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## Phase I Environmental Site Assessment 1871 Merivale Road Ottawa, Ontario

Prepared For:  
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Source: AEL Site Visit, 2017

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AEL Project: 10869

## I. Executive Summary

### i. Location

The Site is located at 1871 Merivale Road, Ottawa, ON. The Site is situated on the east side of Merivale Road, south of West Hunt Club Road, north of Jamie Avenue and west of Sunderland Street, in the City of Ottawa (Nepean), Ontario.

### ii. Use

The Site is occupied by an inactive commercial tire retailer, associated warehouse and attached office space. The site building was located on the north central portion of the Site, and surrounded by asphalt pavement. Driveway access was from the west and south.

The property is located in a mixed-use area of commercial and industrial land use. A commercial pool facility (Mermaid Pools and Spas) and electrical contractor (Westburne Ruddy Electric) were located north of the Site. A commercial automotive dealership (Star Motors of Ottawa) was located east of the Site. Merivale Road was located to the west of the Site, with commercial land use located further west. Jamie Avenue was located south of the Site, with commercial and industrial land use located further south.

### iii. History

AEL undertook a Site history using a number of sources including historical mapping, aerial photographs and other sources as available. Aerial photographs and records review indicates the property was developed in the late 1940's or early 1950's for commercial use. Aerial photos show clear evidence of the Site building in 1956. Prior to this, the Site use was likely agricultural or vacant until the late-1940's or early 1950's, when it was developed for commercial use. Surrounding lands were developed around the same time.

### iv. Field and Office Work

AEL office work consisted of a review of selected historical documents and aerial photographs, titles, and other information. An owner interview was completed online. Information requests were made with various governmental departments in compliance with O. Reg. 153/04.

### v. Opinion

Based on all the work completed to date AEL were of the opinion there was a need to investigate the Site further in the vicinity of the following locations if a Record of Site Condition (RSC) is required :

Table 7-1 Areas of Future Investigation			
Potential Areas of Concern	Pathways	Sources of Contamination	Action Required
Southern property boundary	Soil, groundwater	Potential impacts from the migration of contaminants from the neighbouring property use as a retail gas station with USTs and automotive service facility.	Soil and groundwater samples may be taken to determine if impacts are present
Northern property boundary	Soil, groundwater	Historical operation of an automobile junkyard north of the Site could have resulted in the release of contaminants, which have the potential to migrate onto the Site.	Soil and groundwater samples may be taken to determine if impacts are present

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## 1. Introduction

### 1.1 Phase I Property Information

#### 1.1.1 Site Location

The Site is located at 1871 Merivale Road, Ottawa, ON. The Site is situated on the east side of Merivale Road, south of West Hunt Club Road, north of Jamie Avenue and west of Sunderland Street, in the City of Ottawa (Nepean), Ontario.

The Site has an area of approximately 5,818 m<sup>2</sup> (0.5818 Ha), according to estimates from Geowarehouse, a property database. The Site is located in an industrial/commercial area as determined from the Site walkover and from records review.

#### 1.1.2 Legal Description

Based on a titles review, the Site legal description is Part of Lot 28, Concession A (RF), Part of Lots 69, 70, 71, 87, 88 and 89 and part of Clarke Road Plan 382 closed by NP51189, part 1 Plan 4R-12281, Nepean. A surveyor or lawyer shall be retained to obtain the exact title and encumbrances if needed. The property identification number (PIN) is 04628-0127.

#### 1.1.3 Geographic Centre

The Site is centered on approximately 443,425 m east, 5,020,318 m north and is at a surface elevation of about 88 m above sea level (ASL) according to contour maps from Land Information Ontario (LIO).

#### 1.1.4 Owner

The owner of record was:

Benson Group Inc.

#### 1.1.5 Client

The client of record was:

Benson Group Inc.

Attn: Jacques Leduc

700 Education Blvd.

Cornwall, ON K6H 6B8

### 1.2 Phase I Environmental Site Assessment Initiation

The client engaged AEL Environment (AEL) to carry out a Phase I Environmental Site Assessment (ESA) of the Site identified as 1871 Merivale Road, Ottawa, ON. The client authorized the project in May 2017.

### 1.3 Use of the Report

The report is for the use of the client and AEL only in accordance with the terms of reference, during a 2017 Site evaluation. The study was part of the client's work to complete an environmental assessment of the Site for

evaluation purposes. Additional studies may be required as a result of this report to address issues not specifically identified in the terms of reference of the report.

#### 1.4 Applicability

Further as to use, the report may omit or not consider issues which may be important to the reader or deal with issues to the extent sought by the reader. Others with an interest in the Site must undertake their own investigations and studies when considering Site conditions discussed in this report. Neither AEL nor its officers know of any conflicts of interest AEL has respecting the Site or the owner of the Site.

#### 1.5 Limitations

The report was completed for the sole use of AEL and the client in a 2017 Site evaluation stage. Others with an interest in the Site must decide on the Site conditions and conduct their own investigations to determine how or if the Site affects them.

#### 1.6 Assessor

The geo-environmental engineering consulting firm of:

AEL environment  
A division of Aeon Egmond Ltd.  
1705 Argentia Road, Unit 3  
Mississauga ON L5N 3A9  
Telephone: 416-657-2367  
Facsimile: 416-657-2367  
Attention: Charna Kozole, P. Eng.

#### 1.7 Phase I ESA Format

The Environmental Site Assessment (ESA), as prepared herein, for those portions completed for the project shall follow the requirements of O. Reg. 153/04.



## 2. Scope of Investigation

### 2.1 Terms of Reference

The proposed scope of work (SOW) for the project and assumptions used to base the timing and cost estimates on were as follows:

- Carry out a Phase I ESA to investigate the potential environmental legacy of the Site.
- Carry out Site investigations and records review from sources such as (but not necessarily including) existing reports by others (to be supplied by the client), historical maps, historical documents, title search, government and other information in consideration of various protocols, and other sources as could be developed within the investigation time frame.
- Carry out a Site walkover and interviews.
- Evaluate the information gathered from the records review, interviews and site reconnaissance.
- Prepare a Phase I ESA outlining the findings and provide comments based on the findings as well as using information available to AEL received on or before the completion date of the report.
- A qualified person shall ensure that the Phase I ESA meets the requirements of Schedule D of O. Reg. 153/04.
- The client shall be responsible for providing AEL with a current site survey showing the current building(s) and site configuration prior to RSC submission.

All matters not listed in the terms of reference or general conditions are specifically excluded from AEL's responsibilities and reporting.

### 2.2 Phase I ESA Standard

AEL followed the general procedures set out in O. Reg. 153/04 to carry out the Phase I ESA. AEL retains the sole discretion to increase or decrease the scope of the work based on the ongoing findings.

### 2.3 Historical Site Documents

AEL retained a private search firm to search various government and related agency archives to develop information related to the environmental legacy at the Site. AEL further reviewed historical mapping and aerial photographs. The results of searches of government and other records are presented in Appendix 1. The titles search is presented in Appendix 2. Responses received from government agency requests are in Appendix 3.

### 2.4 Municipal Non-Potable Water Use

AEL contacted local and upper tier governments regarding water use standards. Responses received have been placed in Appendix 3. As of the

report date the City has expressed no objections to the use of non-potable water standards at the Site. As such, the Site could be assessed to MOECC Table 3 “Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition” for commercial land use.

### 3. Records Review

#### 3.1 General

##### 3.1.1 Phase I Study Area Determination

The phase one study area included properties that were located, wholly or partly, within 250 meters from the nearest point on a boundary of the phase one property.

##### 3.1.2 First Developed Use Determination

A qualified person reviewed materials provided by the client and photos obtained from other sources (e.g. government and private agency databases, Google Earth). Aerial photographs and records review indicates the property was developed in the late 1940's or early 1950's for commercial use. Aerial photos show clear evidence of the Site building in 1956. Prior to this, the Site use was likely agricultural or vacant until the late-1940's or early 1950's, when it was developed for commercial use. Surrounding lands were developed around the same time.

##### 3.1.3 Fire Insurance Plans

Reports were available for review of the Site, and are summarized below. The full reports can be seen in Appendix 1.

Table 2-1 Summary of Fire Insurance Plans			
Date	Source	Property Description	Relevant Information
February 1987	Insurers Advisory Organization	1871 Merivale Rd., Nepean, ON	<ul style="list-style-type: none"> <li>The Site is listed as "Arra Chemical", and was used as a retail store for furniture and swimming pool chemicals.</li> <li>There is one 1,957 m<sup>2</sup> building listed on Site, built in the 1960's, with 2 stories and no basement.</li> </ul>
June 2009	Risk Management Services (RMS)	1871 Merivale Rd., Nepean, ON	<ul style="list-style-type: none"> <li>The Site is listed as operating as a tire warehouse, to store wholesale tire stock, sold to merchants and the general public.</li> <li>Office space was located at the "right rear" of the building, and a 1,044 ft<sup>2</sup> garage addition was located at the rear (east side) of the building.</li> <li>There was an additional section of the building, separately owned, which was partially vacant at the time, with the front (west side) occupied by Bemac.</li> <li>Propane was used to operate a forklift on-site, with spare tanks stored in an outdoor gated enclosure.</li> </ul>
March 2015	Risk Management	1871 Merivale	<ul style="list-style-type: none"> <li>The building was used for warehousing truck and passenger tires, with installation and balancing at the east side of the</li> </ul>

Table 2-1 Summary of Fire Insurance Plans			
Date	Source	Property Description	Relevant Information
	Services (RMS)	Rd., Nepean, Ottawa, ON	building. No mechanical work is carried out. <ul style="list-style-type: none"> <li>The 2-storey portion of the building (west side) was vacant.</li> <li>The building was renovated in 2007, with updated electrical wiring and heating and the installation of dry wall and fire doors.</li> </ul>

### 3.1.4 Chain of Title

AEL obtained an up-to-date chronological chain of title that shows the owners' name and date of ownership for the phase one property based on a search of the title that goes back to the date of the first developed use of the phase one property

Table 3-2 Chain of Title – 1871 Merivale Rd., Ottawa, Ontario			
Date of Transfer	From	To	Relevant Information
May 1802	Crown	Sally Hurd	
February 1831	Truman Hurd (executor)	Lyman Perkins	
October 1838	Lyman Perkins	John Ring	
November 1849	John Ring	Robert Taylor	
July 1868	Robert Taylor	C.P.B. CS Security	Mortgage
July 1872	C.P.B. CS Security	William Hopper	Power of Sale
April 1883	William Hopper	John Angus	
April 1903	John Angus	Christopher Draffin	
October 1911	Christopher Draffin	MacKenzie, Mann & Co. Ltd.	
July 1931	MacKenzie, Mann & Co. Ltd.	Clifford Nesbitt	
June 1948	Clifford Nesbitt	William Simpson	
July 1948	William Simpson	The Director, Veterans' Land Act	

Table 3-2 Chain of Title – 1871 Merivale Rd., Ottawa, Ontario			
Date of Transfer	From	To	Relevant Information
September 1960	The Director, Veterans' Land Act	William Simpson	
September 1960	William Simpson	Arthur Henry Drew	
May 1977	Arthur Henry Drew - Estate	Edythe Drew	
December 1986	Edythe Drew	Trollcan Holdings Inc.	
August 1996	Trollcan Holdings Inc.	Tommaso & Rosetta Manfredi (In Trust)	
November 2007	Tommaso & Rosetta Manfredi (In Trust)	Auto-Pak Ltd.	Present Owner
November 2010	Auto-Pak Ltd.	Benson Group Inc.	Name change

### 3.1.5 Environmental Reports

The following is a list and summary of reports reviewed as referred to in Ontario Regulation 153/04, Schedule D, Part II, including,

- i. environmental site assessment reports,
- ii. remediation reports,
- iii. reports prepared in response to an order or request of the Ministry, and
- iv. any other reports relating to the presence of a contaminant on, in or under the phase one property or the existence of an area of potential environmental concern.

