:		Approval for discharge into the natural environment other than water (i.e. Air) - EPA s. 9			
Proposal Date:		March 14, 2007			
Location:		125 Eleventh Street West Cornwall United Counties of Stormont, Dundas and Glengarry K6H 3B3.CITY OF CORNWALL			
Proponent Address:		125 Eleventh Street West Cornwall Ontario Canada K6J 3B3			
<u>22</u>	1 of 1	N/299.6	59.9	ON	BORE
Borehole ID:	880647			Type:	Borehole
Use:	Geotechnical/Geological Investigation			Status:	Decommissioned
Drill Method:	Diamond Drill			UTM Zone:	18
Easting:	521227			Northing:	4987642
Location Accuracy:				Orig. Ground Elev m:	57.9
Elev. Reliability Note:				DEM Ground Elev m:	64
Total Depth m:	11.4			Primary Name:	
Township:	CORNWALL			Concession:	CON 2
Lot:	LOT 7			Municipality:	
Completion Date:	16-DEC-1963			Static Water Level:	-999.9
Primary Water Use:				Sec. Water Use:	
--- Details ---					
Stratum ID:	8002579			Top Depth(m):	0.0
Bottom Depth(m):	1.6			Stratum Desc:	BROWN FINE SAND
+					
Stratum ID:	8002580			Top Depth(m):	1.6
Bottom Depth(m):	3.0			Stratum Desc:	GREY CLAY WITH FREQUENT BLACK NODULES
+					
Stratum ID:	8002581			Top Depth(m):	3.0
Bottom Depth(m):	4.6			Stratum Desc:	MEDIUM GREY VARVED SILT AND CLAY
+					
Stratum ID:	8002582			Top Depth(m):	4.6

<i>Map Key</i>	<i>Number of Records</i>	<i>Direction/ Distance m</i>	<i>Elevation m</i>	<i>Site</i>	<i>DB</i>
<i>Bottom Depth(m):</i>	9.8			<i>Stratum Desc:</i>	MEDIUM DENSE SILT WITH SAND, SOME GRAVEL, TILL TEXTURE, OCCASIONAL COBBLE
+					
<i>Stratum ID:</i>	8002583			<i>Top Depth(m):</i>	9.8
<i>Bottom Depth(m):</i>	11.4			<i>Stratum Desc:</i>	BLACK LIMESTONE BEDROCK

Unplottable Summary

DB	Company Name/Site Name	Address	City	Postal
CA	BENAK LIMITED	LOURDES AVE., PT.LOT 8/CONC.2	CORNWALL CITY ON	
CA	CORNWALL CITY	MCCONNELL AVE.	CORNWALL CITY ON	
CA	CORNWALL CITY	MCCONNELL AVE.	CORNWALL CITY ON	
CA	JAI AGGARWAL	19TH ST./DONIHEE AVE., BLOCK I	CORNWALL CITY ON	
CA	DUNDAS MANOR LIMITED - J.ALGUIRE DEVELOP	LEMAY ST/BALMORAL AVE/MCCONNEL	CORNWALL CITY ON	
CA	BENAK LIMITED	LOURDES AVE., PT.LOT 8, CONC.2	CORNWALL CITY ON	
CA	CORNWALL MUNICIPAL NON-PROFIT HSG. CORP.	LEMAY AVENUE	CORNWALL CITY ON	
CA	The Corporation of the City of Cornwall	Larin St	Cornwall ON	
CA	JAI AGGARWAL	19TH ST./DONIHEE AVE., BLOCK I	CORNWALL CITY ON	
CA	Daprat Bros Limited	West Half of Lot 6, Concession 2	Cornwall ON	
CA	CORNWALL CITY	ELEVENTH STREET RECONSTRUCTION	CORNWALL CITY ON	
CA	CORNWALL CITY	ELEVENTH STREET RECONSTRUCTION	CORNWALL CITY ON	
EBR	Cornwall and District Contracting Limite	PT.LOT 9	City of Cornwall ON	
SPL		S 21 (1)(f) of FIPPA	Cornwall ON	
SPL	ESSO PETROLEUM		CORNWALL CITY ON	
SPL	Redacted S 21(1)(f) of FIPPA		South Stormont ON	
SPL	HGC Management<UNOFFICIAL>	Between 11th and 12th streets	Cornwall ON	
SPL	S. 21(1)(f)	Domtar Pulp and Paper Products Inc. Dryden Mill	Cornwall ON	

SPL	ONTARIO HYDRO	LOT 7, CON II	SOUTH STORMONT TOWNSHIP ON
SPL	ONTARIO HYDRO	LOT 7, CON.2 ON TOWNSHIP PROPERTY.	SOUTH STORMONT TOWNSHIP ON
SPL	Malyon Excavation Ltd.	McConnell Avenue, from Tollgate Road north to South Branch Road	Cornwall ON
SPL	ESSO PETROLEUM CANADA	SERVICE STATION 5 TH WHEEL-TRUCK STOP	CORNWALL CITY ON
WWIS			ON
WWIS			ON
WWIS			ON
WWIS			ON
WWIS			ON
WWIS			ON
WWIS			ON
WWIS			ON
WWIS			ON
WWIS			ON

Unplottable Report

Site: **BENAK LIMITED**
LOURDES AVE., PT.LOT 8/CONC.2 CORNWALL CITY ON

Database:
CA

Certificate #: 3-0911-95-
Application Year: 95
Issue Date: 7/28/1995
Approval Type: Municipal sewage
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: **CORNWALL CITY**
MCCONNELL AVE. CORNWALL CITY ON

Database:
CA

Certificate #: 3-0865-89-
Application Year: 89
Issue Date: 7/5/1989
Approval Type: Municipal sewage
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: **CORNWALL CITY**
MCCONNELL AVE. CORNWALL CITY ON

Database:
CA

Certificate #: 7-0755-89-
Application Year: 89
Issue Date: 7/5/1989
Approval Type: Municipal water
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: JAI AGGARWAL
19TH ST./DONIHEE AVE., BLOCK I CORNWALL CITY ON

Database:
CA

Certificate #: 3-1040-96-
Application Year: 96
Issue Date: 9/30/1996
Approval Type: Municipal sewage
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: DUNDAS MANOR LIMITED - J.ALGUIRE DEVELOP
LEMAY ST/BALMORAL AVE/MCCONNEL CORNWALL CITY ON

Database:
CA

Certificate #: 7-1202-90-
Application Year: 90
Issue Date: 1/29/1991
Approval Type: Municipal water
Status: Approved in 1991
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: BENAK LIMITED
LOURDES AVE., PT.LOT 8, CONC.2 CORNWALL CITY ON

Database:
CA

Certificate #: 7-0654-95-
Application Year: 95
Issue Date: 7/28/1995
Approval Type: Municipal water
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: CORNWALL MUNICIPAL NON-PROFIT HSG. CORP.
LEMAY AVENUE CORNWALL CITY ON

Database:
CA

Certificate #: 7-0079-91-
Application Year: 91
Issue Date: 3/11/1991

Approval Type: Municipal water
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: **The Corporation of the City of Cornwall**
Larin St Cornwall ON

Database:
CA

Certificate #: 0195-7HYJVT
Application Year: 2008
Issue Date: 9/2/2008
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: **JAI AGGARWAL**
19TH ST./DONIHEE AVE., BLOCK I CORNWALL CITY ON

Database:
CA

Certificate #: 7-0871-96-
Application Year: 96
Issue Date: 9/30/1996
Approval Type: Municipal water
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: **Daprat Bros Limited**
West Half of Lot 6, Concession 2 Cornwall ON

Database:
CA

Certificate #: 7461-7TCRK8
Application Year: 2009
Issue Date: 7/3/2009
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:

Project Description:
Contaminants:
Emission Control:

Site: **CORNWALL CITY**
ELEVENTH STREET RECONSTRUCTION CORNWALL CITY ON

Database:
CA

Certificate #: 7-0004-99-
Application Year: 99
Issue Date: 1/28/1999
Approval Type: Municipal water
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: **CORNWALL CITY**
ELEVENTH STREET RECONSTRUCTION CORNWALL CITY ON

Database:
CA

Certificate #: 3-0008-99-
Application Year: 99
Issue Date: 1/28/1999
Approval Type: Municipal sewage
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: **Cornwall and District Contracting Limite**
PT.LOT 9 City of Cornwall ON

Database:
EBR

Year: 1996
EBR Registry No.: IA6E0894
Ministry Ref. No.:
Type: Instrument
Instrument Type: EPA s. 9 - Approval for discharge into the natural environment other than water (i.e. Air)
Proposal Date: 6/6/96
Location: City of Cornwall
Proponent Address: Cornwall and District Contracting LimiteP.O. Box 227, St. Andrew's West,CORNWALL, K0C 2A0, K0C 2A0

Site:
S 21 (1)(f) of FIPPA Cornwall ON

Database:
SPL

Ref No.: 6885-82CRV7
Incident Dt:

MOE Reported Dt: 2/4/2010
Contaminant Name: FURNACE OIL
Contaminant Quantity: 900 L
Incident Summary: TSSA/Private Residence-900 L Furnace Oil to Ground
Incident Cause:
Incident Reason:
Nature of Impact:
Receiving Medium:
Environmental Impact: Not Anticipated

Site: **ESSO PETROLEUM
CORNWALL CITY ON**

Database:
SPL

Ref No.: 39831
Incident Dt: 8/24/1990
MOE Reported Dt: 8/24/1990
Contaminant Name:
Contaminant Quantity:
Incident Summary: ESSO SERVICE STATION - 5 L OF GASOLINE TO PAVEMENT.
Incident Cause: CONTAINER OVERFLOW
Incident Reason: ERROR
Nature of Impact:
Receiving Medium: LAND
Environmental Impact: NOT ANTICIPATED

Site: **Redacted S 21(1)(f) of FIPPA
South Stormont ON**

Database:
SPL

Ref No.: 1640-8X4FJ4
Incident Dt: 12-AUG-12
MOE Reported Dt: 12-AUG-12
Contaminant Name: TRANSMISSION OIL
Contaminant Quantity: 12 L
Incident Summary: 10-12 L trans. or oil pan fluid from car to culvert
Incident Cause: Other Discharges
Incident Reason: Spill
Nature of Impact: Surface Water Pollution
Receiving Medium:
Environmental Impact: Confirmed

Site: **HGC Management<UNOFFICIAL>
Between 11th and 12th streets Cornwall ON**

Database:
SPL

Ref No.: 3271-76ZN4L
Incident Dt:
MOE Reported Dt: 9/13/2007
Contaminant Name: OIL (PETROLEUM BASED, NOT SPECIFIED)
Contaminant Quantity: 5 L
Incident Summary: Small amt oil to road. Cleaned up.
Incident Cause: Container Leak (Fuel Tank Barrels)
Incident Reason: Other - Reason not otherwise defined
Nature of Impact: Soil Contamination
Receiving Medium: Land
Environmental Impact: Not Anticipated

Site: **S. 21(1)(f)**

Database:
SPL

Domtar Pulp and Paper Products Inc. Dryden Mill Cornwall ON

Ref No.: 3858-76VR8P
Incident Dt:
MOE Reported Dt: 9/9/2007
Contaminant Name: FUEL OIL
Contaminant Quantity: 0 other - see incident description
Incident Summary: TSSA: u/k quantity fuel oil to grd, basement, no offsite
Incident Cause: Valve / Fitting Leak Or Failure
Incident Reason: Unknown - Reason not determined
Nature of Impact: Soil Contamination
Receiving Medium: Land
Environmental Impact: Possible

Site: **ONTARIO HYDRO**
LOT 7, CON II SOUTH STORMONT TOWNSHIP ON

Database:
SPL

Ref No.: 38130
Incident Dt: 7/23/1990
MOE Reported Dt: 7/23/1990
Contaminant Name:
Contaminant Quantity:
Incident Summary: ONTARIO HYDRO: 2L MINERALOIL TO GROUND FROM TRANSFORMER
Incident Cause: COOLING SYSTEM LEAK
Incident Reason: DAMAGE BY MOVING EQUIPMENT
Nature of Impact: Soil contamination
Receiving Medium: LAND
Environmental Impact: CONFIRMED

Site: **ONTARIO HYDRO**
LOT 7, CON.2 ON TOWNSHIP PROPERTY. SOUTH STORMONT TOWNSHIP ON

Database:
SPL

Ref No.: 80343
Incident Dt: 12/29/1992
MOE Reported Dt: 12/29/1992
Contaminant Name:
Contaminant Quantity:
Incident Summary: ONTARIO HYDRO- BOOM TRUCK 12 L HYDRAULIC OIL CLEANUP IN PROGRESS.
Incident Cause: PIPE/HOSE LEAK
Incident Reason: WELD/SEAM FAILURE
Nature of Impact: Soil contamination
Receiving Medium: LAND
Environmental Impact: POSSIBLE

Site: **Malyon Excavation Ltd.**
McConnell Avenue, from Tollgate Road north to South Branch Road Cornwall ON

Database:
SPL

Ref No.: 1706-7THVPS
Incident Dt:
MOE Reported Dt: 6/30/2009
Contaminant Name: HYDRAULIC OIL
Contaminant Quantity: 0 other - see incident description
Incident Summary: Malyon Excavation, hydraulic oil to road, sand applied, clng
Incident Cause: Pipe Or Hose Leak
Incident Reason: Equipment Failure
Nature of Impact: Other Impact(s)
Receiving Medium:
Environmental Impact: Not Anticipated

Site: **ESSO PETROLEUM CANADA**
SERVICE STATION 5 TH WHEEL-TRUCK STOP CORNWALL CITY ON

Database:
SPL

Ref No.: 53432
Incident Dt: 7/3/1991
MOE Reported Dt: 7/3/1991
Contaminant Name:
Contaminant Quantity:
Incident Summary: ESSO PETROLEUM - 14 L. SPILL OF DIESEL FUEL FROM AN UNDERGROUND TANK.
Incident Cause: UNDERGROUND TANK LEAK
Incident Reason: EQUIPMENT FAILURE
Nature of Impact: Soil contamination
Receiving Medium: LAND
Environmental Impact: CONFIRMED

