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1412 Stittsville Main Street

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

Elite Living Properties

File 524659 | March 14, 2025

Document Control

File:

423449

Date:

March 14, 2025

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	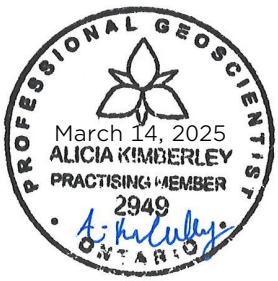
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Issue	Date	Description
1	March 14, 2025	Final Report

Executive Summary

Tatham Engineering Limited (Tatham) has been retained by Elite Living Developments (the client) to complete a Phase Two Environmental Site Assessment (ESA) for the property located at 1412 Stittsville Main Street in Ottawa, Ontario, hereafter referred to as the "Site" or the "Phase Two Property", as presented on Figure 1.

The site is rectangular in shape, with a plan area of approximately 1,400 m^2 (0.35 acres). The site is situated in a residential, and commercial area within the City of Ottawa and is currently undeveloped and vacant. The Site is bounded by Stittsville Main Street to the east followed by residential properties, a recreation center to the west followed by residential properties, a commercial plaza directly to the north followed by residential dwellings, and residential dwellings followed by a church to the south.

It is understood that the proposed development will include a multi-unit residential dwelling/apartment. The Site will be accessed from Stittsville Main Street to the east of the Phase Two Property. The proposed development will be serviced through municipal water and sewage services.

Tatham understands the property is currently vacant and undeveloped, and the proposed developed land use will be for residential purposes. In accordance with Ontario Regulation O.Reg. 153/04, since the property use is not changing to a more sensitive property use then the current use, a Record of Site Condition (RSC) is not required to be submitted to the Ministry of Environment, Conservation and Parks (MECP). However, it is understood a due diligence purposes a Phase One and Two Environmental Site Assessment (ESA) are being requested.

LRL Engineering (LRL) completed a Phase One ESA entitled "Phase One Environmental Site Assessment, 1412 Stittsville Main Street, Ottawa, Ontario" dated February 5, 2025. The Phase One ESA was completed to identify the likelihood that one or more contaminates have affected any land or water on, in or under the Site. The Phase One ESA investigated the Site and surrounding properties within 250 m radius of the Site boundaries (defined as the "Study Area"). The results of the Phase One ESA indicated that, based on a review of the historical information, the Site was previous occupied by a structure, likely a shed, between 1945 and 1963, As such, the first developed use is considered an agricultural or other use. Further, the following potentially contaminating activities (PCAs) resulting in area of potential environmental concern (APECs) are the Phase One Property were identified:

- It is likely that fill of unknown quality and quantity was imported to the Site during the construction or demolition of the previous structures observed within the historic 1945 and

1963 aerial images. This PCA results in APEC 1: Importation of Fill Material of Unknown Quality across the eastern portion of the Site impacting soil and groundwater media. The associated Contaminates of Potential Concern (COPCs) included Metals, Inorganics, Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs).

- The Phase One ESA recommended the preparation of a Phase Two ESA.

The objective of this Phase Two ESA is to investigate soil and groundwater within the APEC which was identified in the Phase One ESA. The Phase Two ESA was completed in general accordance with *Ontario Regulation 153/04, as amended, Records of Site Condition Part XV.1 of the Act under Environmental Protection Act, R.S.O. 1990, C.E. 19 (O.Reg. 153/04)*.

To assess the quality of soil on-Site, a Sampling and Analysis Plan (SAP) was prepared. The SAP outlines a planned field program aiming to assess potential soil contamination as a result of the APEC at the Site.

A soil sampling program was conducted for this Phase Two ESA:

- Three (3) hand dug test pits were advanced by Tatham on February 26, 2025. Soils samples were collected below the topsoil within the identified fill material. The soil samples were obtained at a depth of 0.3 – 0.6 m bgs.

Soil samples were collected during the soil sampling program, and the soil sample analysis and frequency are outlined below:

- A total of three (3) soil samples for O.Reg. 153/04 Metals, Inorganics, PHCs, VOCs, and PAHs.

The samples were analyzed by Caduceon laboratories, a CALA accredited laboratory. Results were compared to O.Reg. 153/04, as amended, Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/Parkland/Institutional (RPI) Property Use in Coarse Textured Soils (O.Reg. 153/04 Table 2 RPI Coarse).

The results of the investigation indicated:

- All three (3) soil samples met the applicable O.Reg. 153/04 Table 2 RPI Site Condition Standards (SCS) for coarse textured soils for Metals, Inorganics, PHCs, VOCs, and PAHs.

Soil was initially investigated, and the soil samples were noted to meet Table 1 RPI/ Industrial/Commercial/Community (ICC) SCSs, the most stringent SCSs. Given the soil meets Table 1 RPI/ICC SCSs it is the Qualified Persons opinion that groundwater impact would be negligible. As such, groundwater was not investigated as part of this investigation.

Based on the results of the sampling program outlined in this Phase Two Environmental Site Assessment, the soil meets the Table 2 RPI/ICC SCS for coarse textured soils. As such, it is of the QPs opinion no further investigations are required.

It should be noted soil conditions reported here are representative of the conditions encountered during this investigation. Soil conditions between and beyond the sampled locations may differ from those encountered during this assignment. Tatham should be contacted if impacted soil conditions become apparent during future development to further assess and appropriately handle the materials, if any, and evaluate whether modifications to the conclusions documented in this report are necessary.

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1 Introduction

Tatham Engineering Limited (Tatham) has been retained by Elite Living Developments (the client) to complete a Phase Two Environmental Site Assessment (ESA) for part of the property located at 1412 Stittsville Main Street in Ottawa, Ontario, hereafter referred to as the "Site" or the "Phase Two Property", as presented on Figure 1.

The Site is rectangular in shape, with a plan area of approximately 1,400 m^2 (0.35 acres). The Site is situated in a residential, and commercial area within the City of Ottawa and is currently undeveloped and vacant. The Site is bounded by Stittsville Main Street to the east followed by residential properties, a recreation center to the west followed by residential properties, a commercial plaza directly to the north followed by residential dwellings, and residential dwellings followed by a church to the south.

It is understood that the proposed development will include a multi-unit residential dwelling/apartment. The Site will be accessed from Stittsville Main Street. The proposed development will be serviced through municipal water and sewage services.

Tatham understands the property is currently vacant and undeveloped, and the proposed developed land use will be for residential purposes. In accordance with Ontario Regulation O.Reg. 153/04, since the property use is not changing to a more sensitive property use then the current use, a Record of Site Condition (RSC) is not required to be submitted to the Ministry of Environment, Conservation and Parks (MECP). However, it is understood a due diligence purposes a Phase One and Two Environmental Site Assessment (ESA) are being requested.

LRL Engineering (LRL) completed a Phase One ESA entitled "Phase One Environmental Site Assessment, 1412 Stittsville Main Street, Ottawa, Ontario" dated February 5, 2025. The Phase One ESA was completed to identify the likelihood that one or more contaminates have affected any land or water on, in or under the Site. The Phase One ESA investigated the Site and surrounding properties within 250 m radius of the Site boundaries (defined as the "Study Area"). The objective of this Phase Two ESA is to investigate soil and groundwater within the Area of Potential Environmental Concern (APECs) which were identified in the Phase One ESA. The Phase Two ESA was completed in general accordance with *Ontario Regulation 153/04, as amended, Records of Site Condition Part XV.1 of the Act under Environmental Protection Act, R.S.O. 1990, C.E. 19 (O.Reg. 153/04)*.

1.1 SITE DESCRIPTION

The Site is located on 1412 Stittsville Main Street, in the City of Ottawa, Ontario. The site is rectangular in shape with a plan area of approximately 1,400 m^2 (0.35 acres). Site information is outlined in Table 1.

Table 1: Site Details

ITEM	DESCRIPTION
Address	Municipal Address: 1412 Stittsville Main Street, Ottawa, Ontario Legal Address: PT LT 23 CON 11 GOULBOURN PT 1, 5R10561; GOULBOURN; City of Ottawa
Current Land use	Undeveloped/Vacant
Universal Transverse Mercator (UTM) Coordinates	Zone 18T 427411 m E, 5012426 m N
Client	Elite Living Developments Tracy Goulet 10 Bradley Court, Stittsville Ontario, ON K2S 1V2
Qualified Person	Alicia Kimberley, P.Geo., QP_{ESA} Tatham Engineering Limited 645 Veterans Drive, Unit D Barrie, Ontario L4N 9H8

1.2 PROPERTY OWNERSHIP

The Phase Two Property has been owned by Elite Living Developments since February 2022. Contact information for the property owner is detailed in Table 2 below.

