

**PHASE TWO 'GPXKTQPO GPVCN SITE  
ASSESSMENT**

**601 SCOTTSDALE DRIVE  
GUELPH, ONTARIO**



**WATTERS  
ENVIRONMENTAL  
GROUP INC.**

**CONFIDENTIAL**

**PHASE TWO ENVIRONMENTAL  
SITE ASSESSMENT**

**601 SCOTTSDALE DRIVE  
GUELPH, ONTARIO**

Prepared for:

**FORUM EQUITY PARTNERS**

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## 1.0 EXECUTIVE SUMMARY

Watters Environmental Group Inc. (Watters Environmental) was retained by Forum Equity Partners (Forum) to conduct a Phase Two Environmental Site Assessment (Phase Two ESA) of a commercial property located at 601 Scottsdale Drive in Guelph, Ontario (hereafter the “Phase Two Property” or the “Site”).

Watters Environmental understands that the Phase Two Property is planned for redevelopment for future residential use and that a Record of Site Condition (RSC) is required from the Ministry of Environment, Conservation and Parks (MECP) as per Ontario Regulation (O. Reg.) 153/04, as amended (hereafter “O. Reg. 153/04”).

Watters Environmental completed a Phase One ESA for the Site, with the findings documented in a report entitled, “*Phase One Environmental Site Assessment, 601 Scottsdale Drive, Guelph, Ontario*”, dated December 2021. The Phase One ESA identified two potentially contaminating activities (PCAs) on the Phase One Property, and two off-Site PCAs in the Phase One Study Area, as listed below:

PCA	Location of Activity	Table 2 PCA No. & Description*	Discussion
1	On-Site, Interior of Phase One Property Site Building	#28 – Gasoline and Associated Products Storage in Fixed Tanks	One 227-litre, double-walled diesel AST, with remote fill and vent pipes, used to power the on-Site emergency generator.
2	On-Site, Exterior of Phase One Property Site Building	#55 – Transformer Manufacturing, Processing and Use	Pad-mounted transformer utilized to provide electricity to the Site building.
3	Off-Site, 70 metres to the south of the Phase One Property	#28 – Gasoline and Associated Products Storage in Fixed Tanks	Two double-walled fibreglass USTs at the Canadian Tire gas bar, across Stone Road West.
4	Off-Site, greater than 140 metres to the east of the Phase One Property	#37 Operation of Dry-Cleaning Equipment (where chemicals are used)	Historical dry-cleaning facility located across Scottsdale Drive within a retail shopping outlet at 435 Stone Road West (Stone Road Mall).

PCA	Location of Activity	Table 2 PCA No. & Description*	Discussion
5	On-Site, Exterior paved areas of the Phase One Property (i.e., asphalt-paved parking areas and driveways surrounding the Site building)	Not Applicable – Road salting	Road salting for de-icing purposes to keep paved surfaces safe for vehicular and pedestrian traffic.

Only the three PCAs on the Phase One Property were considered to contribute to areas of potential environmental concern (APECs) on the Phase One Property.

As a result, Watters Environmental recommended a Phase Two ESA to be conducted to address PCA 1 and PCA 2, as it is a mandatory requirement in O. Reg. 153/04 to conduct a subsurface assessment if there are current or historical PCAs on the Phase One Property. However, as per paragraph 1 in Section 49.1 of Ontario Regulation 153/04 (as amended), sampling is not required for the APEC associated with PCA 5.

The Phase Two ESA involved advancing three boreholes and submitting soil samples for laboratory analysis for the relevant contaminants of concern (COCs). Groundwater was not considered a media of concern.

The analytical results for soil were compared to the Table 2 Full Depth Generic Site Condition Standards (SCS) in a Potable Groundwater Condition for Residential/Parkland/Institutional Property Use (for coarse grained soils), contained in the Ontario Ministry of the Environment [MOE – now the MECP] document entitled, “*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*” (dated April 15, 2011). These generic standards are hereafter referred to as the “Table 2 SCS”.

Based on the results of the Phase Two ESA, Watters Environmental presents the following findings:

- There was no visual or olfactory evidence of petroleum impacts in the soil in the three boreholes drilled on the Phase Two Property; and
- The concentrations of all COCs in all soil samples submitted from the three boreholes met the Table 2 SCS.

In summary, the findings of the Phase Two ESA indicated that there are no soil impacts resulting from the presence of the AST and related fill/vent pipes, or the presence/use of the pad-mounted transformer at the Phase Two Property.

## 2.0 INTRODUCTION

Watters Environmental Group Inc. (Watters Environmental) was retained by Forum Equity Partners (Forum) to conduct a Phase Two Environmental Site Assessment (Phase Two ESA) of a commercial property located at 601 Scottsdale Drive, in Guelph, Ontario (hereafter the “Phase Two Property” or the “Site”; see Figures 1 and 2).

The Phase Two Property was vacant or historically used for agricultural purposes prior to the 1970s. A detailed description of the Phase Two Property is provided in Section 2.1. The Phase Two Property is currently owned by the University of Guelph and covers an area of approximately 2.22 hectares (5.49 acres). The Phase Two Property has operated as a hotel since its development in 1979; however, recently ceased operations in August 2021. Forum has a ground lease and owns the hotel, and plans to convert the Site building to student housing.

Watters Environmental understands that the Phase Two Property is planned for redevelopment for future residential use and that a Record of Site Condition (RSC) is required from the Ministry of Environment, Conservation and Parks (MECP) in accordance with Ontario Regulation (O. Reg.) 153/04 (i.e., Records of Site Condition – Part XV.1 of the Act, made under the Ontario Environmental Protection Act, R.S.O. 1990), as amended (hereafter referred to as the “O. Reg. 153/04”).

Watters Environmental completed a Phase One ESA on the Site. The findings of the Phase One ESA are summarized in Watters Environmental’s report entitled, “*Phase One Environmental Site Assessment, 601 Scottsdale Drive in Guelph, Ontario*”, dated December 2021 (the “2021 Watters Environmental Phase One ESA”). The 2021 Watters Environmental Phase One ESA identified three (3) potentially contaminating activities (PCAs) on the Phase One Property, which resulted in three (3) Areas of Potential Environmental Concern (APECs) on the Phase One Property. One of the APECs was a result of road salting and therefore, not required to be investigated as per paragraph 1 in Section 49.1 of O. Reg. 153/04. As a result, a Phase Two ESA was required under the RSC Regulation for the purpose of filing an RSC.

In order to adequately assess the APECs, a sampling and analysis plan was prepared for the investigation (see Appendix A). The Phase Two ESA was conducted in accordance with the requirements of O. Reg. 153/04.

## 2.1 Site Description

For the purpose of this report, the portion of Scottsdale Drive that is adjacent to the Site is assumed to be aligned in a north-south direction (i.e., “Project North”), although it is actually aligned in a northwest-southeast direction (i.e., relative to “True North”). Unless otherwise noted, descriptions provided in this report are relative to Project North.

The Phase Two Property is situated on the northwest corner of the intersection of Scottsdale Drive and Stone Road West, immediately surrounded by a vacant and commercial property to the north, Scottsdale Drive followed by Stone Road Mall to the east, Stone Road West followed by residential and commercial properties to the south including a Canadian Tire gasoline retail outlet and car wash, and a vacant property to the west (see Figure 2).

The Phase Two Property, currently owned by the University of Guelph, covers an area of approximately 2.22 hectares (5.49 acres). The Phase Two Property is currently occupied by a multi-storey Holiday Inn Guelph Hotel & Conference Centre (hotel, hereafter the “Site building”) in the eastern portion. An asphalt-paved parking area is located west of the Site building and located centrally on the Phase One Property. The remaining portion of the Phase One Property contains a vacant/grassed field on the western area. There is no fencing on the Phase One Property other than wooden fencing surrounding a waste storage area along the west-central exterior of the Site building and wooden fencing around a pad-mounted transformer located adjacent to the southeast corner of the Site building. The layout of the Phase One Property is presented on Figure 3.

According to information provided by Forum Equity Partners, the legal description for the Phase One Property is summarized as follows:

- BLOCK K, PLAN 649; S/T BS12836; T/W EASE LT25785 OVER PART 4, 61R2930; GUELPH; TOGETHER WITH AN EASEMENT OVER PT BLK L, PL 649, PT 4, 61R2930 AS IN WC483686.

The property identification number (PIN) for the Phase One Property is as follows:

- 71248-0072 (LT).

The geo-referencing coordinates for the approximate centre of the Phase One Property are summarized as follows:

- Latitude/Longitude: 43°51'54.077708403” North, 80°24'13.1180363852” West; and

- Universal Transverse Mercator (UTM) Coordinates: 561320.134m East, 4818332.092m North.

A signed Plan of Survey of the Phase Two Property is provided in Appendix B.

## 2.2 Property Ownership

The Phase Two Property is owned by University of Guelph and the contact information for the owner (and other relevant contact information) is provided in Table 1 below:

**Table 1: Phase Two Property Contact Information**

<p><b>Name, Address and Contact Information of Current Owner of The Phase Two Property</b></p>	<p>Company Name: The University of Guelph Name: Sharmilla Rasheed Title: VP, Finance and Operations Address: 50 Stone Road East Guelph, Ontario N1G 2W1 Email: <a href="mailto:rasheeds@uoguelph.ca">rasheeds@uoguelph.ca</a></p>
<p><b>Name, Address and Contact Information of Person Who Engaged the Qualified Person to Conduct the Phase Two ESA</b></p>	<p>Company Name: Forum Equity Partners Name: Ms. Dayna Gilbert Title: Vice President, Forum House at Brookfield Place Address: 181 Bay Street, East podium, Second Floor Toronto, Ontario M5J 2T3 Phone Number: (416) 947-1463 Email: <a href="mailto:daynag@forumequitypartners.com">daynag@forumequitypartners.com</a></p>
<p><b>QP<sub>ESA</sub> from Watters Environmental Group Inc. that Supervised the Phase Two ESA</b></p>	<p>Name: Vaidehi Jadeja, P.Eng., QP<sub>ESA</sub> Title: Project Manager Address: 9135 Keele Street, Unit A1, Concord, Ontario L4K 0J4 Tel: 416-361-2407 ext. 238 Fax: 416-361-2410 Email: <a href="mailto:vjadeja@wattersenvironmental.com">vjadeja@wattersenvironmental.com</a></p>

### 2.3 Current and Proposed Future Uses

The Phase Two Property is comprised of a multi-storey hotel building. Watters Environmental understands that the Phase Two Property is planned for redevelopment into residential properties. Given this change in land use, an RSC is required as per the RSC Regulation.

**Table 2: Phase Two Property Current and Proposed Future Land Use**

<b>Current Property Use</b>	Commercial
<b>Proposed Property Use</b>	Residential
<b>If the proposed use is undertaken, would section 168.3.1 of the <i>Environmental Protection Act</i> prohibit the new use unless a Record of Site Condition is filed?</b>	Yes

### 2.4 Applicable Site Condition Standard

The results of the soil and groundwater chemical analyses were evaluated using the standards prescribed in the Ministry of the Environment [MOE – now the Ministry of the Environment, Conservation and Parks (MECP)] document entitled, “*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*” (dated April 15, 2011). These standards were used to evaluate soil and groundwater quality based on the samples collected and tested, to determine whether soil and groundwater quality complied with the MECP standards and to determine whether additional investigations, or remedial actions to reduce the concentrations, are required or warranted. These standards are applied as per O. Reg. 153/04. O. Reg. 153/04 was amended by O. Reg. 511/09 as of December 9, 2009. These amendments came into effect on July 1, 2011.

The Phase Two Property is currently used for commercial purposes, and the proposed future use is residential. The use of the Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for Residential/Parkland/Institutional Property Use (for coarse-grained soils), was considered appropriate by Watters Environmental based on the following:

- Water to the Phase Two Property is municipally supplied by the City of Guelph; however, there were records of several potable water supply wells within the Phase Two Study Area. Therefore, a potable groundwater condition is deemed appropriate;



- The soil samples analyzed at the Phase Two Property were within a pH range of 5 to 9 for surface soils (i.e., soils that are no more than 1.5 metres below the soil surface) and 5 to 11 for subsurface soils (i.e., soils that are more than 1.5 metres below the soil surface);
- The Phase Two Property neither includes any part of a water body nor is it located within 30 metres of a water body;
- The Phase Two Property is not located within, adjacent to, or includes land that is within 30 metres of an area of natural significance or part of such an area;
- The Phase Two Property is not located within areas where the Niagara Escarpment Planning and Development Act or Oak Ridge's Moraine Conservation Act, 2001 applies;
- The Phase Two Property is not a "shallow soil property", as defined in the RSC Regulation, as bedrock was not encountered in any of the boreholes advanced [i.e., the deepest borehole drilled by Watters Environmental was to 2.3 metres below ground surface (mbgs)]. Based on water well records within relatively close proximity to the Phase Two Property, bedrock is anticipated to be present at depths ranging from approximately 40.23 to 50.29 mbgs (132 to 165 feet); and
- Grain size analysis and visual observations during the field work indicated that the soil is predominately coarse textured.

### **3.0 BACKGROUND INFORMATION**

#### **3.1 Physical Setting**

Watters Environmental conducted a review of the following topographic, geological, and physiographic maps showing the Phase One Study Area:

- A topographic map available online from Natural Resources Canada (NRC) – National Topographic System (<http://atlas.nrcan.gc.ca>) (see Figure 4);
- Ministry of Northern Development and Mines (MNDM), Surficial Geology on Google Earth Database, 2010;
- MNDM, Bedrock Geology on Google Earth Database, 2011; and
- MECP Water Well Records website (<http://www.ontario.ca/environment-and-energy/well-records>).

Similar maps, including an Ontario Base Map, were provided in the EcoLog ERIS report.

Based on a review of the online topographic map from NRC, the Phase One Property is situated at an elevation of approximately 335 metres above mean sea level (mamsl). The surrounding properties to the north, east, and south, are at a relatively similar grade with the Phase One Property; however, the properties to the west slope downwards (see Figure 4).

Based on the general topography of the Phase One Property, surrounding area, and the presence Speed River which is located approximately 1.6 kilometres to the west and Hanlon's Creek which is located approximately 1.0 kilometre to the southwest, Watters Environmental infers that the near-surface groundwater at the Phase One Property flows to the west, following the local topographic gradient.

A review of the MNDM Surficial Geology map on the Google Earth Database indicates that the overburden in the area of the Phase One Property consists of sand and gravel, minor silt, clay and till derived from ice-contact stratified deposits.

Bedrock in the vicinity of the Phase One Property is expected to be sandstone, shale, dolostone, and siltstone of the Guelph Formation. Based on water well records within relatively close proximity to the Phase One Property, bedrock is anticipated to be present at depths ranging from approximately 40.23 to 50.29 mbgs (132 to 165 feet).

### 3.2 Past Investigations

The following previous environmental reports and other documents relating to the Phase Two Property were provided to Watters Environmental for review:

- “*Draft Phase I Environmental Site Assessment, Holiday Inn, 601 Scottsdale Drive, Guelph, Ontario*”, prepared by Agra Earth & Environmental Limited (“AGRA”) for Westmont Hospitality Group, and dated May 1999 (the “1999 AGRA Draft Phase I ESA Report”);
- “*Phase I Environmental Site Assessment, Holiday Inn, 601 Scottsdale Drive, Guelph, Ontario*”, prepared by BEAK International Incorporated (“BEAK”) for WXI/WWH Guelph Holdings Corp., and dated October 2002 (the “2002 BEAK Phase I ESA Report”);
- “*Phase I Environmental Site Assessment, Holiday Inn, 601 Scottsdale Drive, Guelph, Ontario*”, prepared by Stantec for InnVest Real Estate Investment Trust and General Electric Capital Canada Inc., and dated April 8, 2004 (the “2004 Stantec Phase I ESA Report”);
- “*Asbestos Management Program, Location and Assessment Report, Holiday Inn, 601 Scottsdale Drive, Guelph, Ontario*”, prepared by Watters Environmental for Westmont Hospitality Group, and dated January 2005 (the “2005 Watters Environmental Asbestos Survey Report”);
- “*Asbestos Management Program, Policy and Procedures Manual, Holiday Inn, 601 Scottsdale Drive, Guelph, Ontario*”, prepared by Watters Environmental for Westmont Hospitality Group, and dated January 2005 (the “2005 Watters Environmental Asbestos Management Report”);
- “*Phase I Environmental Site Assessment, Holiday Inn, 601 Scottsdale Drive, Guelph, Ontario*”, prepared by Watters Environmental for GE Capital Real Estate, and dated May 2014 (the “2014 Watters Environmental Phase I ESA Report”);
- “*Phase I Environmental Site Assessment, Holiday Inn, 601 Scottsdale Drive, Guelph, Ontario*”, prepared by Watters Environmental for InnVest Hotels LP, and dated October 2020 (the “2020 Watters Environmental Phase I ESA Report”); and

- “Phase One Environmental Site Assessment, 601 Scottsdale Drive, Guelph, Ontario”, prepared for Forum Equity Partners by Watters Environmental, and dated December 2021 (the “2021 Watters Environmental Phase One Report”).

A summary of the above-listed reports is provided below.

#### 1999 AGRA Draft Phase I ESA Report

Based on a review of this report, Watters Environmental notes the following:

- AGRA concluded that there were no significant environmental issues, but offered the following recommendations regarding operating issues at the Site:
  - Conduct a survey for polychlorinated biphenyls (PCBs) in light ballasts, asbestos and lead-based paints in the Site building during any future renovation work that might disturb these materials. If these materials are found to be present, appropriate management plans should be developed and implemented;
  - Consider providing secondary containment for the diesel aboveground storage tank (AST) in the electrical room and hydraulic oil reservoir in the elevator room; and
  - Confirm the requirement for a waste audit and waste reduction work plan and prepare such a work plan if required.

#### 2002 BEAK Phase I ESA Report

Based on a review of this report, Watters Environmental notes the following:

- BEAK concluded that there were no significant environmental issues associated with the current Site operations or surrounding land uses, but offered the following recommendations to address operational management of the Site:
  - BEAK recommended that consideration be given for providing a secondary containment system for the hydraulic oil reservoirs;
  - BEAK recommended that the requirements of a waste audit and waste reduction plan be confirmed, and that they be completed, if required;
  - BEAK recommended that the liquid leaking from a waste bin associated with the trash compactor be contained; and

- BEAK recommended that the requirements of a Certificate-of-Approval (C-of-A) (Air) for the natural gas-fired heating equipment and diesel generator at the Site be confirmed, and that it be obtained, if required.

#### 2004 Stantec Phase I ESA Report

Based on a review of this report, Watters Environmental notes the following:

- Stantec concluded that there were no significant environmental issues associated with the current Site operations or surrounding land uses, but offered the following recommendations to address operational management of the Site:
  - Stantec recommended that consideration be given for providing a secondary containment system for the hydraulic oil reservoirs;
  - Stantec recommended that an Operation & Maintenance Plan be prepared and implemented to manage potential lead-based paints and PCB- containing equipment at the Site; and
  - Stantec recommended that an asbestos survey be completed at the Site. If asbestos-containing materials (ACMs) are confirmed to be present, Stantec recommended that an Operations & Maintenance Plan be prepared to manage ACMs at the Site.

#### 2005 Watters Environmental Asbestos Survey Report

Based on a review of this report, Watters Environmental notes the following:

- The purpose of the 2005 Watters Environmental Asbestos Survey Report was to provide an evaluation of known and potential friable and non-friable ACMs at the Site;
- No friable materials, including thermal pipe and duct insulation, and acoustical textured ceiling material, were found to contain asbestos in the 1979 original building or in the 1983 building addition. Note that Watters Environmental has received slightly conflicting information regarding the year that the building addition was constructed (i.e., 1982 and 1983). In any event, the addition was constructed in the early-1980s;
- Non-friable ACMs identified included vinyl floor tiles located throughout back-of-house areas within the 1979 original building and in the 1983 building addition;

- Non-friable materials that were not found to contain asbestos included vinyl sheet flooring, suspended ceiling tile, and plaster joint compound; and
- A gasket in the emergency diesel generator motor was also assumed to contain non-friable asbestos; however, the gasket was not accessible for further examination or testing.

#### 2005 Watters Environmental Asbestos Management Report

Based on a review of this report, Watters Environmental notes the following:

- The purpose of the Asbestos Management Plan (AMP) was to ensure that all ACMs found within the Site building are not disturbed without taking appropriate precautions to protect the health and safety of Westmont employees, hotel guests and the general public; and
- The document outlined the administration of the program, training requirements, detail safeguards and work procedures for asbestos within the Site building.

#### 2014 Watters Environmental Phase I ESA Report

Based on a review of this report, Watters Environmental notes the following:

- Watters Environmental concluded that there were no significant environmental issues associated with the current Site operations or surrounding land uses, but offered the following recommendations to address operational management of the Site:
  - Watters Environmental noted that lead-based paints and PCB- containing equipment may be present at the Site and recommended that a designated substances survey be completed prior to any significant renovation and/or demolition of the Site building. Watters Environmental recommended that although an Asbestos Survey had been conducted, a pre-renovation ACM Survey should be completed to investigate formerly inaccessible areas (e.g., behind solid drywall walls or ceilings);
  - Watters Environmental recommended that the overflowing and resulting spillage of the waste cooking grease bin located along the southwestern exterior of the Site building be addressed;

- Watters Environmental recommended that an application be submitted to amend the C-of-A issued for the Site in 2003, to update the property ownership information and capture any changes in equipment (if necessary);
- Watters Environmental recommended to relocate or provide secondary containment to pool chemicals in close proximity to the floor drain in the Pool Room;
- Watters Environmental noted that secondary containment for the diesel AST in the Electrical Room and hydraulic reservoirs in the Elevator Rooms should be considered;
- Watters Environmental recommended that any materials safety data sheets for liquid chemicals at the Site older than three years be replaced in accordance with Workplace Hazardous Materials Information System legislation; and
- Watters Environmental recommended that the Site continue to comply with the requirements of the AMP, Policy & Procedures Manual created for the Site building.

#### 2020 Watters Environmental Phase I ESA Report

Based on a review of this report, Watters Environmental notes the following:

- Watters Environmental noted that the Site was developed in 1979 as a hotel, prior to which it consisted of vacant land. An addition was constructed in the northeastern portion of the Site building in 1982 to 1983. The Site has been occupied by a Holiday Inn and restaurant since its construction;
- Watters Environmental concluded that there were no significant environmental issues associated with the current Site operations or surrounding land uses, but offered the following recommendations/statements:
  - Watters Environmental noted the continued presence of non-friable ACMs at the Site, in the form of vinyl floor tile located in storage and mechanical rooms within the back-of-house areas of the Site building. These ACMs were observed to be in good condition with the exception of the vinyl floor tiles in the housekeeping storage room on the Ground Floor adjacent to the Laundry Room which were observed to be in poor condition. Watters Environmental recommended that the poor condition ACMs be removed as per the AMP and replaced;

- Watters Environmental noted a 227-litre, double-walled diesel AST present within the Electrical Room on the Ground Floor of the Site building. The AST was noted to be installed in 2015 and used to power the on-Site emergency generator. No staining was observed on the concrete floor beneath the AST or on the Site exterior in the vicinity of the remote fill and vent pipes; and
- Watters Environmental noted an EcoLog ERIS listing for a Canadian Tire Gas+ gasoline station is located approximately 70 metres south of the Site. The gasoline station is located in an inferred transgradient direction from the Site and across Stone Road West. Due to the distance and transgradient orientation relative to the Site, the migration of contaminants in the subsurface would be unlikely (if present). Based on this information, Watters Environmental considers the potential for significant environmental issues at the Site due to the presence of this gasoline station to be low.

2021 Watters Environmental Phase One Report

- Watters Environmental identified two on-Site PCAs contributing to APECs on the Phase One Property, summarized below:

PCA	Location of Activity	Table 2 PCA No. & Description*	Discussion
1	On-Site, Interior of Phase One Property	#28 – Gasoline and Associated Products Storage in Fixed Tanks	One 227-litre, double-walled diesel AST, with remote fill and vent pipes, used to power the on-Site emergency generator.
2	On-Site, Exterior of Phase One Property	#55 – Transformer Manufacturing, Processing and Use	Pad-mounted transformer utilized to provide electricity to the Site building.
5	On-Site, Exterior paved areas of the Phase One Property (i.e., asphalt-paved parking areas and driveways surrounding the Site building)	Not Applicable – Road salting	Road salting for de-icing purposes to keep paved surfaces safe for vehicular and pedestrian traffic.

- Two off-Site PCAs within the Phase One Study Area were identified but they did not result in APECs on the Phase One Property; and



- Based on the PCAs and APECs identified, it was Watters Environmental's opinion that completion of a Phase Two ESA would be required prior to submitting an RSC application, as per O. Reg. 153/04.

## **4.0 SCOPE OF THE INVESTIGATION**

### **4.1 Overview of Site Investigation**

In order to address the APECs, subsurface investigations were conducted for the purpose of characterization and contamination identification on the Phase Two Property. This work included the preparation of the Phase One and Two ESA reports for the Phase Two Property.

The objective of the Phase Two ESA was to evaluate the environmental condition of the soil at the Phase Two Property and address the potential environmental issues identified in the Phase One ESA conducted by Watters Environmental. The tasks carried out are summarized below:

- Development of a Sampling and Analysis Plan (SAP), including quality assurance/quality control (QA/QC) measures to be followed during this investigation (see Appendix A);
- Clearance of the proposed borehole locations of any public or private underground or above ground utility lines;
- Advancement of 3 boreholes on the Phase Two Property in APECs identified as part of the Phase One ESA (i.e., BH01, BH02 and BH03; see Figure 7). The boreholes were advanced to maximum depths of 2.3 mbs. The boreholes were terminated at planned depths according to the SAP;
- Collecting representative soil samples from all boreholes for chemical analyses of the contaminants of concern (COCs), according to the SAP;
- Comparing the results of the chemical analyses of soil samples to the MECP Table 2 SCS for the Phase Two Property; and
- Completing a Phase Two ESA report.

### **4.2 Media Investigated**

The Phase One ESA identified potential impacts to the soil at the Phase Two Property and therefore, the media that was planned to be sampled as part of the Phase Two ESA was soil. No sediment sampling was conducted as part of this investigation as there are no water bodies, as defined by O. Reg. 153/04, on the Phase Two Property.

With regards to APEC 1A and 1B, contaminants in soil (if any) would be expected to be present near ground surface since spills or releases (if any) from the AST and/ fill pipes would occur at surface.

With regards to APEC 2, contaminants in soil (if any) would be expected to be present near ground surface since spills or releases (if any) from the transformer would occur at surface.

### **4.3 Phase One Conceptual Site Model**

The Phase One Conceptual Site Model (CSM) was presented in the Phase One ESA report, is summarized below and shown graphically on Figures 5 and 6.

#### **1. Provide one or more figures of the phase one study area that,**

*i. show any existing building and structures.*

Figures attached include:

- Figure 1 – Phase One Property Location Map;
- Figure 2 – Phase One Study Area Map;
- Figure 3 – Phase One Property Layout Plan;
- Figure 4 – Topographical Map;
- Figure 5 – Phase One Conceptual Site Model; and
- Figure 6 – Phase One Conceptual Site Model – Expanded View.

As shown on Figure 3, the Phase One Property contains one Site building in the eastern portion of the Site. It is a five-storey hotel with a kitchen that is no longer in operation.

The areas surrounding the Site building consist of an asphalt-paved parking area, which is accessed by two asphalt-paved driveways on the east side of the Site, while the remaining western portion consists of a grassed field.

ii. identify and locate water bodies located in whole or in part on the phase one study area;

Figure 4 is a topographical map showing the topography of the Phase One Property and the Phase One Study Area. As shown, there are no water bodies on the Phase One Property or within 30 metres of it or within the Phase One Study Area. Hanlon's Creek and Speed River, located approximately 1.0 kilometres to the southwest and 1.6 kilometres to the west, respectively, are the closest water bodies to the Phase One Property.

iii. identify and locate any areas of natural significance located in whole or in part on the phase one study area;

There are no areas of natural significance located in whole or in part on the Phase One Study Area.

iv. locate any drinking water wells at the phase one property;

As shown on the Ministry of the Environment, Conservation and Parks (MECP) water well log website, there are no drinking water wells on the Phase One Property; however, there are several within the Phase One Study Area. The Phase One Property and all properties within the Phase One Study Area are serviced by the City of Guelph's municipal water supply system, with the exception of one private residence whose owner indicated that they utilize their potable water well for drinking water.

v. show roads, including names, within the phase one study area;

Roads within the Phase One Study Area, including Scottsdale Drive, are shown in Figure 2.

vi. show uses of properties adjacent to the phase one property;

As shown on Figure 2, the Phase One Property is bounded by a multi-tenant commercial property, residential properties on the north, east, and west sides of Janefield Avenue and the W.E. Hamilton Park to the north; Priory Park Baptist Church and related garden, Kingdom Hall of Jehovah's Witnesses, residential and multi-tenant residential buildings to the northwest; Stone Road Mall to the west; multi-tenant commercial properties located at 650 – 662 and 649 Scottsdale Drive, the Stone Lodge Retirement Home and vacant properties located at the southeast and southwest corners of the intersection of Hanlon Parkway and Stone Road West to the south; and residential properties to the west of Hanlon Road to the west.

vii. identify and locate areas where any potentially contaminating activity has occurred, and show tanks in such areas; and

As shown on Figures 5 and 6, there are three potentially contaminating activities (PCAs) on the Phase One Property. The on-Site PCAs that result in areas of potential environmental concern (APECs) on the Phase One Property are summarized as follows:

- #28 – Gasoline and Associated Products Storage in Fixed Tanks;
- #55 – Transformer Manufacturing, Processing and Use; and
- Not Applicable – Road Salting for the safety of vehicular and pedestrian traffic.

In addition, there are also two identified off-Site PCAs, which do not contribute to APECs on the Phase One Property due to their distances and/or inferred transgradient locations from the Site.

viii. identify and locate any areas of potential environmental concern

As shown on Figure 6, there are 2 APECs on the Phase One Property.

**2. Provide a description of and assessment of,**

i. any areas where potentially contaminating activity on or potentially affecting the phase one property has occurred;

PCAs identified on the Phase One Property are summarized as follows:

- **PCA 1** (#28 – Gasoline and Associated Products Storage in Fixed Tanks): One 227-litre, double-walled diesel aboveground storage tank (AST) used to power the on-Site emergency generator, with remote fill and vent pipes. This is considered as a PCA contributing to APEC 1 on the Phase One Property;
- **PCA 2** (#55 – Transformer Manufacturing, Processing and Use): Pad-mounted transformer utilized to provide electricity to the Site building. This is considered as a PCA contributing to APEC 2 on the Phase One Property; and
- **PCA 5** – (Not Applicable – Road Salting): Road salt has been applied to the paved surfaces for the safety of vehicular and pedestrian traffic. This is considered as a PCA contributing to APEC 3 on the Phase One Property. However, as per paragraph 1 in Section 49.1 of Ontario Regulation 153/04 (as amended), sampling is not required for this APEC (discussed further below).

The off-Site PCAs identified within the Phase One Study Area that did not result in APECs on the Phase One Property are summarized below:

- **PCA 3 (#28 – Gasoline and Associated Products Storage in Fixed Tanks)** – Two double-walled fibreglass underground storage tanks (USTs) located at a Canadian Tire gas bar approximately 70 metres to the south of the Phase One Property (across Stone Road West). Shallow groundwater in the Phase One Study Area is inferred to flow in a westerly direction, based on topography and the presence of Speed River, which is located approximately 1.6 kilometres to the west and Hanlon’s Creek, which is located approximately 1.0 kilometre to the southwest of the Site (Natural Resources Canada – National Topographic System (<http://atlas.nrcan.gc.ca>). Given the distance and transgradient location, it is the opinion of the Qualified Person (QP) that this off-Site PCA does not contribute to an APEC on the Phase One Property; and
- **PCA 4 (#37 Operation of Dry-Cleaning Equipment [where chemicals are used])** – A retail shopping centre is located approximately 30 metres to the east of the Phase One Property (across Scottsdale Drive) and contained a historical dry cleaning facility within the building at 435 Stone Road West, in an inferred upgradient direction. However, the 30 metres distance is from the boundary of the Phase One Property to the boundary of the shopping retail outlet property within which the historical dry cleaner was located. Therefore the historical dry cleaner was located even further (i.e., greater than 140 metres) from the Phase One Property inside the shopping retail outlet (all of which does not fall within the 250 metre-radius of the Phase One Study Area). Additionally, there were no waste generator listings for this property and no known use of halogenated solvents (which means the dry cleaner may have been a drop-off depot in the mall, and not conducted on-the-premises dry cleaning activities). Based on this, it is the opinion of the QP that this off-Site PCA does not contribute to an APEC on the Phase One Property.

ii. any contaminants of potential concern:

Contaminants of potential concern are summarized as follows:

- **PCA 1 (APEC 1)** – Soil – petroleum hydrocarbons (PHCs), benzene, toluene, ethylbenzene and xylenes (BTEX), volatile organic compounds (VOCs), trihalomethanes (THMs), and polycyclic aromatic hydrocarbons (PAHs); and
- **PCA 2 (APEC 2)** – Soil – PHCs, BTEX, VOCs, THMs, PAHs, and polychlorinated biphenyls (PCBs).

iii. the potential for underground utilities, if any present, to affect contaminant distribution and transport;

Watters Environmental was not provided with any underground utility drawings for the Phase One Property; however, Watters Environmental anticipates that the underground utilities at the Phase One Property would be between 2 to 3 metres below ground surface (mbgs). Based on water well records within relatively close proximity to the Phase One Property, groundwater is anticipated to be present at depths ranging from approximately 6.10 to 13.72 mbgs [20 to 45 feet]. As such, the subsurface utilities are not expected to act as a preferential pathway for migration of contaminants (if any are present).

iv. available regional or site specific geological and hydrogeological information; and

Based on a review of the online topographic map from Natural Resources Canada (NRC), the Phase One Property is situated at an elevation of approximately 335 metres above mean sea level (mamsl). The surrounding properties to the north, east, and south, were at a relatively similar grade with the Phase One Property; however, the properties to the west slope downwards.

Based on the general topography of the Phase One Property, surrounding area, and the presence Speed River which is located approximately 1.6 kilometres to the west and Hanlon's Creek which is located approximately 1.0 kilometre to the southwest, Watters Environmental infers that the near-surface groundwater at the Phase One Property flows to the west, following the local topographic gradient.

A review of the Ministry of Northern Development and Mines (MNDM) Surficial Geology map on the Google Earth Database indicates that the overburden in the area of the Phase One Property consists of sand and gravel, minor silt, clay and till derived from ice-contact stratified deposits.

Bedrock in the vicinity of the Phase One Property is expected to be sandstone, shale, dolostone, and siltstone of the Guelph Formation. Based on water well records within relatively close proximity to the Phase One Property, bedrock is anticipated to be present at depths ranging from approximately 40.23 to 50.29 metres below ground surface (mbgs) [132 to 165 feet].

v. how any uncertainty or absence of information obtained in each of the components of the phase one environmental site assessment could affect the validity of the model.

There is no uncertainty or absence of information in the completion of this Phase One Environmental Site Assessment that could affect the validity of the Phase One Conceptual Site Model (CSM).

**3. 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 areas surrounding the Site building is comprised of asphalt-paved parking areas and driveways. A substance (e.g., road salt) may have been applied to the paved surfaces of the Phase One Property for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both. Neither the Phase One Property nor any property within the Phase One Study Area have ever been used for commercial bulk storage of salt for use at multiple properties or used as a municipal snow dump. As provided for under paragraph 1 of Section 49.1 of O. Reg. 153/04, the presence of EC or SAR in soil at concentrations above the applicable Site Condition Standards (if any exists) would be deemed to not exceed the applicable Site Condition Standards.