Table 3-3 Environmental Reports Reviewed		
Area of Potential Environmental Concern (APEC), Potential Contaminant of Concern (PCOC)	Name/Title: "Property at 1871 Merivale Road, Ottawa, Ontario Phase 1 Environmental Assessment Report No. 16C072"  Author: St. Lawrence Testing and Inspection Co. Ltd., 13 May 2016.	Follow-up Actions taken by AEL
None identified during the Phase I	AEL reviewed a Phase I ESA, prepared in 2016 for this property. The following was noted:  There was one building present at the north side	Recommend completing a O. Reg. 153/04 compliant Phase

<b>Table 3-3 Environmental Reports Reviewed</b>		
	<p>of the Site, used as a tire sales and warehousing facility. The building was separated into two large warehouse areas, a shop area and office/reception area.</p> <p>An AST was present at the exterior east side of the Site, containing agrileum, a product used in tractor tires. Propane cylinders for the forklift were also located in the same area. No evidence of USTs was noted on-Site.</p> <p>Due to the age of the building, there was the potential for the presence of asbestos containing materials, although this was not confirmed; No PCBs, refrigerants, ODSs or mould were identified during the Phase I.</p> <p>Neighbouring property uses included commercial businesses north of the Site and an automotive collision shop east of the Site.</p> <p>It was concluded that there was no evidence of environmental concerns associated with the past and present activities on the Site.</p>	I ESA.

### 3.2 Environmental Source Information

AEL used a private search company, Ecolog ERIS, to review some government records and provide internet searches for others. The records reviewed included the Ontario government records for water well records, fuel tanks, spills reporting and environmental infringements. Not all databases searched are listed below, but are presented in Appendix 1.

#### 3.2.1 Certificates of Approval (CA)

The commercial search found no records for the Site.

The commercial search found fourteen (14) records for surrounding lands within 250 m of the Site. The records were reviewed and details can be found in Appendix 1. Due to the type of records, distance to the Site and inferred direction of groundwater flow, these are not considered a potential environmental liability.

#### 3.2.2 Environmental Compliance Approval (ECA)

The commercial search found no records for the Site.

The commercial search found one (1) record for surrounding lands within 250 m of the Site. The record was reviewed and details can be found in Appendix 1. Due to the type of record, distance to the Site and inferred

direction of groundwater flow, this is not considered a potential environmental liability.

### 3.2.3 Environmental Incident Reports

#### 3.2.3.1 Ontario Spills (SPL)

The commercial search found no environmental incident records for the Site.

The commercial search found nine (9) records for surrounding lands within 250 m of the Site. The records were reviewed and details can be found in Appendix 1. Due to the types of spill, the distance to the Site and/or the inferred direction of groundwater flow these are not considered a potential environmental liability.

#### 3.2.3.2 TSSA Incidents (INC)

The commercial search found no records for the Site.

The commercial search found one (1) record for surrounding lands within 250 m of the Site. The record was reviewed and details can be found in Appendix 1. Due to the type of record, distance to the Site and the inferred direction of groundwater flow this is not considered a potential environmental liability.

### 3.2.4 Environmental Registry (EBR)

The commercial search found no records for the Site.

The commercial search found eight (8) records for surrounding lands within 250 m of the Site. The records were reviewed and details can be found in Appendix 1. Due to the type of records, the distance to the Site and the inferred direction of groundwater flow these are not considered a potential environmental liability.

### 3.2.5 Waste Management Records

AEL requested Ecolog ERIS to review waste management records, including current and historical waste storage locations and waste generator and waste receiver information maintained pursuant to Regulation 347 of the Revised Regulations of Ontario, 1990 (General – Waste Management) made under the Act, or its predecessors with respect to the phase one property and any property on, under or adjacent to the phase one property.

#### 3.2.5.1 Ontario Regulation 347 Waste Generators Summary (GEN)

The commercial search found no records for the Site.

The commercial search found ninety-seven (97) records for surrounding lands within 250 m of the Site. The records were reviewed and details can be found in Appendix 1. The records were reviewed and due to the types of wastes, distance to the Site and/or the inferred direction of groundwater flow these are not considered a potential environmental liability.

### 3.2.5.2 Anderson's Waste Disposal Sites (ANDR)

The commercial search found no records for the Site.

The commercial search found two (2) records for surrounding lands within 250 m of the Site.

The property described as the east side of Merivale Rd. and north side of Jamie Ave., located north and east of the Site, has two (2) records as an auto junkyard, active between 1967 and 1980. Given the nature of the business and distance to the Site, there is the potential for environmental impacts, if a pathway to soil and groundwater is identified.

### 3.2.6 Previously Submitted Reports

AEL were made known and reviewed a previous report titled, "*Property at 1871 Merivale Road, Ottawa, Ontario Phase 1 Environmental Assessment Report No. 16C072*" prepared by St. Lawrence Testing and Inspection Co. Ltd., dated 13 May 2016.

### 3.2.7 Pesticide Register (PES)

The commercial search found no records for the Site.

The commercial search found twenty-eight (28) records for surrounding lands within 250 m of the Site. The records were reviewed and details can be found in Appendix 1. The records were reviewed and due to the types of records, distance to the Site and the inferred direction of groundwater flow these are not considered a potential environmental liability.

### 3.2.8 Record of Site Condition (RSC)

The commercial search found no records for the Site.

The commercial search found one (1) record for surrounding lands within 250 m of the Site. The record was reviewed and details can be found in Appendix 1.

### 3.2.9 Fuel Storage Tank Information

#### 3.2.9.1 Fuel Storage Tanks on the Phase I Study Property

The commercial search found no fuel storage tank records for the Site. It should be noted that the Fuels Safety Division did not register private fuel underground or aboveground tanks prior to January 1990 or furnace oil tanks prior to May 1, 2002. The Fuels Safety Division did not register waste oil tanks in apartments, office buildings, residences, etc. or above ground gas or diesel tanks.

#### 3.2.9.2 Fuel Storage Tanks on Adjacent Properties

The commercial search found three (3) records for surrounding lands within 250 m of the Site. The records were reviewed and details can be found in Appendix 1. The records were reviewed and due to the distance to the Site and the inferred direction of groundwater flow these are not considered a potential environmental liability.



### 3.2.9.3 Fuel Storage Tanks – Historic (FSTH)

The commercial search found no records for the Site.

The commercial search found two (2) records for surrounding lands within 250 m of the Site. The records were reviewed and details can be found in Appendix 1. The records were reviewed and due to the distance to the Site and the inferred direction of groundwater flow these are not considered a potential environmental liability.

### 3.2.9.4 Retail Fuel Storage Tanks (RST)

The commercial search found no records for the Site.

The commercial search found six (6) records for surrounding lands within 250 m of the Site. The records were reviewed and details can be found in Appendix 1. The records were reviewed and due to the types of records, distance to the Site and/or the inferred direction of groundwater flow these are not considered a potential environmental liability.

### 3.2.10 Private Fuel Storage Tanks (PRT)

The commercial search found no records for the Site.

The commercial search found seven (7) records for surrounding lands within 250 m of the Site.

1875 Merivale Rd., located southwest of the Site, has one (1) record for a 2000-liter retail fuel storage tank, which expired in October 1994. Given the nature of this business and inferred direction of groundwater flow, there is the potential for environmental impacts, if a pathway to soil and groundwater is identified.

The remaining records were reviewed and details can be found in Appendix 1. The records were reviewed and due to the distance to the Site and the inferred direction of groundwater flow these are not considered a potential environmental liability.

#### 3.2.10.1 List of TSSA Expired Facilities

The commercial search found no records for the Site.

The commercial search found twenty-five (25) records for surrounding lands within 250 m of the Site.

1875 Merivale Rd., located southwest of the Site, has twelve (12) records for a fuel service facility, liquid fuel tank, propane cylinder refill center, and full serve gasoline station, all of which expired in 1989. Given the nature of this business and inferred direction of groundwater flow, there is the potential for environmental impacts, if a pathway to soil and groundwater is identified.

The remaining records were reviewed and details can be found in Appendix 1. The records were reviewed and due to the distance to the Site and the inferred direction of groundwater flow these are not considered a potential environmental liability.

3.2.11 Scott's Manufacturing Directory (SCT)

The commercial search found no records for the Site.

The commercial search found six (6) records for surrounding lands within 250 m of the Site.

1867 Merivale Rd., located north of the Site, has one (1) record as hosting electrical wiring and construction supplies wholesaler – distributors; and electronic components, navigational and communications equipment and supplies wholesaler – distributors. Given the nature of this business this is not considered a potential environmental liability.

The remaining records were reviewed and details can be found in Appendix 1. Due to the type of records, distance to the Site and the inferred direction of groundwater flow these are not considered a potential environmental liability.

3.2.12 Notices and Instruments/Ontario Brownfields Registry

AEL reviewed the applicable document sites kept by the government. The Site was not listed during AEL's search.