Site:
ON

Database:
WWIS

Well ID:	5802272	Lot:	008
Concession:		Concession	
		Name:	
County:	STORMONT	Municipality:	CORNWALL TOWNSHIP
Easting Nad83:		Northing	
		Nad83:	
Zone:	18	Utm Reliability:	unknown UTM
Primary Water Use:	Domestic	Construction	24-OCT-79
		Date:	
Sec. Water Use:		Well Depth:	64 ft
Pump Rate:	10 GPM	Static Water	24 ft
		Level:	
Flow Rate:		Clear/Cloudy:	CLOUDY
Specific Capacity:		Final Well	Water Supply
		Status:	
Construction Method:	Cable Tool	Flowing (y/n):	N
Elevation (m):		Elevation	
		Reliability:	
Depth to Bedrock:		Overburden/Bedrock:	Overburden
		Casing	
Water Type:	FRESH	Material:	FRESH, MINERAL

--- Details ---

Thickness:	GREY	Original Depth:	56 ft
Material Colour:	HARDPAN, BOULDERS, HARD	Material:	56 ft
+			
Thickness:	GREY	Original Depth:	58 ft
Material Colour:	HARDPAN	Material:	2 ft
+			
Thickness:	WHITE	Original Depth:	64 ft
Material Colour:	HARDPAN	Material:	6 ft

Site:
ON

Database:
WWIS

Well ID:	5802537	Lot:	007
Concession:		Concession	
		Name:	
County:	STORMONT	Municipality:	CORNWALL TOWNSHIP

Easting Nad83:

Zone: 18
 Primary Water Use: Domestic

Sec. Water Use:
 Pump Rate: 3 GPM

Flow Rate:
 Specific Capacity:

Construction Method: Cable Tool
 Elevation (m):

Depth to Bedrock: 27

Water Type: FRESH

--- Details ---

Thickness: GREY
 Material Colour: TILL, HARD
 +
 Thickness: GREY
 Material Colour: LIMESTONE, HARD

Northing

Nad83:
 Utm Reliability: unknown UTM
 Construction: 16-DEC-83
 Date:
 Well Depth: 81 ft
 Static Water: 25 ft
 Level:
 Clear/Cloudy: CLOUDY
 Final Well: Water Supply
 Status:
 Flowing (y/n): N
 Elevation:
 Reliability:
 Overburden/Bedrock: Bedrock
 Casing: FRESH, MINERIAL
 Material:

Original Depth: 27 ft
 Material: 27 ft
 Original Depth: 81 ft
 Material: 54 ft

Site:**ON****Database:**
WWIS

Well ID: 5803388
 Concession:
 County: STORMONT
 Easting Nad83:

Zone: 18
 Primary Water Use: Domestic

Sec. Water Use:
 Pump Rate: 20 GPM

Flow Rate:
 Specific Capacity:

Construction Method: Cable Tool
 Elevation (m):

Depth to Bedrock: 35

Water Type: FRESH

Lot: 007
 Concession
 Name:
 Municipality: CORNWALL CITY
 Northing
 Nad83:
 Utm Reliability: unknown UTM
 Construction: 12-MAR-91
 Date:
 Well Depth: 55 ft
 Static Water: 5 ft
 Level:
 Clear/Cloudy: CLOUDY
 Final Well: Water Supply
 Status:
 Flowing (y/n): N
 Elevation:
 Reliability:
 Overburden/Bedrock: Bedrock
 Casing: FRESH, MINERIAL
 Material:

--- Details ---

Thickness: RED
 Material Colour: CLAY, SOFT
 +
 Thickness: BLUE
 Material Colour: CLAY, SOFT
 +
 Thickness: GREY
 Material Colour: ROCK, HARD
 +
 Thickness: GREY

Original Depth: 5 ft
 Material: 5 ft
 Original Depth: 30 ft
 Material: 25 ft
 Original Depth: 55 ft
 Material: 20 ft
 Original Depth: 35 ft

Material Colour: GRAVEL, BOULDERS, HARD

Material: 5 ft

Site: ON **Database:** WWIS

Well ID:	5803740	Lot:	007
Concession:		Concession	
		Name:	
County:	STORMONT	Municipality:	CORNWALL TOWNSHIP
Easting Nad83:		Northing	
		Nad83:	
Zone:	18	Utm Reliability:	unknown UTM
Primary Water Use:	Domestic	Construction	11-AUG-93
		Date:	
Sec. Water Use:		Well Depth:	80 ft
Pump Rate:	7 GPM	Static Water	25 ft
		Level:	
Flow Rate:		Clear/Cloudy:	CLOUDY
Specific Capacity:		Final Well	Water Supply
		Status:	
Construction Method:	Cable Tool	Flowing (y/n):	N
Elevation (m):		Elevation	
		Reliability:	
Depth to Bedrock:	27	Overburden/Bedrock:	Bedrock
		Casing	FRESH, MINERAL
Water Type:	Not stated	Material:	

--- Details ---

Thickness:	BROWN	Original Depth:	9 ft
Material Colour:	TILL, HARD	Material:	9 ft
+			
Thickness:	GREY	Original Depth:	27 ft
Material Colour:	TILL, HARD	Material:	18 ft
+			
Thickness:	GREY	Original Depth:	80 ft
Material Colour:	LIMESTONE, HARD	Material:	53 ft

Site: ON **Database:** WWIS

Well ID:	5802972	Lot:	008
Concession:		Concession	
		Name:	
County:	STORMONT	Municipality:	CORNWALL TOWNSHIP
Easting Nad83:		Northing	
		Nad83:	
Zone:	18	Utm Reliability:	unknown UTM
Primary Water Use:	Domestic	Construction	02-JUN-88
		Date:	
Sec. Water Use:		Well Depth:	144 ft
Pump Rate:	3 GPM	Static Water	
		Level:	
Flow Rate:		Clear/Cloudy:	
Specific Capacity:		Final Well	Water Supply
		Status:	
Construction Method:	Rotary (Air)	Flowing (y/n):	N
Elevation (m):		Elevation	
		Reliability:	
Depth to Bedrock:	39	Overburden/Bedrock:	Bedrock
		Casing	FRESH
Water Type:	FRESH	Material:	

--- Details ---

Thickness:	GREY	Original Depth:	144 ft
Material Colour:	LIMESTONE	Material:	105 ft
+			
Thickness:	BROWN	Original Depth:	5 ft
Material Colour:	SAND, CLAY	Material:	5 ft
+			
Thickness:	BROWN	Original Depth:	39 ft
Material Colour:	HARDPAN, STONES, GRAVEL	Material:	34 ft

Site: ON **Database:** WWIS

Well ID:	5802722	Lot:	006
Concession:		Concession	
		Name:	
County:	STORMONT	Municipality:	CORNWALL TOWNSHIP
Easting Nad83:		Northing	
		Nad83:	
Zone:	18	Utm Reliability:	unknown UTM
Primary Water Use:	Domestic	Construction	29-JUL-86
		Date:	
Sec. Water Use:		Well Depth:	51 ft
Pump Rate:	5 GPM	Static Water	20 ft
		Level:	
Flow Rate:		Clear/Cloudy:	CLOUDY
Specific Capacity:		Final Well	Water Supply
		Status:	
Construction Method:	Cable Tool	Flowing (y/n):	N
Elevation (m):		Elevation	
		Reliability:	
Depth to Bedrock:	31	Overburden/Bedrock:	Bedrock
		Casing	FRESH, MINERIAL
Water Type:	FRESH	Material:	

--- Details ---

Thickness:	GREY	Original Depth:	31 ft
Material Colour:	GRAVEL	Material:	3 ft
+			
Thickness:	BROWN	Original Depth:	15 ft
Material Colour:	HARDPAN	Material:	15 ft
+			
Thickness:	GREY	Original Depth:	28 ft
Material Colour:	HARDPAN, BOULDERS	Material:	13 ft
+			
Thickness:	GREY	Original Depth:	51 ft
Material Colour:	LIMESTONE	Material:	20 ft

Site: ON **Database:** WWIS

Well ID:	5802952	Lot:	007
Concession:		Concession	
		Name:	
County:	STORMONT	Municipality:	CORNWALL TOWNSHIP
Easting Nad83:		Northing	
		Nad83:	
Zone:	18	Utm Reliability:	unknown UTM
Primary Water Use:	Domestic	Construction	03-MAY-88
		Date:	

Sec. Water Use:		Well Depth:	52 ft
Pump Rate:	35 GPM	Static Water	0 ft
Flow Rate:		Level:	
Specific Capacity:		Clear/Cloudy:	CLOUDY
		Final Well	Water Supply
		Status:	
Construction Method:	Cable Tool	Flowing (y/n):	N
Elevation (m):		Elevation	
		Reliability:	
Depth to Bedrock:	42	Overburden/Bedrock:	Bedrock
Water Type:	FRESH	Casing	FRESH, MINERIAL
		Material:	

--- Details ---

Thickness:	BLUE	Original Depth:	15 ft
Material Colour:	CLAY, SOFT	Material:	10 ft
+			
Thickness:	BROWN	Original Depth:	5 ft
Material Colour:	TILL, HARD	Material:	5 ft
+			
Thickness:	BLUE	Original Depth:	42 ft
Material Colour:	CLAY, SOFT	Material:	27 ft
+			
Thickness:	GREY	Original Depth:	52 ft
Material Colour:	ROCK, HARD	Material:	10 ft

Site:	ON	Database:	WWIS
--------------	-----------	------------------	-------------

Well ID:	5804327	Lot:	006
Concession:		Concession	
		Name:	
County:	STORMONT	Municipality:	CORNWALL TOWNSHIP
Easting Nad83:		Northing	
		Nad83:	
Zone:	18	Utm Reliability:	unknown UTM
Primary Water Use:	Domestic	Construction	27-MAY-99
		Date:	
Sec. Water Use:		Well Depth:	65 ft
Pump Rate:	12 GPM	Static Water	20 ft
Flow Rate:		Level:	
Specific Capacity:		Clear/Cloudy:	CLOUDY
		Final Well	Water Supply
		Status:	
Construction Method:	Rotary (Air)	Flowing (y/n):	N
Elevation (m):		Elevation	
		Reliability:	
Depth to Bedrock:	40	Overburden/Bedrock:	Bedrock
Water Type:	FRESH	Casing	FRESH, MINERIAL
		Material:	

--- Details ---

Thickness:	GREY	Original Depth:	35 ft
Material Colour:	TILL, BOULDERS	Material:	25 ft
+			
Thickness:	GREY	Original Depth:	40 ft
Material Colour:	GRAVEL, BOULDERS, LOOSE	Material:	5 ft
+			
Thickness:	BROWN	Original Depth:	10 ft
Material Colour:	TILL, BOULDERS	Material:	10 ft
+			

Thickness: GREY
Material Colour: LIMESTONE, SHALE, LAYERED

Original Depth: 65 ft
Material: 25 ft

Site:
ON

Database:
WWIS

Well ID: 5802992
Concession:

Lot: 006
Concession

County: STORMONT
Easting Nad83:

Name:
Municipality: CORNWALL TOWNSHIP
Northing
Nad83:

Zone: 18
Primary Water Use: Domestic

Utm Reliability: unknown UTM
Construction 03-SEP-84

Sec. Water Use:
Pump Rate: 10 GPM

Date:
Well Depth: 56 ft
Static Water 10 ft

Flow Rate:
Specific Capacity:

Level:
Clear/Cloudy: CLOUDY
Final Well Water Supply

Construction Method: Rotary (Air)
Elevation (m):

Status:
Flowing (y/n): N
Elevation

Depth to Bedrock: 37

Reliability:
Overburden/Bedrock: Bedrock

Water Type: FRESH

Casing FRESH, MINERIAL
Material:

--- Details ---

Thickness: BROWN
Material Colour: TILL, BOULDERS, HARD

Original Depth: 12 ft
Material: 12 ft

+
Thickness: GREY
Material Colour: TILL, HARD

Original Depth: 37 ft
Material: 25 ft

+
Thickness: GREY
Material Colour: ROCK, HARD

Original Depth: 56 ft
Material: 19 ft

Site:
ON

Database:
WWIS

Well ID: 5804384
Concession:

Lot: 008
Concession

County: STORMONT
Easting Nad83:

Name:
Municipality: CORNWALL TOWNSHIP
Northing
Nad83:

Zone: 18
Primary Water Use: Domestic

Utm Reliability: unknown UTM
Construction 17-NOV-99

Sec. Water Use:
Pump Rate: 2 GPM

Date:
Well Depth: 102 ft
Static Water 4 ft

Flow Rate:
Specific Capacity:

Level:
Clear/Cloudy: CLOUDY
Final Well Water Supply

Construction Method: Rotary (Air)
Elevation (m):

Status:
Flowing (y/n): N
Elevation

Depth to Bedrock: 33

Reliability:
Overburden/Bedrock: Bedrock

Water Type: FRESH

Casing

Material:

--- Details ---

Thickness: GREY
Material Colour: TILL, HARD
+
Thickness: GREY
Material Colour: LIMESTONE, LAYERED
+
Thickness: BROWN
Material Colour: GRAVEL, BOULDERS, LOOSE

Original Depth: 33 ft
Material: 25 ft

Original Depth: 102 ft
Material: 69 ft

Original Depth: 8 ft
Material: 8 ft

Site:

ON

Database:
WWIS

Well ID: 5804442
Concession:

Lot: 009
Concession CON

County: STORMONT
Easting Nad83:

Name:
Municipality: CORNWALL TOWNSHIP
Northing
Nad83:

Zone: 18
Primary Water Use: Domestic

Utm Reliability: unknown UTM
Construction 18-AUG-00

Sec. Water Use:
Pump Rate: 8 GPM

Date:
Well Depth: 63 ft
Static Water 20 ft

Flow Rate:
Specific Capacity:

Level:
Clear/Cloudy: CLOUDY
Final Well Water Supply

Construction Method: Rotary (Air)
Elevation (m):

Status:
Flowing (y/n): N
Elevation

Depth to Bedrock: 30

Reliability:
Overburden/Bedrock: Bedrock

Water Type: FRESH

Casing FRESH, MINERIAL
Material:

--- Details ---

Thickness: BROWN
Material Colour: TILL, BOULDERS, DENSE
+
Thickness: GREY
Material Colour: TILL, BOULDERS, DENSE
+
Thickness: GREY
Material Colour: LIMESTONE, ROCK, LAYERED

Original Depth: 10 ft
Material: 10 ft

Original Depth: 30 ft
Material: 20 ft

Original Depth: 63 ft
Material: 33 ft

Appendix: Database Descriptions

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

Abandoned Aggregate Inventory:

Provincial [AAGR](#)

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

Government Publication Date: Sept 2002*

Aggregate Inventory:

Provincial [AGR](#)

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

Government Publication Date: Up to Aug 2012

Abandoned Mine Information System:

Provincial [AMIS](#)

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

Government Publication Date: 1800-Jan 2014

Anderson's Waste Disposal Sites:

Private [ANDR](#)

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

Government Publication Date: 1860s-Present

Automobile Wrecking & Supplies:

Private [AUWR](#)

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

Government Publication Date: 2001-Jul 2014

Borehole:Provincial [BORE](#)

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

Government Publication Date: 1875-Jul 2014

Certificates of Approval:Provincial [CA](#)

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

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

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

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

Government Publication Date: 1948-2014

Chemical Register:Private [CHEM](#)

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

Government Publication Date: 1992, 1999-Jul 2014

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

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

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

Compliance and Convictions:Provincial [CONV](#)

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

Government Publication Date: 1989-Feb 2014

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

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

Government Publication Date: 1994-Jan 2015

Drill Hole Database:Provincial [DRL](#)

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

Government Publication Date: 1886-Jan 2014

Environmental Activity and Sector Registry:Provincial [EASR](#)

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

Government Publication Date: Oct 31 2011-Mar 2015

Environmental Registry:Provincial [EBR](#)

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

Government Publication Date: 1994-Jan 2015

Environmental Compliance Approval:Provincial [ECA](#)

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

Government Publication Date: Oct 31, 2011-Mar 2015

Environmental Effects Monitoring:Federal [EEM](#)

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

*Government Publication Date: 1992-2007**

ERIS Historical Searches:Private [EHS](#)

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

Government Publication Date: 1999-Aug 2014

Environmental Issues Inventory System:Federal [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.

*Government Publication Date: 1992-2001**

List of TSSA Expired Facilities:Provincial [EXP](#)

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

Government Publication Date: Current to Nov 2014

Federal Convictions:Federal [FCON](#)

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

*Government Publication Date: 1988-Jun 2007**

Contaminated Sites on Federal Land:Federal [FCS](#)

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

Government Publication Date: June 2000-Jan 2015

Fisheries & Oceans Fuel Tanks:Federal [FOFT](#)

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

Government Publication Date: 1964-Sept 2003

Fuel Storage Tank:Provincial [FST](#)

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

Government Publication Date: 2010-Nov 2014

Fuel Storage Tank - Historic:Provincial [FSTH](#)

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

*Government Publication Date: Pre-Jan 2010**

Ontario Regulation 347 Waste Generators Summary:

Provincial

GEN

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

*Government Publication Date: 1986-Apr 2014***TSSA Historic Incidents:**

Provincial

HINC

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

*Government Publication Date: 2006-June 2009****Indian & Northern Affairs Fuel Tanks:**

Federal

IAFT

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

*Government Publication Date: 1950-Aug 2003****TSSA Incidents:**

Provincial

INC

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

*Government Publication Date: June 2009-2014***Landfill Inventory Management Ontario:**

Provincial

LIMO

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

Government Publication Date: 2012

Canadian Mine Locations:Private [MINE](#)

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

*Government Publication Date: 1998-2009**

Mineral Occurrences:Provincial [MNR](#)

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

Government Publication Date: 1846-Apr 2013

National Analysis of Trends in Emergencies System (NATES):Federal [NATE](#)

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

*Government Publication Date: 1974-1994**

Non-Compliance Reports:Provincial [NCPL](#)

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

Government Publication Date: 1994-2012

National Defence & Canadian Forces Fuel Tanks:Federal [NDFT](#)

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

*Government Publication Date: Up to May 2001**

National Defence & Canadian Forces Spills:Federal [NDSP](#)

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

Government Publication Date: Mar 1999-Aug 2010

National Defence & Canadian Forces Waste Disposal Sites:Federal [NDWD](#)

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

*Government Publication Date: 2001-Apr 2007**

National Environmental Emergencies System (NEES):

Federal

NEES

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

*Government Publication Date: 1974-2003****National PCB Inventory:**

Federal

NPCB

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

*Government Publication Date: 1988-2008****National Pollutant Release Inventory:**

Federal

NPRI

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

*Government Publication Date: 1993-2013***Oil and Gas Wells:**

Private

OGW

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

*Government Publication Date: 1988-Mar 2015***Ontario Oil and Gas Wells:**

Provincial

OOGW

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

*Government Publication Date: 1800-2013***Inventory of PCB Storage Sites:**

Provincial

OPCB

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

Government Publication Date: 1987-Oct 2004

Orders:Provincial [ORD](#)

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

Government Publication Date: 1994-Jan 2015

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

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

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

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

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

*Government Publication Date: 1920-Jan 2005**

Pesticide Register:Provincial [PES](#)

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

Government Publication Date: 1988-Jun 2013

TSSA Pipeline Incidents:Provincial [PINC](#)

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

Government Publication Date: June 2009-2014

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

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

*Government Publication Date: 1989-1996**

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

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

Government Publication Date: 1994-Jan 2015

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

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

Government Publication Date: 1986-2013

Record of Site Condition:

Provincial

RSC

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

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

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

Retail Fuel Storage Tanks:

Private

RST

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

Government Publication Date: 1999-Jul 2014

Scott's Manufacturing Directory:

Private

SCT

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

Government Publication Date: 1992-Mar 2011

Ontario Spills:

Provincial

SPL

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

Government Publication Date: 1988-Feb 2014

Wastewater Discharger Registration Database:

Provincial

SRDS

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

Government Publication Date: 1990-2011

Anderson's Storage Tanks:

Private

TANK

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

*Government Publication Date: 1915-1953**

Transport Canada Fuel Storage Tanks:

Federal

TCFT

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

Government Publication Date: 1970-Mar 2007

TSSA Variances for Abandonment of Underground Storage Tanks:

Provincial

[VAR](#)

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

Government Publication Date: Current to Nov 2014

Waste Disposal Sites - MOE CA Inventory:

Provincial

[WDS](#)

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

Government Publication Date: 1970-Mar 2015

Waste Disposal Sites - MOE 1991 Historical Approval Inventory:

Provincial

[WDSH](#)

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

*Government Publication Date: Up to Oct 1990**

Water Well Information System:

Provincial

[WWIS](#)

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

Government Publication Date: 1955-Mar 2014

Definitions

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

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

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

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

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

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

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

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

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

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

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

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

APPENDIX C
Aerial Photograph



5430 Canotek Road
Ottawa, Ontario
K1J 9G2

Tel: (613) 842-3434
(877) 632-5664
Website: www.LRL.ca
Fax: (613) 842-4338

PROJECT

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED LEMAY STREET EXTENSION AND MUNICIPAL
WORK YARD RECONFIGURATION
CORNWALL, ONTARIO

DRAWING TITLE

AERIAL PHOTOGRAPH A10245-158
1946

CLIENT

AECOM CANADA

DATE

JULY 2015

PROJECT

140750

AP1





5430 Canotek Road
Ottawa, Ontario
K1J 9G2

Tel: (613) 842-3434
(877) 632-5664
Website: www.LRL.ca
Fax: (613) 842-4338

PROJECT

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED LEMAY STREET EXTENSION AND MUNICIPAL
WORK YARD RECONFIGURATION
CORNWALL, ONTARIO

DRAWING TITLE

AERIAL PHOTOGRAPH A25283-110
1979

CLIENT

AECOM CANADA

DATE

JULY 2015

PROJECT

140750

AP2





5430 Canotek Road
Ottawa, Ontario
K1J 9G2

Tel: (613) 842-3434
(877) 632-5664
Website: www.LRL.ca
Fax: (613) 842-4338

PROJECT

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED LEMAY STREET EXTENSION AND MUNICIPAL
WORK YARD RECONFIGURATION
CORNWALL, ONTARIO

DRAWING TITLE

AERIAL PHOTOGRAPH A28135-80
1994

CLIENT

AECOM CANADA

DATE

JULY 2015

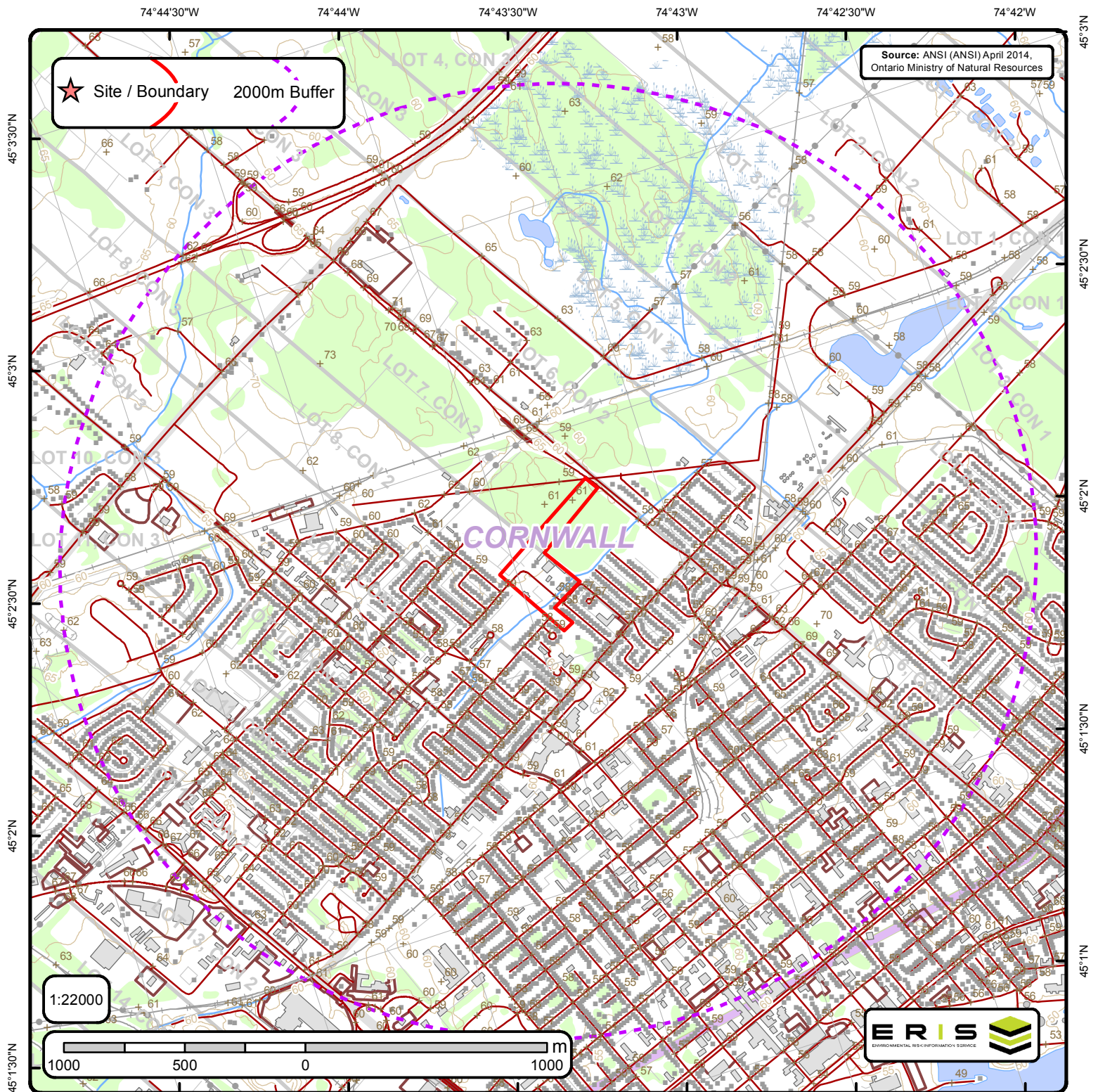
PROJECT

140750

AP3



APPENDIX D
Topographic Map



Area of Natural & Scientific Interest (ANSI) Order No. 20150413002

+	Spot Height	—	Transportation Structure	—	Contour Line	■	Wooded Area
■	Building Point	—	Utility Line	■	Pit or Quarry	■	Conservation Authority
⚡	Towers	—	Water Structure	■	Waterbody	■	Conservation Area
●	Utility Site Point	—	Drainage Line Feature	■	Wetlands	■	Municipal Park
—	Misc. Line	—	River or Stream	■	Concession	■	Provincial Park
—	Railroads	■	Airports	■	Lots	■	National Park
—	Roads	■	Tanks	■	Municipality	■	Nature Reserve
- - -	Trail	■	Building to Scale	■	Land Ownership	■	ANSI Area