With respect to paragraph 1.1 of Section 49.1 of O. Reg. 154/04, no excess soil has been deposited on the Phase One Property for final placement at this time.

Paragraph 2 of Section 49.1 of O. Reg. 153/04 is not applicable for the Phase One Property.

**4. 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.**

This section is not applicable for the Phase One Property.

The APECs identified on the Phase Two Property are summarized in the table below and shown on Figure 6.



**Table 3: Areas of Potential Environmental Concern**

Area of Potential Environmental Concern	Location of Area of Potential Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
APEC 1	On-Site, interior of Phase One Property Site building: one 227-litre, double-walled diesel AST, with remote fill and vent pipes, used to power the on-Site emergency generator.	#28 Gasoline and Associated Products Storage in Fixed Tanks	On-Site (PCA 1)	PHCs, BTEX, VOCs, THMs, PAHs	Soil
APEC 2	On-Site, exterior of Phase One Property Site building: pad-mounted transformer utilized to provide electricity to the Site building.	#55 – Transformer Manufacturing, Processing and Use	On-Site (PCA 2)	PHCs, BTEX, VOCs, THMS, PAHs, PCBs	Soil
APEC 3	On-Site, exterior paved areas of the Phase Two Property (i.e., asphalt-paved parking areas and driveways surrounding the Site building)	Not Applicable – road salting for de-icing purposes (i.e., no actual PCA number in Table 2 of Schedule D)	On-Site (PCA 5)	Electrical Conductivity, SAR	Soil  See Phase Two CSM for rationale to not sample soil for contaminants of potential concern

Notes: VOCs = Volatile Organic Compounds  
 BTEX = Benzene, Toluene, Ethylbenzene and Xylenes  
 THMs = Trihalomethanes  
 PHCs = Petroleum Hydrocarbons in the F1 to F4 ranges  
 PAHs = Polycyclic aromatic hydrocarbons  
 PCBs = Polychlorinated biphenyls

#### **4.4 Deviations from Sampling and Analysis Plan**

The sampling and analysis of collected samples were completed in accordance with the SAP developed for this investigation with no deviations.

The implemented SAP for the Phase Two Property is provided in Appendix B.

#### **4.5 Impediments**

No physical impediments or denial of access were encountered during the investigation.

## 5.0 INVESTIGATION METHOD

### 5.1 General

The Phase Two ESA was carried out using an MECP-licenced well drilling contractor. A direct push Bosch Brute Hammer drill rig was used to collect surface and subsurface soil samples to a maximum depth of 2.3 mbgs.

### 5.2 Drilling and Excavating

The borehole drilling program was carried out on July 27, 2021.

Underground services were cleared by the public utility agencies and a private utility locating contractor, Cable 3000 of Ajax, Ontario. Following the clearance of underground services, a total of 3 boreholes were drilled to allow soil samples to be collected (i.e., BH01, BH02 and BH03).

Watters Environmental retained Sonic Soil Sampling Inc. (Sonic) of Vaughan, Ontario to conduct the drilling activities using a direct push Bosch Brute Hammer drill rig and soil samples were retrieved at regular intervals with a 50-millimetre (mm) outside diameter (O.D.) split-spoon sampler driven in accordance with the Standard Penetration Test (SPT) method.

Borehole logs are provided in Appendix C. The locations of the boreholes are shown on Figure 7.

The following table summarizes the sampling plan and rationale for the boreholes drilled at the Phase Two Property as part of the Phase Two ESA.

**Table 4: Borehole Sampling and Analytical Plan**

<b>Sample Collection Location</b>	<b>Sample Type</b>	<b>Rationale</b>
BH01	Borehole	To assess the soil quality with respect to the presence of the exterior fill and vent pipes connected to the diesel AST in the Site building (i.e., APEC 1). Soil samples were analyzed for PHCs, VOCs, BTEX, THMs, and PAHs to address this APEC.
BH02	Borehole	To assess the soil quality with respect to the presence of an existing on-site transformer on the southeast portion of the property (i.e., APEC 2). Soil samples were analyzed for PHCs, VOCs, BTEX, THMs, PAHs, and PCBs to address this APEC.

**Table 4: Borehole Sampling and Analytical Plan (Continued)**

Sample Collection Location	Sample Type	Rationale
BH03	Borehole	To assess the soil quality with respect to the presence of the diesel AST in the Site building (i.e., APEC 1). Soil samples were analyzed for PHCs, VOCs, BTEX, THMs, and PAHs to address this APEC.

Drilling supervision and field sampling activities were conducted by Watters Environmental personnel following the requirements of the RSC Regulation. A description of the stratigraphy encountered in the boreholes is presented in the borehole logs in Appendix C and summarized in Section 6.1.

Standard field drilling and sampling protocols for environmental sampling programmes were undertaken during the Phase Two ESA to prevent the potential of cross-contamination of the soil samples obtained from the Phase Two Property. These measures included the following:

- Decontaminating the split-spoons using potable water and laboratory-grade non-phosphate detergent in between each soil sampling interval and between borehole locations while drilling and soil sampling;
- The wearing of new, sterile nitrile gloves during the collection of each soil sample; and
- Using dedicated methanol preservation kits for the collection of soil samples using a disposable Terra Core® Soil Sampler for each sample set.

### **5.3 Soil: Sampling**

Soil samples collected during the investigation were obtained continuously using a split-spoon sampler with 50 mm O.D.

In BH01, the soil encountered consisted of 0.15 metres of topsoil followed by moist silt and sand to the bottom of the borehole at approximately 2.29 mbgs. Trace brick and wood fibres were observed near the surface in this borehole but this is likely a result of fragments intermixed with the soil during construction of the Site building and final grading. In BH02, the surface was covered by a thin layer of gravel followed by approximately 0.76 metres of sand and gravel, followed by moist silt and sand to the bottom of the borehole at approximately 2.29 mbgs. Borehole BH03 was located inside the Site building and contained approximately 0.13 metres of

concrete at the surface. A thin layer of sand and gravel was encountered beneath the concrete followed by moist silt and sand to the bottom of the borehole at approximately 2.29 mbgs.

No aesthetic impacts (i.e., staining or odours) were encountered in the soil in any of the boreholes drilled.

Bedrock was not encountered in any of the boreholes advanced. All boreholes were drilled to a maximum depth of 2.3 mbgs.

In accordance with MECP sample container requirements, soil samples for potential environmental analysis were placed directly into laboratory-supplied glass jars and vials at the time of sampling. Soil samples collected for potential volatile organic analysis were packed in jars with minimal headspace to reduce the volatilization of organic compounds. Soil samples collected for potential analysis of VOCs and PHCs (F1 fraction) were collected using a laboratory-supplied Terra Core® Soil Sampler and placed directly into vials pre-charged with methanol preservative. The sample containers were kept in a cooler with ice during field storage and transportation to the laboratory. The samples were kept out of direct sunlight during field storage.

Field screening for total organic vapours (TOVs) in the collected soil samples was completed utilizing a RKI Eagle 2 portable gas detection instrument, which includes both a catalytic combustible gas (CCG) sensor and a photoionization detector (PID). The RKI Eagle 2 used is capable of detecting vapours typically emitted by fuels, oils and solvents (i.e., including chlorinated solvents). The instrument was operated with the methane elimination mode on. The soil samples were also examined in the field for visual and/or olfactory indications of potential environmental impact. Selected soil samples were retained for potential laboratory analyses. Additional details regarding the field screening measurements are provided below in Section 5.4.

The soil samples selected for laboratory analysis by Watters Environmental generally represented the “worst-case” samples. Worst-case samples were those that appeared most likely to be environmentally impacted, based on field visual and olfactory observations, TOV readings and/or sampling location/depth. A summary of the field observations recorded for soil samples collected from the Phase Two Property is presented in the borehole logs attached in Appendix C.

The soil samples collected from the Phase Two Property for laboratory analyses were recorded on Chain-of-Custody forms, copies of which were retained within Watters Environmental's files upon sample submission. The samples were packed in ice-chilled coolers, with the Chain-of-Custody forms inside, and picked up by the laboratory.

#### **5.4 Field Screening Measurements**

Field screening of soil samples was conducted for soil samples collected from each borehole location. TOV measurements were taken inside plastic bags on the day of the drilling and sampling using a RKI Eagle 2 PID. Details of the instrument are provided below.

- i. RKI Eagle 2 is manufactured by RKI Instruments;
- ii. RKI Eagle 2 is a portable gas-detector which includes a PID, and operates by photoionization and ion current measurement of VOC gases such as hydrocarbon fuels, solvents and semi-conductor gases;
- iii. The RKI Eagle 2 is capable of detecting combustible soil vapours and was operated in methane elimination mode;
- iv. The detection limit of the apparatus was between 0 to 50,000 parts per million by volume (ppm<sub>v</sub>), with an accuracy of  $\pm 50$  ppm<sub>v</sub> or 5% of the reading, whichever is greater. The RKI Eagle 2 is also capable of detecting vapours typically emitted by chlorinated solvents, with a detection limit of between 0 to 4,000 ppm<sub>v</sub> with an accuracy of  $\pm 15\%$  of the reading;
- v. The RKI Eagle 2 is calibrated to 100 ppm isobutylene and 1,650 ppm hexane. During Watters Environmental investigation calibration of the unit to isobutylene was  $\pm 1$  ppm; and
- vi. The RKI Eagle 2 was calibrated according to the manufacturer's instructions and Watters Environmental's Standard Operating Procedures, prior to collecting field measurements.

In accordance with Watters Environmental's sampling protocols, the samples were kept out of direct sunlight during field storage and the headspace measurements were made after bags reached approximately 15 degrees Celsius to allow for volatilization. To measure the combustible vapours, the tip of the probe was inserted into the sealable plastic bag containing the soil, and the maximum reading registered by the PID and CCG sensor during the first 15 seconds of measurement was recorded. This procedure is consistent with the recommended field screening procedures contained in the MECP publication "*Guidance on sampling and Analytical Methods for Use at Contaminated Sites in Ontario*", dated December 1996.

A summary of the field observations [i.e., soil stratigraphy, staining and odours (if any), etc.] and CCG/PID readings recorded for soil samples collected from the Phase Two Property is present in the borehole logs attached in Appendix C. The geological profile is summarized in Section 6.1.

The TOV measurements, along with field observations (e.g., visual or olfactory evidence of impacts) and sample depth, were used to determine worst-case soil samples for laboratory analysis. A second soil sample in each borehole was also analyzed for vertical delineation, where applicable.

There were no instances where the field screening measurement method differed from what was proposed as a Standard Operating Procedure in the SAP.

### **5.5 Ground Water: Monitoring Well Installation**

Monitoring wells were not installed, as it was the opinion of the QP<sub>E</sub>SA that groundwater was not a media of concern.

### **5.6 Ground Water: Field Measurements of Water Quality Parameters**

Groundwater field measurements were not taken, as it was the opinion of the QP<sub>E</sub>SA that groundwater was not a media of concern.

### **5.7 Ground Water: Sampling**

Groundwater sampling was not conducted, as it was the opinion of the QP<sub>E</sub>SA that groundwater was not a media of concern.

### **5.8 Sediment: Sampling**

No sediment sampling was completed as part of this investigation, as there are no water bodies or sediment on the Phase Two Property.

## **5.9 Analytical Testing**

The soil, groundwater, and soil vapour samples were analyzed by SGS Canada Inc. (SGS) of Lakefield, Ontario. SGS is accredited by the Canadian Association of Laboratory Accreditation Inc. (CALA) and meets the requirements of Section 47 of O. Reg. 153/04 certifying that the analytical laboratory be accredited in accordance with the International Standard ISO/IEC 17025 and with standards developed by CALA. The laboratory certificates-of-analysis are provided in Appendix D.

AGAT's contact information is provided as follows:

SGS Canada Inc.  
185 Concession Street,  
Lakefield Ontario  
K0L 2H05

Contact Person During the Phase Two ESA:

Brad Moore  
[Brad.moore@sgs.com](mailto:Brad.moore@sgs.com)  
(705) 652-2143

## **5.10 Residue Management Procedures**

No soil cuttings were generated as augers were not used. Soil samples were retrieved with split-spoon samplers and were placed in Ziplock bags or laboratory-supplied sampling bottles. As such, no residue was generated that required off-Site disposal.

## **5.11 Elevation Surveying**

The locations of all newly drilled boreholes were surveyed on September 27, 2021 by Van Harten Surveying Inc., (Van Harten) using a geodetic benchmark.



## 5.12 Quality Assurance and Quality Control Measures

Watters Environmental collected soil samples and transferred them immediately into laboratory-supplied sampling containers. Details of the sampling containers are summarized below:

**Table 6: Quality Assurance and Quality Control Measures for Soil Sampling**

Parameter	Sample Bottle	Preservative	Handling & Custody of Samples
<b>Soil</b>			
pH, grain size	Amber glass	No Preservative	Field staff collected soil samples and placed them directly into labelled jars, prior to transferring them to SGS. All soil samples were kept in a cooler with ice from the time of collection until the time they were transferred to the laboratory's control under Chain of Custody procedures.
PHCs (F2-F4), PAHs	Amber glass Teflon lined lid	No Preservative	
VOCs, PHCs (F1)	Vial	Methanol	

Field investigations and sample handling procedures were conducted in accordance with Watters Environmental's Standard Operating Procedures for Phase Two ESAs. To minimize the potential for cross-contamination of samples at differing locations, the following procedures were used by Watters Environmental field staff:

- New disposable gloves were used for each sample collected;
- Non-dedicated tools and equipment were cleaned between sample collections using distilled water and phosphate-free detergent; and
- Soil samples were placed in laboratory-supplied containers suitable for the analysis.

Samples were labelled and stored in a cooler with ice while in the field and during transportation to the office and/or laboratory.

All soil samples submitted for chemical analysis were contained in laboratory-supplied glass containers. Samples to be analyzed for PAHs, pH, and PHCs in the F2 to F4 fractions, were submitted in glass jars with Teflon-lined lids. Soil samples submitted for analysis of VOCs, PHCs in the F1 fraction, THMs, and BTEX were collected using TerraCore® samplers and placed in vials containing a pre-measured amount of methanol, both of which were provided by the laboratory. A new TerraCore® sampler was used for each soil sample collected for potential analysis of VOCs, PHCs in the F1 fraction, THMs, and BTEX.

The field instruments used in the Phase Two ESA, including the RKI Eagle 2 PID were calibrated before using in the field to ensure that they were operating properly.

The RSC regulation requires at least one field duplicate sample to be collected for every ten (10) soil samples submitted for laboratory analysis. The Phase Two ESA sampling program followed these requirements (see Sections 6.10.1 and 6.10.2).

Watters Environmental did not note any deviations from the procedures set out in the quality assurance and quality control program as provided in the sampling and analysis plan.

## **6.0 REVIEW AND EVALUATION**

### **6.1 Geology**

Watters Environmental advanced three (3) boreholes on the Phase Two Property. In BH01, the soil encountered consisted of 0.15 metres of topsoil followed by moist silt and sand to the bottom of the borehole at approximately 2.29 mbgs. Trace brick and wood fibres were observed near the surface in this borehole but this is likely a result of fragments intermixed with the soil during construction of the Site building and final grading. In BH02, the surface was covered by a thin layer of gravel followed by approximately 0.76 metres of sand and gravel, followed by moist silt and sand to the bottom of the borehole at approximately 2.29 mbgs. Borehole BH03 was located inside the Site building and contained approximately 0.13 metres of concrete at the surface. A thin layer of sand and gravel was encountered beneath the concrete followed by moist silt and sand to the bottom of the borehole at approximately 2.29 mbgs.

No aesthetic impacts (i.e., staining or odours) were encountered in the soil in any of the boreholes drilled.

Bedrock was not encountered in any of the boreholes advanced. All boreholes were drilled to 2.29 mbgs.

Evidence of saturation (groundwater) was not observed at any of the drilled borehole locations. As such, impacts (if any) from releases or other sources at surface (i.e., transformer, diesel AST, fill/vent pipes) is only anticipated to be present in the shallow near-surface soil unit (i.e., sand and silt layer), which is well above the saturation depth according to water well records in proximity to the Phase Two Property (i.e., 6.10 to 13.72 mbgs [20 to 45 feet]).

Details of the boreholes are provided in the borehole logs in Appendix C.

### **6.2 Ground Water: Elevations and Flow Direction**

As noted, groundwater was not considered a media of concern and as such, no monitoring wells were installed.

### **6.3 Ground Water: Hydraulic Gradients and Conductivity**

As noted, groundwater was not considered a media of concern and as such, no monitoring wells were installed.

#### **6.4 Fine-Medium Soil Texture**

According to O. Reg. 153/04, Section 42(2), a soil is classified as coarse-textured if more than 50% of the soil particles that compose the sample are 75 micrometres or larger in mean diameter. Conversely, a soil is classified as medium to fine-textured if more than 50% of the soil particles are smaller than 75 micrometres in mean diameter. If at least one-third of the soil at the property, measured by volume, consists of coarse textured soil, the standards for coarse textured soil shall apply. Otherwise, the standards for medium and fine textured soils can be applied.

As part of the Phase Two ESA program, two soil samples was analyzed for grain size distribution. This soil samples were considered to be representative of overall soil conditions throughout the Phase Two Property, based on similar conditions observed in the boreholes drilled. The results indicated that the soils at the Site contain approximately 56.4% of particles that are greater than 75 microns and, as such, the soils are considered to have a coarse-grained texture.

Based on samples collected and visual observations during borehole drilling, the majority of the soil at the Phase Two Property consists of coarse-textured soils. As such, the analytical results from this Phase Two ESA have been compared to the Table 2 SCS, coarse-textured criteria (for residential land use).

#### **6.5 Soil: Field Screening**

The soil samples from each borehole were examined in the field for lithology as well as for aesthetic evidence of impacts (debris, staining and odours). No evidence of odours or staining was noted in the soil samples collected from any of the boreholes drilled.

The headspace (TOV) measurements are shown in the table presented below. Notable readings were not recorded on the CCG sensor (i.e., 0 ppm) during this investigation for any soil samples collected from the three boreholes.

The maximum reading recorded on the PID sensor during this investigation was 1 ppm in soil samples BH03-DP1 (0.10 – 0.76 mbgs), BH03-DP2 (0.76 – 1.52 mbgs), and BH03-DP3 (1.52 – 2.3 mbgs). The low CCG and PID readings confirmed the observations made in the soil samples collected during the drilling activities (i.e., no visual or olfactory evidence of petroleum or solvent impacts were detected).

**Table 7: Summary of the Total Organic Vapour Readings**

Borehole ID	Sample ID	Depth (mbgs)	Total Organic Vapour (TOV) Reading (ppm)	
			CCG	PID
BH01	BH01-DP1A	0.0 – 0.20	0	0
	BH01-DP1B	0.20 – 0.76	0	0
	BH01-DP2	0.76 – 1.52	0	0
	BH01-DP3	1.52 – 2.02	0	0
	BH01-DP4	2.02 – 2.30	0	0
BH02	BH02-DP1	0.0 – 0.76	0	0
	BH02-DP2	0.76 – 1.52	0	0
	BH02-DP3	1.22 – 2.30	0	0
BH03	BH03-DP1	0.0 – 0.76	0	1
	BH03-DP2	0.76 – 1.52	0	1
	BH03-DP3	1.22 – 2.30	0	1

Notes:

mbgs – metres below ground surface

TOV readings were not taken where there was insufficient soil volume after jarring

## 6.6 Soil Quality

The COCs in soil associated with the PCAs and APECs included PAHs, PCBs, VOCs, BTEX, THMs, and PHCs (F1 to F4). As such, soil samples were analyzed for these COCs.

The environmental quality of the soil at the Phase Two Property was assessed using the Table 2 SCS for coarse textured soil for residential/parkland/institutional (RPI) property use. The following table provides a summary of all soil samples collected from each of the boreholes drilled at the Phase Two Property that were submitted for laboratory analysis as part of the Phase Two ESA.

**Table 8: Soil Sample Submission for Laboratory Analytical Testing**

Borehole/Sample Location	Sample ID	Approximate Depth (m)	Date Sampled	Chemical Analysis
BH01	BH01-DP1B	0.20 – 0.76	July 27, 2021	PAHs
	BH100-DP1B (duplicate of BH01-DP1B)	0.20 – 0.76	July 27, 2021	PAHs
	BH01-DP2	0.76 – 1.52	July 27, 2021	pH, PHCs*, VOCs**
	BH01-DP3	1.52 – 2.02	July 27, 2021	Grain size, PHCs*, VOCs**
	BH01-DP4	2.02 – 2.29	July 27, 2021	PAHs
BH02	BH02-DP1	0.0 – 0.76	July 27, 2021	PCBs, PAHs, PHCs*, VOCs**
	BH200-DP1 (duplicate of BH02-DP1)	0.0 – 0.76	July 27, 2021	PCBs
	BH02-DP2	0.76 – 1.52	July 27, 2021	PCBs, PAHs, PHCs*, VOCs**
BH03	BH03-DP1	0.0 – 0.76	July 27, 2021	PAHs, PHCs*, VOCs**
	BH300-DP1 (duplicate of BH03-DP1)	0.0 – 0.76	July 27, 2021	PHCs*, VOCs**
	BH03-DP3	1.52 – 2.29	July 27, 2021	pH, grain size, PAHs, PHCs*, VOCs**

Notes:

\* PHCs also include benzene, toluene, ethylbenzene, and xylenes (collectively referred to as “BTEX”)

\*\* VOCs include, BTEX and trihalomethanes (THMs)

As detailed in the table above, the following chemical analyses on soil samples (and duplicate soil samples) were conducted:

- 6 samples plus 1 duplicate sample analyzed for PAHs;
- 6 samples plus 1 duplicate sample analyzed for PHCs;
- 6 samples plus 1 duplicate sample analyzed for VOCs, BTEX, and THMs; and
- 2 samples plus 1 duplicate sample analyzed for PCBs.

As shown, the number of duplicate samples meets the O. Reg. 153/04 requirement of one field duplicate sample for every ten soil samples submitted for laboratory analysis.

One surface soil sample (i.e., not greater than 1.5 metres from ground surface, as defined in O. Reg. 153/04), was collected from BH02 and analyzed for pH. The pH values for the surface soil sample collected was 8.06, which is within the allowable range of 5 to 9. One subsurface soil sample (i.e., greater than 1.5 metres below ground surface, as defined in O. Reg. 153/04), was collected from BH03 and analyzed for pH. The pH value for the subsurface soil sample collected was 8.06, which is within the allowable range of 5 to 11. Therefore, the Phase Two Property would not be considered an environmentally sensitive area, with respect to pH.

The laboratory certificates-of-analysis are provided in Appendix D, while all soil analytical data, including the maximum values for each parameter tested, are summarized in a table in Appendix E.

All soil samples collected as part of the Phase Two ESA met the Table 2 SCS. All soil results are presented graphically in plan view in Figures 8 (VOCs, BTEX, and THMs), 9 (PHCs), 10 (PAHs), and 11 (PCBs). Concentrations of COCs that met the Table 2 SCS are shown with a green circle. Cross-section alignments are shown on Figure 12. The soil stratigraphy and analytical results in cross-sectional view for VOCs, BTEX, and THMs are presented on Figures 13A and 13B. The analytical results in cross-sectional view for PHCs are presented on Figures 14A and 14B. The analytical results in cross-sectional view for PAHs are presented on Figures 15A and 15B. The analytical results in cross-sectional view for PCBs are presented on Figures 16A and 16B.

The soil results with respect to the 2 APECs identified on the Phase Two Property are briefly summarized below.

*APEC 1 – Presence of a diesel AST in the southeast portion of the Site building, with remote fill and vent pipes*

One borehole (BH01) was drilled outside the Site building adjacent to the location of the remote fill and vent pipes connected to the diesel AST. Four soil samples (including a duplicate sample) were collected from BH01 and analyzed for PAHs (including a duplicate analysis), PHCs, BTEX, THMs, and VOCs, which indicated no exceedances of the Table 2 SCS.

One borehole (BH03) was drilled inside the Site building adjacent to the location of the diesel AST. Three soil samples (including a duplicate sample) were collected from BH03 and analyzed for PAHs, PHCs (including a duplicate analysis), BTEX, THMs, and VOCs (including a duplicate analysis), which indicated no exceedances of the Table 2 SCS.

*APEC 2 – Presence of a transformer in the northwest portion of the Phase Two Property*

One borehole (BH02) was drilled on the southeast portion of the Site to address the pad-mounted transformer. Three soil samples (including a duplicate sample) were collected from BH02 and analyzed for PCBs (including a duplicate analysis), PAHs, PHCs, BTEX, THMs, and VOCs which indicated no exceedances of the Table 2 SCS.

## **6.7 Ground Water Quality**

As noted, groundwater was not considered a media of concern and as such, no monitoring wells were installed.

## **6.8 Sediment Quality**

No sediment sampling was conducted as part of this investigation, as no water bodies (and therefore no sediment), was present on the Phase Two Property.

## **6.9 Soil Quality Assurance and Quality Control Results**

Three soil samples (i.e., BH100-DP1B, BH200-DP1, and BH300-DP1) were collected as duplicate soil samples of BH01-DP1B, BH02-DP1, and BH03-DP1, respectively. BH100-DP1B was analyzed for PAHs; BH200-DP1 was analyzed for PCBs; and BH300-DP1 was analyzed for PHCs F1-F4, and VOCs/BTEX/THMs.



Section 3(3).5 of Schedule E of O. Reg. 153/04 requires at least one field duplicate to be submitted for every ten samples submitted for laboratory analysis. As noted in Section 6.6, the following number of soil samples and duplicate samples were analyzed:

- 6 samples plus 1 duplicate sample analyzed for PAHs;
- 6 samples plus 1 duplicate sample analyzed for PHCs;
- 6 samples plus 1 duplicate sample analyzed for VOCs, BTEX, and THMs; and
- 2 samples plus 1 duplicate sample analyzed for PCBs.

Given the above, the duplicate samples analyzed met the QA/QC requirements of O. Reg. 153/04.

Watters Environmental retained SGS, a laboratory that is accredited by CALA, to conduct the analyses on soil samples. All analyses were conducted in accordance with the MECP document entitled, "*Protocol for Analytical Methods Used in the Assessment of Properties Under Part XV.1 of the Environmental Protection Act*", dated July 1, 2011 (the "Analytical Protocol"). There were no instances where the samples were not handled in accordance with the Analytical Protocol with respect to holding time, preservation method and storage requirement or container type. Chain-of-custodies, completed by Watters Environmental's field investigation team, accompanied the sample submission and are included in Appendix D. The certificates of analyses issued by SGS (pursuant to clause 47 (2) (b) of the regulation) comply with subsection 47(3) of O. Reg. 153/04. Certificates-of-analysis have been received for each sample submitted, and are included in Appendix D.

The Relative Percentage Difference (RPD) was calculated for all parameters on samples where a field duplicate was taken, and for parameters that were detected (i.e., not less than the laboratory detection limits [DLs]). RPD could not be calculated for any of the submitted samples and respective duplicates since the concentrations for all analyzed parameters (i.e., PAHs, PHCs, VOCs and PCBs) in both the original and duplicate samples were less than the DLs.

SGS conducted its own QA/QC testing, including matrix spike, spiked blank, method blank, laboratory duplicates and surrogates. Comments regarding the QA/QC testing were provided at the end of the certificates of analysis. SGS did not qualify any results presented in the certificates of analyses, based on the collection, handling, submission and testing.

Given the overall quality of the field data (with respect to the data quality objectives) obtained during the Phase Two ESA, Watters Environmental is confident that decision making was not affected, and that the overall objectives of the investigation and the assessment were met.

## **6.10 Phase Two Conceptual Site Model**

Watters Environmental Group Inc. (Watters Environmental) was retained by Forum Equity Partners (Forum) to conduct a Phase Two Environmental Site Assessment (Phase Two ESA) of a commercial property located at 601 Scottsdale Drive, in Guelph, Ontario (hereafter the “Phase Two Property” or the “Site”; see Figures 1 and 2).

For the purpose of this report, the portion of Scottsdale Drive that is adjacent to the Site is assumed to be aligned in a north-south direction (i.e., “Project North”), although it is actually aligned in a northwest-southeast direction (i.e., relative to “True North”). Unless otherwise noted, descriptions provided in this report are relative to Project North.

The Phase Two Property is situated on the northwest corner of the intersection of Scottsdale Drive and Stone Road West, immediately surrounded by a vacant and commercial properties to the north, Scottsdale Drive followed by Stone Road Mall to the east, Stone Road West followed by residential and commercial properties to the south including a Canadian Tire gasoline retail outlet and car wash, and a vacant property to the west (see Figures 1 and 2). The Phase Two Property is currently owned by the University of Guelph and covers an area of approximately 2.22 hectares (5.49 acres). The Phase Two Property is currently occupied by Holiday Inn Guelph Hotel & Conference Centre for use as a hotel (hereafter the “Site building”) in the eastern portion. Forum has a ground lease and owns the hotel, and plans to convert the Site building to student housing. An asphalt-paved parking area is located west of the Site building while the remaining portion contains a vacant/grassed field on the western area. There is no fencing on the Phase Two Property other than wooden fencing surrounding a waste storage area along the west-central exterior of the Site building and wooden fencing around a pad-mounted transformer located adjacent to the southeast corner of the Site building.

The Phase One Environmental Site Assessment (ESA) completed by Watters Environmental identified two on-Site potentially contaminating activities (PCAs) and two off-Site PCAs. The two on-Site PCAs contributed to areas of potential environmental concern (APECs) on the Phase Two Property. As a result, Watters Environmental carried out this Phase Two ESA. Due to the distance and/or transgradient location relative to the Phase Two Property, it was the opinion of the Qualified Person for Environmental Site Assessments (QP<sub>ESA</sub>) that the two off-Site PCAs did not result in APECs on the Phase Two Property.

Based on the Site-specific characteristics of the Phase Two Property and the planned redevelopment to residential property use, Watters Environmental compared the soil sample analytical data from the Phase Two Property to the stated Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for residential/parkland/institutional property use (for coarse textured soil).

The following Phase Two Conceptual Site Model (CSM) consists of the text below and the attached figures. Figures 1 to 6 present the layout and physical conditions of the Phase Two Property. Figure 7 shows the borehole locations. Figure 8 to 11 show the analytical data in plan view. The cross-section alignments are presented in Figure 12, while the cross-sections showing the soil stratigraphy encountered and soil analytical data are presented on Figures 13A and 13B to 16A and 16B. Figure 17 shows the Phase Two CSM graphically.

## **1. Provide a narrative description and assessment of,**

### ***1.1. areas where potentially contaminating activity has occurred.***

Areas containing PCAs are summarized as follows:

- **PCA 1** (#28 – Gasoline and Associated Products Storage in Fixed Tanks): One 227-litre, double-walled diesel aboveground storage tank (AST) used to power the on-Site emergency generator, with remote fill and vent pipes. This is considered as a PCA contributing to APEC 1 on the Phase One Property;
- **PCA 2** (#55 – Transformer Manufacturing, Processing and Use): Pad-mounted transformer utilized to provide electricity to the Site building. This is considered as a PCA contributing to APEC 2 on the Phase One Property;
- **PCA 3** (#28 – Gasoline and Associated Products Storage in Fixed Tanks) – Two double-walled fibreglass underground storage tanks (USTs) located at a Canadian Tire gas bar approximately 70 metres to the south of the Phase One Property (across Stone Road West). Shallow groundwater in the Phase One Study Area is inferred to flow in a westerly direction, based on topography and the presence of Speed River, which is located approximately 1.6 kilometres to the west and Hanlon’s Creek, which is located approximately 1.0 kilometre to the southwest of the Site (Natural Resources Canada – National Topographic System (<http://atlas.nrcan.gc.ca>)). Given the distance and transgradient location, it is the opinion of the Qualified Person (QP) that this off-Site PCA does not contribute to an APEC on the Phase One Property;

- **PCA 4** (#37 Operation of Dry-Cleaning Equipment [where chemicals are used]) – A retail shopping centre is located approximately 30 metres to the east of the Phase One Property (across Scottsdale Drive) and contained a historical dry cleaning facility within the building at 435 Stone Road West, in an inferred upgradient direction. However, the 30 metres distance is from the boundary of the Phase One Property to the boundary of the shopping retail outlet property within which the historical dry cleaner was located. Therefore the historical dry cleaner was located even further (i.e., greater than 140 metres) from the Phase One Property inside the shopping retail outlet (all of which does not fall within the 250 metre-radius of the Phase One Study Area). Additionally, there were no waste generator listings for this property and no known use of halogenated solvents (which means the dry cleaner may have been a drop-off depot in the mall, and not conducted on-the-premises dry cleaning activities). Based on this, it is the opinion of the QP that this off-Site PCA does not contribute to an APEC on the Phase One Property; and
- **PCA 5** (Not Applicable) – A substance (e.g., road salt) may have been applied to the paved surfaces of the Phase Two Property for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both.

These PCAs are presented in Figure 5.

*ii. areas of potential environmental concern, and*

As noted above in Section 1i., the APECs on the Phase Two Property are as follows:

- **APEC 1** – This APEC is located in the southeast corner of the Site building where a diesel AST is located and the adjacent Site exterior where the remote fill and vent pipes are located. The contaminants of potential concern (COCs) for soil were petroleum hydrocarbons (PHCs), volatile organic compounds (VOCs), benzene, toluene, ethylbenzene and xylenes (BTEX), trihalomethanes (THMs), and polycyclic aromatic hydrocarbons (PAHs). Groundwater was not considered a medium of concern for the aboveground tank and associated aboveground piping;
- **APEC 2** – This APEC is located adjacent to the south of the southeast portion of the Site building where a pad-mounted transformer is located. The COCs in soil were PHCs, VOCs, BTEX, THMs, PAHs, and polychlorinated biphenyls (PCBs). Groundwater was not considered a medium of concern for the aboveground transformer; and

- **APEC 3** – This APEC is located in the exterior paved portions of the Phase Two Property. The areas surrounding the Site building is comprised of asphalt-paved parking areas and driveways. A substance (e.g., road salt) may have been applied to the paved surfaces of the Phase Two Property for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both. Neither the Phase Two Property nor any property within the Phase One Study Area have ever been used for commercial bulk storage of salt for use at multiple properties or used as a municipal snow dump. As provided for under paragraph 1 of Section 49.1 of O. Reg. 153/04, the presence of electrical conductivity (EC) or sodium adsorption ratio (SAR) in soil at concentrations above the applicable Site Condition Standards (if any exists) would be deemed to not exceed the applicable Site Condition Standards. Given the above, it is the opinion of the QP<sub>ESA</sub> that testing for EC and SAR in soil is not necessary on the Phase Two Property.

These APECs are presented in Figure 6.

iii. any subsurface structures and utilities on, in or under the phase two property that may affect contaminant distribution and transport.

Watters Environmental anticipates that the underground utilities at the Phase Two Property would be no greater than about 2 to 3 metres below ground surface (mbgs). Groundwater was not encountered at the depths of the boreholes drilled (i.e., 2.29 mbgs). Based on water well records within relatively close proximity to the Phase Two Property, groundwater is anticipated to be present at depths ranging from approximately 6.10 to 13.72 mbgs [20 to 45 feet]. As such, Watters Environmental does not anticipate that subsurface utilities on the Phase Two Property would act as preferential pathways for the migration of contaminated groundwater. Regardless, there is no contamination in the soil and as such, no potential for contaminants to partition out of soil into groundwater on the Phase Two Property (discussed further below).