3.2.13 Areas of Natural Significance

AEL reviewed maps by the Ministry of Natural Resources and Forestry (MNRF) and the City of Ottawa and determined the Site is situated away from the boundaries of any areas of natural significance.

3.2.14 Landfill Information

The commercial search found no waste disposal records for the Site or surrounding lands within 250 m of the Site.

3.2.15 Building and Engineering Planning Records

No building or engineering planning records were available for review.

### 3.3 Physical Setting Sources

3.3.1 Aerial Photographs

AEL considered selected aerial photographs for the Site. The photographs were collected from the National Air Photo Library (NAPL) and from Google Earth (Table 3-4).

The time period between aerial photographs used was based on estimated time of first development of site starting from about 10 years prior and then progressing in approximately 10 year increments. Selected air photos are included as Figures 1a - j.

Table 3-4 Aerial Photographs			
Year	Photo Source	Site Features Observed	Neighbouring Property Observation
1925	NAPL HA72_011	Site use appears to be agricultural or vacant.	General area appears to be agricultural or vacant.  Merivale Road (west of site) is visible in current configuration.  A driveway and building, potentially residential, are visible to north of Site.
1936	NAPL A5403_015	No significant changes from 1925 aerial photo.	No significant changes from 1925 aerial photo.
1945	NAPL A9555_029	No significant changes from 1936 aerial photo.	No significant changes from 1936 aerial photo.
1956	NAPL A15332_144	One large building clearly visible on site at north side, approximately central; a smaller building is visible at the southwest corner of the Site. Remainder of Site appears to be cleared, and potentially paved.	A driveway and several small buildings are clearly visible to the north of the Site. A potential storage facility is visible further north.  General area to the north and west appears to be industrial, with several ASTs clearly visible.
1965	NAPL A18741_119	Several structures, possibly used for storage, are visible to the east of the large Site building.	General to the northwest of the Site, on the west side of Merivale Rd., appears to be a mix of agricultural and industrial lands.  A building is visible on the neighbouring property to the northeast.
1973	NAPL A23209_176	Structures, possibly used for storage, are no longer visible.	An addition and second building have been erected on the neighbouring property to the northeast.  Jamie Ave. is visible to south of Site. Area to south of Site has been developed.  General area appears to be industrial and commercial.
1984	NAPL A26479_051	No significant changes from 1973 aerial photo.	Building is visible to north of Site.

Table 3-4 Aerial Photographs			
Year	Photo Source	Site Features Observed	Neighbouring Property Observation
1995	NAPL A28184_128	No significant changes from 1984 aerial photo.	ASTs, which were formally visible to the north and west of the Site, are no longer present.  Buildings are visible to west of Merivale Rd. (west of Site).
2004	NAPL A28523_079	Additions are visible on the large site building, at the east and west sides.	Area north and northwest of Site has been developed for commercial use.
2016	Google Earth	Small building formally on southwest corner of Site no longer present.	No significant changes from 2004 aerial photo.

### 3.3.2 Topography, Hydrology, Geology

#### 3.3.2.1 Topography

According to Land Information Ontario (LIO), the Site sits at an elevation of approximately 88 m above sea level (asl). The closest visible body of water is Nepean Creek, located approximately 500 m west of the Site (see Figure 2). The local site topography is relatively flat with a slight slope to the northwest and southeast.

#### 3.3.2.2 Physiography

The regional physiography is dominated by Ottawa Valley clay plains. Lying in the Ottawa Valley between Pembroke and Hawkesbury, it consists of plains interrupted by ridges of rock or sand, as seen in Figure 3.

AEL did not undertake a geotechnical investigation of the Site. Upon review of the Ministry of Northern Development and Mine’s “Surficial Geology” layer from OGSEarth, the Site is in an area of coarse textured glaciomarine deposits, characterized by sand and gravel with minor silt and clay. These materials generally do not resist the infiltration of fluids, with lower surface runoff potential and good drainage (see Figure 4a).

#### 3.3.2.3 Geology

The bedrock (according to the OGS maps) consists of the Beekmantown Group (dolostone, sandstone) of the Phanerozoic, Paleozoic, Ordovician, Lower Ordovician (see Figure 4b). The depth to bedrock is anticipated to be approximately 15 – 17 meters.

### 3.3.3 Fill Materials

During the Site walkover, no indications of buried fill materials were observed.

### 3.3.4 Water Bodies and Areas of Natural Significance

The closest visible body of water is Nepean Creek, located approximately 500 m west of the Site. The Rideau River is located approximately 1.8 km east and northeast of the Site. The Ottawa River is located approximately 6.5 km north and northwest of the Site. Based on topography, the inferred groundwater flow direction is to the northwest, towards the Ottawa River.

There are no parks, reserves or other areas of natural significance within the vicinity of the Site (within 250 m).

The Site can be considered a Table 3 – Non-Potable Ground Water Standards, with coarse materials, for assessment purposes.

### 3.3.5 Well Records

The commercial search found no well records for the Site.

The commercial search found eighteen (18) well records for surrounding lands within 250 m of the Site (details in Appendix 1). Twelve of these wells was listed as industrial, commercial, public or domestic water supply wells, but due to the dates of installation (from 1959 to 1977), the level of development in the area, and the municipal source of water for the Site area, it is unlikely these wells are still used. The remainder of the well records indicated final use as observation.

## 3.4 Site Operating Records

The phase one property is not an enhanced investigation property that was not historically used, in whole or in part, for one of the uses described in clause 32 (1) (b) of the regulation, and as currently non-operational site operating records were not available for review.

## 3.5 Government Records

Contacts with various government agencies were made (Appendix 3) with responses listed below.

### 3.5.1 Ministry of Environment and Climate Change (MOECC)

AEL filed a Freedom of Information request with the MOECC regarding the Site. AEL was informed by the MOECC that they do not hold any records pertaining to the property.

### 3.5.2 Ministry of Labour (MOL)

AEL filed a Freedom of Information request with the MOL regarding the Site. AEL was informed by the MOL that they do hold records pertaining to the property, and these records were reviewed by AEL. The records

indicated that liquid chlorine was used on the Site by Arra Chemicals (a retail swimming pool equipment supplier), until at least 1989.

3.5.3 Environment Canada (EC)

AEL filed a Freedom of Information request with EC regarding the Site. AEL was informed by EC that they do not hold any records pertaining to the property.

3.5.4 City of Ottawa

AEL filed a Freedom of Information request with the City regarding the Site. AEL was informed by the City that they do not hold any records pertaining to the property.

3.5.5 The Technical Standards and Safety Authority (T.S.S.A)

AEL filed an information request with the TSSA inquiring on the presence of USTs or ASTs. The TSSA indicated they held no records pertaining to the presence of fuel storage tanks on the Site.

3.5.6 Coal Tar Wastes/Manufactured Gas Plants

AEL reviewed the applicable documents kept by the government. The Site and adjacent properties were not listed.

3.5.7 Waste Disposal Site Inventory

AEL reviewed the applicable documents kept by the government. The Site and adjacent properties were not listed.

## 4. Interviews

### 4.1 Jacques Leduc, Legal Counsel, Benson Group Inc.

#### 4.1.1 Interview Background

AEL interviewed Mr. Jacques Leduc. Mr. Leduc's responses were recorded on May 24<sup>th</sup>, 2017 using AEL's custom property survey form. See Appendix 4 for complete interview survey. Mr. Leduc is deemed to be a credible source due to his involvement with the property.

#### 4.1.2 Interview Summary

The following information was provided:

- The property was developed for its current use (automotive repair and supply) in 2006.
- There is one building on site, heated by natural gas.
- PCBs have never been on-site.
- No chemicals are stored on site.
- No known spills have occurred on the site.
- The property immediately adjacent to the Site operates as a garage.
- No ASTs or USTs are on the property.
- It is unknown if any asbestos containing materials or lead paint have been used or found at the Site.
- Potable water is provided by the city, and the site is serviced by municipal sewers.
- It is unknown if a septic bed has ever been on-Site.
- No known fill has been placed at the property.

### 4.2 Mark Selfridge, General Manager, Benson Auto Parts

#### 4.2.1 Interview Background

AEL interviewed Mr. Mark Selfridge. Mr. Selfridge's responses were recorded on June 9<sup>th</sup>, 2017. Mr. Selfridge is deemed to be a credible source due to his involvement with the property.

#### 4.2.2 Interview Summary

The following information was provided:

- The Site was closed in May 2016, with inventory moved to other Sites.
- To his knowledge, no environmental concerns have been raised for the Site.



## 5. Site Reconnaissance

### 5.1 General Requirements

#### 5.1.1 Introduction

Steve Rowland, of St. Lawrence Testing & Inspection Co. Ltd. (SLT), under the supervision of Charna Kozole, QP, attended the area and Site from 12:30 pm to 1:30 pm on June 9<sup>th</sup>, 2017 during a partly cloudy day at a temperature of about 24° Celsius. All portions of the Site were accessible and no snow was present on site surfaces. See Appendix 5 for the photographic layout of the Site. Site access was from the southwest.

#### 5.1.2 Walkover Findings

The Site was non-operational at the time of the Site walk over, consisting of a 1,417 m<sup>2</sup> warehouse/office building. One (1) shipping container was present at the northeast corner of the Site, for additional storage.

Access to the Site was from the west and south. The Site building was located on the north side of the Site, centrally, and surrounded by asphalt. The eastern portion of the site is fenced, accessible from a gated entrance in the parking lot or through a bay door located at the east side of the building. Overgrown grasses and shrubs were present along the north and south sides of the Site. All vegetation appeared in good health, and no stressed vegetation was noted.

The site has access to municipal water and sewer, hydro, natural gas and cable. No evidence of fill or vent pipes were at the property, indicating the possible presence of underground storage tanks (USTs).

The phase one property was not used for one of the uses described in Schedule D Table 2 of the regulation (O. Reg. 153/04).

#### 5.1.3 Name and Qualifications of Site Investigator

Steve Rowland, of St. Lawrence Testing & Inspection Co. Ltd. (SLT), conducted the Site walkover under the supervision of Charna Kozole, P. Eng., a qualified person as defined in O. Reg. 153/04.

#### 5.1.4 Photographic Record

Below is a table outlining the details of the photographs taken during the site walkover. The orientation by compass of the photographs and orientation with respect to other photographs can be seen in the Site Photographic Plan (Appendix 5). Copies of the photographs can be found in the photo record appended to this report.

