

Phase Two Environmental Site Assessment Conceptual Site Model

Residential / Industrial Property

PART 3, Reference Plan 43R-39995 Representing Part of 208 Emby Drive Mississauga, Ontario L5M 1H6



September 25, 2023

OHE Project No.: 27835

Submitted by:

OHE Consultants

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Property Description

208 Emby Drive has been divided into two (2) properties for the purposes of the Phase Two Environmental Site Assessment (ESA) and the associated Conceptual Site Model (CSM).

- PART 1 and PART 2, Reference Plan 43R-39995, subject to Table 1: Full Depth Background Site Condition Standards as per the *Soil Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act.*
- PART 3, Reference Plan 43R-39995, subject to Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition as per the Soil Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act.

This CSM covers PART 3, Reference Plan 43R-39995. PARTs 1 and 2, Reference Plan 43R-39995 is reported upon under separate cover. PART 3, Reference Plan 43R-39995 comprises 5,640 m² area.

At the time of the Phase Two ESA, the Property was developed with two (2) industrial buildings. These buildings occupy both the subject lands (PARTs 1 and 2, Reference Plan 43R-39995) and the remainder of 208 Emby Drive. That part of 208 Emby Drive defined as PART 3, Reference Plan 43R-39995 is occupied by Superior Vault Co. Ltd., manufacturer and distributor of concrete burial vaults, as well as Schueler Auto Service. Superior Vault Co. Ltd. is currently vacating the Property.

Superior Vault Co. Ltd. had 205 L drums of lubricating oil, diesel exhaust fluid, concrete release agent, 20 L containers of adhesive and diesel fuel conditioner and containers of paint. There was a diesel fuel aboverground storage tank (AST) in a concrete crib immediately north of the north building.

Schueler Auto Service was identified with two (2) vehicle hoists, with aboveground hydraulics, a waste oil AST and a storage mezzanine.

There was also a separate single-storey office structure and a residential dwelling on PART 3, Reference Plan 43R-39995. There was a furnace fuel oil AST at the rear exterior the residential dwelling.



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The Property exterior was primarily gravel finished, with areas of asphalt and concrete at grade immediately east of Superior Vault Co. Ltd. There was a storage trailer and a trailer utilized as a residence. Catch basins were noted in the gravel parking area.

The site location and site plan are included as Drawings 1 and 2, respectively. A local land use plan is included as Drawing 3.

According to historical sources of information, the residential buildings at 208 Emby Drive have been present since 1939 or earlier. Since then, industrial activities at the Property have included companies such as 4 Most Chemicals Ltd., Gary's Major Appliance Repair, Berber's Pianoworks, No Dip Furniture Stripping Ltd., Credit Valley Trenching & Excavating Ltd., Budget GW Complete Metering Services, and Sun Pac Foods.

Properties adjacent to the Property are summarized below and are identified on

Adjoining Properties:

	residential dwelling.
North: \[\sum 51 Tannery Street, which is developed with a Tannery Street is adjacent to the remainder of boundary. Beyond Tannery Street is the Cred Residence (175 Rutledge Road). The propert retirement residence is located was redevelop Site Condition was submitted under municipal Street in 2013.	it Valley Retirement by on which the ned after a Record of
East: ☐ railway corridor, then a paved parking lot and developed with a residential dwelling;	200 Broadway Street,
West: ☐ remainder of 208 Emby Drive, assessed by O separate cover;	HE for the client under

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South:	$\hfill\square$ 100 Emby Drive, multiple-tenant commercial and light-industrial
	property occupied by:

- o Azul Granite & Marble Inc.;
- Krown Rust Protection Centre;
- o Limitless Auto Sports;
- o Beyond the Leash K9 Training;
- Kodawarin Collective;
- TLK Towing & Storage;

56 Thomas Street is situated immediately south of 100 Emby Drive. This property was listed as occupied by a fuel retail facility in city directories from 1965 and 1981. It was situated at an assumed hydraulically downgradient location relative to the Property. City directories are summarized in the OHE Consultants (OHE) Phase One ESA, submitted under separate cover.

56 Thomas Street, and possibly 100 Emby Drive, were residentially developed in 1819 and was occupied in 1911 by Streetsville Brick and by McFadden Brick in 1929 (referenced in the OHE Phase One ESA).

A Record of Site Condition was obtained for 175 Rutledge Road, approximately 100 m to the north. Records of Site Condition were also obtained for 80 Thomas Street, situated approximately 170 m to the west. These Records of Site Condition are discussed later in this section.

Queen Cleaners is located within the retail plaza at 128 Queen Street South. Signage at this facility indicates dry cleaning. However, no waste management records were found for this facility on the online HWIN (Hazardous Waste Information Network) database. The facility representative stated in a telephone interview that all dry cleaning for the facility takes place offsite at a central plant. This facility is situated approximately 225 m northeast of the Property.

Record of Site Condition, 52 Tannery Street:

A Record of Site Condition was obtained for Kings Mill Development Inc. at 52 Tannery Street, prepared by Dillon Consulting Limited and dated October 2013. This property is situated across Tannery Street approximately 100 m to the north. The Record of Site Condition was numbered 210848 and was filed on October 29, 2013.

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Based upon a F	Phase One ES	SA the following	g Potentially	Contaminating	Activities	(PCAs)
were identified:						

were identified:
Onsite PCSs:
 metals treatment, coating, plating and finishing; gasoline and associated products storage in fixed tanks; importation of fill of unknown quality;
Off-Site PCSs:
 □ rail yards, tracks, spurs; □ commercial autobody shops; □ gasoline and associated products storage in fixed tanks; □ chemical manufacturing, processing and bulk storage; □ concrete, cement and lime manufacturing; □ operation of dry cleaning equipment;
The off-site APECs were considered to be hydraulically cross-gradient activities with respect to the Property with the exception of the east adjoining rail line.
A Phase Two ESA was carried out, from which metals, electrical conductivity (EC), sodium adsorption ratio (SAR), and petroleum hydrocarbons (PHCs) contamination was identified. Table 3 or Table 9 Standards were utilized as applicable.
Soil contamination was identified to a maximum depth of 3.1 m below grade.
Surface water concentrations of metals were less than the Aquatic Protection Values from the <i>Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario</i> , April 15, 2011.
A site remediation was planned. Associated with this remediation the following post-remediation exposure pathways were identified with respect to the identified contamination:
 □ resident or visitor direct contact with contaminated soil; □ worker or maintenance worker direct contact with contaminated soil; □ construction worker direct contact with contaminated soil; □ contaminated soil impacts to plants and soil invertebrates; □ contaminated soil impacts to birds and mammals; □ erosion of contaminated soil to sediment;

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Stratigraphy of the site consisted of topsoil or sand overlying primarily silt. Clay material was identified at depth at various locations. Shale bedrock was identified at depths ranging from 4.11 m to 10.67 m below grade. Ground water was noted at depths ranging from 2.1 m to 5.8 m below grade. A ground water divide was identified onsite, with part of the site ground water regime flowing towards Mullet Creek to the west, and part flowing towards the Credit River to the east. The horizontal hydraulic gradient was calculated at 0.05 m/m and the vertical hydraulic gradient was calculated at 0.12 m/m.

Dillon Consulting Limited tied the identified contamination back to the identified APECs. A remediation had occurred prior to 2000 to remove "gross contamination".

Metals and inorganic parameters contamination was found in a soil berm, in the east portion of the site, and in the "zone of impairment" associated with the central area of the site (associated with the metals treatment, coating, plating and finishing APEC). Other site contamination was potentially associated with site grading, the construction of the soil berm after the historic remediation, and atmospheric fallout from the site activities or background atmospheric conditions.

PHCs soil contamination was found in the "zone of impairment", as was metals and inorganic parameters ground water contamination. The possibility of naturally occurring boron, as associated with shale bedrock, was discussed. It should be referenced that boron (hot water soluble) soil contamination was found at depth at the Property.

Significant contaminant migration was not expected due to the "low mobility" of metals and inorganic parameters, and the "limited" PHC soil impacts were cited as rationale. In addition, toxicity characteristic leaching procedure analysis of soil from the "zone of impairment" did not identify any detectable leachate quantities of contaminants of concern from the "worst-case" sample. This has implications for the Property in that contaminant migration to the Property from this site is not expected. Boreholes BH209 and BH210, completed at the Property near the north Property boundary, were completed as monitoring wells, with no ground water contamination identified.

A remediation was undertaken. At the conclusion of the remediation metals, SAR, and PHC contamination was left onsite, as compared to applicable Table 3 or Table 9 Standards.

A risk assessment was subsequently carried out, through which a Record of Site Condition was obtained. A Certificate of Property Use was issued as associated with the Record of Site Condition.

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Records of Site Condition, 80 Thomas Street:

Five (5) Records of Site Condition (226313, 226683, 227111, 227151, 227484) were obtained for 80 Thomas Street between January 6, 2020 and January 14, 2021. Also, a Watters Environmental Group Inc. Phase One ESA, dated October 2016, prepared for Dunpar Developments Inc., was reviewed online.

The Property was occupied by CTS of Canada Limited, electrical component manufacturer. Spray painting, paint mixing, plating, and use of solvents such as naphtha, toluene and gasoline was reported. Acetone and furnace fuel oil USTs were present onsite, as was storage of the following waste chemicals: waste cutting oil, spent varsol, waste 1,1,1-trichloroethane, waste ferric chloride solution, waste flux solution, waste tin plating bath solution waste, waste lapping compound containing mineral seal oil and paraffinic hydrocarbons, waste oil / rust preventative solution, waste hydraulic oil containing varsol, water, and metal particles, waste acid, tin, nickel, and zinc plating solutions containing sulphuric acid, and waste solder combination of lead, tin, and silver. Waste solvents were reportedly burned onsite prior to 1968. Spills were reported onsite for 1980 and 1992.

Environmental investigative work indicated the presence of soil contamination for the following parameters: boron, silver, 1,1-dichloroethylene, cis-1,2-dichloroethylene, boron, trichloroethylene, vinyl chloride, and total petroleum hydrocarbons (gas / diesel and heavy oils). Ground water contamination was identified for the following parameters: copper, cis-1.2-dichloroethylene, trans-1.2-dichloroethylene, trichloroethylene, 1,1,1-trichloroethane, 1,1-dichloroethane, vinyl chloride and PHCs F1 fraction. A total of approximately 0.5 m free product was measured at a single monitoring location. This material was reported physically remediated.

80 Thomas Street is situated approximately 170 m to the west across Mullet Creek. As this property is situated on the other side of Mullet Creek and, therefore, likely situated at a hydraulically cross-gradient location relative to the Property these Records of Site Condition are not summarized in this CSM. This statement was made assuming that ground water flow at 80 Thomas Street would tend towards Mullet Creek and not across this creek.

This property is currently under development with residential townhomes, known as the Streetsville Centre.

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Record of Site Condition, 80 Thomas Street:

Five (5) Records of Site Condition were obtained for 80 Thomas Street between January 6, 2020 and January 14, 2021. 80 Thomas Street is situated approximately 125 m to the west across Mullet Creek. As this property is situated on the other side of Mullet Creek and, therefore, likely situated at a hydraulically cross-gradient location relative to the Property these Records of Site Condition are not summarized in this CSM.

Property History:

Title history for this address is detailed in the OHE Phase One ESA, submitted under separate cover. The Phase One ESA covered all of 208 Emby Drive, both that part covered in this document (PART 3, Reference Plan 43R-39995) and PARTs 1 and 2, Reference Plan 43R-39995.

The residential dwelling at 208 Emby Drive has been present since 1939 or earlier. The south industrial building at 208 Emby Drive was constructed between 1954 and 1966, and the north industrial building at this address was constructed between 1966 and 1975.

208 Emby Drive was historically occupied industrially by such companies as: 4 Most Chemicals Ltd., Gary's Major Appliance Repair, Berber's Pianoworks, No Dip Furniture Stripping Ltd., Credit Valley Trenching & Excavating Ltd., and Budget GW Complete Metering Services. The identify of these previous Property occupants was ascertained solely from city directories. No other sources of information were identified by OHE during the Phase One ESA pertaining to these occupants. Details regarding chemical storage, waste management, holding tanks, sumps or pits, as examples, were not available to OHE. OHE's Phase One ESA was conducted in accordance with Ontario Regulation 153/04 and made use of all available and accessible sources of information.

An Insurers' Advisory Organization of Canada report from 1979 indicated that the Property was occupied by Sun Pac Foods, for food product storage; Credit Valley Trench & Excavating; and No Dip Furniture Stripping.

A Commercial Property Fire Rating Form, completed October 1983 indicated that this property was occupied by an automotive repair garage, a contractor for storage of equipment and lumber (Credit Valley Trench & Excavating), and a wood stripping facility (No Dip Furniture Stripping). The latter stored Class I liquids.

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Previous Environmental Assessments:

OHE carried out a Phase One ESA of the Property, the results of which formed the basis of the OHE Phase Two ESA. This Phase One ESA has been reported to the client under separate cover.

Potential Contaminating Activities

Potentially Contaminating Activities (PCAs) were identified on and off site as follows, as shown on Drawing 4:

Onsite:

PCA #1 – former onsite chemical storage and use, 208 Emby Drive (4 Most Chemicals Ltd.)

208 Emby Drive was previously industrially occupied by 4 Most Chemicals Ltd. This occupant was not present onsite at the time of the OHE Phase One ESA. Therefore, details regarding their activities and chemical use were not ascertained. It is expected that they likely stored and utilized chemicals. The specific location of 4 Most Chemicals Ltd. on the Property was not determined.

Item #8 - Chemical Manufacturing, Processing and Bulk Storage

Does the PCA translate into an APEC: yes - APEC #8

PCA #2 – concrete mixing and setting for vault manufacturing (Superior Vault Co. Ltd.)

Superior Vault Co. Ltd. mixes and sets concrete for the manufacturing of vaults. This work takes place in the south building.

Item #12 - Concrete, Cement and Lime Manufacturing

Does the PCA translate into an APEC: yes – APEC #10

PCA #3 – fill identified in previous environmental assessment

No physical evidence as to the presence of fill was identified on Property during the Phase One ESA Property visit. However, it was assumed that fill was used in the development of the area as part of building construction. According to the 2014 Coffey Phase 2 Soil and Groundwater Investigation report, fill materials were encountered in three (3) of four (4) borehole locations, with a maximum depth of 3 m below ground surface.

Item #30 – Importation of Fill of Unknown Quality

PCA #4 – two (2) former fuel underground storage tanks

Two (2) former fuel underground storage tanks were present east of the south building

Item #28 - Gasoline and Associated Products Storage in Fixed Tanks

Does the PCA translate into an APEC: yes - APEC #4

PCA #5 – former fuel underground storage tank

A former fuel underground storage tank was present south of the north building

Item #28 – Gasoline and Associated Products Storage in Fixed Tanks

Does the PCA translate into an APEC: yes – APEC #6

PCA #6 – aboveground storage tank

A 4,600 L fuel aboveground storage tank was identified at the northwest exterior corner of the north building

Item #28 - Gasoline and Associated Products Storage in Fixed Tanks

Does the PCA translate into an APEC: yes – APEC #3

PCA #7 – aboveground storage tank

An approximate 500 L lubricating oil aboveground storage tank was identified within Schueler Auto Service

Item #28 – Gasoline and Associated Products Storage in Fixed Tanks

Does the PCA translate into an APEC: yes - APEC #5

PCA #8 – aboveground storage tank

A 910 L fuel aboveground storage tank was identified at the west exterior of the dwelling

Item #28 – Gasoline and Associated Products Storage in Fixed Tanks

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PCA #9 – historic automotive salvage operation (Streetsville Bush Auto Wreckers & Parts Inc.)

Streetsville Bush Auto Wreckers & Parts Inc. was listed as a former Property occupant. The specific location of this occupant onsite was not ascertained.

Item #49 - Salvage Yard, including automobile wrecking

Does the PCA translate into an APEC: yes - APEC #11

PCA #10 – possible use of solvents related to historic Property use (No Dip Furniture Stripping Ltd.)

The use of solvents was potentially related to the former presence of No Dip Furniture Stripping Ltd. at the Property. The specific location of this occupant onsite was not ascertained.

Item #51 - Solvent Manufacturing, Processing and Bulk Storage

Does the PCA translate into an APEC: yes - APEC #12

PCA #11 – 208 Emby Drive, Schueler Auto Service

Schueler Auto Service occupies part of the north building on the east part of 208 Emby Drive.

Item #10: Commercial Autobody Shops

Does the PCA translate into an APEC: yes – APEC #13

PCA #12 – deposition of deicing salts on the Property

The deposition of road salt-laden snow and / or ice from vehicles at the Property is anticipated.

no regulatory Table 2 item number – road salt deposition

Does the PCA translate into an APEC: yes – APEC#16

There was no bulk road salt storage or processing onsite.

Offsite:

PCA #13 – railway corridor

railway corridor situated east of 208 Emby Drive

Item #46 – Rail Yards, Tracks and Spurs

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PCA #14 – paint booth at west part of 208 Emby Drive (Superior Vault Co. Ltd.)

A paint booth was identified within Superior Vault Co. Ltd. The location of this paint booth is shown on Drawings 2 and 4.

Item #39: Paints Manufacturing, Processing and Bulk Storage

Does the PCA translate into an Area of Potential Environmental Concern (APEC): yes – APEC #14

PCA #15 – west part of 208 Emby Drive (4 Most Chemicals Ltd.)

208 Emby Drive was previously industrially occupied by 4 Most Chemicals Ltd. This occupant was not present onsite at the time of the OHE Phase One ESA. Therefore, details regarding their activities and chemical use were not ascertained. It is expected that they likely stored and utilized chemicals. The specific locations of 4 Most Chemicals Ltd. on this part of 208 Emby Drive were not determined.

Item #8 – Chemical Manufacturing, Processing and Bulk Storage

Does the PCA translate into an APEC: yes - APEC #15

PCA #16 – west part of 208 Emby Drive (Superior Vault Co. Ltd.)

Superior Vault Co. Ltd. mixes and sets concrete for the manufacturing of vaults. This work takes place in the south building.

Item #12 – Concrete, Cement and Lime Manufacturing

Does the PCA translate into an APEC: yes – APEC #15

PCA #17 – west part of 208 Emby Drive (Streetsville Bush Auto Wreckers & Parts Inc.)

Streetsville Bush Auto Wreckers & Parts Inc. was listed as a former 208 Emby Drive occupant. The specific location of this occupant on this part of 208 Emby Drive was not ascertained.

Item #49 – Salvage Yard, including automobile wrecking

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PCA #18 – west part of 208 Emby Drive (No Dip Furniture Stripping Ltd.)

The use of solvents was potentially related to the former presence of No Dip Furniture Stripping Ltd. at the Property. The specific location of this occupant on this part of 208 Emby Drive was not ascertained.

Item #51 - Solvent Manufacturing, Processing and Bulk Storage

Does the PCA translate into an APEC: yes – APEC #15

PCA #19 – 57 Tannery Street, northwest adjoining

A residential furnace fuel oil AST was identified at this site.

Item #28 – Gasoline and Associated Products Storage in Fixed Tanks

Does the PCA translate into an APEC: no

Grades at this location fall towards Mullet Creek.

PCA #20 – 51 Tannery Street, north adjoining

A residential furnace fuel oil UST was formerly present at this site.

Item #28 – Gasoline and Associated Products Storage in Fixed Tanks

Does the PCA translate into an APEC: no

Remedial work has been completed at the location of this UST.

PCA #21 – 100 Emby Drive, adjacent to the south (Mississauga Engines Inc., Krown Rust Protection Centre, Limitless Auto Sports)

Automotive garages were identified at 100 Emby Drive during the OHE Phase One ESA of the Property.

Item #10: Commercial Autobody Shops

Does the PCA translate into an APEC: yes - APEC #1

PCA #22 – 95 Joymar Drive, adjacent to the west (Stampall Washer Ltd.)

A historic washer manufacturer was identified at 95 Joymar Drive during the OHE Phase One ESA of the Property.

Item #34 – Metal Fabrication

Does the PCA translate into an APEC: no

Potential impacts would be directed towards Mullet Creek

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PCA #23 – 95 Joymar Drive, adjacent to the west (J. Salena & Sons Auto Service Ltd.)

An automotive garage was identified at 95 Joymar Drive during the OHE Phase One ESA of the Property.

Item #10: Commercial Autobody Shops

Does the PCA translate into an APEC: no

Potential impacts would be directed towards Mullet Creek

PCA #24 – 95 Joymar Drive, adjacent to the west (AL Powerlines)

An electrical utility contractor was identified at 95 Joymar Drive during the OHE Phase One ESA of the Property.

not applicable – electrical utility contractor

Does the PCA translate into an APEC: no

Potential impacts would be directed towards Mullet Creek

PCA #25 – 38 Thomas Street, approximately 65 m to the southeast (Thomas Street Auto & Tire)

An automotive garage was identified at 44 Thomas Street during the OHE Phase One ESA of the Property.

Item #10: Commercial Autobody Shops

Does the PCA translate into an APEC: no

38 Thomas Street is situated at a hydraulically cross-gradient to downgradient location relative to the Property.

PCA #26 – 44 Thomas Street, approximately 50 m to the southeast (Plastic Components (1987))

Possible former plastics manufacturing was identified at this address in the OHE Phase One ESA.

Item #43 – Plastics (including Fibreglass) Manufacturing and Processing

Does the PCA translate into an APEC: no

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PCA #27 – 44 Thomas Street, approximately 50 m to the southeast (S&V Motors)

An automotive garage was identified at 44 Thomas Street during the OHE Phase One ESA of the Property.

Item #10: Commercial Autobody Shops

Does the PCA translate into an APEC: no

44 Thomas Street is situated at a hydraulically cross-gradient to downgradient location relative to the Property.

PCA #28 – 56 Thomas Street, approximately 50 m to the south (Streetsville Texaco)

This property was formerly occupied by a gasoline service station

Item #28 – Gasoline and Associated Products Storage in Fixed Tanks

Does the PCA translate into an APEC: no

56 Thomas Street is situated at a hydraulically cross-gradient to downgradient location relative to the Property.

PCA #29 – 64 Thomas Street, approximately 90 m to the southwest (D&D Painters Ltd.)

D&D Painters Ltd. was identified at 64 Thomas Street during the OHE Phase One ESA of the Property.

Item #39 - Paint Manufacturing, Processing and Bulk Storage

Does the PCA translate into an APEC: no

66 Thomas Street is situated at a hydraulically cross-gradient to downgradient location relative to the Property.

PCA #30 – 66 Thomas Street, approximately 90 m to the southwest (Jorge's Auto Repair, fix Auto Collision Streetsville, L.A. Auto Repairs, A One Meadowvale Collison Centre Atlantic, Trinity Auto Service Ltd., Richard's Auto Repair Inc., mechaniq)

Automotive garages were identified at 66 Thomas Street during the OHE Phase One ESA of the Property.

Item #10: Commercial Autobody Shops

Does the PCA translate into an APEC: no

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PCA #31 – 80 Thomas Street, approximately 170 m to the west (CTS of Canada Ltd.)

Former electrical parts manufacturing was identified in Records of Site Condition 226313, 226683, 227111, 227151, and 227484 as well as Watters Environmental Group Inc. Phase One ESA.

Item #19 – Electrical and Computer Equipment Manufacturing

Does the PCA translate into an APEC: no

80 Thomas Street is situated at a hydraulically cross-gradient to downgradient location relative to the Property.

PCA #32 – 80 Thomas Street, approximately 170 m to the west (CTS of Canada Ltd.)

Former presence of a furnace fuel oil underground (UST) was identified in Records of Site Condition 226313, 226683, 227111, 227151, and 227484 as well as Watters Environmental Group Inc. Phase One ESA.

Item #28 - Gasoline and Associated Products Storage in Fixed Tanks

Does the PCA translate into an APEC: no

80 Thomas Street is situated at a hydraulically cross-gradient to downgradient location relative to the Property.

PCA #33 – 80 Thomas Street, approximately 170 m to the west (CTS of Canada Ltd.)

Former machine shops were identified in Records of Site Condition 226313, 226683, 227111, 227151, and 227484 as well as Watters Environmental Group Inc. Phase One ESA.

Item #33 - Metal Treatment, Coating, Plating and Finishing

Does the PCA translate into an APEC: no

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PCA #34 – 80 Thomas Street, approximately 170 m to the west (CTS of Canada Ltd.)

Former machine shops were identified in Records of Site Condition 226313, 226683, 227111, 227151, and 227484 as well as Watters Environmental Group Inc. Phase One ESA.

Item #34 – Metal Fabrication

Does the PCA translate into an APEC: no

80 Thomas Street is situated at a hydraulically cross-gradient to downgradient location relative to the Property.

PCA #35 – 80 Thomas Street, approximately 170 m to the west (CTS of Canada Ltd.)

Former painting operations were identified in Records of Site Condition 226313, 226683, 227111, 227151, and 227484 as well as Watters Environmental Group Inc. Phase One ESA.

Item #39 - Paints Manufacturing, Processing and Bulk Storage

Does the PCA translate into an APEC: no

80 Thomas Street is situated at a hydraulically cross-gradient to downgradient location relative to the Property.

PCA #36 – 80 Thomas Street, approximately 170 m to the west (CTS of Canada Ltd.)

Former solvent storage, along with an acetone UST, was identified in Records of Site Condition 226313, 226683, 227111, 227151, and 227484 as well as Watters Environmental Group Inc. Phase One ESA.

Item #51 – Solvent Manufacturing, Processing and Bulk Storage

Does the PCA translate into an APEC: no

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PCA #37 – 80 Thomas Street, approximately 170 m to the west (CTS of Canada Ltd.)

Former transformer manufacturing was identified in Records of Site Condition 226313, 226683, 227111, 227151, and 227484 as well as Watters Environmental Group Inc. Phase One ESA.

Item #55 – Transformer Manufacturing, Processing and Use

Does the PCA translate into an APEC: no

80 Thomas Street is situated at a hydraulically cross-gradient to downgradient location relative to the Property.

PCA #38 – 80 Thomas Street, approximately 170 m to the west (CTS of Canada Ltd.)

Former automotive parts manufacturing was identified in Records of Site Condition 226313, 226683, 227111, 227151, and 227484 as well as Watters Environmental Group Inc. Phase One ESA.

Item #57 – Vehicles and Associated Parts Manufacturing

Does the PCA translate into an APEC: no

80 Thomas Street is situated at a hydraulically cross-gradient to downgradient location relative to the Property.

PCA #39 – 80 Thomas Street, approximately 170 m to the west (CTS of Canada Ltd.)

Former waste reception and processing was identified in Records of Site Condition 226313, 226683, 227111, 227151, and 227484 as well as Watters Environmental Group Inc. Phase One ESA.

Item #58 – Waste Disposal and Waste Management, including thermal treatment and transfer of waste, other than use of biosolids as soil conditioners

Does the PCA translate into an APEC: no

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PCA #40 - 80 Thomas Street, approximately 170 m to the west (CTS of Canada Ltd.)

Former presence of boron, trichloroethylene, tetrachloroethylene, 1,1-dichloroethylene, cis-1,2-dichloroethylene, vinyl chloride, as well as PHC soil contamination (since remediated), identified in Records of Site Condition 226313, 226683, 227111, 227151, and 227484 as well as Watters Environmental Group Inc. Phase One ESA.

not applicable - soil contamination

Does the PCA translate into an APEC: no

80 Thomas Street is situated at a hydraulically cross-gradient to downgradient location relative to the Property.

PCA #41 – 80 Thomas Street, approximately 170 m to the west (CTS of Canada Ltd.)

Former presence of copper, tetrachloroethylene, trichloroethylene, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, vinyl chloride, 1,1,1-trichloroethane, and PHC ground water contamination (since remediated), identified in Records of Site Condition 226313, 226683, 227111, 227151, and 227484 as well as Watters Environmental Group Inc. Phase One ESA.

not applicable – ground water contamination

Does the PCA translate into an APEC: no

80 Thomas Street is situated at a hydraulically cross-gradient to downgradient location relative to the Property.

PCA #42 – 45 Thomas Street, approximately 125 m to the south (Dominion Sash Ltd.)

Former presence of sash factory at the current location of the Streetsville GO Station

not applicable - window sash manufacturing

Does the PCA translate into an APEC: no

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PCA #43 – 175 Rutledge Road, approximately 70 m to the north (Dominion Home Industries Ltd.)

Record of Site Condition 210848

Item #28 - Gasoline and Associated Products Storage in Fixed Tanks

Does the PCA translate into an APEC: no

Potential impacts would be directed towards Mullet Creek

PCA #44 – 175 Rutledge Road, approximately 70 m to the north (Dominion Home Industries Ltd.)

Record of Site Condition 210848

Item #33 – Metal Treatment, Coating, Plating and Finishing

Does the PCA translate into an APEC: no

Potential impacts would be directed towards Mullet Creek

PCA #45 – 175 Rutledge Road, approximately 70 m to the north (Dominion Home Industries Ltd.)

Record of Site Condition 210848; risk assessment evaluated onsite soil concentrations of antimony, arsenic, barium, boron, boron (hot water soluble), cadmium, chromium, chromium VI, cobalt, copper, lead, molybdenum, selenium, silver, zinc, as well as PHCs F2 to F4 fractions

not applicable – soil contamination (when compared to generic Standards)

Does the PCA translate into an APEC: no

Potential impacts would be directed towards Mullet Creek

PCA #46 – 175 Rutledge Road, approximately 70 m to the north (Dominion Home Industries Ltd.)

Record of Site Condition 210848; risk assessment evaluated onsite ground water concentrations of beryllium, boron, cadmium, chromium, cobalt, copper, lead, silver, selenium, sodium and zinc

not applicable – ground water contamination (when compared to generic Standards)

Does the PCA translate into an APEC: no

Potential impacts would be directed towards Mullet Creek

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PCA #47 – 65 Tannery Street, approximately 120 m to the northwest (Aussie Auto Inc.)

Current presence of an automotive garage

Item #10: Commercial Autobody Shops

Does the PCA translate into an APEC: no

This facility lies at a hydraulically cross-gradient location relative to the Property.

PCA #48 – 169 Crumbie Street, approximately 190 m to the northeast (Streetsville Distribution)

A historic printing operation was identified at this location

Item #31 – Ink Manufacturing, Processing and Bulk Storage

Does the PCA translate into an APEC: no

This facility lies at a hydraulically downgradient location relative to the Property, when considering hydraulic gradients documented with respect to 175 Rutledge Road.

PCA #49 – 169 Crumbie Street, approximately 190 m to the northeast (J.J.'s Auto Service Specialties Ltd., Daley's Auto Service, Halton Mississauga Ambulance, District of Halton Mississauga Ambulance Service)

Current and historic presence of an automotive garage

Item #10: Commercial Autobody Shops

Does the PCA translate into an APEC: no

This facility lies at a hydraulically downgradient location relative to the Property, when considering hydraulic gradients documented with respect to 175 Rutledge Road.

PCA #50 – 22 Pearl Street, approximately 130 m to the east (Bell Canada)

A historic UST was identified at this location

Item #28 - Gasoline and Associated Products Storage in Fixed Tanks

Does the PCA translate into an APEC: no

This facility lies at a hydraulically downgradient location relative to the Property, when considering hydraulic gradients documented with respect to 175 Rutledge Road.

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Areas of Potential Environmental Concern

The PCAs described above resulted in the identification of sixteen (16) APECs which were investigated in the Phase Two ESA. These APECs are listed in Table 1 and are illustrated on Drawing 5. Drawing 6 shows borehole, hand auger and monitoring well locations. Drawing 7 shows remedial locations. Drawing 8 shows the APECs as well as borehole, hand auger and monitoring well locations.

Areas of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off- site)	Contaminants of Potential Concern	Media Potentially Impacted (Ground water, soil and/or sediment)
APEC #1	south part of Property	Item #10: Commercial Autobody Shops	off-site	metals, petroleum hydrocarbons (PHCs), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs).	ground water
APEC #2	rear (west side), residential dwelling	Item #28 - Gasoline and Associated Products Storage in Fixed Tanks	on-site	metals, PHCs, VOCs, PAHs	soil, ground water
APEC #3	northwest area, north building	Item #28 - Gasoline and Associated Products Storage in Fixed Tanks	on-site	metals, PHCs, VOCs, PAHs	soil, ground water
APEC #4	front (east side), south building	Item #28 - Gasoline and Associated Products Storage in Fixed Tanks	on-site	metals, PHCs, VOCs, PAHs	soil, ground water

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Areas of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off- site)	Contaminants of Potential Concern	Media Potentially Impacted (Ground water, soil and/or sediment)
APEC #5	north building interior, Schueler Auto Service	Item #28 - Gasoline and Associated Products Storage in Fixed Tanks	on-site	metals, PHCs, VOCs, PAHs	soil, ground water
APEC #6	south side, north building	Item #28 - Gasoline and Associated Products Storage in Fixed Tanks	on-site	metals, PHCs, VOCs, PAHs	soil, ground water
APEC #7	along east Property boundary	Item #46 – Rail Yards, Tracks and Spurs	off-site	PHCs, VOCs, metals, PAHs, organochlorine (OC) pesticides	soil and ground water
APEC #8	entire Property (APEC extended over this entire area due to uncertainty in specific location of associated activities)	Item #8: Chemical Manufacturing, Processing and Bulk Storage	on-site	PHCs, VOCs, PAHs	soil and ground water

Areas of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off- site)	Contaminants of Potential Concern	Media Potentially Impacted (Ground water, soil and/or sediment)
APEC #9	entire Property	Item #30: Importation of Fill of Unknown Quality	on-site	metals and hydride- forming metals, other regulated parameters (ORPs – hot water soluble boron, cyanide, electrical conductivity, sodium adsorption ratio, mercury, pH), PAHs, PHCs, VOCs	soil
APEC #10	entire Property	Item #12: Concrete, Cement and Lime Manufacturing	on-site	metals, PHCs, VOCs, PAHs	soil and ground water
APEC #11	entire Property	Item #49: Salvage Yard, including automobile wrecking	on-site	metals, PHCs, VOCs, PAHs	soil, ground water
APEC #12	entire Property	Item #51: Solvent Manufacturing, Processing and Bulk Storage	on-site	metals, PHCs, VOCs, PAHs	soil, ground water
APEC #13	north building, Schueler Auto Service	Item #10: Commercial Autobody Shops	on-site	PHCs, VOCs, metals, PAHs	soil, ground water

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Areas of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off- site)	Contaminants of Potential Concern	Media Potentially Impacted (Ground water, soil and/or sediment)
APEC #14	northeast corner, north building, paint booth	Item #39: Paints Manufacturing, Processing and Bulk Storage	off-site	PHCs, VOCs	soil, ground water
APEC #15	entire Property	Item #8: Chemical Manufacturing, Processing and Bulk Storage	off-site	metals, PHCs, VOCs, PAHs	ground water
		Item #12: Concrete, Cement and Lime Manufacturing			
		Item #49: Salvage Yard, including automobile wrecking			
		Item #51: Solvent Manufacturing, Processing and Bulk Storage			
APEC #16	entire Property	not applicable – deposition of salt-laden snow and / or ice	on-site	electrical conductivity, sodium adsorption ratio, sodium, chloride	soil and ground water

APEC #8 was based upon PCA #1 (Chemical Manufacturing, Processing and Bulk Storage) and relates to the former presence of 4 Most Chemicals Ltd. onsite. The

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presence of this occupant was determined based upon city directories. No information regarding 4 Most Chemicals Ltd. was ascertained from other information sources such as fire insurance plans and inspection reports, or onsite interviews. Therefore the details of this tenancy were not determined. The former presence of 4 Most Chemicals Ltd. was identified as part of a regulatory compliant Phase One ESA.