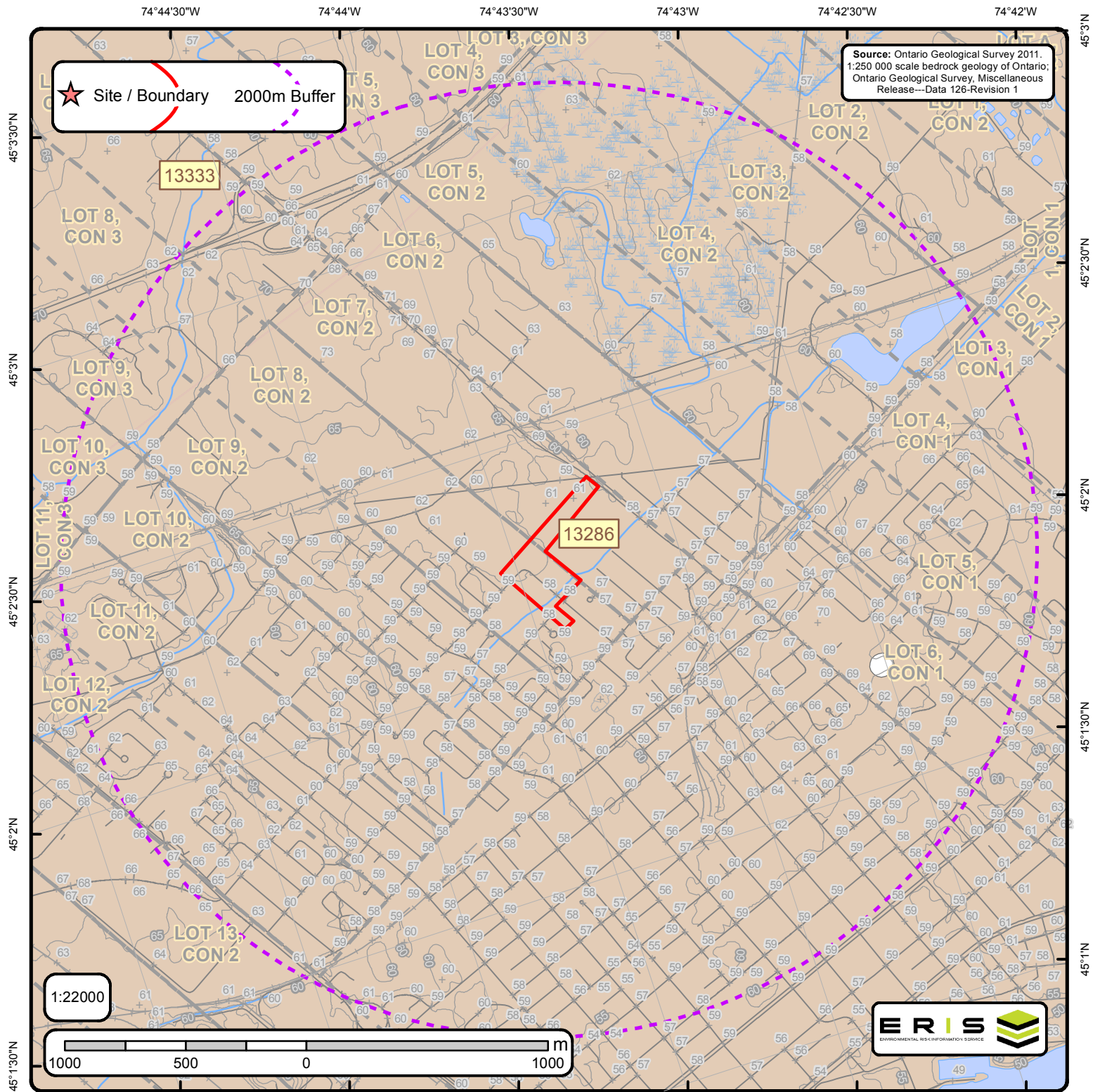
ANSI Report

ANSI Units Found within 2000 m of
Lemay Street @ Ontario Street, Cornwall, ON

Page 1
Order ID:
20150413002

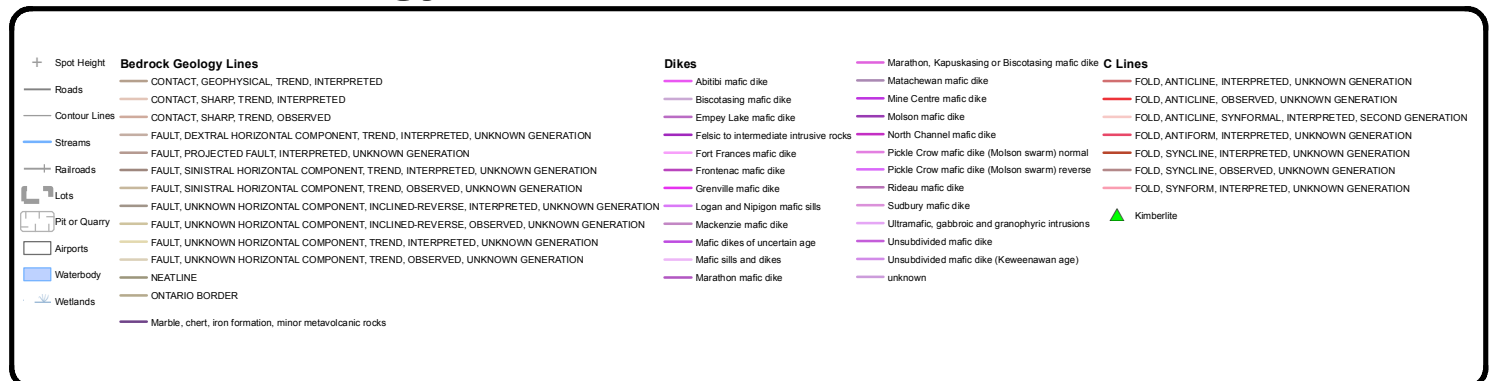


No ANSI units found within search area.



Bedrock Geology of Ontario

Order No. 20150413002





Bedrock Geology Report

Bedrock Geology units found within 2000 m of
Lemay Street @ Ontario Street, Cornwall, ON

Page 1
Order ID:
20150413002



ID: 13333 | Unit Name: |

Type (All): 54a | **Type (Primary):** 54a | **Type (Secondary):** | **Type (Tertiary):** | **Rock Type (Primary):** Limestone, dolostone, shale, arkose, sandstone | **Stratus (Primary):** Ottawa Group; Simcoe Group; Shadow Lake Formation | **Super Eon (Primary):** | **Eon (Primary):** PHANEROZOIC (Present to 542.0 Ma) | **Era (Primary):** PALEOZOIC (251.0 Ma to 542.0 Ma) | **Period (Primary):** ORDOVICIAN (443.7 Ma to 488.3 Ma) | **Epoch (Primary):** MIDDLE ORDOVICIAN (now considered UPPER DEVONIAN) | **Province (Primary):**

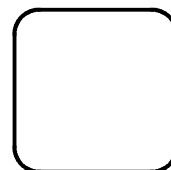
ID: 13286 | Unit Name: |

Type (All): 54b | **Type (Primary):** 54b | **Type (Secondary):** | **Type (Tertiary):** | **Rock Type (Primary):** Limestone, dolostone, shale, arkose, sandstone | **Stratus (Primary):** Chazy Group; Rockcliffe Formation | **Super Eon (Primary):** | **Eon (Primary):** PHANEROZOIC (Present to 542.0 Ma) | **Era (Primary):** PALEOZOIC (251.0 Ma to 542.0 Ma) | **Period (Primary):** ORDOVICIAN (443.7 Ma to 488.3 Ma) | **Epoch (Primary):** MIDDLE ORDOVICIAN | **Province (Primary):**



Bedrock Geology Report Metadata

Ontario Geological Survey 2011. 1:250 000 scale bedrock geology of Ontario; Ontario Geological Survey, Miscellaneous Release-Data 126
Revision1
ONTARIO MINISTRY OF NORTHERN DEVELOPMENT, MINES AND FORESTRY



ID - Unit ID **Unit Name** - Generalized geological unit classification

Type (All) - The geological unit number(s) or code(s) for all rock types present in an individual polygon.

Type (Primary) - The primary geological unit number or code for the primary rock type in an individual polygon

Type (Secondary) - The secondary geological unit number or code for the secondary rock type, if present, in an individual polygon

Type (Tertiary) - The tertiary geological unit number or code for the tertiary rock type, if present, in an individual polygon

Rock Type (Primary) - Rock type or sub-unit description

Status (Primary) - The Stratigraphic unit. Divided into:

Supergroup (two or more groups and lone formations)
Group (two or more formations)
Formation (primary unit of lithostratigraphy)
Member (named lithologic subdivision of a formation)
Bed (named distinctive layer in a member or formation)

Super Eon (Primary) - A name given to the largest defined unit of geological time, divided into Eons. Unique values which this field may contain (Domains) are:

PRECAMBRIAN (0.542 Ga to <3.85 Ga)

Eon (Primary) - A name given to a defined unit of geological time, divided into Eras. Unique values which this field may contain (Domains) are:

ARCHEAN (2.5 Ga to <3.85 Ga)
PROTEROZOIC (0.542 Ga to 2.50 Ga)
PHANEROZOIC (Present to 542.0 Ma)

Era (Primary) - A name given to a defined unit of geological time, divided into Periods. Each era on the scale is separated from the next by a major event or change. Unique values which this field may contain (Domains) are:

MESOARCHEAN (2.8 Ga to 3.2 Ga)	MESOPROTEROZOIC (1.0 Ga to 1.6 Ga)
NEO-TO MESOARCHEAN (2.5 Ga to 3.2 Ga)	EARLY PALEOZOIC TO NEOPROTEROZOIC (443.7 Ma to 1.0 Ga)
NEOARCHEAN (2.5 Ga to 2.8 Ga)	NEO-TO MESOPROTEROZOIC (0.542 Ga to 1.6 Ga)
PALEOPROTEROZOIC (1.6 Ga to 2.5 Ga)	PALEOZOIC (251.0 Ma to 542.0 Ma)
MESO-TO PALEOPROTEROZOIC (1.0 Ga to 2.5 Ga)	MESOZOIC (65.5 Ma to 251.0 Ma)

Period (Primary) - A name given to a defined unit of geological time, divided into Epochs. Unique values which this field may contain (Domains) are:

CAMBRIAN (488.3 Ma to 542.0 Ma)
ORDOVICIAN (443.7 Ma to 488.3 Ma)
SILURIAN (416.0 Ma to 443.7 Ma)
DEVONIAN (359.2 Ma to 416.0 Ma)
MISSISSIPPIAN TO DEVONIAN (318.1 Ma to 416.0 Ma)
JURASSIC (145.5 Ma to 199.6 Ma)
CRETACEOUS AND JURASSIC (65.5 Ma to 199.6 Ma)

Epoch (Primary) - A name given to a defined unit of geological time. Unique values which this field may contain (Domains) are:

LOWER ORDOVICIAN	UPPER SILURIAN
MIDDLE ORDOVICIAN	LOWER DEVONIAN
UPPER ORDOVICIAN	MIDDLE DEVONIAN
MIDDLE AND LOWER SILURIAN	UPPER DEVONIAN
UPPER SILURIAN TO LOWER DEVONIAN	LOWER CRETACEOUS AND MIDDLE JURASSIC

Province (Primary) - The Geological Province the geological unit is in. Unique values which this field may contain (Domains) are:

SUPERIOR
SOUTHERN
SUPERIOR
GRENVILLE

74°44'30"W

74°44'W

74°43'30"W

74°43'W

74°42'30"W

74°42'W

 Site / Boundary

Source: Chapman, L.J. and Putnam, D.F. 2007. Physiography of Southern Ontario: Ontario Geological Survey, Miscellaneous Release—Data 22