Table 2: Property Ownership

ITEM	DESCRIPTION
Company Name/Site Representative	Elite Living Developments/Tracy Goulet
Address	10 Bradley Court, Stittsville Ontario, ON K2S 1V2
Phone Number	613-617-4550
Email	tracygoulet@elitelivingproperty.com

1.3 CURRENT AND PROPOSED FUTURE USES

The current use of the property is an undeveloped/vacant but the historic use is considered agricultural or other use as per O.Reg. 153/04, as amended. It is understood the future use of the Site will also be classified as residential use (apartment building) as described in O.Reg. 153/04, as amended.

In accordance with Ontario Regulation O.Reg. 153/04, since the property use is not changing to a more sensitive property use then the current use, a Record of Site Condition (RSC) is not required to be submitted to the Ministry of Environment, Conservation and Parks (MECP). However, it is understood a due diligence purposes a Phase One and Two ESA are being requested.

1.4 APPLICABLE SITE CONDITION STANDARDS

The MECP has developed a set of Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act and O.Reg. 153/04, as amended.

The applicable site condition standard (SCS) is dependent on the site location, land use, soil texture, bedrock depth and the applicable potable or non-potable groundwater condition at the site. Sections 34 to 43.1 of O.Reg. 153/04, as amended, were used to evaluate the site conditions.

The conditions of the site are tabulated in Table 3, below.

Table 3: Applicable Site Condition Standards

CRITERIA	RESULT
Current Property Use	Undeveloped/Vacant
Proposed Property Use	Residential Use
Potable vs. Non-Potable Groundwater	Potable
Proximity of Areas of Natural Significance	>30 m
Proximity to a Water Body	>30 m
Shallow Soil Condition	No – the entire Site has an overburden thickness greater than 2 m
pH	pH of near surface soils are greater than 5 but less than 9
Texture of Soils	The predominant soils at the Site are considered coarse textured

CRITERIA	RESULT
Stratified Conditions	Stratified Conditions were not encountered
Applicable Site Condition Standard(s)	Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/Parkland/Institutional (RPI) Property Use in Coarse Textured Soils (O.Reg. 153/04 Table 2 RPI Coarse)

2 Background Information

2.1 PHYSICAL SETTING

2.1.1 Topography, Physiography, Surficial Geology and Bedrock

The topography of the Site is generally flat with a slight downward slope to the north towards Poole Creek. The Site has an approximate ground surface elevation range of 118 meters above sea level (m asl). The Site lies in the physiographic region known as the Ottawa Valley Clay Plains comprising of Sand Plains. Ontario Geological Survey surficial and quaternary geology mapping indicates the Site consists of glaciomarine/glaciofluvial deposits comprising of sand and gravel. Bedrock at the Site consists of Gull River limestone of the Simcoe Group. Based on the MECP water well record, bedrock is found to be between approximately 1.8 and 9.1 m below grade.

2.1.2 Water Bodies and Areas of Natural Significance

The nearest water body is Poole Creek located approximately 80 m north of the site. According to Atlas of Cananda – Toporama, Poole Creek flows in an east to northeast direction towards the Carp River.

No potable domestic water wells were noted on the Site. The Site does not lie within any Wellhead Protection Area (WHPA) or an Intake Protection Zone (IPZ). However, the Site is considered to be a Significant Groundwater Recharge Area (SGRA) and a Highly Vulnerable Aquifer (HVA). For the purposes of this Phase Two ESA the Site has been considered a potable groundwater condition.

The inferred regional groundwater flow direction is to the north/northeast towards Poole Creek.

Based on the criteria for Areas of Natural Significance (ANSI) outlined within O. Reg. 153/04, the Site does not lie within an ANSI.

2.1.3 Past Investigations

Phase One Environmental Assessment, 2025

LRL Engineering (LRL) recently completed a Phase One ESA for the Site located at 1412 Stittsville Main Street, in Ottawa, Ontario, in general accordance with *Ontario Regulation 153/04, as amended, Records of Site Condition Part XV.1 of the Act under Environmental Protection Act, R.S.O. 1990, C.E. 19 (O.Reg. 153/04).* The objective of the Phase One ESA was to identify Potentially Contaminating Activities (PCAs) resulting in any APECs at the Site. The findings of the Phase One ESA are outlined below:

- Based on a review of available historical information, the Site has been undeveloped and vacant since at least the late 1970's (1976). The Site was historically developed with various structures along the eastern portion of the Site as observed in the available 1945 and 1963 aerial imagery, and prior to any development the site was assumed to be used for agricultural or other use.
- Due to the presences of structures along the eastern portion of the Site within the 1945 and 1963 aerial images, accompanied by the 2022 Geotechnical Report sand fill material on the eastern portion of the site, it is assumed that a fill of unknown quality and quantity was imported to the site during the construction or demolition of the noted structures.
- As such, one APEC was identified for the Site:
    - APEC 1: Importation of Fill Material of Unknown Quality across the entire Site impacting soil and groundwater media. The associated contaminates of potential concern (COPC) include Metals, Inorganics, Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs).
- The resulting Conceptual Site Model (CSM) and APEC are shown on Figures 2 and 3, respectively.
- The Phase One ESA recommended the preparation of a Phase Two ESA.

Geotechnical Investigation, 2022

LRL Engineering (LRL) completed a geotechnical investigation on the study area in support of a proposed development of a three (3) story commercial building. Four (4) Boreholes were advanced across the Site, to depths of between 2.18 and 5.74 metres below ground surface (m bgs). A truck mounted drilling rig equipped with a 200 mm diameter hollow stem auger was utilized to advance these boreholes.

The subsurface conditions comprised surficial topsoil over a glacial till comprising some silt and gravel and trace clay. In BH1, located towards the eastern portion of the site, a sand unit was encountered below the surficial topsoil continuing to the depth of investigation.

After completion of drilling, groundwater levels were recorded in the open boreholes at depths of between 1.8 and 2.0 m bgs.

Phase I Environmental Site Assessment, 2020

Pinchin Ltd. (Pinchin) previously completed a Phase I Environmental Site Assessment (ESA) report dated September 8, 2020. Pinchin was retained by 2V Holdings Inc. to conduct a Phase I ESA of the property at 1410 Stittsville Main Street, Ottawa, Ontario.

The Phase I ESA was completed in general accordance with the Canadian Standards Association (CSA) document entitled “Phase I Environmental Site Assessment, CSA Standard Z768-01” (2016), and included a review of the readily available historical information and regulatory records, the completion of site reconnaissance, interviews, and an evaluation of information and reporting.

Pinchin concluded that based on the results of the Phase I ESA, no concerns were identified and no further investigations were recommended.

3 Scope of the Investigation

3.1 OVERVIEW OF THE INVESTIGATION

The Phase Two ESA was completed to investigate the APEC identified in the Phase One ESA. The APEC and associated COPCs are presented in Table 4.

Table 4: Areas of Potential Environmental Concern

APEC	LOCATION OF APEC ON PROJECT AREA	PCA	LOCATION OF PCA (ON-SITE OF OFF-SITE)	COPC	MEDIA POTENTIALLY IMPACTED (GROUNDWATER, SOIL AND/OR SEDIMENT)
APEC 1	Eastern Portion of the Site	PCA #30. Importation of Fill Material of Unknown Quality.	On-Site	Metals, Inorganics, PHCs, VOCs, PAHs	Soil/Groundwater

Notes:
PHCs – Petroleum Hydrocarbons Fractions F1 to F4
VOCs – Volatile Organic Compounds including Benzene, Toluene, Ethylbenzene and Xylenes
PAHs – Polycyclic Aromatic Hydrocarbons

In order to investigate the APECs at the Site, the following scope of work was implemented:

- Hand dig test pits to a depth of 0.3 – 0.6 m bgs towards the eastern limits of the Site within APEC-1. The location of the hand dug test pits are shown on Figure 4.
- Collect representative soil samples were collected from the three (3) test pits.
- All soil samples were analyzed for the COPCs identified including O.Reg. 153/04 Metals, Inorganics, PHCs, VOCs, and PAHs.
- Analyze the data and prepare a Phase Two ESA report.