Therefore APEC #8 was extended over the entire Property to account for any possible interior or exterior 4 Most Chemicals Ltd. storage, processing or other activities. Boreholes / monitoring wells BH203, BH204, BH309 and BH606 provide coverage in the south building. Borehole / monitoring wells BH504, BH601, BH702 and BH703 provides coverage in the north building. And the remaining boreholes and boreholes / monitoring wells provide exterior coverage and coverage with respect to potential migration of contaminants towards the creek.

As per Section 49.1 of the regulation the Qualified Person (ESA) has determined that no onsite bulk storage of road salt has occurred. APEC #16 is therefore related to the deposition of salt-laden snow or ice applied to public roadways for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both.

Subsurface Structures and Utilities

Utility locates, conducted during Phase Two ESA work, indicated that Property buildings were serviced from Emby Drive. Natural gas and water services were identified extending west from Emby Drive. Electrical power and Bell Canada was provided by way of overhead lines from Emby Drive. Sanitary and storm sewers extended north from Emby Drive. Please refer to Drawing 2.

The potential exists for the migration of ground water contamination by way of granular bedding associated with underground utilities. This potential particularly applies to the presence of PHCs and VOCs ground water contamination east of the south building. The potential for contaminant migration by way of buried utility backfill is further discussed within Migration of Contaminants and Preferential Pathways, later in this report.

Physical Setting

Stratigraphy:

Based on the Phase Two ESA CSM the stratigraphic profile at the Property consists of fill materials overlying sandy silt. Based on borehole logs, the depth of surficial fill, or possible fill materials ranged from 0.76 m depth (i.e., BH512, BH605) to 9.75 m depth

(i.e., BH310-2). Borehole logs indicate that silt was encountered at most locations underlying the fill. Shale bedrock was encountered at depths ranging from 4.11 m depth to 10.67 m depth. The maximum depth investigated during the Phase Two ESA investigation was 9.75 m.

The borehole and monitoring well locations are shown on Drawing 5 Cross sectional views of the Property are shown in Drawings 8 and 9.

Hydrogeological Characteristics:

Ground water levels were measured on several occasions as follows.

date	monitoring wells	depth below grade (m)	elevation relative to Benchmark 257 (Canadian Geodetic Datum, 1928)
January 23, 2017	BH102	2.69	154.06
	BH104	2.82	153.98
May 8, 2018	BH104	3.23	153.56
	BH204	4.05	152.76
September 10, 2018	BH104	3.37	153.42
	BH204	1.62	155.19
	BH305	3.16	154.09
	BH309	3.45	153.26
	BH311	1.96	154.82
November 7-8, 2018	BH102	2.94	153.80
	BH104	3.25	153.54
	BH204	2.48	154.33
	BH305	3.37	153.88
	BH309	3.41	153.40
	BH310	3.09	153.66
July 18, 2019	BH104	3.22	153.57
	BH204	1.38	155.43
	BH305	3.26	153.99
	BH309	3.40	153.41

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	BH310	3.07	153.68
October 16, 2020	BH504	6.30	153.70
September 22, 2021	BH601	3.80	153.64
	BH602	3.62	152.87
	BH603	2.08	154.70
	BH604	2.42	154.40
	BH605	3.38	154.14
	BH606	3.73	153.08
	BH607	1.13	155.62
	BH608	3.26	153.52
October 16, 2022	BH504	3.72	153.72
	BH601	3.82	153.62
	BH602	3.66	152.83
	BH605	3.39	154.13
	BH606	3.79	153.02
	BH607	2.01	154.74
	BH702	3.45	153.99
	BH703	3.40	154.04
January 5, 2023	BH104	3.18	153.61

The water table was situated within the fill layer. No overall trend with respect seasonal variations in ground water depth were observed.

The estimated direction of ground water flow was calculated for September 10, 2018; November 7–8, 2018; July 18, 2019; September 22, 2021; and October 16, 2022. Insufficient ground water elevation data was available for January 3, 2017; April 24 – May 8, 2018; and October 16, 2020. Ground water monitoring data is shown in Drawings 11a through 11h.

The estimated direction of ground water flow and the estimated horizontal hydraulic gradient of ground water flow for xxx are summarized as follows:

 September 10, 2018: estimated direction of ground water flow to the southwest to west (Drawing 11a); estimated horizontal hydraulic gradient ranged from 2 x 10⁻² m/m to 6 x 10⁻² m/m;

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- November 7 8, 2018: estimated direction of ground water flow to the southwest to northwest (Drawing 11b); estimated horizontal hydraulic gradient ranged from less than 5 x 10⁻² m/m to 1 m/m;
- July 18, 2019: estimated direction of ground water flow to the southwest to west (Drawing 11c); estimated horizontal hydraulic gradient ranged from less than 7 x 10⁻² m/m to 2 x 10⁻¹ m/m;
- September 22, 2021: estimated direction of ground water flow to the west (Drawing 11d); estimated horizontal hydraulic gradient ranged from 2 x 10⁻² m/m to 6 x 10⁻² m/m;
- October 16, 2022: estimated direction of ground water flow to the southwest (Drawing 11e); estimated horizontal hydraulic gradient ranged from 7 x 10⁻² m/m to 7 x 10⁻¹ m/m;

There was insufficient data from January 23, 2017; May 8, 2018; October 16, 2020; and January 5, 2023 to determine any related hydrogeological properties.

Ground water elevations and flow patterns were noted as heterogeneous and variable. The degree of variability was potentially related to the limited number of measuring locations. Therefore Property hydrogeological characteristics were subject to review by way of a dedicated hydrogeological study, which was conducted by other and is reviewed below.

It is also noted that 100 Emby Drive is itself an industrial property and was characterized with PCA #21, for Item #10: Commercial Autobody Shops, related to the current and historic presence of Mississauga Engines Inc., Krown Rust Protection Centre, and Limitless Auto Sports.

Property soils primarily comprised silt. As per *Applied Hydrogeology*, C.W. Fetter, Prentice Hall, Upper Saddle River, New Jersey, 2001, hydraulic conductivity values for this material ranged from 10⁻⁶ cm/s up to 10⁻³ cm/s.

Terrapex Environmental Ltd. conducted a hydrogeological investigation of the Property (both Table 1 and Table 3 parts, and including 51 – 57 Tannery Street), as reported in: *Hydrogeological Investigation Report, 51 to 57 Tannery Street, 208 Emby Drive, Streetsville, Mississauga, Ontario*, submitted to: NYX Capital, September 7, 2003. Ground water monitoring took place June 26, 2023; July 28, 2023; August 9, 2023; and August 23, 2023. Nine (9) monitoring wells (BH104, H305, BH309, BH504, BH601,

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BH602, BH607, BH702, H703) were included in the study, with water levels ranging in depth from 0.81 m (BH602, June 26, 2023) to 3.34 m (BH702, July 28, 2023). The hydraulic conductivity at BH104 was estimated at 1.06 x 10⁻⁶ m/s. The hydraulic conductivity at BH702 was estimated at 7.85 x 10⁻¹⁰ m/s.As of June 26, 2023 ground water flow was estimated to be towards the west.

Depth to Bedrock:

Shale bedrock was encountered depths ranging from 4.11 m below grade (borehole BH409) to 10.67 m below grade (borehole BH104).

Approximate Depth to Water Table:

The depth to the water table in overburden monitoring wells, during the August – September 2021 monitoring event, ranged from 1.13 m below grade (monitoring well BH607, August 24, 2021) to 4.23 m below grade (monitoring well BH605, September 7, 2021).

Applicability of Section 35:

OHE conducted a water well search by way of the provincial online water well database. No active potable water wells within 250 m of the Property were identified, nor were any active wells identified for use for agriculture.

The Record of Site Condition that will be applied for with respect to the Property does not specify Agricultural or Other Use for the Property.

The Property is not designed in the Regional Municipality of Peel Official Plan as situated within a Wellhead Protection Area.

On January 13, 2017, OHE sent out a written request to the City of Mississauga for confirmation of non-potable ground water criteria for the Property. A response from the City of Mississauga was received on February 1, 2017 with no objection to the use of non-potable ground water Standards for the Property. OHE conducted a registered water well survey of the Property and lands within 250 m of the Property. Based upon this study OHE applied to the Region for the application of non-potable ground water Standards. The use of non-potable ground water Standards was accepted by the Region as of October 21, 2019. OHE conducted an updated water well study in conjunction with EcoMetrix, the Property risk assessment consultant as of March 2020. EcoMetrix applied for updated approval from the Region for the use of non-potable ground water Standards, which was approved by the Region on April 7, 2021.

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Therefore, it was concluded that the use of non-potable ground water Standards would be applicable for the Property. EcoMetrix, the project Risk Assessment consultant, applied for an updated "no objection" letter on December 21, 2022 and again on January 19, 2023.

Application of Section 41 or Section 43.1:

Section 41 (environmentally sensitive areas) of Ontario Regulation 153/04 does not apply to the Property.

Thirty-three (33) soil samples were laboratory analyzed for pH. pH values ranged from 6.84 to 8.24.

Section 43.1 (shallow soil property or water body) of the Regulation does not apply to the Property. All lands were 30.0 m or more from Mullet Creek. The soil at the site is not considered to be shallow. The application of Section 43.1 indicates that stratified Site Condition Standards will not be applied in the RSC filing of the risk assessment Property.

Soil Brought to the Property:

Fill materials were identified during the drilling of boreholes by OHE. The identification of fill or possible fill was based on visual observations during borehole drilling. Based on the identification of foreign material, fill was present in boreholes throughout the subject lands to a maximum depth of approximately 9.75 m. As the fill materials often comprised the same material as the underlying native soil the elevation of fill was difficult to accurately determine.

Fill was also imported to the Property since the commencement of Phase Two ESA activities by OHE for the backfill of the limited borehole BH201 remediation and the limited hand auger HA401 remediation. This material was clear stone, sourced from Strata Aggregates. Due to its nature, with no fines, it could not be sampled for laboratory analysis. Approximately 15 m³ of granular material was imported to the Property and used for this remediation as well as one (1) other remediation at PARTs 1 and 2, Reference Plan 43R-39995 (separately assessed for the client).

Proposed Buildings or Structures:

The Property owner intends to construct a fifteen (15) storey residential building, with two-and-a-half (2-1/2) levels of underground parking. The planned residential development at the Property is shown in Drawing 11.

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Contamination On, In or Under the Phase Two Property

Applicable Site Condition Standards:

The subsurface investigation is subject to Ministry of Environment, Conservation and Parks' (MECP's) provincial regulatory standards regulated by the Ontario Regulation 153/04, as amended (Standards), which outlines the allowable subsurface concentrations for a range of contaminants for all property uses, as stipulated in the Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the *Environmental Protection Act*.

Selection of the appropriate Ontario Regulation 153/04 Standards, as amended, was conducted by OHE taking into consideration the following information:

Definition of Primary Land Use

The Property is categorized as residential as well as commercial/light industrial land use as per Ontario Regulation 153/04 as amended. Due to the proposed future use of the Property as residential, analytical results were compared to MECP Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water for Residential / Parkland / Institutional Use with coarse textured soils.

Potability of Ground Water

As discussed above, on January 13, 2017, OHE sent out a written request to the City of Mississauga for confirmation of non-potable ground water criteria for the Property. A response from the City of Mississauga was received on February 1, 2017 with no objection to the use of non-potable ground water Standards for the Property. OHE conducted a registered water well survey of the Property and lands within 250 m of the Property. Based upon this study OHE applied to the Region for the application of non-potable ground water Standards. The use of non-potable ground water Standards was accepted by the Region as of October 21, 2019. OHE conducted an updated water well study in conjunction with EcoMetrix, the Property risk assessment consultant as of March 2020. EcoMetrix applied for updated approval from the Region for the use of non-potable ground water Standards, which was approved by the Region on April 7, 2021. EcoMetrix, the project Risk Assessment consultant, applied for an updated "no objection" letter on December 21, 2022 and again on January 19, 2023.

Therefore, it was concluded that the use of non-potable ground water Standards would be applicable for the Property.

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Site Sensitivity

- 1) An information request was made to the Ministry of Natural Resources and Forestry (MNRF) in order to determine if there were any areas of natural significance and/or Species-At-Risk at the Properties or surrounding area. A response from MNRF was received on November 28, 2016, and it identified a record indicating that Chimney Swift was considered a "threatened" species, and a record indicating that Butternut was considered an "endangered" species. However, there is no habitat for these species.
- 2) The Property was not identified as being in an Environmentally Significant Area, Valleyland, Unevaluated, Provincially Significant or Locally Significant Wetland, Significant or Contributory Woodland or Area of Natural and Scientific Interest (ANSI), in the current City of Mississauga Official Plan (accessed online via the City's internet web site) and the MNRF's "Natural Heritage Areas" interactive mapping tool provided by Land Information Ontario. The Property was listed as mixed use/residential high density. The west portion of 208 Emby Drive was listed as an area of natural significance due to the presence of Mullet Creek. However PART 3 of Reference Plan 43R-39995 was greater than 30 m from these lands.
- 3) Ontario Regulation 153/04, as amended, defines Areas of Natural Significance as:
 - 1. An area reserved or set apart as a provincial park or conservation reserve under the *Provincial Parks and Conservation Reserves Act, 2006.*
 - The Property was not designated as a Provincial Park or a Conservation Reserve;
 - 2. An ANSI (life science or earth science) identified by the MNRF as having provincial significance.
 - The MNRF's "Natural Heritage Areas" interactive mapping tool the MNRF correspondences did not indicate the potential for an ANSI (life science or earth science);
 - 3. A wetland identified by the MNRF as having provincial significance.
 - The MNRF's "Natural Heritage Areas" interactive mapping tool and the MNRF correspondences did not indicate the potential for a wetland;
 - 4. An area designated by a municipality in its Official Plan as environmentally significant, however expressed, including designations of areas as

environmentally sensitive, as being of environmental concern and as being ecologically significant.

The City of Mississauga, as per the Official City Plan noted that the Property and surrounding area were not listed as environmentally significant;

5. An area designated as an escarpment natural area or an escarpment protection area by the Niagara Escarpment Plan under the *Niagara Escarpment Planning* and *Development Act*.

The Property was not located in the area of the Niagara Escarpment;

6. An area identified by the MNRF as significant habitat of a threatened or endangered species.

Based on MNRF, there was a potential for threatened / endangered species (i.e. Chimney Swift and Butternut) in the vicinity of the Property; however, no physical evidence as to the presence of a threatened or endangered species was identified by OHE at the Property.

7. An area which is habitat of a species that is classified under Section 7 of the Endangered Species Act, 2007 as a threatened or endangered species.

Based on MNRF, there was a potential for threatened / endangered species (i.e. Chimney Swift and Butternut) in the vicinity of the Property; however, no physical evidence as to the presence of a threatened or endangered species was identified by OHE at the Property. It should be noted that OHE did not conduct a Species at Risk assessment of the Property.

8. Property within an area designated as a natural core area or natural linkage area within the area to which the Oak Ridges Moraine Conservation Plan under the Oak Ridges Moraine Conservation Act, 2001 applies.

The Property was not located within the Oak Ridges Moraine.

9. An area set apart as a wilderness area under the Wilderness Areas Act.

The MNRF's "Natural Heritage Areas" interactive mapping tool and the MNRF correspondences did not indicate a wilderness area.

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Shallow Soil Property

All boreholes drilled at the Property encountered more than 2 m of soil or other overburden materials. The drilling program indicated that more than 1/3 of the area of the Property consisted of soil greater than 2 m in depth below the soil surface, and the Property was not identified as a Shallow Soil Property.

Stratified Soil Property

Stratified soil Standards were not selected for use in this Phase Two ESA.

Soil Texture

Based upon OHE's field observations during this investigation, soil intersected by the boreholes was observed to be heterogeneous, ranging from silt underlying fill. Coarse-textured soil Standards were selected for comparison of laboratory analytical results. This selection was based upon the heterogeneity of the soil as observed by OHE during the drilling of the boreholes. In addition, since grain size analysis was not performed for the Property, coarse-textured soil Standards were used as they are generally more stringent than medium/fine textured Standards.

Based on the above information, OHE determined that Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water for Residential / Parkland / Institutional Use with coarse textured soils are the applicable Standards for the Property, as per Ontario Regulation 153/04, as amended.

Remedial Activities

Remedial activities that took place as part of the assessment work are summarized in Appendix A.

Exceedances of Applicable Site Condition Standards:

Table 2 and Table 3 identifies the areas on, in or under the Phase Two Property at which concentrations exceeded the Table 1 Site Condition Standards, a description and assessment of what is known about the area, what is known about the reason for discharge into the natural environment, and references drawings illustrating the distribution of contaminants on the Property. Table 2 addresses soil contamination, and Table 3 addresses ground water contamination.

No free phase product was observed onsite during any monitoring event.

Table 2a. Soil Contamination on, in or under the Property - Metals

Contaminant Group	Contaminant in Soil	Area where Contaminant Exceeds Table 1 Site Condition Standards	Description and Assessment of What is Known about the Area	Anything Known about the Reason for Discharge into the Natural Environment	Drawings
metals	copper	1) under the south building footprint; 2) immediately east of the south building;	All of the contaminated samples appeared to be within fill materials. The majority of the site has metals-contaminated soil, likely associated with the presence of fill. This contamination was horizontally delineated by way of: BH305 – BH310 – BH511 – BH607 – BH205 – BH309 – BH606 – BH305; It should be noted that there was no apparent "point source" for metals soil contamination. This contamination appeared to be associated with the application of fill throughout the Property.	The source of the contaminants of concern is unknown; but may be associated with poor fill quality (APEC 9).	plan view: 13, 13a; cross- section: 21, 22, 23



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Vertical deline as follows:	eation was achieved	
at 0.00 m -	pper contamination - 0.76 m, vertically at BH606 at .37 m;	
at 0.00 m - 2.29 m - 2	pper contamination - 0.61 m, and .90 m, vertically at BH607 at .42 m;	



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Table 2b. Soil Contamination on, in or under the Property – Salt-Related Parameters

Contaminant Group	Contaminant in Soil	Area where Contaminant Exceeds Table 1 Site Condition Standards	Description and Assessment of What is Known about the Area	Anything Known about the Reason for Discharge into the Natural Environment	Drawings
salt-related parameters	EC, SAR	 under the south building footprint; immediately east of the south building; north of the south building; north of the north building 	EC and SAR contamination was identified over the majority of the site, from grade to a maximum depth of 2.90 m below grade. This contamination was noted as absent from the area of BH510 on the east side of the Property. These impacts were deemed as not representing contamination as they are likely related to the application of road salt for safety of vehicular or pedestrian traffic under conditions of snow or ice. There is no known record of onsite salt storage.	With the exception of a sample location under the south building footprint these exceedances were identified in unpaved areas of the site. The source of EC and SAR may also be from imported fill materials (APEC 9) or from the deposition of salt-laden snow or ice from vehicles entering the Property from public roadways. There is no known history of salt storage at the Property. Given the wide distribution of these materials in soil at the Property a localized source is not anticipated.	plan view: 14, 14a; cross- section: 24 25, 26



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Table 2c. Soil Contamination on, in or under the Property – Other Regulated Parameters

Contaminant Group	Contaminant in Soil	Area where Contaminant Exceeds Table 1 Site Condition Standards	Description and Assessment of What is Known about the Area	Anything Known about the Reason for Discharge into the Natural Environment	Drawings
ORPs	boron (hot water soluble)	 east of the south building; north of the north building; 	The shallow contamination was likely associated with the quality of fill imported to the Property. The reason for the deeper contamination was not ascertained. This contamination is horizontally delineated as follows: south Property boundary – BH205 – BH415 – east Property boundary; This contamination is also horizontally delineated as follows: west Property boundary – north Property boundary – east Property boundary – BH601 – BH605;	The source of the contaminants of concern is unknown; but may be associated with poor fill quality (APEC 9) or historical industrial activities (APEC 8, 10, 11, 12) on the Property.	plan view: 15, 15a; cross- section: 29, 28, 29



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Vertical delineation was achieved as follows: • BH608: boron (hot water soluble) contamination at 0.00 m – 0.61 m, vertically delineated at BH608 at 4.57 m – 5.18 m;	
Vertical delineation was attempted at borehole locations BH602 and BH604. At both locations drilling refusal was met at approximately 5.2 m below grade, with shale fragments evident in the drill cuttings from that depth. However, boron (hot water soluble) contamination is only applicable to surface soils. The above boron (hot water soluble) concentrations at BH602 and BH604 were found in subsurface soil.	



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Table 2d. Soil Contamination on, in or under the Property – Petroleum Hydrocarbons

Contaminant Group	Contaminant in Soil	Area where Contaminant Exceeds Table 1 Site Condition Standards	Description and Assessment of What is Known about the Area	Anything Known about the Reason for Discharge into the Natural Environment	Drawings
PHCs	PHCs F1 – F3 fractions	1) under the south building footprint; 2) immediately east of the south building;	This contamination was likely associated with the former presence of buried storage tanks. This contamination was horizontally delineated as follows: west Property boundary – BH412 – BH201 – BH305 – BH310 – BH511 – BH701 – BH311 – BH608 – south Property boundary – BH309 – BH606 – west Property boundary; This contamination was vertically delineated as follows: BH103: PHCs F1 and F2 fractions contamination at 1.22 m – 2.44 m, vertically delineated at BH511 at 3.81 m – 4.42 m, and at BH607 at 4.57 m – 5.18 m;	The PHC soil impacts were found where industrial activities are currently and have historically occurred (APEC 8, 10, 11, 12), the former presence of USTs (APEC 4) or may be associated with fill materials of poor quality (APEC 9).	plan view: 16, 16a; cross- section: 30, 31, 32



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BH104: PHCs F2 fraction contamination at 1.22 m – 2.44 m, vertically delineated at BH204 at 3.05 m – 3.66 m; at BH511 at 3.81 m – 4.42 m, and at BH607 at 4.57 m – 5.18 m;	
BH607: PHCs F1 – F3 fractions contamination at 1.52 m – 2.13 m, vertically delineated at BH607 at 4.57 m – 5.18 m;	



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Table 2e. Soil Contamination on, in or under the Property – Volatile Organic Compounds (including Benzene, Toluene, Ethylbenzene, Xylenes)

Contaminant Group	Contaminant in Soil	Area where Contaminant Exceeds Table 1 Site Condition Standards	Description and Assessment of What is Known about the Area	Anything Known about the Reason for Discharge into the Natural Environment	Drawings
VOCs	benzene, ethylbenzene, xylenes, n- hexane	1) under the south building footprint; 2) immediately east of the south building;	This contamination was likely associated with the former presence of buried storage tanks. This contamination was horizontally delineated as follows: west Property boundary – BH606 – BH204 – BH511 – BH205 – south Property boundary; • This contamination was vertically delineated as follows: BH607: benzene, ethylbenzene, xylenes, n-hexane contamination at 3.05 m – 3.66 m, vertically delineated at BH607 at 4.57 m – 5.18 m;	The VOC soil impacts were found where industrial activities are currently and have historically occurred (APEC 8), the former presence of USTs (APEC 4) or may be associated with fill materials of poor quality (APEC 9).	plan view: 17, 18, 18a; cross- section: 33, 34, 35, 36, 37, 38



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Table 2f. Soil Contamination on, in or under the Property – Polycyclic Aromatic Hydrocarbons

Contaminant Group	Contaminant in Soil	Area where Contaminant Exceeds Table 1 Site Condition Standards	Description and Assessment of What is Known about the Area	Anything Known about the Reason for Discharge into the Natural Environment	Drawings
PAHs	acenaphthylene, 1+2- methylnaphthalene, naphthalene, phenanthrene	east of the south building;	This contamination was likely associated with the presence of fill onsite. This contamination was horizontally delineated as follows: west Property boundary – BH606 – BH512 – BH510 – BH701 – south Property boundary; • This contamination was vertically delineated as follows: BH607: acenaphthylene, 1+2-methylnaphthalene, naphthalene, and phenanthrene contamination at 0.76 m – 1.37 m, vertically delineated at BH607 at 2.29 m – 2.90 m;	The PAHs soil impacts may be associated with fill materials of poor quality (APEC 9).	plan view: 19, 19a; cross- section: 39, 40, 41



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Table 3a. Ground Water Contamination on, in or under the Property – Petroleum Hydrocarbons

Contaminant Group	Contaminant in Ground Water	Area where Contaminant Exceeds Table 1 Site Condition Standards	Description and Assessment of What is Known about the Area	Anything Known about the Reason for Discharge into the Natural Environment	Drawings
PHCs	PHCs F1 to F3 fractions	1) east of the under the south building footprint; 2) immediately east of the south building;	This contamination was likely associated with the former presence of buried storage tanks. This contamination was horizontally delineated as follows: west Property boundary – BH204 – BH310 – BH311 – BH608 – south Property boundary;	The PHC ground water impacts were found in the area of the former presence of USTs (APEC 4) or where industrial activities are currently and have historically occurred (APEC 8, 10, 11, 12).	plan view: 48, 48a; cross- section: 61, 62, 63



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	With respect to vertical	
	delineation: BH104 has a	
	screen interval of 6.09 m -	
	9.14 m. This borehole was	
	terminated at 9.14 m depth	
	due to drilling refusal at	
	shale bedrock. PHCs F2	
	fraction ground water	
	contamination was noted in	
	BH104 on June 10, 2022.	
	This contamination could	
	not be vertically delineated.	
	It should also be noted that	
	only a single aquifer was	
	identified during the Phase	
	Two ESA.	



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Table 3b. Ground Water Contamination on, in or under the Property – Volatile Organic Compounds (including Benzene, Toluene, Ethylbenzene, Xylenes)

Contaminant Group	Contaminant in Ground Water	Area where Contaminant Exceeds Table 1 Site Condition Standards	Description and Assessment of What is Known about the Area	Anything Known about the Reason for Discharge into the Natural Environment	Drawings
VOCs	benzene 1,2-dichloroethane	 east of the under the south building footprint; immediately east of the south building; 	The benzene contamination was likely associated with the former presence of buried storage tanks. The source of the 1,2-dichloroethylene contamination was not determined but was potentially the result of Property chemical use. This contamination was horizontally delineated as follows: BH305 – BH601 – BH602 – east Property boundary – south Property boundary – BH309 – BH305;	The VOCs ground water impacts were found in the area of the former presence of USTs (APEC 4) or where industrial activities are currently and have historically occurred (APEC 8, 10, 11, 12).	plan view: 49, 50, 50a; cross- section: 64, 65, 66, 67, 68, 69



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With respect to vertical delineation: BH104 has a screen interval of 6.09 m – 9.14 m. This borehole was terminated at 9.14 m depth due to drilling refusal at shale bedrock. Benzene ground water contamination was noted in BH104 on
was noted in BH104 on
June 10, 2022. This
contamination could not be
vertically delineated. It
should also be noted that
only a single aquifer was
identified during the Phase
Two ESA.



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Table 3c. Ground Water Contamination on, in or under the Property – Volatile Organic Compounds

Contaminant Group	Contaminant in Ground Water	Area where Contaminant Exceeds Table 1 Site Condition Standards	Description and Assessment of What is Known about the Area	Anything Known about the Reason for Discharge into the Natural Environment	Drawings
VOCs	chloroform	under the north building footprint	This ground water contamination was noted under the floor slab of Schueler Auto Service.	Chloroform ground water contamination was likely due to the leakage of potable municipal water. Follow-up ground water sampling events from this location in June 2021 and June 2022 did not indicate the presence of contamination.	plan view: 49, 50, 50a; cross- section: 64, 65, 66, 67, 68, 69



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Migration of Contaminants and Preferential Pathways:

Soil contamination was generally identified in fill materials. There did not appear to be any pattern of contaminant migration onsite. Contamination onsite appears to be primarily related to the presence of fill materials with potential contribution from onsite industrial activities.

Contaminant migration at these locations will be controlled by the hydraulic conductivity of the soil. Preferential pathways were not identified at the borehole / monitoring well locations but were present elsewhere onsite. Natural gas, and potable water buried utilities were identified during the Phase Two ESA process, as were buried sanitary and storm sewers, and the bedding materials associated with these utilities have the potential to act as contamination migration conduits.

Boreholes could not be drilled immediately south of the south building due to the presence of a utility corridor. As per Ontario 213/91 any subsurface work must only be undertaken after the completion of utility locates. In addition, machine digging is not permitted within 1 m of a known utility location. The drilling of boreholes is defined within the scope of machine drilling and, therefore, can only be undertaken if the drill location is cleared by a qualified utility locator. Such clearance was not provided south of the south building. OHE drilled boreholes BH203 and BH205 within the south building as close as was accessible to the south wall and outside the 1 m buffer zone.

<u>Climatic or Meteorological Conditions Influencing the Distribution and Migration of the Contaminants:</u>

A large proportion of the Property surface is comprised of uncapped areas such as gravel parking areas, grass and landscaping. These areas are susceptible to surface water infiltration and potential leaching of soil contaminants to ground water. However, ground water contaminants identified at the Property in exceedance of Table 3 Site Condition Standards were typically located at what appeared to be randomized locations. This pattern does not suggest a discernable influence by climatic or meteorological conditions on the migration of contaminants on the Property.

The degree of fluctuation of ground water levels at the Property is currently unknown because the data set has been based on discrete rounds of monitoring to date. Effects of ground water fluctuations (e.g., "smearing" in the unsaturated zone) is not anticipated to be an issue at this Property because light non-aqueous phase liquids (LNAPL) were not encountered at the Property.

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<u>Information Concerning Soil Vapour Intrusion</u>:

Volatile and semi-volatile contaminants measured on the Property above the Table 3 Site Condition Standards include PHCs, VOCs and/or PAHs in soil and ground water. Therefore, the potential for vapour intrusion exists. The risk to on-site human receptors will be evaluated in a risk assessment.

The Property owner intends to construct residential townhomes at the Property with one (1) underground parking level. The development will involve the excavation of soil, including the removal of contaminated soil, to an approximate depth of 5.0 m to 5.5 m below grade. As discussed previously, subsurface utilities potentially constitute a pathway for contaminant or vapour migration on the Property.

During the redevelopment of the Property, it is assumed that most of the soil located at the depth of building utilities will be removed.

Potential Exposure Pathways and Receptors:

This section of the Conceptual Site Model was prepared by EcoMetrix Incorporated.

Human receptors and exposure pathways were identified based on the contaminants present on, in or under the property at a concentration greater than the Table 3 Full Depth Generic Site Condition Standards, and the proposed re-development of the Property to residential and community use. The proposed residential use is comprised of a residential townhouse development constructed in multiple blocks, underlain by a level of underground parking. The proposed community use refers to the Emby Drive extension that will be constructed through the Property.

Based on future uses of the Property, the human receptors identified include residents (all ages), short-term subsurface workers (adults), long-term outdoor workers (adults), property visitors (all ages), and trespassers (teens/adults).

In the absence of any risk management measures (RMMs), human receptors may be exposed to Contaminants of Potential Concern in soil via:

- Incidental ingestion of soil and dermal contact with soil (all receptors);
- Inhalation of soil particulates (all receptors);
- Ingestion of garden produce (future residents and property visitors);
- Inhalation of outdoor vapours and vapour skin contact (all receptors);
- Inhalation of indoor vapours, vapour skin contact, and olfaction of indoor air odours (future residents and property visitors)

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- Inhalation of trench vapours and vapour skin contact (subsurface workers); and
- Olfaction of soil odour (future residents and outdoor worker).

In the absence of RMMs, human receptors may be exposed to Contaminants of Potential Concern in ground water via:

- Inhalation of outdoor odours and vapour skin contact (all receptors);
- Inhalation of indoor vapours, vapour skin contact, and olfaction of indoor air odour (future residents and property visitors);
- Inhalation of trench vapours and vapour skin contact (sub-surface worker); and
- Incidental ingestion of and dermal contact with groundwater (future residents, outdoor workers and sub-surface workers).

Drawing 73 presents the release mechanisms, contaminant transport pathways, and human receptors on the Property, receptor exposure points, and routes of exposure for the Property in the absence of RMMs.

Ecological Conceptual Site Model

The proposed future use on the Property is for residential and community land use. The ecological receptors on the Property are expected to include plants and soil organisms, small mammals and birds.

In the absence of RMMs, on-site ecological receptors may be exposed to soil Contaminants of Potential Concern through the following pathways:

- Direct contact (root uptake, dermal contact, and/or incidental ingestion) with soil by plants, soil organisms, mammals and birds;
- Inhalation of soil particulates by mammals and birds;
- Ingestion of food/prey that have accumulated COCs from soil by mammals and birds;
- Stem and foliar uptake of vapours by terrestrial plants;
- Inhalation of soil vapours in outdoor air by mammals and birds;
- Gas exchange/uptake of vapours in burrow air by soil organisms; and
- Inhalation of vapours in burrow air by mammals.