45°33'0"N

45°3'N

45°2'30"N

45°2'N

45°1'30"N

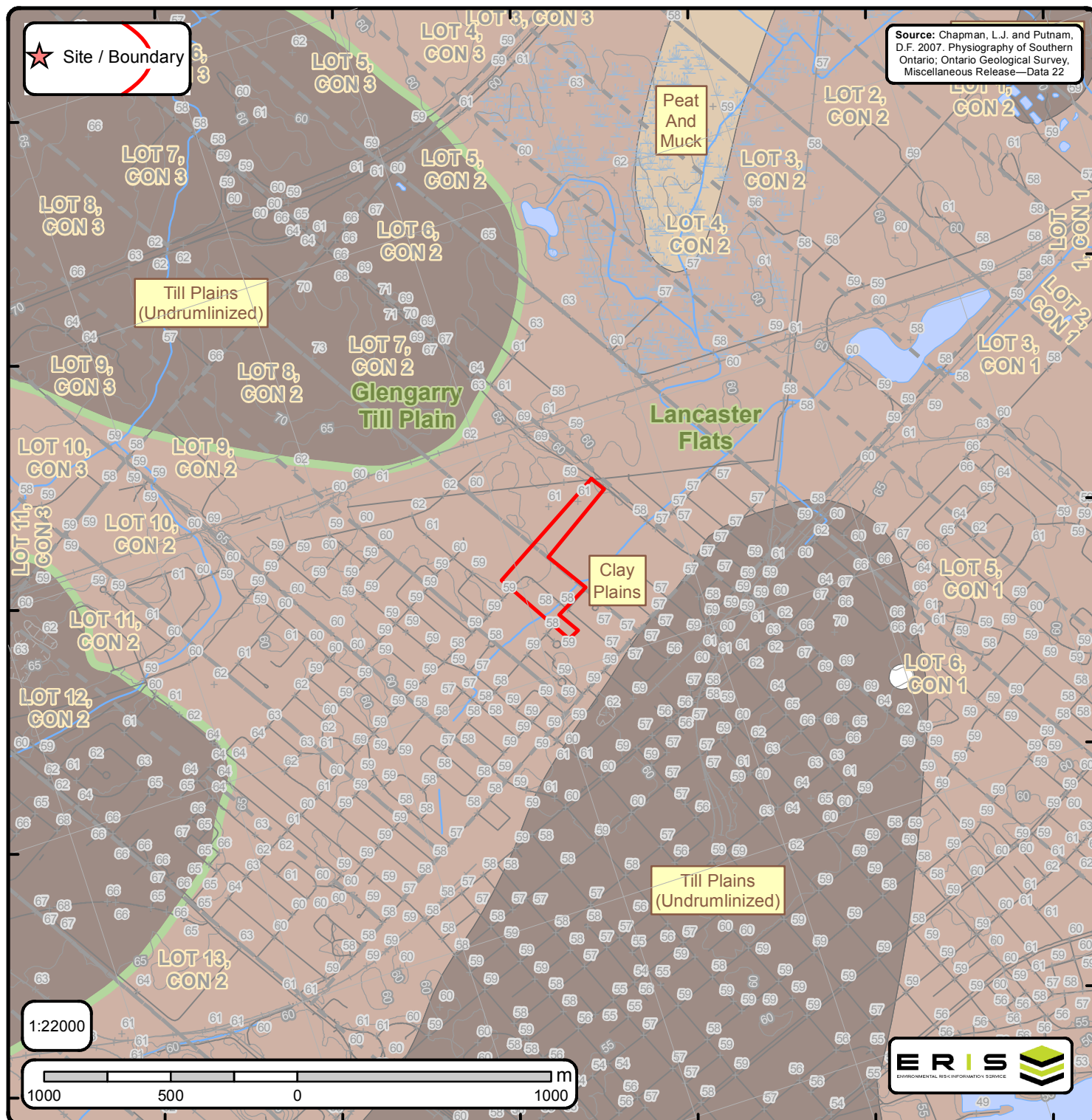
45°3'N

45°2'30"N

45°2'N

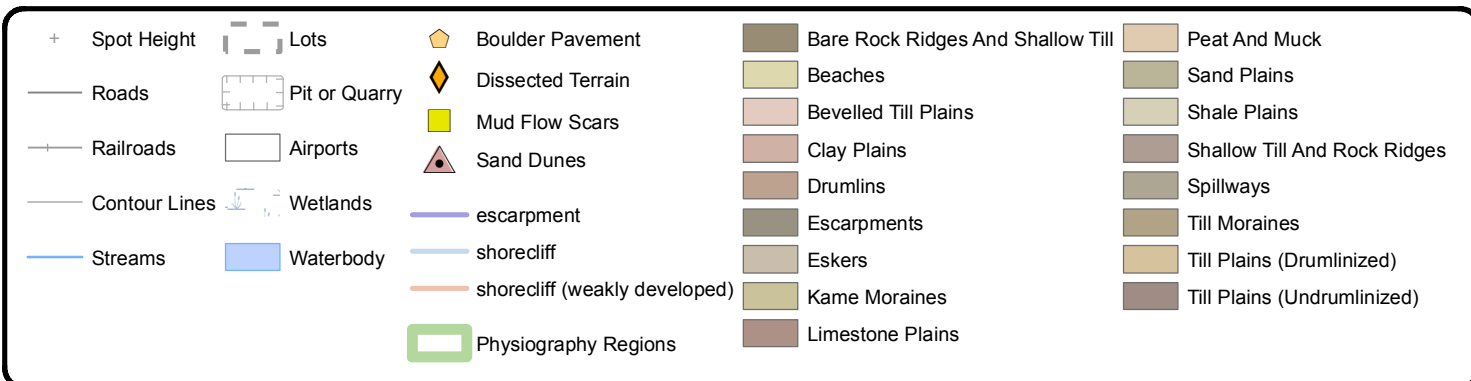
45°1'30"N

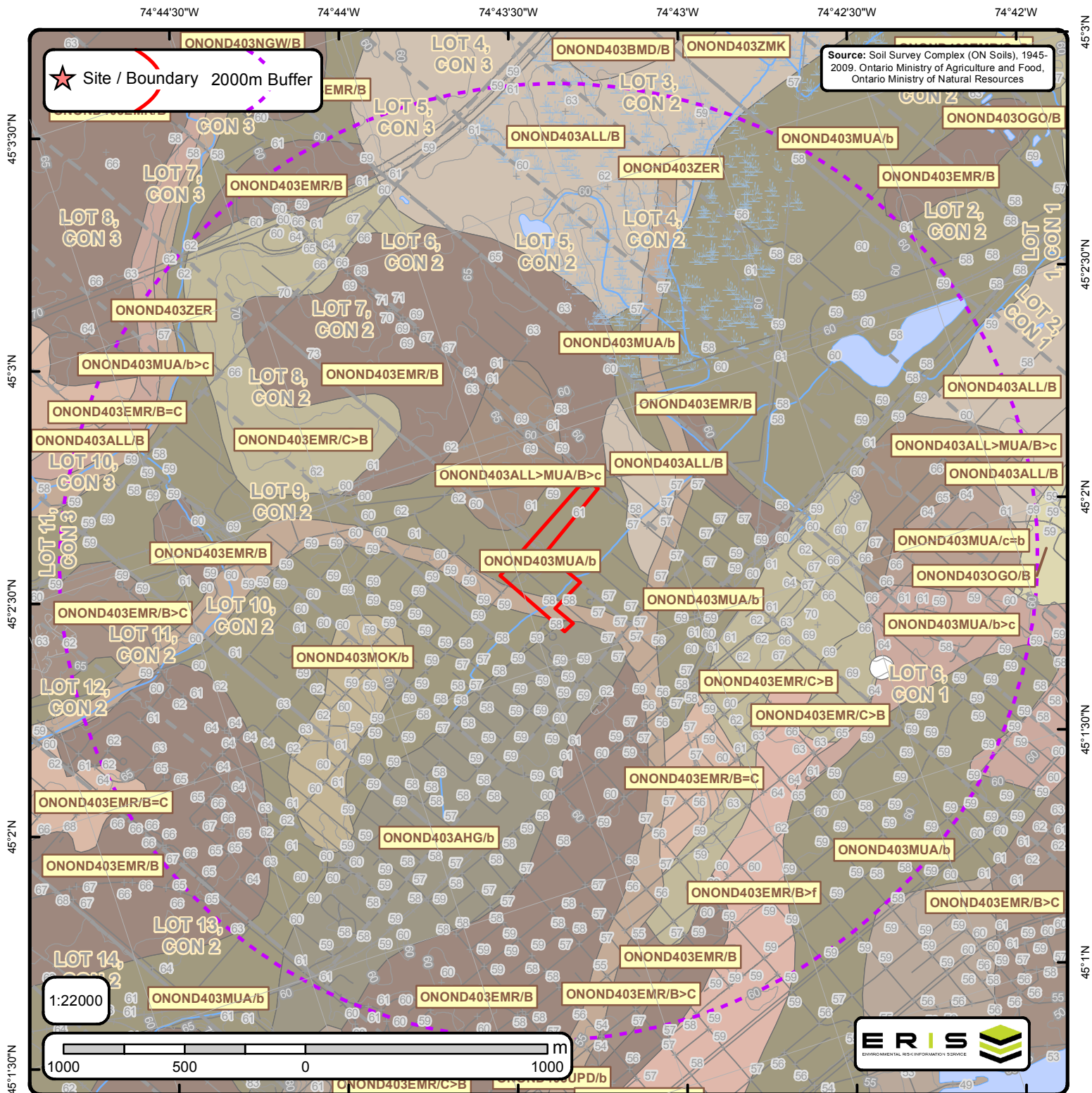
45°1'N



Physiography of Southern Ontario

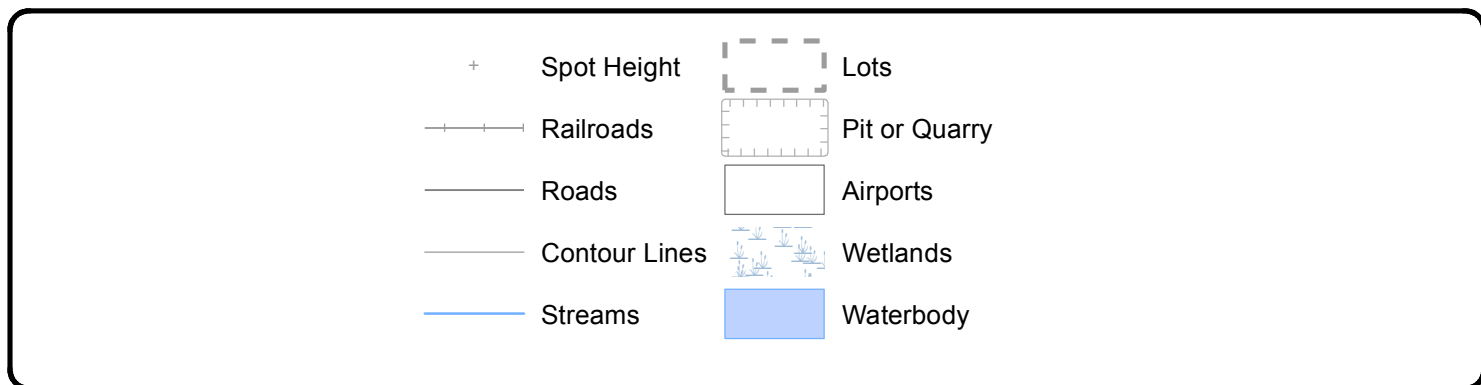
Order No. 20150413002





Soil Survey Complex (ON Soils)

Order No. 20150413002





Soils Report

Soil Map Units Found within 2000 m of
Lemay Street @ Ontario Street, Cornwall, ON

Page 1
Order ID:
20150413002



Map Unit: ONOND403ZER Soil Complex: 1 of 1 Area (sq m): 3424710.0

Soil Type: ONZER___ | **Percent:** 100 | **Code:** ZER | **Name:** ERODED CHANNEL | **Symbol:** ZER | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 5 | **CLI1:** I | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** | **Hydro:** | **Texture:** VAR | **Modifier:** ___

Map Unit: ONOND403ALL/B Soil Complex: 1 of 1 Area (sq m): 1915630.0

Soil Type: ONALL___ | **Percent:** 100 | **Code:** ALL | **Name:** ALLENDALE | **Symbol:** ALL | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 3 | **CLI1:** W | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** P | **Hydro:** C | **Texture:** SL | **Modifier:** ___

Map Unit: ONOND403EMR/B Soil Complex: 1 of 1 Area (sq m): 1877350.0

Soil Type: ONEMR___ | **Percent:** 100 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___

Map Unit: ONOND403MUA/b Soil Complex: 1 of 1 Area (sq m): 2468180.0

Soil Type: ONMUA___ | **Percent:** 100 | **Code:** MUA | **Name:** MOUNTAIN | **Symbol:** MUA | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 2 | **CLI1:** F | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** I | **Hydro:** C | **Texture:** CL | **Modifier:** ___

Map Unit: ONOND403MUA/b Soil Complex: 1 of 1 Area (sq m): 3285330.0

Soil Type: ONMUA___ | **Percent:** 100 | **Code:** MUA | **Name:** MOUNTAIN | **Symbol:** MUA | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 2 | **CLI1:** F | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** I | **Hydro:** C | **Texture:** CL | **Modifier:** ___

Map Unit: ONOND403MUA/b>c Soil Complex: 1 of 2 Area (sq m): 180960.0

Soil Type: ONMUA___ | **Percent:** 70 | **Code:** MUA | **Name:** MOUNTAIN | **Symbol:** MUA | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 2 | **CLI1:** F | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** I | **Hydro:** C | **Texture:** CL | **Modifier:** ___

Map Unit: ONOND403MUA/b>c Soil Complex: 2 of 2 Area (sq m): 180960.0

Soil Type: ONMUA___ | **Percent:** 30 | **Code:** MUA | **Name:** MOUNTAIN | **Symbol:** MUA | **Parent Material:** | **Landscape:** | **Slope:** 3.500000 | **Class:** C | **Range:** 2 - 5 | **Stoniness:** 0 | **CLI:** 3 | **CLI1:** F | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** I | **Hydro:** C | **Texture:** SL | **Modifier:** ___

Map Unit: ONOND403EMR/B Soil Complex: 1 of 1 Area (sq m): 167799.0

Soil Type: ONEMR___ | **Percent:** 100 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___

Map Unit: ONOND403EMR/C>B Soil Complex: 1 of 2 Area (sq m): 594486.0

Soil Type: ONEMR___ | **Percent:** 70 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 3.500000 | **Class:** C | **Range:** 2 - 5 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** T | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___

Map Unit: ONOND403EMR/C>B Soil Complex: 2 of 2 Area (sq m): 594486.0

Soil Type: ONEMR___ | **Percent:** 30 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___



Soils Report

Soil Map Units Found within 2000 m of
Lemay Street @ Ontario Street, Cornwall, ON

Page 2
Order ID:
20150413002

**Map Unit: ONOND403ZER Soil Complex: 1 of 1 Area (sq m): 783285.0**

Soil Type: ONZER___ | **Percent:** 100 | **Code:** ZER | **Name:** ERODED CHANNEL | **Symbol:** ZER | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 5 | **CLI1:** I | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** | **Hydro:** | **Texture:** VAR | **Modifier:** ___

Map Unit: ONOND403EMR/B Soil Complex: 1 of 1 Area (sq m): 146171.0

Soil Type: ONEMR___ | **Percent:** 100 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___

Map Unit: ONOND403EMR/B Soil Complex: 1 of 1 Area (sq m): 996030.0

Soil Type: ONEMR___ | **Percent:** 100 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___

Map Unit: ONOND403EMR/B=C Soil Complex: 1 of 2 Area (sq m): 319034.0

Soil Type: ONEMR___ | **Percent:** 50 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___

Map Unit: ONOND403EMR/B=C Soil Complex: 2 of 2 Area (sq m): 319034.0

Soil Type: ONEMR___ | **Percent:** 50 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 3.500000 | **Class:** C | **Range:** 2 - 5 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** T | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___

Map Unit: ONOND403OGO/B Soil Complex: 1 of 1 Area (sq m): 595559.0

Soil Type: ONOGO___ | **Percent:** 100 | **Code:** OGO | **Name:** OSGOOD | **Symbol:** OGO | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 2 | **CLI1:** W | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** P | **Hydro:** C | **Texture:** L | **Modifier:** ___

Map Unit: ONOND403MUA/b Soil Complex: 1 of 1 Area (sq m): 65969.3984375

Soil Type: ONMUA___ | **Percent:** 100 | **Code:** MUA | **Name:** MOUNTAIN | **Symbol:** MUA | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 2 | **CLI1:** F | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** I | **Hydro:** C | **Texture:** CL | **Modifier:** ___

Map Unit: ONOND403ALL/B Soil Complex: 1 of 1 Area (sq m): 364874.0

Soil Type: ONALL___ | **Percent:** 100 | **Code:** ALL | **Name:** ALLENDALE | **Symbol:** ALL | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 3 | **CLI1:** W | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** P | **Hydro:** C | **Texture:** SL | **Modifier:** ___

Map Unit: ONOND403ALL>MUA/B>c Soil Complex: 1 of 2 Area (sq m): 230095.0

Soil Type: ONALL___ | **Percent:** 70 | **Code:** ALL | **Name:** ALLENDALE | **Symbol:** ALL | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 3 | **CLI1:** W | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** P | **Hydro:** C | **Texture:** SL | **Modifier:** ___