Table 5-1 Photographic Record	
Photo Number	Description
1	Facing northeast, view of Site from southwest corner



<b>Table 5-1 Photographic Record</b>	
<b>Photo Number</b>	<b>Description</b>
2	Facing west, reception area at southeast corner of Site building
3	Facing southwest, office area at southeast corner of Site building
4	Facing east, storage area located at west side of building
5	Facing west, western warehouse area
6	Facing west, central warehouse area
7	Facing west, eastern warehouse area
8	Facing east, view of warehousing areas from eastern warehouse area
9	Facing north, electrical room in western warehouse area
10	Facing northwest, shop area at east side of Site building
11	Facing northeast, shop area at east side of Site building
12	Facing north, air compressor located in the shop area at east side of Site building
13	Facing northeast, ceiling mounted heating unit located in the shop area at east side of Site building
14	Facing west, second floor at west side of Site building
15	Facing west, view of Site from east side of Site
16	Facing east, fenced exterior storage area at east side of Site
17	Facing north, air conditioning unit at northwest corner of fenced storage area at east side of Site
18	Facing northwest, south side of Site building
19	Facing east, north side of Site
20	Facing northeast, neighbouring properties to north of Site
21	Facing south, Jamie Ave. and property on south side of Jamie Ave., south of the Site

## 5.2 Specific Observations at Phase One Property

### 5.2.1 Buildings and Structures

The site is occupied by a one and a half storey building, with office space at the west end and the remaining space formerly used for warehousing. A small shop area is present at the east side of the building. One (1) shipping container was present at the northeast corner of the Site, for additional storage. As can be seen from NAPL aerial photographs, the main building was erected between 1945 and 1956. The client's representative reported that the Site had remained vacant for approximately one year.

### 5.2.2 Below Ground Structures

The Site does not have a basement or current USTs. No other underground structures were noted during the Phase I walk over.

### 5.2.3 Interior Storage Tanks

The following tables contain details of all tanks (above and below ground) interior to the building at the phase one property, including the material and method of construction of the tank, tank age, tank contents and tank volume, whether in use or not.

Table 5-1 Interior USTs or ASTs				
Contents	Tank Location	Size	Age	Materials of construction and condition
No interior USTs or ASTs were present on-Site				

### 5.2.4 Water Sources

#### 5.2.4.1 Potable Water Sources

The Site is currently serviced by city water. The Site water connection likely enters the Site at the west side of the property.

#### 5.2.4.2 Non-potable Water Sources

No monitoring wells were noted during the Site walk over. There are no water bodies located on-Site.

### 5.2.5 Underground Utilities

AEL will order public and private locates if Phase II work is to be completed on Site lands. The site is supplied by underground municipal water and sewer, natural gas and cable.

### 5.2.6 Building Features

#### 5.2.6.1 Exit and Entry Points

Entrance to the Site can be gained from the west, from Merivale Road, or south, from Jamie Avenue. The main entrance to the building is located on

the west side of the building. Six (6) side doors are located on the south side of the building, and one (1) service bay door is located on the east side of the building.

#### 5.2.6.2 Heating/Cooling System

The Site building is heated by natural gas, and is equipped with overhead electric ambient heaters in the warehouse and office. The building is cooled by two exterior air conditioning units.

#### 5.2.6.3 Drains, Pits and Sumps

Floor drains are located within the washrooms and kitchen in the office area, and within the warehouse at the east side of the Site.

#### 5.2.6.4 Floor Staining

No major staining was noted during the Site walkover. Slight staining was noted on the concrete floor around the base of an air compressor, located in the shop area at the east side of the building, however, due to the minimal amount of staining and the floor condition in the area, this is not an environmental impact concern requiring further investigation.

#### 5.2.6.5 Floor Cracking

The floor of the building was noted to be in good condition, with no chips or cracks.

#### 5.2.6.6 Unidentified Substances

No unidentified substances were noted on the property.

#### 5.2.6.7 Light Fixtures

Light fixtures appeared in good condition.

#### 5.2.6.8 Chemical Storage

Two (2) 10-kilogram plastic jugs of tire bead gel (mineral oil based), one (1) 20-liter pail of motor oil and a small bottle of cleaner were located within the shop area at the eastern portion of the building.

### 5.2.7 Exterior Property

#### 5.2.7.1 Wells

There are no records of wells present on-site. No wells were observed during the Site walk over.

#### 5.2.7.2 Sewage Works

The Site is serviced by municipal sewers. The Site sanitary sewer connection likely enters the Site at the west side of the property. Catch basins were noted on the south and east sides of the property.

#### 5.2.7.3 Ground Cover

The Site lands adjacent to the building were covered by asphalt. Overgrown grasses and shrubs were present along the north and south sides of the Site.

All vegetation appeared in good health and no stressed vegetation was noted.

#### 5.2.7.4 Railway Lines

Based on Google Earth estimates, the closest railway line is approximately 650 m north of the Site. Considering the distance to the Site, no impacts are anticipated.

#### 5.2.7.5 Exterior Storage Tanks

One (1) 250-gallon tote, empty at the time of the Site walk over, was present at the east side of the site, and appeared in good condition. Five (5) propane cylinders were stored in a locked cage at the northeast corner of the Site.

Table 5-4 Exterior USTs and ASTs				
Contents	Tank Location	Size	Age	Materials of construction and condition
No exterior USTs or ASTs were present on-Site				

#### 5.2.7.6 Staining

No staining was noted during the Site walkover.

#### 5.2.7.7 Vegetation

Overgrown grasses and shrubs were present along the north and south sides of the Site. All vegetation appeared in good health and no stressed vegetation was noted.

#### 5.2.7.8 Fill / Debris

No fill material was observed on Site.

Garbage bins, used tires and wood pallets were stored at the exterior east side of the Site.

#### 5.2.7.9 Unidentified Substances

No unidentified substances were found at the properties exterior.

#### 5.2.7.10 Environmentally Sensitive Areas

The Site is not deemed a sensitive area and is not within 250 m of a sensitive area.

#### 5.2.7.11 Bodies of Water

The closest visible body of water is Nepean Creek, located approximately 500 m west of the Site. The Rideau River is located approximately 1.8 km east and northeast of the Site. The Ottawa River is located approximately 6.5 km north and northwest of the Site. Based on topography, the inferred groundwater flow direction is to the northwest, towards the Ottawa River.

## 5.2.8 Hazardous Materials

### 5.2.8.1 Asbestos Containing Materials (ACMs)

Asbestos was a common component in building materials until the 1970's due to its fire-retardant properties. The health risks associated with asbestos occur when asbestos fibres are released from ACMs into the air. This may be the case during maintenance or demolition activities, or where an ACM has deteriorated to the point it has become friable. If an ACM is in good condition, it generally does not pose a health risk.

Building materials commonly containing asbestos include ceiling and flooring tiles, pipe, boiler, electrical wiring and blown-in insulation, electrical panel partitions, joint compounds, cement siding and wallboard, and caulking and putties.

An asbestos survey was not completed as part of the Phase I ESA. However, given the age of the building on Site, ACMs may be present. It is recommended that a hazardous materials survey be conducted to determine the presence of any ACMs prior to renovation work.

### 5.2.8.2 Lead

Lead was a common paint additive until the 1980's, as it produced a high quality, durable protective coating. Paints made prior to 1950 contain large amounts of lead; after 1950, lead was more common in exterior paint.

Given the age of the building, lead-containing paints may have been used at some point. A lead paint survey was not completed as part of the Phase I ESA. It is recommended that a hazardous materials survey be conducted to determine the presence of lead prior to renovation work.

### 5.2.8.3 Polychlorinated Biphenyls (PCBs)

PCBs were common up to the early 1980's as a dielectric fluid in transformers, capacitors and light ballasts. PCBs are an environmental concern as they persist in the environment and can accumulate in the food chain. The use of PCBs in light ballasts was ceased in the early 1980's. Federal PCB regulations have designated a 2009 deadline for end-of-use and end-of-storage for high level PCBs for products and equipment containing PCBs. Products and equipment with low level PCBs are to be eliminated by 2025.

Fluorescent light fixtures were noted throughout the building, and the age of the light ballasts could not be confirmed, so that the presence of PCB containing equipment on-site is unconfirmed. It is recommended that a hazardous materials survey be conducted to determine the presence of PCBs prior to renovation work.

### 5.2.8.4 Ozone-Depleting Substances (ODSs)

ODSs are any substances containing chlorofluorocarbon (CFC), carbon tetrachloride, methyl chloroform, or any other chemicals capable of depleting the stratospheric ozone layer. ODSs are commonly used in refrigeration, air conditioning, foam and industrial solvent applications. In Ontario, O. Reg.

463/10 outlines the mandatory recovery and reclamation of ODSs during maintenance of ODS containing equipment. ODSs are not of concern if handled with care during repair, removal or disposal activities.

Equipment potentially containing ODSs included the refrigerator in the lunch area and a drink vending machine within the warehouse, which may contain small amounts of Freon. Storage of ODSs was not observed during the Site walk over.

#### 5.2.8.5 Urea Foam Formaldehyde Insulation (UFFI)

UFFI was used in the 1970's as building blown-in insulation, but was banned in 1980. This material was mainly used in residential buildings as cavity filler, where the use of conventional insulation was impractical. UFFI is not a high concern in buildings with high ventilation rates.

Evidence of UFFI was not observed during the Site walk over. As UFFI was mainly used in residential buildings, it is unlikely to be present in the site buildings.

#### 5.2.8.6 Other

During the Site walk over no obvious signs of any other hazardous or designated substances were observed.

### 5.3 Surrounding Lands

All properties directly adjacent to the Site and immediately surrounding lands were commercial and industrial in nature.

#### 5.3.1.1 North

1867 Merivale Rd., on the north side of the Site boundary, was occupied by a multi-tenant commercial facility, including a pool equipment and supply company (Mermaid Swimming Pools Ltd.) and an electrical equipment supplier (Westburne Ruddy Electric). The property was occupied at the time of the Site investigation.

#### 5.3.1.2 South

Jamie Ave. formed the south side of the property boundary. Commercial and industrial properties were located on the south side of Jamie Ave.

#### 5.3.1.3 East

40 Jamie Ave., on the east side of the Site boundary, was occupied by an auto repair and collision facility (Star Motors Collision Centre). The property was occupied at the time of the Site investigation.

#### 5.3.1.4 West

Merivale Rd. formed the west boundary of the Site. Commercial properties were located on the west side of Merivale Rd.