3.2 MEDIA INVESTIGATED

The APEC at the Site included the use of unknown fill material for the construction or backfilling of the previous structures noted within the historic aerial imagery.

Soil was initially investigated, and the soil samples were noted to meet Table 1 RPI/ICC SCSs, the most stringent SCSs. Given the soil meets Table 1 RPI/Industrial/Commercial/Community (ICC) SCSs it is the Qualified Persons opinion that groundwater impact would be negligible. As such, groundwater was not investigated as part of this investigation.

A sampling and analysis plan (SAP) was prepared for the Site prior to the field investigations conducted. The SAP is presented in Appendix A and details the sampling frequency and analysis.

3.3 PHASE ONE CONCEPTUAL SITE MODEL

This section provides a description of the phase one conceptual site model prepared as part of the Phase One ESA report prepared by LRL, dated February 2025, and of any relevant subsequently acquired information.

Potentially Contaminating Activities

Based on the records review, and site reconnaissance, a total of 6 potentially contaminating activities (PCAs) were identified within the Site and Study Area. The PCAs are listed in Table 5, below.

Table 5: Summary of Potentially Contaminating Activities

PCA	DESCRIPTION OF PCA	LOCATION OF PCA	DOES PCA RESULT IN AN APEC?
PCA #30 – Importation of Fill Material of Unknown Quality	According to the 1945 and 1963 Areial imagery, structures were observed along the eastern portion of the site. These structures have since been demolished. The Geotechnical Investigation completed in 2022 by LRL confirmed that fill is only identified along the eastern portion of the site. It is assumed that a fill of unknown quality and quantity was imported to the site during the construction or demolition of the noted structures.	On-Site	Yes, the PCA is located on the Site and is considered an APEC. **APEC #1**
PCA #51 – Solvent Manufacturing, Processing and Bulk Storage	According to the City Directories available for the adjacent land to the North of the Site, 1408 Stittsville Main Stret, Browns Cleaners was listed on the property in 2006/07. It was not listed prior to then or thereafter, nor was it observed during the Phase One ESA.	1408 Stittsville Main Street, immediately north of the Site.	No, the PCA is located immediately north of the Site, down-gradient of the Site with respect to the assumed groundwater flow direction. Based on the down-gradient location from the Site,

PCA	DESCRIPTION OF PCA	LOCATION OF PCA	DOES PCA RESULT IN AN APEC?
			it is not considered a potential for environmental concern to the Site.
PCA #47 – Rubber Manufacturing and Processing	The Scott's Manufacturing directory revealed that Stittsville Rubber Stamp Inc., previously operated at the property. The operations included plastic product, office supply (except paper), and cutlery/hand tool manufacturer. More specifically they manufacture rubber stamps.	1450 Stittsville Main Street, approximately 140 m south of the Site.	No, the PCA is located approximately 140 m south (up-gradient) of the Site. Due to the small scale operations, and overall distance from the Site, the former stamp manufacturing operations are not considered a potential risk for environmental concern to the Site.
PCA #31 – Ink Manufacturing, Processing and Bulk Storage	The Scott's Manufacturing directory revealed that Stittsville Rubber Stamp Inc., previously operated at the property. The operations included manufacturing of rubber stamps. It would be assumed that the ink pads are stored or processed in association with the stamps.	1450 Stittsville Main Street, approximately 140 m south of the Site.	No, the PCA is located approximately 140 m south (up-gradient) of the Site. Due to the small scale operations, and overall distance from the Site, the former stamp manufacturing operations are not considered a potential risk for environmental concern to the Site.
PCA #N/S A – Dentist Office	Viewed at the time of the Site reconnaissance, and as listed in the City Directory as of 2021.	Approximately 25 m south of the Site.	No, although dentist offices are associated with potential release of metals waste (i.e. mercury). Due to the small-scale operation, the quantities of waste are considered low, and therefore does not present a potential risk for environmental concern to the Site.
PCA #N/S B – Spill	In 2003, approximately 45 gallons (204 L) of hydraulic oil was spilled on the ground. The cause of the spill was due to equipment failure.	At the intersection of Stittsville Main Street and Wintergreen	No, the PCA is located approximately 140 m southeast (trans-gradient) of the Site. Based on the

PCA	DESCRIPTION OF PCA	LOCATION OF PCA	DOES PCA RESULT IN AN APEC?
		Drive, approximately 75 m south of the site.	trans-gradient location from the Site, it is not considered a potential risk for environmental concern to the Site.

Areas of Potential Environmental Concern

Based on a review and evaluation of the PCAs identified, a total of one (1) APEC was identified within the Site. A table summarizing the APEC is presented in Table 6, below, in a form approved by the Director.

Table 6: Areas of Potential Environmental Concern

APEC	LOCATION OF APEC ON PROJECT AREA	PCA	LOCATION OF PCA (ON-SITE OF OFF-SITE)	COPC	MEDIA POTENTIALLY IMPACTED (GROUNDWATER, SOIL AND/OR SEDIMENT)
APEC 1	Eastern Portion of the Site	PCA #30. Importation of Fill Material of Unknown Quality.	On-Site	Metals, Inorganics, PHCs, VOCs, PAHs	Groundwater/Soil

Notes:
PHCs – Petroleum Hydrocarbons Fractions F1 to F4
VOCs – Volatile Organic Compounds including Benzene, Toluene, Ethylbenzene and Xylenes
PAHs – Polycyclic Aromatic Hydrocarbons

Phase One Conceptual Site Model Description

A CSM has been prepared for the Site based on a review and evaluation of the information collected during this investigation, as presented in Figures 2 and 3. The CSM figures include the following information pertaining to the Site and Study Area:

- Any existing buildings or structures;
- Identify any water bodies located in whole or in part of the Study Area;
- Roads including names;
- Identify PCAs; and
- Identify APECs.

A written description of the CSM is provided in Table 7, below.

Table 7: Conceptual Site Model

ITEM	DESCRIPTION
▪ Any areas where potentially contaminating activity on or potentially affecting the Project Area has occurred	▪ The APECs are listed and described in Table 6, above and summarized: ▪ Fill of unknown quality may have been used during the construction or demolition of the observed structures within the historic aerial imagery. (APEC 1)
▪ Any contaminations of potential concern	▪ Based on the APECs, the COPCs at the Site include Metals, Inorganics, PHCs, VOCs, and PAHs.
▪ The potential for underground utilities, if any present, to affect contaminant distribution and transport	▪ The Site is undeveloped and unlikely to have utilities present throughout the Site. ▪ A Bell utility service line pedestal was observed at the northeastern corner of the Site, which may be an indication of a service trench in the vicinity of the property. ▪ It is not anticipated that underground service utilities have transported contamination around site.
▪ Available regional or site specific geological and hydrogeological information	▪ The topography of the Site is generally flat with a slight downward slope to the north towards Poole Creek. The Site has an approximate ground surface elevation range of 118 m above sea level (m asl). The Site lies in the physiographic region known as the Ottawa Valley Clay Plains comprising of Sand Plains. Ontario Geological Survey surficial and quaternary geology mapping indicates the Site consists of glaciomarine/glaciofluvial deposits comprising of sand and gravel. Bedrock at the Site consists of Gull River limestone of the Simcoe Group. Based on the MECP water well record, bedrock is found to be between approximately 1.8 and 9.1 m below grade. ▪ The nearest water body is Poole Creek located approximately 80 m north of the site. According to Atlas of Cananda – Toporama, Poole Creek flows in an east to northeast direction towards the Carp River. ▪ No potable domestic water wells were noted on the Site. The Site does not lie within any WHPA or an IPZ. However, the Site is considered to be a SGRA and a HVA. For the purposes of this Phase Two ESA the Site has been considered a potable groundwater condition.