Map Unit: ONOND403ALL>MUA/B>c Soil Complex: 2 of 2 Area (sq m): 230095.0

Soil Type: ONMUA___ | **Percent:** 30 | **Code:** MUA | **Name:** MOUNTAIN | **Symbol:** ALL | **Parent Material:** | **Landscape:** | **Slope:** 3.500000 | **Class:** C | **Range:** 2 - 5 | **Stoniness:** 0 | **CLI:** 2 | **CLI1:** F | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** I | **Hydro:** C | **Texture:** SL | **Modifier:** ___



Soils Report

Soil Map Units Found within 2000 m of
Lemay Street @ Ontario Street, Cornwall, ON

Page 3
Order ID:
20150413002



Map Unit: ONOND403ALL/B Soil Complex: 1 of 1 Area (sq m): 117149.0

Soil Type: ONALL___ | **Percent:** 100 | **Code:** ALL | **Name:** ALLENDALE | **Symbol:** ALL | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 3 | **CLI1:** W | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** P | **Hydro:** C | **Texture:** SL | **Modifier:** ____

Map Unit: ONOND403EMR/B Soil Complex: 1 of 1 Area (sq m): 84520.703125

Soil Type: ONEMR___ | **Percent:** 100 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ____

Map Unit: ONOND403EMR/B Soil Complex: 1 of 1 Area (sq m): 60899.6992188

Soil Type: ONEMR___ | **Percent:** 100 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ____

Map Unit: ONOND403ALL/B Soil Complex: 1 of 1 Area (sq m): 115067.0

Soil Type: ONALL___ | **Percent:** 100 | **Code:** ALL | **Name:** ALLENDALE | **Symbol:** ALL | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 3 | **CLI1:** W | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** P | **Hydro:** C | **Texture:** SL | **Modifier:** ____

Map Unit: ONOND403EMR/B>C Soil Complex: 1 of 2 Area (sq m): 236925.0

Soil Type: ONEMR___ | **Percent:** 70 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ____

Map Unit: ONOND403EMR/B>C Soil Complex: 2 of 2 Area (sq m): 236925.0

Soil Type: ONEMR___ | **Percent:** 30 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 3.500000 | **Class:** C | **Range:** 2 - 5 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** T | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ____

Map Unit: ONOND403ALL>MUA/B>c Soil Complex: 1 of 2 Area (sq m): 224925.0

Soil Type: ONALL___ | **Percent:** 70 | **Code:** ALL | **Name:** ALLENDALE | **Symbol:** ALL | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 3 | **CLI1:** W | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** P | **Hydro:** C | **Texture:** SL | **Modifier:** ____

Map Unit: ONOND403ALL>MUA/B>c Soil Complex: 2 of 2 Area (sq m): 224925.0

Soil Type: ONMUA___ | **Percent:** 30 | **Code:** MUA | **Name:** MOUNTAIN | **Symbol:** ALL | **Parent Material:** | **Landscape:** | **Slope:** 3.500000 | **Class:** C | **Range:** 2 - 5 | **Stoniness:** 0 | **CLI:** 2 | **CLI1:** F | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** I | **Hydro:** C | **Texture:** SL | **Modifier:** ____

Map Unit: ONOND403MUA/b Soil Complex: 1 of 1 Area (sq m): 2446770.0

Soil Type: ONMUA___ | **Percent:** 100 | **Code:** MUA | **Name:** MOUNTAIN | **Symbol:** MUA | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 2 | **CLI1:** F | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** I | **Hydro:** C | **Texture:** CL | **Modifier:** ____

Map Unit: ONOND403MUA/b Soil Complex: 1 of 1 Area (sq m): 258367.0

Soil Type: ONMUA___ | **Percent:** 100 | **Code:** MUA | **Name:** MOUNTAIN | **Symbol:** MUA | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 2 | **CLI1:** F | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** I | **Hydro:** C | **Texture:** CL | **Modifier:** ____



Soils Report

Soil Map Units Found within 2000 m of
Lemay Street @ Ontario Street, Cornwall, ON

Page 4
Order ID:
20150413002



Map Unit: ONOND403EMR/C>B Soil Complex: 1 of 2 Area (sq m): 513161.0

Soil Type: ONEMR___ | **Percent:** 70 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 3.500000 | **Class:** C | **Range:** 2 - 5 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** T | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ____

Map Unit: ONOND403EMR/C>B Soil Complex: 2 of 2 Area (sq m): 513161.0

Soil Type: ONEMR___ | **Percent:** 30 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ____

Map Unit: ONOND403MUA/c=b Soil Complex: 1 of 2 Area (sq m): 190156.0

Soil Type: ONMUA___ | **Percent:** 50 | **Code:** MUA | **Name:** MOUNTAIN | **Symbol:** MUA | **Parent Material:** | **Landscape:** | **Slope:** 3.500000 | **Class:** C | **Range:** 2 - 5 | **Stoniness:** 0 | **CLI:** 2 | **CLI1:** F | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** I | **Hydro:** C | **Texture:** CL | **Modifier:** ____

Map Unit: ONOND403MUA/c=b Soil Complex: 2 of 2 Area (sq m): 190156.0

Soil Type: ONMUA___ | **Percent:** 50 | **Code:** MUA | **Name:** MOUNTAIN | **Symbol:** MUA | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 2 | **CLI1:** F | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** I | **Hydro:** C | **Texture:** SL | **Modifier:** ____

Map Unit: ONOND403MOK/b Soil Complex: 1 of 1 Area (sq m): 244124.0

Soil Type: ONMOK___ | **Percent:** 100 | **Code:** MOK | **Name:** MANOTICK | **Symbol:** MOK | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 2 | **CLI1:** F | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** SL | **Modifier:** ____

Map Unit: ONOND403EMR/B Soil Complex: 1 of 1 Area (sq m): 1302710.0

Soil Type: ONEMR___ | **Percent:** 100 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ____

Map Unit: ONOND403AHG/b Soil Complex: 1 of 1 Area (sq m): 1065530.0

Soil Type: ONAHG___ | **Percent:** 100 | **Code:** AHG | **Name:** ACHIGAN | **Symbol:** AHG | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 4 | **CLI1:** F | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** I | **Hydro:** B | **Texture:** LFS | **Modifier:** ____

Map Unit: ONOND403EMR/B=C Soil Complex: 1 of 2 Area (sq m): 509272.0

Soil Type: ONEMR___ | **Percent:** 50 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ____

Map Unit: ONOND403EMR/B=C Soil Complex: 2 of 2 Area (sq m): 509272.0

Soil Type: ONEMR___ | **Percent:** 50 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 3.500000 | **Class:** C | **Range:** 2 - 5 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** T | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ____

Map Unit: ONOND403MUA/b>c Soil Complex: 1 of 2 Area (sq m): 526136.0

Soil Type: ONMUA___ | **Percent:** 70 | **Code:** MUA | **Name:** MOUNTAIN | **Symbol:** MUA | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 2 | **CLI1:** F | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** I | **Hydro:** C | **Texture:** CL | **Modifier:** ____



Soils Report

Soil Map Units Found within 2000 m of
Lemay Street @ Ontario Street, Cornwall, ON

Page 5
Order ID:
20150413002



Map Unit: ONOND403MUA/b>c **Soil Complex:** 2 of 2 **Area (sq m):** 526136.0

Soil Type: ONMUA___ | **Percent:** 30 | **Code:** MUA | **Name:** MOUNTAIN | **Symbol:** MUA | **Parent Material:** | **Landscape:** | **Slope:** 3.500000 | **Class:** C | **Range:** 2 - 5 | **Stoniness:** 0 | **CLI:** 3 | **CLI1:** F | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** I | **Hydro:** C | **Texture:** SL | **Modifier:** ___

Map Unit: ONOND403EMR/B **Soil Complex:** 1 of 1 **Area (sq m):** 1120690.0

Soil Type: ONEMR___ | **Percent:** 100 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___

Map Unit: ONOND403EMR/C>B **Soil Complex:** 1 of 2 **Area (sq m):** 101623.0

Soil Type: ONEMR___ | **Percent:** 70 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 3.500000 | **Class:** C | **Range:** 2 - 5 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** T | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___

Map Unit: ONOND403EMR/C>B **Soil Complex:** 2 of 2 **Area (sq m):** 101623.0

Soil Type: ONEMR___ | **Percent:** 30 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___

Map Unit: ONOND403EMR/B>f **Soil Complex:** 1 of 2 **Area (sq m):** 1012890.0

Soil Type: ONEMR___ | **Percent:** 70 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___

Map Unit: ONOND403EMR/B>f **Soil Complex:** 2 of 2 **Area (sq m):** 1012890.0

Soil Type: ONEMR___ | **Percent:** 30 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 22.500000 | **Class:** F | **Range:** 15 - 30 | **Stoniness:** 4 | **CLI:** 6 | **CLI1:** P | **CLI2:** T | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___

Map Unit: ONOND403EMR/B=C **Soil Complex:** 1 of 2 **Area (sq m):** 133410.0

Soil Type: ONEMR___ | **Percent:** 50 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___

Map Unit: ONOND403EMR/B=C **Soil Complex:** 2 of 2 **Area (sq m):** 133410.0

Soil Type: ONEMR___ | **Percent:** 50 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 3.500000 | **Class:** C | **Range:** 2 - 5 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** T | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___

Map Unit: ONOND403MUA/b **Soil Complex:** 1 of 1 **Area (sq m):** 1147160.0

Soil Type: ONMUA___ | **Percent:** 100 | **Code:** MUA | **Name:** MOUNTAIN | **Symbol:** MUA | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 2 | **CLI1:** F | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** I | **Hydro:** C | **Texture:** CL | **Modifier:** ___

Map Unit: ONOND403EMR/B **Soil Complex:** 1 of 1 **Area (sq m):** 156963.0

Soil Type: ONEMR___ | **Percent:** 100 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___



Soils Report

Soil Map Units Found within 2000 m of
Lemay Street @ Ontario Street, Cornwall, ON

Page 6
Order ID:
20150413002



Map Unit: ONOND403EMR/B>C **Soil Complex:** 1 of 2 **Area (sq m):** 87776.0

Soil Type: ONEMR___ | **Percent:** 70 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___

Map Unit: ONOND403EMR/B>C **Soil Complex:** 2 of 2 **Area (sq m):** 87776.0

Soil Type: ONEMR___ | **Percent:** 30 | **Code:** EMR | **Name:** EAMER | **Symbol:** EMR | **Parent Material:** | **Landscape:** | **Slope:** 3.500000 | **Class:** C | **Range:** 2 - 5 | **Stoniness:** 2 | **CLI:** 2 | **CLI1:** P | **CLI2:** T | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** W | **Hydro:** B | **Texture:** L | **Modifier:** ___

Map Unit: ONOND403UPD/b **Soil Complex:** 1 of 1 **Area (sq m):** 442464.0

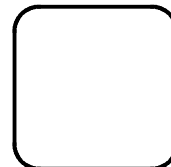
Soil Type: ONUPD___ | **Percent:** 100 | **Code:** UPD | **Name:** UPLANDS | **Symbol:** UPD | **Parent Material:** | **Landscape:** | **Slope:** 1.200000 | **Class:** B | **Range:** 0.5 - 2 | **Stoniness:** 0 | **CLI:** 4 | **CLI1:** F | **CLI2:** M | **Survey:** STORMONT, DUNDAS AND GLENGARRY | **Drainage:** R | **Hydro:** A | **Texture:** S | **Modifier:** ___



Soils Report Metadata

Soil Survey Complex (ON Soils)

ONTARIO MINISTRY OF AGRICULTURE AND FOOD
MINISTRY OF NATURAL RESOURCES
1945-2009



Map Unit The SOIL MAPUNIT is the basic element of an applied soil classification resulting from detailed soil surveys. Soil Map unit is comprised of one or more soil survey polygons. The MAPUNIT field was generated for each polygon by appending the PROVINCE and NSDBID codes with the MAP UNIT symbol that identified that polygon on the original printed soil map. The MAPUNIT usually encodes meaningful information about the soil type and topography; the same information which is found in the Component table. Within any one survey, a group of polygons with similar properties may be coded with the same MAPUNIT.

Soil Type Identifies a specific soil profile.

Percent Proportion of the area of the Soil Map Unit occupied by a specific soil component, expressed as a percent. For any particular SOIL MAPUNIT, the sum of the individual. Soil Map Unit Component Area values must be equal to 100%.

Code Three letter CANSIS code for identifying soils. **Name** Textual identifier of the soil. **Symbol** Soil symbol as found in the soil Mapunit.

Survey Name describing the geographic location where the Soil Survey was completed. Typically the name denotes an administrative boundary of an Upper Tier municipality that occurred at the time of the Soil Survey.

Slope Predominant slope of the landscape expressed as a percent (%). Slope steepness is often referred to by Class.

Class	Range (%)	Terminology
A	0.0 - 0.5	Level
B	0.5 - 2	Nearly level
C	2.0 - 5	Very gentle slopes
D	5.0 - 9	Gentle slopes
E	9.0 - 15	Moderate slopes
F	15 - 30	Strong slopes
G	30 - 45	Very strong slopes
H	45 - 70	Extreme slopes
I	70 - 100	Steep slopes
J	> 100	Very steep slopes

Stoniness Occurrence of surface stoniness

Code
- Not Applicable
0 Non-stony
1 Slightly stony
2 Moderately stony
3 Very stony
4 Exceedingly stony
5 Excessively stony

Drainage Indicates classification of how well the soil drains.

Code
- Not Applicable
VR Very Rapidly
R Rapidly
W Well
MW Moderately Well
I Imperfectly
P Poorly
VP Very Poorly

Texture Describes the soil texture of the A Horizon in the soil profile.

Code
S coarse sand and loamy sand
SL moderately coarse sandy loam
L medium - moderately fine loam
SIL silt loam
CL clay loam
SIC silty clay
C clay
O organic

CLI Classification of soil and land physical and climatic capability for the production of common field crops as part of the Canada Land Inventory (CLI).