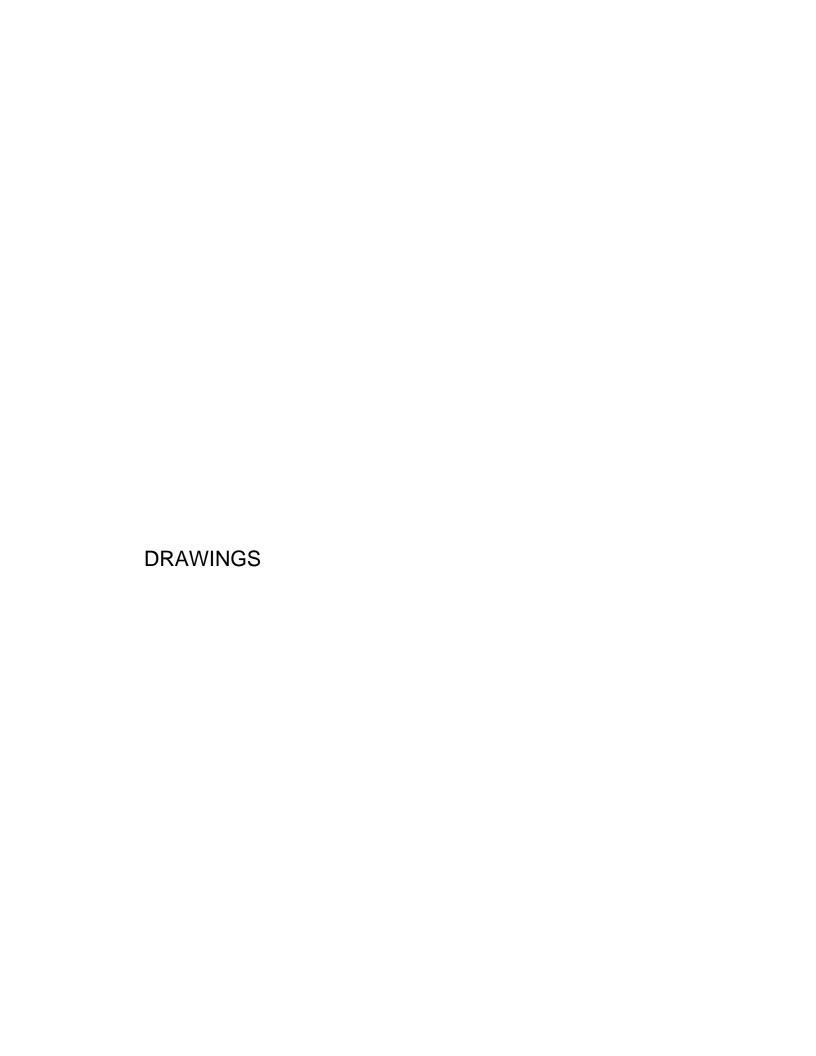
In the absence of RMMs, on-site ecological receptors may be exposed to ground water Contaminants of Potential Concern through the following pathways:

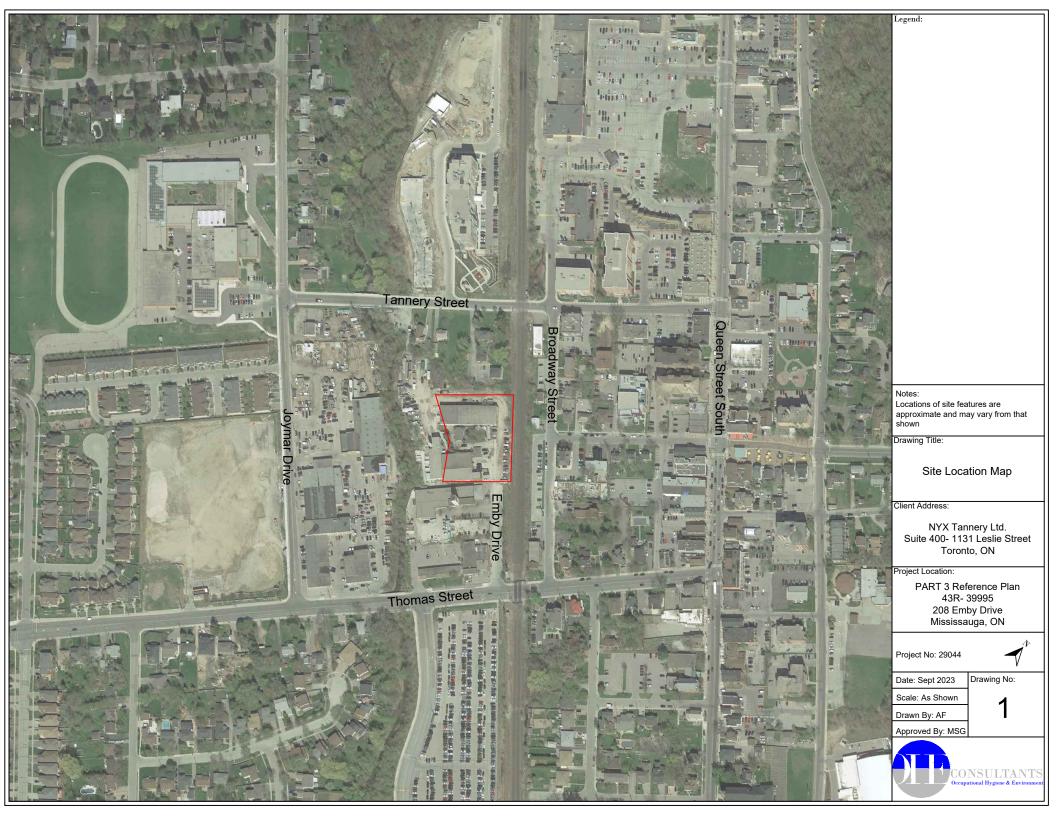
Phase Two Environmental Site Assessment – Conceptual Site Model PART 3, Reference Plan 43R-39995, Part of 208 Emby Drive, Mississauga, Ontario OHE Project No.: 27835 September 25, 2023

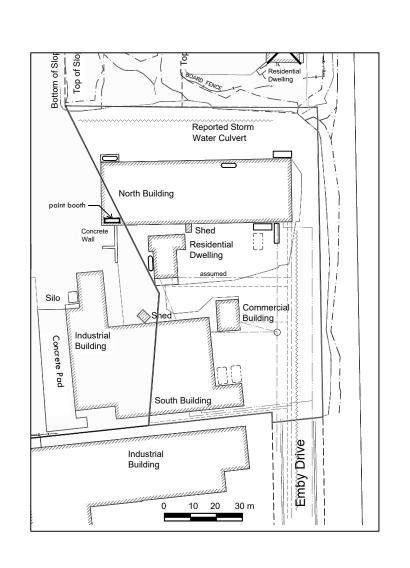
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- Ingestion of food/prey that have accumulated COCs from groundwater by mammals and birds;
- Inhalation of soil vapours in outdoor air by mammals and birds;
- Gas exchange/uptake of vapours in burrow air by soil organisms;
- Inhalation of vapours in burrow air by mammals; and
- Direct contact with groundwater by terrestrial plants.

Drawing 74 presents the release mechanisms, contaminant transport pathways, ecological receptors on the Site, receptor exposure points, and routes of exposure for the Property in the absence of RMMs.







- Water - buried Bell Canada and Enersource - overhead - Enbridge - buried - Storm Sewer (loaction difficult to confirm)	Former underground storage tank Aboveground storage tank Trailers
	Notes: Locations of site features are approximate and may vary from that
	shown Drawing Title: Site Plan
	NYX Tannery Ltd. Suite 400- 1131 Leslie Street Toronto, ON Project Location: PART 3 Reference Plan 43R- 39995 208 Emby Drive Mississauga, ON
	Project No: 29044

Drawing No:

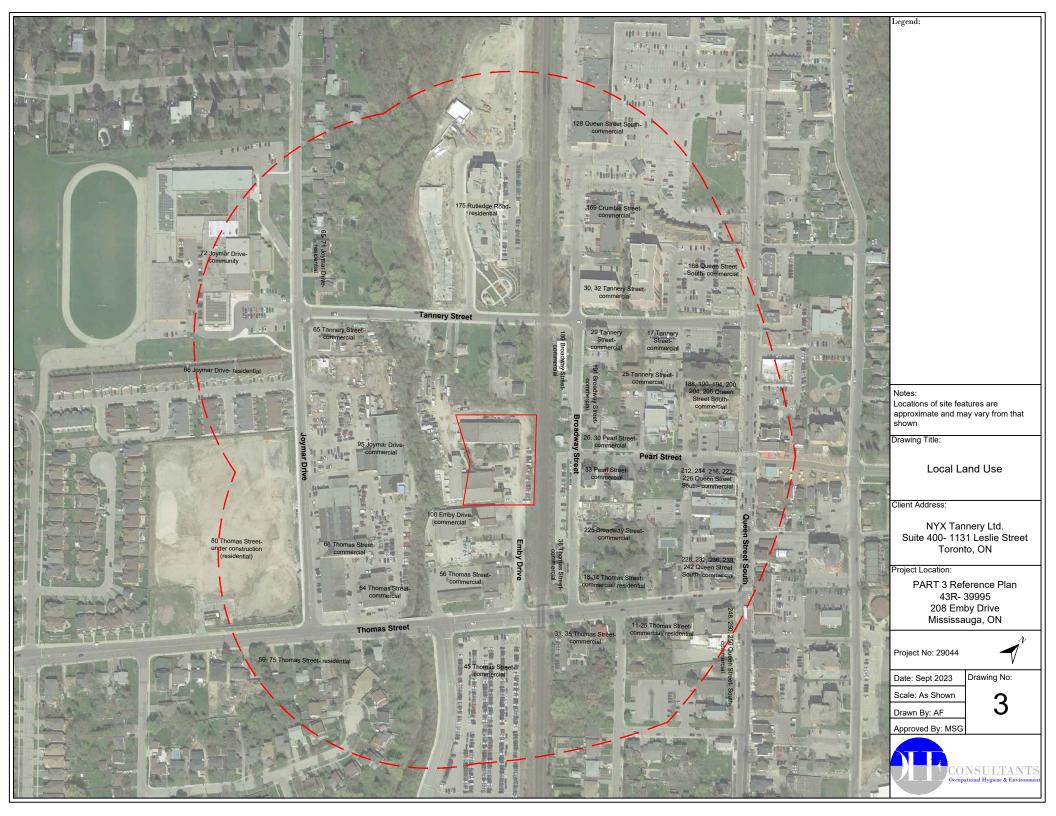
CONSULTANTS
Occupational Hygiene & Environmer

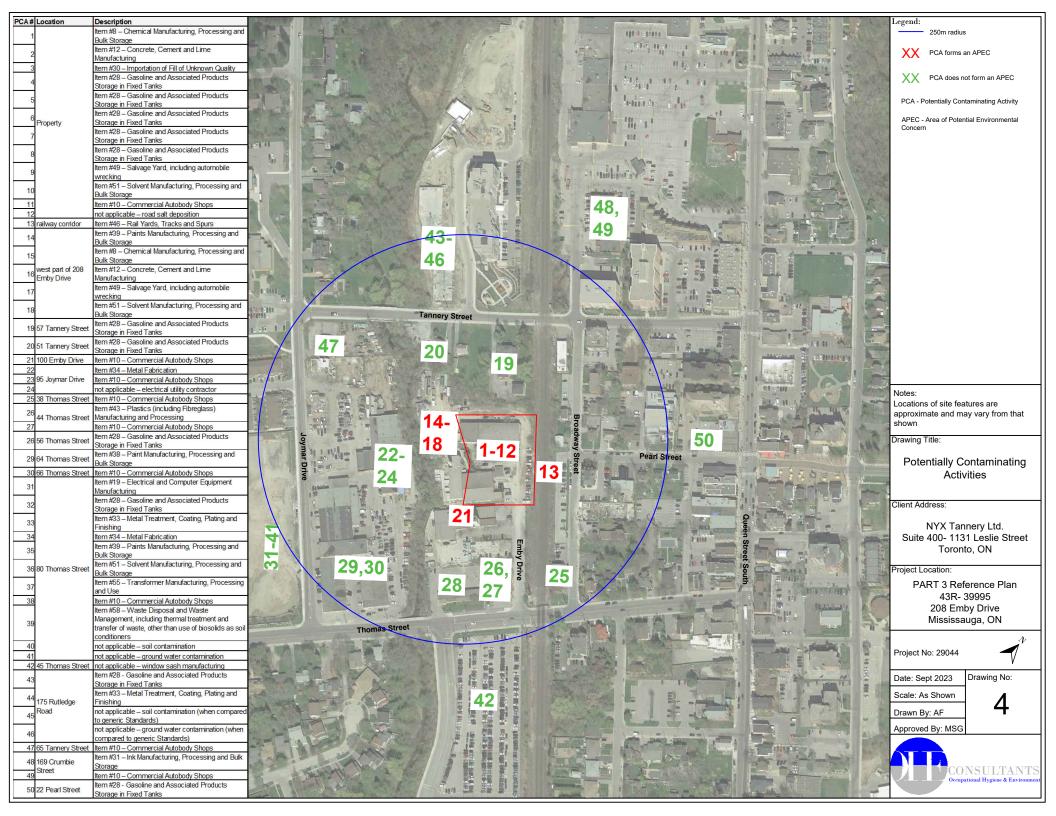
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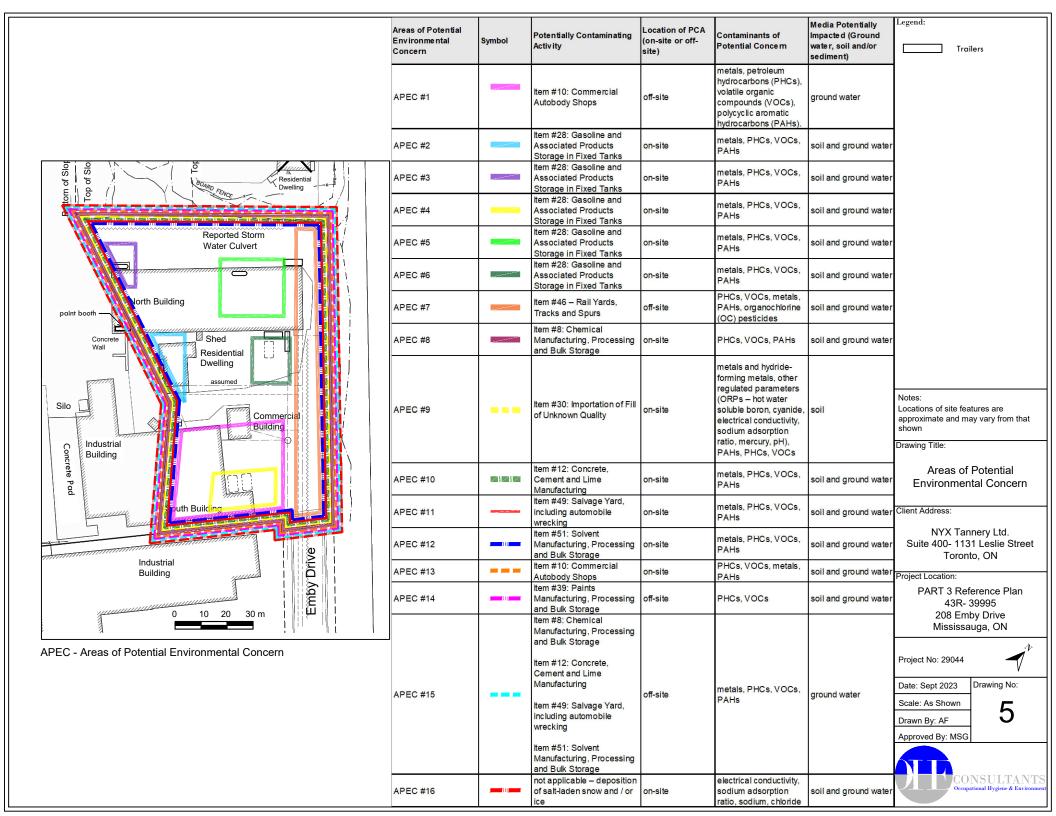
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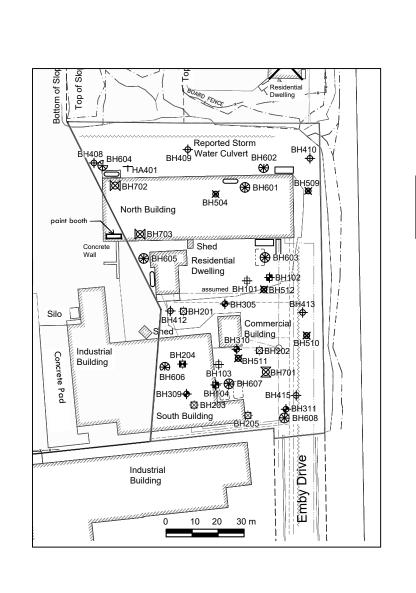
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Storm Sewer









Water - buried Monitoring Well - installed by others Bell Canada and Enersource - overhead OHE borehole - January 2017 Enbridge - buried OHE monitoring well - January 2017 Sanitary Sewer (loaction difficult OHE borehole - April/May 2018 OHE monitoring well - April/May 2018 Former underground storage tank Aboveground storage OHE borehole - October 2018 OHE monitoring well - October 2018 OHE borehole - May to 2019 OHE monitoring well - May to July 2019 OHE hand auger sample - May 2019 to October 2020 OHE borehole - August 2020 OHE monitoring well - August 2020 OHE borehole / monitoring well August / September 2021 Note: monitory wells were all initiated OHE borehole September 2022 図 OHE monitoring well September 2022 Notes: shown Drawing Title:

Legend:

Legend:

as boreholes for soil sampling

Trailers

Locations of site features are approximate and may vary from that

Borehole and Monitoring Well Locations

Client Address:

NYX Tannery Ltd. Suite 400- 1131 Leslie Street Toronto, ON

Project Location:

PART 3 Reference Plan 43R- 39995 208 Emby Drive Mississauga, ON

Project No: 29044



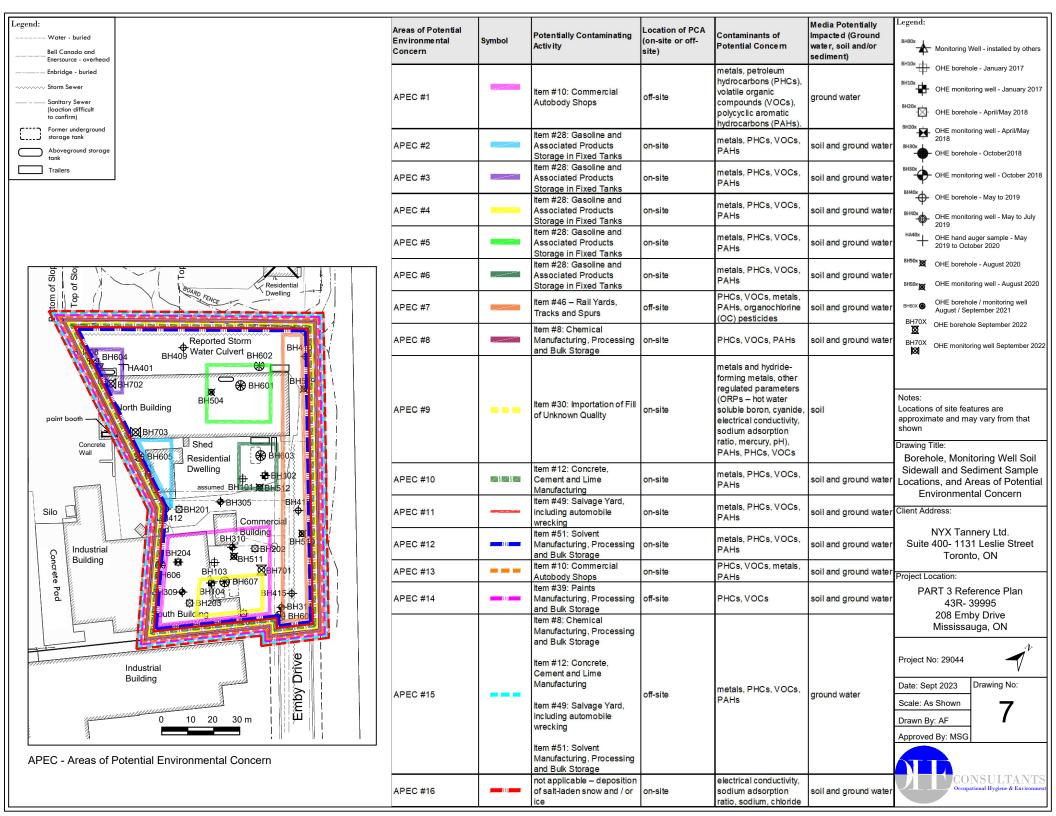
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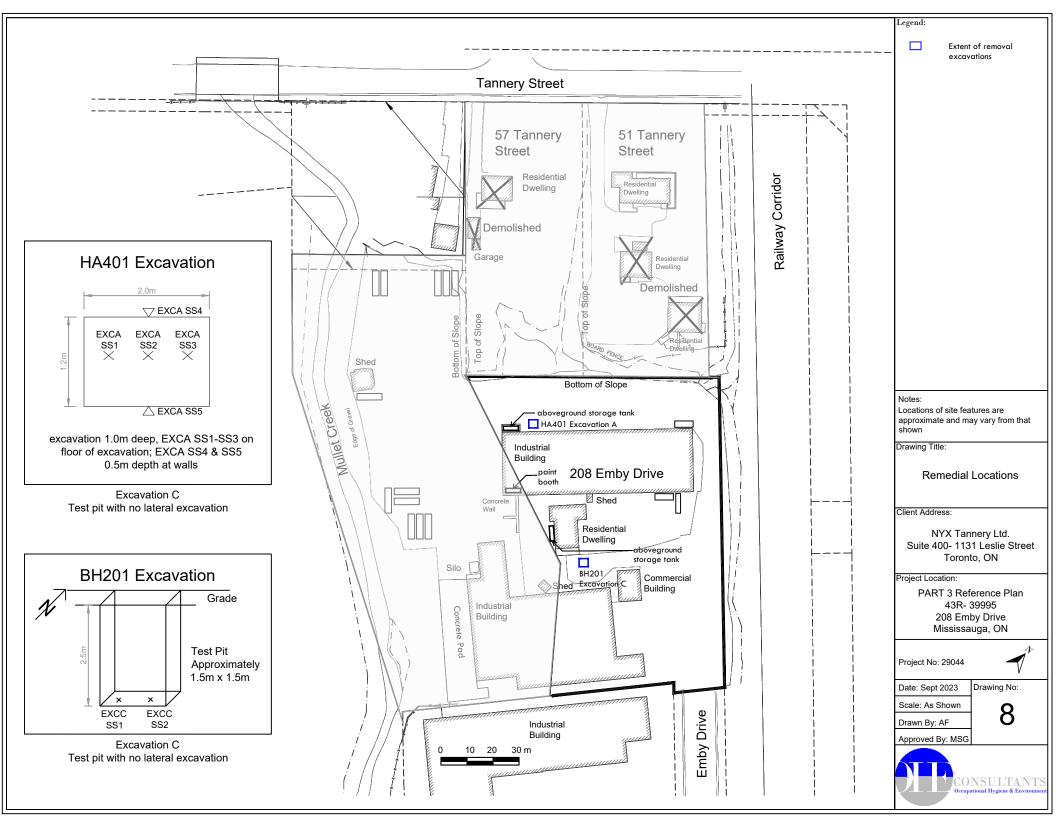
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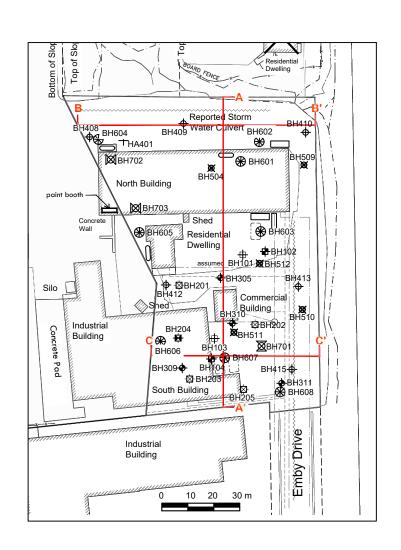
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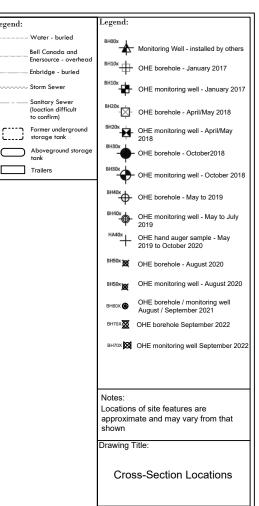
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Legend:

Client Address:

NYX Tannery Ltd. Suite 400- 1131 Leslie Street Toronto, ON

Project Location:

PART 3 Reference Plan 43R- 39995 208 Emby Drive Mississauga, ON

Project No: 29044



Date: Sept 2023

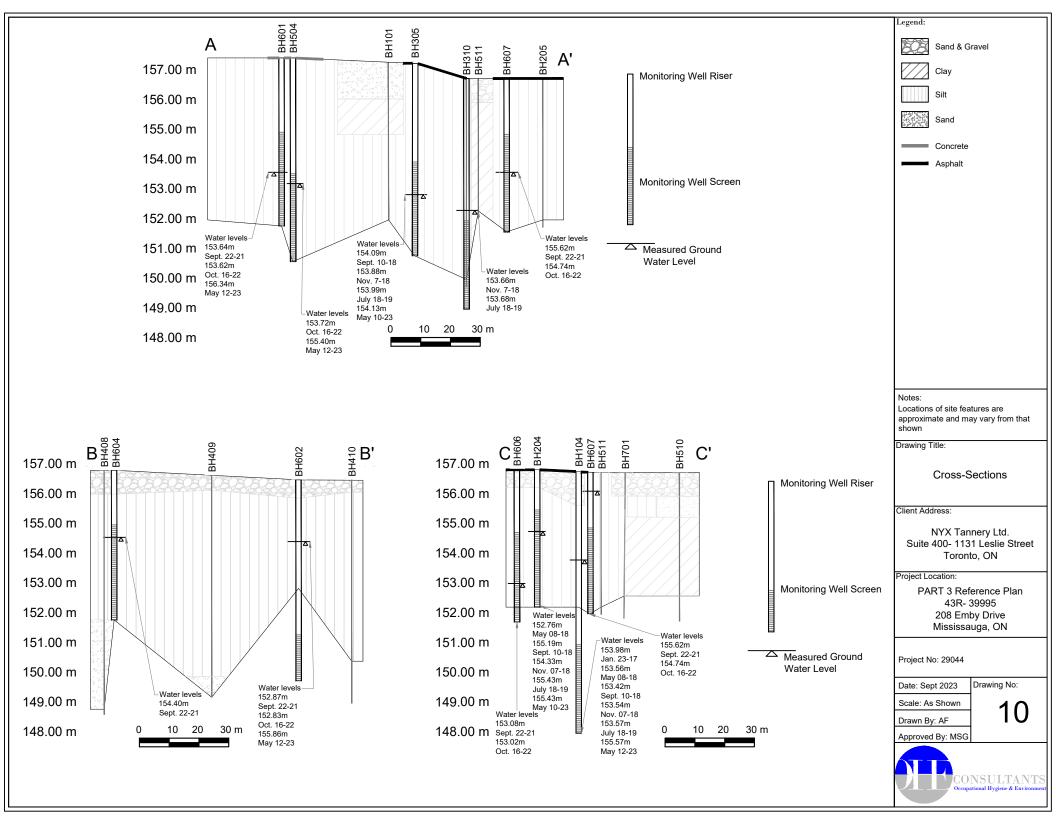
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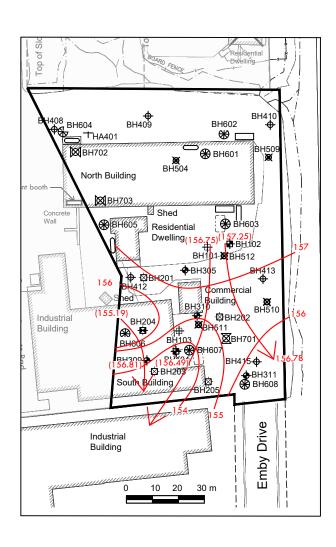
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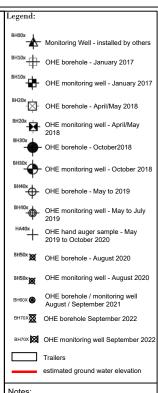
Drawing No:







Ground water elevations determined based on City of Mississauga benchmark 257 and October 2017 topographical survey, Fiddes Clipsham Inc.



Notes:

Locations of site features are approximate and may vary from that shown

Drawing Title:

Ground Water Contours and Flow Direction -September 10, 2018

Client Address:

NYX Tannery Ltd. Suite 400- 1131 Leslie Street Toronto, ON

Project Location:

PART 3 Reference Plan 43R- 39995 208 Emby Drive Mississauga, ON

Project No: 29044

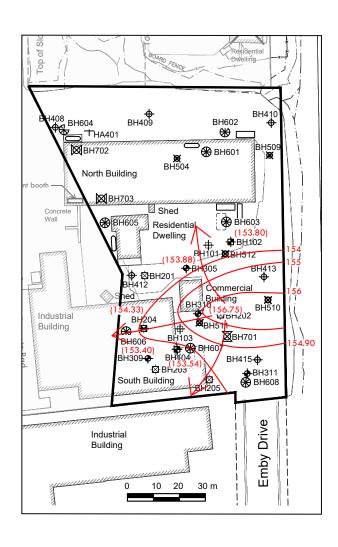


Date: Sept 2023 Drawing No:

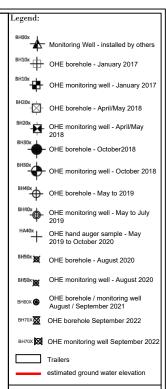
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Drawn By: AF





Ground water elevations determined based on City of Mississauga benchmark 257 and October 2017 topographical survey, Fiddes Clipsham Inc.



Notes:

Locations of site features are approximate and may vary from that shown

Drawing Title:

Ground Water Contours and Flow Direction -November 8-9, 2018

Client Address:

NYX Tannery Ltd. Suite 400- 1131 Leslie Street Toronto, ON

Project Location:

PART 3 Reference Plan 43R- 39995 208 Emby Drive Mississauga, ON

Project No: 29044



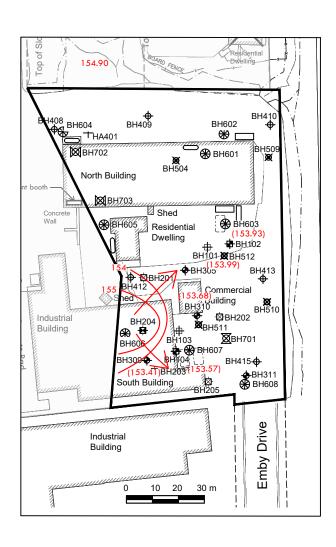
Drawing No:

Date: Sept 2023

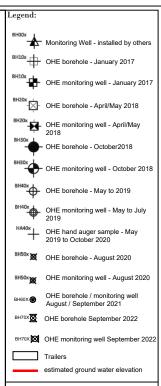
Scale: As Shown

Drawn By: AF





Ground water elevations determined based on City of Mississauga benchmark 257 and October 2017 topographical survey, Fiddes Clipsham Inc.



Notes:

Locations of site features are approximate and may vary from that shown

Drawing Title:

Ground Water Contours and Flow Direction - July 18, 2019

Client Address:

NYX Tannery Ltd.
Suite 400- 1131 Leslie Street
Toronto, ON

Project Location:

PART 3 Reference Plan 43R- 39995 208 Emby Drive Mississauga, ON

Project No: 29044



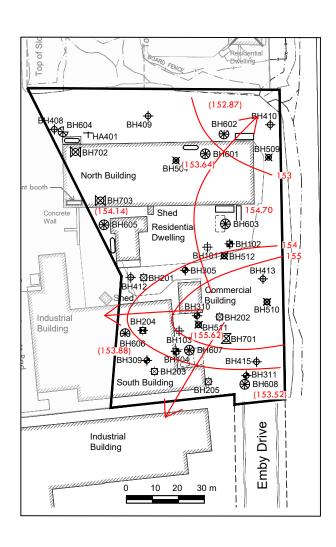
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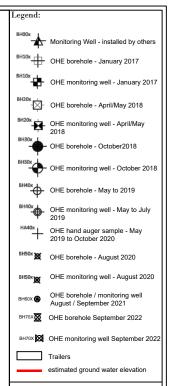
Drawn By: AF

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Ground water elevations determined based on City of Mississauga benchmark 257 and October 2017 topographical survey, Fiddes Clipsham Inc.



Notes:

Locations of site features are approximate and may vary from that shown

Drawing Title:

Ground Water Contours and Flow Direction -September 22, 2021

Client Address:

NYX Tannery Ltd.
Suite 400- 1131 Leslie Street
Toronto, ON

Project Location:

PART 3 Reference Plan 43R- 39995 208 Emby Drive Mississauga, ON

Project No: 29044



Date: Sept 2023

-

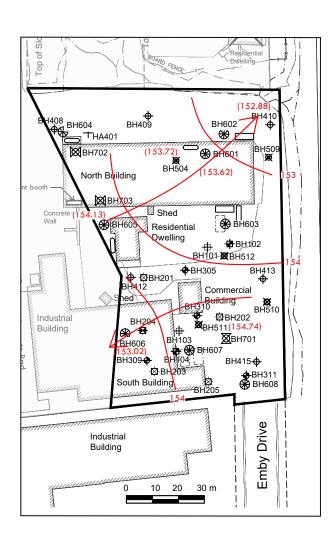
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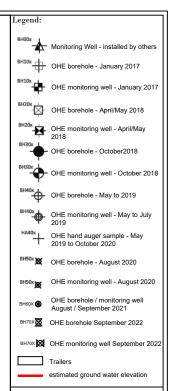
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Drawing No:





Ground water elevations determined based on City of Mississauga benchmark 257 and October 2017 topographical survey, Fiddes Clipsham Inc.



Notes:

Locations of site features are approximate and may vary from that shown

Drawing Title:

Ground Water Contours and Flow Direction -October 16, 2022

Client Address:

NYX Tannery Ltd.
Suite 400- 1131 Leslie Street
Toronto, ON

Project Location:

PART 3 Reference Plan 43R- 39995 208 Emby Drive Mississauga, ON

Project No: 29044



-

Date: Sept 2023 Drawing No:

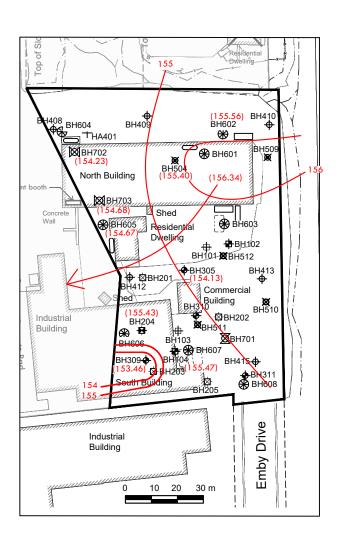
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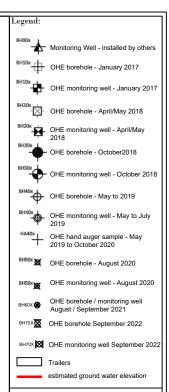
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Approved By: MSG





Ground water elevations determined based on City of Mississauga benchmark 257 and October 2017 topographical survey, Fiddes Clipsham Inc.