ITEM	DESCRIPTION
	▪ The inferred regional groundwater flow direction is to the north/northeast towards Poole Creek ▪ Based on the criteria for Areas of Natural Significance (ANSI) outlined within O. Reg. 153/04, the Site does not lie within an ANSI.
▪ How any uncertainty or absence of information obtained in each of the components of the APU could affect the validity of the model.	▪ To the QPs knowledge, there is no uncertainty or absence of information affecting the validity of this CSM. The evaluation provided in this report reflects the QPs best judgement at the time of the report preparation. If additional information arises following the completion of this report, the information will be relayed to the client.
▪ If the exemption set out in paragraph 1, 1.1 or 2 of section 49.1 of the regulation is being relied upon, document the rationale for relying upon the exemption, which may be based on information gathered during one or more of the records review, interviews and site reconnaissance.	▪ The exemptions of 1, 1.1, and 2 are not being relied upon.
▪ If there is an intention to rely upon the exemption set out in paragraph 3 of section 49.1 of the regulation, set out the intention to rely upon the exemption and provide a brief explanation as to why the exemption may apply, which may be based on information gathered during one or more of the records review, interviews and site reconnaissance.	▪ The exemption set out in paragraph 3 of section 49.1 is not being relied upon.

4 Investigation Method

4.1 GENERAL

The investigation was carried out in accordance with Tatham's standard operating procedures (SOP) and the *Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality* version 3.1 dated February 19, 2021.

4.2 SOIL SAMPLING

Soil samples were obtained immediately below the topsoil from three shallow hand dug test pits on February 26, 2025. The location of the hand dug test pits are shown on Figure 4. One (1) representative soil sample was obtained from each hole for a total of three (3) soil samples.

Soil samples were placed directly into laboratory supplied jars and methanol preserved vials. The jars and vials were labelled with the sample ID, date, project title and project number. Soil samples were stored in a cooler with ice to keep the samples cool during transport. Samples were recorded on a Chain of Custody Form prior to submission to the laboratory.

Nitrile gloves were worn for each sample and changed between sample locations to avoid cross contamination.

Soil samples were selected for chemical analysis based on APEC, depths, and visual and olfactory observations. A list of the soil samples and chemical analysis is provided in Table 8, below.

Table 8: Summary of Soil Samples

SAMPLE ID	DEPTH OF SAMPLE (M BGS)	CHEMICAL ANALYSIS	STRATIGRAPHY	ASSOCIATED APEC
S1	0.3 – 0.6	Metals, Inorganics, PHCs, VOCs, PAHs	Sand fill	1
S2	0.3 – 0.6	Metals, Inorganics, PHCs, VOCs, PAHs	Sand fill	1
S3	0.3 – 0.6	Metals, Inorganics, PHCs, VOCs, PAHs	Sand fill	1

Analytical testing was completed by Caduceon Laboratories, a CALA accredited laboratory. A copy of the certificates of analysis are provided as Appendix B.

4.2.1 Soil Samples

Soil samples were collected during the soil sampling program. Soil sample analysis and frequency are outlined below:

- A total of three soil samples for O.Reg. 153/04 metals, inorganics, PHCs, VOCs and PAHs.

As outlined in the SAP, provided in Appendix A. These samples were stored in a cool space to be held until further notice.

4.3 GROUNDWATER

The APEC at the Site includes the importation of fill of unknown quality for the construction or backfilling of the previous structures noted within the historic aerial imagery.

Soil was initially investigated, and the soil samples were found to meet Table 1 RPI/ICC SCSs, the most stringent SCSs. Given the soil meets Table 1 RPI/ICC SCSs it is the Qualified Persons opinion that groundwater impact would be negligible. As such, groundwater was not investigated as part of this investigation.

5 Review and Evaluation

5.1 GEOLOGY

As noted within the Geotechnical Investigation completed by LRL Engineering (LRL) in 2022, the subsurface conditions comprised surficial topsoil over a glacial till comprising some silt and gravel and trace clay. In BH1, located towards the eastern portion of the site, a sand unit was encountered below the surficial topsoil continuing to the depth of investigation.

5.2 GROUNDWATER: ELEVATIONS AND FLOW DIRECTION

Groundwater monitoring was not conducted as part of the Phase Two ESA scope of work. The Geotechnical Investigation completed by LRL Engineering (LRL) in 2022, recorded static water levels in the open boreholes after drilling at depths between 1.8 m and 2.0 m bgs.

The regional groundwater flow direction is expected to the north/ northeast towards the nearby Poole Creek.

5.3 SOIL TEXTURE

The predominant soils at the Site were comprised of glacial till comprising silt and gravel and trace clay. However, the more stringent coarse textured standards were applied for this Phase Two ESA.

5.4 SOIL QUALITY

Chemical analyses were performed on selected soil samples recovered during the soil sampling program. Representative “worst-case” soil samples were selected for analysis based on depths, and visual and olfactory observations. Soil samples were compared to applicable O.Reg. 153/04 Table 2 RPI SCS for coarse textured soils for Metals, Inorganics, PHCs, VOCs, and PAHs. A summary of the soil sample exceedances is shown in Figure 5. The chemical concentrations are summarized within the certificates of analysis included in Appendix B.

5.4.1 Metals and Inorganics

A total of three (3) soil samples were collected and analyzed for O.Reg. 153/04 metals and inorganics. All samples met the applicable O.Reg. 153/04 Table 2 RPI SCS for coarse textured soils.

5.4.2 Petroleum Hydrocarbons (PHCs)

A total of three (3) soil samples were collected and analyzed for O.Reg. 153/04 PHCs. All samples met the applicable O.Reg. 153/04 Table 2 RPI SCS for coarse textured soils.

5.4.3 Volatile Organic Compounds (VOCs)

A total of three (3) soil samples were collected and analyzed for O.Reg. 153/04 VOCs. All samples met the applicable O.Reg. 153/04 Table 2 RPI SCS for coarse textured soils.

5.4.4 Polycyclic Aromatic Hydrocarbons (PAHs)

A total of three (3) soil samples were collected and analyzed for O.Reg. 153/04 PAHs. All samples met the applicable O.Reg. 153/04 Table 2 RPI SCS for coarse textured soils.

5.5 PHASE TWO CONCEPTUAL SITE MODEL

Section 5.5 provides a narrative description and assessment of the Phase Two Property and provides a CSM.

5.5.1 Introduction

Site Description

The Phase Two Property is located at the municipal address of 1412 Stittsville Main Street, in Ottawa, Ontario (the Site). The site location plan is presented on Figure 1.

The site is rectangular in shape, with a plan area of approximately 1,400 m^2 (0.35 acres). The site is situated in a residential, and commercial area within the City of Ottawa and is currently undeveloped and vacant. The Site is bounded by Stittsville Main Street to the east followed by residential properties, a recreation center to the west followed by residential properties, a commercial plaza directly to the north followed by residential dwellings, and residential dwellings followed by a church to the south.

The proposed development will include a multi-unit residential dwelling/apartment. The Site will be accessed from Stittsville Main Street to the east of the Phase Two Property. The proposed development will be serviced through municipal water and sewage services.

Tatham understands the property is currently vacant and undeveloped, and the proposed developed land use will be for residential purposes. In accordance with Ontario Regulation O.Reg. 153/04, since the property use is not changing to a more sensitive property use then the current use, a Record of Site Condition (RSC) is not required to be submitted to the Ministry of Environment, Conservation and Parks (MECP). However, it is understood a due diligence purposes a Phase One and Two Environmental Site Assessment (ESA) are being requested.

Details of the Site and Property Ownership are described in Table 9, below.

Table 9: Site Details

ITEM	DESCRIPTION
Municipal Address	1412 Stittsville Main Street, Ottawa, Ontario
Legal Address	Legal Address: PT LT 23 CON 11 GOULBOURN PT 1, 5R10561; GOULBOURN; City of Ottawa
PIN	04455-0196 (LT)
Area	1,400 m^2 (0.35 acres)
Universal Transverse Mercator (UTM) Coordinates	Zone 18T 427411 E, 5012426 N
Current Land use	Undeveloped/Vacant
Property Owner	Elite Living Developments
Owner Address	10 Bradley Court, Stittsville Ontario, ON K2S 1V2
Owner Contact	Tracy Goulet, Founder and Property Manager Email: tracygoulet@elitelivingproperty.com Phone: 613-617-4550

5.5.2 Information from the Phase One Environmental Site Assessment

Potentially Contaminating Activities

A Phase One ESA was completed for the Site by LRL Engineering (LRL) in accordance with O.Reg. 153/04. Based on the records review, and site reconnaissance, a total of 6 PCAs were identified within the Site and Study Area. The locations of the PCAs are shown on Figure 2 and presented in Table 10, below.