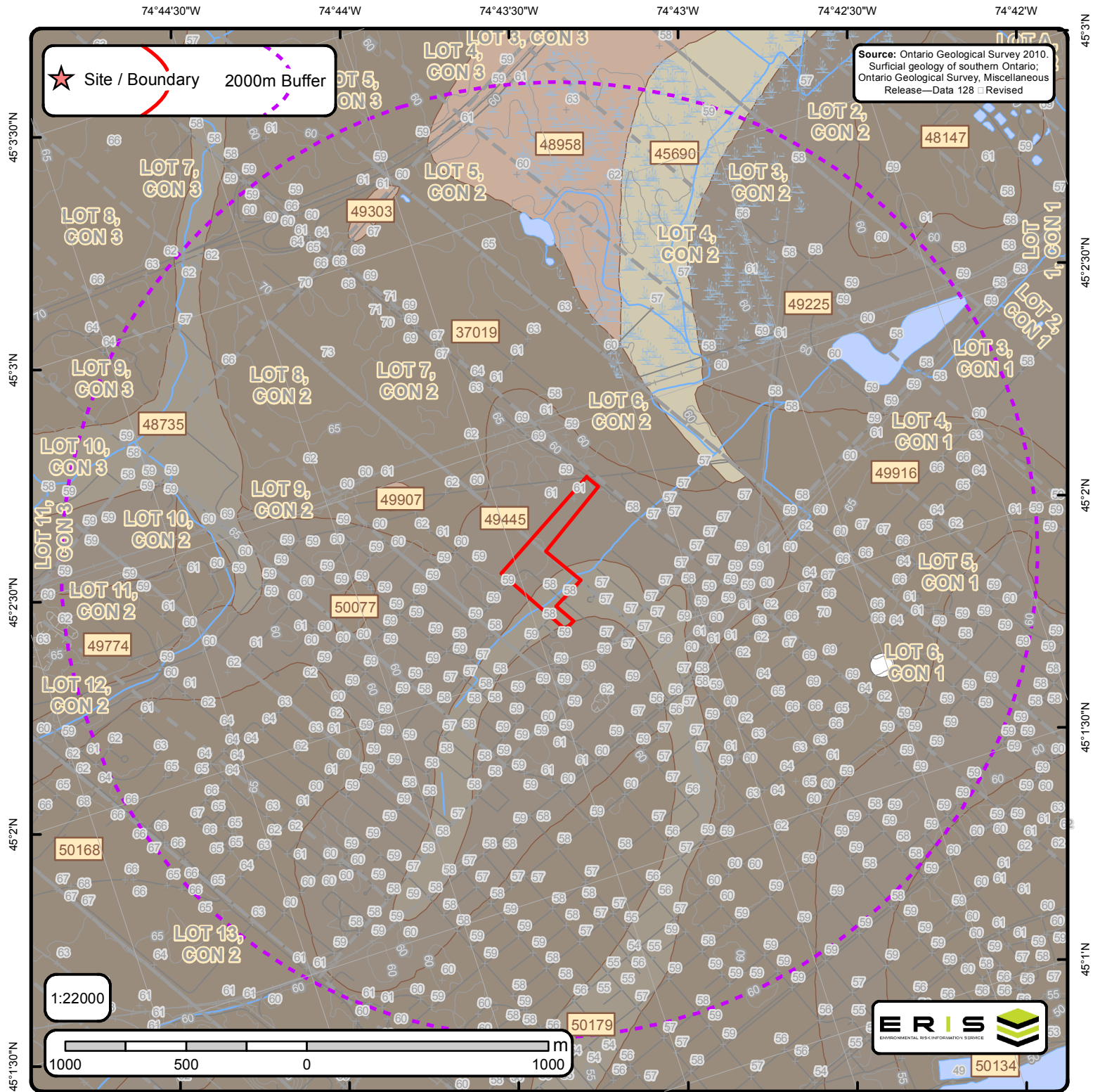
Class 1 No significant limitations in use for Crops
Class 2 moderate limitations on use for crops
Class 3 moderately severe limitations on use for crops.
Class 4 Severe limitations on use for crops.
Class 5 Very severe limitations preclude annual cultivation; improvements feasible.
Class 6 Natural grazing only; no improvements feasible.
Class 7 No capability for agriculture.

CLI1 and CLI2 First and Second CLI (Canada Land Inventory) Limitation Subclass

Subclass C Land subject to crop heat unit regimes of under 2300 (i.e. adverse Climate)
Subclass D Adverse soil structure (i.e. Depth of rooting zone is restricted)
Subclass E Loss of soil profile from Erosion
Subclass F Low inherent soil Fertility
Subclass I Subject to occasional flooding (Inundation) from adjacent streams or waterbodies
Subclass M Low inherent Moisture holding capacity
Subclass P Presence of surface stones > 15 cm diameter.
Subclass R Presence of consolidated bedrock within one metre of the soil surface
Subclass S Presence of a combination of the Subclasses F and M, or, the presence of a combination of the Subclasses P and R (i.e. adverse soil characteristics)
Subclass T Presence of adverse Topography

Hydro Hydrological Soil Groups classify soils into 4 groups (A,B,C,and D) according to water runoff and infiltration rates.

A Soils that have a low runoff potential and high infiltration rate, as the soils typically are sands and gravel.
B Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures.
C Soils with slow infiltration rates when thoroughly wetted and these soils typically are silty-loam soils with an impeding layer or soils with moderately fine to fine texture.
D Soils have a high runoff potential and very slow infiltration rate when thoroughly wetted. Soils include clay soils with high swelling potential, soils in a permanent high water table and shallow soils over nearly impervious material.



The Surficial Geology of Southern Ontario Order No. 20150413002





Surface Geology Report

Surface Geology units found within 2000 m of
Lemay Street @ Ontario Street, Cornwall, ON

Page 1
Order ID:
20150413002



ID: 37019 | Unit Name: Till |

Deposit Type Code: 1a | **Deposit Age:** Quaternary | **Map Number:** m1175a | **Map Name:** Cornwall | **Source Map Scale:** 1:50 000 | **Primary Material:** diamicton | **Primary Material Modifier:** sandy silt to silty sand | **Secondary Material:** | **Primary General:** glacial | **Primary General Modifier:** | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface | **Provenance:** N-NE | **Carbon Content:** | **Formation:** Undifferentiated silty-sandy till on Paleozoic terrain | **Permeability:** Low-Medium | **Material Description:** Sandy and silty compact diamicton, grey at depth but brown where oxidized; calcareous where derived from sedimentary rocks and not leached; consists dominantly of lodgment till. In areas that lie below marine limit (198 m a.s.l.) it is overlain by a disc

ID: 45690 | Unit Name: Organic deposits |

Deposit Type Code: 7 | **Deposit Age:** Recent | **Map Number:** m1175a | **Map Name:** Cornwall | **Source Map Scale:** 1:50 000 | **Primary Material:** organic deposits | **Primary Material Modifier:** | **Secondary Material:** | **Primary General:** wetland | **Primary General Modifier:** | **Veneer:** | **Episode:** Hudson | **Sub Episode:** | **Phase:** | **Stratus Modifier:** Surface | **Provenance:** | **Carbon Content:** | **Formation:** | **Permeability:** High | **Material Description:** Mainly muck and peat in bogs, fens, swamps and poorly drained areas.

ID: 48147 | Unit Name: Till |

Deposit Type Code: 1a | **Deposit Age:** Quaternary | **Map Number:** m1175a | **Map Name:** Cornwall | **Source Map Scale:** 1:50 000 | **Primary Material:** diamicton | **Primary Material Modifier:** sandy silt to silty sand | **Secondary Material:** | **Primary General:** glacial | **Primary General Modifier:** | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface | **Provenance:** N-NE | **Carbon Content:** | **Formation:** Undifferentiated silty-sandy till on Paleozoic terrain | **Permeability:** Low-Medium | **Material Description:** Sandy and silty compact diamicton, grey at depth but brown where oxidized; calcareous where derived from sedimentary rocks and not leached; consists dominantly of lodgment till. In areas that lie below marine limit (198 m a.s.l.) it is overlain by a disc

ID: 48735 | Unit Name: Offshore marine deposits |

Deposit Type Code: 3 | **Deposit Age:** Quaternary (Champlain Sea) | **Map Number:** m1175a | **Map Name:** Cornwall | **Source Map Scale:** 1:50 000 | **Primary Material:** clay, silt | **Primary Material Modifier:** | **Secondary Material:** sand | **Primary General:** glaciomarine | **Primary General Modifier:** foreshore/basinal | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface | **Provenance:** | **Carbon Content:** | **Formation:** | **Permeability:** Low | **Material Description:** Clay, silty clay and silt, commonly calcareous and fossiliferous; locally overlain by thin sands. Upper parts are generally mottled or laminated reddish brown and bluish grey and may contain lenses and pockets of sand, but at depth the clay is uniform a

ID: 48958 | Unit Name: Nearshore sediments |

Deposit Type Code: 5b | **Deposit Age:** Quaternary (Champlain Sea) | **Map Number:** m1175a | **Map Name:** Cornwall | **Source Map Scale:** 1:50 000 | **Primary Material:** sand | **Primary Material Modifier:** | **Secondary Material:** | **Primary General:** glaciomarine | **Primary General Modifier:** foreshore/basinal | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface | **Provenance:** | **Carbon Content:** | **Formation:** | **Permeability:** High | **Material Description:** Fine-to medium-grained sand, calcareous and commonly fossiliferous; nearshore sand generally occurs as a sheet or as bars or spits associated with glaciofluvial materials.



ID: 49225 | **Unit Name:** Deltaic and estuarine deposits |
Deposit Type Code: 4 | **Deposit Age:** Quaternary (Champlain Sea) | **Map Number:** m1175a | **Map Name:** Cornwall | **Source Map Scale:** 1:50 000 | **Primary Material:** sand | **Primary Material Modifier:** | **Secondary Material:** | **Primary General:** glaciomarine | **Primary General Modifier:** deltaic | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface | **Provenance:** | **Carbon Content:** | **Formation:** | **Permeability:** High | **Material Description:** Medium-to fine-grained sand, in some places fossiliferous; lies outside abandoned channels; most common deposit is a combined strip delta-sand plain that developed as water levels fell.

ID: 49303 | **Unit Name:** Nearshore sediments |
Deposit Type Code: 5a | **Deposit Age:** Quaternary (Champlain Sea) | **Map Number:** m1175a | **Map Name:** Cornwall | **Source Map Scale:** 1:50 000 | **Primary Material:** sand, gravel | **Primary Material Modifier:** bouldery | **Secondary Material:** | **Primary General:** glaciomarine | **Primary General Modifier:** littoral/foreshore | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface | **Provenance:** | **Carbon Content:** | **Formation:** | **Permeability:** High | **Material Description:** Gravel, sand and boulders; beaches commonly fossiliferous; nature of sediment controlled by underlying material (gravel, sand and boulders where developed from till and glaciofluvial deposits; slabs and shingles where developed from sedimentary bedrock).

ID: 49445 | **Unit Name:** Deltaic and estuarine deposits |
Deposit Type Code: 4 | **Deposit Age:** Quaternary (Champlain Sea) | **Map Number:** m1175a | **Map Name:** Cornwall | **Source Map Scale:** 1:50 000 | **Primary Material:** sand | **Primary Material Modifier:** | **Secondary Material:** | **Primary General:** glaciomarine | **Primary General Modifier:** deltaic | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface | **Provenance:** | **Carbon Content:** | **Formation:** | **Permeability:** High | **Material Description:** Medium-to fine-grained sand, in some places fossiliferous; lies outside abandoned channels; most common deposit is a combined strip delta-sand plain that developed as water levels fell.

ID: 49774 | **Unit Name:** Till |
Deposit Type Code: 1a | **Deposit Age:** Quaternary | **Map Number:** m1175a | **Map Name:** Cornwall | **Source Map Scale:** 1:50 000 | **Primary Material:** diamicton | **Primary Material Modifier:** sandy silt to silty sand | **Secondary Material:** | **Primary General:** glacial | **Primary General Modifier:** | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface | **Provenance:** N-NE | **Carbon Content:** | **Formation:** Undifferentiated silty-sandy till on Paleozoic terrain | **Permeability:** Low-Medium | **Material Description:** Sandy and silty compact diamicton, grey at depth but brown where oxidized; calcareous where derived from sedimentary rocks and not leached; consists dominantly of lodgment till. In areas that lie below marine limit (198 m a.s.l.) it is overlain by a disc

ID: 49907 | **Unit Name:** Nearshore sediments |
Deposit Type Code: 5a | **Deposit Age:** Quaternary (Champlain Sea) | **Map Number:** m1175a | **Map Name:** Cornwall | **Source Map Scale:** 1:50 000 | **Primary Material:** sand, gravel | **Primary Material Modifier:** bouldery | **Secondary Material:** | **Primary General:** glaciomarine | **Primary General Modifier:** littoral/foreshore | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface | **Provenance:** | **Carbon Content:** | **Formation:** | **Permeability:** High | **Material Description:** Gravel, sand and boulders; beaches commonly fossiliferous; nature of sediment controlled by underlying material (gravel, sand and boulders where developed from till and glaciofluvial deposits; slabs and shingles where developed from sedimentary bedrock).