Notes:

Locations of site features are approximate and may vary from that shown

Drawing Title:

Ground Water Contours and Flow Direction -May 10-15, 2023

Client Address:

NYX Tannery Ltd.
Suite 400- 1131 Leslie Street
Toronto, ON

Project Location:

PART 3 Reference Plan 43R- 39995 208 Emby Drive Mississauga, ON

Project No: 29044



Date: Sept 2023 Drawing No:

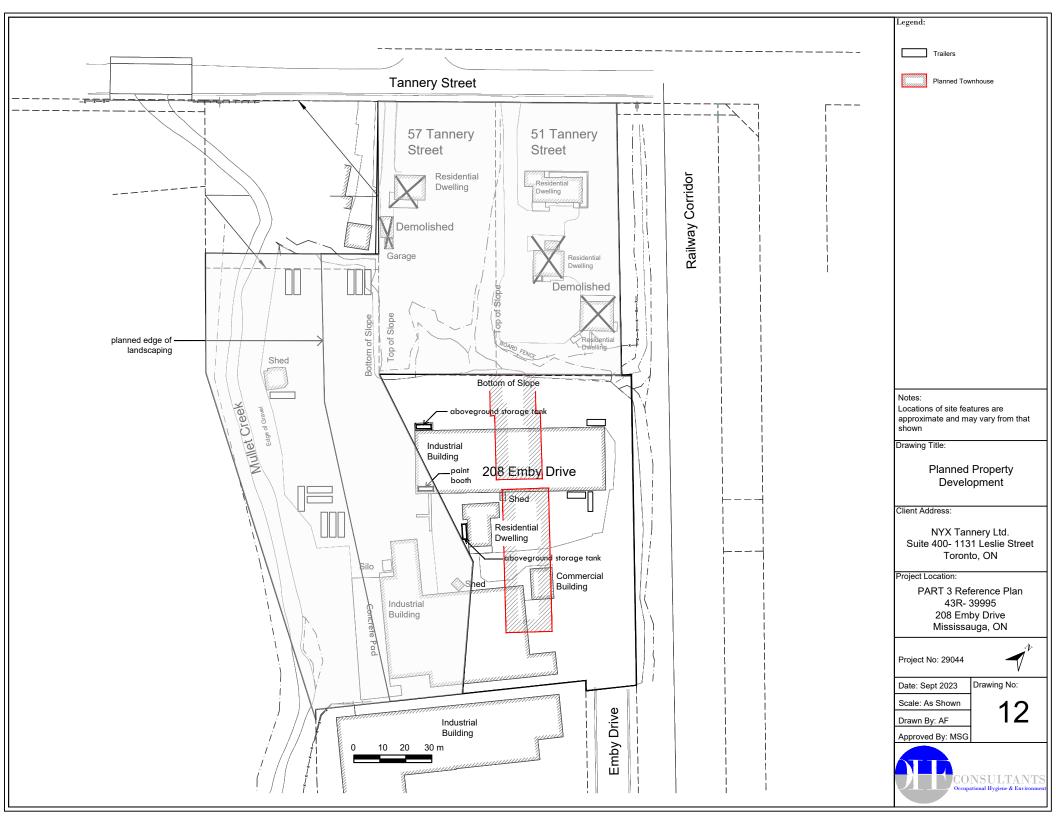
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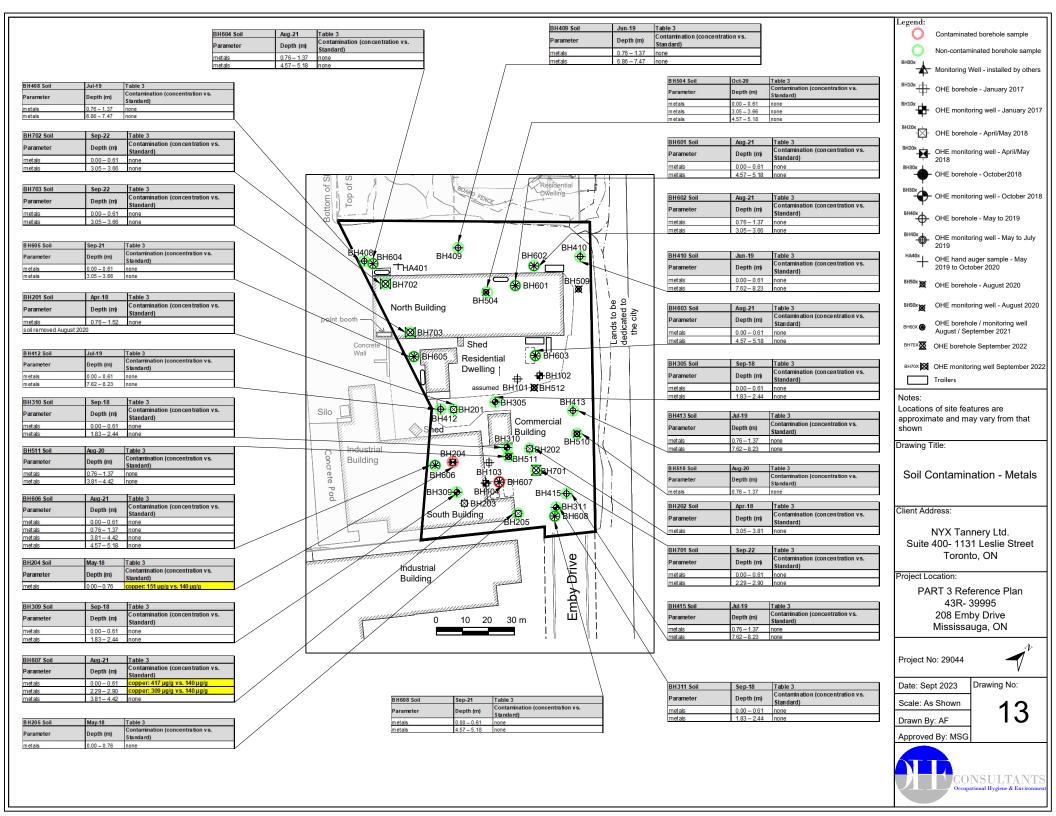
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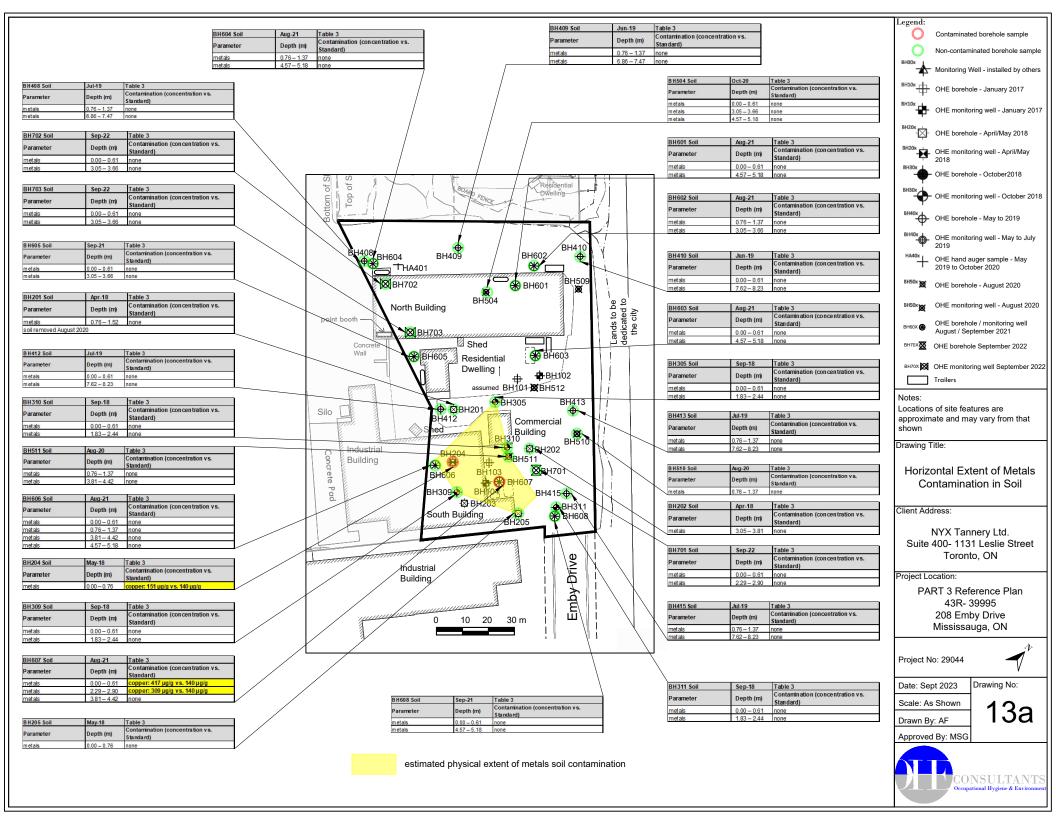
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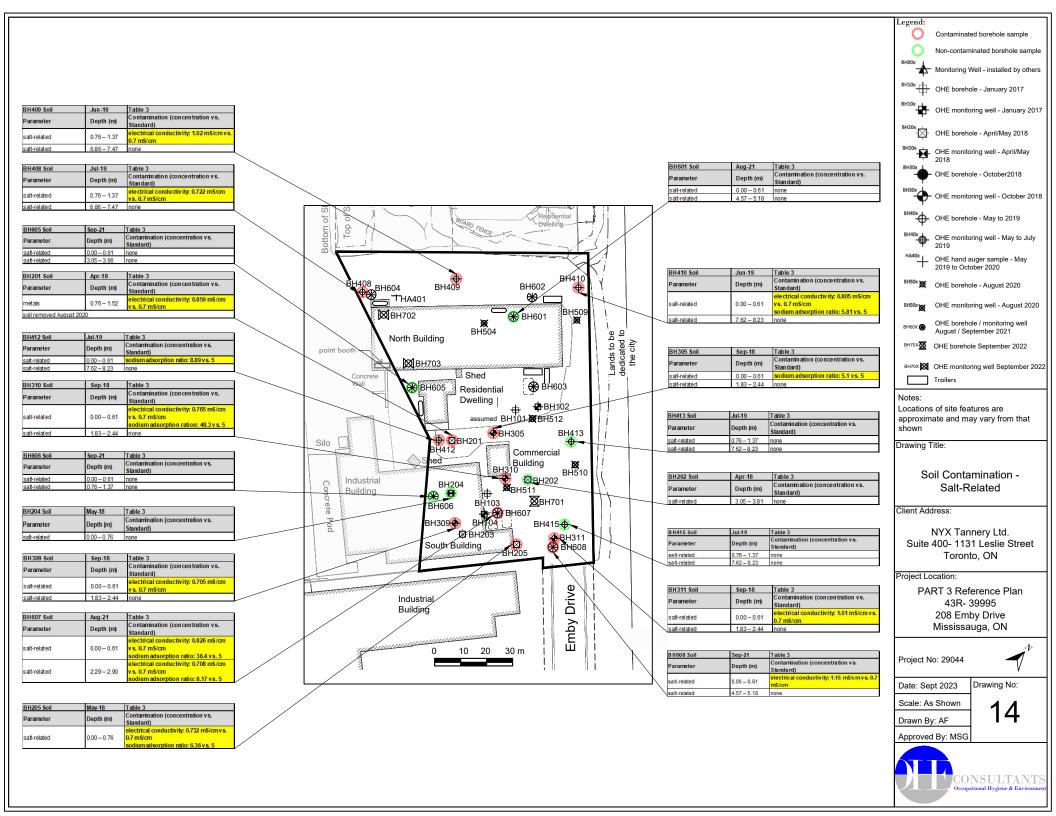
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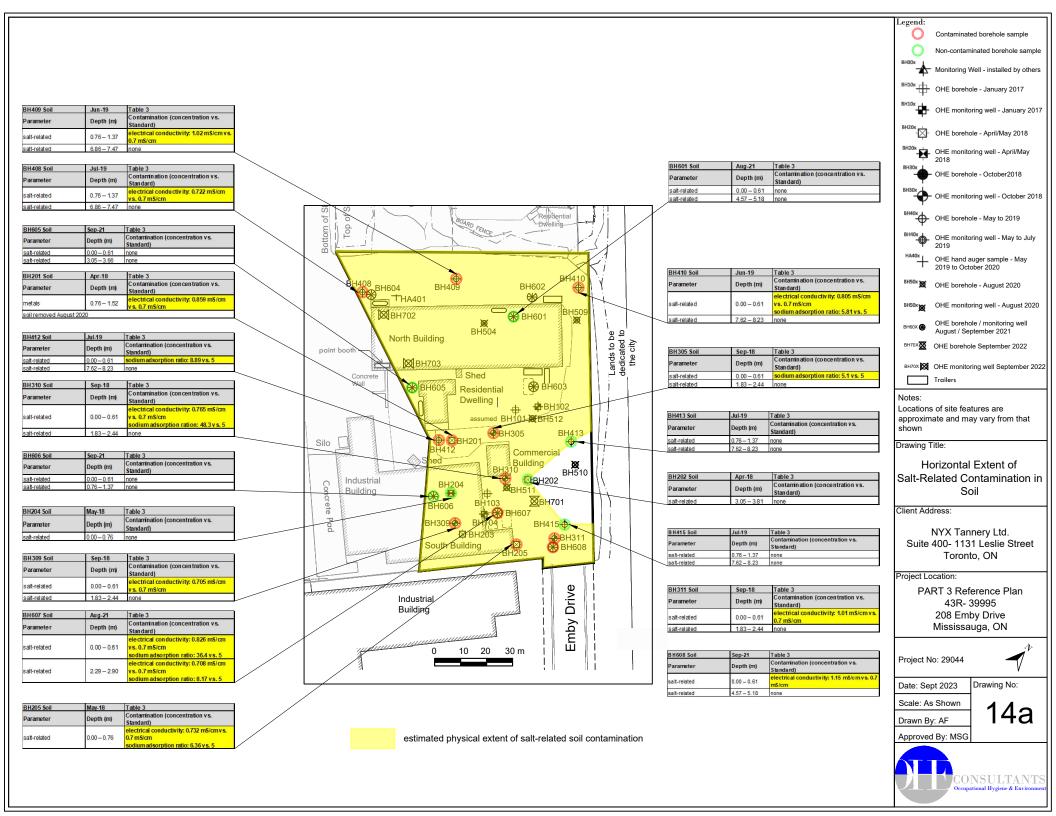