**2. Provide a narrative description of and, as appropriate, figures illustrating, the physical setting of the phase two property and any areas under it including,**

i. stratigraphy from ground surface to the deepest aquifer or aquitard investigated.

Watters Environmental advanced 3 boreholes on the Phase Two Property (see Figure 7). The boreholes were located in the southeast area of the Phase Two Property where the two APECs were located. The information obtained from this drilling program was used to interpret the general soil stratigraphy on the Phase Two Property. The soil stratigraphy is presented on cross-

sectional Figures 13A and 13B, which is repeated in Figures 14A to 16B (see Figure 12 for the cross-section locations and alignments).

### **Surface**

The ground surface at BH01 was covered by 0.15 metres of topsoil and grass, while a thin layer of gravel was present at BH02. Borehole BH03 was located inside the Site building and contained approximately 0.13 metres of concrete at the surface.

### **Silt and Sand**

The soil encountered beneath the topsoil and grass, gravel, or concrete floor consisted of silt and sand to the bottom of each boreholes at approximately 2.29 mbgs. In BH02, sand and gravel was present below the gravel surface layer to approximately 0.76 mbgs before the silt and sand unit was encountered. This soil encountered was not considered an aquitard (due to the sand) or an aquifer (since it was not saturated).

### **Bedrock**

Bedrock was not encountered in Watters Environmental's boreholes (deepest was approximately 2.29 mbgs). Bedrock in the vicinity of the Phase One Property is expected to be sandstone, shale, dolostone, and siltstone of the Guelph Formation. Based on water well records within relatively close proximity to the Phase One Property, bedrock is anticipated to be present at depths ranging from approximately 40.23 to 50.29 mbgs [132 to 165 feet].

*ii. hydrogeological characteristics, including aquifers, aquitards and, in each hydrostratigraphic unit where one or more contaminants are present at concentrations above the applicable site condition standards, lateral and vertical hydraulic gradients.*

As noted, groundwater was not considered a media of concern. As such, monitoring wells were not installed in the Phase Two ESA. As discussed below, there is no contamination in the soil and as such, no potential for contaminants to partition out of soil into groundwater on the Phase Two Property. Saturated groundwater conditions were not encountered in the silt and sand soil at the depths drilled (i.e., 2.29 mbgs).

*iii. approximate depth to bedrock.*

As noted above, bedrock was not encountered at the depths drilled in the boreholes (i.e., approximately 2.29 mbgs). Based on water well records within relatively close proximity to

the Phase One Property, bedrock is anticipated to be present at depths ranging from approximately 40.23 to 50.29 mbgs [132 to 165 feet].

iv. approximate depth to water table.

As noted above, monitoring wells were not installed as part of the Phase Two ESA, as groundwater was not considered a media of concern. Based on water well records within relatively close proximity to the Phase Two Property, groundwater is anticipated to be present at depths ranging from approximately 6.10 to 13.72 mbgs [20 to 45 feet].

v. any respect in which section 35, 41 or 43.1 of the regulation applies to the property.

With respect to Section 35 of O. Reg. 153/04, the standards mentioned in subsection (1) apply in relation to the contaminants prescribed under section 36 or 39, as the case may be, only if the following circumstances apply:

1. Circumstance – The property, and all other properties located, in whole or in part, within 250 metres of the boundaries of the property, are supplied by a municipal drinking water system, as defined in the *Safe Drinking Water Act*, 2002.

Answer – The Phase One Study Area is well developed in an urban setting. The Phase Two Property and properties within the Phase One Study are serviced by the City of Guelph’s municipal drinking water supply. However, there were records of several potable water supply wells within the Phase Two Study Area. One private residence, located at 500 Stone Road, within the Phase One Study Area, southwest of the Phase One Property, indicated that they use the potable water supply well as a source of drinking water.

2. Circumstance – The record of site condition does not specify agricultural or other use as the type of property use for which the record of site condition is filed.

Answer – The RSC application will not specify agricultural or other use.

3. Circumstance – If either of the following circumstances applies, the municipality referred to in subsection (3) has consented in writing to the application of the standards mentioned in subsection (1) in preparing a record of site condition for the property:

- i. The property is located in an area designated in the municipal official plan as a well-head protection area or other designation identified by the municipality for the protection of groundwater.

Answer – According to the City of Guelph’s Official Plan, Draft Schedule 9, the Phase Two Property is located Wellhead Protection Area B.

- ii. The property or one of the properties in the phase one study area has a well used or intended for use as a source of water for human consumption or agriculture.

Answer –As noted above, although the Phase Two Property and Phase One Study Area is serviced by the City of Guelph’s municipal drinking water supply, there is one property within the Phase One Study Area that still uses its water supply well for potable purposes.

4. Circumstance – If neither of the circumstances in paragraph 3 applies:

- i. The owner has given the clerk of the municipality referred to in subsection (3) written notice of intention to apply the standards in preparing a record of site condition, and

Answer – Watters Environmental did not request the City of Guelph for approval to use non-potable SCS.

- ii. The municipality has,
  - a) Given written notice to the owner that it does not object to the application of the standards,

Answer – Not applicable, as the municipality was not requested for approval to use non-potable SCS.

- b) Not given written notice to the owner that it objects to the application of the standards within 30 days after receiving the notice described in subparagraph i, or

Answer – Not applicable, as noted above.

- c) Given written notice to the owner that it objects to the application of the standards and subsequently withdrawn the objection in writing.

Answer – Not applicable, as noted above.

Given the above, the Table 2 SCS (for potable groundwater) is applicable for use at the Phase Two Property.



The Phase Two Property is not a sensitive Site because it does not meet the following criteria as outlined in section 41 of O. Reg. 153/04 as amended:

- It is not within an area of natural significance;
- It does not include or is adjacent to an area of natural significance or part of such an area;
- It does not include land that is within 30 m of an area of natural significance or part of such an area;
- The surface soil is within pH values of 5 to 9; and
- The subsurface soil is within pH values of 5 and 11.

In addition, the Phase Two Property does not meet the following criteria as outlined in section 43.1 of O. Reg. 153/04:

- The property is not a shallow soil property, as bedrock was not encountered at the deepest depth drilled at the Phase Two Property (i.e., 2.29 mbgs); and
- The property does not include all or part of a water body, or is adjacent to a water body, or includes land that is within 30 metres of a water body (the Speed River is located approximately 1.6 kilometres to the west and Hanlon's Creek is located approximately 1.0 kilometre to the southwest).

vi. areas where soil has been brought from another property and placed on, in or under the phase two property, and

No off-Site imported soil has been brought to the Phase Two Property, as no remediation activities have been conducted on the Site.

vii. approximate locations, if known, of any proposed buildings and other structures.

There is currently one 5-storey slab-on-grade building (i.e., no actual basement level) on the Phase Two Property, which was historically used as hotel until operations ceased in August 2021. The plan is to renovate and convert the existing Site building from hotel use to student housing. Note that the Site building is built on land that slopes downwards to the west. Due to this slope, the western portion of the Site building, where the check-in lobby is located, is located at an elevation lower than the Site entrance off of Scottsdale Drive to the east. As a result, the eastern half of the

building (which is closer to Scottsdale Drive) visually appears to be below grade, even though there is no actual basement level (i.e., the check-in lobby and mechanical room where the AST is shown on Figure 13A are all on the ground floor).

**3. Provide, where a contaminant is present on, in or under the phase two property at a concentration greater than the applicable site condition standard, identification of,**

*i. each area where a contaminant is present on, in or under the phase two property at a concentration greater than the applicable site condition standard,*

The concentrations of all the COCs analyzed in soil samples from each borehole met the applicable Table 2 SCS.

As noted, groundwater was not considered a media of concern.

*ii. the contaminants associated with each of the areas referred to in subparagraph i,*

As noted, all COCs analyzed in soil samples from each borehole met the applicable Table 2 SCS.

*iii. each medium in which a contaminant associated with an area referred to in subparagraph i is present,*

As noted above, all COCs analyzed in soil samples from each borehole met the applicable Table 2 SCS.

*iv. a description and assessment of what is known about each of the areas referred to in subparagraph i,*

As noted, all COCs analyzed in soil samples from each borehole met the applicable Table 2 SCS.

*v. for each parameter group as defined in the Analytical Protocol for which a contaminant has been analysed, the distribution, in each of the areas referred to in subparagraph i, of each contaminant present in the area at a concentration greater than the applicable site condition standard, for each medium in which the contaminant is present, together with figures showing the distribution,*

As noted, all COCs analyzed in soil samples from each borehole met the applicable Table 2 SCS. The location of all soil samples, which met the Table 2 SCS, are presented in plan view with a green circle on Figures 8 (VOCs, BTEX, and THMs), 9 (PHCs), 10 (PAHs) and 11 (PCBs). The sampling locations and soil stratigraphy are shown in cross-sectional view on Figures 13A and

13B (VOCs, BTEX, and THMs), 14A and 14B (PHCs), 15A and 15B (PAHs), and 16A and 16B (PCBs).

vi. anything known about the reason for the discharge into the natural environment of the contaminants present on, in or under the phase two property at a concentration greater than the applicable site condition standard.

As noted, all COCs analyzed in soil samples from each borehole met the applicable Table 2 SCS. As such, there was no discharge of contaminants into the natural environment.

vii. anything known about migration away from any area of potential environmental concern of the contaminants present on, in or under the phase two property at a concentration greater than the applicable site condition standard, including the identification of any preferential pathways.

As noted, all COCs analyzed in soil samples from each borehole met the applicable Table 2 SCS. As such, there is no potential for contaminants to partition out of soil into groundwater on the Phase Two Property, and migrate away from the APECs.

viii. climatic or meteorological conditions that may have influenced distribution and migration of the contaminants, such as temporal fluctuations in ground water levels, and

As noted, all COCs analyzed in soil samples from each borehole met the applicable Table 2 SCS. As such, there is no potential for contaminants to partition out of soil into groundwater on the Phase Two Property. Therefore, there is no contaminated groundwater to be affected by climatic or meteorological changes.

ix. if applicable, information concerning soil vapour intrusion of the contaminants into buildings including.

A. Relevant construction features of a building such as a basement or crawl space;

The current Site building is of slab-on-grade construction (i.e., no basements or crawl spaces). This building will be converted from a hotel to student residence. Soil vapour intrusion into the Site building is not considered a concern as there are no volatile contaminants on the Phase Two Property [i.e., the concentrations of VOCs, THMs, BTEX, and PHCs (F1 and F2) in soil met the Table 3 SCS].

B. Building heating, ventilating and air conditioning design and operation; and

Heating for the Site building is provided by five natural gas-fired hot water boilers and eight natural gas fired HVAC units.

C. *Subsurface utilities.*

As noted above, there are underground utilities (such as natural gas) associated with the Site building on the Phase Two Property. However, these utility lines are not acting as conduits to vapour migration into the Site building as there is no VOC, THM, BTEX, or PHC (F1 or F2) contamination in the soil.

**4. Provide, where contaminants on, in or under the phase two property are present at concentrations greater than the applicable site condition standard, two or more cross-sections showing, by parameter group as defined in the Analytical Protocol for which a contaminant has been analysed,**

*i. the lateral and vertical distribution of each contaminant in each area where the contaminant is present at a concentration greater than the applicable site condition standard in soil, ground water and sediment,*

As noted, all COCs analyzed in soil samples from each borehole met the applicable Table 2 SCS. Regardless, cross-sectional Figures 13A to 16B were prepared to show the sampling locations, depths and results.

*ii. approximate depth to water table in each area referred to in subparagraph i,*

As noted above, monitoring wells were not installed as part of the Phase Two ESA, as groundwater was not considered a media of concern.

*iii. stratigraphy from ground surface to the deepest aquifer or aquitard investigated, and*

The cross-sectional figures referenced above show the stratigraphy from the ground surface to the deepest depths drilled.

*iv. any subsurface structures and utilities that may affect contaminant distribution and transport in each area referred to in subparagraph i.*

As noted above, Watters Environmental anticipates that the underground utilities at the Phase Two Property would be no greater than about 2 to 3 metres below ground surface (mbgs). Groundwater was not encountered at the depths of the boreholes drilled (i.e., 2.29 mbgs). Based on water well

records within relatively close proximity to the Phase Two Property, groundwater is anticipated to be present at depths ranging from approximately 6.10 to 13.72 mbgs [20 to 45 feet]. As such, Watters Environmental does not anticipate that subsurface utilities on the Phase Two Property would act as preferential pathways for the migration of contaminated groundwater. Regardless, there is no contamination in the soil and as such, no potential for contaminants to partition out of soil into groundwater on the Phase Two Property.

**5. Provide, for each area where a contaminant is present on, in or under the property at a concentration greater than the applicable site condition standard for the contaminant, a diagram identifying, with narrative explanatory notes,**

The Phase Two Conceptual Site Model for the Phase Two Property is presented graphically in Figure 17.

*i. the release mechanisms,*

As noted, all COCs analyzed in soil samples from each borehole met the applicable Table 2 SCS. As such, there are no release mechanisms for contaminants, as none is present on the Phase Two Property.

*ii. contaminant transport pathway,*

As noted, all COCs analyzed in soil samples from each borehole met the applicable Table 2 SCS. As such, there are no transport pathways for contaminants, as none is present on the Phase Two Property.

*iii. the human and ecological receptors located on, in or under the phase two property,*

As noted, all COCs analyzed in soil samples from each borehole met the applicable Table 2 SCS. As such, there are no human or ecological receptors that could be exposed to contaminants, as none is present on the Phase Two Property.

*iv. receptor exposure points, and*

As noted, all COCs analyzed in soil samples from each borehole met the applicable Table 2 SCS. As such, there are no receptor exposure points for contaminants, as none is present on the Phase Two Property.

*v. routes of exposure.*

As noted, all COCs analyzed in soil samples from each borehole met the applicable Table 2 SCS. As such, there are no routes of exposure for contaminants, as none is present on the Phase Two Property.

**6. If a non-standard delineation was conducted in accordance with section 7.1 of this Schedule as part of preparing the phase two environmental site assessment report, provide a narrative description of how the non-standard delineation satisfies the requirements in that section.**

Not applicable.

**7. If the exemption set out in paragraph 1, 1.1 or 2 of section 49.1 of the regulation is being relied upon, provide a statement as to the reliance upon the exemption and a narrative description of the rationale for relying upon the exemption, which may be based on information gathered during the site investigation.**

The areas surrounding the Site building is comprised of asphalt-paved parking areas and driveways. A substance (e.g., road salt) may have been applied to the paved surfaces of the Phase Two Property for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both. Neither the Phase Two Property nor any property within the Phase One Study Area have ever been used for commercial bulk storage of salt for use at multiple properties or used as a municipal snow dump. As provided for under paragraph 1 of Section 49.1 of O. Reg. 153/04, the presence of EC or SAR in soil at concentrations above the applicable Site Condition Standards (if any exists) would be deemed to not exceed the applicable Site Condition Standards. Given the above, it is the opinion of the QP<sub>ESA</sub> that testing for EC and SAR in soil is not necessary on the Phase Two Property.

With respect to paragraph 1.1 of Section 49.1 of O. Reg. 154/04, no excess soil has been deposited on the Phase Two Property for final placement at this time.

Paragraph 2 of Section 49.1 of O. Reg. 153/04 is not applicable for the Phase One Property.

**8. If the exemption set out in paragraph 3 of section 49.1 of the regulation is being relied upon, provide,**

*i. a statement as to the reliance upon the exemption.*

Not Applicable.

*ii. a narrative description of the rationale for relying upon the exemption, which may be based on information gathered during the site investigation, and*

Not Applicable.

*iii. one or more cross-sections and one or more figures in plan view of the phase two property that demonstrate, through identification of sample locations, sample depths and contaminant concentrations, the distribution of the contaminant in question laterally and vertically and the range of concentrations of that contaminant on, in or under the phase two property.*

Not Applicable.

## 7.0 CONCLUSIONS

### 7.1 Summary of Findings

Based on the results of the Phase Two ESA, all soil samples meet the applicable Table 2 SCS. Therefore, there is no further work required at the Phase Two Property and an RSC can be filed on the basis of this Phase Two ESA.

### 7.2 Signatures

I, Vaidehi Jadeja, confirm that I supervised the completion of the Phase Two ESA, in accordance with Ontario Regulation 153/04 (as amended). I reviewed all the data and information gathered from the Phase Two ESA and used it to formulate the findings and conclusions.

For and on behalf of Watters Environmental Group Inc.

Prepared by



Vaidehi Jadeja, P.Eng., QP<sub>ESA</sub>  
Project Manager

Reviewed by



Basil Wong, M.Eng., P.Eng., QP<sub>ESA</sub>  
Vice President, Technical Services



## 8.0 REFERENCES

1. Ministry of the Environment and Climate Change (MECP), Brownfields Environmental Site Registry (<https://www.ontario.ca/page/brownfields-redevelopment>).
2. MECP, Water Well Records (<https://www.ontario.ca/page/well-records>).
3. Ministry of Northern Development and Mines (MNDM), Quaternary Geology on Google Earth Database, 2012.
4. MNDM, Bedrock Geology on Google Earth Database, 2012.
5. Natural Resources Canada, 2014. Toporama – Topographic Maps, The Atlas of Canada, (<http://atlas.gc.ca/toporama/en/index.html>).
6. Ontario 2012a. *Environmental Protection Act*, R.S.O. 1990, Chapter E.19.
7. Ontario 2012b. Ontario Regulation 153/04, *Records of Site Condition – Part XV.1 of the Act*.
8. AGRA, “*Draft Phase I Environmental Site Assessment, Holiday Inn, 601 Scottsdale Drive, Guelph, Ontario*”, dated May 1999;
9. BEAK, “*Phase I Environmental Site Assessment, Holiday Inn, 601 Scottsdale Drive, Guelph, Ontario*”, dated October 2002;
10. Stantec, “*Phase I Environmental Site Assessment, Holiday Inn, 601 Scottsdale Drive, Guelph, Ontario*”, dated April 8, 2004;
11. Watters, “*Asbestos Management Program, Location and Assessment Report, Holiday Inn, 601 Scottsdale Drive, Guelph, Ontario*”, dated January 2005;
12. Watters, “*Asbestos Management Program, Policy and Procedures Manual, Holiday Inn, 601 Scottsdale Drive, Guelph, Ontario*”, dated January 2005;
13. Watters, “*Phase I Environmental Site Assessment, Holiday Inn, 601 Scottsdale Drive, Guelph, Ontario*”, dated May 2014;
14. Watters “*Phase I Environmental Site Assessment, Holiday Inn, 601 Scottsdale Drive, Guelph, Ontario*”, dated October 2020; and

15. *Watters, "Phase One Environmental Site Assessment, 601 Scottsdale Drive, Guelph, Ontario", dated December 2021.*

## 9.0 LIMITATIONS

Watters Environmental has prepared this report for the exclusive use of the University of Guelph and Forum Equity Partners. Watters Environmental will not be responsible for the use of this report by any other party, or reliance on or any decision to be made based on it by any such other party without the prior written consent of Watters Environmental. Watters Environmental accepts no responsibility for damages, if any, by any other party as a result of decisions or actions based on this report.

This Phase Two ESA was conducted in accordance with Watters Environmental's proposed scope of work, verbal requests from the client and generally accepted environmental assessment practices in Ontario at the time of the assessment. No other warranty, expressed or implied, is made.

This Phase Two ESA was designed to determine the soil and groundwater quality present in the APECs identified at the Phase Two Property. This report alone should in no way be construed as a definitive representation of any and all environmental impacts that may be present at the Phase Two Property resulting from past or current practices. This assessment was conducted using representative borehole investigation data. Data interpolations between physical testing points are open to interpretation. As such, it is not feasible to conclude absolutely the conditions that may exist in the subsurface. Inferred conditions assume that homogeneous conditions exist, when in fact they may not. Subsurface conditions will vary between testing points and are likely to change with time. No assurance is made regarding changes in conditions subsequent to the time of the investigation. The findings contained in this report may be based, in part, upon information provided by others. No assurance is made regarding the accuracy of the information not generated by Watters Environmental. This report is complete only as an entire document, and no section is intended to be used separately.

## **10.0 QUALIFICATIONS OF CONSULTANT**

### **WATTERS ENVIRONMENTAL**

Watters Environmental Group Inc. (Watters Environmental) offers a strategic business-focused approach in assisting our clients to proactively manage environmental issues, and to find practical solutions when environmental issues arise.

We are an employee-owned environmental consulting company that prides itself on uncompromising dedication to service quality and client satisfaction. We understand our client's needs for timeliness of response, and innovative, technically-sound solutions to their problems.

Watters Environmental brings together a team of experts in the related technical disciplines of environmental due diligence, environmental site assessment, environmental management systems, and environmental permitting. In addition, the team offers specialty-consulting services including technical peer review, litigation support, environmental risk assessment, and forensic environmental investigations.

Our team consists of recognized leaders in their disciplines, with real-world industry experience that allows Watters Environmental to provide cost-effective solutions to our clients. Our executive team has built lasting relationships with loyal, repeat clients who have come to rely upon us for our spirit of working closely with them to resolve their issues as if they were our own. Senior staff members are some of the most experienced individuals in the industry, most with 10 to 20 years of environmental consulting experience. Our employees are highly motivated and pride themselves in being innovative and client focused.

Major corporations, law firms, lending institutions, investors and municipalities routinely call upon us to assist them with complex real estate transactions, or to help manage complicated environmental issues.

**VAIDEHI JADEJA, B.A.SC., P.ENG., QP<sub>ESA</sub> – PROJECT MANAGER**

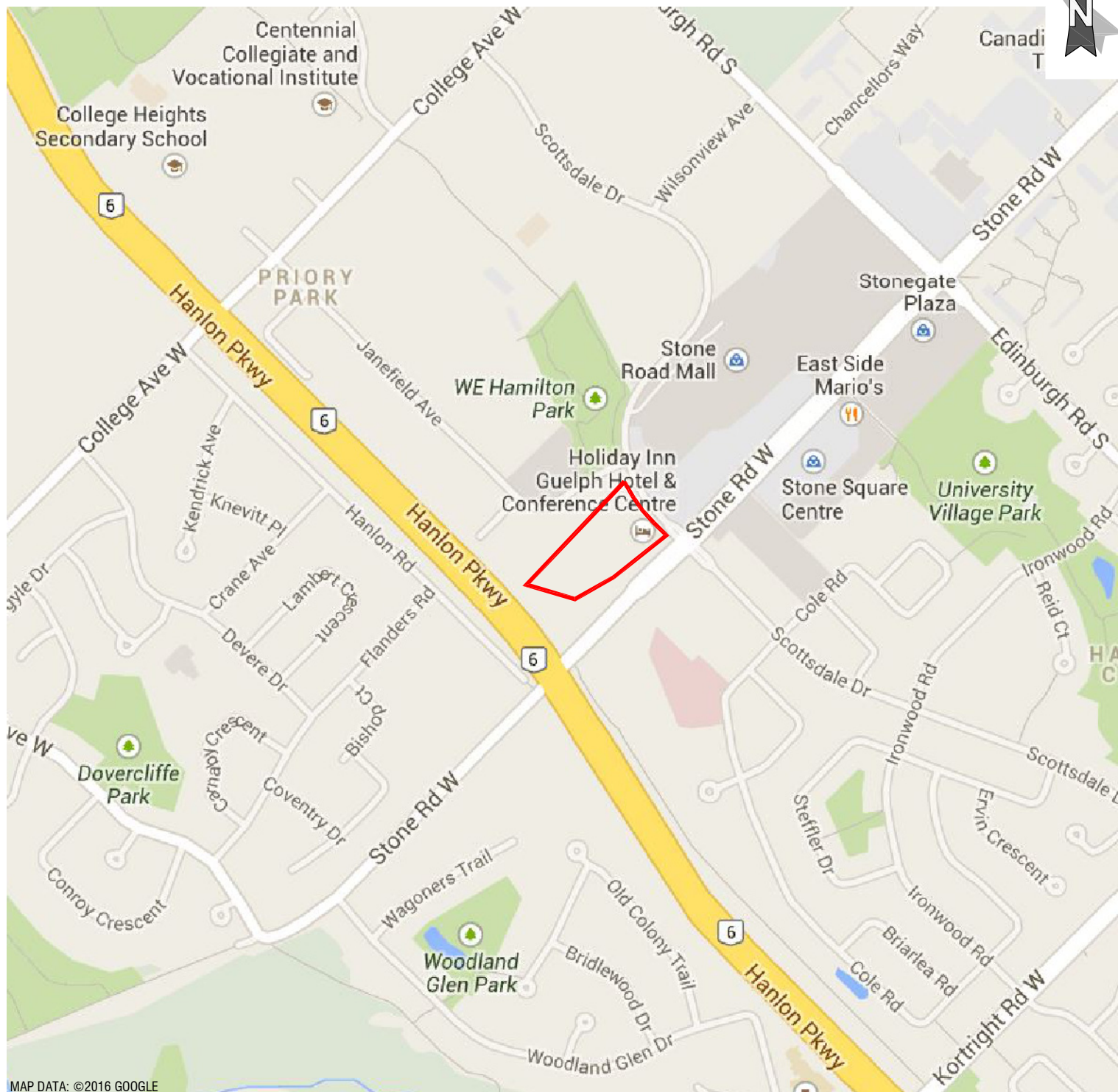
Ms. Vaidehi Jadeja is a Project Manager with Watters Environmental. Vaidehi holds a Bachelor of Applied Sciences in Environmental Engineering from the University of Waterloo, Ontario and is a licensed Professional Engineer and a QP<sub>ESA</sub>. Vaidehi has almost 10 years of consulting experience in areas of Phase I and II ESAs, soil and groundwater remediation, compliance audits, and provides technical support on environmental assessments for a variety of real estate portfolios, and industrial, commercial, retail, and residential properties across Canada.

**BASIL WONG, M.ENG., P.ENG., QP<sub>ESA</sub> – VICE PRESIDENT, TECHNICAL SERVICES**

Mr. Basil Wong, M.Eng., P.Eng. is the Vice President, Technical Services with Watters Environmental Group Inc. and is a QP<sub>ESA</sub>. Mr. Wong obtained his B.A.Sc. in Civil Engineering (Water Resources Option) at the University of Waterloo in 1992. In the course of obtaining this degree, he studied hydrogeology and contaminant transport in the Waterloo Earth Sciences Department (Institute for Groundwater Research). Mr. Wong furthered his studies in hydrogeology and other aspects of environmental engineering, and obtained a Master of Engineering at the University of Guelph in 1998. He has been a Professional Engineer in Ontario for over 26 years, and is also licensed in British Columbia, Alberta, Nova Scotia, and New Brunswick. Mr. Wong has over 29 years of environmental consulting experience in Phase I and II ESAs, hydrogeological assessments, soil and groundwater remediation, asbestos surveys, designated substances surveys, asbestos abatement, mould assessments, mould abatement, human health and ecological risk assessments and environmental compliance audits. Basil has conducted or managed hundreds of these projects in various land uses, such as hotels, commercial buildings, large industrial properties, residential dwellings, federally-owned properties and First Nation reserves.


## **FIGURES**

TRUE NORTH  
PROJECT NORTH



MAP DATA: ©2016 GOOGLE

**LEGEND:**

 EXTENT OF THE PHASE TWO PROPERTY



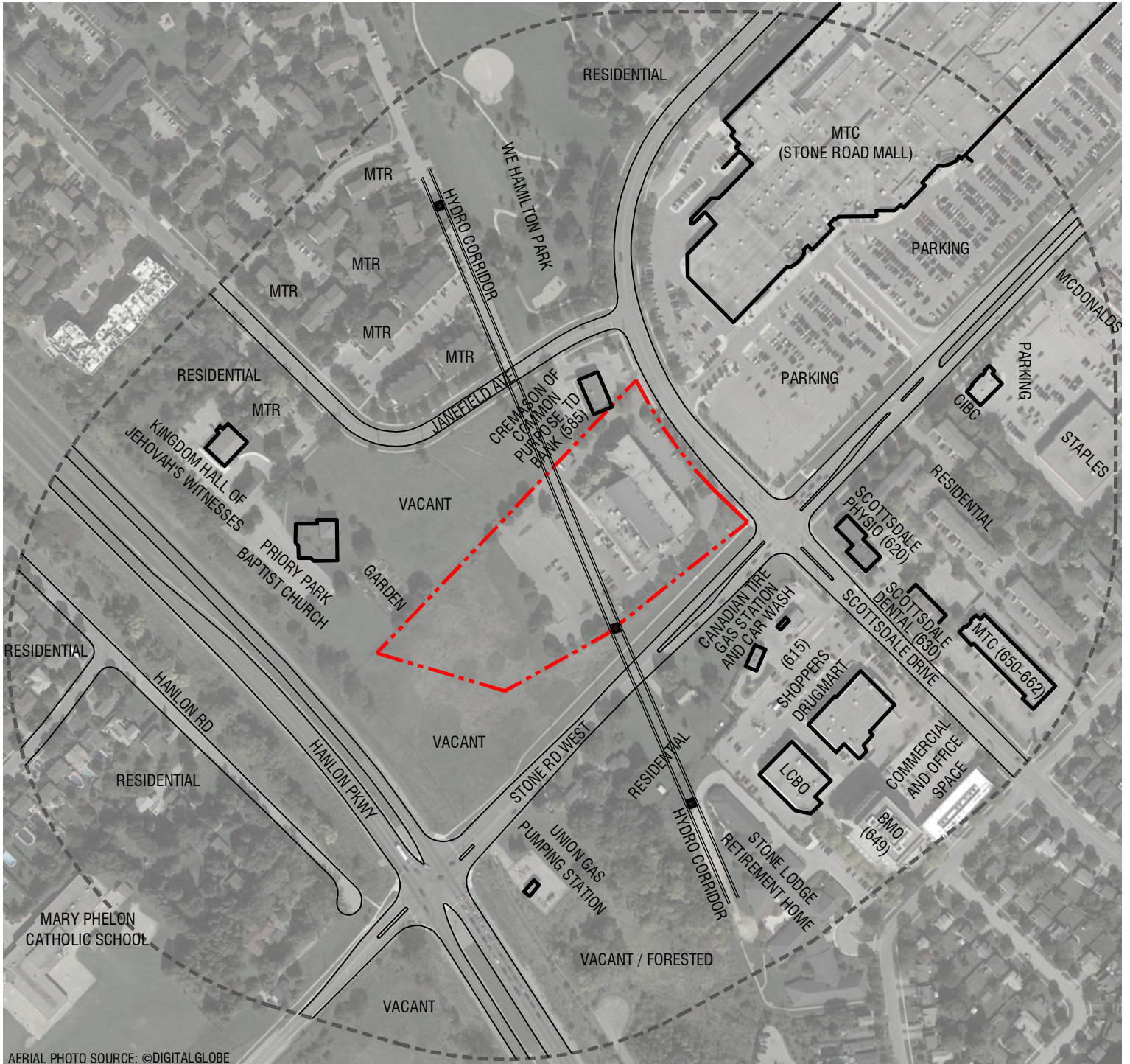
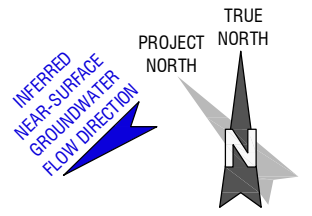
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**B. CALDERONE**  
CHECKED:  
**V. JADEJA**  
DATE:  
**DECEMBER 2021**

CLIENT:  
**FORUM EQUITY PARTNERS**  
SITE ADDRESS:  
**601 SCOTSDALE DRIVE,  
GUELPH, ONTARIO**

REPORT NAME:  
**PHASE TWO  
ENVIRONMENTAL  
SITE ASSESSMENT**

FIGURE NAME:  
**PHASE TWO PROPERTY  
LOCATION MAP**  
PROJECT No:  
**21-0006.03**  
FIGURE No:  
**1**





AERIAL PHOTO SOURCE: ©DIGITALGLOBE

LEGEND:

EXTENT OF THE PHASE TWO PROPERTY

250m PHASE ONE STUDY AREA

TRANSMISSION LINES

MTC MULTI-TENANT COMMERCIAL

MTR MULTI-TENANT RESIDENTIAL



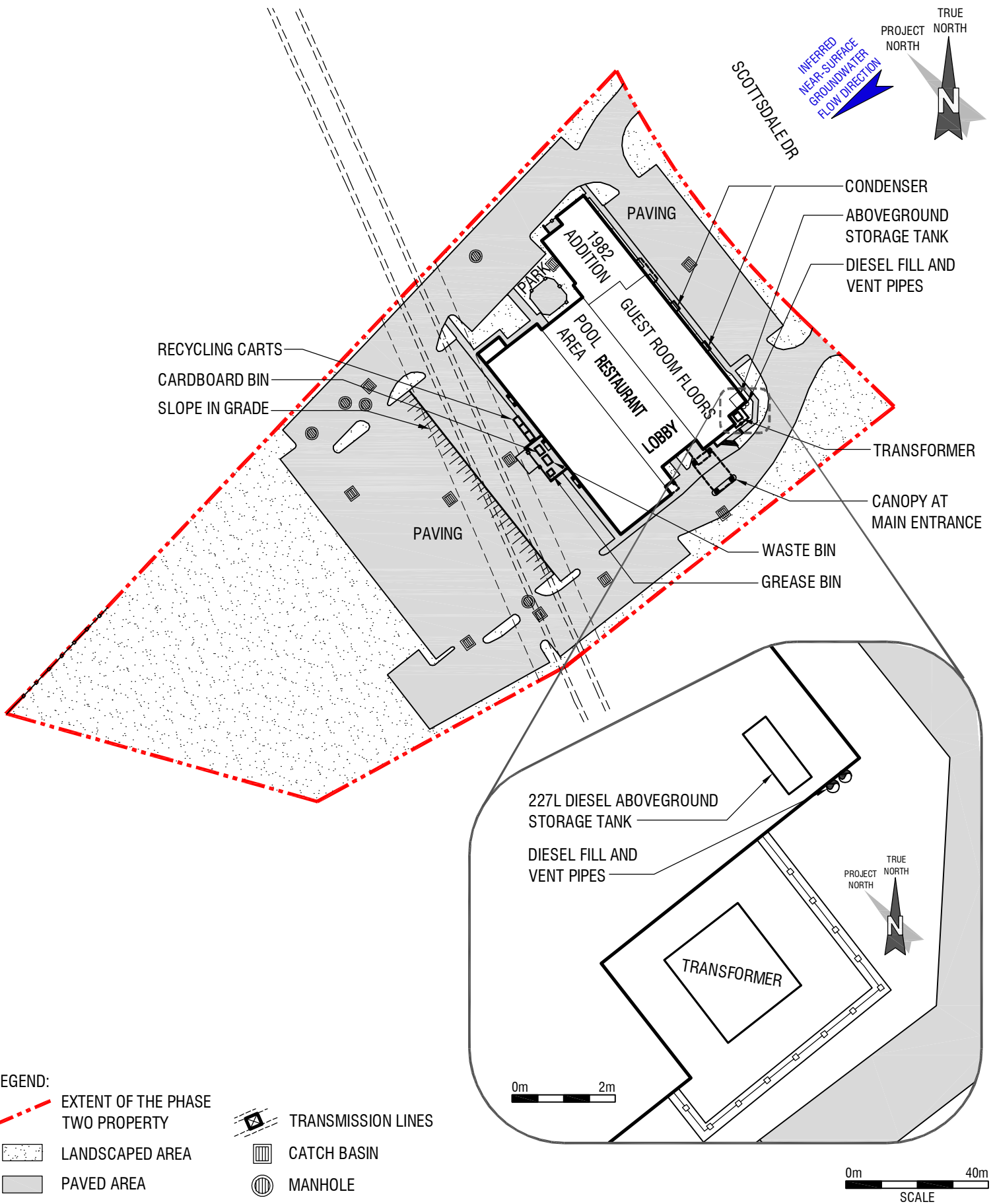
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**B. CALDERONE**  
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**V. JADEJA**  
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GUELPH, ONTARIO**