### 5.3.2 Written Description of Investigation

AEL undertook a Site history using a number of sources including historical mapping, aerial photographs and other sources as available. Aerial photographs and records review indicates the property was developed in the late 1940's or early 1950's for commercial use. Aerial photos show clear evidence of the Site building in 1956. Prior to this, the Site use was likely agricultural or vacant until the late-1940's or early 1950's, when it was developed for commercial use. Surrounding lands were developed around the same time.

Steve Rowland, of St. Lawrence Testing & Inspection Co. Ltd. (SLT), under the supervision of Charna Kozole, QP, attended the area and Site from 12:30 pm to 1:30 pm on June 9<sup>th</sup>, 2017 during a partly cloudy day at a temperature of about 24° Celsius. All portions of the Site were accessible and no snow was present on site surfaces. The Site was vacant at the time of the walkover.

The Site was non-operational at the time of the Site walk over, consisting of a 1,417 m<sup>2</sup> warehouse/office building, formerly used for the storage and sale of vehicle tires. One (1) shipping container was present at the northeast corner of the Site, for additional storage.

Access to the Site was from the west and south. The Site building was located on the north side of the Site, centrally, and surrounded by asphalt. The eastern portion of the site is fenced, accessible from a gated entrance in the parking lot or through a bay door located at the east side of the building. Overgrown grasses and shrubs were present along the north and south sides of the Site. All vegetation appeared in good health, and no stressed vegetation was noted.

Neighbours of the Site have historically operated as agricultural and commercial lands.



## 6. Review and Evaluation of Information

### 6.1 Current and Past Uses

At the time of reporting, the land use type at the Site was commercial. The Site was occupied by an inactive commercial warehouse with attached office space. Aerial photographs and records review indicates the property was developed in the late 1940's or early 1950's for commercial use. Aerial photos show clear evidence of the Site building in 1956. Prior to this, the Site use was likely agricultural or vacant until the late-1940's or early 1950's, when it was developed for commercial use. Surrounding lands were developed around the same time.

Table 6-1 Land Uses of Phase I Property		
Land Use	Commencement of Use	Retirement of Use
Agricultural/Vacant	Unknown	Late 1940's or early 1950's
Commercial	Late 1940's or early 1950's	Present

### 6.2 Neighbouring Properties

Based on the search results provided by EcologERIS, interviews, and personal observations made during the Site walkover, the Site has been in a mixed-use area of industrial/commercial activities since the late 1940's to early 1950's.

Table 6-2 City Directory Search Results			
Date	Address	Occupant /Activity	Possible Consequences / Area of Concern
1960, 1965	1871 Merivale Rd. – Site	Address Not Listed	
	1865 Merivale Rd.	Address Not Listed	
	1867 Merivale Rd.	Address Not Listed	
	1872 Merivale Rd.	Address Not Listed	
	1875 Merivale Rd.	Address Not Listed	
	20 Jamie Ave.	Address Not Listed	
	22 Jamie Ave.	Address Not Listed	



Table 6-2 City Directory Search Results			
Date	Address	Occupant /Activity	Possible Consequences / Area of Concern
	30 Jamie Ave.	Address Not Listed	
	35 Jamie Ave.	Address Not Listed	
	30 Sunderland St.	Address Not Listed	
	460 West Hunt Club Rd.	Address Not Listed	
1969, 1974, 1979	1871 Merivale Rd. – Site	Drew Art Services City View Bus Lines Ltd.	First potential use of Site
	1865 Merivale Rd.	Coates Auto Parts Ltd.	
	1867 Merivale Rd.	Residential	
	1872 Merivale Rd.	Don's Place/Multi-Tenant Commercial	Uses include fuel supplier and auto and truck leasing.
	1875 Merivale Rd.	Address Not Listed	
	20 Jamie Ave.	Address Not Listed	
	22 Jamie Ave.	Address Not Listed/E&W Wills Cartage Ltd.	
	30 Jamie Ave.	Address Not Listed/IC Suatac Construction Ltd./Elliot Trailer Sale – Service Depot	
	35 Jamie Ave.	Address Not Listed	
1984	30 Sunderland St.	Address Not Listed	
	460 West Hunt Club Rd.	Address Not Listed	
	1871 Merivale Rd. – Site	Drew Art Services Ltd.	
	1865 Merivale Rd.	Vacant	
	1867 Merivale Rd.	Ottawa Door Consultants Ltd.  A&C Lot & Lawn Maintenance Ltd.	

Table 6-2 City Directory Search Results			
Date	Address	Occupant /Activity	Possible Consequences / Area of Concern
	1872 Merivale Rd.	Address Not Listed	
	1875 Merivale Rd.	Address Not Listed	
	20 Jamie Ave.	Address Not Listed	
	22 Jamie Ave.	Mowat Deliver Service	
	30 Jamie Ave.	Nepean Building Supply Blundon's Insulation Ltd. Bruce Fuels Ltd.	
	35 Jamie Ave.	Address Not Listed	
	30 Sunderland St.	Address Not Listed	
	460 West Hunt Club Rd.	Address Not Listed	
1990	1871 Merivale Rd. – Site	Arra Inc. Pool Chemicals and Accessories	
	1865 Merivale Rd.	Vacant	
	1867 Merivale Rd.	Capital City Cycle Ltd.	
	1872 Merivale Rd.	Larry Wilkinson Building Materials	
	1875 Merivale Rd.	Bruno's Performance	
	20 Jamie Ave.	Address Not Listed	
	22 Jamie Ave.	Mowat Express	
	30 Jamie Ave.	Nepean Building Supply Blundon's Insulation Ltd. Classic Drywall	
	35 Jamie Ave.	Truck Depot	
	30 Sunderland St.	Myers Chev-Olds-Cadillac Inc.	

Table 6-2 City Directory Search Results			
Date	Address	Occupant /Activity	Possible Consequences / Area of Concern
	460 West Hunt Club Rd.	Address Not Listed	
1995/1996	1871 Merivale Rd. – Site	Arra Lochness Contracting Inc.	
	1865 Merivale Rd.	Address Not Listed	
	1867 Merivale Rd.	Multi-Tenant Commercial	
	1872 Merivale Rd.	Beaver Lumber	
	1875 Merivale Rd.	Bruno's Performance Auto Menders	
	20 Jamie Ave.	Address Not Listed	
	22 Jamie Ave.	Matheson Gas Productions Canada	
	30 Jamie Ave.	Multi-Tenant Commercial	
	35 Jamie Ave.	Multi-Tenant Commercial	
	30 Sunderland St.	Myers Body and Paint Centre	
	460 West Hunt Club Rd.	Address Not Listed	
2000/2001	1871 Merivale Rd. – Site	Trevi Pools Inc. Decoro Ltd.	
	1865 Merivale Rd.	Address Not Listed	
	1867 Merivale Rd.	Multi-Tenant Commercial	
	1872 Merivale Rd.	Mobilia Ottawa Ltd.	
	1875 Merivale Rd.	Bruno's Performance Bytown Auto Menders	
	20 Jamie Ave.	Address Not Listed	
	22 Jamie Ave.	Multi-Tenant Commercial	

Table 6-2 City Directory Search Results			
Date	Address	Occupant /Activity	Possible Consequences / Area of Concern
	30 Jamie Ave.	Multi-Tenant Commercial	
	35 Jamie Ave.	Multi-Tenant Commercial	
	30 Sunderland St.	Address Not Listed	
	460 West Hunt Club Rd.	Address Not Listed	
2005/2006	1871 Merivale Rd. – Site	Cybercan Corp. Cedora Design Club Pro Pools Patios Spas	
	1865 Merivale Rd.	Address Not Listed	
	1867 Merivale Rd.	Multi-Tenant Commercial	
	1872 Merivale Rd.	Multi-Tenant Commercial	
	1875 Merivale Rd.	Bruno's Performance Bytown Auto Menders	Potential for impacts to migrate from groundwater off site
	20 Jamie Ave.	Verney Conference Management Inc. Crolla Construction Corp.	
	22 Jamie Ave.	Multi-Tenant Commercial	
	30 Jamie Ave.	Multi-Tenant Commercial	
	35 Jamie Ave.	Address Not Listed	
	30 Sunderland St.	Myers Carstar Collision Myers Mews Body and Paint Centre	
	460 West Hunt Club Rd.	Address Not Listed	
2011	1871 Merivale Rd. – Site	Benson Tire	
	1865 Merivale Rd.	Address Not Listed	
	1867 Merivale Rd.	Multi-Tenant Commercial	

Table 6-2 City Directory Search Results			
Date	Address	Occupant /Activity	Possible Consequences / Area of Concern
	1872 Merivale Rd.	Bleeker Audio Video Appliances	
	1875 Merivale Rd.	Address Not Listed	
	20 Jamie Ave.	Crolla Construction Corp.	
	22 Jamie Ave.	Multi-Tenant Commercial	
	30 Jamie Ave.	Multi-Tenant Commercial	
	35 Jamie Ave.	Address Not Listed	
	30 Sunderland St.	Address Not Listed	
	460 West Hunt Club Rd.	Address Not Listed	

### 6.3 Potentially Contaminating Activity (PCA)

Review of available information and the Site walkover revealed the following potentially contaminating activities within the Phase I ESA study area:

- Neighbouring commercial activities – Operation of the property southwest of the Site (south of Jamie Avenue) as a retail gas station and automotive service facility could have potentially resulted in the release of PHCs, PAHs, VOCs and/or metals.
- Neighbouring commercial activities – Historical operation of the property north of the Site as an automobile junkyard could have potentially resulted in the release of PHCs, PAHs, VOCs and/or metals.

### 6.4 Areas of Potential Environmental Concern (APEC)

#### 6.4.1 Logic Used by Qualified Person in Determining APECs

APECs were identified by noting all activities of potential concern within the Phase I study area and then assessing the likelihood that the activities could have an environmentally deleterious effect on the Site based on the following criteria:

1. Scale of the activity
2. Nature of the chemicals involved in the activity
3. Proximity of the activity to the boundary of the Site
4. Potential pathways to the Site

#### 6.4.2 APECs Present at Site

Two (2) APECs were identified for the subject Site. Table 6-3 summarizes the areas of potential concern where noted during the Phase I ESA investigation. Further discussion can be found below.