Surface Geology Report

Surface Geology units found within 2000 m of
Lemay Street @ Ontario Street, Cornwall, ON

Page 3
Order ID:
20150413002



ID: 49916 | Unit Name: Till |

Deposit Type Code: 1a | **Deposit Age:** Quaternary | **Map Number:** m1175a | **Map Name:** Cornwall | **Source Map Scale:** 1:50 000 |
Primary Material: diamicton | **Primary Material Modifier:** sandy silt to silty sand | **Secondary Material:** | **Primary General:** glacial |
Primary General Modifier: | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface |
Provenance: N-NE | **Carbon Content:** | **Formation:** Undifferentiated silty-sandy till on Paleozoic terrain | **Permeability:** Low-Medium |
Material Description: Sandy and silty compact diamicton, grey at depth but brown where oxidized; calcareous where derived from sedimentary rocks and not leached; consists dominantly of lodgment till. In areas that lie below marine limit (198 m a.s.l.) it is overlain by a disc

ID: 50077 | Unit Name: Till |

Deposit Type Code: 1a | **Deposit Age:** Quaternary | **Map Number:** m1175a | **Map Name:** Cornwall | **Source Map Scale:** 1:50 000 |
Primary Material: diamicton | **Primary Material Modifier:** sandy silt to silty sand | **Secondary Material:** | **Primary General:** glacial |
Primary General Modifier: | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface |
Provenance: N-NE | **Carbon Content:** | **Formation:** Undifferentiated silty-sandy till on Paleozoic terrain | **Permeability:** Low-Medium |
Material Description: Sandy and silty compact diamicton, grey at depth but brown where oxidized; calcareous where derived from sedimentary rocks and not leached; consists dominantly of lodgment till. In areas that lie below marine limit (198 m a.s.l.) it is overlain by a disc

ID: 50134 | Unit Name: Till |

Deposit Type Code: 1a | **Deposit Age:** Quaternary | **Map Number:** m1175a | **Map Name:** Cornwall | **Source Map Scale:** 1:50 000 |
Primary Material: diamicton | **Primary Material Modifier:** sandy silt to silty sand | **Secondary Material:** | **Primary General:** glacial |
Primary General Modifier: | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface |
Provenance: N-NE | **Carbon Content:** | **Formation:** Undifferentiated silty-sandy till on Paleozoic terrain | **Permeability:** Low-Medium |
Material Description: Sandy and silty compact diamicton, grey at depth but brown where oxidized; calcareous where derived from sedimentary rocks and not leached; consists dominantly of lodgment till. In areas that lie below marine limit (198 m a.s.l.) it is overlain by a disc

ID: 50168 | Unit Name: Till |

Deposit Type Code: 1a | **Deposit Age:** Quaternary | **Map Number:** m1175a | **Map Name:** Cornwall | **Source Map Scale:** 1:50 000 |
Primary Material: diamicton | **Primary Material Modifier:** sandy silt to silty sand | **Secondary Material:** | **Primary General:** glacial |
Primary General Modifier: | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface |
Provenance: N-NE | **Carbon Content:** | **Formation:** Undifferentiated silty-sandy till on Paleozoic terrain | **Permeability:** Low-Medium |
Material Description: Sandy and silty compact diamicton, grey at depth but brown where oxidized; calcareous where derived from sedimentary rocks and not leached; consists dominantly of lodgment till. In areas that lie below marine limit (198 m a.s.l.) it is overlain by a disc

ID: 50179 | Unit Name: Offshore marine deposits |

Deposit Type Code: 3 | **Deposit Age:** Quaternary (Champlain Sea) | **Map Number:** m1175a | **Map Name:** Cornwall | **Source Map Scale:** 1:50 000 |
Primary Material: clay, silt | **Primary Material Modifier:** | **Secondary Material:** sand | **Primary General:** glaciomarine |
Primary General Modifier: foreshore/basinal | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface |
Provenance: | **Carbon Content:** | **Formation:** | **Permeability:** Low | **Material Description:** Clay, silty clay and silt, commonly calcareous and fossiliferous; locally overlain by thin sands. Upper parts are generally mottled or laminated reddish brown and bluish grey and may contain lenses and pockets of sand, but at depth the clay is uniform a



Surface Geology Report

Surface Geology units found within 2000 m of
Lemay Street @ Ontario Street, Cornwall, ON

Page 4
Order ID:
20150413002



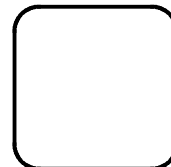
No Surface Geology units found within search area.



Surface Geology Report Metadata

Ontario Geological Survey 2010. Surficial geology of southern Ontario;
Ontario Geological Survey, Miscellaneous Release - Data 128 - Revised.

ONTARIO MINISTRY OF NORTHERN DEVELOPMENT, MINES AND FORESTRY



ID ☐ ID applied to the Unit

Unit Name ☐ Name of deposit

Deposit Type Code ☐ The geological unit number taken from the original map legend.

Deposit Age ☐ to show the age when the sediments were deposited, e.g., Wisconsinan, postglacial or recent.

Map Number ☐ Original map series number, eg., 'M2402' or 'P1973'. Each sgu point feature is tagged to its original map.

Map Name ☐ Usually NTS area where mapping was completed, e.g., 'Golden Lake'

Source Map Scale ☐ The scale at which the original map was captured, e.g., '1:50 000'

Primary Material ☐ This attribute provides the user with information regarding the most prevalent material present within a given area.

Primary Material Modifier ☐ This attribute provides the user with a more refined description of the lithological classification of the primary material.

Secondary Material ☐ This attribute provides the user with information regarding subordinate materials present within a given area.

Primary General ☐ This attribute provides the user with an interpretation of the depositional environment within which the primary material was deposited.

Primary General Modifier ☐ This attribute provides the user with a refined interpretation of the primary genetic modifier.

Veneer ☐ This attribute provides the user with information regarding the type of material that forms a thin, discontinuous veneer over the primary material.

Sub Episode ☐ A diachronic stratigraphic unit in a lower order than Episode and the proposed sequence stratigraphic classification, consists in descending order of Michigan, Elgin and Ontario in the eastern and northern Great Lakes area in the Wisconsin Episode (Johnson et al. 1997; Karrow et al. 2000).

Sub Episode ☐ A diachronic stratigraphic unit in a lower order than Episode and the proposed sequence stratigraphic classification, consists in descending order of Michigan, Elgin and Ontario in the eastern and northern Great Lakes area in the Wisconsin Episode (Johnson et al. 1997; Karrow et al. 2000).

Phase ☐ A diachronic stratigraphic unit in a lower order than Subepisode, and the proposed sequence stratigraphic classification is listed in the following table in the eastern and northern Great Lakes area (Karrow et al. 2000)

Stratus Modifier ☐ This attribute provides the user information regarding the stratigraphic position of the mapped unit (i.e., whether the unit occurs primarily on the surface or in the subsurface).

Provenance ☐ This attribute provides the user with information regarding the provenance of a particular till unit (i.e. direction or lobe from which the till is derived).

Carbon Content ☐ This attribute provides the user with information regarding the carbonate content of till.

Formation ☐ This attribute provides the user with information regarding the formation to which a given primary material belongs (e.g., Tavistock Till, Port Stanley Till, Scarborough Formation). This attribute is seamless and allows the user to create a map based on formation.

Permeability ☐ This attribute provides the user with basic information about permeability of the sediments in a ranking of high, medium and low.

Material Description ☐ Material or sediment description, e.g., 'sand and silty fine sand', 'silty sand and gravel' and 'silty till with low stone content'.

APPENDIX E
SITE VISIT PHOTOGRAPHS

SITE VISIT PHOTOGRAPHS

Our File Ref.: 140750

Client: AECOM Canada

Project: Phase I Environmental Site Assessment

Site Location: Proposed Lemay Street Extension and Municipal Yard
 Reconfiguration, Cornwall, Ontario

Photograph No. 1	
Date: 5/29/2015	
Description From approximately east-central portion of 1225 Ontario Street facing south.	
Photograph No. 2	
Date: 5/29/2015	
Description From west to east across 1225 Ontario Street, north of the repair garage.	

Photograph No. 3		
Date: 5/29/2015		
Description Northern portion of 1225 Ontario Street, northeast portion facing south.		

Photograph No. 4		
Date: 5/29/2015		
Description From salt storage sheds at northern portion of 1225 Ontario Street facing southwest towards petroleum dispensing equipment.		

Photograph No. 5		
Date: 5/29/2015		
Description Across southwest portion of the Site, vacant parcel of land south of Twelfth Street. From west facing east across southern portion.		

Photograph No. 6		
Date: 5/29/2015		
Description Area of former mobile home at southern portion of 1246 Ontario Street.		

Photograph No. 7		
Date: 5/29/2015		
Description East face of Stores Building located at 1246 Ontario Street.		

Photograph No. 8		
Date: 5/29/2015		
Description Parking and circulation area at the eastern portion of 1246 Ontario Street, west facing east.		

Photograph No. 9		
Date: 5/29/2015		
Description West facing east across aggregates storage yard at 1246 Ontario Street.		

Photograph No. 10		
Date: 5/29/2015		
Description South facing north across 301 Sunnyside Avenue.		

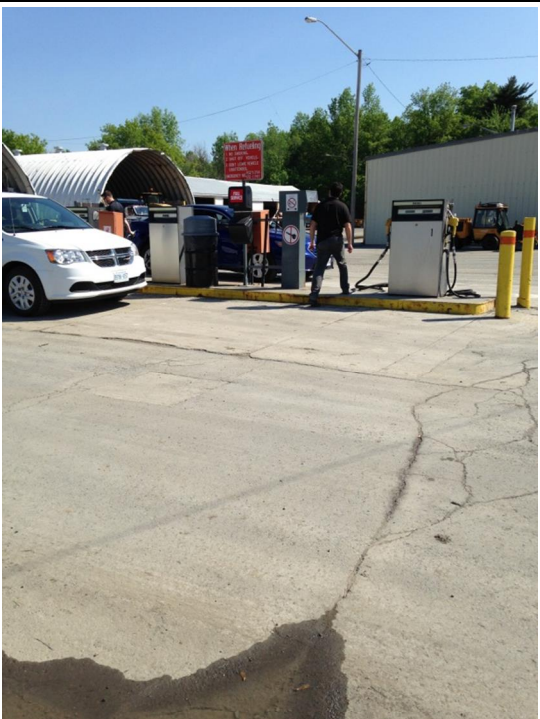
Photograph No. 11		
Date: 5/29/2015		
Description Along northern perimeter of 301 Sunnyside Avenue, west facing east.		

Photograph No. 12		
Date: 5/29/2015		
Description Northeast facing southwest across eastern portion of 301 Sunnyside Avenue.		

Photograph No. 13		
Date: 5/29/2015		
Description From 1225 Ontario Street east extent facing west along proposed Lemay Street extension.		

Photograph No. 14		
Date: 5/29/2015		
Description Optimist Park, former landfill site immediately north of 12225 Ontario Street, from south facing north.		

Photograph No. 15		
Date: 5/29/2015		
Description Hydro transmission lines north of 301 Sunnyside Avenue.		

Photograph No. 16		
Date: 5/29/2015		
Description Fuel dispensing equipment along the west-central portion of 1225 Ontario Street, west facing east.		

Photograph No. 17		
Date: 5/29/2015		
Description MgCl de-icing brine storage container at the northern portion of 1225 Ontario Street.		

Photograph No. 18		
Date: 5/29/2015		
Description Hydo-vac waste disposal pit at the northeastern portion of 1225 Ontario Street.		

Photograph No. 19	
Date: 5/29/2015	
Description Underground waste oil storage tank at the northern face of the repair garage on 1225 Ontario Street.	

Photograph No. 20	
Date: 5/29/2015	
Description Stationary hoist in repair garage at 1225 Ontario Street.	

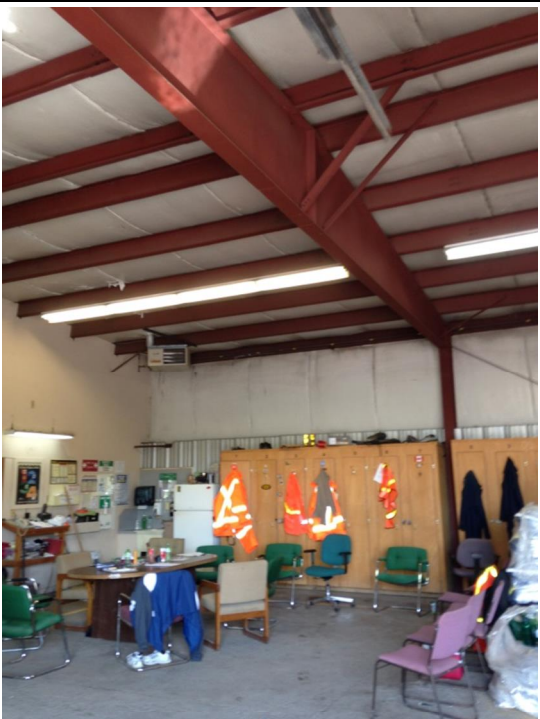
Photograph No. 21	
Date: 5/29/2015	
Description Oils and fluids stored in repair garage at 1225 Ontario Street.	

Photograph No. 22	
Date: 5/29/2015	
Description Chemical storage, typical throughout buildings at 1225 Ontario Street.	

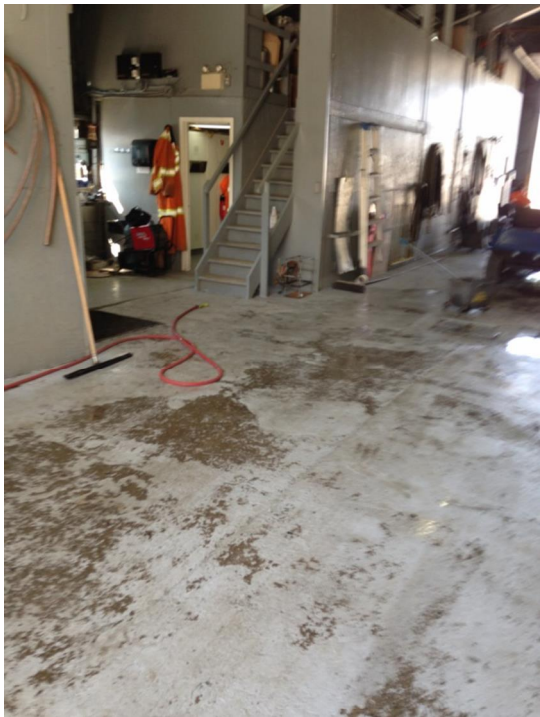
Photograph No. 23	
Date: 5/29/2015	
Description Chemical storage, diesel exhaust fluid, in Roads Building.	

Photograph No. 24	
Date: 5/29/2015	
Description Chemical storage, typical throughout buildings at 1225 Ontario Street.	

Photograph No. 25		
Date: 5/29/2015		
Description Typical of storage portion of Stores Building.		

Photograph No. 26		
Date: 5/29/2015		
Description Typical of interior of Parks Building.		

Photograph No. 27	
Date: 5/29/2015	
Description Typical of Office Building, second storey.	

Photograph No. 28	
Date: 5/29/2015	
Description Typical interior of Water Distribution Shop.	