REPORT NAME:  
**PHASE TWO  
ENVIRONMENTAL  
SITE ASSESSMENT**

FIGURE NAME:  
**PHASE ONE STUDY  
AREA LAND USE MAP**  
PROJECT No:  
**21-0006.03**  
FIGURE No:  
**2**





**LEGEND:**

- EXTENT OF THE PHASE TWO PROPERTY
- LANDSCAPED AREA
- PAVED AREA
- TRANSMISSION LINES
- CATCH BASIN
- MANHOLE

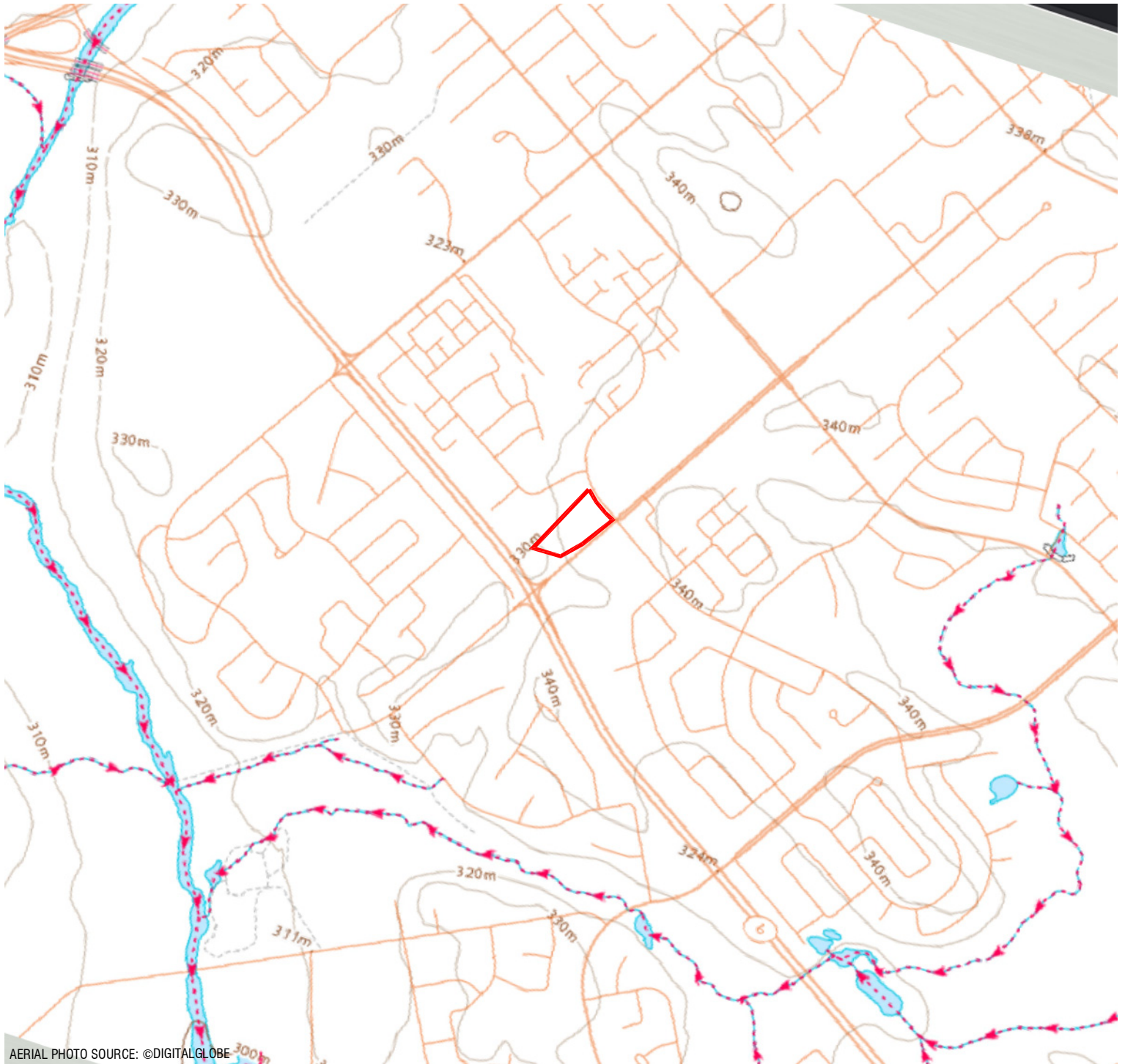
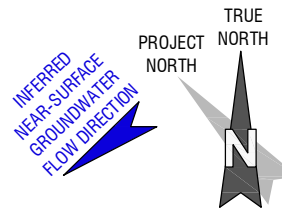


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**V. JADEJA**  
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SITE ADDRESS:  
**601 SCOTSDALE DRIVE,  
GUELPH, ONTARIO**


REPORT NAME:  
**PHASE TWO  
ENVIRONMENTAL  
SITE ASSESSMENT**

FIGURE NAME:  
**PHASE TWO PROPERTY  
LAYOUT PLAN**  
PROJECT No:  
**21-0006.03**  
FIGURE No:  
**3**



AERIAL PHOTO SOURCE: ©DIGITALGLOBE

**LEGEND:**

 EXTENT OF THE PHASE TWO PROPERTY



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SITE ADDRESS:  
**601 SCOTTSDALE DRIVE,  
GUELPH, ONTARIO**

REPORT NAME:  
**PHASE TWO  
ENVIRONMENTAL  
SITE ASSESSMENT**

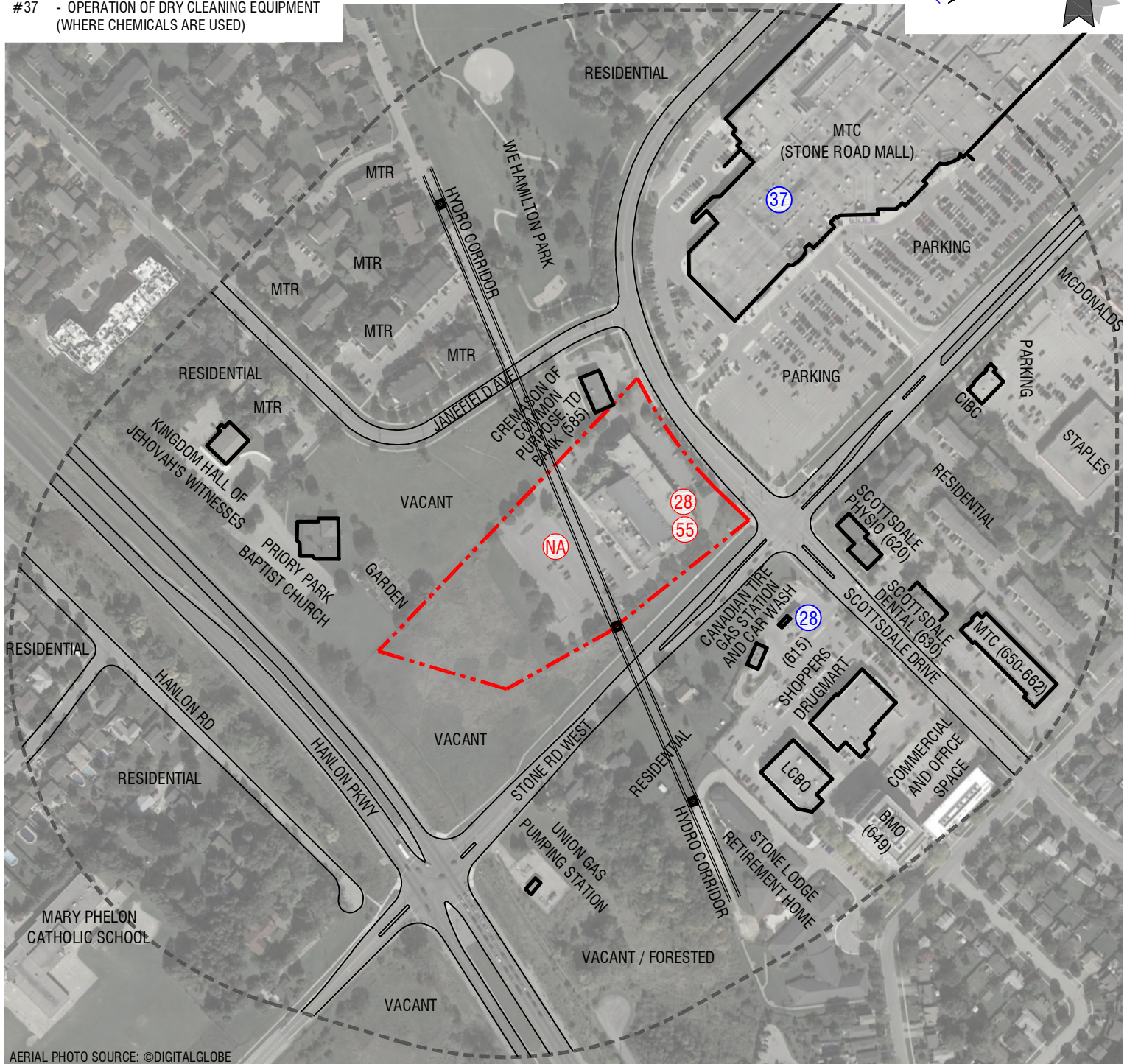
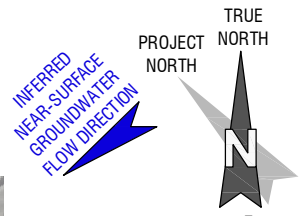
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**TOPOGRAPHICAL MAP**  
PROJECT No:  
**21-0006.03**  
FIGURE No:  
**4**



**PCA # DESCRIPTIONS:**

- #55 - TRANSFORMER MANUFACTURING, PROCESSING AND USE
- #28 - GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS
- #37 - OPERATION OF DRY CLEANING EQUIPMENT (WHERE CHEMICALS ARE USED)

NA - APPLICATION OF ROAD SALT FOR DE-ICING PURPOSES



AERIAL PHOTO SOURCE: ©DIGITALGLOBE

**LEGEND:**

- EXTENT OF THE PHASE TWO PROPERTY
- 250m PHASE ONE STUDY AREA
- TRANSMISSION LINES

- MTC MULTI-TENANT COMMERCIAL
- MTR MULTI-TENANT RESIDENTIAL

- IDENTIFIED PCAs CONTRIBUTING TO AN APEC AT THE PHASE TWO PROPERTY
- OTHER IDENTIFIED PCAs WITHIN THE STUDY AREA WHICH WERE NOT ANTICIPATED TO POSE AN APEC AT THE PHASE TWO PROPERTY

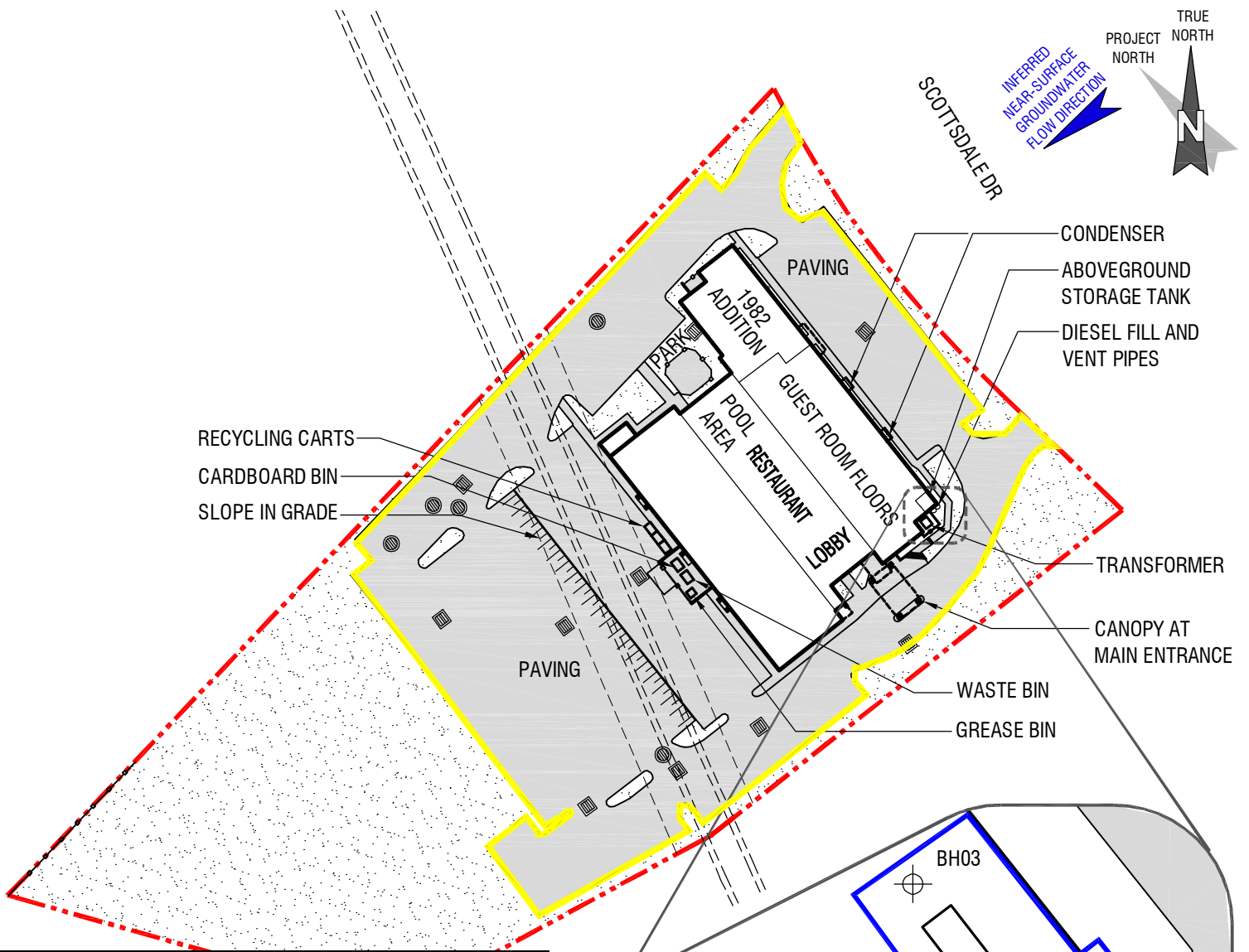


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CHECKED:  
**V. JADEJA**  
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CLIENT:  
**FORUM EQUITY PARTNERS**  
SITE ADDRESS:  
**601 SCOTSDALE DRIVE,  
GUELPH, ONTARIO**

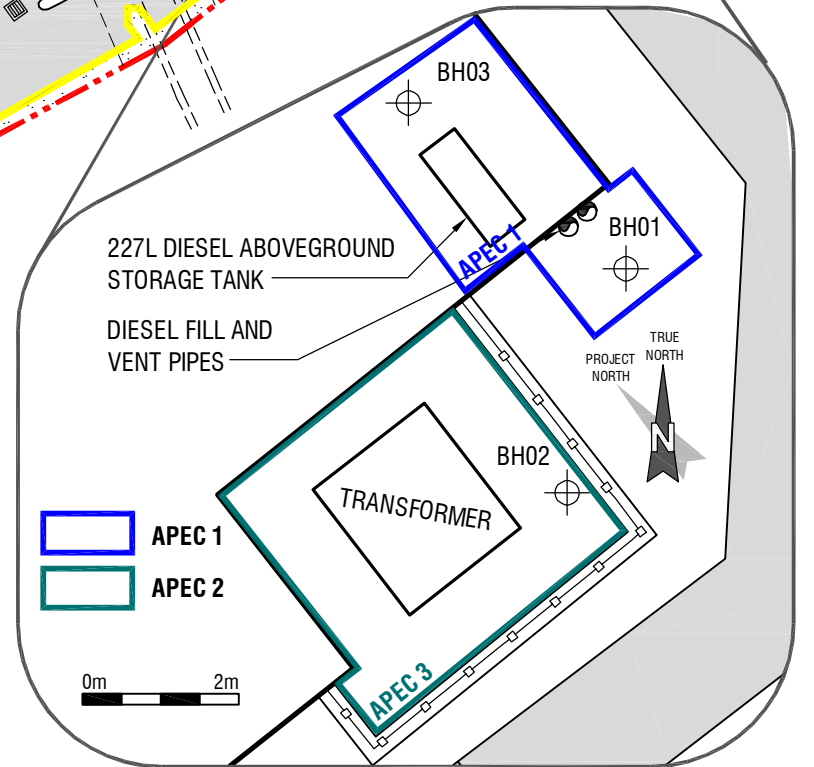
REPORT NAME:  
**PHASE TWO  
ENVIRONMENTAL  
SITE ASSESSMENT**

FIGURE NAME:  
**PHASE ONE CONCEPTUAL  
SITE MODEL**  
PROJECT No:  
**21-0006.03**  
FIGURE No:  
**5**



**Summary of PCAs Resulting in APECs on the Phase One Property**

Report PCA #	APEC #	APEC Line / Colour	RSC Regulation Potentially Contaminating Activity	Location	Description	Potential Media Impacted
1	1	Blue	#28 - Gasoline and Associated Products Storage in Fixed Tanks	On-Site, southeast interior of Site Building	One 227-litre, double-walled diesel AST, with remote fill and vent pipes, used to power the on-Site emergency generator.	Soil
2	2	Green	#55 - Transformer Manufacturing, Processing and Use	On-Site, adjacent southeast exterior corner of the Site Building	Pad-mounted transformer utilized to provide electricity to the Site building.	Soil
3	3	Yellow	NA - Application of road salt	On-Site, exterior paved areas	Road salting to keep paved surfaces safe for vehicular and pedestrian traffic	Not Applicable - See Phase Two CSM



**LEGEND:**

- EXTENT OF THE PHASE TWO PROPERTY
- LANDSCAPED AREA
- PAVED AREA
- BOREHOLE LOCATION
- TRANSMISSION LINES
- CATCH BASIN
- MANHOLE
- APEC 3

0m 40m  
SCALE



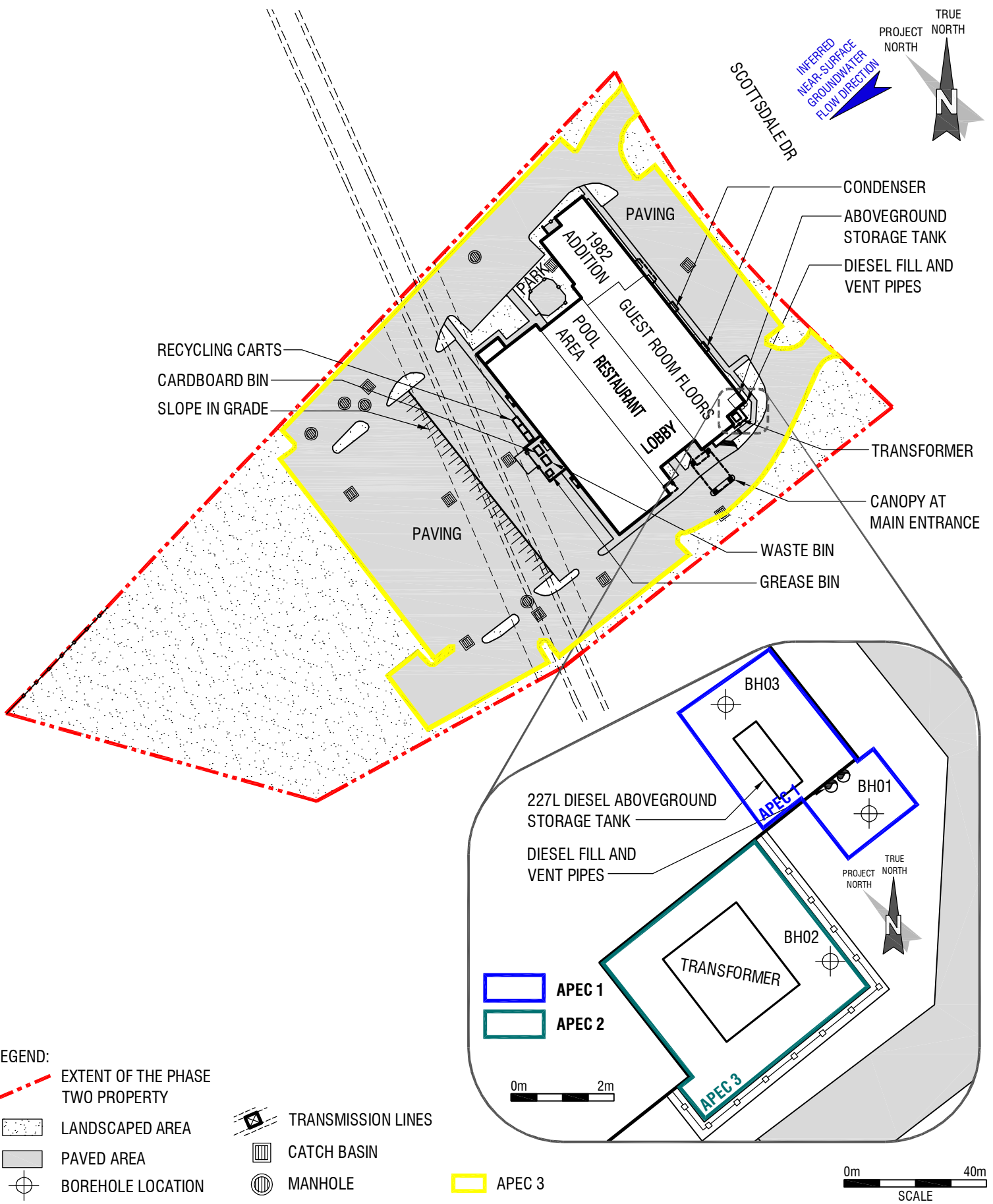
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**B. CALDERONE**  
CHECKED:  
**V. JADEJA**  
DATE:  
**DECEMBER 2021**

CLIENT:  
**FORUM EQUITY PARTNERS**  
SITE ADDRESS:  
**601 SCOTSDALE DRIVE,  
GUELPH, ONTARIO**

REPORT NAME:  
**PHASE TWO  
ENVIRONMENTAL  
SITE ASSESSMENT**

FIGURE NAME:  
**PHASE ONE CONCEPTUAL SITE  
MODEL (EXPANDED VIEW)**  
PROJECT No:  
**21-0006.03**  
FIGURE No:  
**6**





**LEGEND:**

- EXTENT OF THE PHASE TWO PROPERTY
- LANDSCAPED AREA
- PAVED AREA
- BOREHOLE LOCATION
- TRANSMISSION LINES
- CATCH BASIN
- MANHOLE

APEC 3

0m 40m  
SCALE












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CLIENT:  
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SITE ADDRESS:  
**601 SCOTSDALE DRIVE,  
GUELPH, ONTARIO**

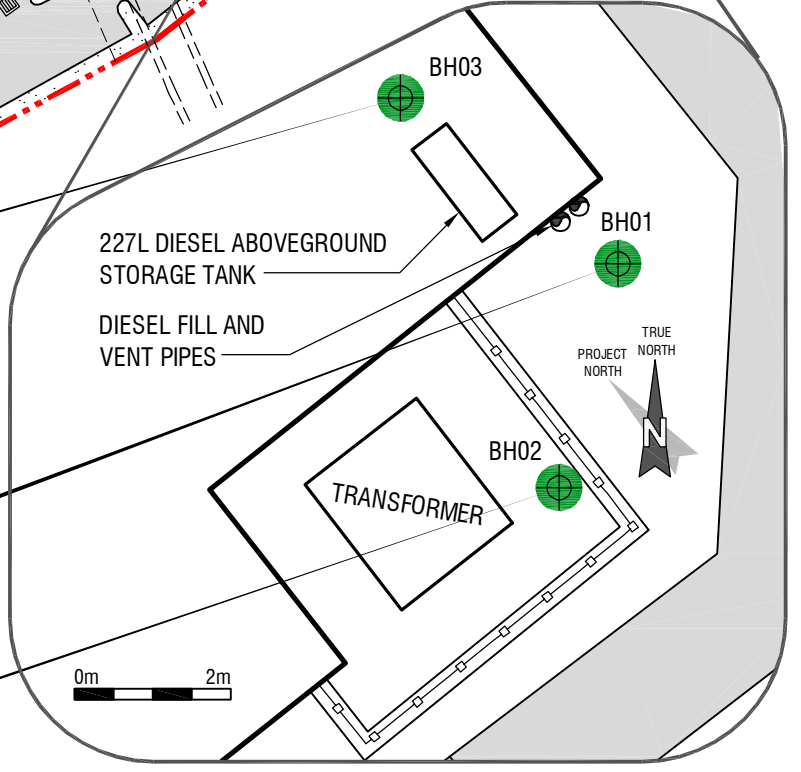
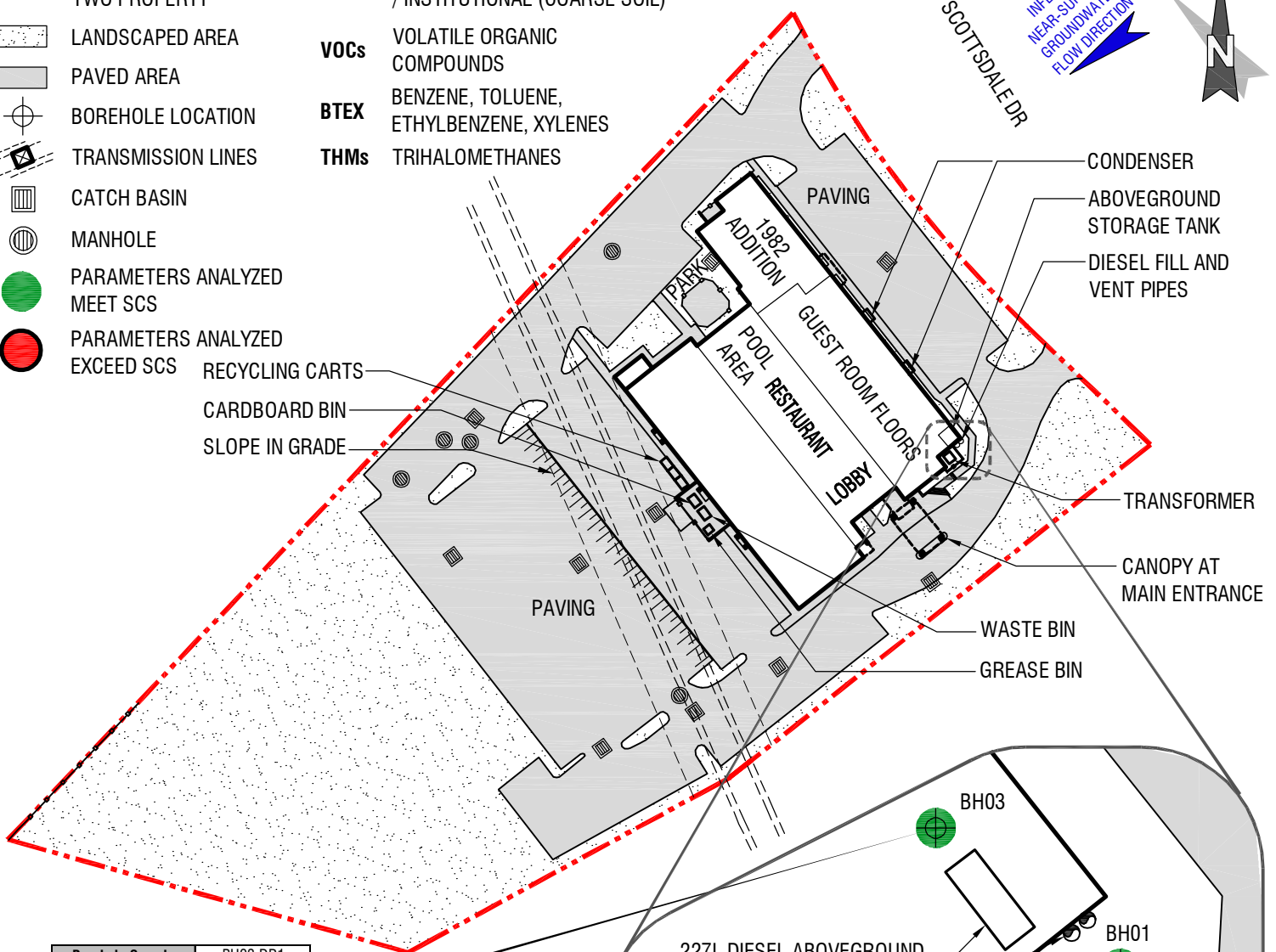
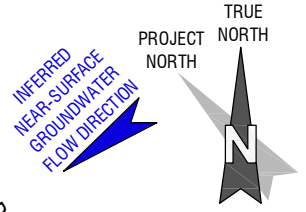
REPORT NAME:  
**PHASE TWO  
ENVIRONMENTAL  
SITE ASSESSMENT**

FIGURE NAME:  
**BOREHOLE  
LOCATION PLAN**  
PROJECT No:  
**21-0006.03**  
FIGURE No:  
**7**

**LEGEND:**

-  EXTENT OF THE PHASE TWO PROPERTY
-  LANDSCAPED AREA
-  PAVED AREA
-  BOREHOLE LOCATION
-  TRANSMISSION LINES
-  CATCH BASIN
-  MANHOLE
-  PARAMETERS ANALYZED MEET SCS
-  PARAMETERS ANALYZED EXCEED SCS

- SCS** TABLE 2 RESIDENTIAL / PARKLAND / INSTITUTIONAL (COARSE SOIL)
- VOCs** VOLATILE ORGANIC COMPOUNDS
- BTEX** BENZENE, TOLUENE, ETHYLBENZENE, XYLENES
- THMs** TRIHALOMETHANES



Borehole Sample	BH03-DP1
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0 - 0.76
All parameters met the Table 2 SCS	

Borehole Sample	BH300-DP1
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0 - 0.76
All parameters met the Table 2 SCS	

Borehole Sample	BH03-DP3
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.76 - 1.45
All parameters met the Table 2 SCS	

Borehole Sample	BH01-DP2
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.76 - 1.45
All parameters met the Table 2 SCS	

Borehole Sample	BH01-DP3
Date Sampled	27-Jul-21
Sample Depth (mbgs)	1.45 - 2.0
All parameters met the Table 2 SCS	

Borehole Sample	BH02-DP1
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0 - 0.76
All parameters met the Table 2 SCS	

Borehole Sample	BH02-DP2
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.76 - 1.45
All parameters met the Table 2 SCS	












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SITE ADDRESS:  
**601 SCOTTSDALE DRIVE,  
GUELPH, ONTARIO**

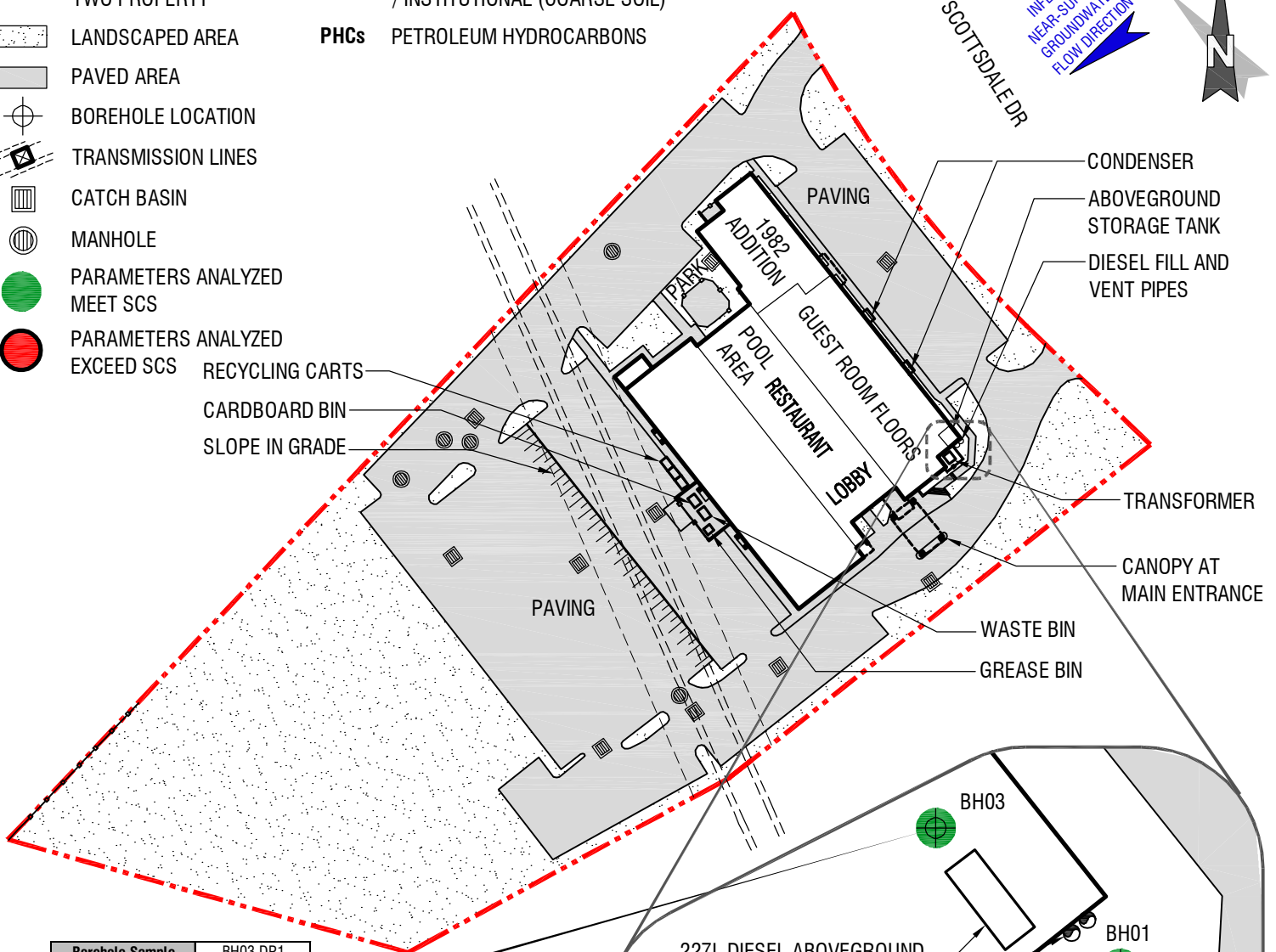
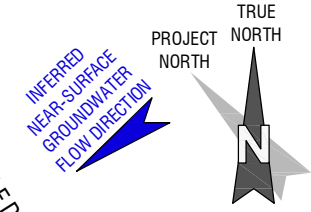
REPORT NAME:  
**PHASE TWO  
ENVIRONMENTAL  
SITE ASSESSMENT**

FIGURE NAME:  
**SOIL ANALYTICAL RESULTS  
(VOCs, BTEX, AND THMs)**  
PROJECT No: **21-0006.03**      FIGURE No: **8**

**LEGEND:**

-  EXTENT OF THE PHASE TWO PROPERTY
-  LANDSCAPED AREA
-  PAVED AREA
-  BOREHOLE LOCATION
-  TRANSMISSION LINES
-  CATCH BASIN
-  MANHOLE
-  PARAMETERS ANALYZED MEET SCS
-  PARAMETERS ANALYZED EXCEED SCS

**SCS** TABLE 2 RESIDENTIAL / PARKLAND / INSTITUTIONAL (COARSE SOIL)  
**PHCs** PETROLEUM HYDROCARBONS



Borehole Sample	BH03-DP1
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0 - 0.76
All parameters met the Table 2 SCS	