Table 10: Summary of Potentially Contaminating Activities

PCA	DESCRIPTION OF PCA	LOCATION OF PCA	DOES PCA RESULT IN AN APEC?
PCA #30 – Importation of Fill Material of Unknown Quality	According to the 1945 and 1963 Areial imagery, structures were observed along the eastern portion of the site. These structures have since been demolished.	On-Site	Yes, the PCA is located on the Site and is considered an APEC. **APEC #1**

PCA	DESCRIPTION OF PCA	LOCATION OF PCA	DOES PCA RESULT IN AN APEC?
	The Geotechnical Investigation completed in 2022 by LRL confirmed that fill is only identified along the eastern portion of the site. It is assumed that a fill of unknown quality and quantity was imported to the site during the construction or demolition of the noted structures.		
PCA #51 – Solvent Manufacturing, Processing and Bulk Storage	According to the City Directories available for the adjacent land to the North of the Site, 1408 Stittsville Main Stret, Browns Cleaners was listed on the property in 2006/07. It was not listed prior to then or thereafter, nor was it observed during the Phase One ESA.	1408 Stittsville Main Street, immediately north of the Site.	No, the PCA is located immediately north of the Site, down-gradient of the Site with respect to the assumed groundwater flow direction. Based on the down-gradient location from the Site, it is not considered a potential for environmental concern to the Site.
PCA #47 – Rubber Manufacturing and Processing	The Scott's Manufacturing directory revealed that Stittsville Rubber Stamp Inc., previously operated at the property. The operations included plastic product, office supply (except paper), and cutlery/hand tool manufacturer. More specifically they manufacture rubber stamps.	1450 Stittsville Main Street, approximately 140 m south of the Site.	No, the PCA is located approximately 140 m south (up-gradient) of the Site. Due to the small scale operations, and overall distance from the Site, the former stamp manufacturing operations are not considered a potential risk for environmental concern to the Site.
PCA #31 – Ink Manufacturing, Processing and Bulk Storage	The Scott's Manufacturing directory revealed that Stittsville Rubber Stamp Inc., previously operated at the property. The operations included manufacturing of rubber stamps. It would be assumed that the ink pads	1450 Stittsville Main Street, approximately 140 m south of the Site.	No, the PCA is located approximately 140 m south (up-gradient) of the Site. Due to the small scale operations, and overall distance from the Site, the former

PCA	DESCRIPTION OF PCA	LOCATION OF PCA	DOES PCA RESULT IN AN APEC?
	are stored or processed in association with the stamps.		stamp manufacturing operations are not considered a potential risk for environmental concern to the Site.
PCA #N/S A – Dentist Office	Viewed at the time of the Site reconnaissance, and as listed in the City Directory as of 2021.	Approximately 25 m south of the Site.	No, although dentist offices are associated with potential release of metals waste (i.e. mercury). Due to the small-scale operation, the quantities of waste are considered low, and therefore does not present a potential risk for environmental concern to the Site.
PCA #N/S B – Spill	In 2003, approximately 45 gallons (204 L) of hydraulic oil was spilled on the ground. The cause of the spill was due to equipment failure.	At the intersection of Stittsville Main Street and Wintergreen Drive, approximately 75 m south of the site.	No, the PCA is located approximately 140 m southeast (trans-gradient) of the Site. Based on the trans-gradient location from the Site, it is not considered a potential risk for environmental concern to the Site.

Areas of Potential Environmental Concern

Based on a review and evaluation of the PCAs identified, a total of one APEC was identified within the Site. A table summarizing the APEC is presented in Table 11, below, in a form approved by the Director.

Table 11: Areas of Potential Environmental Concern

APEC	LOCATION OF APEC ON PROJECT AREA	PCA	LOCATION OF PCA (ON-SITE OF OFF-SITE)	COPC	MEDIA POTENTIALLY IMPACTED (GROUNDWATER, SOIL AND/OR SEDIMENT)
APEC 1	Entirety of the Site	PCA #30. Importation of Fill Material of Unknown Quality.	On-Site	Metals, Inorganics, PHCs, VOCs, PAHs	Groundwater/Soil

Notes:
PHCs – Petroleum Hydrocarbons Fractions F1 to F4
VOCs – Volatile Organic Compounds including Benzene, Toluene, Ethylbenzene and Xylenes
PAHs – Polycyclic Aromatic Hydrocarbons

5.5.3 Subsurface Structures and Utilities

No subsurface structures or utilities are currently present on site.

5.5.4 Physical Setting – Topography, Physiography, Surficial Geology and Bedrock

The topography of the Site is generally flat with a slight downward slope to the north towards Poole Creek. The Site has an approximate ground surface elevation range of 118 meters above sea level (m asl). The Site lies in the physiographic region known as the Ottawa Valley Clay Plains comprising of Sand Plains. Ontario Geological Survey surficial and quaternary geology mapping indicates the Site consists of glaciomarine/glaciofluvial deposits comprising of sand and gravel. Bedrock at the Site consists of Gull River limestone of the Simcoe Group. Based on the MECP water well record, bedrock is found to be between approximately 1.8 and 9.1 m below grade.

The nearest water body is Poole Creek located approximately 80 m north of the site. According to Atlas of Cananda – Toporama, Poole Creek flows in an east to northeast direction towards the Carp River.

No potable domestic water wells were noted on the Site. The Site does not lie within any WHPA or an IPZ. However, the Site is considered to be a SGRA and a HVA. For the purposes of this Phase Two ESA the Site has been considered a potable groundwater condition.

The inferred regional groundwater flow direction is to the north/northeast towards Poole Creek.

Based on the criteria for Areas of Natural Significance (ANSI) outlined within O. Reg. 153/04, the Site does not lie within an ANSI.

Stratigraphy

As noted within the Geotechnical Investigation completed by LRL Engineering (LRL) in 2022, the subsurface conditions comprised surficial topsoil over a glacial till comprising some silt and gravel and trace clay. In BH1, located towards the eastern portion of the site, a sand unit was encountered below the surficial topsoil continuing to the depth of investigation.

Hydrogeological Characteristics

Groundwater monitoring was not conducted as part of the Phase Two ESA scope of work. The Geotechnical Investigation completed by LRL Engineering (LRL) in 2022, recorded static water levels in the open boreholes after drilling at depths between 1.8 m and 2.0 m bgs.

The regional groundwater flow direction is expected to the north/northeast towards the nearby Poole Creek.

Applicable Site Condition Standards

The MECP has developed a set of Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act and O.Reg. 153/04, as amended.

The applicable SCS is dependent on the site location, land use, soil texture, bedrock depth and the applicable potable or non-potable groundwater condition at the Site. Sections 34 and 43.1 of O.Reg. 153/04, as amended, were used to evaluate the site conditions.

The conditions of the site are tabulated in Table 12, below.

Table 12: Applicable Site Condition Standards

CRITERIA	RESULT
Current Property Use	Undeveloped/Vacant
Proposed Property Use	Residential Use
Potable vs. Non-Potable Groundwater	Potable
Proximity of Areas of Natural Significance	>30 m
Proximity to a Water Body	>30 m
Shallow Soil Condition	No – the entire Site has an overburden thickness greater than 2 m
pH of soils	pH of near surface soils are greater than 5 but less than 9;

CRITERIA	RESULT
Texture of Soils	The predominant soils at the Site are considered coarse textured
Applicable Site Condition Standard(s)	Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/Parkland/Institutional Property Use in Coarse Textured Soils (O.Reg. 153/04 Table 2 RPI Coarse)

Soils Place On, In or Under the Phase Two Property

It is inferred that sand fill material was imported to the Site for the construction or demolition of the former structures observed within the historic aerial imagery.

Proposed Buildings

The Site is currently an undeveloped/vacant lot and no buildings or structures are present. The proposed development includes a multi-story residential complex which will span across the majority of the lot.

5.5.5 Contamination In or Under the Phase Two Property

Areas Where Contaminants are Present and Media Under Investigation

This Phase Two ESA investigation was carried out to investigate the APEC identified in the Phase One ESA. The APEC, COPCs, location, media potentially impacted and investigative test pit is presented in Table 13, below.