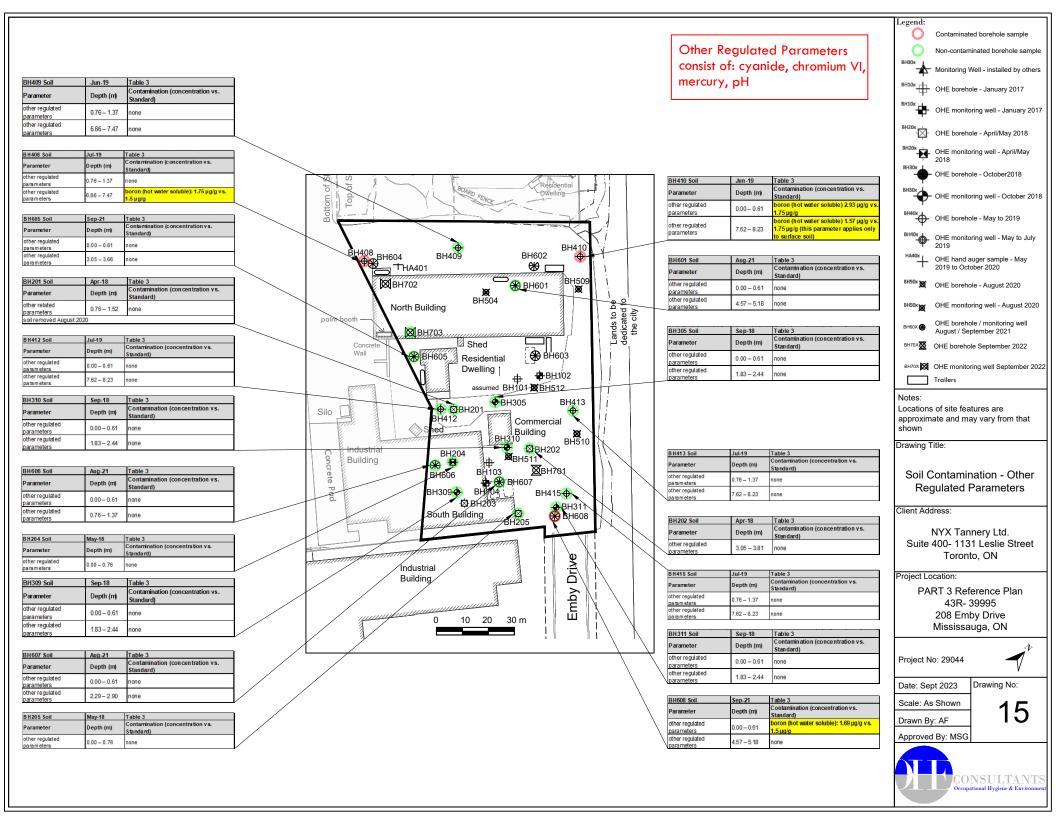


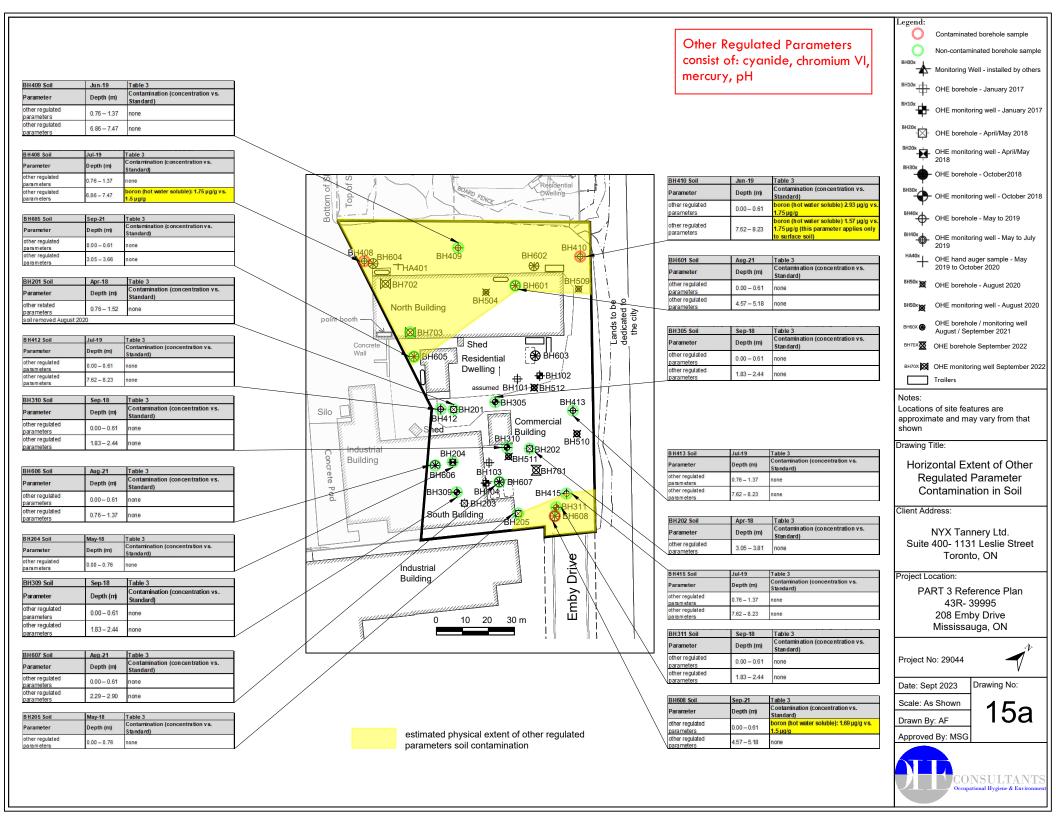


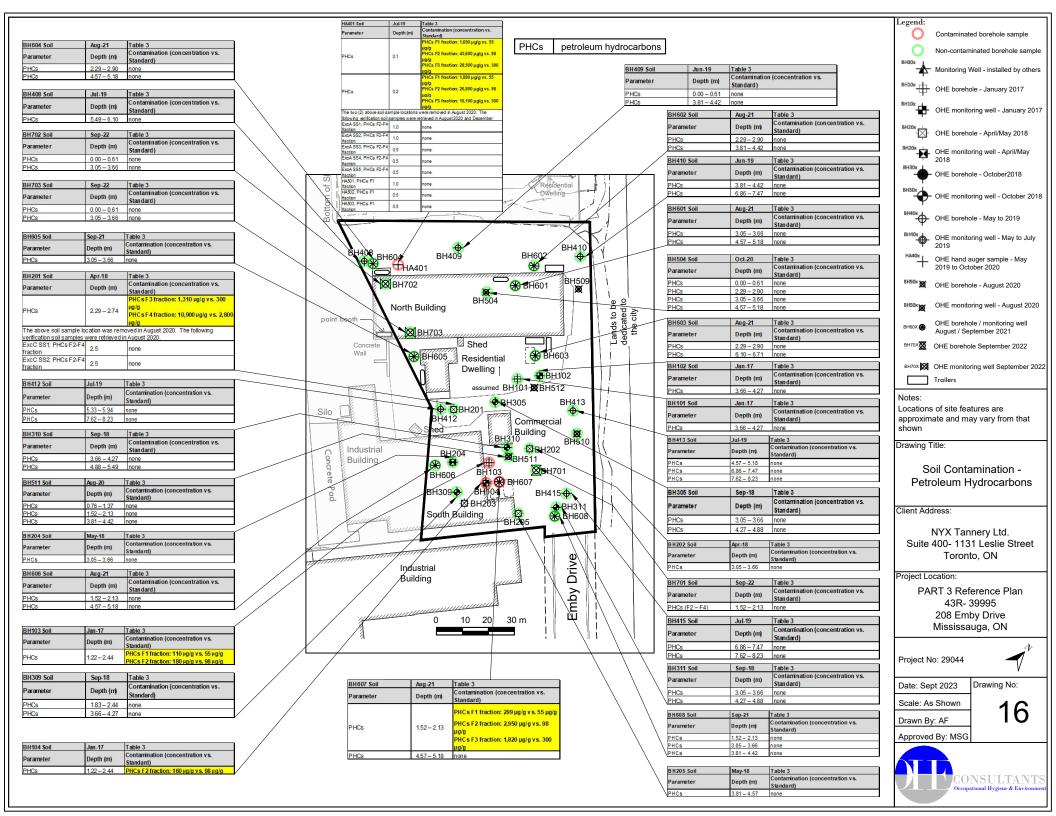


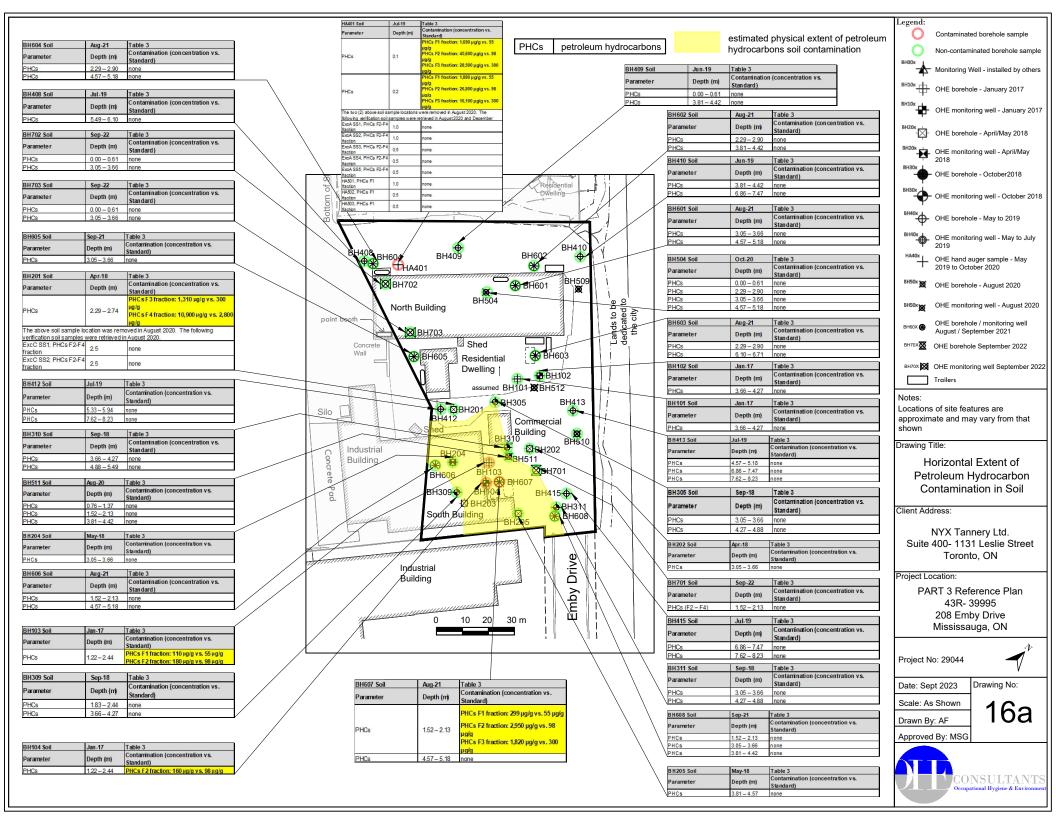


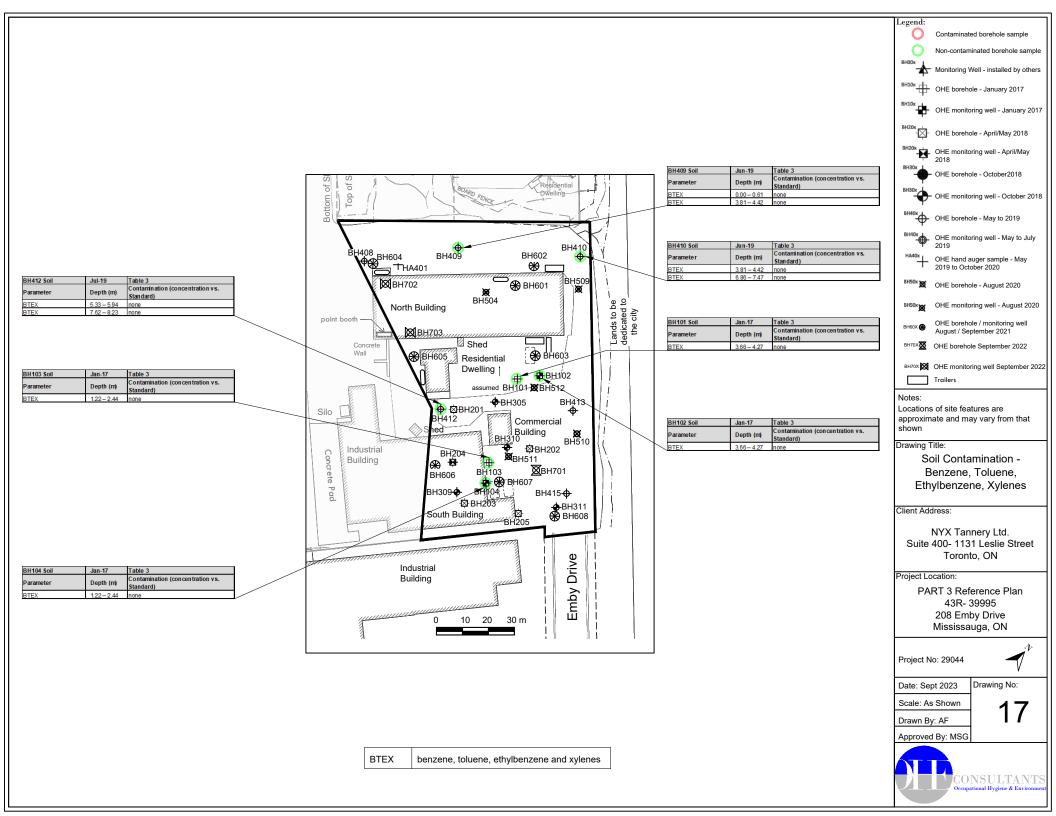


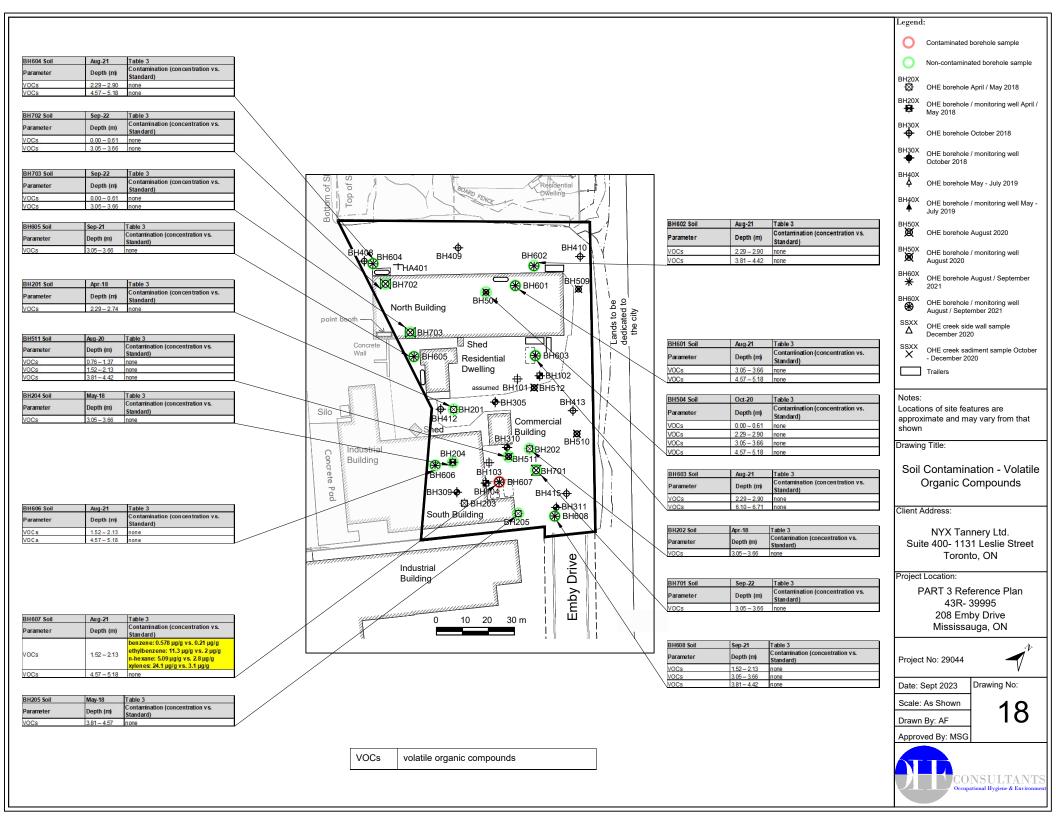


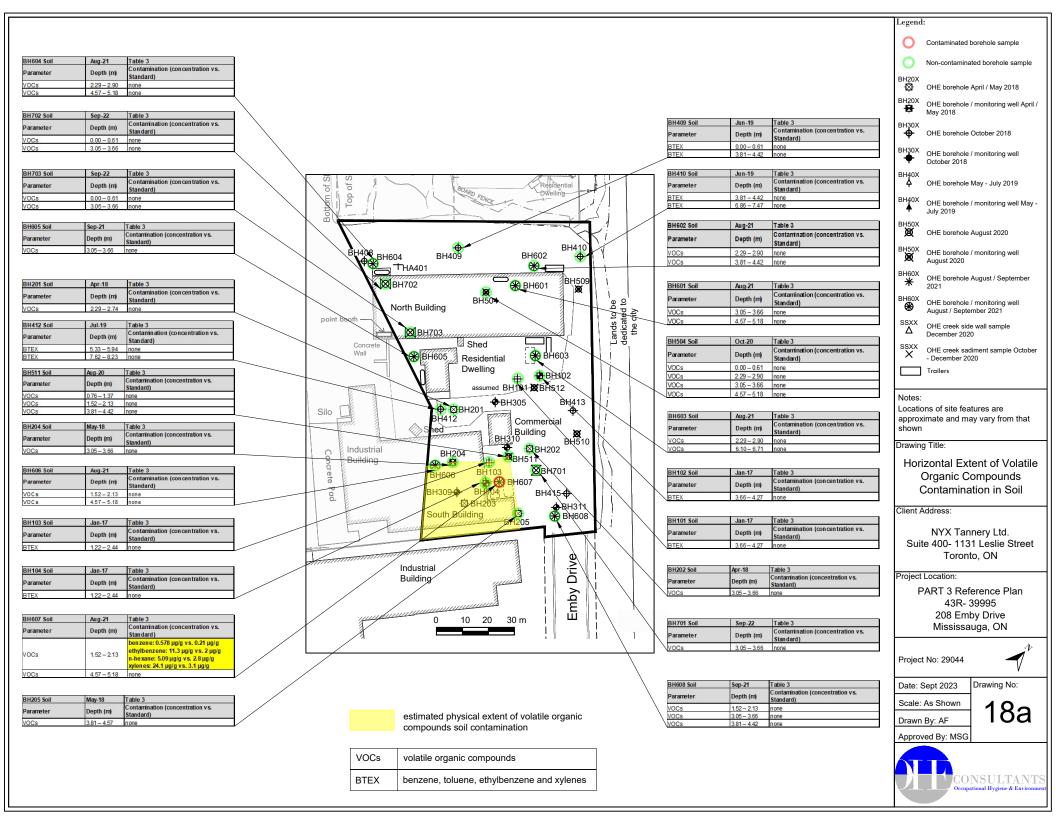


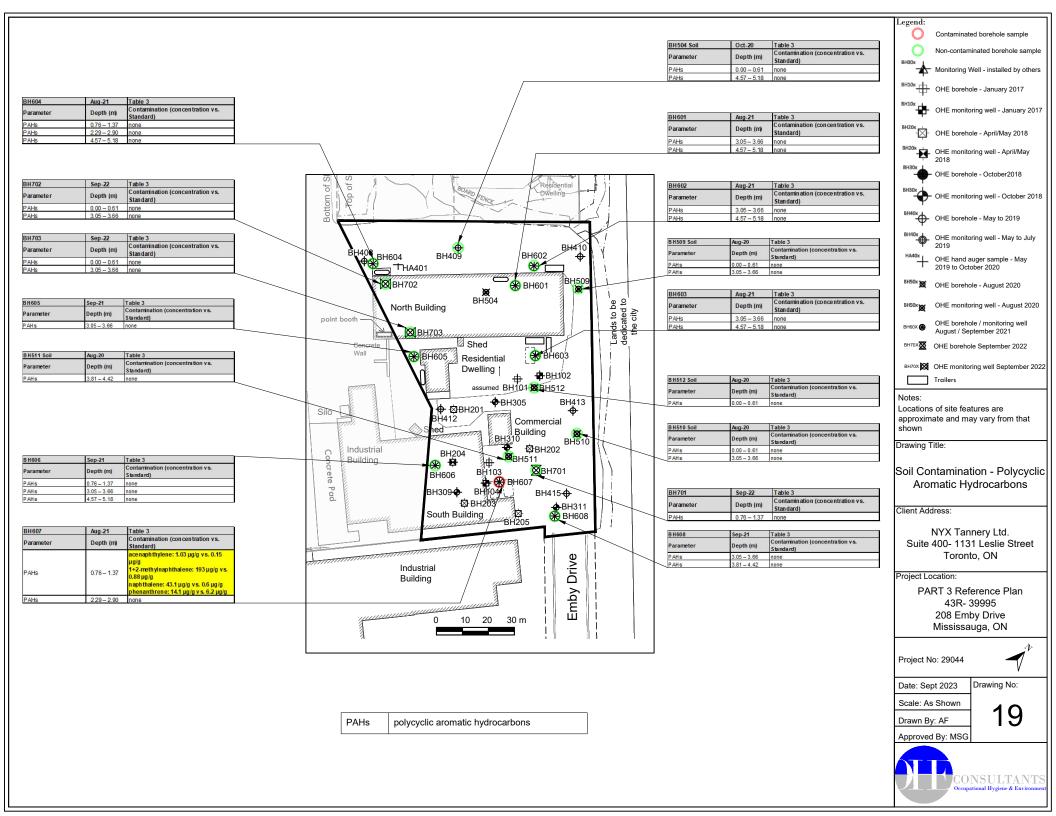


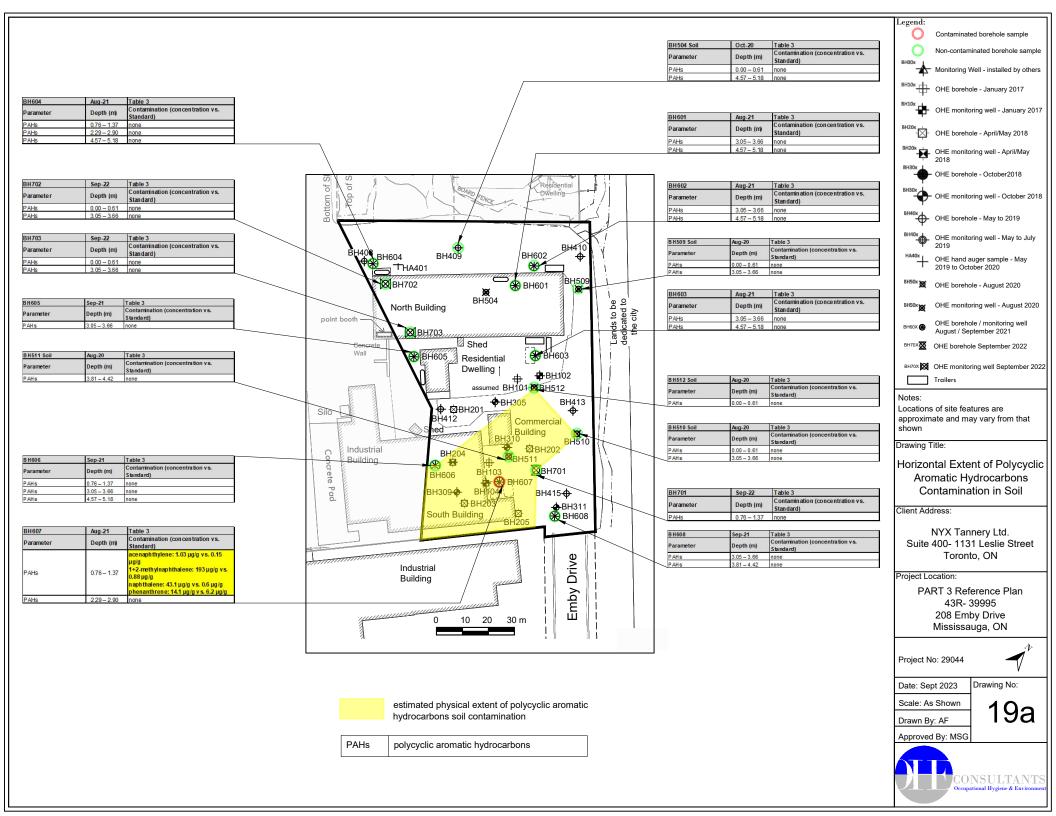


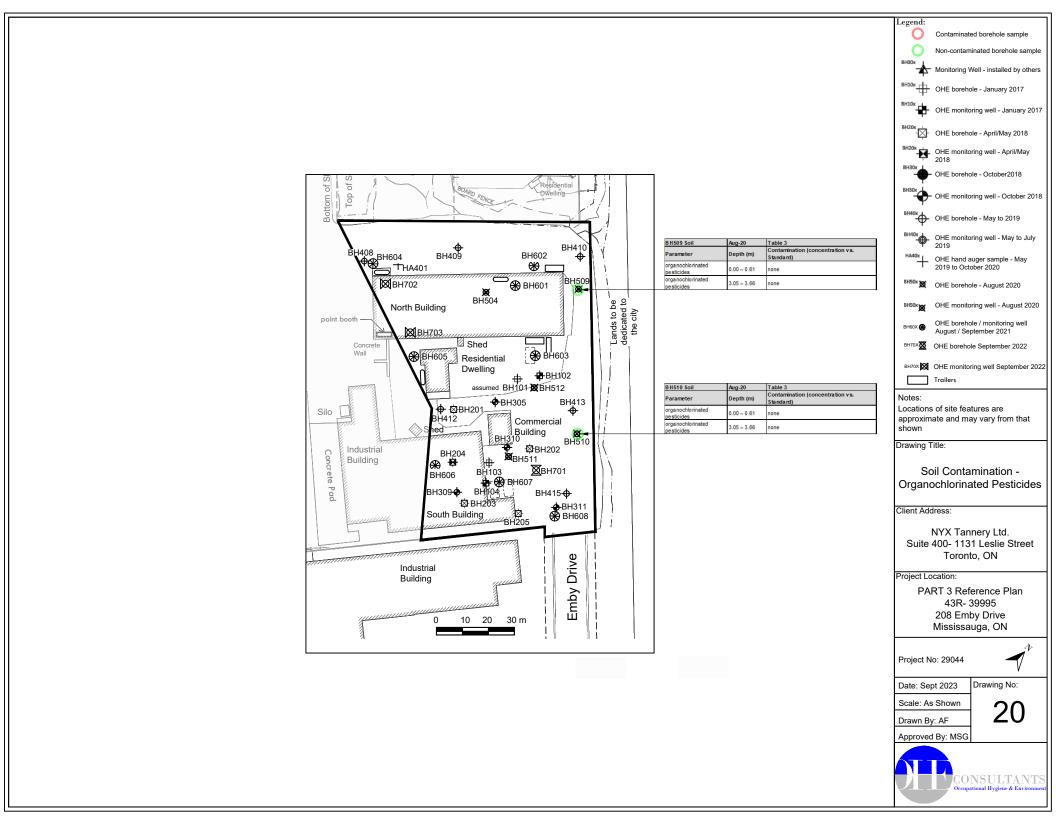


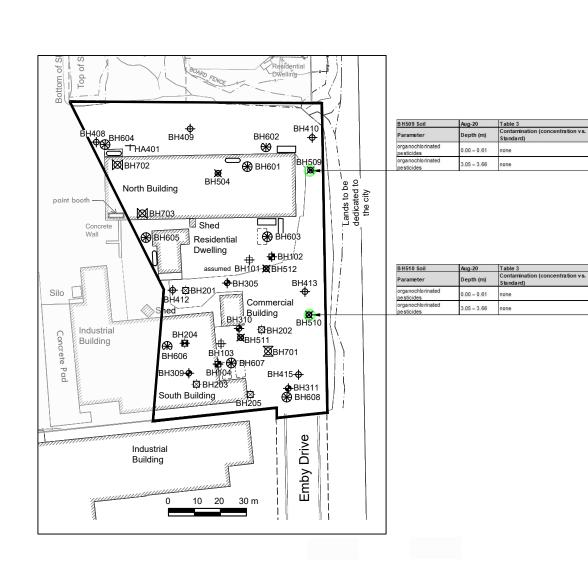






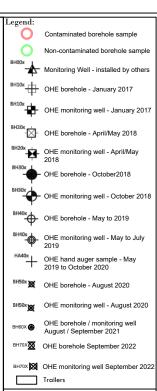






Note:

No organochlorinated pesticide contamination in soil.



Notes:

Locations of site features are approximate and may vary from that shown

Drawing Title:

Horizontal Extent of Organochlorinated Pesticides Contamination in Soil

Client Address:

NYX Tannery Ltd.
Suite 400- 1131 Leslie Street
Toronto, ON

Project Location:

PART 3 Reference Plan 43R- 39995 208 Emby Drive Mississauga, ON

Project No: 29044



Date: Sept 2023

Scale: As Shown

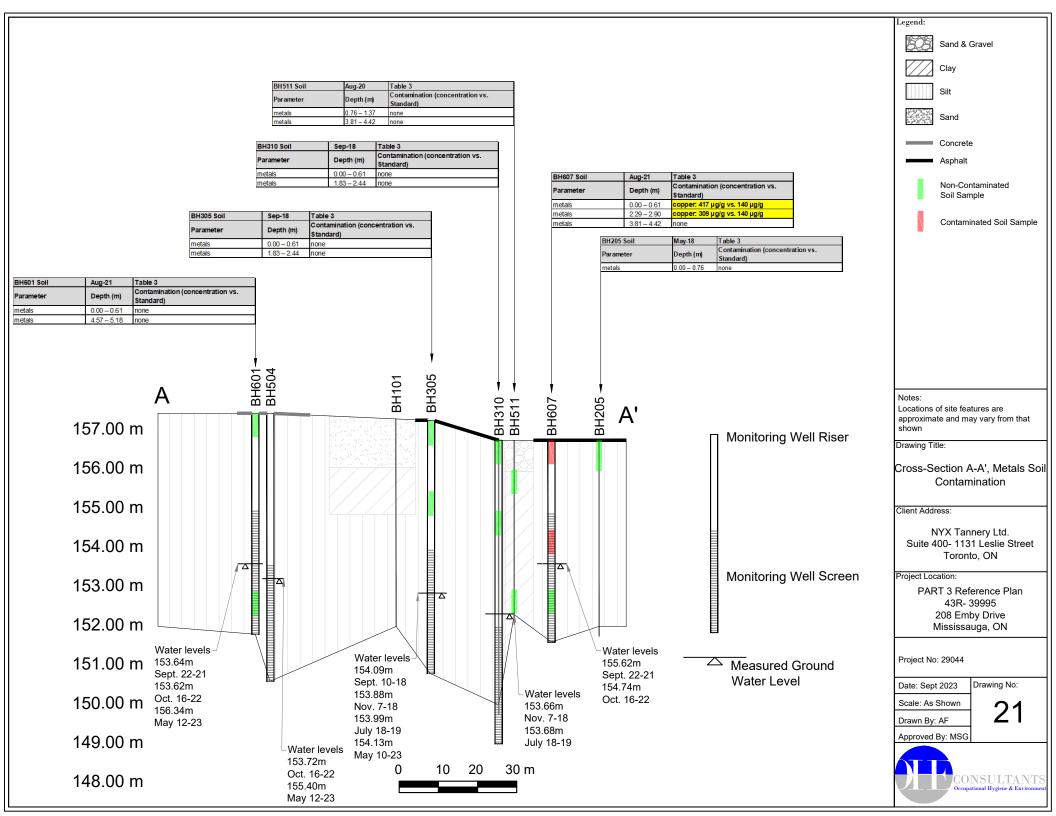
Drawn By: AF

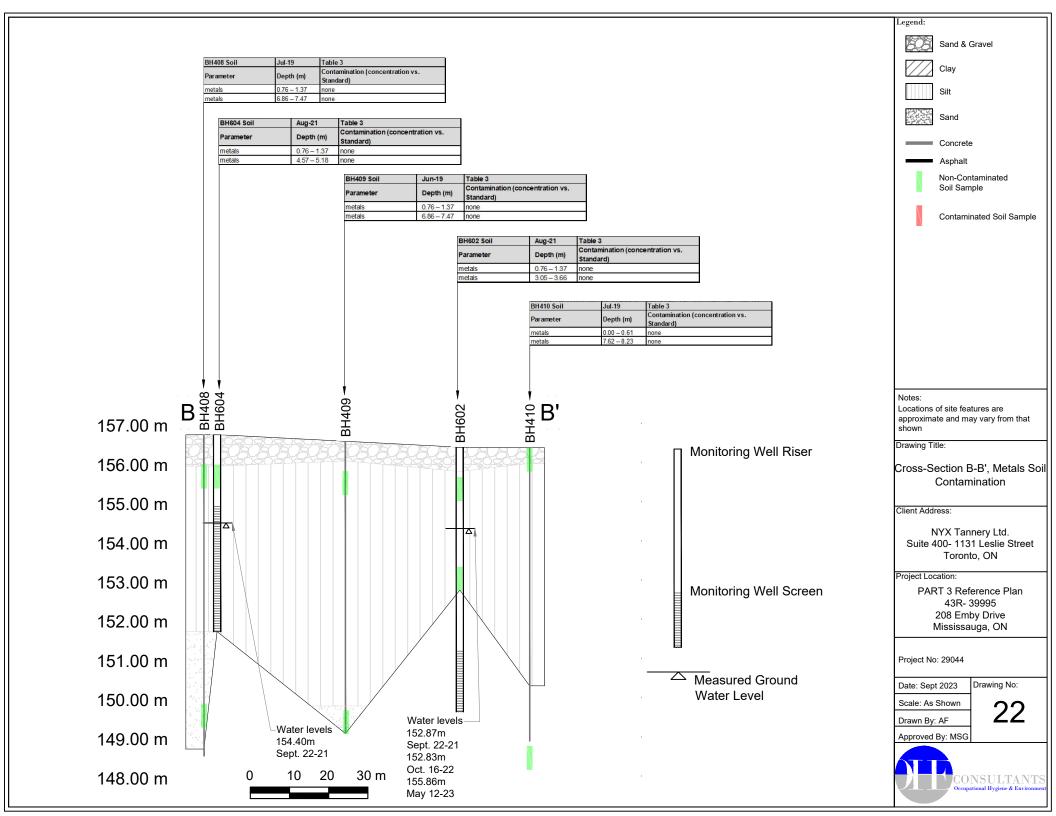
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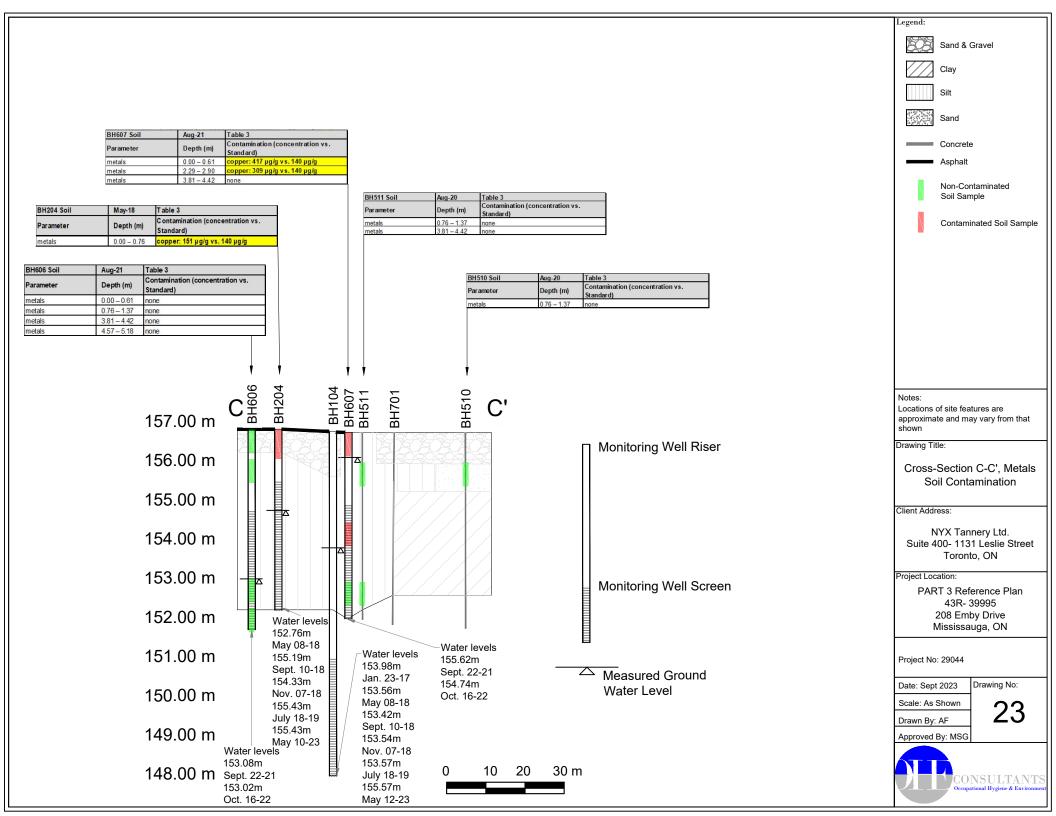
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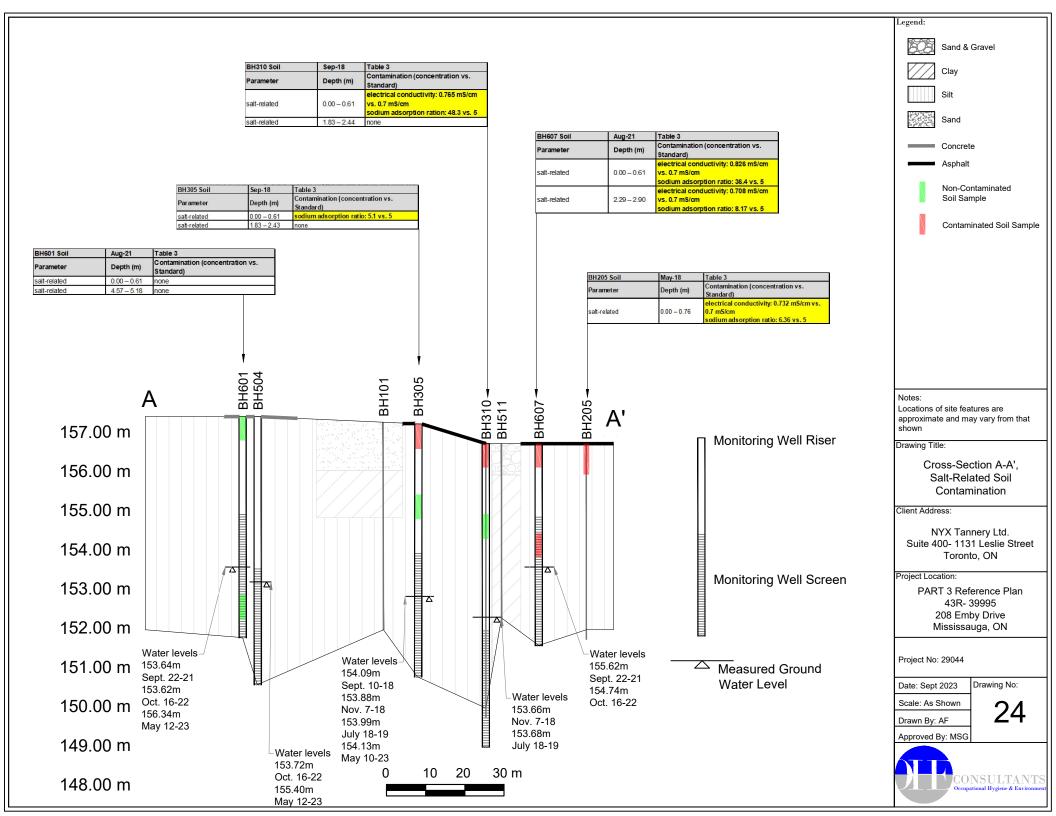
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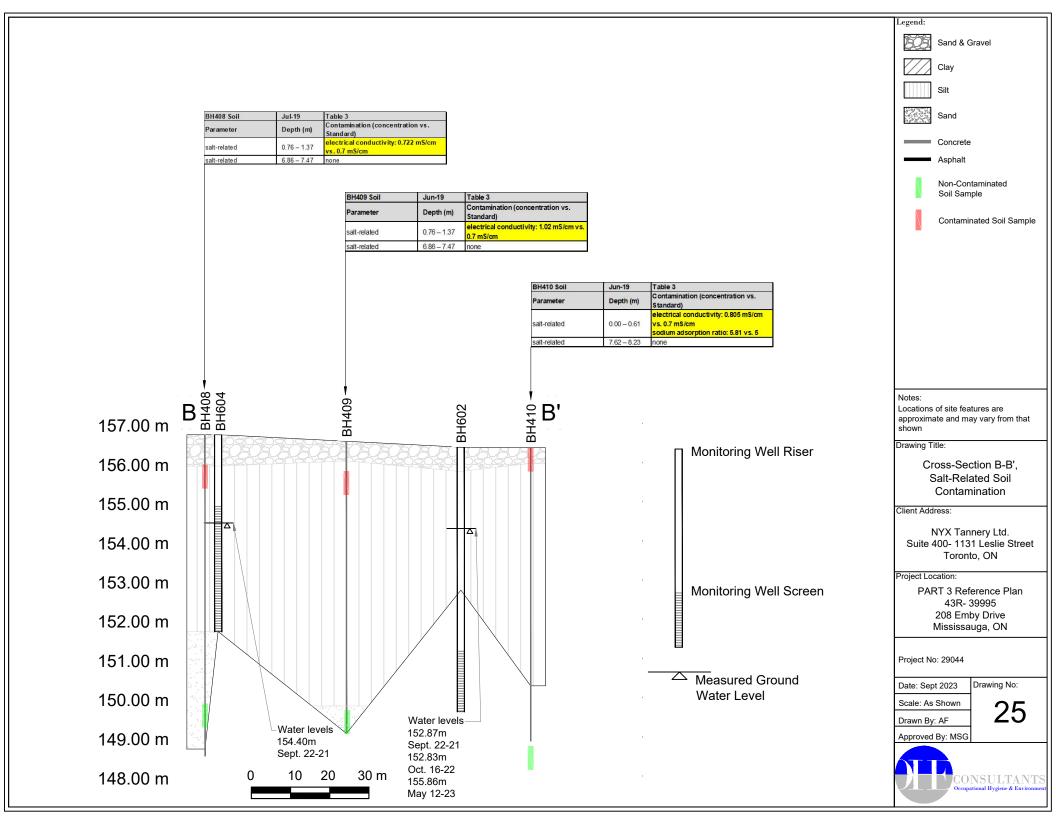