Borehole Sample	BH03-DP3
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.76 - 1.45
All parameters met the Table 2 SCS	

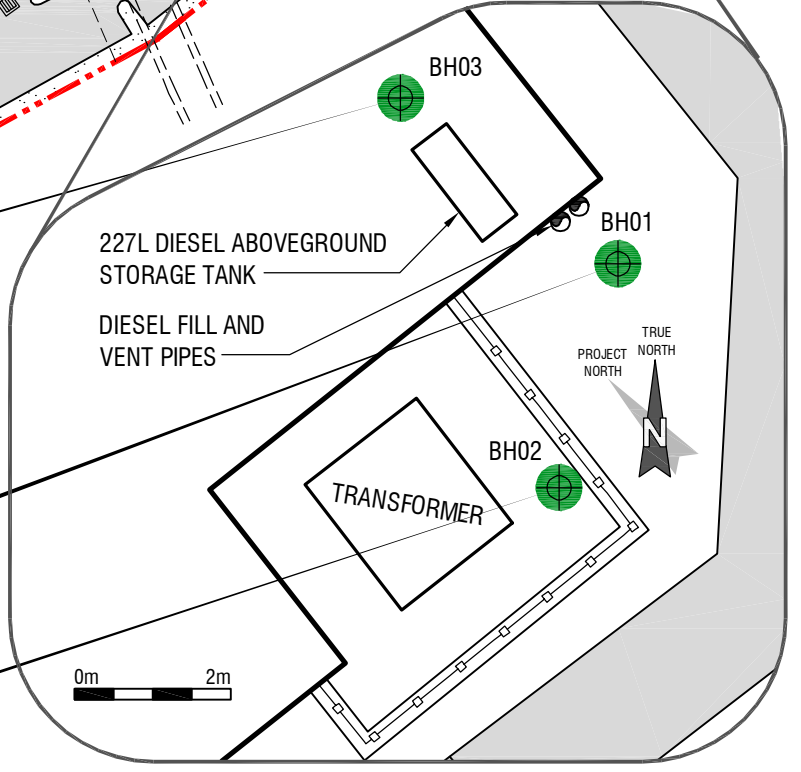
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Date Sampled	27-Jul-21
Sample Depth (mbgs)	0 - 0.76
All parameters met the Table 2 SCS	

Borehole Sample	BH01-DP2
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.76 - 1.45
All parameters met the Table 2 SCS	

Borehole Sample	BH01-DP3
Date Sampled	27-Jul-21
Sample Depth (mbgs)	1.45 - 2.0
All parameters met the Table 2 SCS	

Borehole Sample	BH02-DP1
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0 - 0.76
All parameters met the Table 2 SCS	

Borehole Sample	BH02-DP2
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.76 - 1.45
All parameters met the Table 2 SCS	












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**CHECKED:**  
V. JADEJA  
**DATE:**  
DECEMBER 2021

**CLIENT:**  
FORUM EQUITY PARTNERS  
**SITE ADDRESS:**  
601 SCOTTS DALE DRIVE,  
GUELPH, ONTARIO

**REPORT NAME:**  
PHASE TWO  
ENVIRONMENTAL  
SITE ASSESSMENT

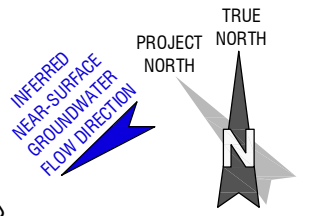
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SOIL ANALYTICAL  
RESULTS (PHCs)  
**PROJECT No:** 21-0006.03  
**FIGURE No:** 9

**LEGEND:**

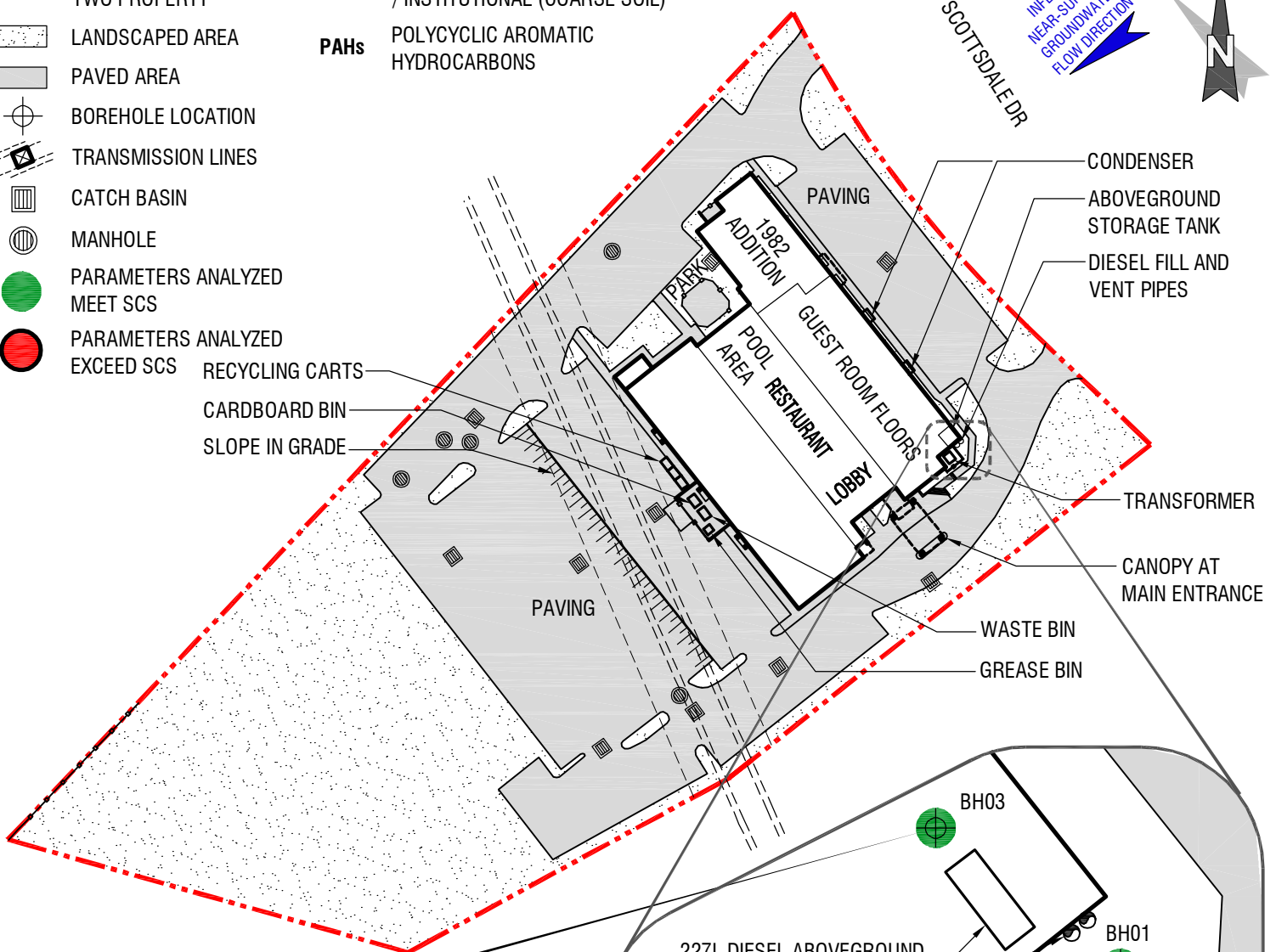
-  EXTENT OF THE PHASE TWO PROPERTY
-  LANDSCAPED AREA
-  PAVED AREA
-  BOREHOLE LOCATION
-  TRANSMISSION LINES
-  CATCH BASIN
-  MANHOLE
-  PARAMETERS ANALYZED MEET SCS
-  PARAMETERS ANALYZED EXCEED SCS

**SCS** TABLE 2 RESIDENTIAL / PARKLAND / INSTITUTIONAL (COARSE SOIL)

**PAHs** POLYCYCLIC AROMATIC HYDROCARBONS



INFERRED NEAR-SURFACE GROUNDWATER FLOW DIRECTION



Borehole Sample	BH03-DP1
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0 - 0.76
All parameters met the Table 2 SCS	

Borehole Sample	BH03-DP3
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.76 - 1.45
All parameters met the Table 2 SCS	

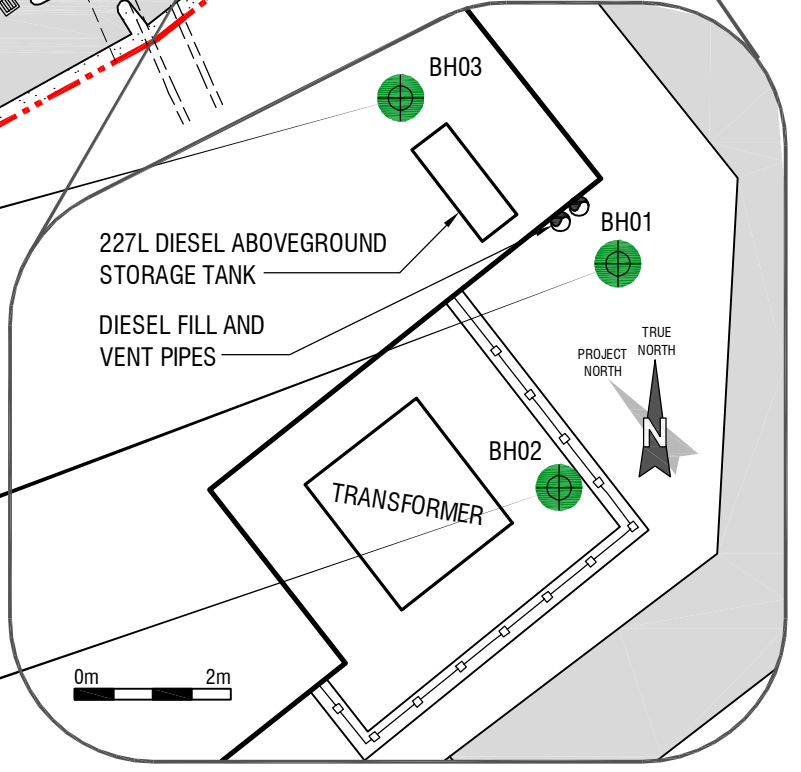
Borehole Sample	BH02-DP1
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0 - 0.76
All parameters met the Table 2 SCS	

Borehole Sample	BH02-DP2
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.76 - 1.45
All parameters met the Table 2 SCS	

Borehole Sample	BH01-DP1B
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.2 - 0.76
All parameters met the Table 2 SCS	

Borehole Sample	BH100-DP1B (duplicate of BH01-DP1B)
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.2 - 0.76
All parameters met the Table 2 SCS	

Borehole Sample	BH01-DP4
Date Sampled	27-Jul-21
Sample Depth (mbgs)	2.0 - 2.3
All parameters met the Table 2 SCS	



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







CLIENT: **FORUM EQUITY PARTNERS**  
 SITE ADDRESS: **601 SCOTTS DALE DRIVE, GUELPH, ONTARIO**

REPORT NAME: **PHASE TWO ENVIRONMENTAL SITE ASSESSMENT**

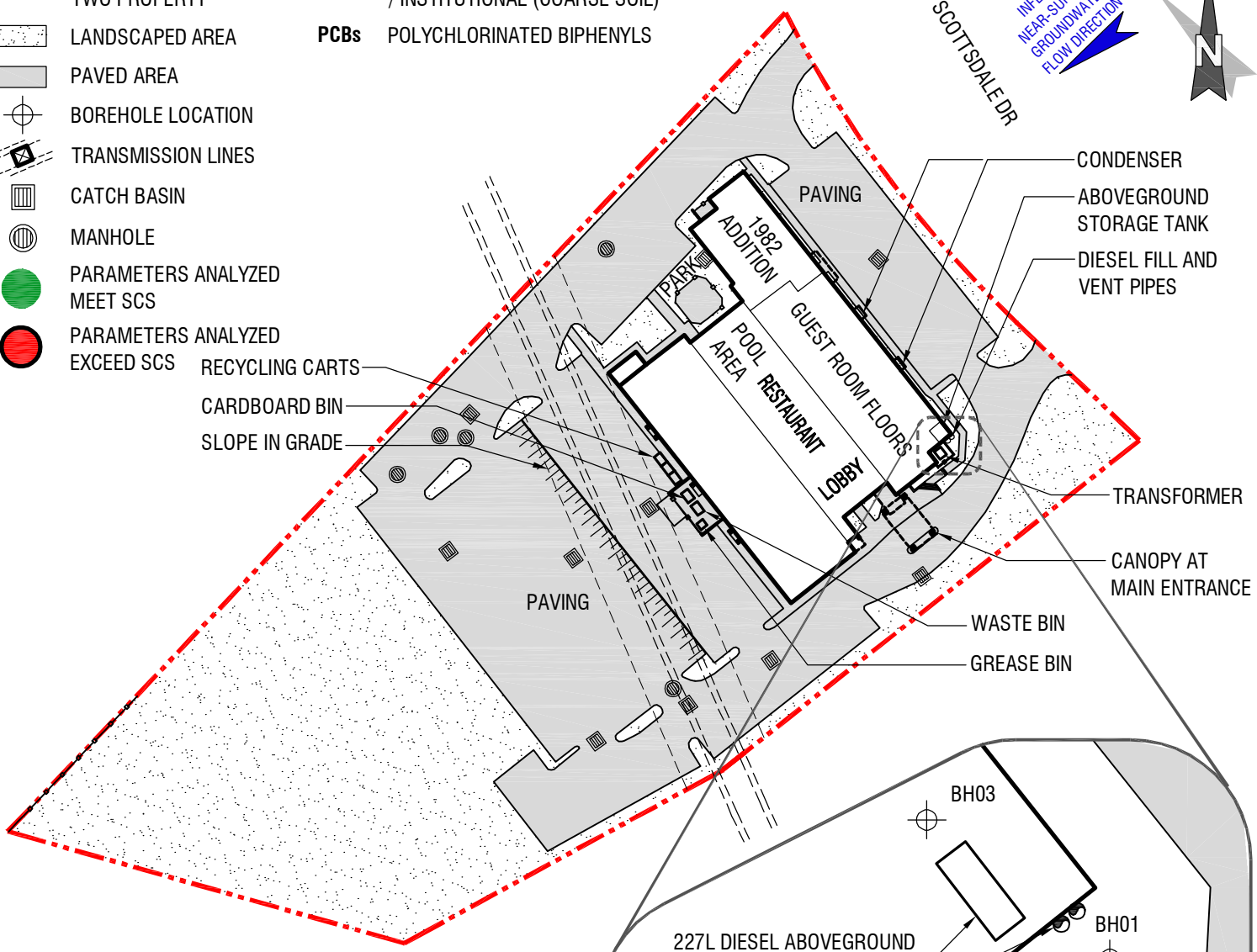
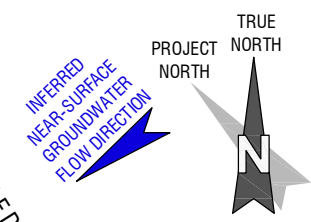
FIGURE NAME: **SOIL ANALYTICAL RESULTS (PAHs)**  
 PROJECT No: **21-0006.03**      FIGURE No: **10**



**LEGEND:**

-  EXTENT OF THE PHASE TWO PROPERTY
-  LANDSCAPED AREA
-  PAVED AREA
-  BOREHOLE LOCATION
-  TRANSMISSION LINES
-  CATCH BASIN
-  MANHOLE
-  PARAMETERS ANALYZED MEET SCS
-  PARAMETERS ANALYZED EXCEED SCS

**SCS** TABLE 2 RESIDENTIAL / PARKLAND / INSTITUTIONAL (COARSE SOIL)  
**PCBs** POLYCHLORINATED BIPHENYLS



Borehole Sample	BH02-DP1
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0 - 0.76
All parameters met the Table 2 SCS	
Borehole Sample	BH02-DP2
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.76 - 1.45
All parameters met the Table 2 SCS	
Borehole Sample	BH200-DP1 (duplicate of BH02-
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0 - 0.76
All parameters met the Table 2 SCS	

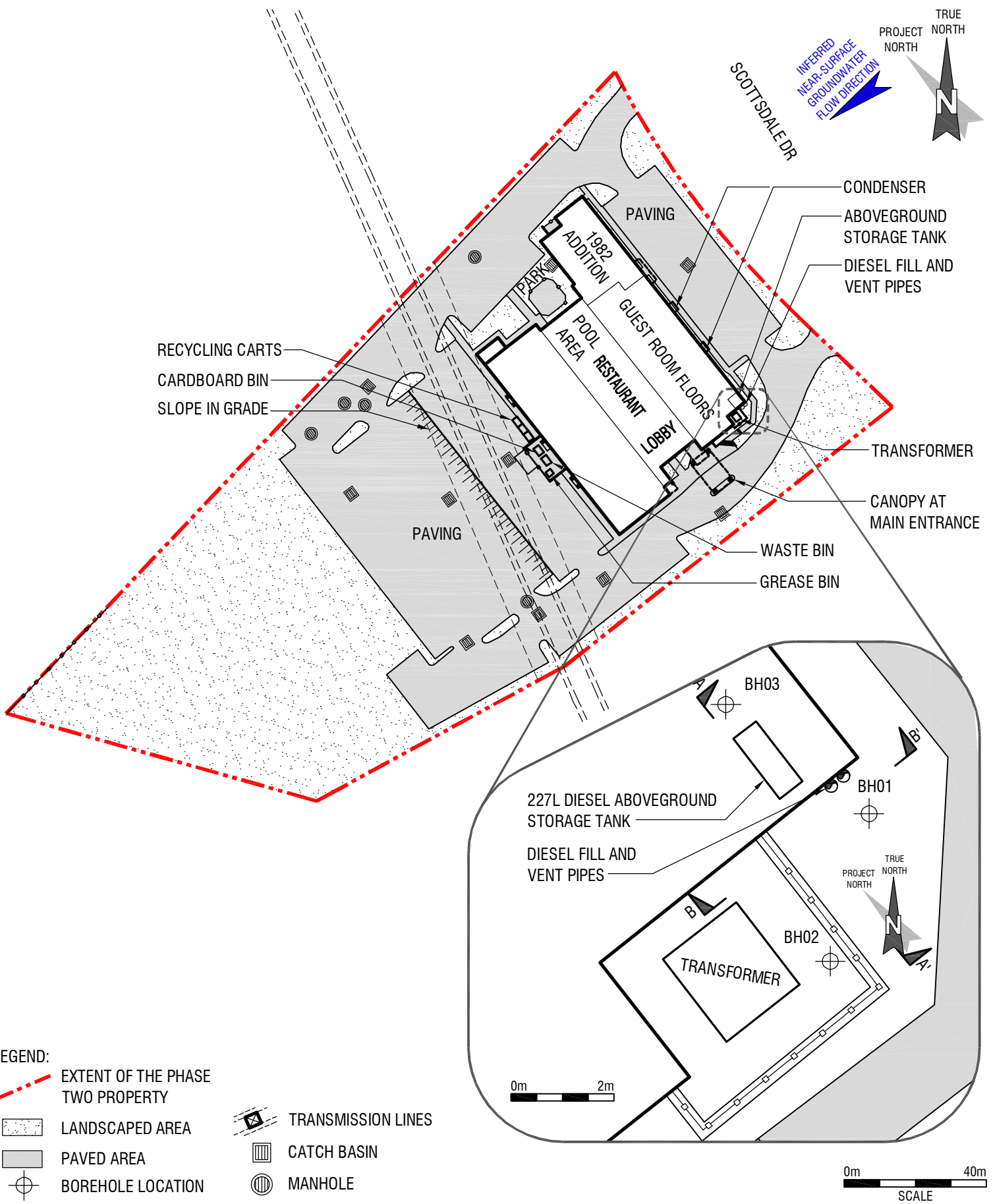


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**V. JADEJA**  
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**DECEMBER 2021**

CLIENT:  
**FORUM EQUITY PARTNERS**  
 SITE ADDRESS:  
**601 SCOTTS DALE DRIVE,  
 GUELPH, ONTARIO**

REPORT NAME:  
**PHASE TWO  
 ENVIRONMENTAL  
 SITE ASSESSMENT**

FIGURE NAME:  
**SOIL ANALYTICAL  
 RESULTS (PCBs)**  
 PROJECT No:  
**21-0006.03**  
 FIGURE No:  
**11**



**LEGEND:**

- EXTENT OF THE PHASE TWO PROPERTY
- LANDSCAPED AREA
- PAVED AREA
- BOREHOLE LOCATION
- TRANSMISSION LINES
- CATCH BASIN
- MANHOLE



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**V. JADEJA**  
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CLIENT:  
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SITE ADDRESS:  
**601 SCOTTS DALE DRIVE,  
GUELPH, ONTARIO**

REPORT NAME:  
**PHASE TWO  
ENVIRONMENTAL  
SITE ASSESSMENT**

FIGURE NAME:  
**CROSS SECTION  
LOCATION PLAN**  
PROJECT No:  
**21-0006.03**  
FIGURE No:  
**12**

Borehole Sample	BH02-DP1
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0 - 0.76
All parameters met the Table 2 SCS	

Borehole Sample	BH02-DP2
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.76 - 1.45
All parameters met the Table 2 SCS	

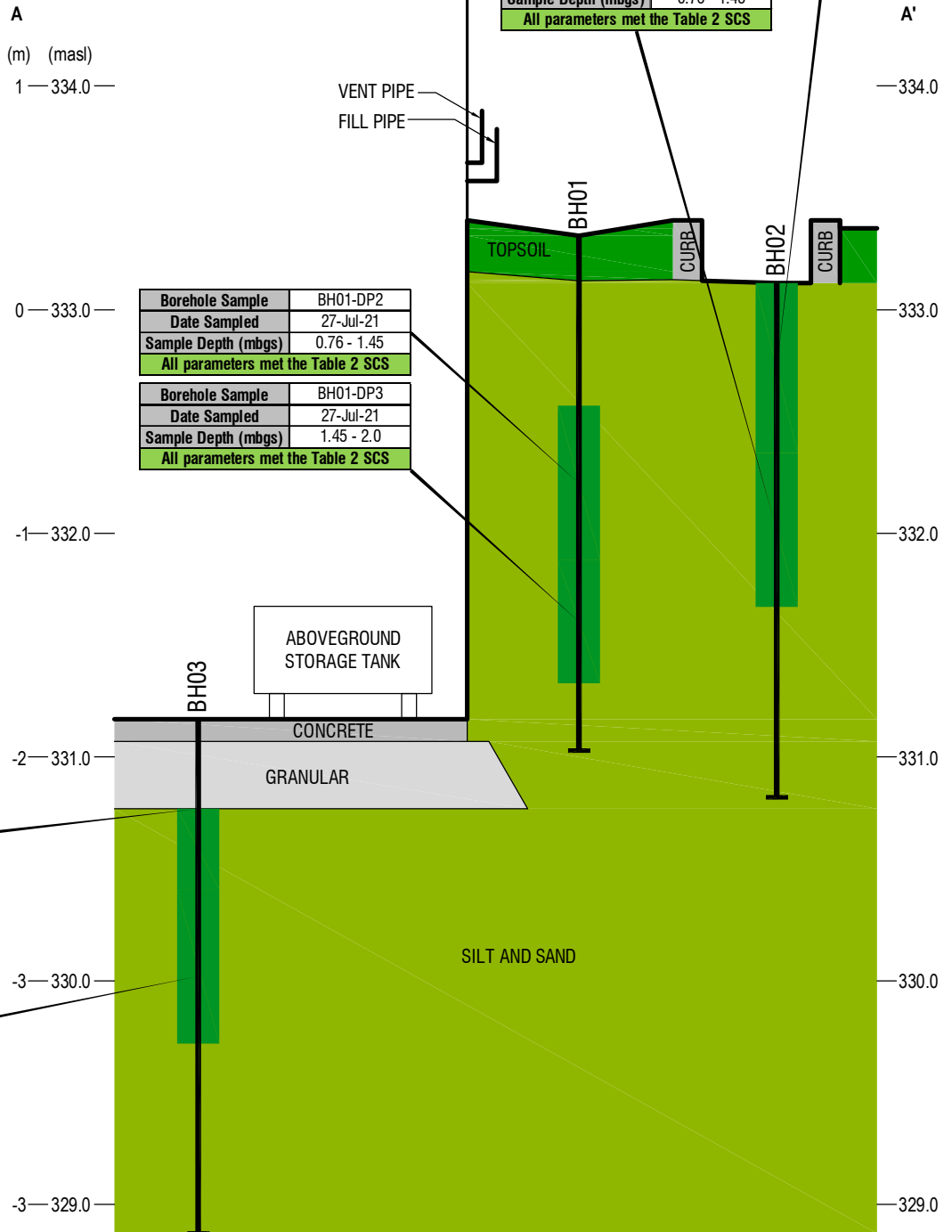
Borehole Sample	BH01-DP2
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.76 - 1.45
All parameters met the Table 2 SCS	

Borehole Sample	BH01-DP3
Date Sampled	27-Jul-21
Sample Depth (mbgs)	1.45 - 2.0
All parameters met the Table 2 SCS	

Borehole Sample	BH03-DP1
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0 - 0.76
All parameters met the Table 2 SCS	

Borehole Sample	BH300-DP1
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0 - 0.76
All parameters met the Table 2 SCS	

Borehole Sample	BH03-DP3
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.76 - 1.45
All parameters met the Table 2 SCS	



**LEGEND:**

**SCS** TABLE 2, RESIDENTIAL / PARKLAND / INSTITUTIONAL (COARSE COIL)

**masl** METRES ABOVE SEA LEVEL

**mbgs** METRES BELOW GROUND SURFACE

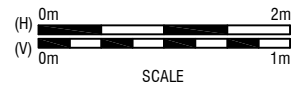
**PARAMETERS ANALYZED MEET SCS**

**PARAMETERS ANALYZED EXCEED SCS**

**VOCs** VOLATILE ORGANIC COMPOUNDS

**BTEX** BENZENE, TOLUENE, ETHYLBENZENE, XYLENES

**THMs** TRIHALOMETHANES

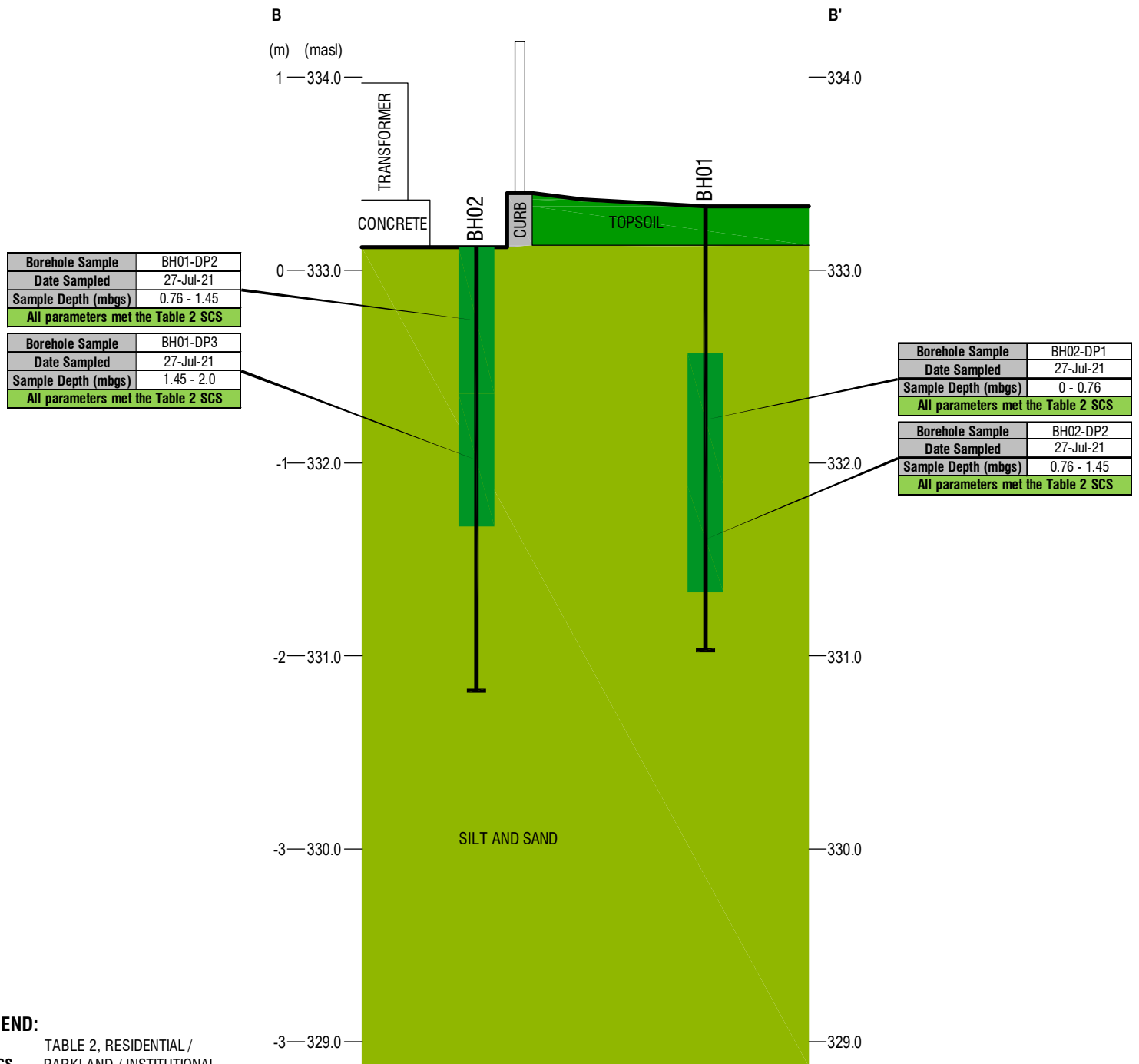


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CLIENT: **FORUM EQUITY PARTNERS**  
 SITE ADDRESS: **601 SCOTTSDALE DRIVE, GUELPH, ONTARIO**

REPORT NAME: **PHASE TWO ENVIRONMENTAL SITE ASSESSMENT**

FIGURE NAME: **CROSS SECTION A - A' (VOCs, BTEX, THMs)**  
 PROJECT No: **21-0006.03**  
 FIGURE No: **13A**



**LEGEND:**

**SCS** TABLE 2, RESIDENTIAL / PARKLAND / INSTITUTIONAL (COARSE COIL)

**BOREHOLE**

**masl** METRES ABOVE SEA LEVEL

**mbgs** METRES BELOW GROUND SURFACE

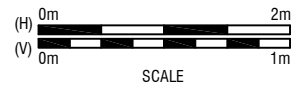
PARAMETERS ANALYZED MEET SCS

PARAMETERS ANALYZED EXCEED SCS

**VOCs** VOLATILE ORGANIC COMPOUNDS

**BTEX** BENZENE, TOLUENE, ETHYLBENZENE, XYLENES

**THMs** TRIHALOMETHANES



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CHECKED:  
**V. JADEJA**

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SITE ADDRESS:  
**601 SCOTTSDALE DRIVE,  
GUELPH, ONTARIO**

REPORT NAME:  
**PHASE TWO  
ENVIRONMENTAL  
SITE ASSESSMENT**

FIGURE NAME:  
**CROSS SECTION B - B'  
(VOCs, BTEX, THMs)**

PROJECT No:  
**21-0006.03**

FIGURE No:  
**13B**

Borehole Sample	BH02-DP1
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0 - 0.76
All parameters met the Table 2 SCS	

Borehole Sample	BH02-DP2
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.76 - 1.45
All parameters met the Table 2 SCS	

Borehole Sample	BH01-DP2
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.76 - 1.45
All parameters met the Table 2 SCS	

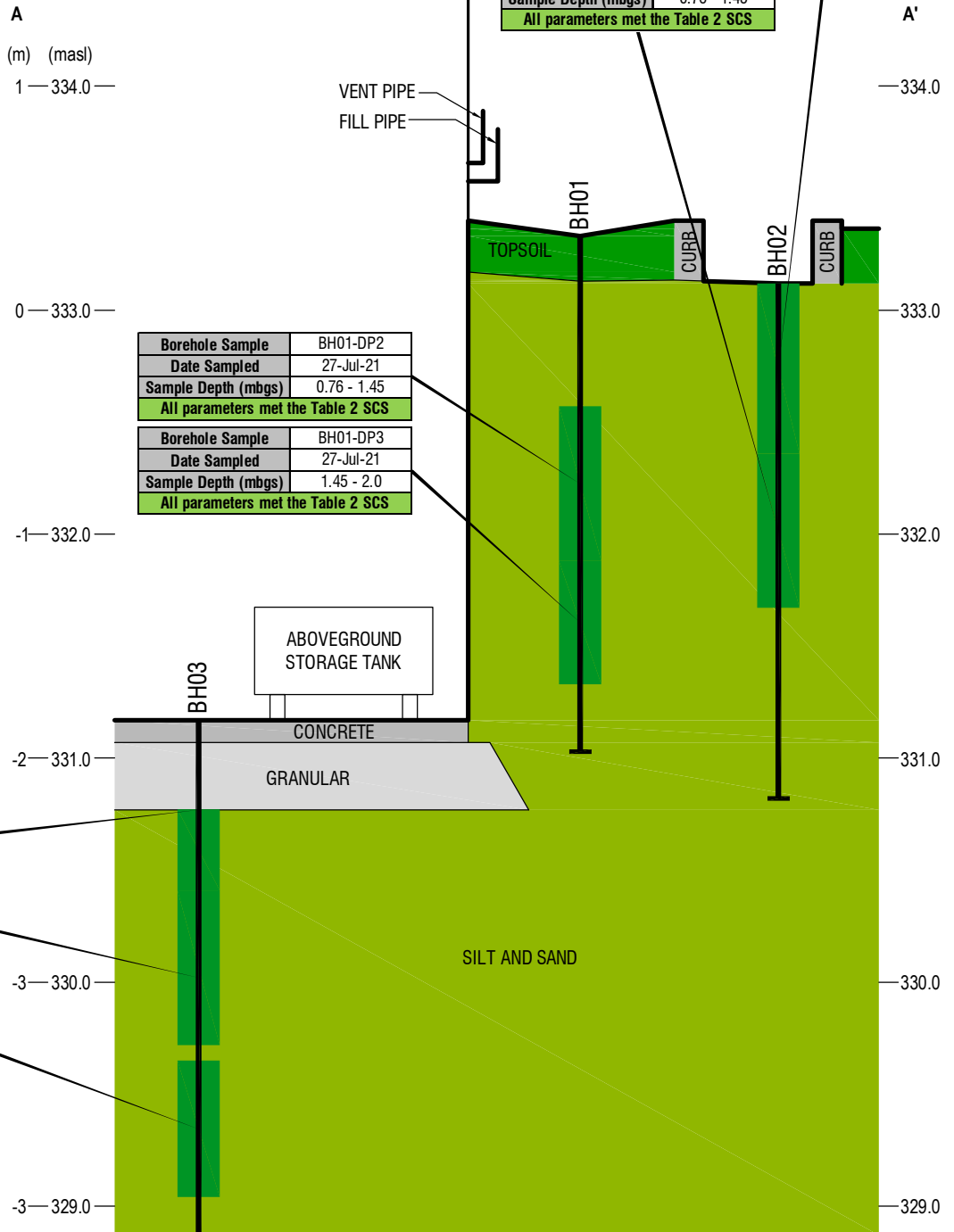
Borehole Sample	BH01-DP3
Date Sampled	27-Jul-21
Sample Depth (mbgs)	1.45 - 2.0
All parameters met the Table 2 SCS	