Table 13: Areas of Potential Environmental Concern

APEC	LOCATION OF APEC ON PROJECT AREA	PCA	LOCATION OF PCA (ON-SITE OF OFF-SITE)	COPC	MEDIA POTENTIALLY IMPACTED (GROUNDWATER / SOIL AND/OR SEDIMENT)	INVESTIGATIVE TEST PIT
APEC 1	Eastern portion of the Site	PCA #30. Importation of Fill Material of Unknown Quality.	On-Site	Metals, Inorganics, PHCs, VOCs, PAHs	Groundwater/ Soil	S1, S2, and S3

Notes:
PHCs – Petroleum Hydrocarbons Fractions F1 to F4
VOCs – Volatile Organic Compounds including Benzene, Toluene, Ethylbenzene and Xylenes
PAHs – Polycyclic Aromatic Hydrocarbons

Soil samples were collected from the test pit excavations at the Site to investigate the APEC. A summary of the analyzed soil samples is presented in Table 14 below.

Table 14: Summary of Soil Samples

SAMPLE ID	DEPTH OF SAMPLE (M BGS)	CHEMICAL ANALYSIS	STRATIGRAPHY	ASSOCIATED APEC
S1	0.3 – 0.6	Metals, Inorganics, PHCs, VOCs, PAHs	Sand fill	1
S2	0.3 – 0.6	Metals, Inorganics, PHCs, VOCs, PAHs	Sand fill	1
S3	0.3 – 0.6	Metals, Inorganics, PHCs, VOCs, PAHs	Sand fill	1

5.5.6 Description of Areas of Contamination on the Property

No contamination areas were identified within the Phase Two Property.

5.5.7 Medium of Which Contaminants are Associated

The fill material was investigated at the Site within APEC 1. No contamination was identified in the soil media at the Site.

5.5.8 Description of What is Known of Each Contaminated Area

No contamination areas were identified within the Phase Two Property.

5.5.9 Distribution of a Contaminant

No contamination areas were identified within the Phase Two Property; as such, the distribution of contaminants is not expected.

5.5.10 Preferential Pathways

The preferential pathways for contaminants present in soil and groundwater typically include underground utilities and underground surface features. Due to the absence of underground utilities throughout the site, there is no concern for the increased migration of contaminants. In addition, no contamination areas were identified within the Phase Two Property.

5.5.11 Migration from any Area of Potential Environmental Concern

No contamination areas were identified within the Phase Two Property; as such, there is no migration of contaminants associated with the APEC at the Site.

5.5.12 Meteorological and Climatic Considerations

No contamination areas were identified within the Phase Two Property; as such, there is no meteorological or climatic influences on migration at the Site.

5.5.13 Potential for Soil Vapour Intrusion

No volatile parameters in soil were identified at the Site; as such, soil vapour intrusion is not a potential contaminant transport mechanism and vapour intrusion is not expected into the buildings.

6 Conclusions

This Phase Two ESA was completed to investigate the APECs and COPCs identified as part of the Phase One ESA completed for the property located at part of 1412 Stittsville Main Street, Ottawa, Ontario, referred to as the "Site" or "Phase Two Property". The Phase One ESA identified one APEC impacting soil and groundwater as the media of concern. This Phase Two ESA was carried out to investigate the soil quality at the Site. To assess the quality of soil, the investigation included the following scope of work:

- One test pit excavation program was conducted on the Site:
  - The advancement of three (3) hand dug test pits (S1, S2, and S3) on February 26, 2025 to depths of 0.3 – 0.6 m bgs.
- Collection of three (3) representative soil samples to be analyzed for Metals, Inorganics, Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs).

Soil was initially investigated, and the soil samples were noted to meet Table 1 RPI/ICC SCSs, the most stringent SCSs. Given the soil meets Table 1 RPI/ ICC SCSs it is the Qualified Persons opinion that groundwater impact would be negligible. As such, groundwater was not investigated as part of this investigation.

Soil sample results were similarly compared to the applicable O.Reg. 153/04, as amended, Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/Parkland/Institutional Property Use in Coarse Textured Soils (O.Reg. 153/04 Table 2 RPI Coarse). The results of the investigation indicated:

- All three (3) soil samples met the applicable Table 2 RPI SCS for coarse textured soils.

Based on the results of the sampling program outlined in this Phase Two Environmental Site Assessment, the soil meets the Table 2 RPI SCS for coarse textured soils. As such, it is of the QPs opinion no further investigations are required.

It should be noted soil conditions reported here are representative of the conditions encountered during this investigation. Soil conditions between and beyond the sampled locations may differ from those encountered during this assignment. Tatham should be contacted if impacted soil conditions become apparent during future development to further assess and appropriately handle the materials, if any, and evaluate whether modifications to the conclusions documented in this report are necessary.

7 References

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

City of Ottawa Interactive Map accessed through: http://maps.ottawa.ca/geoottawa/

Government of Canada. 2021. The Atlas of Canada – Toporama

Government of Ontario. GeologyOntario, Ontario's Geoscience Data accessed through: https://www.hub.geologyontario.mines.gov.on.ca/

LRL Engineering, Geotechnical Investigation, Proposed 3-Storey Commercial Building, 1412 Stittsville Main Street, Stittsville, Ontario, prepared for Argue Construction Ltd., September 2022.

LRL Engineering, Phase One Environmental Site Assessment, 1412 Stittsville Main Street, Ottawa, Ontario, February 5, 2025

Ministry of Environment, Conservation and Parks (2011) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act".

Ministry Ontario Regulation 153/04: Records of Site Condition – Part XV.1 of the Act under Environmental Protection Act, R.S.O. 1990, C. E. 19. March 19, 2021.

Ontario Ministry of Natural Resources and Forestry. Make a Map: Natural Heritage Areas, November 20, 2024.

Ontario Well Records Map accessed though: https://www.ontario.ca/environment-andenergy/map-well-records

Pinchin Ltd., Phase I Environmental Site Assessment, 1410 Stittsville Main Street, Ottawa, Ontario, September 8, 2020;

N

NOTES:
1. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
2.CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENSE – ONTARIO.

LEGEND

- SITE
- STUDY AREA (250 M)

0 200 400 800 METERS

TATHAM ENGINEERING

1412 STITTSVILLE MAIN STREET, OTTAWA
PHASE TWO ENVIRONMENTAL ASSESSMENT
SITE LOCATION PLAN

DWG. No. **FIG-1**

SCALE: 1:10,000 | DRAWN: AO | DATE: MAR. 2025 | JOB NO. 524659

I:\2024 Projects\524659 - 1412 Stittsville Main Street, Stittsville\GIS\524659 - 1412 Stittsville Main\524659 - 1412 Stittsville Main.aprx

PCA ID	PCA
30	Importation of Fill Material of Unknown Quality
31	Ink Manufacturing, Processing and Bulk Storage
47	Rubber Manufacturing and Processing
51	Solvent Manufacturing, Processing and Bulk Storage
A	Dentist Office
B	Spills

N

NOTES:
1. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
2.CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENSE – ONTARIO.

LEGEND

- SITE
- STUDY AREA (250 M)
- PCA RESULTING IN APEC
- PCA NOT RESULTING IN APEC
- WATERCOURSE
- INFERRED REGIONAL GROUNDWATER FLOW DIRECTION

0 50 100 200 METERS

TATHAM ENGINEERING

1412 STITTSVILLE MAIN STREET, OTTAWA
PHASE TWO ENVIRONMENTAL ASSESSMENT
CONCEPTUAL SITE MODEL

DWG. No. **FIG-2**

SCALE: 1:2,500 | DRAWN: AO | DATE: MAR. 2025 | JOB NO. 524659

I:\2024 Projects\524659 - 1412 Stittsville Main Street, Stittsville\GIS\524659 - 1412 Stittsville Main\524659 - 1412 Stittsville Main.aprx

N

NOTES:
1. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
2.CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENSE – ONTARIO.

LEGEND

SITE

APEC 1: PCA 30 - IMPORTATION OF FILL MATERIAL OF UNKNOWN QUALITY

0 10 20 40 METERS

TATHAM ENGINEERING

1412 STITTSVILLE MAIN STREET, OTTAWA
PHASE TWO ENVIRONMENTAL ASSESSMENT
AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

DWG. No. **FIG-3**

SCALE: 1:500 | DRAWN: AO | DATE: MAR. 2025 | JOB NO. 524659

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N

NOTES:
1. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
2.CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENSE – ONTARIO.

LEGEND

SITE

TEST PITS

0 10 20 40 METERS

TATHAM ENGINEERING

1412 STITTSVILLE MAIN STREET, OTTAWA
PHASE TWO ENVIRONMENTAL ASSESSMENT
TEST PIT LOCATION PLAN

DWG. No. **FIG-4**

SCALE: 1:500	DRAWN: AO	DATE: MAR. 2025	JOB NO. 524659

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N

NOTES:
1. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
2.CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENSE – ONTARIO.