Table 6-3 Areas of Potential Environmental Concern				
Area of Concern	Potentially Contaminating Activity	Potential Contaminant	Source	Discussion
South Property Boundary	28. Gasoline and Associated Products Storage in Fixed Tanks	PHCs, VOCs, BTEX, PAHs, metals and inorganics	Migration of contaminants to Site from leaks and/or spills from neighbouring property to the southwest	Operation of a retail gas station and automotive service facility southwest of the Site could have resulted in the release of contaminants, which have the potential to migrate onto the Site.
North Property Boundary	49. Salvage Yard, including automobile wrecking	PHCs, VOCs, BTEX, PAHs, metals and inorganics	Migration of contaminants to Site from leaks and/or spills from neighbouring property to north	Historical operation of an automobile junkyard north of the Site could have resulted in the release of contaminants, which have the potential to migrate onto the Site.

Minor gaps in data exist which raise minor uncertainties that all APECs were identified during the Phase I ESA. Historical searches, particularly the aerial photograph review and city directories search, were not complete, therefore potentially contaminating activities that occurred during this period remain unknown to the Qualified Person.

AEL has ample experience in assessing similar facilities and used previous experience to deduce areas and contaminants of potential concern.

## 7. Phase One Conceptual Site Model (CSM)

### 7.1 Areas of Potential Concern (APC)

APCs at the Site include the north and south property boundaries.

### 7.2 Contaminants of Potential Concern (COPC)

Five (5) main potential contaminants of concern (PCOC) were identified at the Site:

- PHCs at the south and north property boundaries;
- VOCs at the south and north property boundaries;
- BTEX at the south and north property boundaries;
- Metals and Inorganics at the south and north property boundaries;
- PAHs at the south and north property boundaries.

### 7.3 Effects of Underground Utilities

Meters on site indicate that there are underground gas, water and sewer utilities at the Site. The presumed effects of the presence of the utilities are discussed below.

#### 7.3.1 Phone Lines

No effect on the Site is anticipated.

#### 7.3.2 Gas Line

Gas service enters the site building from the north side, and likely enters the site from the west. As the utility connection is very small in diameter it is not expected to have an effect on the transport of potential contaminants in the subsurface.

#### 7.3.3 Hydro Line

Hydro is provided by overhead lines, and it is not expected to have an effect on the transport of potential contaminants in the subsurface.

#### 7.3.4 Water and Sewer

Water and sewer services are anticipated to enter the site from the west, and catch basins for storm water are located along the southern side of the Site. A preferential pathway for the transport of groundwater and potential contaminants of concern on to the Site may exist from the west and south sides of the Site, in line with the water and sewer connections.

## 7.4 Geological and Hydrogeological Conditions

### 7.4.1 Topography

According to Land Information Ontario (LIO), the Site sits at an elevation of approximately 88 m above sea level (asl). The closest visible body of water is Nepean Creek, located approximately 500 m west of the Site (see Figure 2).



The local site topography is relatively flat with a slight slope to the northwest and southeast.

#### 7.4.1 Physiography

The regional physiography is dominated by Ottawa Valley clay plains. Lying in the Ottawa Valley between Pembroke and Hawkesbury, it consists of plains interrupted by ridges of rock or sand, as seen in Figure 3.

AEL did not undertake a geotechnical investigation of the Site. Upon review of the Ministry of Northern Development and Mine's "Surficial Geology" layer from OGSEarth, the Site is in an area of coarse textured glaciomarine deposits, characterized by sand and gravel with minor silt and clay. These materials generally do not resist the infiltration of fluids, with lower surface runoff potential and good drainage (see Figure 4a).

#### 7.4.2 Geology

The bedrock (according to the OGS maps) consists of the Beekmantown Group (dolostone, sandstone) of the Phanerozoic, Paleozoic, Ordovician, Lower Ordovician (see Figure 4b). The depth to bedrock is anticipated to be approximately 15 – 17 meters.

#### 7.4.3 Fill Materials

During the Site walkover, no indications of buried fill materials were observed.

### 7.5 Water Bodies and Areas of Natural Significance

The closest visible body of water is Nepean Creek, located approximately 500 m west of the Site. The Rideau River is located approximately 1.8 km east and northeast of the Site. The Ottawa River is located approximately 6.5 km north and northwest of the Site. Based on topography, the inferred groundwater flow direction is to the northwest, towards the Ottawa River.

There are no parks, reserves or other areas of natural significance within the vicinity of the Site (within 250 m).

### 7.6 Uncertainties

Uncertainty or absence of information obtained regarding all spills and the presence, or not, of any above-or-underground tanks on neighbouring Sites in each of the components of the phase one environmental site assessment could affect the validity of the CSM.

## 8. Conclusions

### 8.1 Engineer's Opinion and Judgment

AEL are of the opinion and judgment that the following conclusions or recommendations may be reached for the Site based on the information and observations made during the Phase I ESA:

- The Site was developed for commercial use in the late 1940's or early 1950's. Aerial photos show clear evidence of the Site building in 1956. Prior to this, the Site use was likely agricultural or vacant until the late-1940's or early 1950's, when it was developed for commercial use. The Site is in an area of mixed commercial and industrial land uses.
- Site soils likely include sand and gravel components which would not slow the movement of contaminants.
- The closest visible body of water is Nepean Creek, located approximately 500 m west of the Site. The Rideau River is located approximately 1.8 km east and northeast of the Site. The Ottawa River is located approximately 6.5 km north and northwest of the Site. Based on topography, the inferred groundwater flow direction is to the northwest, towards the Ottawa River.
- AEL contacted the City of Ottawa regarding the use of non-potable water standards at the Site. As of the report date the City has expressed no objections to the use of non-potable water standards at the Site. As such, the Site could be assessed to MOECC Table 3 "Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition" for commercial land use.
- 1875 Merivale Road, southwest of the Site, has historically operated as a retail gas station, and is currently, operated as an automotive service facility. There is potential for the presence of PHCs, BTEX, PAHs, VOCs and metals at the Site as a result of neighbouring site operations.
- Historically the neighbouring property to the north was occupied by an automobile junkyard. There is potential for the presence of PHCs, BTEX, PAHs, VOCs and metals at the Site as a result of historic neighbouring site operations.

### 8.2 Requirement for Phase II Environmental Site Assessment

Should an Record of Site Condition be required for this property, a Phase II would be recommended with respect to the phase one property based on the current and historical operations of the properties to the north and south of the Site.

#### 8.2.1 Further Investigations

AEL are of the opinion that the following areas of the Site should be investigated further during any subsequent Phase II ESA of the Site:

Table 7-1 Areas of Future Investigation			
Potential Areas of Concern	Pathways	Sources of Contamination	Action Required
Southern property boundary	Soil, groundwater	Potential impacts from the migration of contaminants from the neighbouring property use as a retail gas station with USTs and automotive service facility.	Soil and groundwater samples may be taken to determine if impacts are present
Northern property boundary	Soil, groundwater	Historical operation of an automobile junkyard north of the Site could have resulted in the release of contaminants, which have the potential to migrate onto the Site.	Soil and groundwater samples may be taken to determine if impacts are present

### 8.3 Closure and Limitations

#### 8.3.1 Contract

The Client authorized AEL to carry out the work set out in the report in accordance with the scope of work as set out herein.

#### 8.3.2 O. Reg. 153/04 Standard of Care

AEL are of the opinion the investigation and report above meets the general requirements for Phase I ESAs.

#### 8.3.3 Limitations

The present work is for the sole use of AEL and the client in a 2017 Site evaluation. Others with an interest in the Site such as contractors, purchasers, etc., must undertake their own investigations respecting the Site, and are advised that the work is to the terms of reference only. Neither AEL nor the Client warrant or represent the report has found, detected or reported on all Site conditions or Site environmental conditions.

**AELenvironment**

*A division of Aeon Egmond Ltd.*



Charna Kozole, P. Eng.  
Qualified Person (O. Reg. 153/04)  
Project Manager



Paul Wilson, P. Eng.  
Qualified Person (O. Reg. 153/04), Sr. Reviewer  
Principal

## 9. Qualifications

### 9.1 History

AEL is an engineering firm operating in Canada and the United States of America. Through its ownership since 1987 AEL have completed over 1200 projects in real estate and mortgage type environmental issues, contaminants, soils, rock, concrete, and groundwater.

### 9.2 Associates

AEL Principal is Paul Wilson, P. Eng. He has over 25 years of engineering and contaminated sites experience. Both Paul, and project manager Charna Kozole, P. Eng., are qualified persons as defined in Ontario Regulation 153/04.

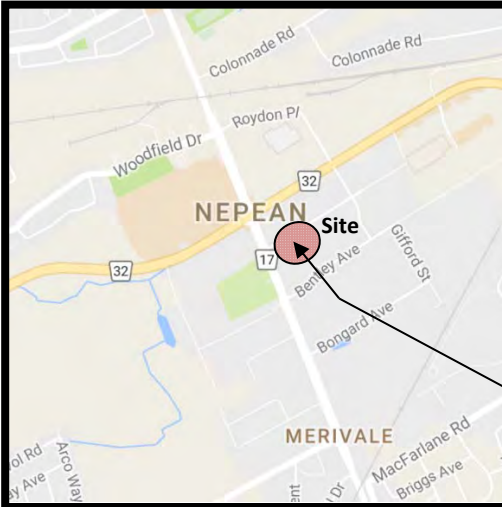
### 9.3 Clients

AEL clients include major corporations (e.g., CIBC, Hydro One, Ontario MNR, ORC); governmental organizations such as Ontario Hydro, school boards; governments; and environmental groups.

## 10. References

AEL used or considered the following materials respecting the work reported herein:

1. Ontario Regulation 153/04 (as amended).
2. CSA. Z768-01 (R2016), Canadian Standards Association Phase I Environmental Site Assessment, 2001 (reaffirmed 2016).
3. Topographical Maps: Ministry of Natural Resources and Forestry.
4. Aerial photographs: Ecolog Eris, Google Earth.
5. Ontario Ministry of Northern Development and Mines. Ontario Geological Survey, OGSEarth Maps.
6. Chapman & Putnam. *The Physiography of Southern Ontario*. 1966.
7. AEL Site Walkover Photographs – June 2017.
8. Ecolog ERIS Database Report, 1871 Merivale Road, Ottawa, ON.
9. Historical Reports.