Borehole Sample	BH03-DP1
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0 - 0.76
All parameters met the Table 2 SCS	

Borehole Sample	BH300-DP1 (duplicate of BH03-DP1)
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0 - 0.76
All parameters met the Table 2 SCS	

Borehole Sample	BH03-DP3
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.76 - 1.45
All parameters met the Table 2 SCS	

Borehole Sample	BHNJO (duplicate of BH06-3)
Date Sampled	03-Apr-19
Sample Depth (mbgs)	1.52 - 2.13
All parameters met the Table 2 SCS	



**LEGEND:**

**SCS** TABLE 2, RESIDENTIAL / PARKLAND / INSTITUTIONAL (COARSE COIL)

BOREHOLE

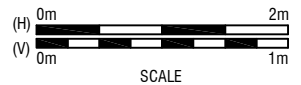
**masl** METRES ABOVE SEA LEVEL

**mbgs** METRES BELOW GROUND SURFACE

PARAMETERS ANALYZED MEET SCS

PARAMETERS ANALYZED EXCEED SCS

**PHCs** PETROLEUM HYDROCARBONS

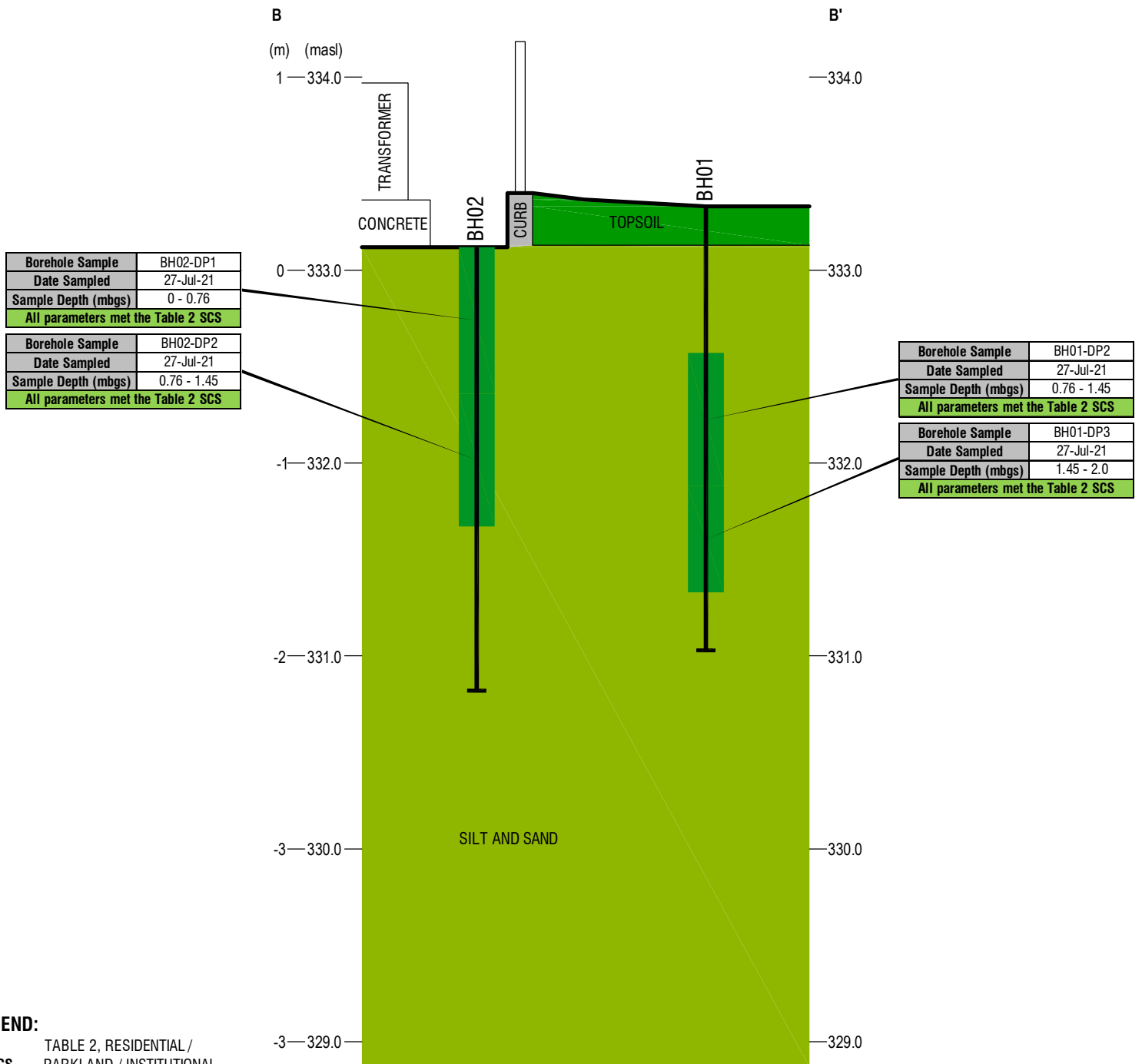


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**V. JADEJA**  
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SITE ADDRESS:  
**601 SCOTSDALE DRIVE,  
GUELPH, ONTARIO**

REPORT NAME:  
**PHASE TWO  
ENVIRONMENTAL  
SITE ASSESSMENT**

FIGURE NAME:  
**CROSS SECTION A - A'  
(PHCs)**  
PROJECT No:  
**21-0006.03**  
FIGURE No:  
**14A**



**LEGEND:**

**SCS** TABLE 2, RESIDENTIAL / PARKLAND / INSTITUTIONAL (COARSE COIL)

BOREHOLE

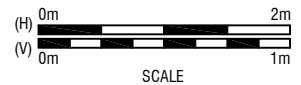
**masl** METRES ABOVE SEA LEVEL

**mbgs** METRES BELOW GROUND SURFACE

PARAMETERS ANALYZED MEET SCS

PARAMETERS ANALYZED EXCEED SCS

**PHCs** PETROLEUM HYDROCARBONS



DRAWN:  
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**V. JADEJA**  
DATE:  
**DECEMBER 2021**

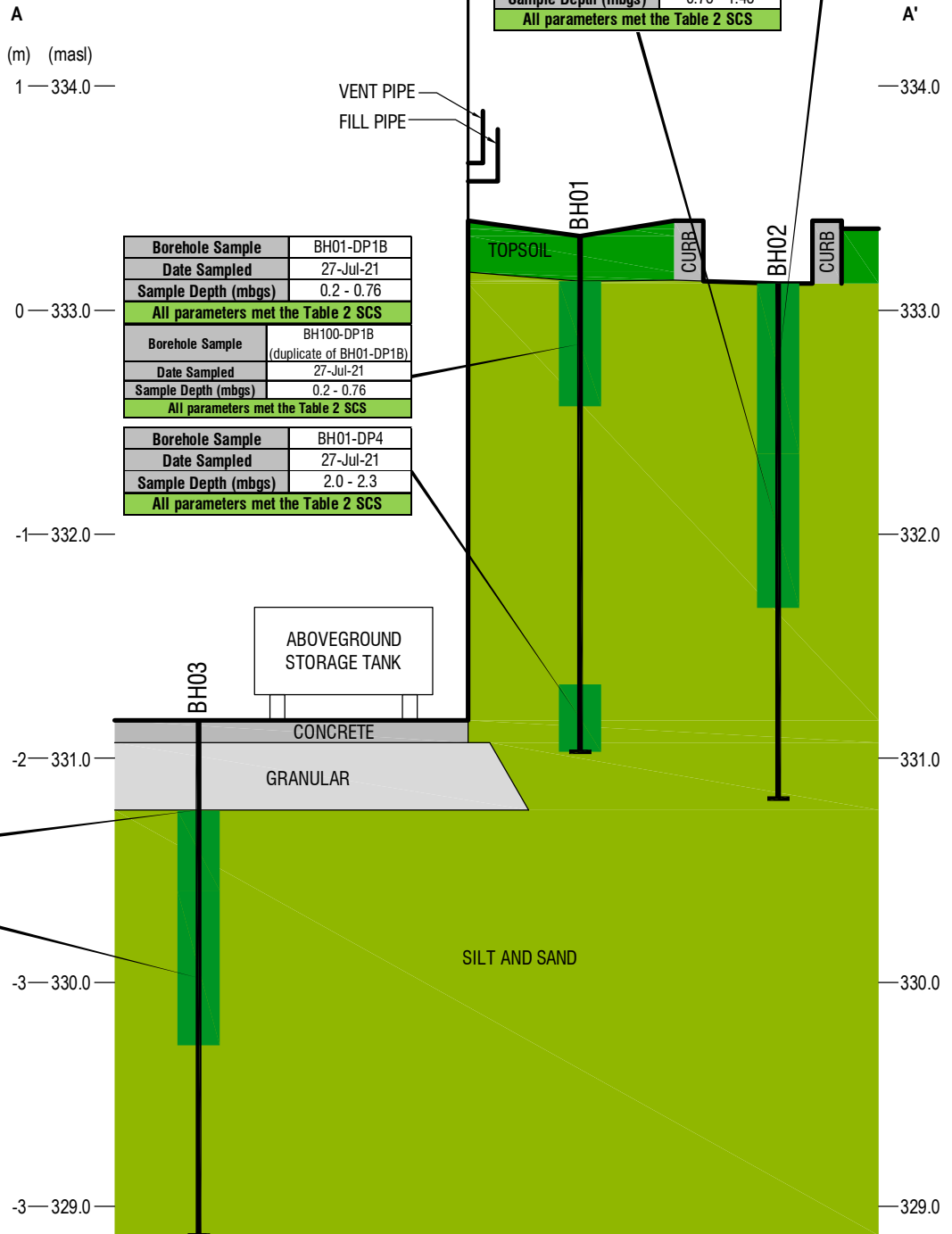
CLIENT:  
**FORUM EQUITY PARTNERS**  
SITE ADDRESS:  
**601 SCOTTSDALE DRIVE,  
GUELPH, ONTARIO**

REPORT NAME:  
**PHASE TWO  
ENVIRONMENTAL  
SITE ASSESSMENT**

FIGURE NAME:  
**CROSS SECTION B - B'  
(PHCs)**  
PROJECT No:  
**21-0006.03**  
FIGURE No:  
**14B**

Borehole Sample	BH02-DP1
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0 - 0.76
All parameters met the Table 2 SCS	

Borehole Sample	BH02-DP2
Date Sampled	27-Jul-21
Sample Depth (mbgs)	0.76 - 1.45
All parameters met the Table 2 SCS	

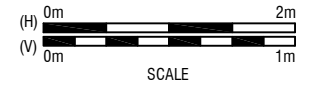


**LEGEND:**  
 TABLE 2, RESIDENTIAL /  
 PARKLAND / INSTITUTIONAL  
 (COARSE COIL)

**SCS**  
 BOREHOLE  
 masl METRES ABOVE SEA LEVEL  
 mbgs METRES BELOW GROUND SURFACE

PARAMETERS ANALYZED MEET SCS  
 PARAMETERS ANALYZED EXCEED SCS

**PAHs** POLYCYCLIC AROMATIC HYDROCARBONS

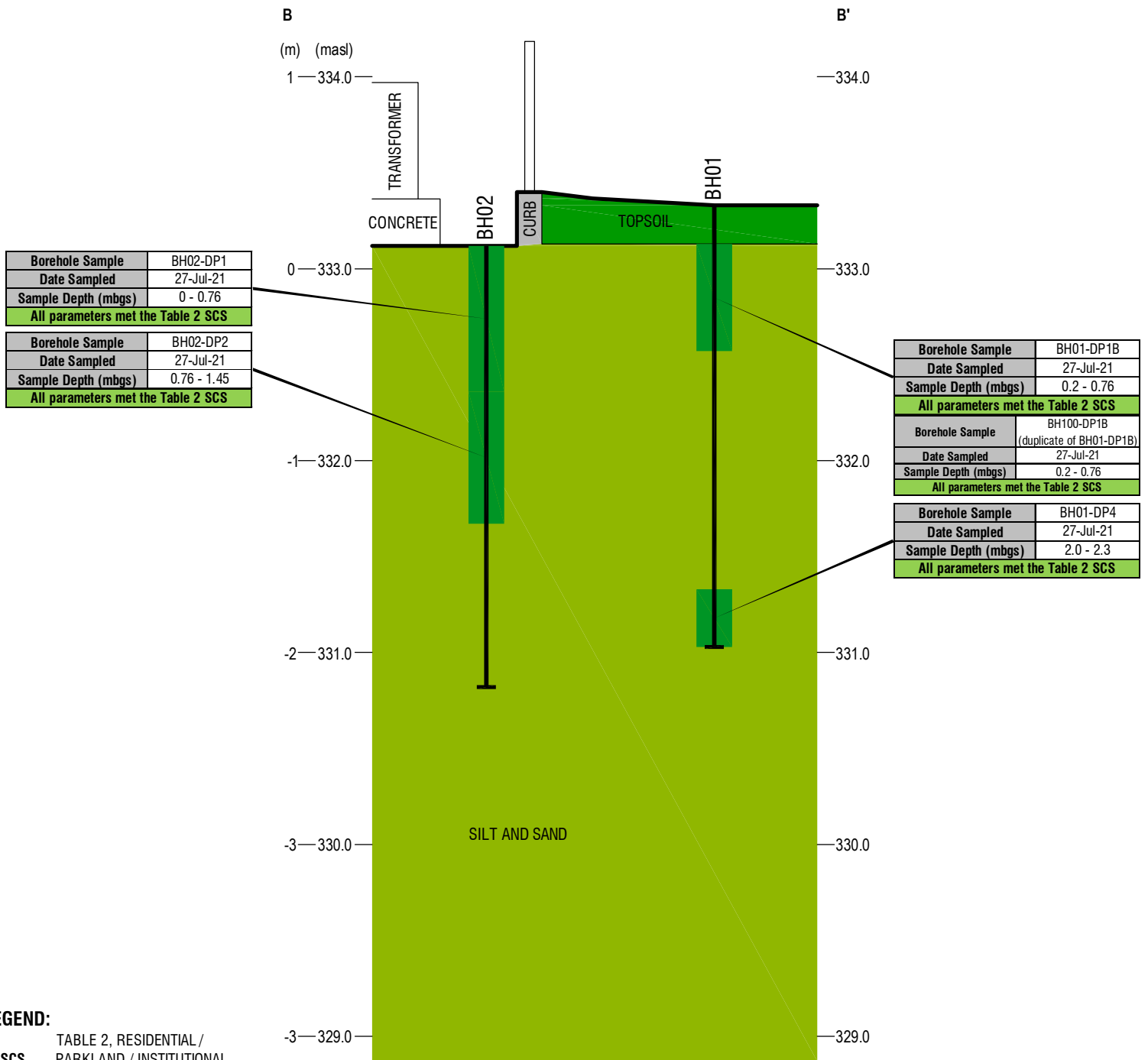


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 DATE:  
 DECEMBER 2021

CLIENT:  
**FORUM EQUITY PARTNERS**  
 SITE ADDRESS:  
**601 SCOTTSDALE DRIVE,  
 GUELPH, ONTARIO**

REPORT NAME:  
**PHASE TWO ENVIRONMENTAL  
 SITE ASSESSMENT**

FIGURE NAME:  
**CROSS SECTION A - A'  
 (PAHs)**  
 PROJECT No:  
**21-0006.03**  
 FIGURE No:  
**15A**



**LEGEND:**

**SCS** TABLE 2, RESIDENTIAL / PARKLAND / INSTITUTIONAL (COARSE COIL)

— BOREHOLE

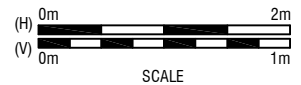
**masl** METRES ABOVE SEA LEVEL

**mbgs** METRES BELOW GROUND SURFACE

PARAMETERS ANALYZED MEET SCS

PARAMETERS ANALYZED EXCEED SCS

**PAHs** POLYCYCLIC AROMATIC HYDROCARBONS



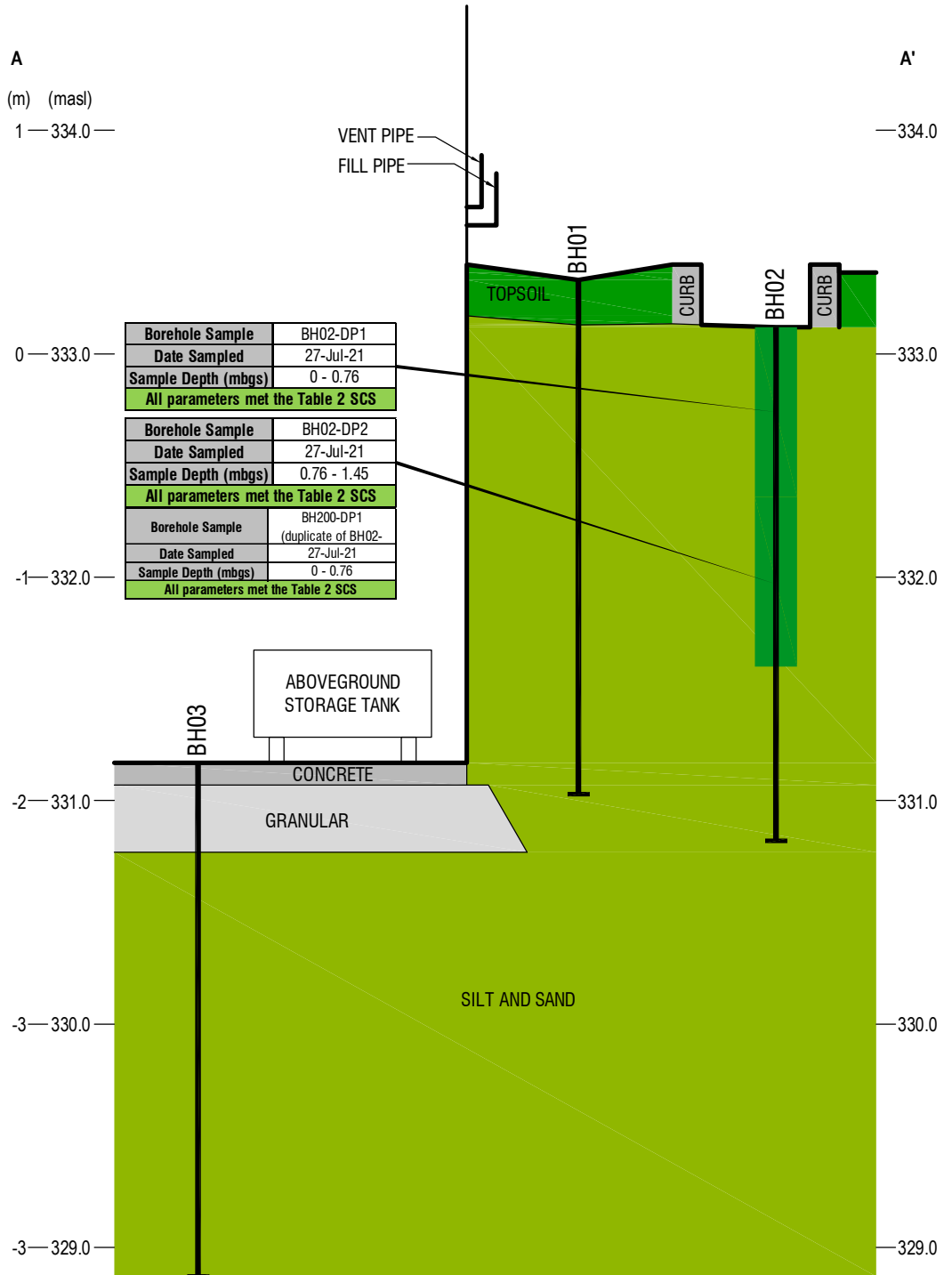
DRAWN: **B. CALDERONE**  
 CHECKED: **V. JADEJA**  
 DATE: **DECEMBER 2021**

CLIENT: **FORUM EQUITY PARTNERS**  
 SITE ADDRESS: **601 SCOTTSDALE DRIVE, GUELPH, ONTARIO**

REPORT NAME: **PHASE TWO ENVIRONMENTAL SITE ASSESSMENT**

FIGURE NAME: **CROSS SECTION B - B' (PAHs)**  
 PROJECT No: **21-0006.03** FIGURE No: **15B**





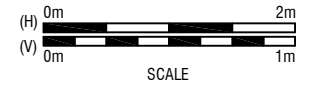
**LEGEND:**  
 SCS TABLE 2, RESIDENTIAL / PARKLAND / INSTITUTIONAL (COARSE COIL)

BOREHOLE

masl METRES ABOVE SEA LEVEL  
 mbgs METRES BELOW GROUND SURFACE

PARAMETERS ANALYZED MEET SCS  
 PARAMETERS ANALYZED EXCEED SCS

PCBs POLYCHLORINATED BIPHENYLS

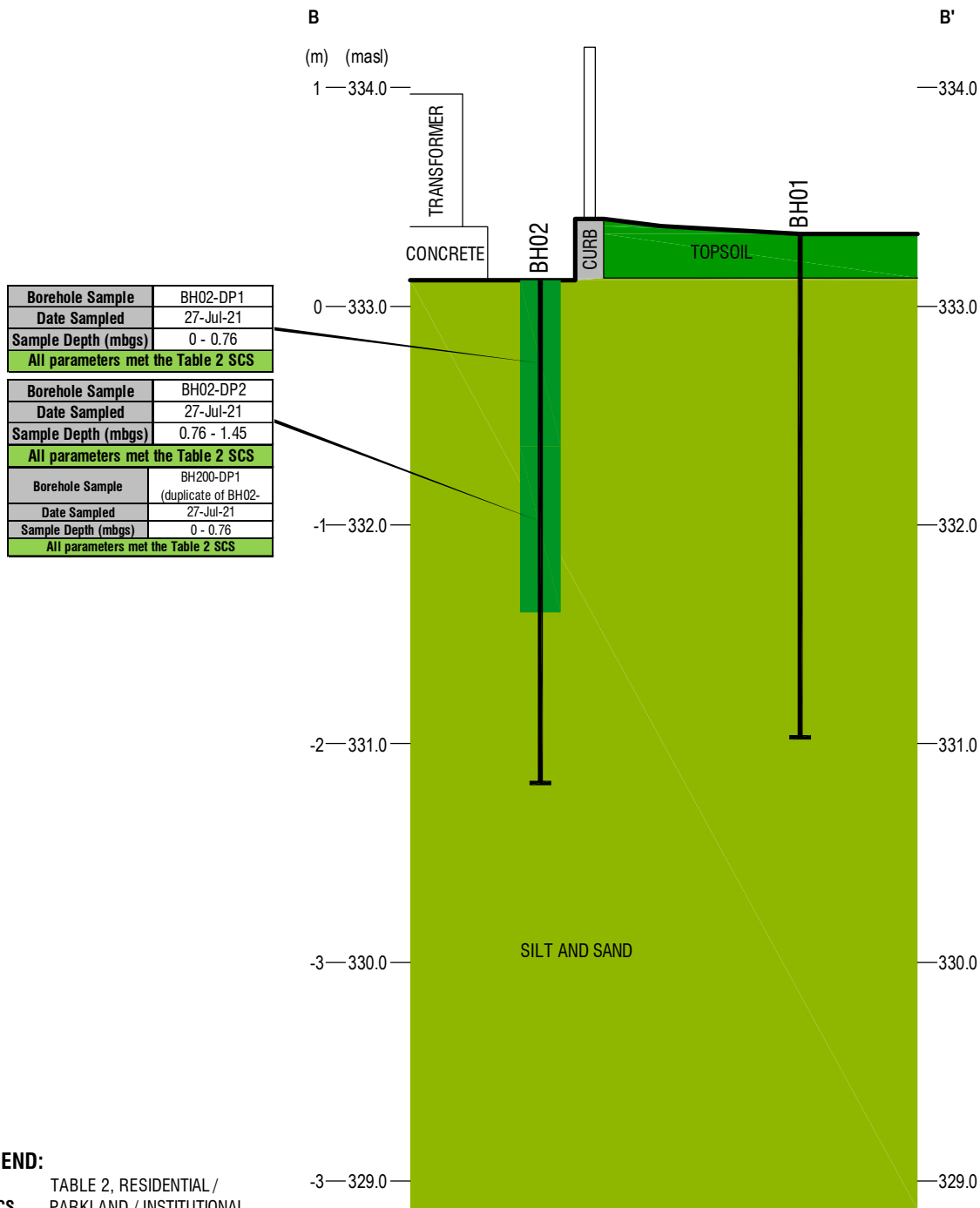


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 DATE: DECEMBER 2021

CLIENT: FORUM EQUITY PARTNERS  
 SITE ADDRESS: 601 SCOTTSDALE DRIVE, GUELPH, ONTARIO

REPORT NAME: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

FIGURE NAME: CROSS SECTION A - A' (PCBs)  
 PROJECT No: 21-0006.03  
 FIGURE No: 16A



**LEGEND:**

**SCS** TABLE 2, RESIDENTIAL / PARKLAND / INSTITUTIONAL (COARSE COIL)

BOREHOLE

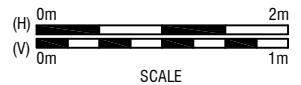
**masl** METRES ABOVE SEA LEVEL

**mbgs** METRES BELOW GROUND SURFACE

PARAMETERS ANALYZED MEET SCS

PARAMETERS ANALYZED EXCEED SCS

**PCBs** POLYCHLORINATED BIPHENYLS

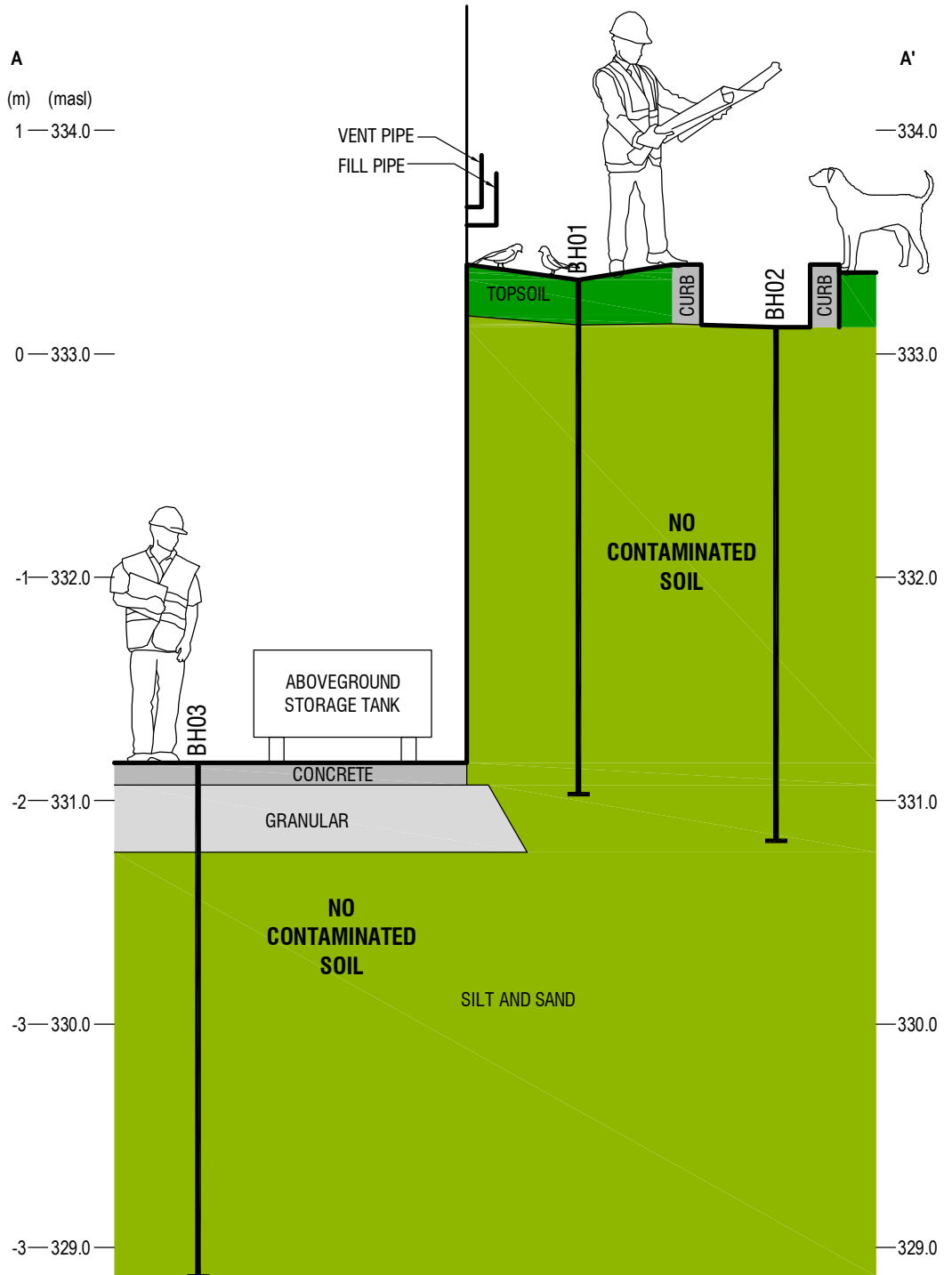


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 DATE: **DECEMBER 2021**


CLIENT: **FORUM EQUITY PARTNERS**  
 SITE ADDRESS: **601 SCOTTSDALE DRIVE, GUELPH, ONTARIO**

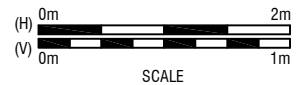
REPORT NAME: **PHASE TWO ENVIRONMENTAL SITE ASSESSMENT**

FIGURE NAME: **CROSS SECTION B - B' (PCBs)**  
 PROJECT No: **21-0006.03** FIGURE No: **16B**



**LEGEND:**

-  BOREHOLE
- masl** METRES ABOVE SEA LEVEL
- mbgs** METRES BELOW GROUND SURFACE



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**V. JADEJA**  
DATE:  
**DECEMBER 2021**

CLIENT:  
**FORUM EQUITY PARTNERS**  
SITE ADDRESS:  
**601 SCOTTSDALE DRIVE,  
GUELPH, ONTARIO**

REPORT NAME:  
**PHASE TWO  
ENVIRONMENTAL  
SITE ASSESSMENT**

FIGURE NAME:  
**PHASE TWO CONCEPTUAL  
SITE MODEL**  
PROJECT No:  
**21-0006.03**  
FIGURE No:  
**17**

**APPENDIX A**

**Sampling and Analysis Plan**



**Sampling and Analysis Plan Rationale**

Based on identified Potentially Contaminating Activities (PCAs), the Areas of Potential Environmental Concerns (APECs) identified within the Site are summarized below:

APEC	Borehole/ Monitoring Well	Rationale	Contaminants of Potential Concern*
			Soil
APEC 1	BH01 BH03	To investigate the potential for impacts to soil from the presence of the diesel aboveground storage tank (AST), with remote fill and vent pipes, used to power the on-Site emergency generator.	PHCs, BTEX, VOCs, THMs, PAHs
APEC 2	BH02	To investigate the potential for impacts to soil from the presence of the pad-mounted transformer utilized to provide electricity to the Site building.	PHCs, BTEX, VOCs, THMS, PAHs, PCBs

\*Notes: PHCs - Petroleum hydrocarbons  
 BTEX - Benzene, Toluene, Ethylbenzene and Xylenes  
 VOCs - Volatile organic compounds  
 THMs – Trihalomethanes  
 PAHs – Polycyclic aromatic hydrocarbons  
 PCBs – Polychlorinated biphenyls



## Appendix A – Sampling and Analysis Plan

601 Scottsdale Drive, Guelph, Ontario

### Sampling Information

<b>Media To Be Investigated</b>	Soil
<b>Sampling Parameters</b>	See table above
<b>Sampling System</b>	Judgmental
<b>Sampling Locations</b>	See table above. For soil samples, surface and/or subsurface samples shall be evaluated and the “worst-case” sample should be determined for laboratory analysis consideration. Deeper samples are to be analyzed for vertical delineation (if required due to contamination in the shallow soils).
<b>Sampling Interval</b>	Continuous sampling intervals (every 2.5 feet or 0.76 metres) for boreholes to be drilled with a direct push Bosch Brute Hammer drill rig with 2-foot-long split-spoons.
<b>Sampling Method</b>	Split spoon
<b>Cluster or nested wells?</b>	Not applicable – only needed if there is contaminated groundwater
<b>Trip Blank</b>	Not applicable - trip blank needed if sampling for VOC parameters in groundwater.
<b>Performance Criteria Reference</b>	Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, Amended July 1, 2011 (Table 5 to 15).



## Appendix A – Sampling and Analysis Plan

601 Scottsdale Drive, Guelph, Ontario

### Residue Management

No soil cuttings will be generated as augers will not be used. Soil samples will be retrieved with split-spoon samplers and will be placed in Ziplock bags or laboratory-supplied sampling bottles. As such, no residue will be generated that require off-Site disposal.

### Quality Assurance / Quality Control

<b>Applicable Site Condition Standards</b>	Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/Parkland/Institution property uses with Coarse Textured soil contained in Table 2 of the Ontario Ministry of the Environment [now Ministry of the Environment Conservation and Parks (MECP)] publication “ <i>Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act</i> ”, dated April 15, 2011.
<b>Laboratory</b>	SGS Canada Inc. (SGS)
<b>Duplicate</b>	Duplicate ratio of 1:10, as a minimum, for each parameter group.
<b>Trip Blank</b>	Not applicable - trip blank needed if sampling for VOC parameters in groundwater.
<b>Performance Criteria Reference</b>	PAHs and PCBs Relative Percentage Difference (RPD): $\leq 40\%$ for soil PHCs RPD: $\leq 30\%$ for soil VOCs RPD: $\leq 50\%$ soil Referenced from “ <i>Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act</i> ”, dated March 9, 2004, amended July 1, 2011.



## Appendix A – Sampling and Analysis Plan

601 Scottsdale Drive, Guelph, Ontario

All soil samples will be transferred immediately into laboratory supplied sampling containers. Details of the sampling containers are summarized below:

Parameter	Sample Bottle	Preservative	Handling & Custody of Samples
<b>Soil</b>			
PHCs (F2-F4), PAHs, PCBs	Amber glass Teflon lined lid	None	Field staff will collect soil samples and transfer them to SGS. All soil samples will be kept in a cooler with ice from the time of collection until the time they are transferred to the laboratory's control under Chain-of-Custody procedures.
VOCs, BTEX, THMs, PHCs (F1)	Vial	Methanol	

Field investigations and sample handling procedures will be conducted in general accordance with Watters Environmental's Standard Operating Procedures for Phase Two ESAs. To minimize the potential for cross-contamination of samples at differing locations, the following procedures will be used by Watters Environmental field staff:

- New disposable gloves are to be used for each sample collected (parameter varying);
- Non-dedicated tools are to be cleaned between sample collections; and
- Soil samples are to be placed in laboratory-supplied containers suitable for the analysis.

Samples are to be labelled and stored in a cooler with ice while in the field and during transportation to the office and/or laboratory.

All soil samples submitted for chemical analysis will be submitted in laboratory-supplied glass containers. Samples to be analyzed for PHCs in the F2 to F4 fractions, PAHs, and PCBs will be submitted in glass jars with Teflon lined lids. Soil samples submitted for analysis of VOCs, BTEX, THMs, and PHCs in the F1 fraction will be collected using disposable TerraCore samplers and placed in vials containing a pre-measured amount of methanol both of which will be provided by SGS. A new TerraCore sampler will be used each time soil samples are collected for potential analysis of VOCs, BTEX, THMs, and PHCs in the F1 fraction.

At least one field duplicate sample will be collected for every ten samples submitted for laboratory analysis.