TABLES LEGEND:

METALS - AS, AG, BA, BE, B, CD, CR, CO, CU, HG, PB, MO, NI, SB, TI, U, V, ZN
INORGANICS - ELECTRICAL CONDUCTIVITY, SODIUM ADSORPTION RATIO, PH
PHCS - PETROLEUM HYDROCARBONS
VOCS - VOLATILE ORGANIC COMPOUNDS
PAHS - POLYCYCLIC AROMATIC HYDROCARBONS

LEGEND

SITE

TEST PITS

Sample ID	Sample Depth (m bgs)	Analyses Tested	Table 2 RPI Exceedances
SS1	0.3 - 0.6 m	Metals, Inorganics, PHCs, VOCs, PAHs	None

Sample ID	Sample Depth (m bgs)	Analyses Tested	Table 2 RPI Exceedances
SS2	0.3 - 0.6 m	Metals, Inorganics, PHCs, VOCs, PAHs	None

Sample ID	Sample Depth (m bgs)	Analyses Tested	Table 2 RPI Exceedances
SS3	0.3 - 0.6 m	Metals, Inorganics, PHCs, VOCs, PAHs	None

0 10 20 40 METERS

TATHAM ENGINEERING

1412 STITTSVILLE MAIN STREET, OTTAWA
PHASE TWO ENVIRONMENTAL ASSESSMENT
SUMMARY OF SOIL CHEMISTRY RESULTS

DWG. No. **FIG-5**

SCALE: 1:500 | DRAWN: AO | DATE: MAR. 2025 | JOB NO. 524659

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Appendix A:
Sampling and Analysis Plan

TATHAM ENGINEERING

Table 1: Sampling and Analysis Plan: Soil Sampling - 1412 Sittsville Main Street, Ottawa, ON - February 26, 2025

General			COPCs			
Test Pit ID	Approx. Depth of Sample	Samples per Test Pit	Metals and Inorganics	PHCs and BTEX	Jars Required	APEC Under Investigation
SOIL Instructions: Collect soil samples from hand dug test pits. Record general soil stratigraphy and note any visual or olfactory observations. Place soil into laboratory supplied jars and vials and label with date, sample ID, job title, etc. Wear nitrile gloves and change gloves between sample locations. Submit all soil samples for the analysis of metals, inorganics, PHCs, VOCs, and PAH parameters. Fill out chain of custody as applicable.						
S1	0.3-0.6 m bgs	1	1	1	1 x 250 mL Jar 1 x 120 mL Jar 2 x Methanol Vial	1
S2	0.3-0.6 m bgs	1	1	1	1 x 250 mL Jar 1 x 120 mL Jar 2 x Methanol Vial	1
S3	0.3-0.6 m bgs	1	1	1	1 x 250 mL Jar 1 x 120 mL Jar 2 x Methanol Vial	1
Total			3	3		

Appendix B: Laboratory Certificates of Analysis

CADUCEON ENVIRONMENTAL LABORATORIES
Client committed. Quality assured. Proudly Canadian.

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G 138248 **REPORT No: 25-004997 - Rev. 0**

Report To:
Tatham Engineering
115 Sandford Fleming Drive
Suite 200
Collingwood, ON L9Y 5A6

Attention: Alicia Kimberley

CADUCEON Environmental Laboratories
2378 Holly Lane
Ottawa, ON K1V 7P1

DATE RECEIVED: 2025-Feb-27
DATE REPORTED: 2025-Mar-05
SAMPLE MATRIX: Soil

CUSTOMER PROJECT: 524659
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Conductivity Meter (Solid)	3	OTTAWA	MMACMILLAN	2025-Mar-03	A-COND-03	MECP E3530
ICP/MS (Solid)	3	OTTAWA	AOZKAYMAK	2025-Mar-03	D-ICPMS-01	EPA 6020B
ICP/OES (Solid)	3	OTTAWA	APRUDYVUS	2025-Mar-03	D-ICP-02	EPA 6010
Mercury (Solid)	3	OTTAWA	TBENNETT	2025-Feb-28	D-HG-01	EPA 7471A
SAR analysed by ICPOES (Solid)	3	OTTAWA	APRUDYVUS	2025-Mar-03	D-ICP-02	EPA 6010
pH Meter (Solid)	3	OTTAWA	MMACMILLAN	2025-Mar-03	pH-03	MECP E3530
PHC F1 (Solid)	3	RICHMOND_HILL	JEVANS	2025-Mar-03	C-VPHS-01	CWS Tier 1
PHC F2-4 (Solid)	3	KINGSTON	STHOMPSON	2025-Mar-01	PHC-S-001	CWS Tier 1
SVOC - Semi-Volatiles (Solid)	3	KINGSTON	KPARKER	2025-Mar-04	NAB-S-001	EPA 8270D
VOC-Volatiles (Solid)	3	RICHMOND_HILL	JEVANS	2025-Mar-03	C-VOC-02	EPA 8260

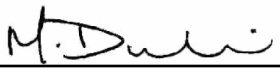
µg/g = micrograms per gram (parts per million) and is equal to mg/Kg
F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)
F2 C10-C16 hydrocarbons in µg/g, (F2-napth if requested)
F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)
F4 C34-C50 hydrocarbons in µg/g
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
Any deviations from the method are noted and reported for any particular sample.
nC6 and nC10 response factor is within 30% of response factor for toluene:
nC10,nC16 and nC34 response factors within 10% of each other:
C50 response factors within 70% of nC10+nC16+nC34 average:
Linearity is within 15%:
All results expressed on a dry weight basis.
Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

R.L. = Reporting Limit
NC = Not Calculated
Test methods may be modified from specified reference method unless indicated by an *

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.
If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC
QC will be made available upon request.

Michelle Dubien
Data Specialist

Parameter	Units	R.L.	Limits	Reg 153/406	S1	S2	S3
Client I.D.					S1	S2	S3
Sample I.D.					25-004997-1	25-004997-2	25-004997-3
Date Collected					2025-Feb-26	2025-Feb-26	2025-Feb-26
Conductivity @25°C	mS/cm	0.001	0.57	T1RPIICC	0.122	0.073	0.124
pH @25°C	-	-			6.86	7.09	7.12
Sodium Adsorption Ratio	-	-	2.4	T1RPIICC	0.52	0.30	0.21
Barium	µg/g	1	220	T1RPIICC	56	64	85
Beryllium	µg/g	0.2	2.5	T1RPIICC	0.4	0.4	0.5
Boron	µg/g	0.5	36	T1RPIICC	19.3	15.8	18.0
Cadmium	µg/g	0.5	1.2	T1RPIICC	<0.5	<0.5	<0.5
Chromium	µg/g	1	70	T1RPIICC	41	24	26
Cobalt	µg/g	1	21	T1RPIICC	6	8	9
Copper	µg/g	1	92	T1RPIICC	8	7	11
Lead	µg/g	5	120	T1RPIICC	9	11	22
Molybdenum	µg/g	1	2	T1RPIICC	<1	<1	<1
Nickel	µg/g	1	82	T1RPIICC	11	12	14
Vanadium	µg/g	1	86	T1RPIICC	49	54	54
Zinc	µg/g	3	290	T1RPIICC	42	42	65
Antimony	µg/g	0.5	1.3	T1RPIICC	<0.5	<0.5	<0.5
Arsenic	µg/g	0.5	18	T1RPIICC	1.5	2.4	2.8
Selenium	µg/g	0.5	1.5	T1RPIICC	<0.5	<0.5	<0.5
Silver	µg/g	0.2	0.5	T1RPIICC	<0.2	<0.2	<0.2
Thallium	µg/g	0.1	1	T1RPIICC	<0.1	<0.1	0.1
Uranium	µg/g	0.1	2.5	T1RPIICC	0.6	0.6	0.5



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				Client I.D.	S1	S2	S3
				Sample I.D.	25-004997-1	25-004997-2	25-004997-3
				Date Collected	2025-Feb-26	2025-Feb-26	2025-Feb-26
Parameter	**Units**	**R.L.**	**Limits**	**Reg 153/406**	-	-	-
Mercury	µg/g	0.01	0.27	T1RPIICC	0.02	0.03	0.04