Key Plan – Google Maps, 2017

**AEL**environment  
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Figure 1a

Aerial Photographs

1871 Merivale Road, Ottawa, ON



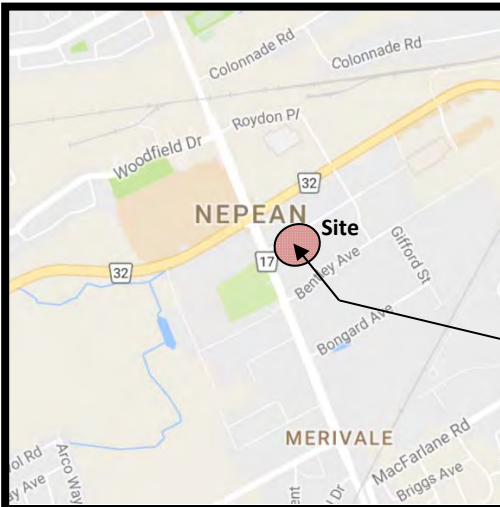
Source: Ecolog Eris (from National Earth Observation Data Framework Catalogue), 1925

Shows: Position of Site and level of development in 1925

1:6000

10869





Key Plan – Google Maps, 2017



Figure 1b

Aerial Photographs

1871 Merivale Road, Ottawa, ON



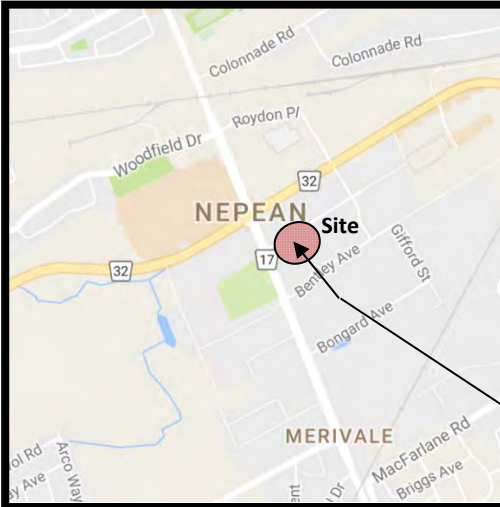
Source: Ecolog Eris (from National Earth Observation Data Framework Catalogue), 1936

Shows: Position of Site and level of development in 1936

1:15,000

10869





Key Plan – Google Maps, 2017



Figure 1c

Aerial Photographs

1871 Merivale Road, Ottawa, ON

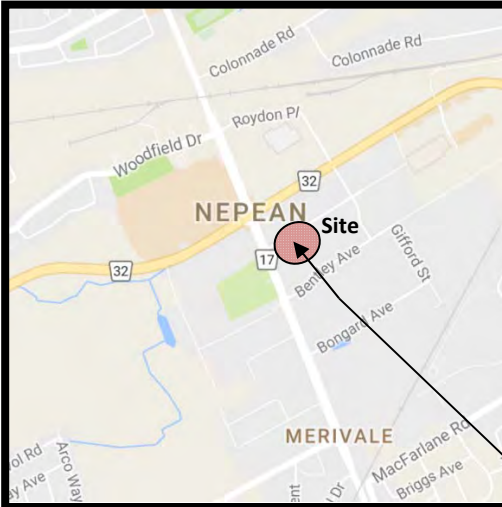


Source: Ecolog Eris (from National Earth Observation Data Framework Catalogue), 1945

Shows: Position of Site and level of development in 1945

1:15,000

10869



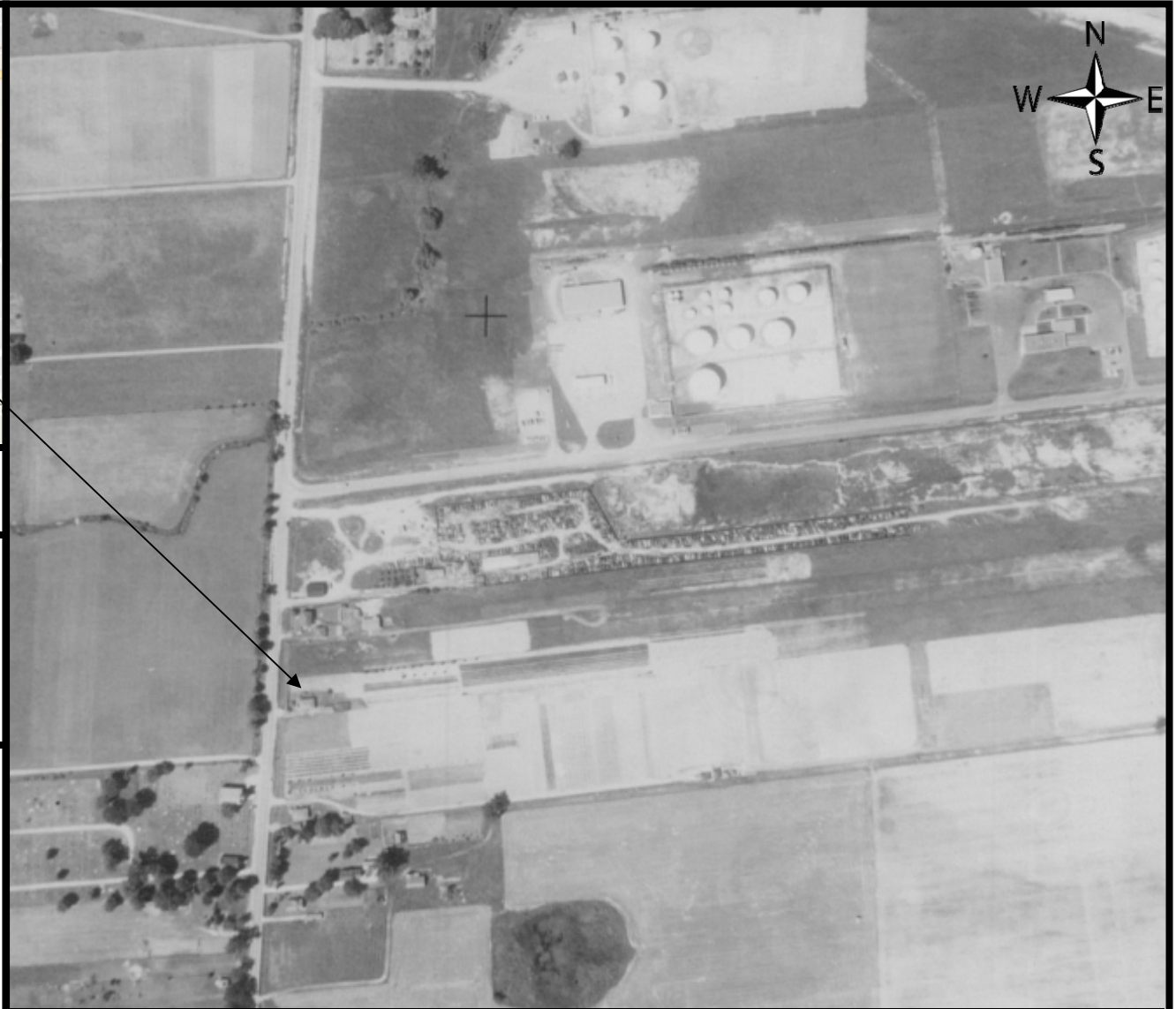
Key Plan – Google Maps, 2017



Figure 1d

Aerial Photographs

1871 Merivale Road, Ottawa, ON



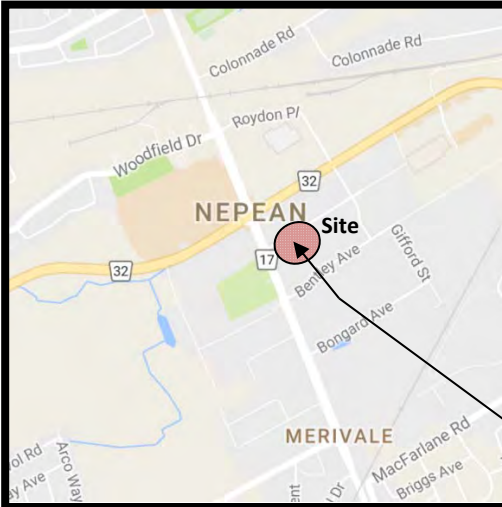
Source: Ecolog Eris (from National Earth Observation Data Framework Catalogue), 1956

Shows: Position of Site and level of development in 1956

1:10,000

10869





Key Plan – Google Maps, 2017

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Figure 1e

Aerial Photographs

1871 Merivale Road, Ottawa, ON

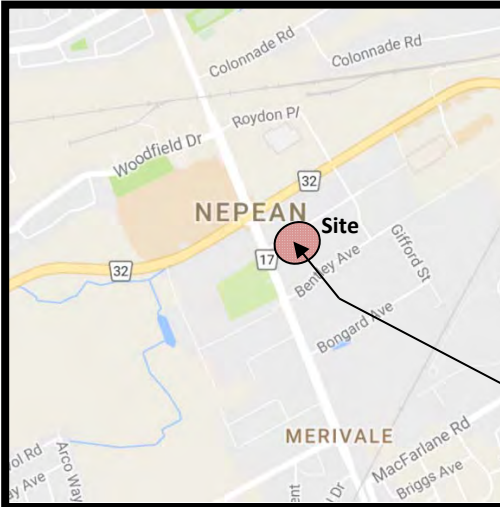


Source: Ecolog Eris (from National Earth Observation Data Framework Catalogue), 1965

Shows: Position of Site and level of development in 1965

1:15,000

10869



Key Plan – Google Maps, 2017



Figure 1f

Aerial Photographs

1871 Merivale Road, Ottawa, ON

1:7,000

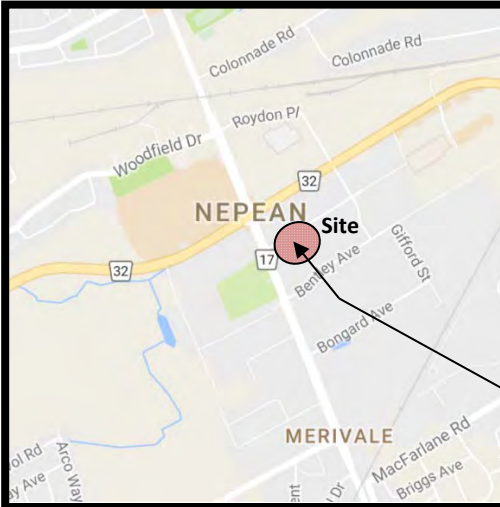
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Source: Ecolog Eris (from National Earth Observation Data Framework Catalogue), 1973