## Appendix A – Sampling and Analysis Plan

601 Scottsdale Drive, Guelph, Ontario

### Additional Site Information

<b>Physical Impediments</b>	The boreholes should be placed at strategic locations with the consideration of access limitations and the underground utilities beneath the Phase Two Property.
<b>Utilities</b>	Underground utilities associated with the Site building at the Phase Two Property may include water lines, natural gas lines and electrical lines. Ensure that public utility locates are ordered through Ontario One Call, and all drilling areas are scanned by a private utility locator.
<b>Site Boundaries</b>	See survey plan (Appendix B) or figures from Phase One ESA.
<b>Adjacent Properties / Structures</b>	See Figure 2 from Phase One ESA.

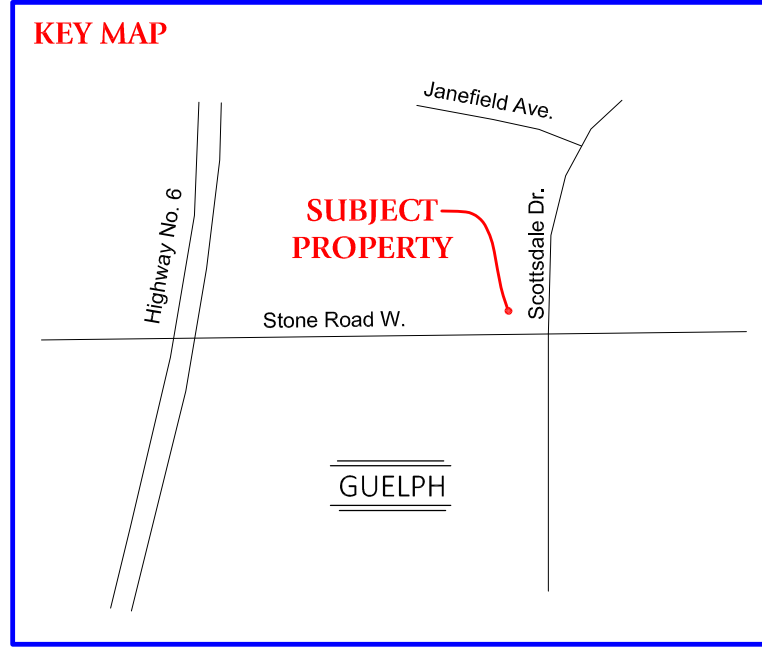
### Applicable Watters Environmental Standard Operating Procedures

<b>Borehole Drilling</b>	Watters Environmental SOP # 4.1.1, 4.1.2 and 4.1.3
<b>Excavating</b>	Not Applicable
<b>Soil Sampling</b>	Watters Environmental SOP # 4.1.8, 6.5.1, 6.5.2
<b>Field Screening Measurements</b>	Watters Environmental SOP # 4.5 and 6.5.9
<b>Monitoring Well Installation</b>	Not Applicable
<b>Monitoring Well Development</b>	Not Applicable
<b>Water Quality Measurements</b>	Not Applicable
<b>Groundwater Sampling</b>	Not Applicable
<b>Sediment Sampling</b>	Not Applicable

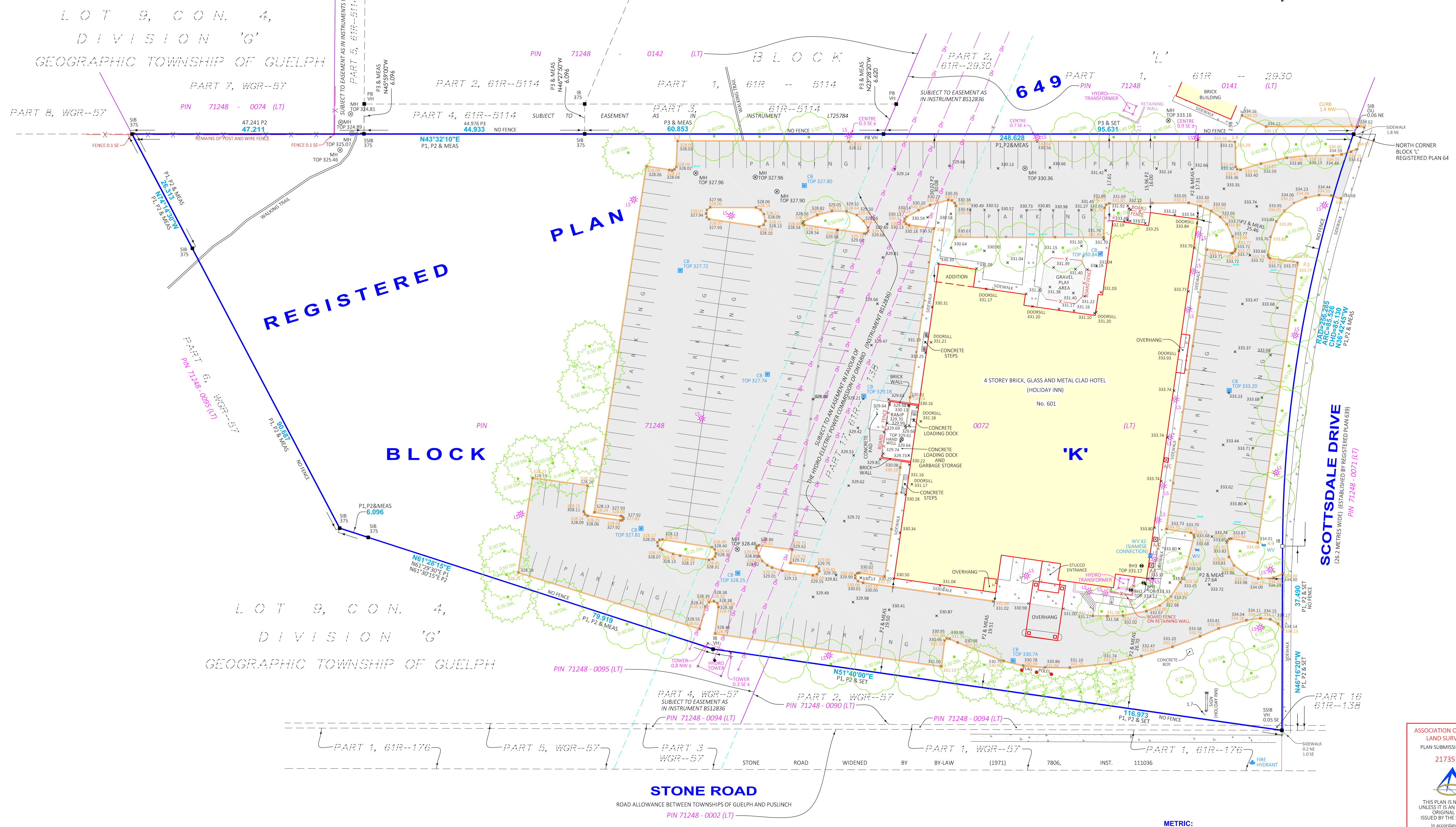
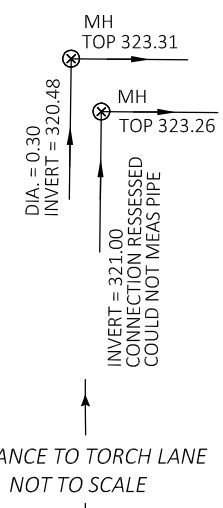
**APPENDIX B**

**Plan of Survey**

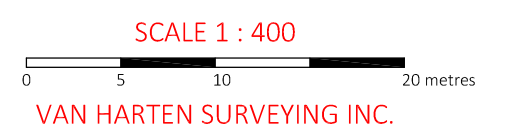




**TORCH LANE**



**SURVEYOR'S REAL PROPERTY REPORT**  
**PLAN OF**  
**BLOCK 'K', REGISTERED PLAN 649**  
**CITY OF GUELPH**  
**COUNTY OF WELLINGTON**



**BEARING NOTE:**  
 1. BEARINGS ARE GRID BEARINGS AND ARE DERIVED FROM GPS OBSERVATIONS AND ARE REFERRED TO THE UTM PROJECTION, ZONE 17, NAD 83-CSR5 (2010) ADJUSTMENT.  
 2. DISTANCES SHOWN ON THE PLAN ARE ADJUSTED GROUND DISTANCES AND CAN BE CONVERTED TO UTM GRID DISTANCES BY MULTIPLYING BY AN AVERAGED COMBINED SCALE FACTOR OF 0.99960041.

**BEARING COMPARISONS:**  
 FOR THE PURPOSES OF BEARING COMPARISONS, PREVIOUS SURVEYS HAVE BEEN ROTATED TO UTM BEARINGS BY THE ANGLES SHOWN BELOW.

PLAN	ROTATION FOR NORTHEAST BEARINGS
P1,P2,P3	-0°32'40"

- LEGEND:**
- DENOTES SURVEY MONUMENT SET
  - DENOTES SURVEY MONUMENT FOUND
  - SIB DENOTES .025 X .025 X 1.20 STANDARD IRON BAR
  - SSIB DENOTES .025 X .025 X 0.60 SHORT STANDARD IRON BAR
  - IB DENOTES .015 X .015 X 0.60 IRON BAR
  - PB DENOTES .025 X .025 X 0.30 PLASTIC BAR
  - OU DENOTES ORIGIN UNKNOWN
  - VH DENOTES VAN HARTEN SURVEYING INC., O.L.S.'S
  - 375 DENOTES BLACK, SHOEMAKER, ROBINSON & DONALDSON O.L.S.'S
  - P1 DENOTES REGISTERED PLAN 649
  - P2 DENOTES SURVEYOR'S REAL PROPERTY REPORT BY (VH) DATED AUGUST 23, 1999 (PROJ. No. 13748-99)
  - P3 DENOTES DEPOSITED PLAN 61R-5114
- FENCELINE OVERHEAD UTILITIES: X X X X  
 LIGHT STANDARD: LS  
 CATCH BASIN: CB  
 MANHOLE: MH  
 GRAVEL: [Symbol]  
 BUILDING: [Symbol]  
 CONCRETE: [Symbol]  
 ASPHALT: [Symbol]  
 DECIDUOUS TREE: [Symbol]  
 CONIFEROUS TREE: [Symbol]

**BENCHMARK:**  
 ELEVATIONS ARE BASED ON GPS OBSERVATIONS FROM PERMANENT REFERENCE STATIONS IN THE NAD83 (CSR5-2010) COORDINATE SYSTEM, WITH HEIGHTS CONVERTED TO ORTHOMETRIC ELEVATIONS ON THE CVGD28 DATUM (1978 ADJUSTMENT) WITH GEOID MODEL HTv2.0, AS SUPPLIED BY NATURAL RESOURCES CANADA.

**SURVEYOR'S CERTIFICATE**  
 I CERTIFY THAT:  
 1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYS ACT, THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.  
 2. THIS SURVEY WAS COMPLETED ON THE 21st DAY OF JULY, 2021. ADDITIONAL ELEVATIONS OBTAINED ON THE 14th DAY OF SEPTEMBER, 2021.  
 DATE: AUGUST 5, 2021  
 AMENDED: SEPTEMBER 27, 2021  
 JOHNS SCOTT  
 ONTARIO LAND SURVEYOR

ASSOCIATION OF ONTARIO LAND SURVEYORS  
 PLAN SUBMISSION FORM  
 2173510

**Van Harten SURVEYING INC.**  
 LAND SURVEYORS and ENGINEERS

Kitchener/Waterloo Guelph Orangeville  
 Ph: 519-742-8371 Ph: 519-821-2763 Ph: 519-940-4110

www.vanharten.com info@vanharten.com

DRAWN BY: D.R.O. CHECKED BY: J.S.S. PROJECT NO. 30034-21

THIS PLAN IS NOT VALID UNLESS IT IS AN EMPRESSED ORIGINAL COPY ISSUED BY THE SURVEYOR  
 IN ACCORDANCE WITH REGULATION 1026, SECTION 29(3).  
 Sep 27, 2021-12:59:40 PM  
 G:\GUELPH\649\ACAD\SRPR BLOCK K (HOLIDAY INN) REV2 UTM 2010.dwg

NO PERSON MAY COPY, REPRODUCE, DISTRIBUTE OR ALTER THIS PLAN IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF VAN HARTEN SURVEYING INC.

**METRIC:**  
 DISTANCES ON THIS PLAN ARE MEASURED IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.



**APPENDIX C**

**Borehole Logs**



**WATTERS  
ENVIRONMENTAL  
GROUP INC.®**

9135 Keele Street, Unit A1  
Concord, Ontario L4K 0J4  
www.wattersenvironmental.com  
416-361-2407

**Borehole No: BH01**

**Project No.:** 21-0006.03

**Client:** Forum Equity Partners

**Location:** 601 Scottsdale Drive, Guelph, Ontario **Ground Elevation:** NA

**Total Depth:** 2.29 m / 7.5 ft

**Logged By:** K.Gordon

**Project Manager:** V.Jadeja

SUBSURFACE PROFILE				SAMPLE					Borehole Completion Details
Depth	Symbol	Description	Depth/Elev.	Number	Type	Recovery %	Vapour(CCG/PID)	Lab Submitted	
0		Ground Surface	0.0						
		TOP SOIL- organics, trace roots, dark brown, moist	0.0	1A	DP	57	0,0	X	
		SILT and SAND, trace rock, trace brick and wood fibres, brown, moist	-0.2	1B	DP	57	0,0	X	
2		No further trace brick and wood fibres observed at 0.76 mbgs		2	DP	60	0,0	X	
4				3	DP	100	0,0	X	
6				4	DP	40	0,0	X	
8		End of Borehole	-2.3 2.3						

**Drilled By:** Sonic Soil Sampling Inc.

**Drill Method:** Direct Push, Bosch Brute Hammer Drill

**Drill Date:** July 27, 2021

**Hole Size:** 51 mm

**Screening Tool:** RKI Eagle II

**Sheet:** 1 of 1



**WATTERS  
ENVIRONMENTAL  
GROUP INC.®**

9135 Keele Street, Unit A1  
Concord, Ontario L4K 0J4  
www.wattersenvironmental.com  
416-361-2407

**Borehole No: BH02**

**Project No.:** 21-0006.03

**Client:** Forum Equity Partners

**Location:** 601 Scottsdale Drive, Guelph, Ontario **Ground Elevation:** NA

**Total Depth:** 2.29 m / 7.5 ft

**Logged By:** K.Gordon

**Project Manager:** V.Jadeja

SUBSURFACE PROFILE				SAMPLE					Borehole Completion Details
Depth	Symbol	Description	Depth/Elev.	Number	Type	Recovery %	Vapour(CCG/PID)	Lab Submitted	
0		Ground Surface	0.0						
		GRAVEL - rounded gravel, grey, dry	0.0						
		SAND and GRAVEL, brown, dry	-0.2						
		SILT and sand, some gravel, brown, moist	0.2						
2				1	DP	40	0,0	X	
4				2	DP	100	0,0	X	
6				3	DP	100	0,0		
8		End of Borehole	-2.3 2.3						

**Drilled By:** Sonic Soil Sampling Inc.

**Drill Method:** Direct Push, Bosch Brute Hammer Drill

**Drill Date:** July 27, 2021

**Hole Size:** 51 mm

**Screening Tool:** RKI Eagle II

**Sheet:** 1 of 1



**APPENDIX D**

**Laboratory Certificates-of-Analyses**





## FINAL REPORT

CA14524-JUL21 R

21-0006.03

Prepared for

**Watters Environmental Group Inc.**

## First Page

### CLIENT DETAILS

Client: Watters Environmental Group Inc.

Address: 9135 Keele St Unit A1  
Concord, ON  
L4K 0J4. Canada

Contact: Vaidehi Jadeja

Telephone: (416) 361-2407

Facsimile: (416) 361-2410

Email: vjadeja@wattersenvironmental.com; labcerts@wattersenvironn

Project: 21-0006.03

Order Number:

Samples: Soil (11)

### LABORATORY DETAILS

Project Specialist: Brad Moore Hon. B.Sc

Laboratory: SGS Canada Inc.

Address: 185 Concession St., Lakefield ON, K0L 2H0

Telephone: 705-652-2143

Facsimile: 705-652-6365

Email: brad.moore@sgs.com

SGS Reference: CA14524-JUL21

Received: 07/27/2021

Approved: 08/03/2021

Report Number: CA14524-JUL21 R

Date Reported: 08/03/2021

### COMMENTS

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES

nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES

C50 response factors within 70% of nC10 + nC16 + nC34 average: YES

Linearity is within 15%: YES

F4G - gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.

The results for F4 and F4G are both reported and the greater of the two values is to be used in application to the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

Benzo(b)fluoranthene results for comparison to the standard are reported as benzo(b+j)fluoranthene. Benzo(b)fluoranthene and benzo(j)fluoranthene co-elute and cannot be reported individually by the analytical method used.

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes

Custody Seal Present: Yes

Chain of Custody Number: 025703

PCB Matrix Spike; Recovery is outside control limits due to sample matrix.

### SIGNATORIES

Brad Moore Hon. B.Sc



Dichlorodifluoromethane Matrix Spike; Recovery is outside control limits. Results are from a multielement scan where 10% of the analytes may exceed the acceptance criteria by up to 10%.

SVOC Duplicate RPD is outside of acceptance for Phenanthrene due to sample matrix.

PHC F4 (C34-C50) Duplicate: RPD for this parameter is outside control limits. The average of the two duplicates is less than five times the RL therefore a greater uncertainty is expected.

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Holding Time Summary.....	12-13
QC Summary.....	14-19
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# FINAL REPORT

CA14524-JUL21 R

**Client:** Watters Environmental Group Inc.

**Project:** 21-0006.03

**Project Manager:** Vaidehi Jadeja

**Samplers:** Katrina Gordon

**PACKAGE: REG153 - BTEX (SOIL)**

	Sample Number	12	13	16	17	19	20	21
	<b>Sample Name</b>	BH01-DP2	BH01-DP3	BH02-DP1	BH02-DP2	BH03-DP1	BH03-DP3	BH300-DP1
	<b>Sample Matrix</b>	Soil	Soil	Soil	Soil	Soil	Soil	Soil
	<b>Sample Date</b>	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021

L1 = REG153 / SOIL / COARSE - TABLE 2 - Residential/Parkland - UNDEFINED

L2 = REG153 / SOIL / COARSE - TABLE 3 - Residential/Parkland - UNDEFINED

Parameter	Units	RL	L1	L2	Result	Result	Result	Result	Result	Result	Result	
<b>BTEX</b>												
Benzene	µg/g	0.02	0.21	0.21	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	
Ethylbenzene	µg/g	0.05	1.1	2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Toluene	µg/g	0.05	2.3	2.3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Xylene (total)	µg/g	0.05	3.1	3.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
m/p-xylene	µg/g	0.05			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
o-xylene	µg/g	0.05			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	

**PACKAGE: REG153 - Metals and Inorganics (SOIL)**

	Sample Number	11	12	13	14	15	16	17	18
	<b>Sample Name</b>	BH01-DP1B	BH01-DP2	BH01-DP3	BH01-DP4	BH100-DP1B	BH02-DP1	BH02-DP2	BH200-DP1
	<b>Sample Matrix</b>	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
	<b>Sample Date</b>	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021

L1 = REG153 / SOIL / COARSE - TABLE 2 - Residential/Parkland - UNDEFINED

L2 = REG153 / SOIL / COARSE - TABLE 3 - Residential/Parkland - UNDEFINED

Parameter	Units	RL	L1	L2	Result	Result	Result	Result	Result	Result	Result	
<b>Metals and Inorganics</b>												
Moisture Content	%	-			10.2	9.6	8.1	7.4	10.5	8.8	8.3	10.8
Grain Size	%	-			61.8% Coarse							



# FINAL REPORT

CA14524-JUL21 R

**Client:** Watters Environmental Group Inc.

**Project:** 21-0006.03

**Project Manager:** Vaidehi Jadeja

**Samplers:** Katrina Gordon

**PACKAGE: REG153 - Metals and Inorganics**

(SOIL)

Sample Number	19	20	21
<b>Sample Name</b>	BH03-DP1	BH03-DP3	BH300-DP1
<b>Sample Matrix</b>	Soil	Soil	Soil
<b>Sample Date</b>	27/07/2021	27/07/2021	27/07/2021

L1 = REG153 / SOIL / COARSE - TABLE 2 - Residential/Parkland - UNDEFINED

L2 = REG153 / SOIL / COARSE - TABLE 3 - Residential/Parkland - UNDEFINED

Parameter	Units	RL	L1	L2	Result	Result	Result
<b>Metals and Inorganics</b>							
Moisture Content	%	-			7.6	8.9	14.6
Grain Size	%	-			51% Coarse		

**PACKAGE: REG153 - Other (ORP) (SOIL)**

Sample Number	12	20
<b>Sample Name</b>	BH01-DP2	BH03-DP3
<b>Sample Matrix</b>	Soil	Soil
<b>Sample Date</b>	27/07/2021	27/07/2021

L1 = REG153 / SOIL / COARSE - TABLE 2 - Residential/Parkland - UNDEFINED

L2 = REG153 / SOIL / COARSE - TABLE 3 - Residential/Parkland - UNDEFINED

Parameter	Units	RL	L1	L2	Result	Result
<b>Other (ORP)</b>						
pH	pH Units	0.05			8.05	8.06

**PACKAGE: REG153 - PAHs (SOIL)**

Sample Number	11	14	15	16	17	19	20
<b>Sample Name</b>	BH01-DP1B	BH01-DP4	BH100-DP1B	BH02-DP1	BH02-DP2	BH03-DP1	BH03-DP3
<b>Sample Matrix</b>	Soil	Soil	Soil	Soil	Soil	Soil	Soil
<b>Sample Date</b>	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021

L1 = REG153 / SOIL / COARSE - TABLE 2 - Residential/Parkland - UNDEFINED

L2 = REG153 / SOIL / COARSE - TABLE 3 - Residential/Parkland - UNDEFINED

Parameter	Units	RL	L1	L2	Result	Result	Result	Result	Result	Result	Result
<b>PAHs</b>											
Acenaphthene	µg/g	0.05	7.9	7.9	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/g	0.05	0.15	0.15	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	µg/g	0.05	0.67	0.67	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/g	0.05	0.5	0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	µg/g	0.05	0.3	0.3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b+j)fluoranthene	µg/g	0.05	0.78	0.78	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05



# FINAL REPORT

CA14524-JUL21 R

**Client:** Watters Environmental Group Inc.

**Project:** 21-0006.03

**Project Manager:** Vaidehi Jadeja

**Samplers:** Katrina Gordon

**PACKAGE: REG153 - PAHs (SOIL)**

L1 = REG153 / SOIL / COARSE - TABLE 2 - Residential/Parkland - UNDEFINED

L2 = REG153 / SOIL / COARSE - TABLE 3 - Residential/Parkland - UNDEFINED

Sample Number	11	14	15	16	17	19	20
<b>Sample Name</b>	BH01-DP1B	BH01-DP4	BH100-DP1B	BH02-DP1	BH02-DP2	BH03-DP1	BH03-DP3
<b>Sample Matrix</b>	Soil	Soil	Soil	Soil	Soil	Soil	Soil
<b>Sample Date</b>	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021

Parameter	Units	RL	L1	L2	Result	Result	Result	Result	Result	Result	Result	
<b>PAHs (continued)</b>												
Benzo(ghi)perylene	µg/g	0.1	6.6	6.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(k)fluoranthene	µg/g	0.05	0.78	0.78	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Chrysene	µg/g	0.05	7	7	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Dibenzo(a,h)anthracene	µg/g	0.06	0.1	0.1	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	
Fluoranthene	µg/g	0.05	0.69	0.69	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Fluorene	µg/g	0.05	62	62	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Indeno(1,2,3-cd)pyrene	µg/g	0.1	0.38	0.38	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
1-Methylnaphthalene	µg/g	0.05			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
2-Methylnaphthalene	µg/g	0.05			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Methylnaphthalene, 2-(1-)	µg/g	0.05	0.99	0.99	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Naphthalene	µg/g	0.05	0.6	0.6	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Phenanthrene	µg/g	0.05	6.2	6.2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Pyrene	µg/g	0.05	78	78	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	



# FINAL REPORT

CA14524-JUL21 R

**Client:** Watters Environmental Group Inc.

**Project:** 21-0006.03

**Project Manager:** Vaidehi Jadeja

**Samplers:** Katrina Gordon

**PACKAGE: REG153 - PCBs (SOIL)**

	Sample Number	16	17	18
	Sample Name	BH02-DP1	BH02-DP2	BH200-DP1
	Sample Matrix	Soil	Soil	Soil
	Sample Date	27/07/2021	27/07/2021	27/07/2021

L1 = REG153 / SOIL / COARSE - TABLE 2 - Residential/Parkland - UNDEFINED

L2 = REG153 / SOIL / COARSE - TABLE 3 - Residential/Parkland - UNDEFINED

Parameter	Units	RL	L1	L2	Result	Result	Result
<b>PCBs</b>							
Polychlorinated Biphenyls (PCBs) - Total	µg/g	0.3	0.35	0.35	< 0.3	< 0.3	< 0.3

**PACKAGE: REG153 - PHCs (SOIL)**

	Sample Number	12	13	16	17	19	20	21
	Sample Name	BH01-DP2	BH01-DP3	BH02-DP1	BH02-DP2	BH03-DP1	BH03-DP3	BH300-DP1
	Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
	Sample Date	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021

L1 = REG153 / SOIL / COARSE - TABLE 2 - Residential/Parkland - UNDEFINED

L2 = REG153 / SOIL / COARSE - TABLE 3 - Residential/Parkland - UNDEFINED

Parameter	Units	RL	L1	L2	Result	Result	Result	Result	Result	Result	Result
<b>PHCs</b>											
F1 (C6-C10)	µg/g	10	55	55	< 10	< 10	< 10	< 10	< 10	< 10	< 10
F1-BTEX (C6-C10)	µg/g	10			< 10	< 10	< 10	< 10	< 10	< 10	< 10
F2 (C10-C16)	µg/g	10	98	98	< 10	< 10	< 10	< 10	< 10	< 10	< 10
F3 (C16-C34)	µg/g	50	300	300	< 50	< 50	< 50	< 50	< 50	< 50	< 50
F4 (C34-C50)	µg/g	50	2800	2800	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Chromatogram returned to baseline at nC50	Yes / No	-			YES	YES	YES	YES	YES	YES	YES





# FINAL REPORT

CA14524-JUL21 R

**Client:** Watters Environmental Group Inc.

**Project:** 21-0006.03

**Project Manager:** Vaidehi Jadeja

**Samplers:** Katrina Gordon

**PACKAGE: REG153 - SVOC Surrogates (SOIL)**

	Sample Number	11	14	15	16	17	19	20
	<b>Sample Name</b>	BH01-DP1B	BH01-DP4	BH100-DP1B	BH02-DP1	BH02-DP2	BH03-DP1	BH03-DP3
	<b>Sample Matrix</b>	Soil	Soil	Soil	Soil	Soil	Soil	Soil
	<b>Sample Date</b>	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021

L1 = REG153 / SOIL / COARSE - TABLE 2 - Residential/Parkland - UNDEFINED

L2 = REG153 / SOIL / COARSE - TABLE 3 - Residential/Parkland - UNDEFINED

Parameter	Units	RL	L1	L2	Result	Result	Result	Result	Result	Result	Result	
<b>SVOC Surrogates</b>												
Surr Nitrobenzene-d5	Surr Rec %	-			92	95	91	73	96	92	97	
Surr 2-Fluorobiphenyl	Surr Rec %	-			76	86	80	66	82	85	85	
Surr 4-Terphenyl-d14	Surr Rec %	-			91	98	90	74	94	91	98	
Surr 2-Fluorophenol	Surr Rec %	-			84	91	87	72	90	90	91	
Surr Phenol-d6	Surr Rec %	-			87	94	92	76	95	93	96	
Surr 2,4,6-Tribromophenol	Surr Rec %	-			92	92	87	75	95	90	96	

**PACKAGE: REG153 - THMs (VOC) (SOIL)**

	Sample Number	12	13	16	17	19	20	21
	<b>Sample Name</b>	BH01-DP2	BH01-DP3	BH02-DP1	BH02-DP2	BH03-DP1	BH03-DP3	BH300-DP1
	<b>Sample Matrix</b>	Soil	Soil	Soil	Soil	Soil	Soil	Soil
	<b>Sample Date</b>	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021

L1 = REG153 / SOIL / COARSE - TABLE 2 - Residential/Parkland - UNDEFINED

L2 = REG153 / SOIL / COARSE - TABLE 3 - Residential/Parkland - UNDEFINED

Parameter	Units	RL	L1	L2	Result	Result	Result	Result	Result	Result	Result	
<b>THMs (VOC)</b>												
Bromodichloromethane	µg/g	0.05	1.5	13	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Bromoform	µg/g	0.05	0.27	0.27	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Dibromochloromethane	µg/g	0.05	2.3	9.4	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	



# FINAL REPORT

CA14524-JUL21 R

Client: Watters Environmental Group Inc.

Project: 21-0006.03

Project Manager: Vaidehi Jadeja

Samplers: Katrina Gordon

**PACKAGE: REG153 - VOC Surrogates (SOIL)**

	Sample Number	12	13	16	17	19	20	21
	Sample Name	BH01-DP2	BH01-DP3	BH02-DP1	BH02-DP2	BH03-DP1	BH03-DP3	BH300-DP1
	Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
	Sample Date	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021

L1 = REG153 / SOIL / COARSE - TABLE 2 - Residential/Parkland - UNDEFINED

L2 = REG153 / SOIL / COARSE - TABLE 3 - Residential/Parkland - UNDEFINED

Parameter	Units	RL	L1	L2	Result	Result	Result	Result	Result	Result	Result
<b>VOC Surrogates</b>											
Surr 1,2-Dichloroethane-d4	Surr Rec %	-			100	100	100	100	100	101	101
Surr 4-Bromofluorobenzene	Surr Rec %	-			93	93	93	93	93	92	93
Surr 2-Bromo-1-Chloropropane	Surr Rec %	-			92	92	92	92	91	92	92

**PACKAGE: REG153 - VOCs (SOIL)**

	Sample Number	12	13	16	17	19	20	21
	Sample Name	BH01-DP2	BH01-DP3	BH02-DP1	BH02-DP2	BH03-DP1	BH03-DP3	BH300-DP1
	Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
	Sample Date	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021

L1 = REG153 / SOIL / COARSE - TABLE 2 - Residential/Parkland - UNDEFINED

L2 = REG153 / SOIL / COARSE - TABLE 3 - Residential/Parkland - UNDEFINED

Parameter	Units	RL	L1	L2	Result	Result	Result	Result	Result	Result	Result
<b>VOCs</b>											
Acetone	µg/g	0.5	16	16	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Carbon tetrachloride	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlorobenzene	µg/g	0.05	2.4	2.4	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chloroform	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/g	0.05	1.2	3.4	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/g	0.05	4.8	4.8	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/g	0.05	0.083	0.083	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dichlorodifluoromethane	µg/g	0.05	16	16	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1-Dichloroethane	µg/g	0.05	0.47	3.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichloroethane	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1-Dichloroethylene	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
trans-1,2-Dichloroethylene	µg/g	0.05	0.084	0.084	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05



# FINAL REPORT

CA14524-JUL21 R

**Client:** Watters Environmental Group Inc.

**Project:** 21-0006.03

**Project Manager:** Vaidehi Jadeja

**Samplers:** Katrina Gordon

PACKAGE: **REG153 - VOCs (SOIL)**

L1 = REG153 / SOIL / COARSE - TABLE 2 - Residential/Parkland - UNDEFINED

L2 = REG153 / SOIL / COARSE - TABLE 3 - Residential/Parkland - UNDEFINED

Sample Number	12	13	16	17	19	20	21
<b>Sample Name</b>	BH01-DP2	BH01-DP3	BH02-DP1	BH02-DP2	BH03-DP1	BH03-DP3	BH300-DP1
<b>Sample Matrix</b>	Soil	Soil	Soil	Soil	Soil	Soil	Soil
<b>Sample Date</b>	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021	27/07/2021

Parameter	Units	RL	L1	L2	Result	Result	Result	Result	Result	Result	Result	
<b>VOCs (continued)</b>												
cis-1,2-Dichloroethylene	µg/g	0.05	1.9	3.4	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
1,2-Dichloropropane	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
cis-1,3-dichloropropene	µg/g	0.03			< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
trans-1,3-dichloropropene	µg/g	0.03			< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
1,3-dichloropropene (total)	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Ethylenedibromide	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
n-Hexane	µg/g	0.05	2.8	2.8	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Methyl ethyl ketone	µg/g	0.5	16	16	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Methyl isobutyl ketone	µg/g	0.5	1.7	1.7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Methyl-t-butyl Ether	µg/g	0.05	0.75	0.75	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Methylene Chloride	µg/g	0.05	0.1	0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Styrene	µg/g	0.05	0.7	0.7	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Tetrachloroethylene	µg/g	0.05	0.28	0.28	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
1,1,1,2-Tetrachloroethane	µg/g	0.05	0.058	0.058	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
1,1,2,2-Tetrachloroethane	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
1,1,1-Trichloroethane	µg/g	0.05	0.38	0.38	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
1,1,2-Trichloroethane	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Trichloroethylene	µg/g	0.05	0.061	0.061	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Trichlorofluoromethane	µg/g	0.05	4	4	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Vinyl Chloride	µg/g	0.02	0.02	0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	

**EXCEEDANCE SUMMARY**

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No exceedances are present above the regulatory limit(s) indicated

## HOLDING TIME SUMMARY

Sample Name	QC Batch Reference	Sample Number	Sampled	Received	Extracted/ Prepared	Analysed	Holding Time	Approved
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### Method: ASTM D422-63 | Internal ref.: Grain Size

BH01-DP3		13	07/27/2021	07/27/2021			09/17/2022	07/29/2021
BH03-DP3		20	07/27/2021	07/27/2021			09/17/2022	07/29/2021

### Moisture

#### Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

BH01-DP1B	GCM0507-JUL21	11	07/27/2021	07/27/2021			09/25/2021	07/29/2021
BH01-DP2	GCM0507-JUL21	12	07/27/2021	07/27/2021			09/25/2021	07/29/2021
BH01-DP3	GCM0507-JUL21	13	07/27/2021	07/27/2021			09/25/2021	07/29/2021
BH01-DP4	GCM0507-JUL21	14	07/27/2021	07/27/2021			09/25/2021	07/29/2021
BH100-DP1B	GCM0507-JUL21	15	07/27/2021	07/27/2021			09/25/2021	07/29/2021
BH02-DP1	GCM0507-JUL21	16	07/27/2021	07/27/2021			09/25/2021	07/29/2021
BH02-DP2	GCM0507-JUL21	17	07/27/2021	07/27/2021			09/25/2021	07/29/2021
BH200-DP1	GCM0507-JUL21	18	07/27/2021	07/27/2021			09/25/2021	07/29/2021
BH03-DP1	GCM0507-JUL21	19	07/27/2021	07/27/2021			09/25/2021	07/29/2021
BH03-DP3	GCM0507-JUL21	20	07/27/2021	07/27/2021			09/25/2021	07/29/2021
BH300-DP1	GCM0507-JUL21	21	07/27/2021	07/27/2021			09/25/2021	07/29/2021