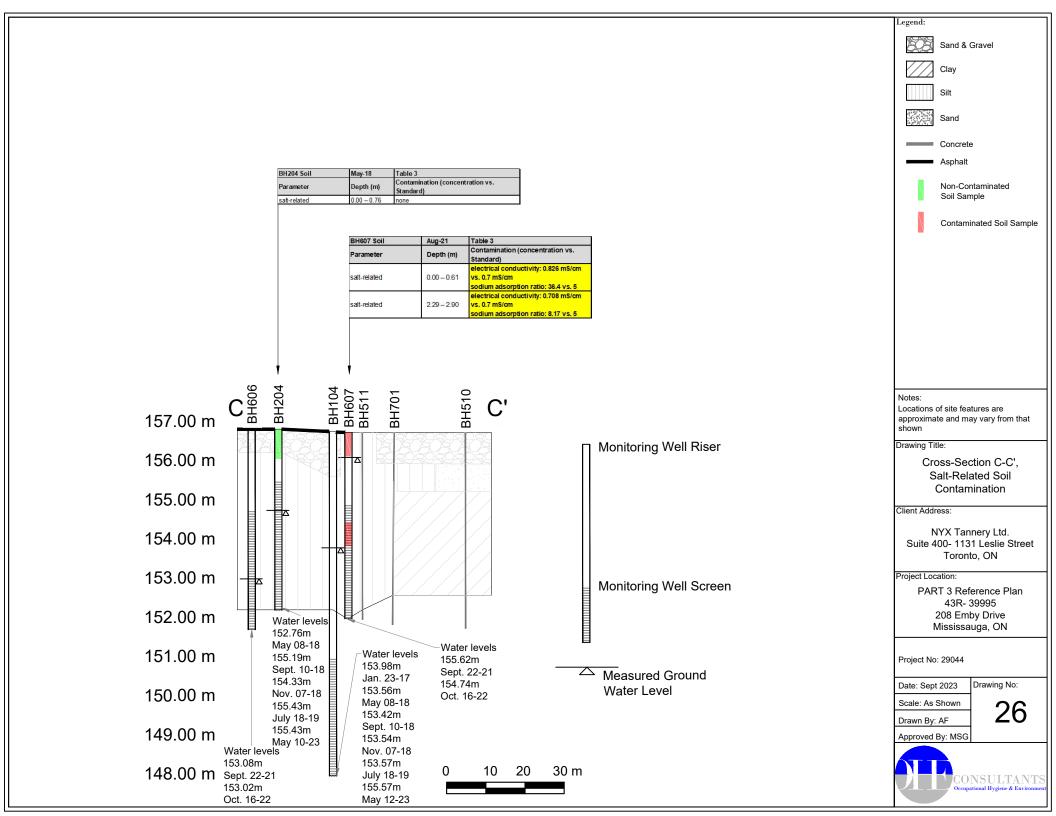


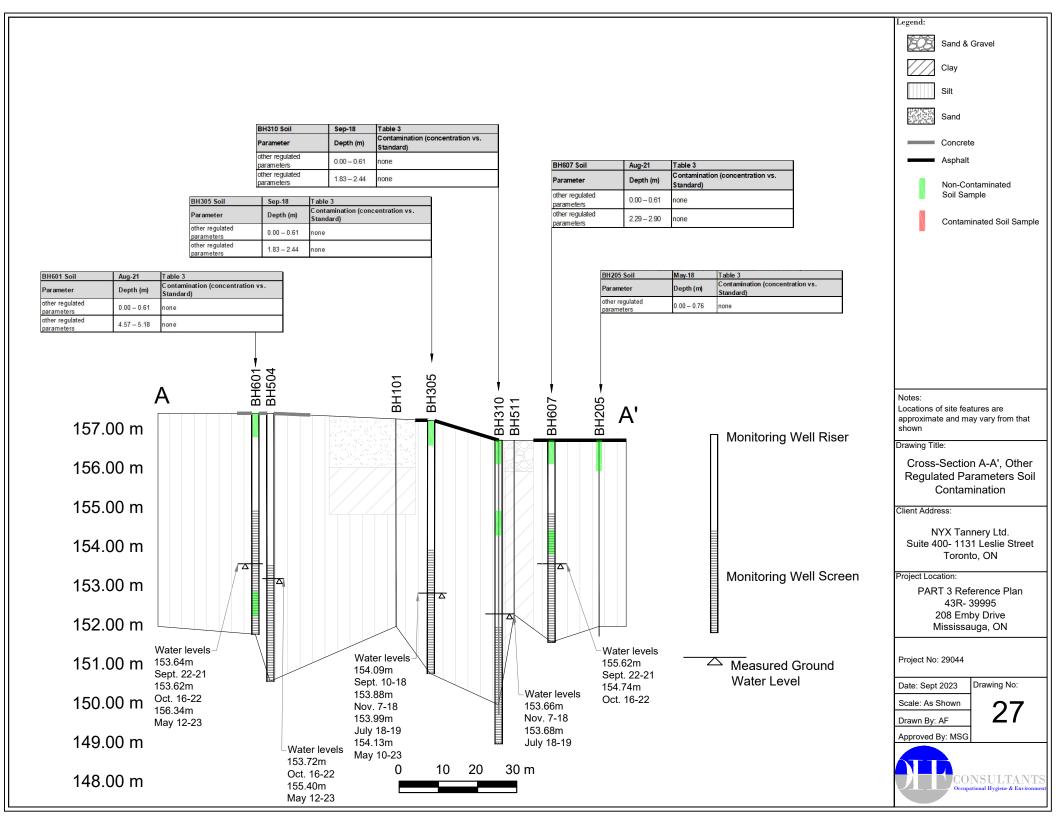


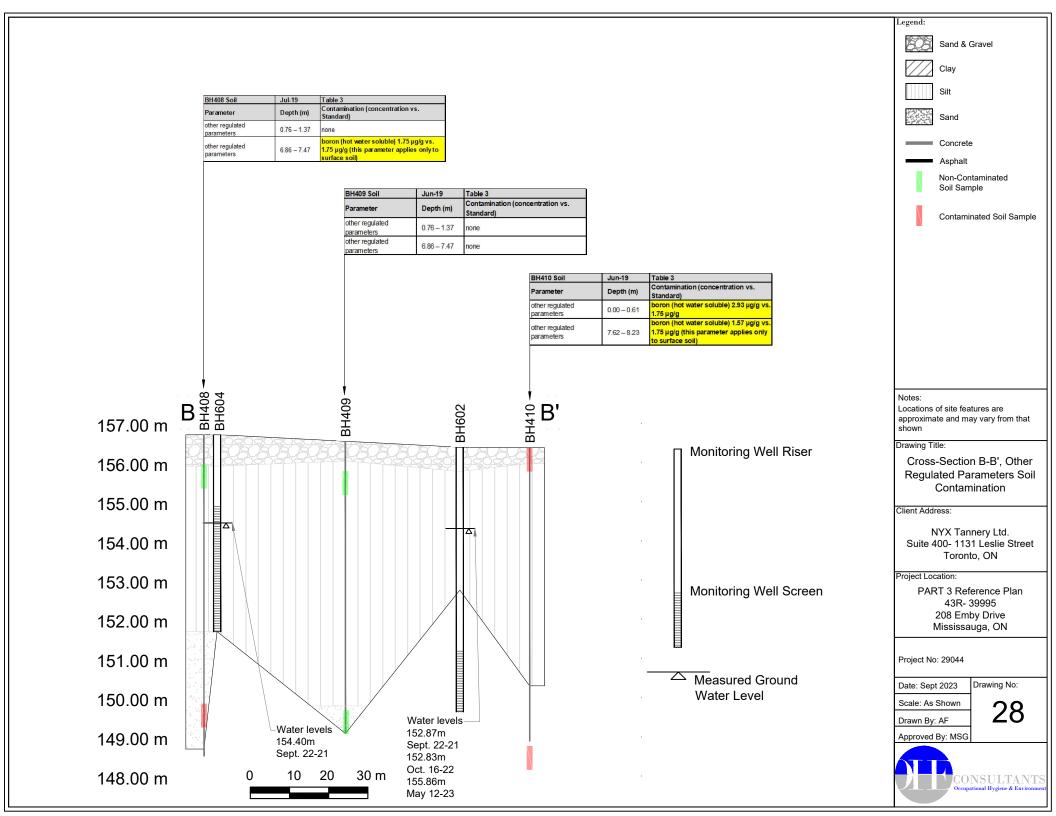


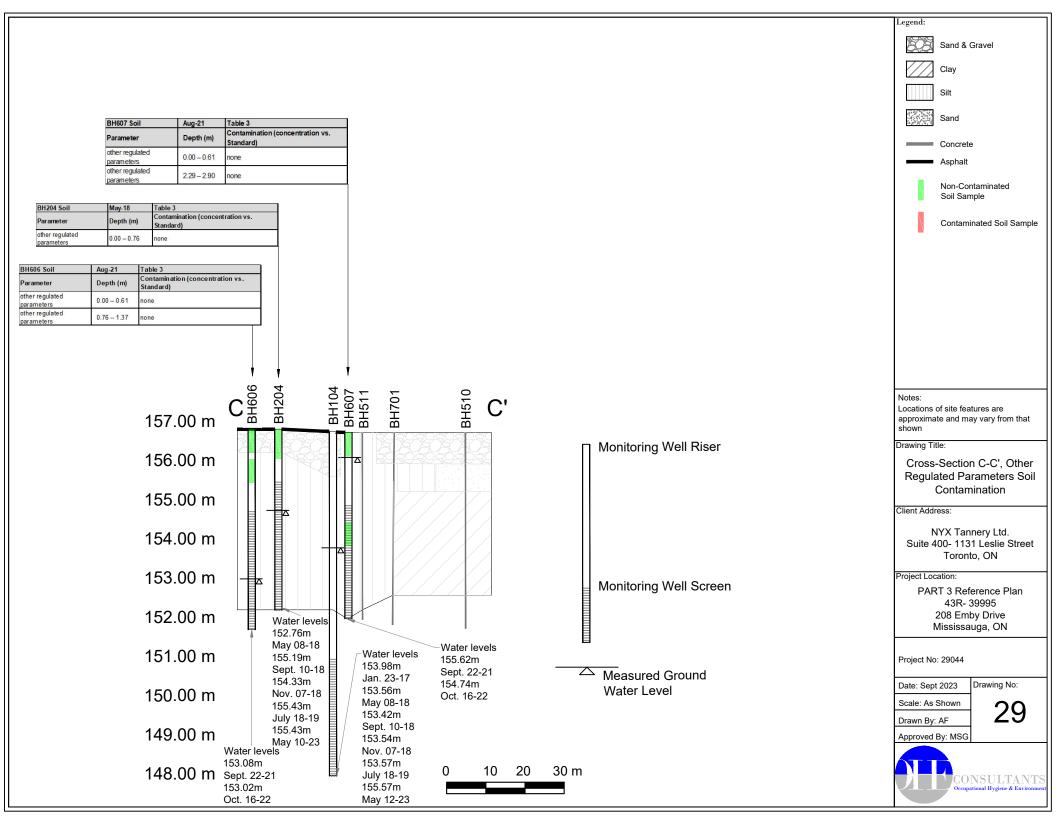


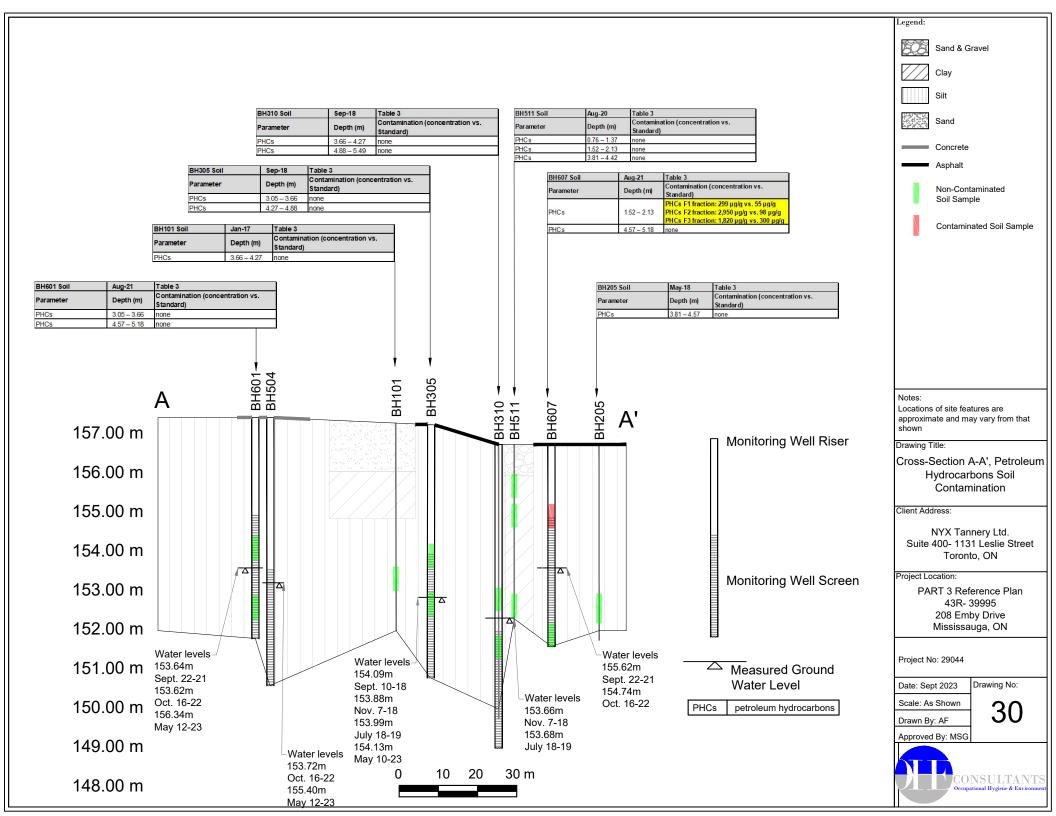


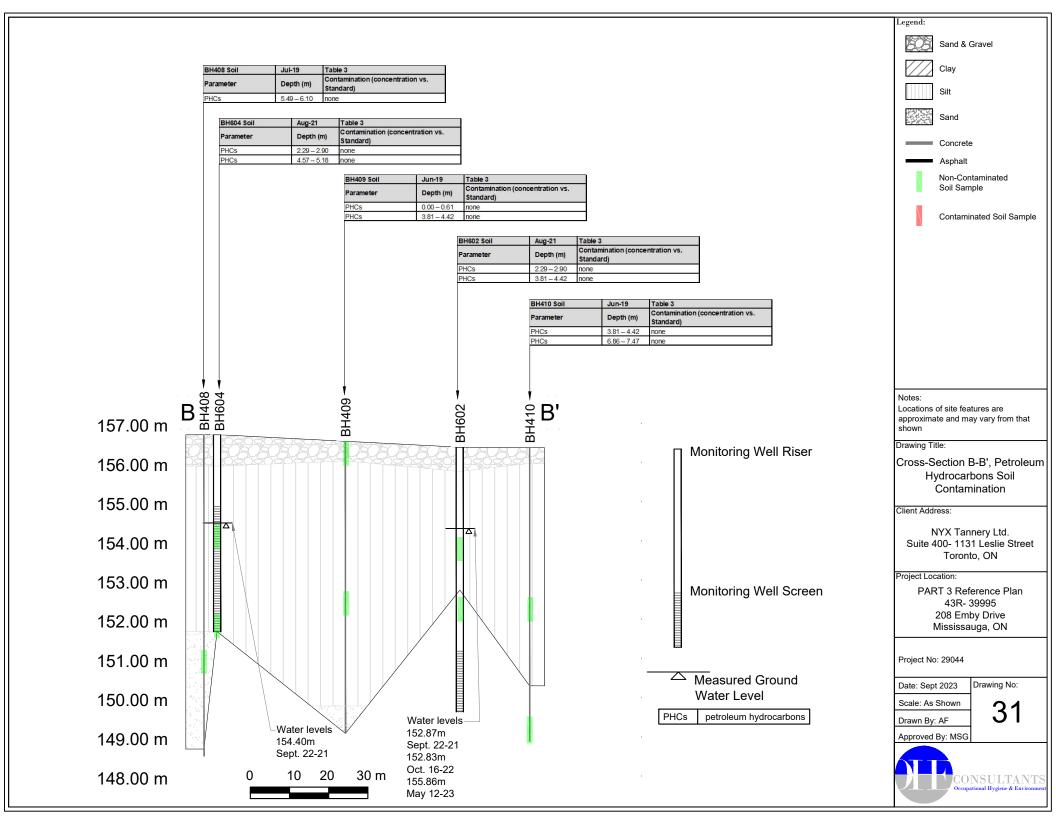


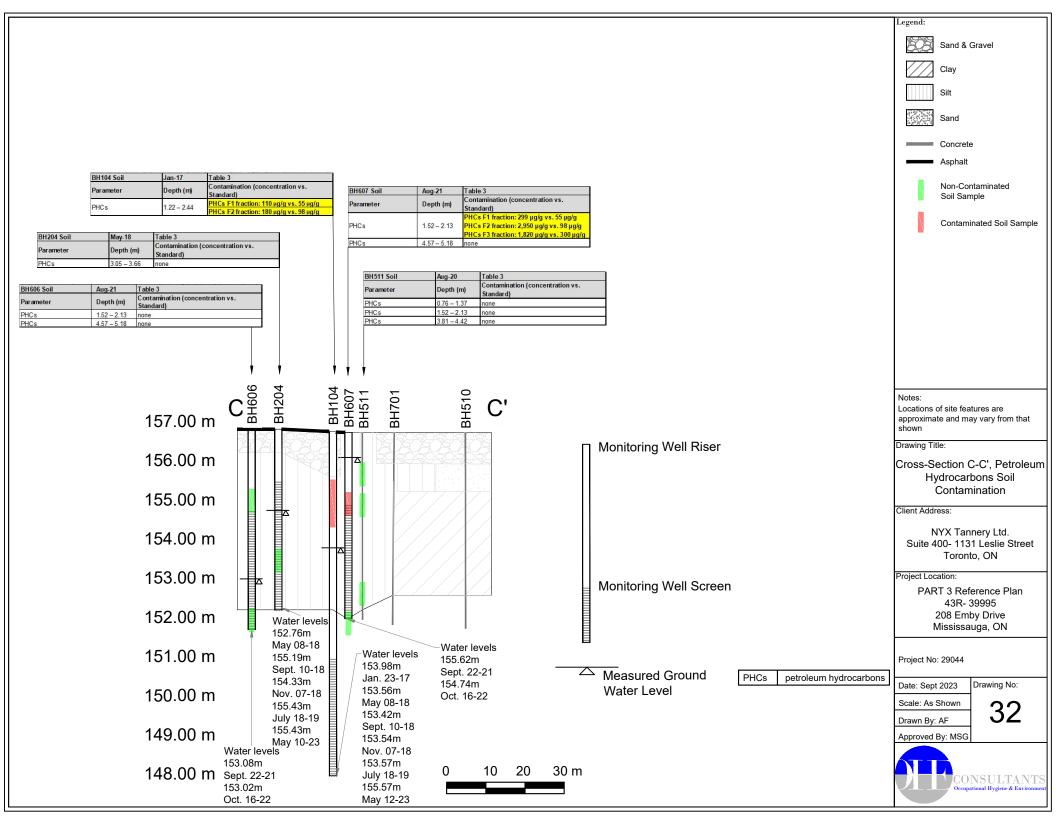


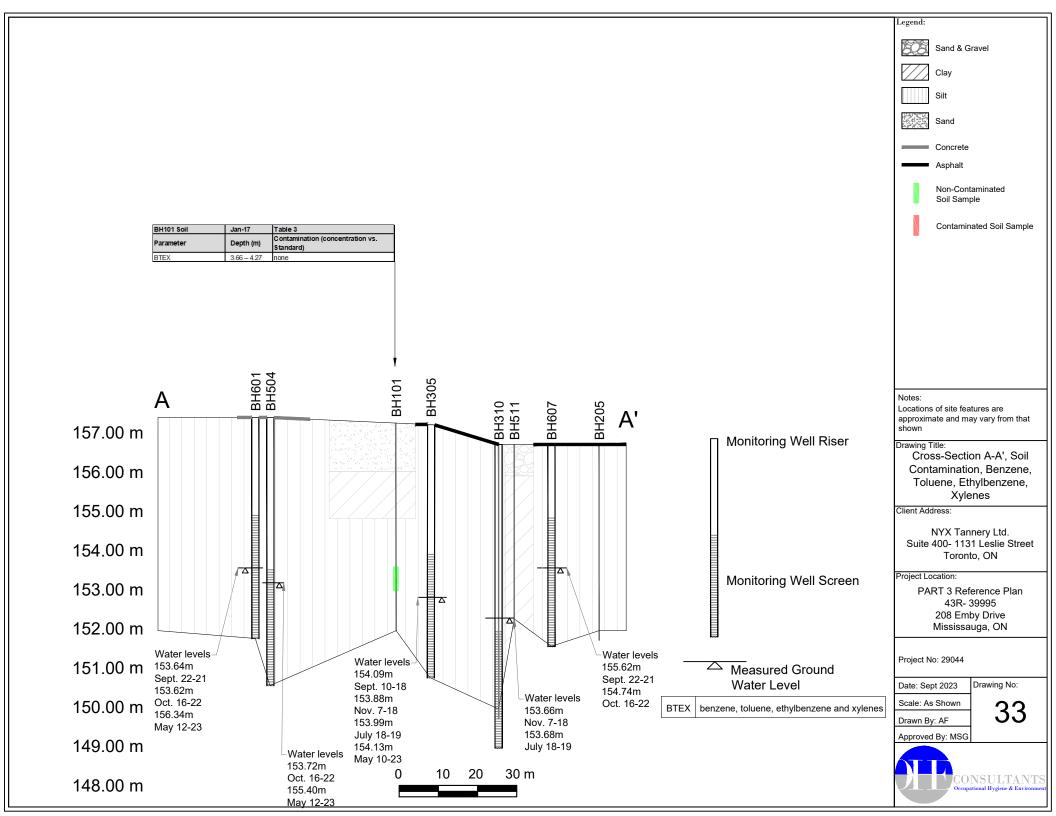


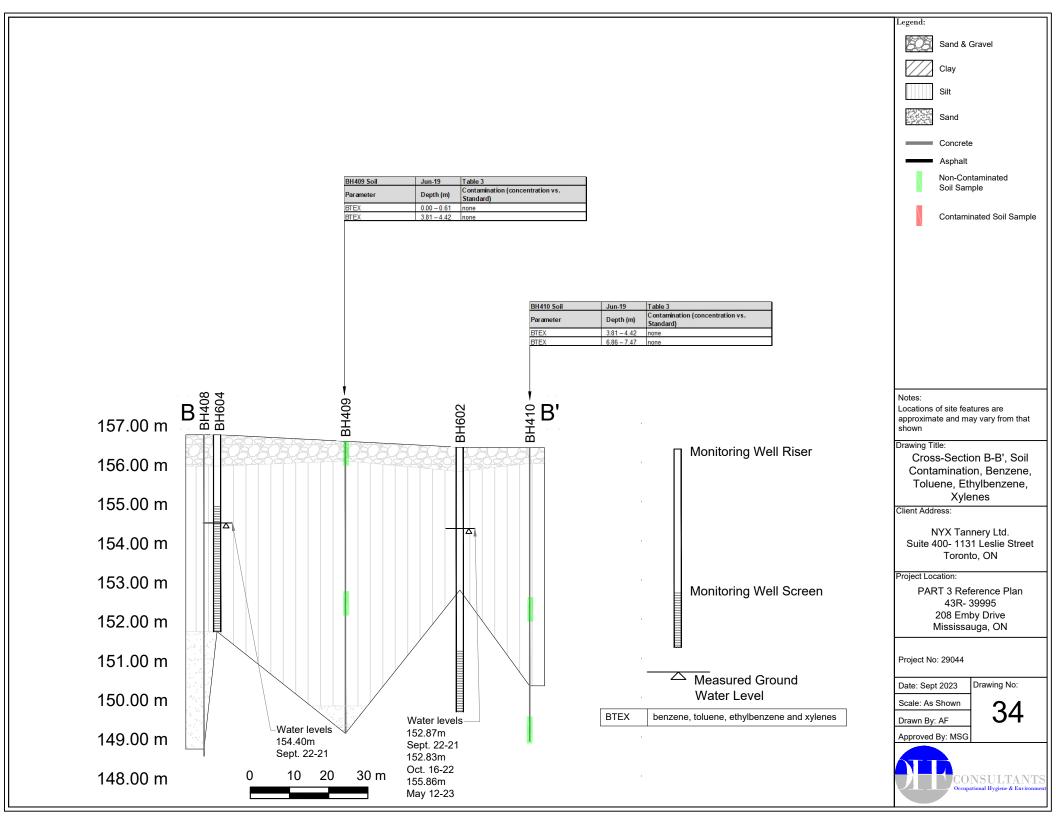


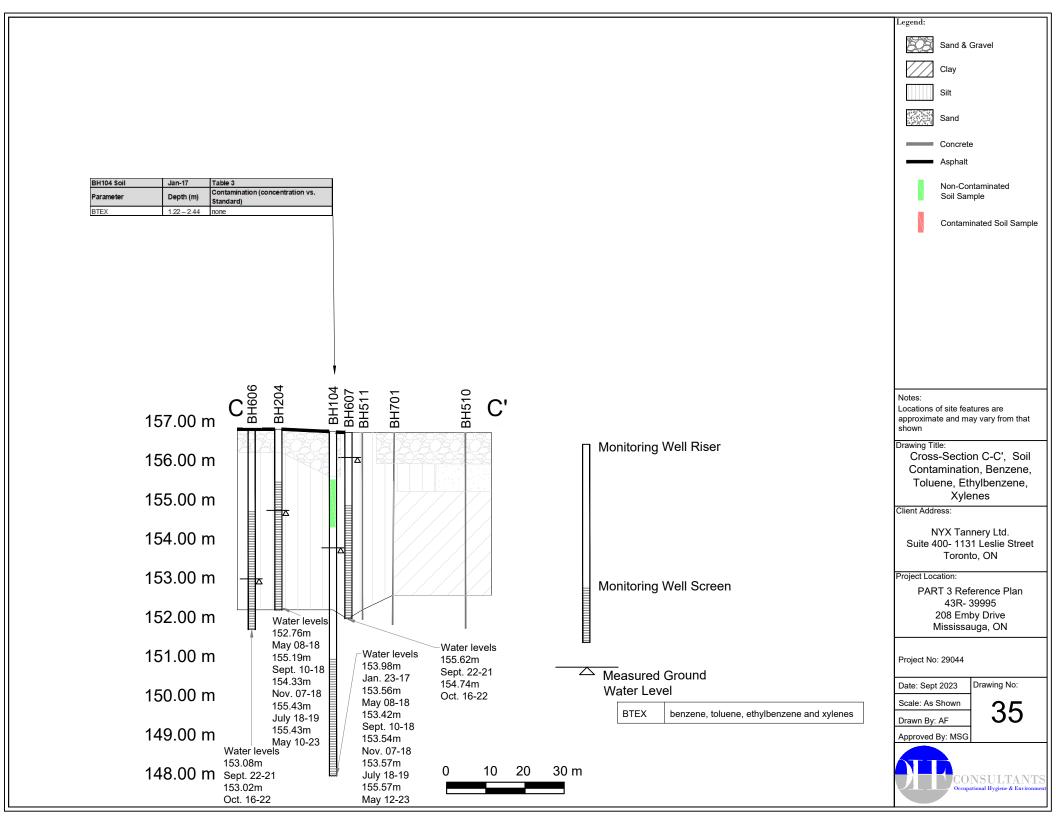


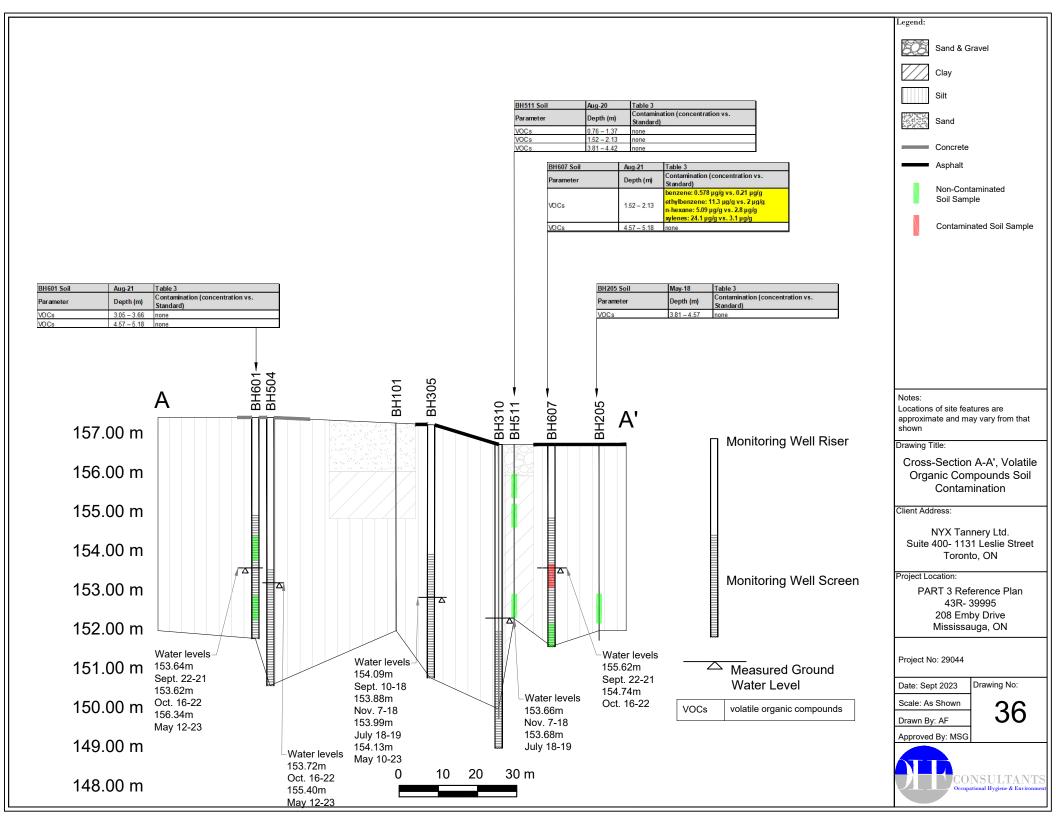


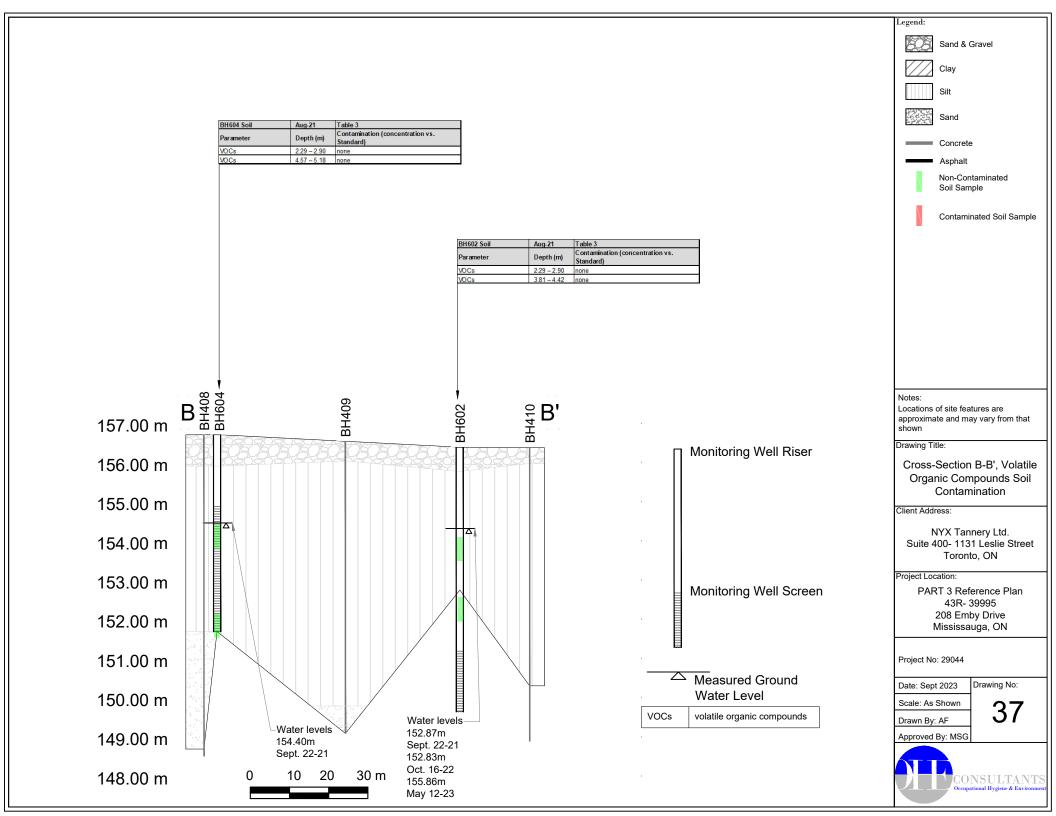


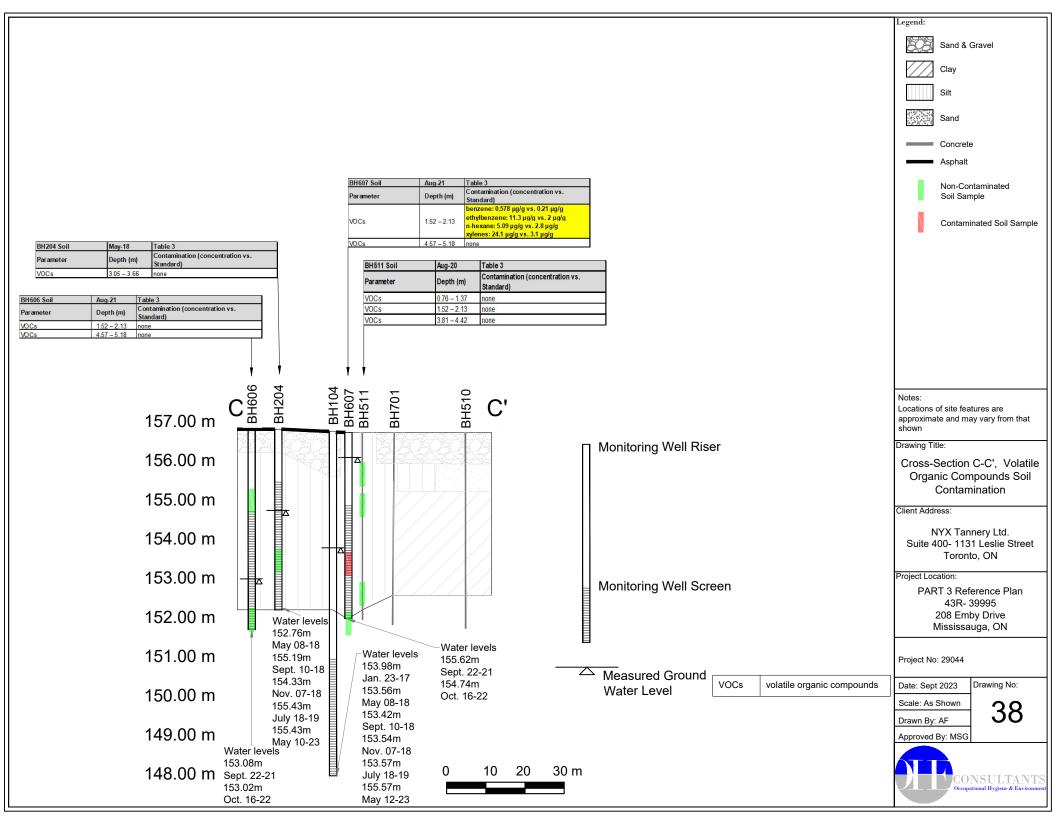


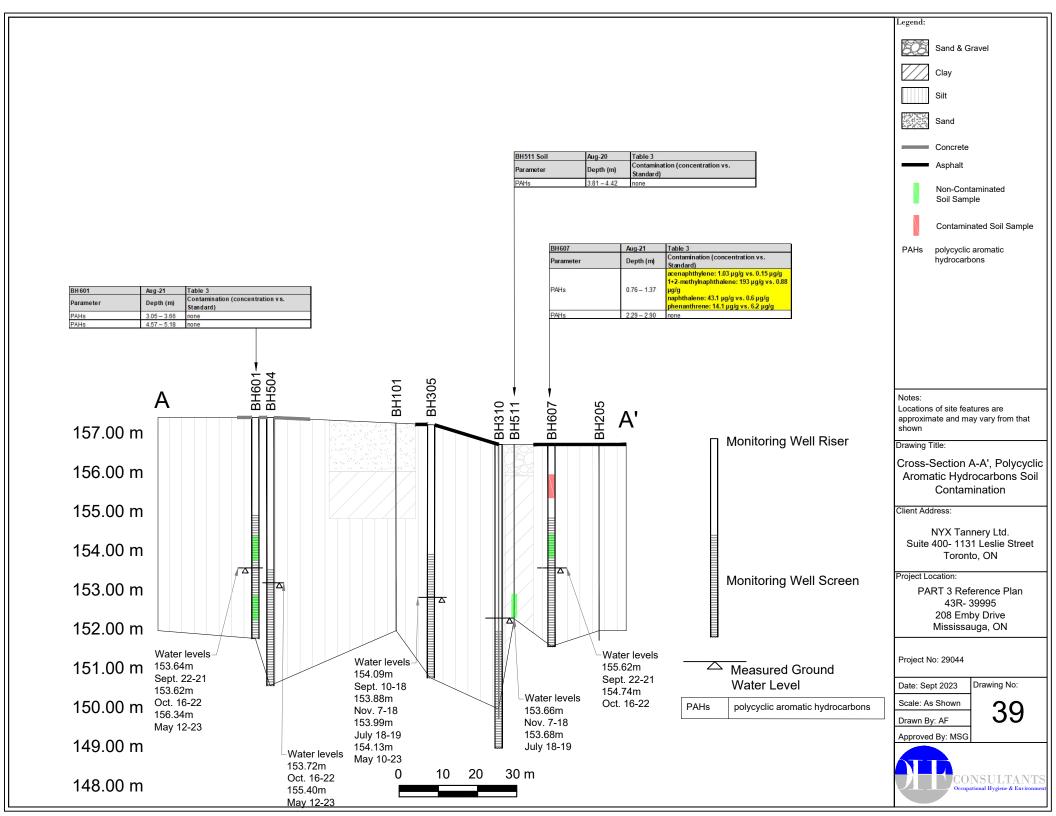


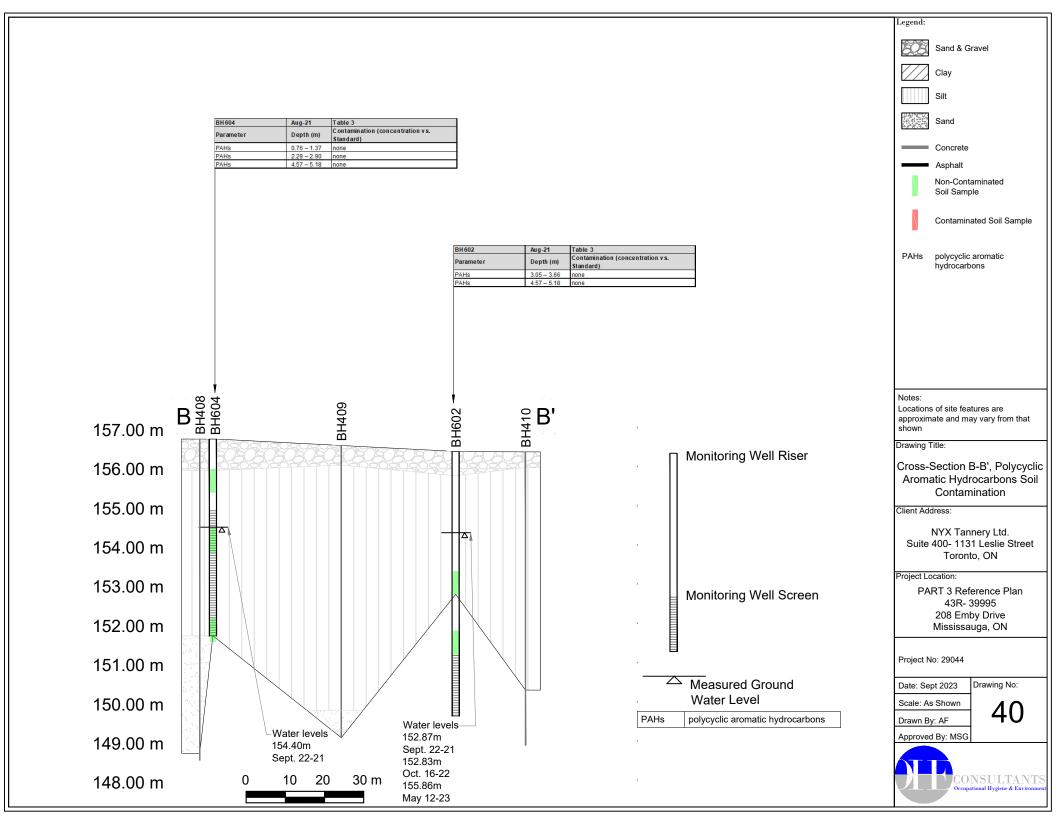


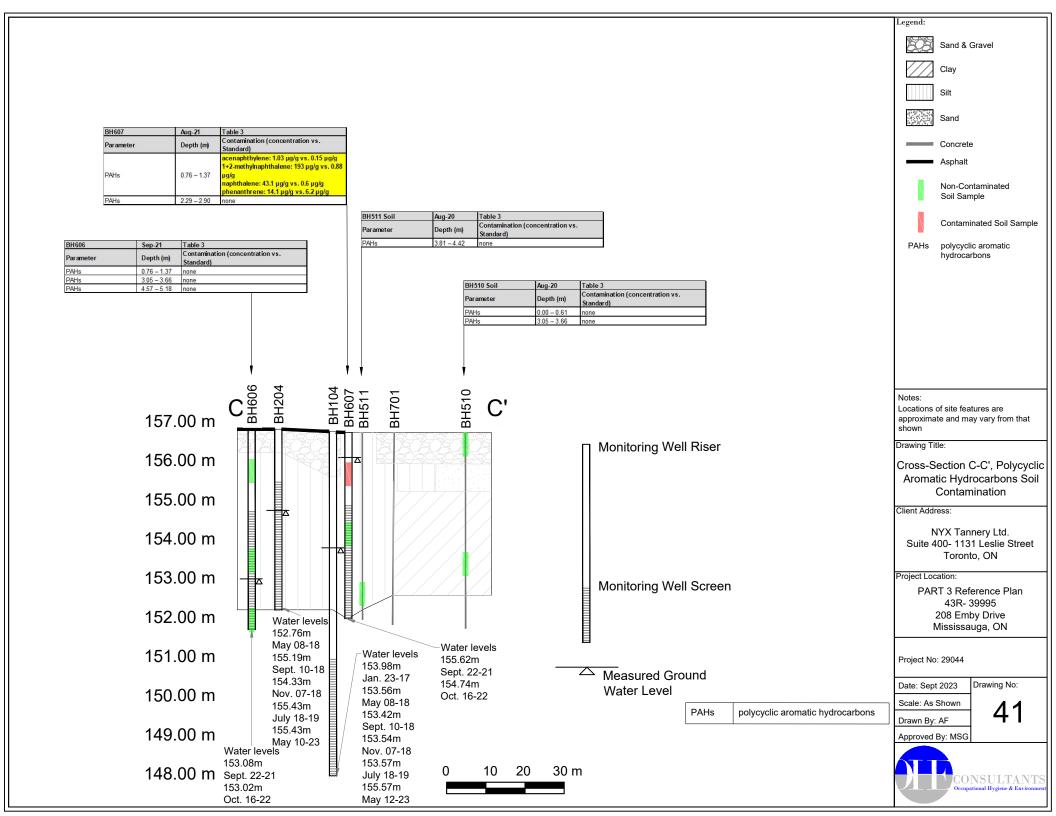


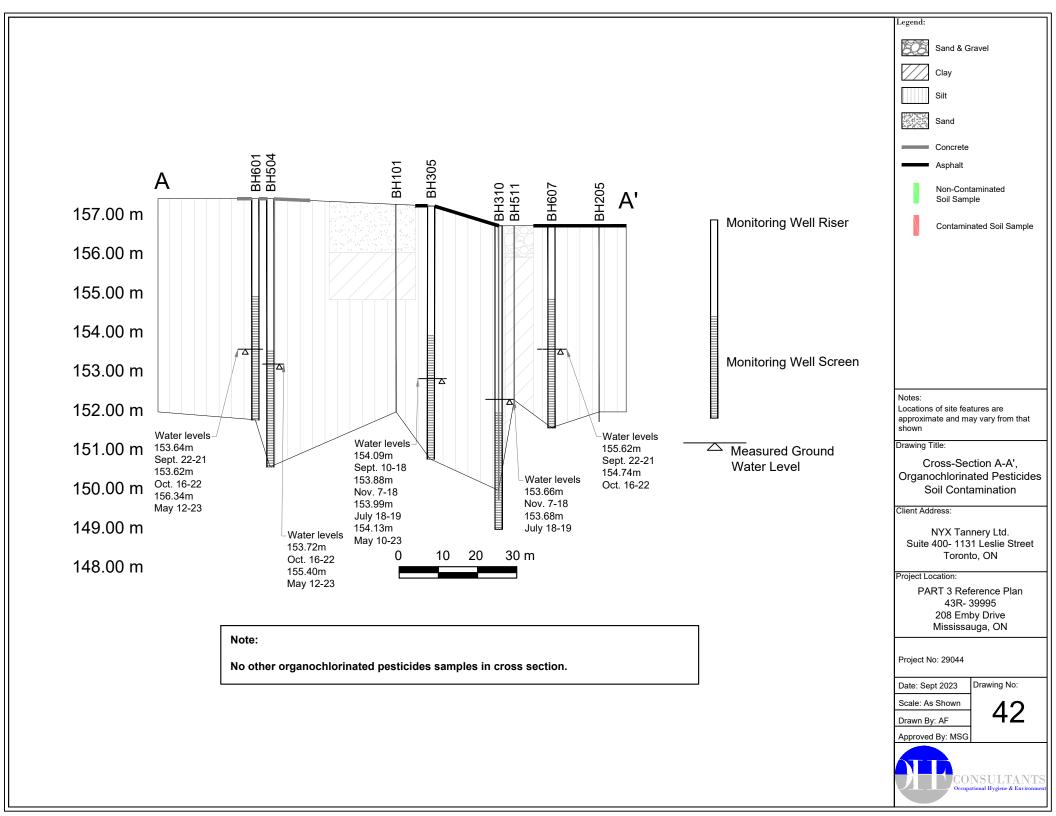


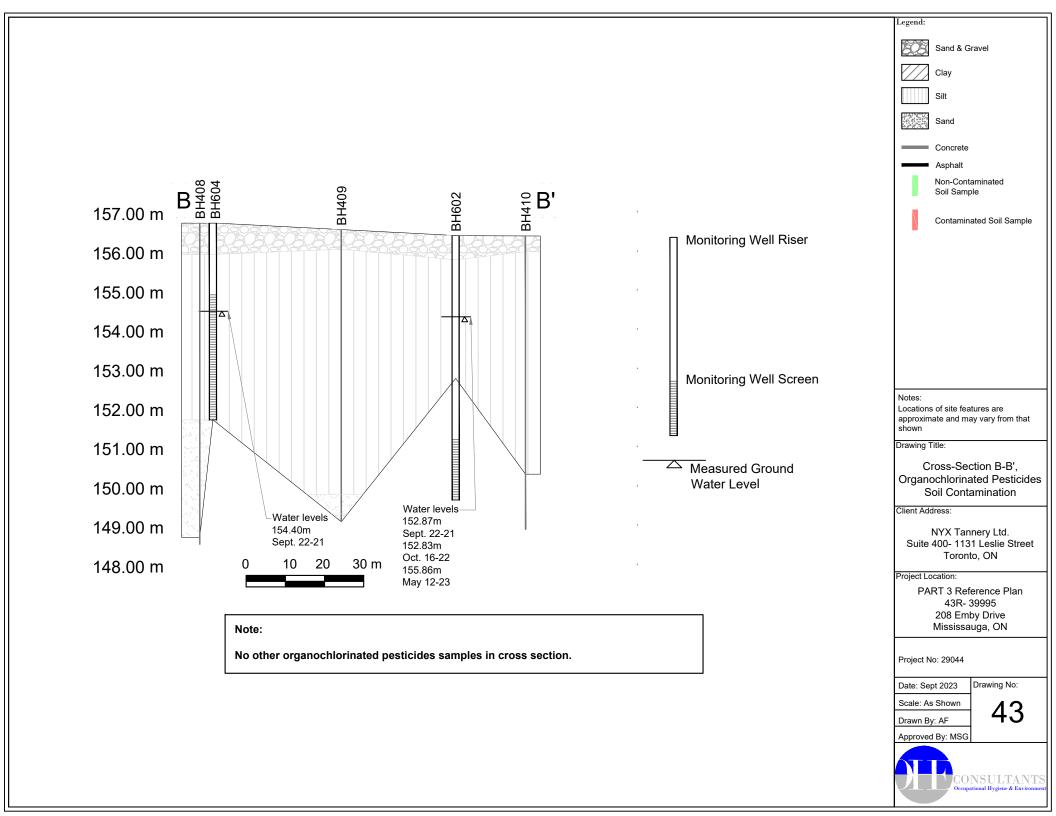


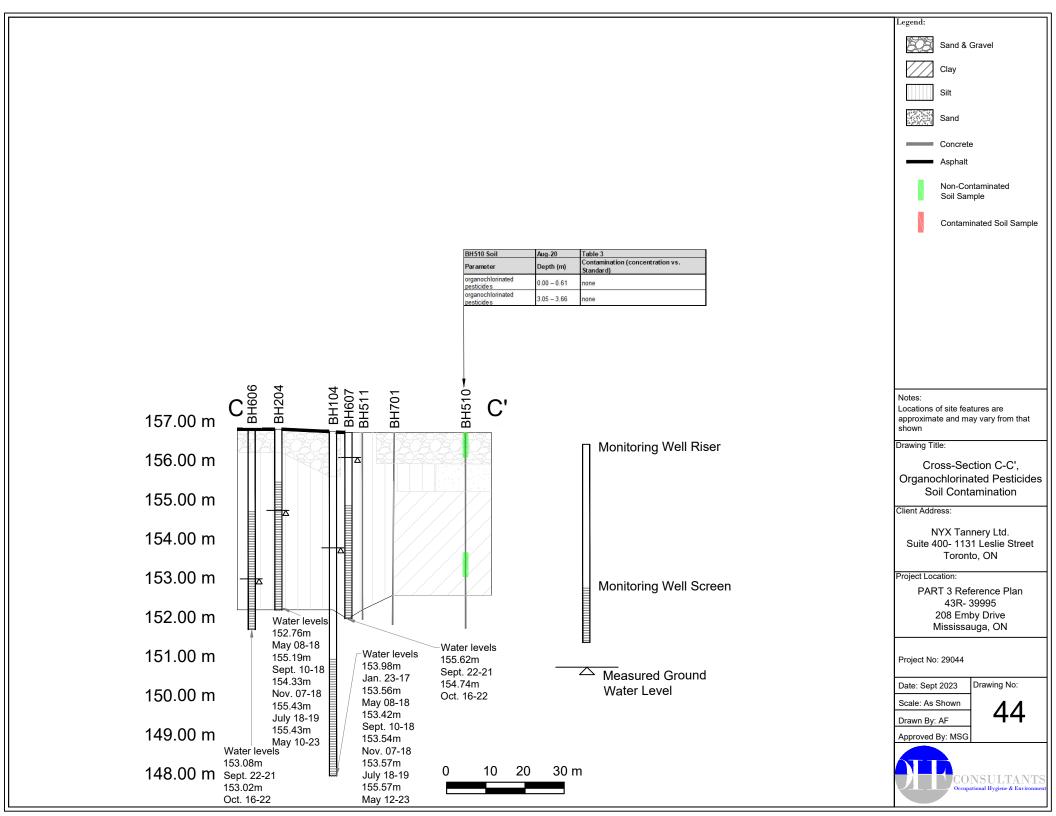


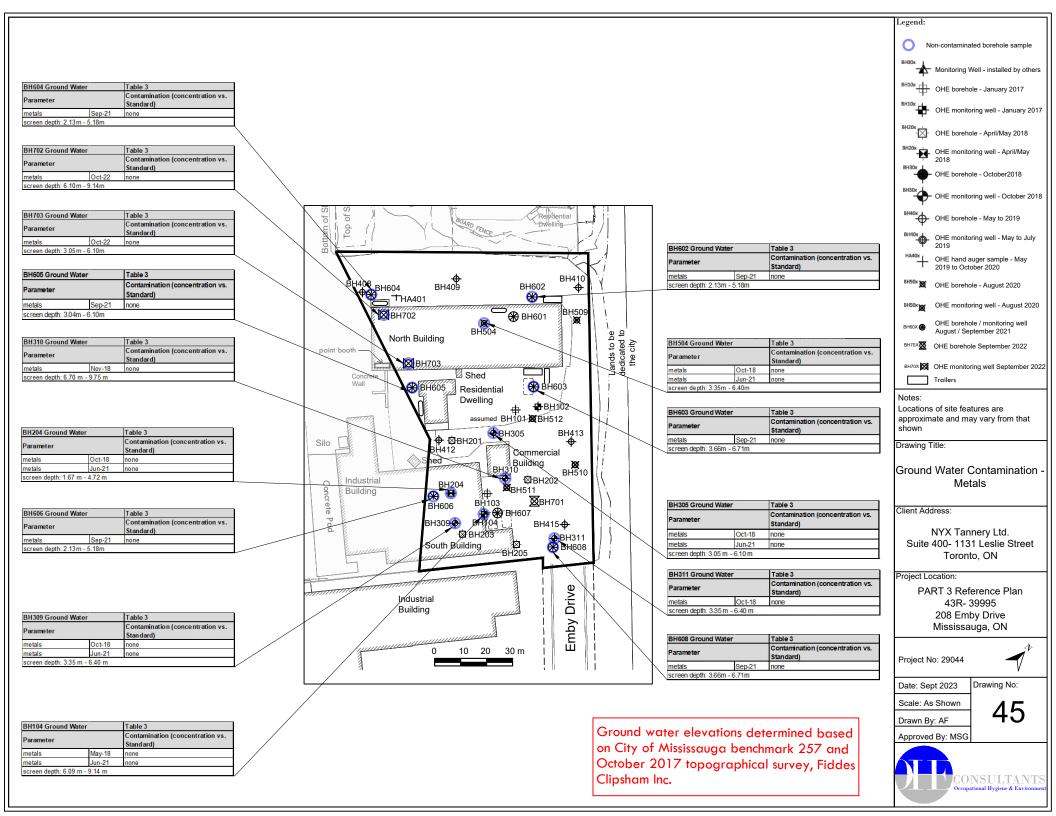


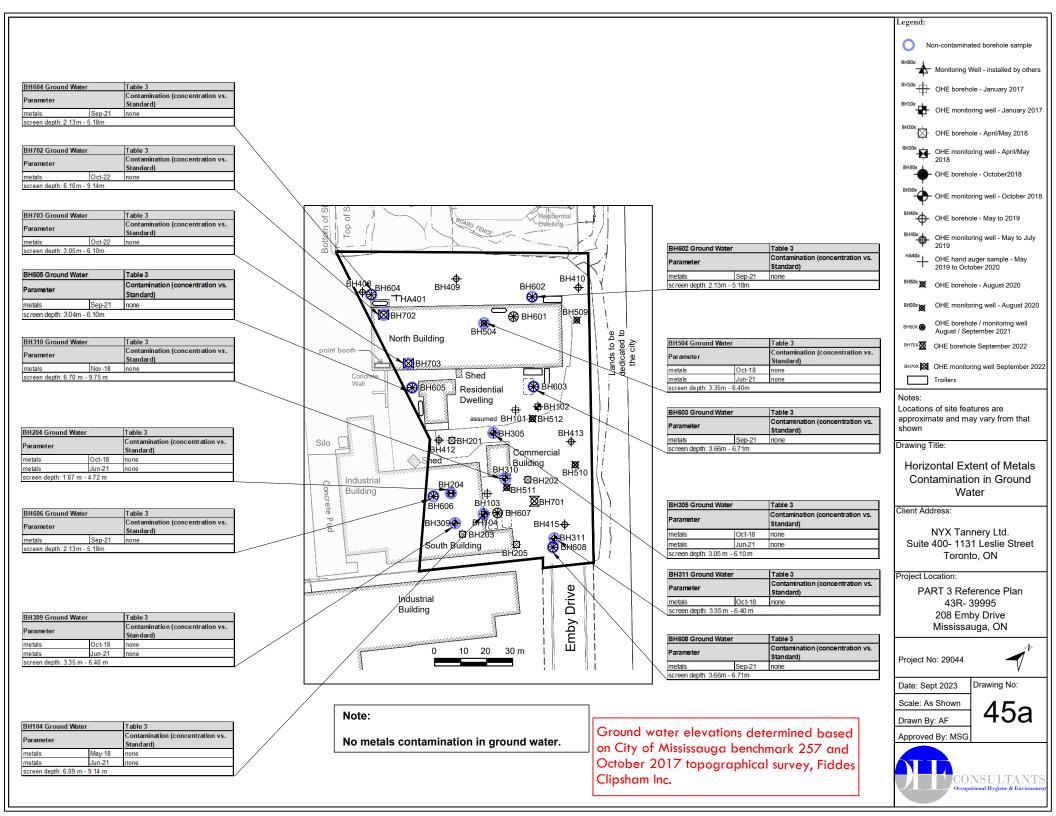


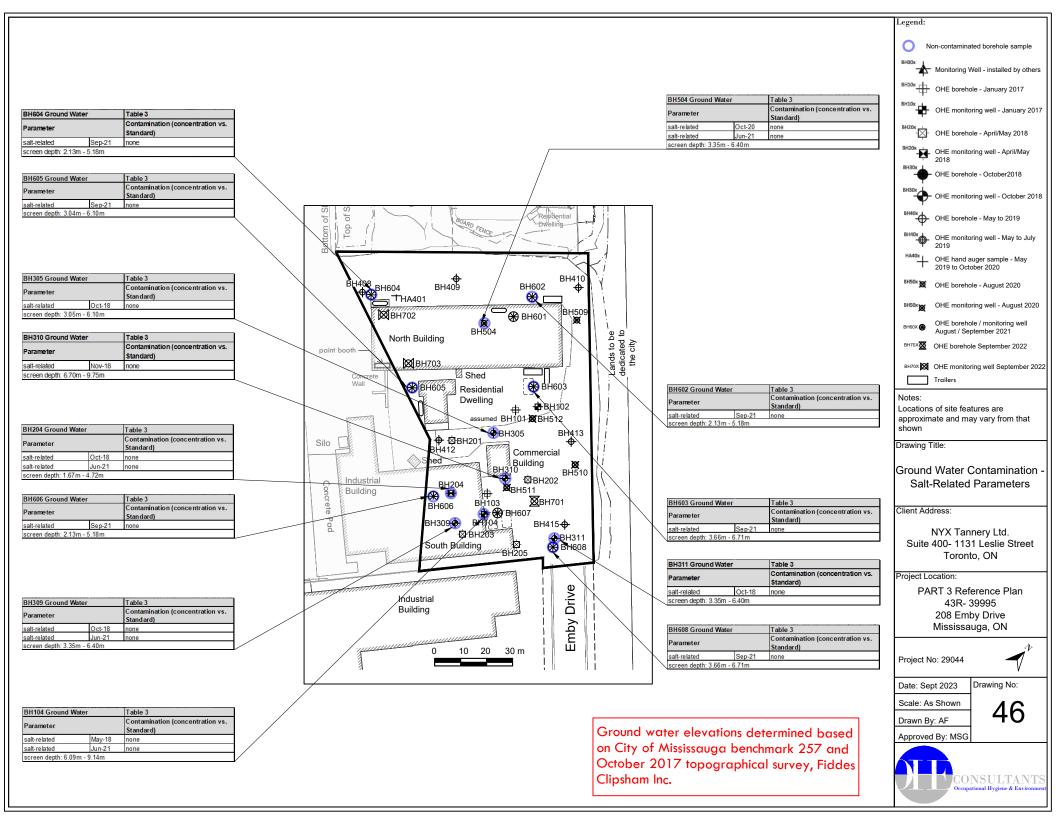


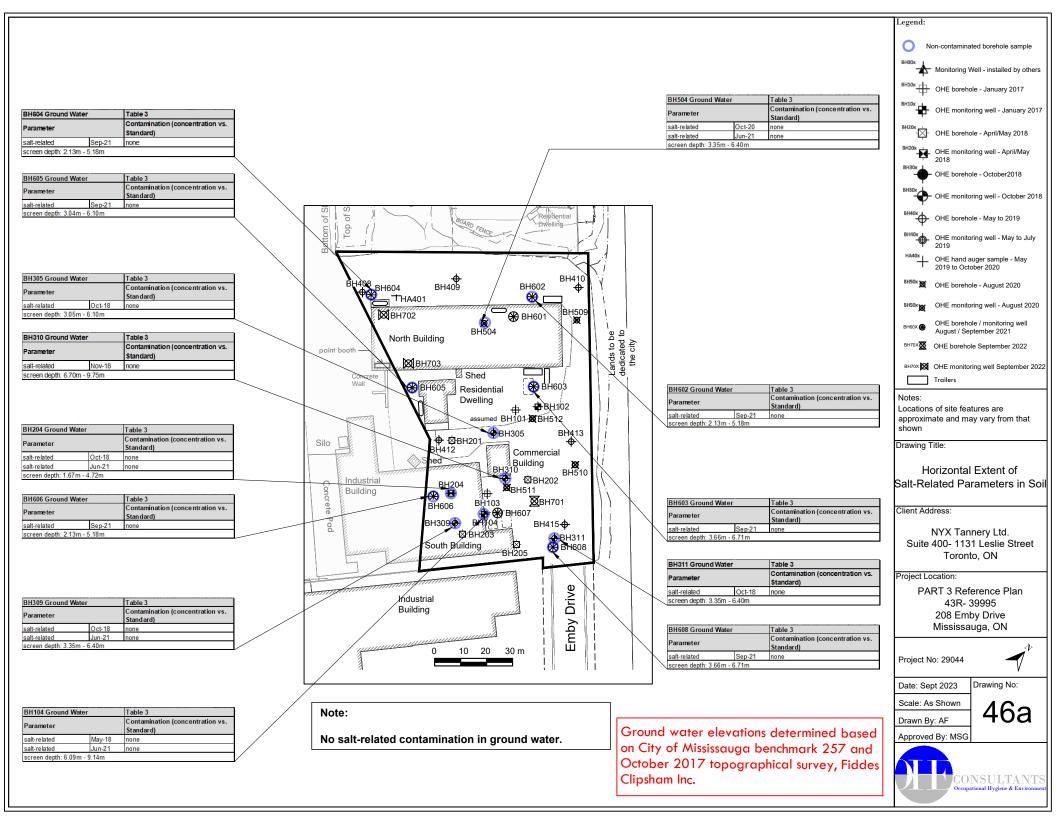


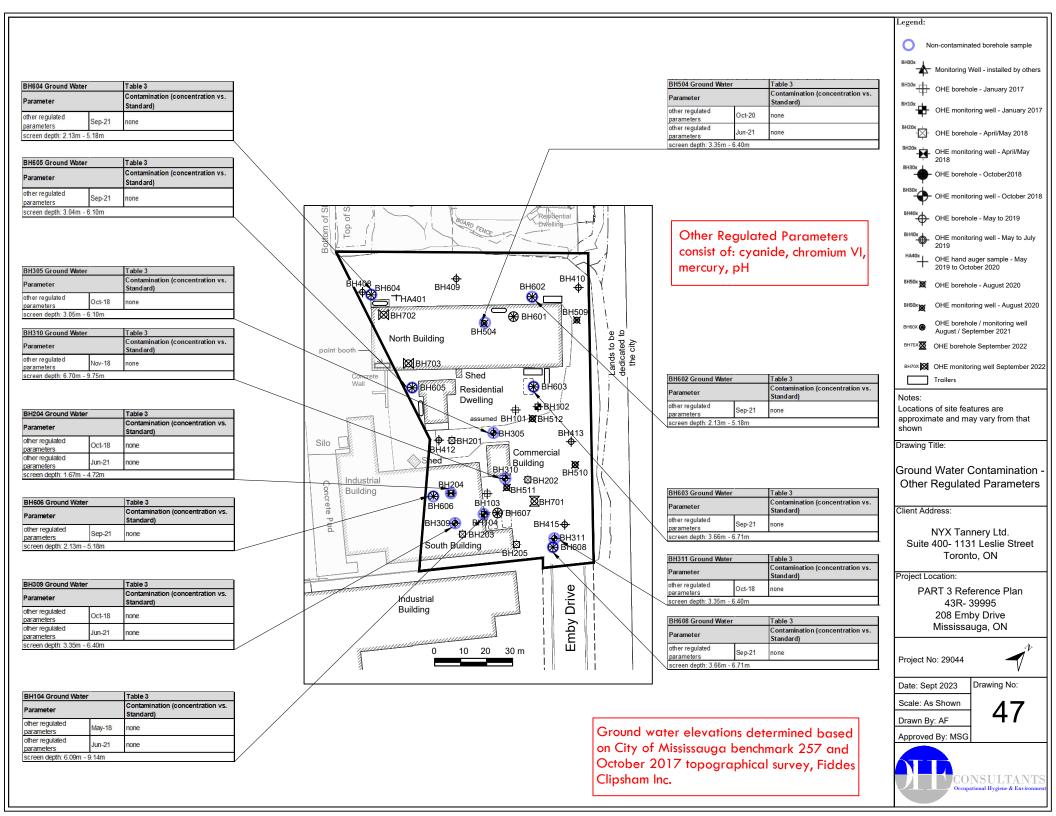


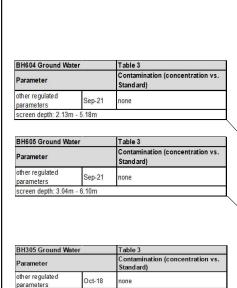












screen depth: 3.05f	n - 6.10m	
BH310 Ground Wa	ater	Table 3
Parameter		Contamination (concentration vs. Standard)
other regulated parameters	Nov-18	none
screen depth: 6 70r	n - 9 75m	

BH204 Ground Water Parameter		Table 3 Contamination (concentration vs. Standard)
other regulated parameters	Jun-21	none

BH606 Ground Water Parameter other regulated parameters Sep-21		Table 3 Contamination (concentration vs. Standard) none			
			screen depth: 2.13m - 5.18m		

BH309 Ground Water Parameter		Table 3 Contamination (concentration vs. Standard)
other regulated parameters	Jun-21	none
screen depth: 3.35m - 6.40m		

BH104 Ground Water Parameter		Table 3	
		Contamination (concentration vs. Standard)	
other regulated parameters	May-18	none	
other regulated parameters Jun-21		none	
screen depth: 6.09n	n - 9.14m		

ter	Table 3 Contamination (concentration vs. Standard)
Oct-20	none
Jun-21	none
	Oct-20

Other Regulated Parameters consist of: cyanide, chromium VI, mercury, pH

BH602 Ground Water Parameter		Table 3 Contamination (concentration vs. Standard)

BH603 Ground Water		Table 3
Parameter		Contamination (concentration vs. Standard)
other regulated Sep-21		none
screen depth: 3 66m - 6 71m		

BH311 Ground Water		Table 3
Parameter		Contamination (concentration vs. Standard)
other regulated parameters Oct-18		none
screen depth: 3.35m - 6.40m		•

Table 3 Contamination (concentration vs. Standard)	

Ground water elevations determined based on City of Mississauga benchmark 257 and October 2017 topographical survey, Fiddes Clipsham Inc.

O N	on-contaminated borehole sample
BH00x	Monitoring Well - installed by others
BH10x	OHE borehole - January 2017
BH10x	OHE monitoring well - January 2017
вн20х-	OHE borehole - April/May 2018
BH20x	OHE monitoring well - April/May 2018
ВНЗОх	OHE borehole - October2018
внзох	OHE monitoring well - October 2018
вн40х	OHE borehole - May to 2019
ВН40х	OHE monitoring well - May to July 2019
HA40x	OHE hand auger sample - May 2019 to October 2020
ВН50х 🕱	OHE borehole - August 2020
BH50x) €	OHE monitoring well - August 2020
вн60Х ∰	OHE borehole / monitoring well August / September 2021
вн70х	OHE borehole September 2022