Shows: Position of Site and level of development in 1973





Key Plan – Google Maps, 2017

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Figure 1g

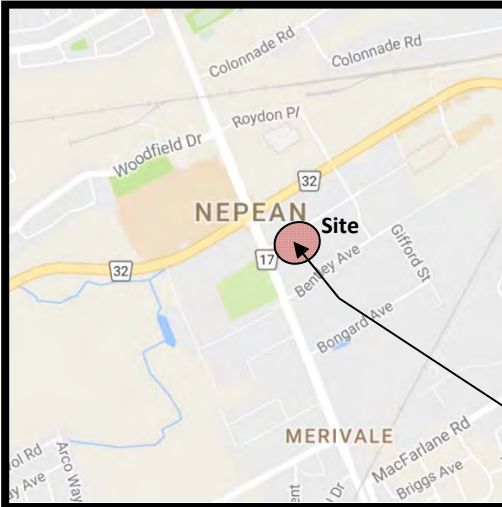
Aerial Photographs

1871 Merivale Road, Ottawa, ON



Source: Ecolog Eris (from National Earth Observation Data Framework Catalogue), 1984

Shows: Position of Site and level of development in 1984



Key Plan – Google Maps, 2017



Figure 1h

Aerial Photographs

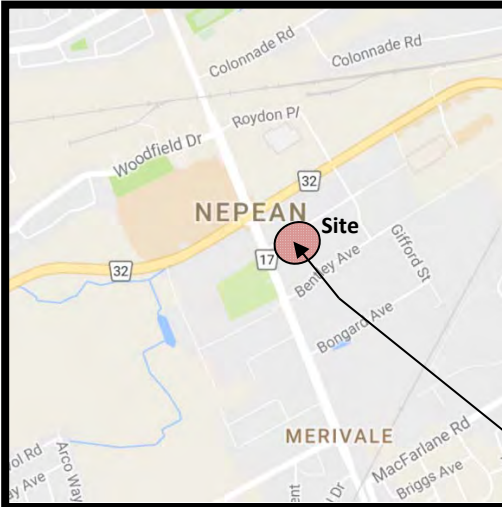
1871 Merivale Road, Ottawa, ON



Source: Ecolog Eris (from National Earth Observation Data Framework Catalogue), 1995

Shows: Position of Site and level of development in 1995





Key Plan – Google Maps, 2017



Figure 1i

Aerial Photographs

1871 Merivale Road, Ottawa, ON

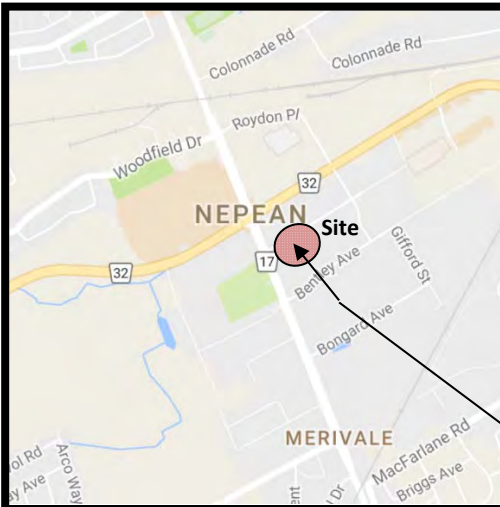


Source: Ecolog Eris (from National Earth Observation Data Framework Catalogue), 2004

Shows: Position of Site and level of development in 2004

1:15,000

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Key Plan – Google Maps, 2017



Figure 1j

Aerial Photographs

1871 Merivale Road, Ottawa, ON



Source: Google Earth, 2016

Shows: Position of Site and level of development in 2016



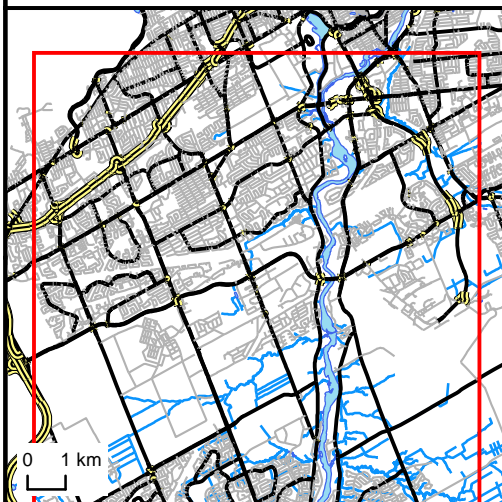
#10869

#### Legend

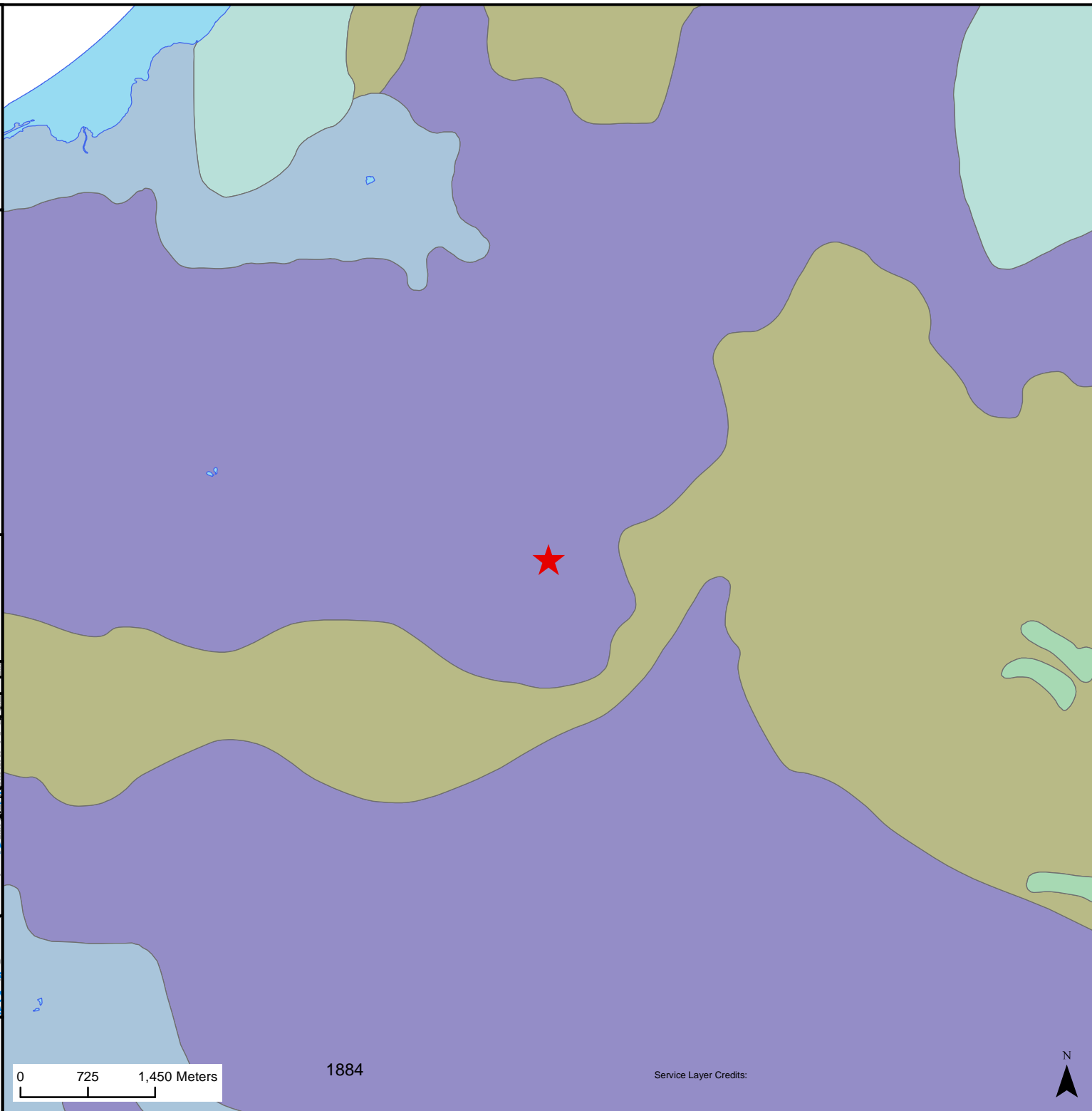
-  Water
-  Beaches
-  Clay Plains
-  Limestone Plains
-  Sand Plains
-  Till Plains (Drumlinized)

#### Notes:

1871 Merivale Road  
Nepean, Ontario



**Source:**  
Ontario Ministry of Natural Resources



## Surrounding Site Addresses 1871 Merivale Rd. Ottawa, ON Figure 5

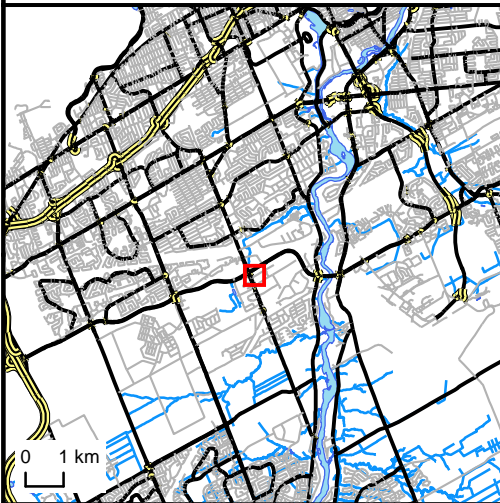
#10869

### Legend

- Roads
- ▭ Property Boundary
- ▭ Surrounding Parcels

### Notes:

1871 Merivale Road  
Nepean, Ontario



**Source:**  
Ontario Ministry of Natural Resources





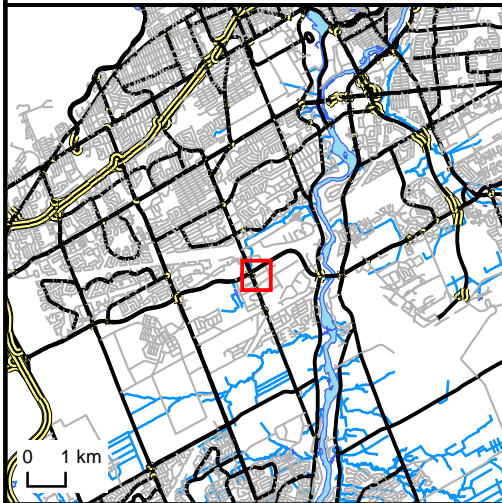
#10869

**Legend**

- Roads
- Phase 1 Study Area (250m)
- Property Boundary

**Notes:**

1871 Merivale Road  
Nepean, Ontario



**Source:**  
Ontario Ministry of Natural Resources