### Petroleum Hydrocarbons (F1)

#### Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

BH01-DP2	GCM0500-JUL21	12	07/27/2021	07/27/2021			08/10/2021	07/29/2021
BH01-DP3	GCM0500-JUL21	13	07/27/2021	07/27/2021			08/10/2021	07/29/2021
BH02-DP1	GCM0500-JUL21	16	07/27/2021	07/27/2021			08/10/2021	07/29/2021
BH02-DP2	GCM0500-JUL21	17	07/27/2021	07/27/2021			08/10/2021	07/29/2021
BH03-DP1	GCM0500-JUL21	19	07/27/2021	07/27/2021			08/10/2021	07/29/2021
BH03-DP3	GCM0500-JUL21	20	07/27/2021	07/27/2021			08/10/2021	07/29/2021
BH300-DP1	GCM0500-JUL21	21	07/27/2021	07/27/2021			08/10/2021	07/29/2021

### Petroleum Hydrocarbons (F2-F4)

#### Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

BH01-DP2	GCM0542-JUL21	12	07/27/2021	07/27/2021			09/05/2021	08/03/2021
BH01-DP3	GCM0542-JUL21	13	07/27/2021	07/27/2021			08/10/2021	08/03/2021
BH02-DP1	GCM0542-JUL21	16	07/27/2021	07/27/2021			09/05/2021	08/03/2021
BH02-DP2	GCM0542-JUL21	17	07/27/2021	07/27/2021			08/10/2021	08/03/2021
BH03-DP1	GCM0542-JUL21	19	07/27/2021	07/27/2021			09/05/2021	08/03/2021
BH03-DP3	GCM0542-JUL21	20	07/27/2021	07/27/2021			09/05/2021	08/03/2021
BH300-DP1	GCM0542-JUL21	21	07/27/2021	07/27/2021			08/10/2021	08/03/2021

### pH

#### Method: SM 4500 | Internal ref.: ME-CA-[ENV]EJWL-LAK-AN-001

BH01-DP2	ARD0125-JUL21	12	07/27/2021	07/27/2021	07/30/2021	07/30/2021	08/26/2021	07/30/2021
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## HOLDING TIME SUMMARY

Sample Name	QC Batch Reference	Sample Number	Sampled	Received	Extracted/Prepared	Analysed	Holding Time	Approved
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### pH (continued)

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-001

BH03-DP3	ARD0125-JUL21	20	07/27/2021	07/27/2021	07/30/2021	07/30/2021	08/26/2021	07/30/2021
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### Polychlorinated Biphenyls

Method: EPA 3570/8082A/8270C | Internal ref.: ME-CA-[ENV]GC-LAK-AN-001

BH02-DP1	GCM0504-JUL21	16	07/27/2021	07/27/2021	07/28/2021	07/28/2021	09/17/2022	07/30/2021
BH02-DP2	GCM0504-JUL21	17	07/27/2021	07/27/2021	07/28/2021	07/28/2021	09/17/2022	07/30/2021
BH200-DP1	GCM0504-JUL21	18	07/27/2021	07/27/2021	07/28/2021	07/28/2021	09/17/2022	07/30/2021

### Semi-Volatile Organics

Method: EPA 3541/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

BH01-DP1B	GCM0501-JUL21	11	07/27/2021	07/27/2021	07/28/2021	07/29/2021	08/10/2021	07/30/2021
BH01-DP4	GCM0501-JUL21	14	07/27/2021	07/27/2021	07/28/2021	07/29/2021	09/25/2021	07/30/2021
BH100-DP1B	GCM0501-JUL21	15	07/27/2021	07/27/2021	07/28/2021	07/29/2021	08/10/2021	07/30/2021
BH02-DP1	GCM0501-JUL21	16	07/27/2021	07/27/2021	07/28/2021	07/29/2021	09/25/2021	07/30/2021
BH02-DP2	GCM0501-JUL21	17	07/27/2021	07/27/2021	07/28/2021	07/29/2021	09/25/2021	07/30/2021
BH03-DP1	GCM0501-JUL21	19	07/27/2021	07/27/2021	07/28/2021	07/29/2021	08/10/2021	07/30/2021
BH03-DP3	GCM0501-JUL21	20	07/27/2021	07/27/2021	07/28/2021	07/29/2021	09/25/2021	07/30/2021

### Volatile Organics

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-[ENV]GC-LAK-AN-004

BH01-DP2	GCM0499-JUL21	12	07/27/2021	07/27/2021	07/28/2021	07/28/2021	08/10/2021	07/29/2021
BH01-DP3	GCM0499-JUL21	13	07/27/2021	07/27/2021	07/28/2021	07/28/2021	08/10/2021	07/29/2021
BH02-DP1	GCM0499-JUL21	16	07/27/2021	07/27/2021	07/28/2021	07/28/2021	08/10/2021	07/29/2021
BH02-DP2	GCM0499-JUL21	17	07/27/2021	07/27/2021	07/28/2021	07/28/2021	08/10/2021	07/29/2021
BH03-DP1	GCM0499-JUL21	19	07/27/2021	07/27/2021	07/28/2021	07/28/2021	08/10/2021	07/29/2021
BH03-DP3	GCM0499-JUL21	20	07/27/2021	07/27/2021	07/28/2021	07/28/2021	08/10/2021	07/29/2021
BH300-DP1	GCM0499-JUL21	21	07/27/2021	07/27/2021	07/28/2021	07/28/2021	08/10/2021	07/29/2021

QC SUMMARY

Petroleum Hydrocarbons (F1)

Method: CCME Tier 1 | Internal ref.: ME-CA-IENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F1 (C6-C10)	GCM0500-JUL21	µg/g	10	<10	ND	30	112	80	120	111	60	140

Petroleum Hydrocarbons (F2-F4)

Method: CCME Tier 1 | Internal ref.: ME-CA-IENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F2 (C10-C16)	GCM0542-JUL21	µg/g	10	<10	ND	30	89	80	120	92	60	140
F3 (C16-C34)	GCM0542-JUL21	µg/g	50	<50	ND	30	89	80	120	92	60	140
F4 (C34-C50)	GCM0542-JUL21	µg/g	50	<50	46	30	89	80	120	92	60	140



# FINAL REPORT

CA14524-JUL21 R

## QC SUMMARY

### pH

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	ARD0125-JUL21	pH Units	0.05		0	20	100	80	120			

### Polychlorinated Biphenyls

Method: EPA 3570/8082A/8270C | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Polychlorinated Biphenyls (PCBs) - Total	GCM0504-JUL21	µg/g	0.3	< 0.3	ND	40	78	60	140	53	60 140	



## QC SUMMARY

### Semi-Volatile Organics

Method: EPA 3541/8270D | Internal ref.: ME-CA-IENVIGC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1-Methylnaphthalene	GCM0501-JUL21	µg/g	0.05	< 0.05	ND	40	94	50	140	84	50	140
2-Methylnaphthalene	GCM0501-JUL21	µg/g	0.05	< 0.05	ND	40	91	50	140	81	50	140
Acenaphthene	GCM0501-JUL21	µg/g	0.05	< 0.05	ND	40	101	50	140	96	50	140
Acenaphthylene	GCM0501-JUL21	µg/g	0.05	< 0.05	ND	40	95	50	140	90	50	140
Anthracene	GCM0501-JUL21	µg/g	0.05	< 0.05	ND	40	97	50	140	97	50	140
Benzo(a)anthracene	GCM0501-JUL21	µg/g	0.05	< 0.05	18	40	100	50	140	102	50	140
Benzo(a)pyrene	GCM0501-JUL21	µg/g	0.05	< 0.05	9	40	89	50	140	93	50	140
Benzo(b+j)fluoranthene	GCM0501-JUL21	µg/g	0.05	< 0.05	2	40	96	50	140	94	50	140
Benzo(ghi)perylene	GCM0501-JUL21	µg/g	0.1	< 0.1	ND	40	99	50	140	79	50	140
Benzo(k)fluoranthene	GCM0501-JUL21	µg/g	0.05	< 0.05	ND	40	98	50	140	105	50	140
Chrysene	GCM0501-JUL21	µg/g	0.05	< 0.05	0	40	101	50	140	94	50	140
Dibenzo(a,h)anthracene	GCM0501-JUL21	µg/g	0.06	< 0.06	ND	40	101	50	140	88	50	140
Fluoranthene	GCM0501-JUL21	µg/g	0.05	< 0.05	22	40	100	50	140	93	50	140
Fluorene	GCM0501-JUL21	µg/g	0.05	< 0.05	ND	40	99	50	140	105	50	140
Indeno(1,2,3-cd)pyrene	GCM0501-JUL21	µg/g	0.1	< 0.1	ND	40	101	50	140	88	50	140
Naphthalene	GCM0501-JUL21	µg/g	0.05	< 0.05	ND	40	99	50	140	92	50	140
Phenanthrene	GCM0501-JUL21	µg/g	0.05	< 0.05	65	40	98	50	140	85	50	140
Pyrene	GCM0501-JUL21	µg/g	0.05	< 0.05	38	40	103	50	140	90	50	140

QC SUMMARY

Volatile Organics

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-IENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,1,2-Tetrachloroethane	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	100	60	130	103	50	140
1,1,1-Trichloroethane	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	98	60	130	99	50	140
1,1,2,2-Tetrachloroethane	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	99	60	130	106	50	140
1,1,2-Trichloroethane	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	101	60	130	106	50	140
1,1-Dichloroethane	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	96	60	130	98	50	140
1,1-Dichloroethylene	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	89	60	130	90	50	140
1,2-Dichlorobenzene	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	100	60	130	104	50	140
1,2-Dichloroethane	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	98	60	130	101	50	140
1,2-Dichloropropane	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	98	60	130	101	50	140
1,3-Dichlorobenzene	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	100	60	130	102	50	140
1,4-Dichlorobenzene	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	101	60	130	103	50	140
Acetone	GCM0499-JUL21	µg/g	0.5	< 0.5	ND	50	101	50	140	109	50	140
Benzene	GCM0499-JUL21	µg/g	0.02	< 0.02	ND	50	98	60	130	100	50	140
Bromodichloromethane	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	99	60	130	102	50	140
Bromoform	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	99	60	130	102	50	140
Bromomethane	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	85	50	140	81	50	140
Carbon tetrachloride	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	98	60	130	98	50	140
Chlorobenzene	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	99	60	130	102	50	140
Chloroform	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	99	60	130	101	50	140
cis-1,2-Dichloroethylene	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	98	60	130	98	50	140

QC SUMMARY

Volatile Organics (continued)

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-IENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
cis-1,3-dichloropropene	GCM0499-JUL21	µg/g	0.03	< 0.03	ND	50	100	60	130	97	50	140
Dibromochloromethane	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	99	60	130	101	50	140
Dichlorodifluoromethane	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	51	50	140	49	50	140
Ethylbenzene	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	100	60	130	102	50	140
Ethylenedibromide	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	100	60	130	104	50	140
n-Hexane	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	89	60	130	74	50	140
m/p-xylene	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	99	60	130	101	50	140
Methyl ethyl ketone	GCM0499-JUL21	µg/g	0.5	< 0.5	ND	50	100	50	140	104	50	140
Methyl isobutyl ketone	GCM0499-JUL21	µg/g	0.5	< 0.5	ND	50	100	50	140	106	50	140
Methyl-t-butyl Ether	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	102	60	130	106	50	140
Methylene Chloride	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	96	60	130	97	50	140
o-xylene	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	100	60	130	102	50	140
Styrene	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	101	60	130	104	50	140
Tetrachloroethylene	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	99	60	130	99	50	140
Toluene	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	99	60	130	101	50	140
trans-1,2-Dichloroethylene	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	96	60	130	97	50	140
trans-1,3-dichloropropene	GCM0499-JUL21	µg/g	0.03	< 0.03	ND	50	100	60	130	97	50	140
Trichloroethylene	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	98	60	130	100	50	140
Trichlorofluoromethane	GCM0499-JUL21	µg/g	0.05	< 0.05	ND	50	88	50	140	91	50	140
Vinyl Chloride	GCM0499-JUL21	µg/g	0.02	< 0.02	ND	50	78	50	140	77	50	140

## QC SUMMARY

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**Method Blank:** a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

**Duplicate:** Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

**LCS/Spike Blank:** Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

**Matrix Spike:** A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

**Reference Material:** a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

**RL:** Reporting limit

**RPD:** Relative percent difference

**AC:** Acceptance criteria

**Multielement Scan Qualifier:** as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

**Duplicate Qualifier:** for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

**Matrix Spike Qualifier:** for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

**LEGEND**

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**FOOTNOTES**

**NSS** Insufficient sample for analysis.  
**RL** Reporting Limit.  
    ↑ Reporting limit raised.  
    ↓ Reporting limit lowered.  
**NA** The sample was not analysed for this analyte  
**ND** Non Detect

Samples analysed as received. Solid samples expressed on a dry weight basis. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated. This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm). The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

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-- End of Analytical Report --



# Request for Laboratory Services and CHAIN OF CUSTODY

Environment, Health & Safety - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment  
- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 025701  
Page 1 of 1

## Laboratory Information Section - Lab use only

Received By: [Signature] Received By (signature): \_\_\_\_\_  
Received Date: 07/27/2021 (mm/dd/yy) Custody Seal Present: Yes  No  Cooling Agent Present: Yes  No  Type: ice  
Received Time: 15:00 (hr:min) Custody Seal Intact: Yes  No  Temperature Upon Receipt (°C): 9c 9c 9c

LAB LIMS #: CA-14524-JUL21

REPORT INFORMATION	INVOICE INFORMATION
Company: <u>Watters Environmental</u>	<input checked="" type="checkbox"/> (Same as Report Information)
Contact: <u>Vaideni Jadeja</u>	Company: _____
Address: <u>9135 Keele St., #A1</u>	Contact: <u>Brooklyn Espinola</u>
<u>Concord, ON</u>	Address: _____
Phone: <u>(416) 361-2407</u>	Phone: _____
Email: <u>V.Jadeja@wattersenvironmental.com</u>	Email: <u>af@wattersenvironmental.com</u>

Quotation #: \_\_\_\_\_ P.O. #: \_\_\_\_\_  
 Project #: 21-0006.03 Site Location/ID: \_\_\_\_\_

**TURNAROUND TIME (TAT) REQUIRED**  
 Regular TAT (5-7 days) TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply):  1 Day  2 Days  3 Days  4 Days  
**PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION**

Specify Due Date: \_\_\_\_\_ \*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

### REGULATIONS

O.Reg 153/04  O.Reg 406/19

Other Regulations:  Reg 347/558 (3 Day min TAT)  Sanitary  
 PWQO  MMR  Storm  
 CCME  Other: \_\_\_\_\_ Municipality: \_\_\_\_\_  
 MISA  ODWS Not Reportable \*See note

Soil Volume:  <350m3  >350m3

### ANALYSIS REQUESTED

M & I	SVOC	PCB	PHC	VOC	Pest	Other (please specify)	SPLP	TCLP
Field Filtered (Y/N)		Total <input type="checkbox"/> Aroclor <input type="checkbox"/>	F1-F4 + BTEX	VOCs all ind. BTEX	Pesticides Organochlorine or specify other	<u>GH</u> <u>Grain Size Analysis</u>	Specify tests	Specify tests
Metals & Inorganics (incl. Cu, Ni, Pb, Cr, Mn, Zn, Cd, Co, Ni, Mo, Se, Sb, As, Ba, Be, B, Cd, Cr, Co, Cu, Pb, Pp, Mo, Ni, ICP metals plus B(H)S (soil only) Hg, CrVI)	PAHs only	PCBs	F1-F4 only no BTEX	VOCs all ind. BTEX			<input type="checkbox"/> Metals <input type="checkbox"/> M&I	<input type="checkbox"/> VOC <input type="checkbox"/> VOC
Full Metals Suite (ICP metals plus B(H)S (soil only) Hg, CrVI)							<input type="checkbox"/> 1,4-Dioxane <input type="checkbox"/> PCB	<input type="checkbox"/> B(a)P
ICP Metals only (Sb, As, Ba, Be, B, Cd, Cr, Co, Cu, Pb, Pp, Mo, Ni)							<input type="checkbox"/> OCP <input type="checkbox"/> ABN	<input type="checkbox"/> ABN
Water Characterization Pkg (General <input type="checkbox"/> Extended <input type="checkbox"/>							<input type="checkbox"/> Ignit.	

### COMMENTS:

RECORD OF SITE CONDITION (RSC)  YES  NO

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX
1 BH01 - DP1B	July 27, 2021	9:00	1	Soil
2 BH01 - DP2		9:15	4	
3 BH01 - DP3		9:25	4	
4 BH01 - DP4		9:55	1	
5 BH100 - DP1B		8:00	1	
6 BH02 - DP1		9:30	5	
7 BH02 - DP2		9:35	5	
8 BH200 - DP1		11:20	1	
9 BH03 - DP1		10:30	4	
10 BH03 - DP3		11:00	6	
11 BH300 - DP1		10:00	3	
12				

Observations/Comments/Special Instructions

Sampled By (NAME): <u>Katrina Gordon</u>	Signature: <u>[Signature]</u>	Date: <u>07/27/21</u> (mm/dd/yy)	Pink Copy - Client
Relinquished by (NAME): <u>Katrina Gordon</u>	Signature: <u>[Signature]</u>	Date: <u>07/27/21</u> (mm/dd/yy)	Yellow & White Copy - SGS

**APPENDIX E**

**Soil Samples Compared to the SCS and  
Maximum Concentrations**

Sampling Event	2011 Standards: Table 2 (µg/g)	Maximum Concentration (µg/g)	Watters Environmental Phase Two ESA (2021)			
			BH01-DP1B	BH100-DP1B (duplicate of BH01- DP1B)	BH01-DP2	BH01-DP3
Sample ID:			0.20 - 0.76	0.20 - 0.76	0.76 - 1.52	1.52 - 2.02
Sample Depth (mbgs):			2021-07-29	2021-07-29	2021-07-29	2021-07-29
Date Sampled:			2021-07-27	2021-07-27	2021-07-27	2021-07-27
Date Analyzed:			CA14524-Jul21 R	CA14524-Jul21 R	CA14524-Jul21 R	CA14524-Jul21 R
Lab Certificate Number:						
<b>PHCs</b>						
F1 (C6-C10)	55	<10	-	-	< 10	< 10
F1-BTEX (C6-C10 Hydrocarbons)	55	<10	-	-	< 10	< 10
F2 (C10-C16 Hydrocarbons)	98	<10	-	-	< 10	< 10
F3 (C16-C34 Hydrocarbons)	300	<50	-	-	< 50	< 50
F4 (C34-C50 Hydrocarbons)	2800	<50	-	-	< 50	< 50
<b>BTEX (VOCs)</b>						
Benzene	0.21	< 0.02	-	-	<0.02	<0.02
Ethylbenzene	1.1	< 0.05	-	-	<0.05	<0.05
Toluene	2.3	< 0.05	-	-	< 0.05	< 0.05
p+m-Xylene	NV	< 0.05	-	-	< 0.05	< 0.05
o-Xylene	NV	< 0.05	-	-	< 0.05	< 0.05
Xylene (Total)	3.1	< 0.05	-	-	<0.05	<0.05
<b>THMs (VOCs)</b>						
Bromodichloromethane	1.5	< 0.05	-	-	< 0.05	< 0.05
Bromoform	0.27	< 0.05	-	-	< 0.05	< 0.05
Dibromochloromethane	2.3	< 0.05	-	-	< 0.05	< 0.05
<b>VOCs</b>						
Acetone	16	< 0.5	-	-	< 0.5	< 0.5
Bromomethane	0.05	< 0.05	-	-	< 0.05	< 0.05
Carbon Tetrachloride	0.05	< 0.05	-	-	< 0.05	< 0.05
Chlorobenzene	2.4	< 0.05	-	-	< 0.05	< 0.05
Chloroform	0.05	< 0.05	-	-	< 0.05	< 0.05
1,2-Dichlorobenzene	1.2	< 0.05	-	-	< 0.05	< 0.05
1,3-Dichlorobenzene	4.8	< 0.05	-	-	< 0.05	< 0.05
1,4-Dichlorobenzene	0.083	< 0.05	-	-	< 0.05	< 0.05
Dichlorodifluoromethane	16	< 0.05	-	-	< 0.05	< 0.05
1,1-Dichloroethane	0.47	< 0.05	-	-	< 0.05	< 0.05
1,2-Dichloroethane	0.05	< 0.05	-	-	< 0.05	< 0.05
1,1-Dichloroethylene	0.05	< 0.05	-	-	< 0.05	< 0.05
trans-1,2-Dichloroethylene	0.084	< 0.05	-	-	< 0.05	< 0.05
cis-1,2-Dichloroethylene	1.9	< 0.05	-	-	< 0.05	< 0.05
1,2-Dichloropropane	0.05	< 0.05	-	-	< 0.05	< 0.05
cis-1,3-Dichloropropene	NV	< 0.03	-	-	< 0.03	< 0.03
trans-1,3-Dichloropropene	NV	< 0.03	-	-	< 0.03	< 0.03
1,3-Dichloropropene (cis+trans)	0.05	< 0.05	-	-	< 0.05	< 0.05
Ethylene Dibromide	0.05	< 0.05	-	-	< 0.05	< 0.05
n-Hexane	2.8	< 0.05	-	-	< 0.05	< 0.05
Methyl Ethyl Ketone	16	< 0.5	-	-	< 0.5	< 0.5
Methyl Isobutyl Ketone	1.7	< 0.5	-	-	< 0.5	< 0.5
Methyl t-butyl ether (MTBE)	0.75	< 0.05	-	-	< 0.05	< 0.05
Methylene Chloride	0.1	< 0.05	-	-	< 0.05	< 0.05
Styrene	0.7	< 0.05	-	-	< 0.05	< 0.05
Tetrachloroethylene	0.28	< 0.05	-	-	< 0.05	< 0.05
1,1,1,2-Tetrachloroethane	0.058	< 0.05	-	-	< 0.05	< 0.05
1,1,2,2-Tetrachloroethane	0.05	< 0.05	-	-	< 0.05	< 0.05
1,1,1-Trichloroethane	0.38	< 0.05	-	-	< 0.05	< 0.05
1,1,2-Trichloroethane	0.05	< 0.05	-	-	< 0.05	< 0.05
Trichloroethylene	0.061	< 0.05	-	-	< 0.05	< 0.05
Trichlorofluoromethane	4	< 0.05	-	-	< 0.05	< 0.05
Vinyl Chloride	0.02	< 0.02	-	-	< 0.02	< 0.02
<b>Inorganics (Other Regulated Parameters)</b>						
pH	5-9 surface	8.05	-	-	8.05	-
pH	5-11 subsurface	8.06	-	-	-	-
<b>PAHs</b>						
Acenaphthene	7.9	<0.05	<0.05	<0.05	-	-
Acenaphthylene	0.15	<0.05	<0.05	<0.05	-	-
Anthracene	0.67	<0.05	<0.05	<0.05	-	-
Benzo(a)anthracene	0.5	<0.05	<0.05	<0.05	-	-
Benzo(a)pyrene	0.3	<0.05	<0.05	<0.05	-	-
Benzo(b,j)fluoranthene	0.78	<0.05	<0.05	<0.05	-	-
Benzo(g,h,i)perylene	6.6	<0.1	<0.1	<0.1	-	-
Benzo(k)fluoranthene	0.78	<0.05	<0.05	<0.05	-	-
Chrysene	7	<0.05	<0.05	<0.05	-	-
Dibenz(a,h)anthracene	0.1	<0.06	<0.06	<0.06	-	-
Fluoranthene	0.69	<0.05	<0.05	<0.05	-	-
Fluorene	62	<0.05	<0.05	<0.05	-	-
Indeno(1,2,3-cd)pyrene	0.38	<0.1	<0.1	<0.1	-	-
1-Methylnaphthalene	0.99	<0.05	<0.05	<0.05	-	-
2-Methylnaphthalene	0.99	<0.05	<0.05	<0.05	-	-
Methylnaphthalene, 2-(1-)	0.99	<0.05	<0.05	<0.05	-	-
Naphthalene	0.6	<0.05	<0.05	<0.05	-	-
Phenanthrene	6.2	<0.05	<0.05	<0.05	-	-
Pyrene	78	<0.05	<0.05	<0.05	-	-
PCBs	0.35	<0.3	-	-	-	-

**Notes:** Table 2 - Full Depth Generic Site Condition Standards in Potable Groundwater Condition for Residential/Parkland/Institutional Property Use (Coarse-Grained Soils)

All concentrations in µg/g unless otherwise noted

NV - No Value

mbgs - metres below ground surface



Sampling Event	2011 Standards: Table 2 (µg/g)	Maximum Concentration (µg/g)	Watters Environmental Phase Two ESA (2021)			
			BH01-DP4	BH02-DP1	BH200-DP1 (duplicate of BH02-DP1)	BH02-DP2
Sample ID:						
Sample Depth (mbgs):			2.02 - 2.29	0.0 - 0.76	0.0 - 0.76	0.76 - 1.52
Date Sampled:			2021-07-29	2021-07-29	2021-07-29	2021-07-29
Date Analyzed:			2021-07-27	2021-07-27	2021-07-27	2021-07-27
Lab Certificate Number:			CA14524-Jul21 R	CA14524-Jul21 R	CA14524-Jul21 R	CA14524-Jul21 R
<b>PHCs</b>						
F1 (C6-C10)	55	<10	-	<10	-	<10
F1-BTEX (C6-C10 Hydrocarbons)	55	<10	-	<10	-	<10
F2 (C10-C16 Hydrocarbons)	98	<10	-	<10	-	<10
F3 (C16-C34 Hydrocarbons)	300	<50	-	<50	-	<10
F4 (C34-C50 Hydrocarbons)	2800	<50	-	<50	-	<50
<b>BTEX (VOCs)</b>						
Benzene	0.21	<0.02	-	<0.02	-	<0.02
Ethylbenzene	1.1	<0.05	-	<0.05	-	<0.05
Toluene	2.3	<0.05	-	<0.05	-	<0.05
p+m-Xylene	NV	<0.05	-	<0.05	-	<0.05
o-Xylene	NV	<0.05	-	<0.05	-	<0.05
Xylene (Total)	3.1	<0.05	-	<0.05	-	<0.05
<b>THMs (VOCs)</b>						
Bromodichloromethane	1.5	<0.05	-	<0.05	-	<0.05
Bromoform	0.27	<0.05	-	<0.05	-	<0.05
Dibromochloromethane	2.3	<0.05	-	<0.05	-	<0.05
<b>VOCs</b>						
Acetone	16	<0.5	-	<0.5	-	<0.5
Bromomethane	0.05	<0.05	-	<0.05	-	<0.05
Carbon Tetrachloride	0.05	<0.05	-	<0.05	-	<0.05
Chlorobenzene	2.4	<0.05	-	<0.05	-	<0.05
Chloroform	0.05	<0.05	-	<0.05	-	<0.05
1,2-Dichlorobenzene	1.2	<0.05	-	<0.05	-	<0.05
1,3-Dichlorobenzene	4.8	<0.05	-	<0.05	-	<0.05
1,4-Dichlorobenzene	0.083	<0.05	-	<0.05	-	<0.05
Dichlorodifluoromethane	16	<0.05	-	<0.05	-	<0.05
1,1-Dichloroethane	0.47	<0.05	-	<0.05	-	<0.05
1,2-Dichloroethane	0.05	<0.05	-	<0.05	-	<0.05
1,1-Dichloroethylene	0.05	<0.05	-	<0.05	-	<0.05
trans-1,2-Dichloroethylene	0.084	<0.05	-	<0.05	-	<0.05
cis-1,2-Dichloroethylene	1.9	<0.05	-	<0.05	-	<0.05
1,2-Dichloropropane	0.05	<0.05	-	<0.05	-	<0.05
cis-1,3-Dichloropropene	NV	<0.03	-	<0.03	-	<0.03
trans-1,3-Dichloropropene	NV	<0.03	-	<0.03	-	<0.03
1,3-Dichloropropene (cis+trans)	0.05	<0.05	-	<0.05	-	<0.05
Ethylene Dibromide	0.05	<0.05	-	<0.05	-	<0.05
n-Hexane	2.8	<0.05	-	<0.05	-	<0.05
Methyl Ethyl Ketone	16	<0.5	-	<0.5	-	<0.5
Methyl Isobutyl Ketone	1.7	<0.5	-	<0.5	-	<0.5
Methyl t-butyl ether (MTBE)	0.75	<0.05	-	<0.05	-	<0.05
Methylene Chloride	0.1	<0.05	-	<0.05	-	<0.05
Styrene	0.7	<0.05	-	<0.05	-	<0.05
Tetrachloroethylene	0.28	<0.05	-	<0.05	-	<0.05
1,1,1,2-Tetrachloroethane	0.058	<0.05	-	<0.05	-	<0.05
1,1,2,2-Tetrachloroethane	0.05	<0.05	-	<0.05	-	<0.05
1,1,1-Trichloroethane	0.38	<0.05	-	<0.05	-	<0.05
1,1,2-Trichloroethane	0.05	<0.05	-	<0.05	-	<0.05
Trichloroethylene	0.061	<0.05	-	<0.05	-	<0.05
Trichlorofluoromethane	4	<0.05	-	<0.05	-	<0.05
Vinyl Chloride	0.02	<0.02	-	<0.02	-	<0.02
<b>Inorganics (Other Regulated Parameters)</b>						
pH	5-9 surface	8.05	-	-	-	-
pH	5-11 subsurface	8.06	-	-	-	-
<b>PAHs</b>						
Acenaphthene	7.9	<0.05	<0.05	<0.05	-	<0.05
Acenaphthylene	0.15	<0.05	<0.05	<0.05	-	<0.05
Anthracene	0.67	<0.05	<0.05	<0.05	-	<0.05
Benzo(a)anthracene	0.5	<0.05	<0.05	<0.05	-	<0.05
Benzo(a)pyrene	0.3	<0.05	<0.05	<0.05	-	<0.05
Benzo(b,j)fluoranthene	0.78	<0.05	<0.05	<0.05	-	<0.05
Benzo(g,h,i)perylene	6.6	<0.1	<0.1	<0.1	-	<0.1
Benzo(k)fluoranthene	0.78	<0.05	<0.05	<0.05	-	<0.05
Chrysene	7	<0.05	<0.05	<0.05	-	<0.05
Dibenz(a,h)anthracene	0.1	<0.06	<0.06	<0.06	-	<0.06
Fluoranthene	0.69	<0.05	<0.05	<0.05	-	<0.05
Fluorene	62	<0.05	<0.05	<0.05	-	<0.05
Indeno(1,2,3-cd)pyrene	0.38	<0.1	<0.1	<0.1	-	<0.1
1-Methylnaphthalene	0.99	<0.05	<0.05	<0.05	-	<0.05
2-Methylnaphthalene	0.99	<0.05	<0.05	<0.05	-	<0.05
Methylnaphthalene, 2-(1-)	0.99	<0.05	<0.05	<0.05	-	<0.05
Naphthalene	0.6	<0.05	<0.05	<0.05	-	<0.05
Phenanthrene	6.2	<0.05	<0.05	<0.05	-	<0.05
Pyrene	78	<0.05	<0.05	<0.05	-	<0.05
PCBs	0.35	<0.3	-	<0.3	<0.3	<0.3

**Notes:** Table 2 - Full Depth Generic Site Condition Standards in Potable Groundwater Condition for Residential/Parkland/Institutional Property Use (Coarse-Grained Soils)

All concentrations in µg/g unless otherwise noted

NV - No Value

mbgs - metres below ground surface

Sampling Event	2011 Standards: Table 2 (µg/g)	Maximum Concentration (µg/g)	Watters Environmental Phase Two ESA (2021)		
			BH03-DP1	BH300-DP1 (duplicate of BH03- DP1)	BH03-DP3
Sample ID:			0.0 - 0.76	0.0 - 0.76	1.52 - 2.29
Sample Depth (mbgs):			2021-07-29	2021-07-29	2021-07-29
Date Sampled:			2021-07-27	2021-07-27	2021-07-27
Date Analyzed:			CA14524-Jul21 R	CA14524-Jul21 R	CA14524-Jul21 R
Lab Certificate Number:					
<b>PHCs</b>					
F1 (C6-C10)	55	<10	<10	<10	<10
F1-BTEX (C6-C10 Hydrocarbons)	55	<10	<10	<10	<10
F2 (C10-C16 Hydrocarbons)	98	<10	<10	<10	<10
F3 (C16-C34 Hydrocarbons)	300	<50	<50	<50	<50
F4 (C34-C50 Hydrocarbons)	2800	<50	<50	<50	<50
<b>BTEX (VOCs)</b>					
Benzene	0.21	< 0.02	<0.02	<0.02	<0.02
Ethylbenzene	1.1	< 0.05	<0.05	<0.05	<0.05
Toluene	2.3	< 0.05	< 0.05	< 0.05	< 0.05
p+m-Xylene	NV	< 0.05	< 0.05	< 0.05	< 0.05
o-Xylene	NV	< 0.05	< 0.05	< 0.05	< 0.05
Xylene (Total)	3.1	< 0.05	<0.05	<0.05	<0.05
<b>THMs (VOCs)</b>					
Bromodichloromethane	1.5	< 0.05	< 0.05	< 0.05	< 0.05
Bromoform	0.27	< 0.05	< 0.05	< 0.05	< 0.05
Dibromochloromethane	2.3	< 0.05	< 0.05	< 0.05	< 0.05
<b>VOCs</b>					
Acetone	16	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Carbon Tetrachloride	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlorobenzene	2.4	< 0.05	< 0.05	< 0.05	< 0.05
Chloroform	0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	1.2	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	4.8	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	0.083	< 0.05	< 0.05	< 0.05	< 0.05
Dichlorodifluoromethane	16	< 0.05	< 0.05	< 0.05	< 0.05
1,1-Dichloroethane	0.47	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichloroethane	0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1-Dichloroethylene	0.05	< 0.05	< 0.05	< 0.05	< 0.05
trans-1,2-Dichloroethylene	0.084	< 0.05	< 0.05	< 0.05	< 0.05
cis-1,2-Dichloroethylene	1.9	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichloropropane	0.05	< 0.05	< 0.05	< 0.05	< 0.05
cis-1,3-Dichloropropene	NV	< 0.03	< 0.03	< 0.03	< 0.03
trans-1,3-Dichloropropene	NV	< 0.03	< 0.03	< 0.03	< 0.03
1,3-Dichloropropene (cis+trans)	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ethylene Dibromide	0.05	< 0.05	< 0.05	< 0.05	< 0.05
n-Hexane	2.8	< 0.05	< 0.05	< 0.05	< 0.05
Methyl Ethyl Ketone	16	< 0.5	< 0.5	< 0.5	< 0.5
Methyl Isobutyl Ketone	1.7	< 0.5	< 0.5	< 0.5	< 0.5
Methyl t-butyl ether (MTBE)	0.75	< 0.05	< 0.05	< 0.05	< 0.05
Methylene Chloride	0.1	< 0.05	< 0.05	< 0.05	< 0.05
Styrene	0.7	< 0.05	< 0.05	< 0.05	< 0.05
Tetrachloroethylene	0.28	< 0.05	< 0.05	< 0.05	< 0.05
1,1,1,2-Tetrachloroethane	0.058	< 0.05	< 0.05	< 0.05	< 0.05
1,1,1,2,2-Tetrachloroethane	0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,1-Trichloroethane	0.38	< 0.05	< 0.05	< 0.05	< 0.05
1,1,2-Trichloroethane	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Trichloroethylene	0.061	< 0.05	< 0.05	< 0.05	< 0.05
Trichlorofluoromethane	4	< 0.05	< 0.05	< 0.05	< 0.05
Vinyl Chloride	0.02	< 0.02	< 0.02	< 0.02	< 0.02
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Fluoranthene	0.69	<0.05	<0.05	-	<0.05
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Naphthalene	0.6	<0.05	<0.05	-	<0.05
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Pyrene	78	<0.05	<0.05	-	<0.05
PCBs	0.35	<0.3	-	-	-

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