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				Client I.D.	S1	S2	S3
				Sample I.D.	25-004997-1	25-004997-2	25-004997-3
				Date Collected	2025-Feb-26	2025-Feb-26	2025-Feb-26
Parameter	Units	R.L.	Limits	Reg 153/406	-	-	-
Acetone	µg/g	0.5	0.5	T1RPIICC	<0.5	<0.5	<0.5
Benzene	µg/g	0.02	0.02	T1RPIICC	<0.02	<0.02	<0.02
Bromodichloromethane	µg/g	0.02	0.05	T1RPIICC	<0.02	<0.02	<0.02
Bromoform	µg/g	0.02	0.05	T1RPIICC	<0.02	<0.02	<0.02
Bromomethane	µg/g	0.05	0.05	T1RPIICC	<0.05	<0.05	<0.05
Carbon Tetrachloride	µg/g	0.05	0.05	T1RPIICC	<0.05	<0.05	<0.05
Chlorobenzene	µg/g	0.02	0.05	T1RPIICC	<0.02	<0.02	<0.02
Chloroform	µg/g	0.02	0.05	T1RPIICC	<0.02	<0.02	<0.02
Dibromochloromethane	µg/g	0.02	0.05	T1RPIICC	<0.02	<0.02	<0.02
Ethylene Dibromide	µg/g	0.02	0.05	T1RPIICC	<0.02	<0.02	<0.02
Dichlorobenzene,1,2-	µg/g	0.05	0.05	T1RPIICC	<0.05	<0.05	<0.05
Dichlorobenzene,1,3-	µg/g	0.05	0.05	T1RPIICC	<0.05	<0.05	<0.05
Dichlorobenzene,1,4-	µg/g	0.05	0.05	T1RPIICC	<0.05	<0.05	<0.05
Dichlorodifluoromethane (Freon 12)	µg/g	0.05	0.05	T1RPIICC	<0.05	<0.05	<0.05
Dichloroethane,1,1-	µg/g	0.02	0.05	T1RPIICC	<0.02	<0.02	<0.02
Dichloroethane,1,2-	µg/g	0.02	0.05	T1RPIICC	<0.02	<0.02	<0.02
Dichloroethylene,1,1-	µg/g	0.02	0.05	T1RPIICC	<0.02	<0.02	<0.02
Dichloroethylene,1,2-cis-	µg/g	0.02	0.05	T1RPIICC	<0.02	<0.02	<0.02
Dichloroethylene,1,2-trans-	µg/g	0.02	0.05	T1RPIICC	<0.02	<0.02	<0.02
Dichloropropane,1,2-	µg/g	0.02	0.05	T1RPIICC	<0.02	<0.02	<0.02
Dichloropropene,1,3-cis-	µg/g	0.02			<0.02	<0.02	<0.02

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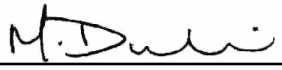
Parameter	Units	R.L.	Limits	Reg 153/406	Client I.D. S1	S2	S3
					Sample I.D. 25-004997-1	25-004997-2	25-004997-3
					Date Collected 2025-Feb-26	2025-Feb-26	2025-Feb-26
					-	-	-
Dichloropropene,1,3-cis+trans-(Calculated)	µg/g	0.02	0.05	T1RPIICC	<0.02	<0.02	<0.02
Dichloropropene,1,3-trans-	µg/g	0.02			<0.02	<0.02	<0.02
Ethylbenzene	µg/g	0.05	0.05	T1RPIICC	<0.05	<0.05	<0.05
Hexane	µg/g	0.02	0.05	T1RPIICC	<0.02	<0.02	<0.02
Dichloromethane (Methylene Chloride)	µg/g	0.05	0.05	T1RPIICC	<0.05	<0.05	<0.05
Methyl Ethyl Ketone	µg/g	0.5	0.5	T1RPIICC	<0.5	<0.5	<0.5
Methyl Isobutyl Ketone	µg/g	0.5	0.5	T1RPIICC	<0.5	<0.5	<0.5
Methyl tert-Butyl Ether (MTBE)	µg/g	0.05	0.05	T1RPIICC	<0.05	<0.05	<0.05
Styrene	µg/g	0.05	0.05	T1RPIICC	<0.05	<0.05	<0.05
Tetrachloroethane,1,1,1,2-	µg/g	0.02	0.05	T1RPIICC	<0.02	<0.02	<0.02
Tetrachloroethane,1,1,2,2-	µg/g	0.05	0.05	T1RPIICC	<0.05	<0.05	<0.05
Tetrachloroethylene	µg/g	0.05	0.05	T1RPIICC	<0.05	<0.05	<0.05
Toluene	µg/g	0.2	0.2	T1RPIICC	<0.2	<0.2	<0.2
Trichloroethane,1,1,1-	µg/g	0.02	0.05	T1RPIICC	<0.02	<0.02	<0.02
Trichloroethane,1,1,2-	µg/g	0.02	0.05	T1RPIICC	<0.02	<0.02	<0.02
Trichloroethylene	µg/g	0.05	0.05	T1RPIICC	<0.05	<0.05	<0.05
Trichlorofluoromethane (Freon 11)	µg/g	0.02	0.25	T1RPIICC	<0.02	<0.02	<0.02
Vinyl Chloride	µg/g	0.02	0.02	T1RPIICC	<0.02	<0.02	<0.02
Xylene, m,p-	µg/g	0.03			<0.04	<0.03	<0.03
Xylene, m,p,o-	µg/g	0.03	0.05	T1RPIICC	<0.05	<0.04	<0.04
Xylene, o-	µg/g	0.03			<0.04	<0.03	<0.03



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Data Specialist

				Client I.D.	S1	S2	S3
				Sample I.D.	25-004997-1	25-004997-2	25-004997-3
				Date Collected	2025-Feb-26	2025-Feb-26	2025-Feb-26
Parameter	Units	R.L.	Limits	Reg 153/406	-	-	-
PHC F1 (C6-C10)	µg/g	10	25	T1RPIICC	<12	<10	<10
PHC F2 (>C10-C16)	µg/g	5	10	T1RPIICC	<5	<5	<5
PHC F3 (>C16-C34)	µg/g	10	240	T1RPIICC	<10	<10	<10
PHC F4 (>C34-C50)	µg/g	10	120	T1RPIICC	<10	<10	<10

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Parameter	Units	R.L.	Limits	Reg 153/406	Client I.D. S1	S2	S3
					Sample I.D. 25-004997-1	25-004997-2	25-004997-3
					Date Collected 2025-Feb-26	2025-Feb-26	2025-Feb-26
					-	-	-
Acenaphthene	µg/g	0.05	0.072	T1RPIICC	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.05	0.093	T1RPIICC	<0.05	<0.05	<0.05
Anthracene	µg/g	0.05	0.16	T1RPIICC	<0.05	<0.05	<0.05
Benzo[a]anthracene	µg/g	0.05	0.36	T1RPIICC	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.05	0.3	T1RPIICC	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.05	0.47	T1RPIICC	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	0.05	0.68	T1RPIICC	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.05	0.48	T1RPIICC	<0.05	<0.05	<0.05
Chrysene	µg/g	0.05	2.8	T1RPIICC	<0.05	<0.05	<0.05
Dibenzo(a,h)anthracene	µg/g	0.05	0.1	T1RPIICC	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.05	0.56	T1RPIICC	<0.05	<0.05	<0.05
Fluorene	µg/g	0.05	0.12	T1RPIICC	<0.05	<0.05	<0.05
Indeno(1,2,3,-cd)Pyrene	µg/g	0.05	0.23	T1RPIICC	<0.05	<0.05	<0.05
Methylnaphthalene,1-	µg/g	0.05	0.59	T1RPIICC	<0.05	<0.05	<0.05
Methylnaphthalene,2-	µg/g	0.05	0.59	T1RPIICC	<0.05	<0.05	<0.05
Methylnaphthalene,2-(1-)	µg/g	0.05	0.59	T1RPIICC	<0.05	<0.05	<0.05
Naphthalene	µg/g	0.01	0.09	T1RPIICC	<0.01	<0.01	<0.01
Phenanthrene	µg/g	0.01	0.69	T1RPIICC	<0.01	<0.01	<0.01
Pyrene	µg/g	0.05	1	T1RPIICC	<0.05	<0.05	<0.05

Reg 153/406: Reg 153/406
T1RPIICC: R153 Tbl. 1 - RPI ICC

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