вн70х 🔀	OHE monitoring well September 2022 Trailers

Notes:

Locations of site features are approximate and may vary from that

Drawing Title:

Horizontal Extent of Other Regulated Parameters in **Ground Water**

Client Address:

NYX Tannery Ltd. Suite 400- 1131 Leslie Street Toronto, ON

Project Location:

PART 3 Reference Plan 43R- 39995 208 Emby Drive Mississauga, ON

Project No: 29044



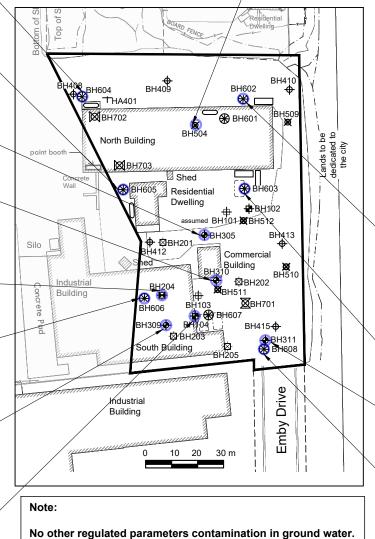
Date: Sept 2023 Drawing No:

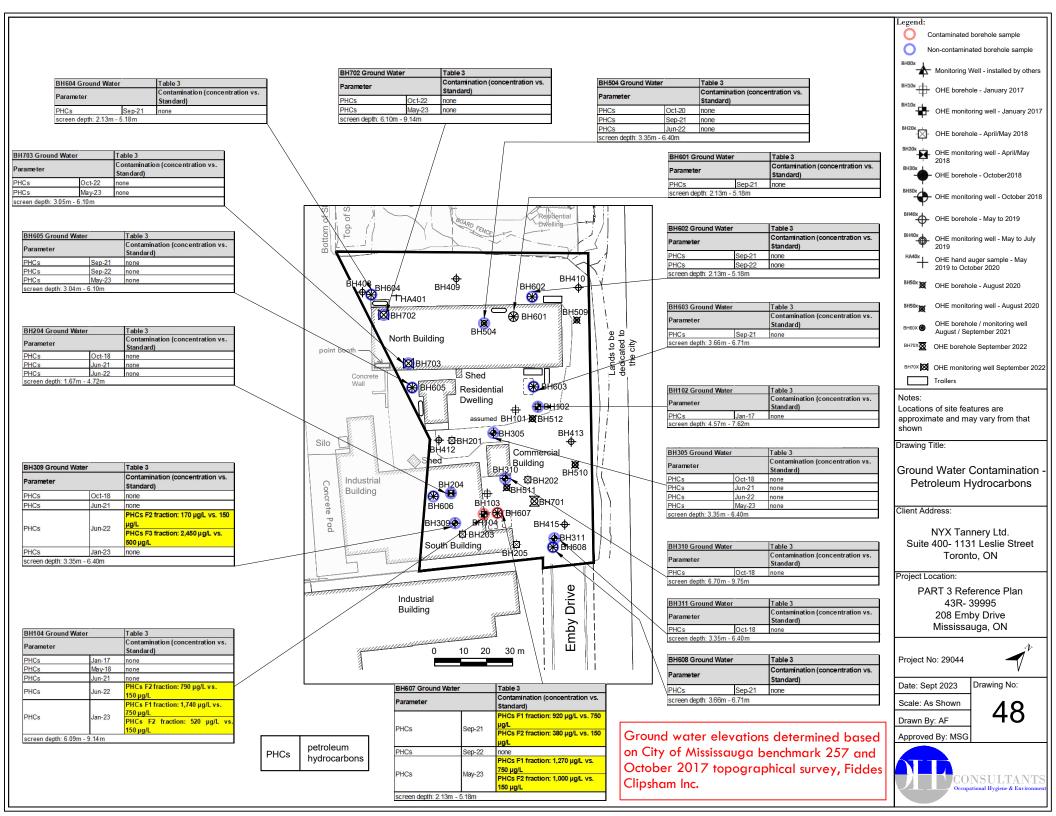
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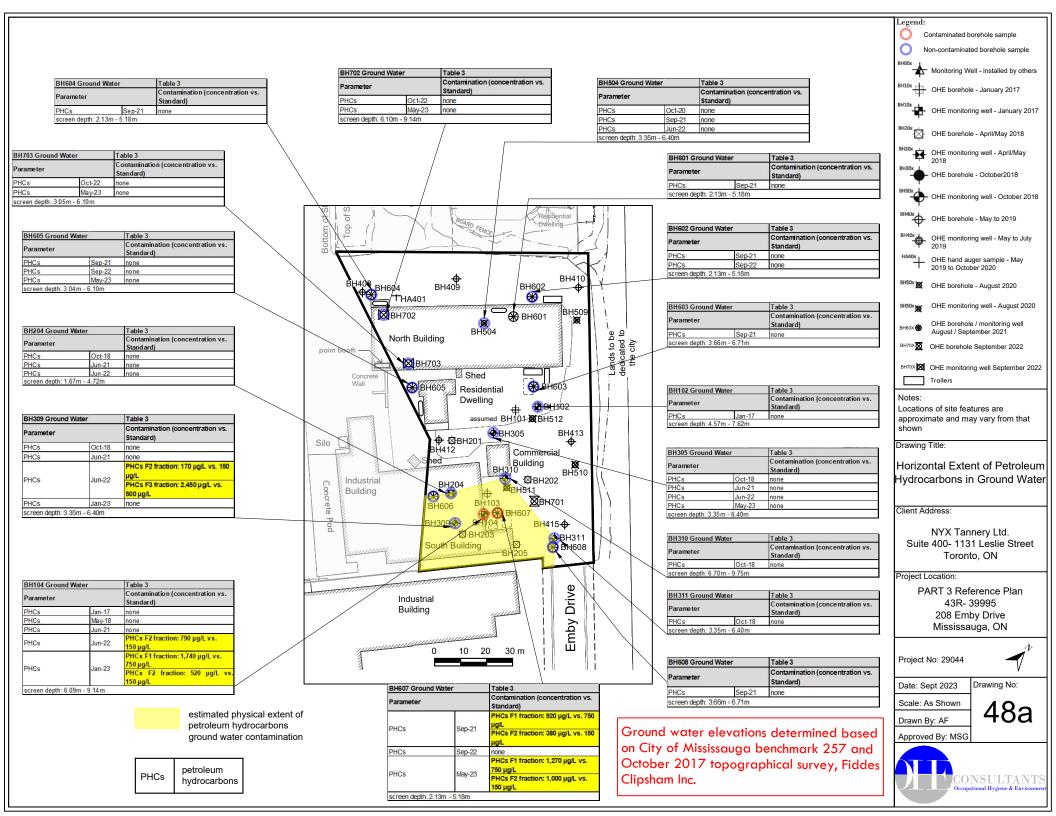
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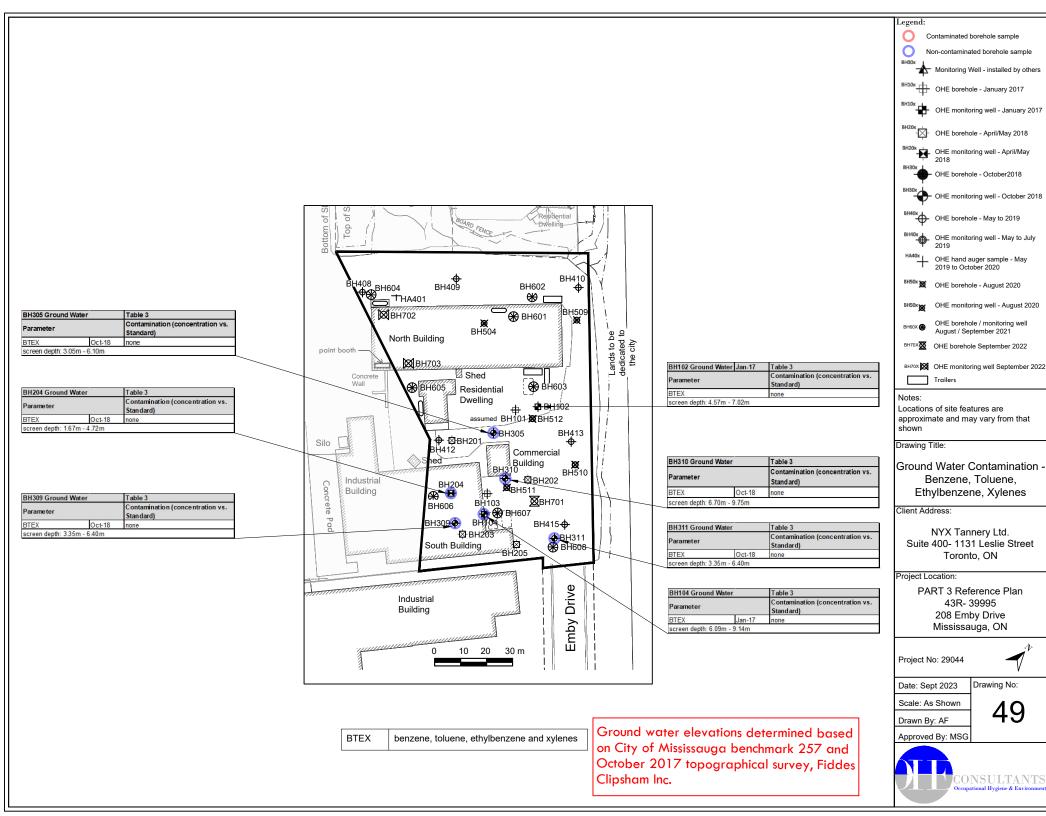
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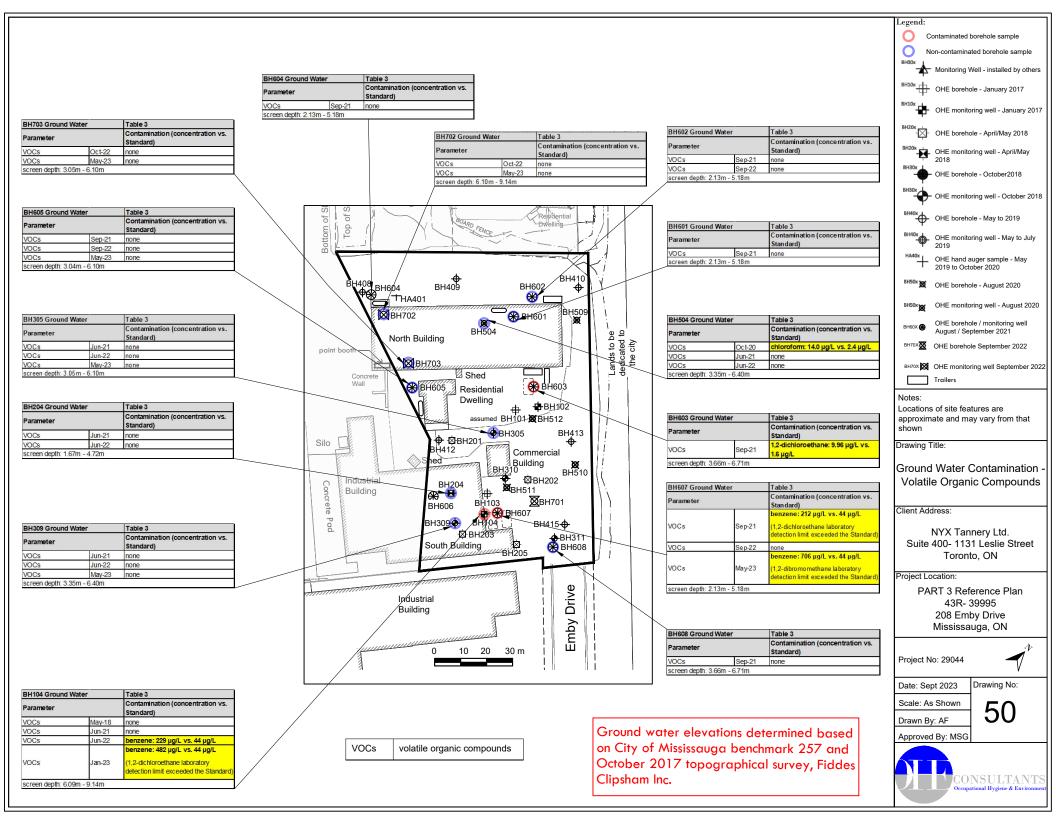


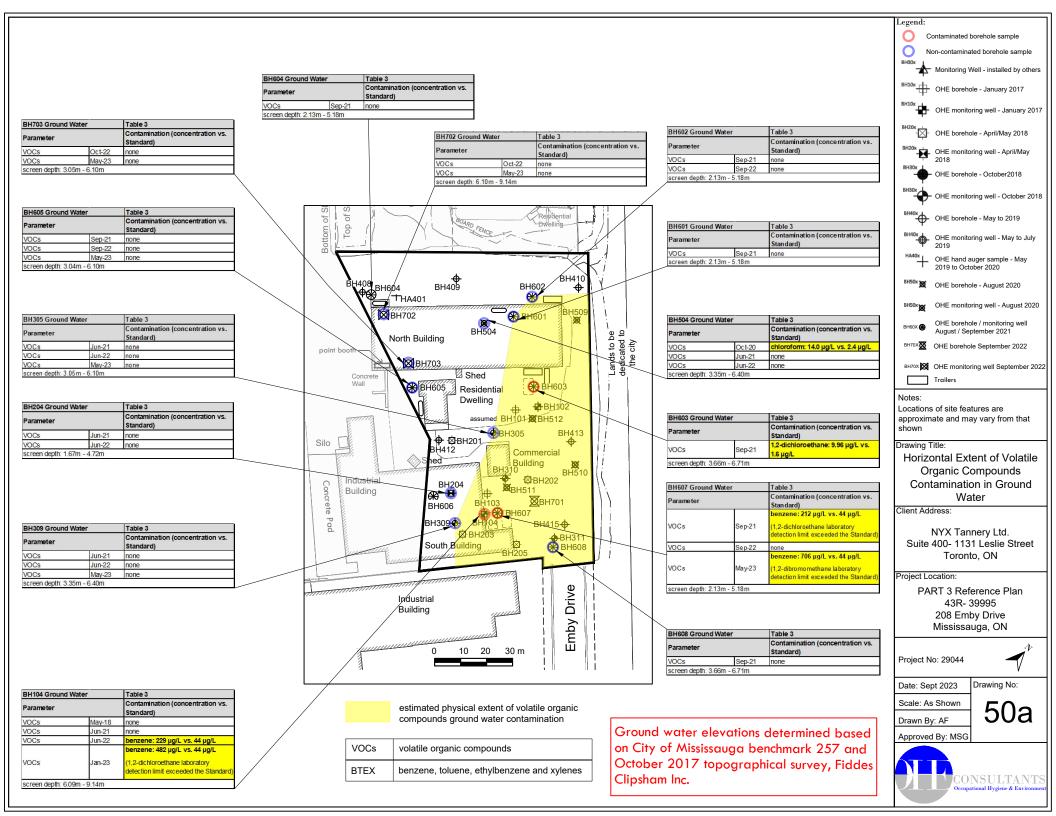


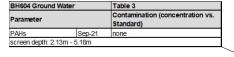










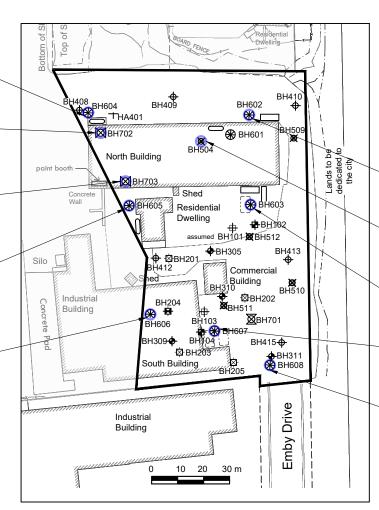


BH702 Ground Water Parameter		Table 3 Contamination (concentration vs. Standard)
screen depth: 6.10m - 9.14m		

BH703 Ground Water Parameter		Table 3
		Contamination (concentration vs. Standard)
PAHs	Oct-22	none
coroon donth:	3 06m 6 10m	

BH605 Ground Water Parameter		Table 3 Contamination (concentration vs. Standard)
screen depth: 3	04m - 6 10m	

BH606 Ground Water Parameter		Table 3 Contamination (concentration vs. Standard)	
			PAHs
screen depth: 2	13m - 5 18m		



BH602 Ground Water	Table 3
Parameter	Contamination (concentration vs. Standard)
PAHs Sep-	1 none

BH504 Ground Water Parameter		Table 3
		Contamination (concentration vs. Standard)
PAHs	Oct-22	none
screen denth: 3.35m -	6.40m	

BH603 Ground Water Parameter		Table 3 Contamination (concentration vs. Standard)

BH607 Ground Water Parameter		Table 3 Contamination (concentration vs. Standard)

PAHS Sep-21		Table 3 Contamination (concentration vs. Standard)
		screen depth: 3.66

***	Monitoring Well - installed by others		
ВН10х	OHE borehole - January 2017		
BH10x	OHE monitoring well - January 2017		
вн20х-	OHE borehole - April/May 2018		
BH20x	OHE monitoring well - April/May 2018		
ВНЗОх	OHE borehole - October2018		
внзох	OHE monitoring well - October 2018		
вн40х	OHE borehole - May to 2019		
ВН40х	OHE monitoring well - May to July 2019		
HA40x	OHE hand auger sample - May 2019 to October 2020		
^{BH50x} ⊠	OHE borehole - August 2020		
BH50x) €	OHE monitoring well - August 2020		
вн60х	OHE borehole / monitoring well August / September 2021		
вн70х	OHE borehole September 2022		
ВН70Х 🌠	OHE monitoring well September 2022 Trailers		
	Trulers		
Notes:			
	s of site features are		
shown	ate and may vary from that		
rawing T	itle:		
Ground Water Contamination - Polycyclic Aromatic Hydrocarbons			
	11,4.004150110		

Non-contaminated borehole sample

Legend:

Client Address:

NYX Tannery Ltd. Suite 400- 1131 Leslie Street Toronto, ON

Project Location:

PART 3 Reference Plan 43R- 39995 208 Emby Drive Mississauga, ON

Project No: 29044



Drawing No:

CONSULTANTS

Date: Sept 2023

Scale: As Shown

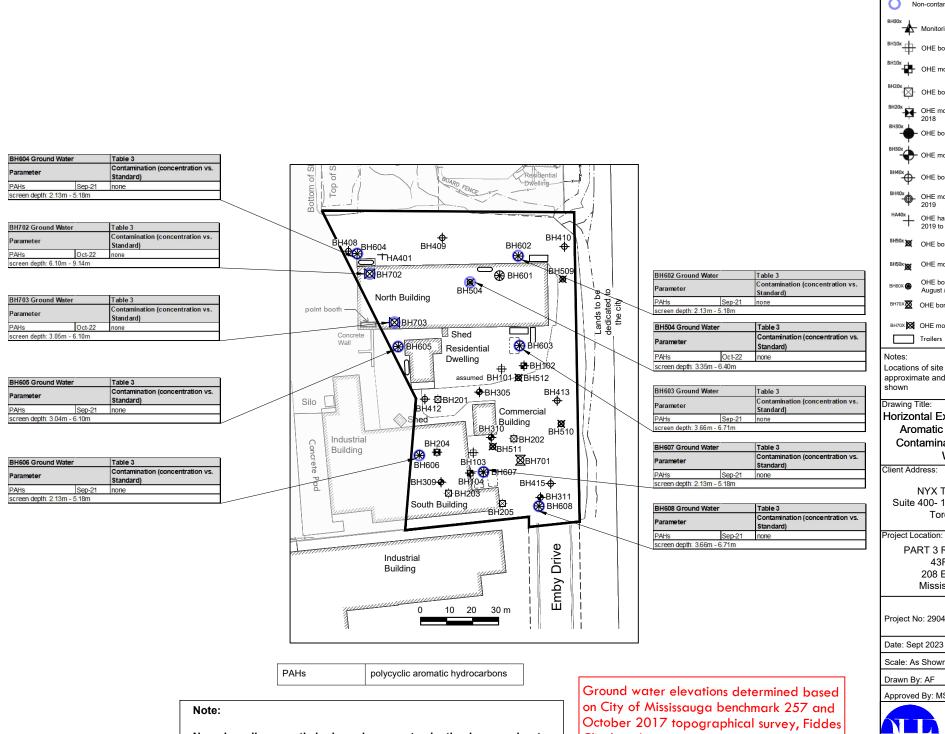
Drawn By: AF

Approved By: MSG

Ground water elevations determined based polycyclic aromatic hydrocarbons on City of Mississauga benchmark 257 and

October 2017 topographical survey, Fiddes Clipsham Inc.

PAHs



Legend: Non-contaminated borehole sample Monitoring Well - installed by others OHE borehole - January 2017 OHE monitoring well - January 2017 OHE borehole - April/May 2018 OHE monitoring well - April/May 2018 - OHE borehole - October2018 OHE monitoring well - October 2018 OHE borehole - May to 2019 OHE monitoring well - May to July OHE hand auger sample - May 2019 to October 2020 BH50x

■ OHE borehole - August 2020 OHE monitoring well - August 2020 OHE borehole / monitoring well August / September 2021 BH70XX OHE borehole September 2022 BH70X OHE monitoring well September 2022

Notes:

Locations of site features are approximate and may vary from that shown

Drawing Title:

Horizontal Extent of Polycyclic **Aromatic Hydrocarbons** Contamination in Ground Water

Client Address:

NYX Tannery Ltd. Suite 400- 1131 Leslie Street Toronto, ON

Project Location:

PART 3 Reference Plan 43R-39995 208 Emby Drive Mississauga, ON

Project No: 29044

Drawing No:

Scale: As Shown

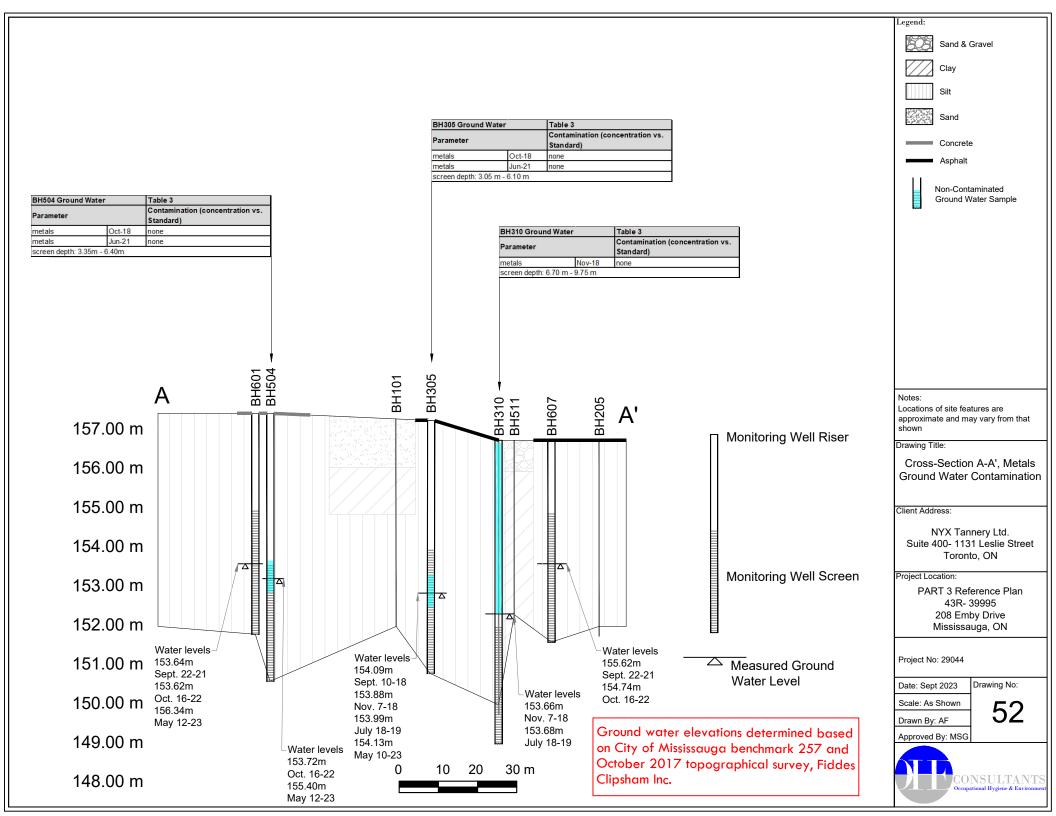
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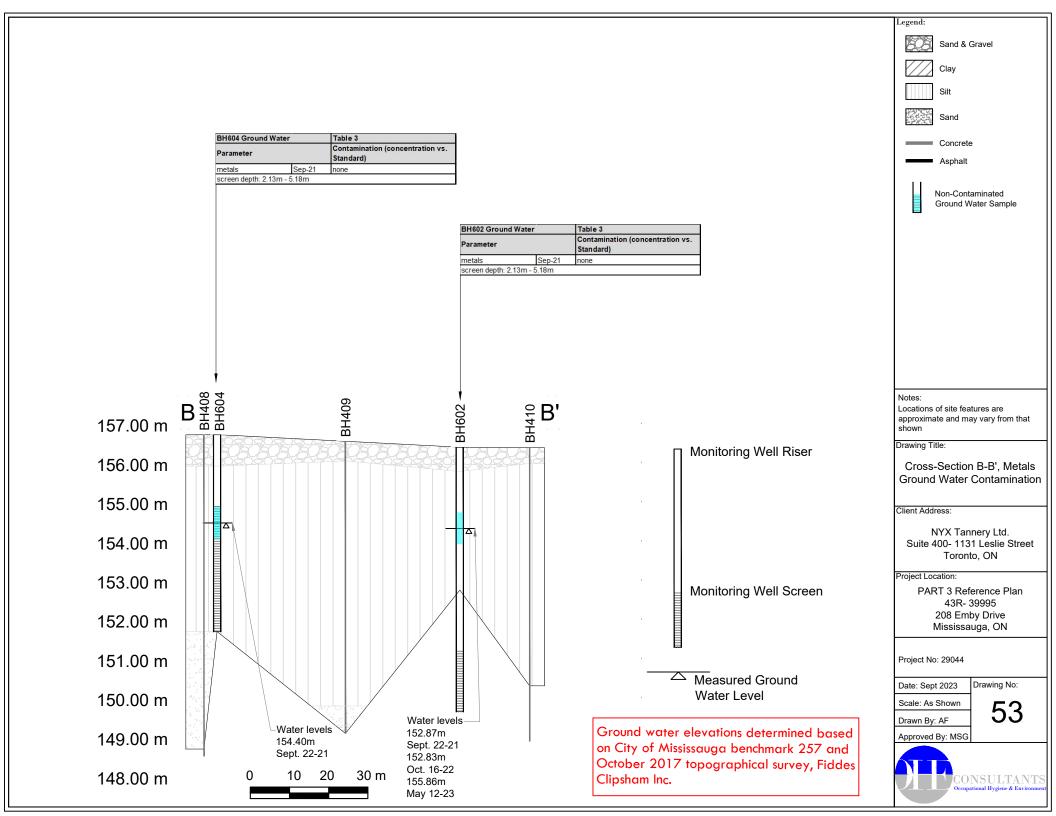
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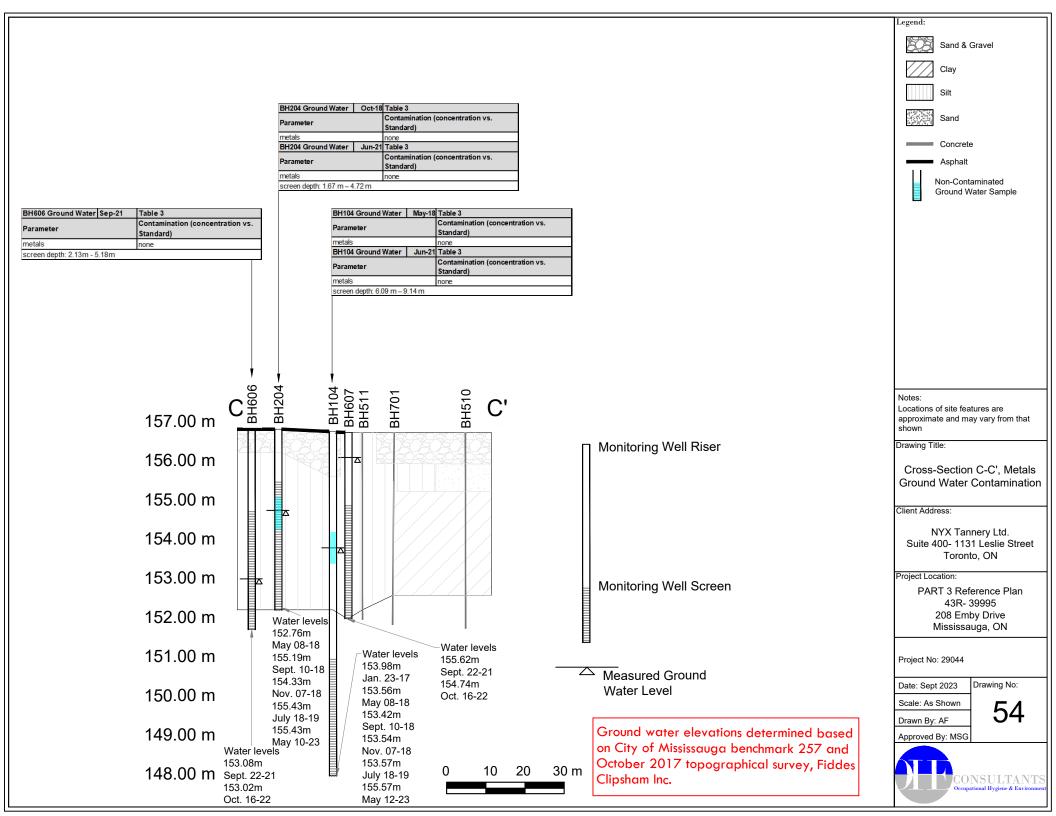


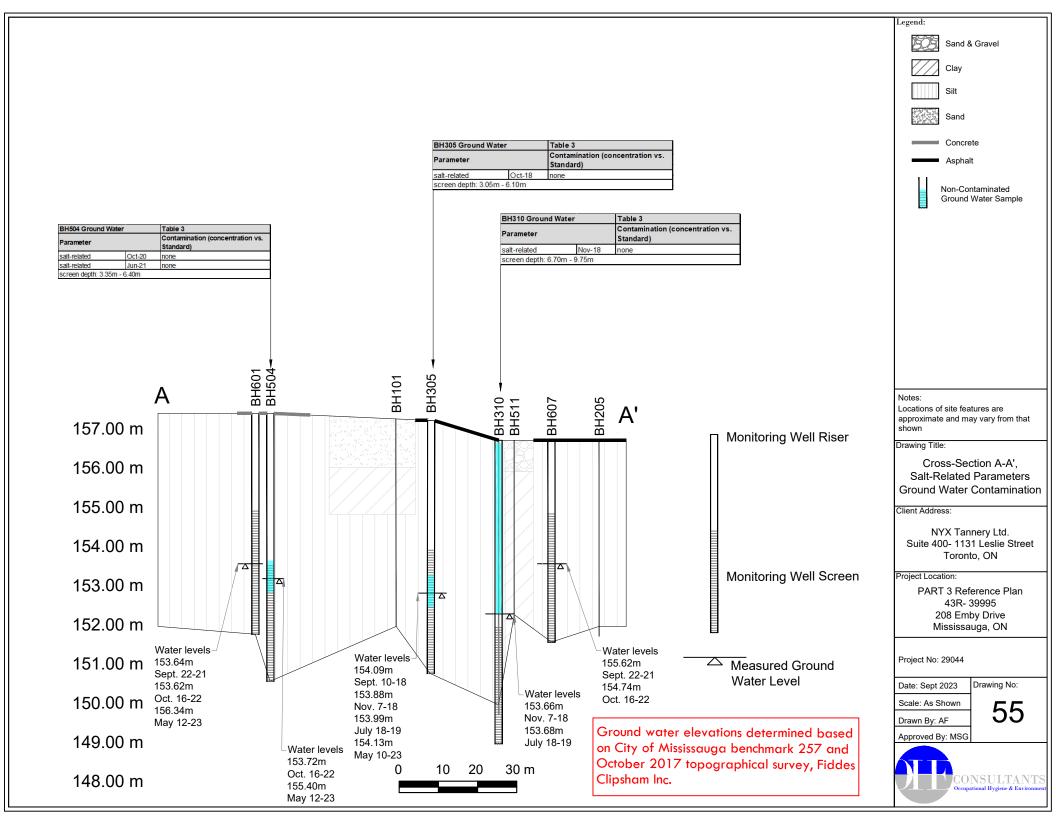
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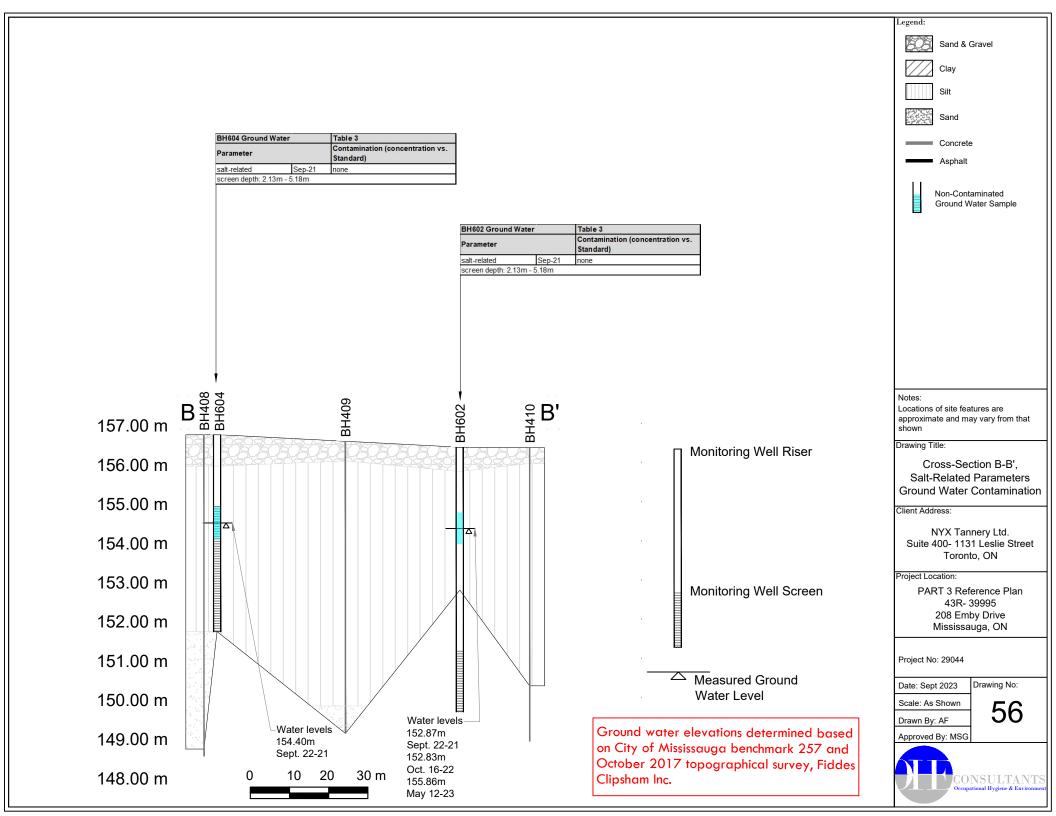
Clipsham Inc.

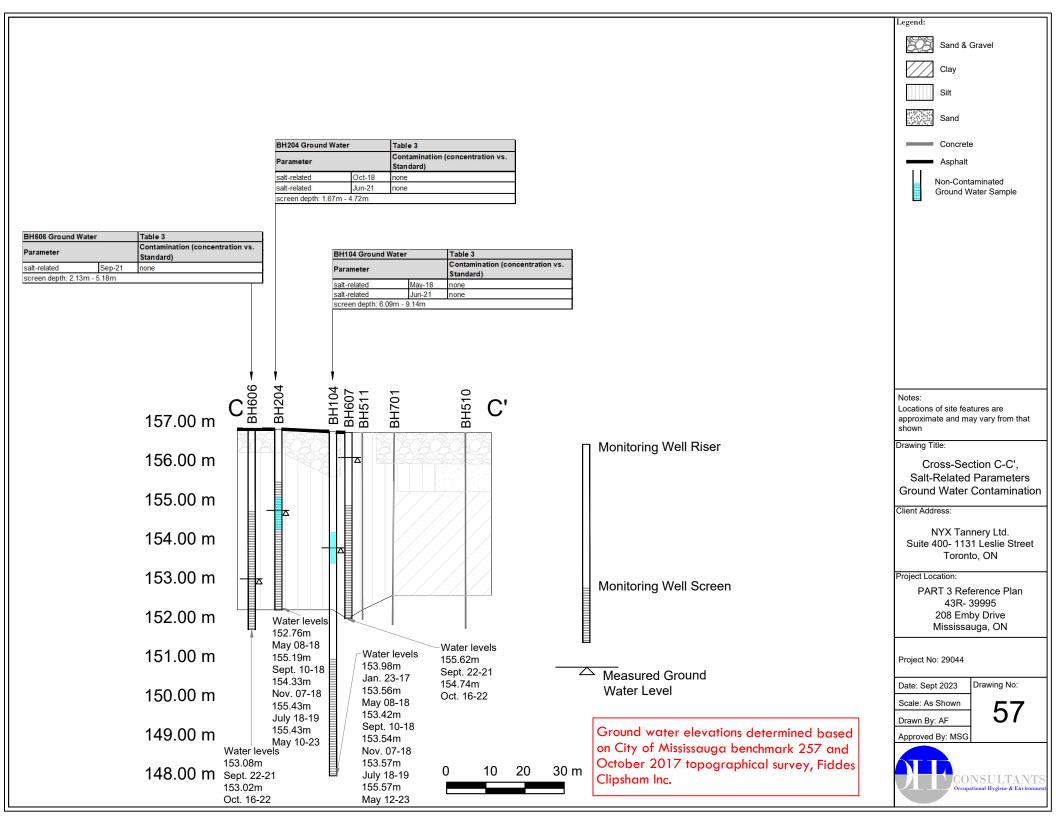


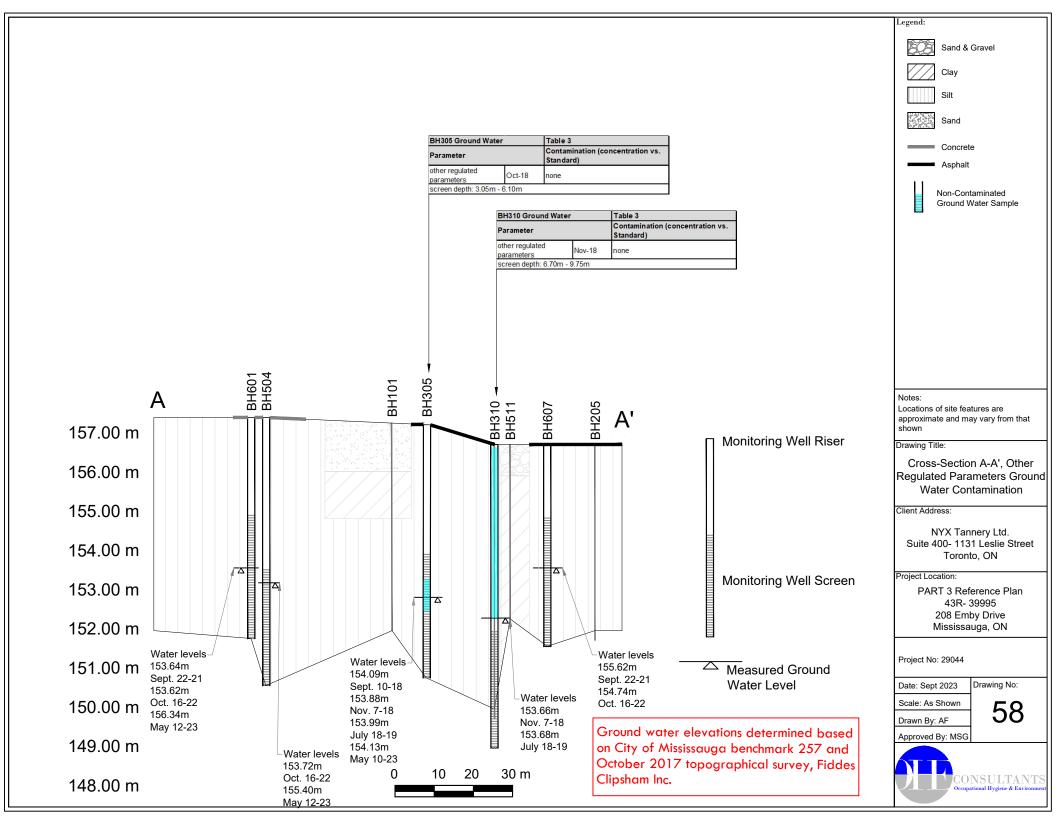


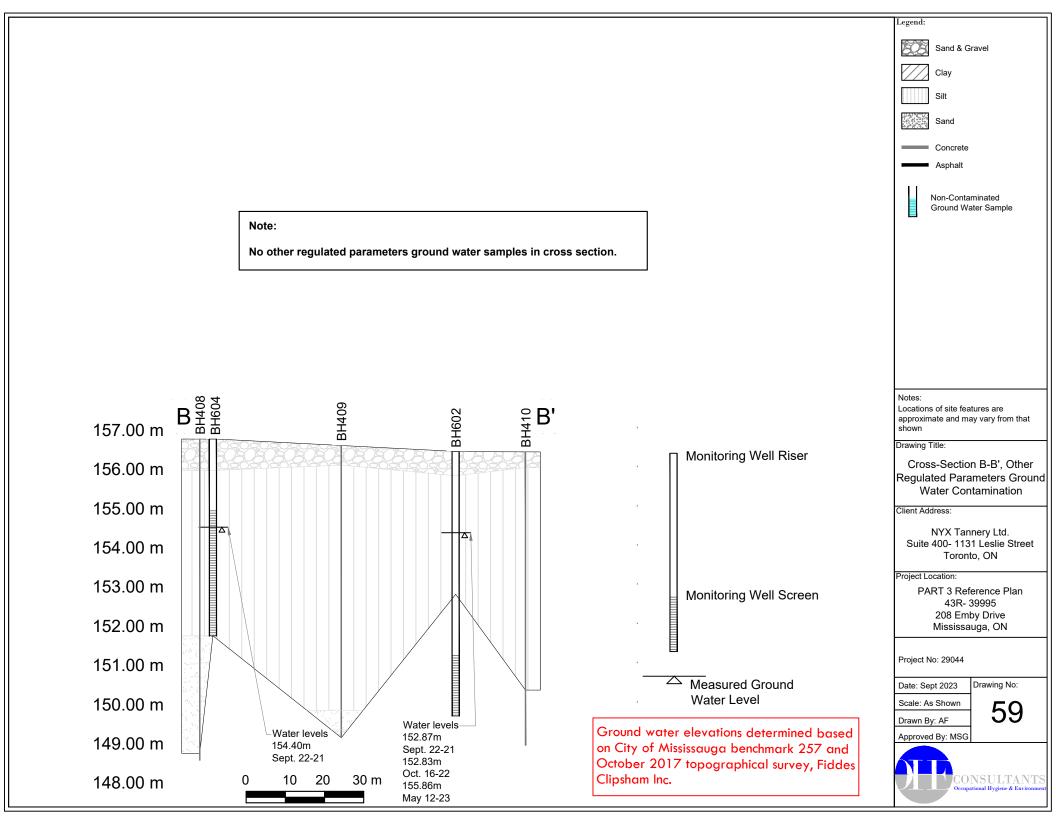


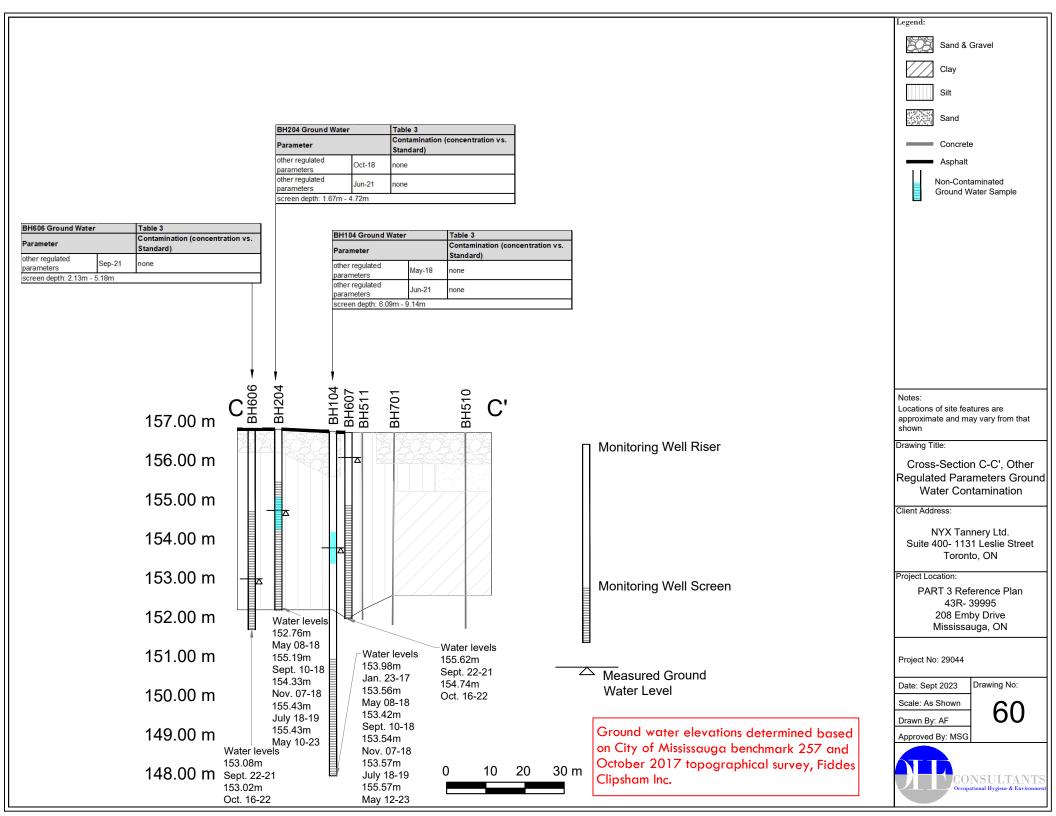


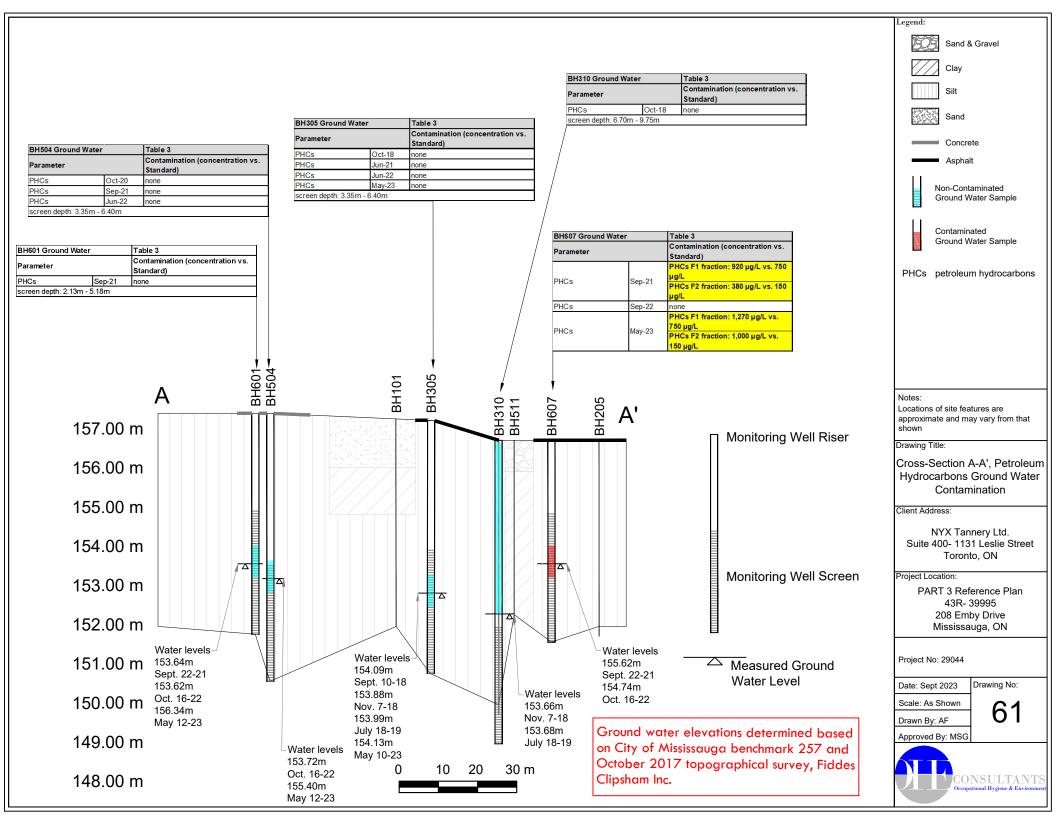


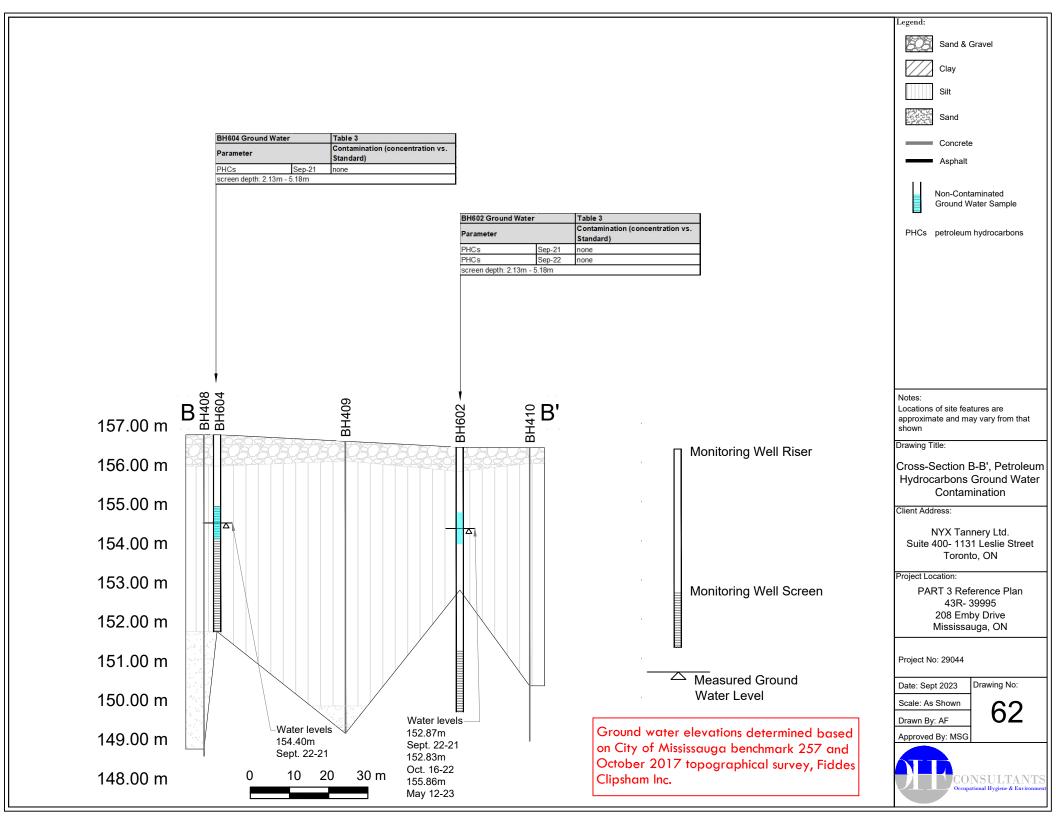


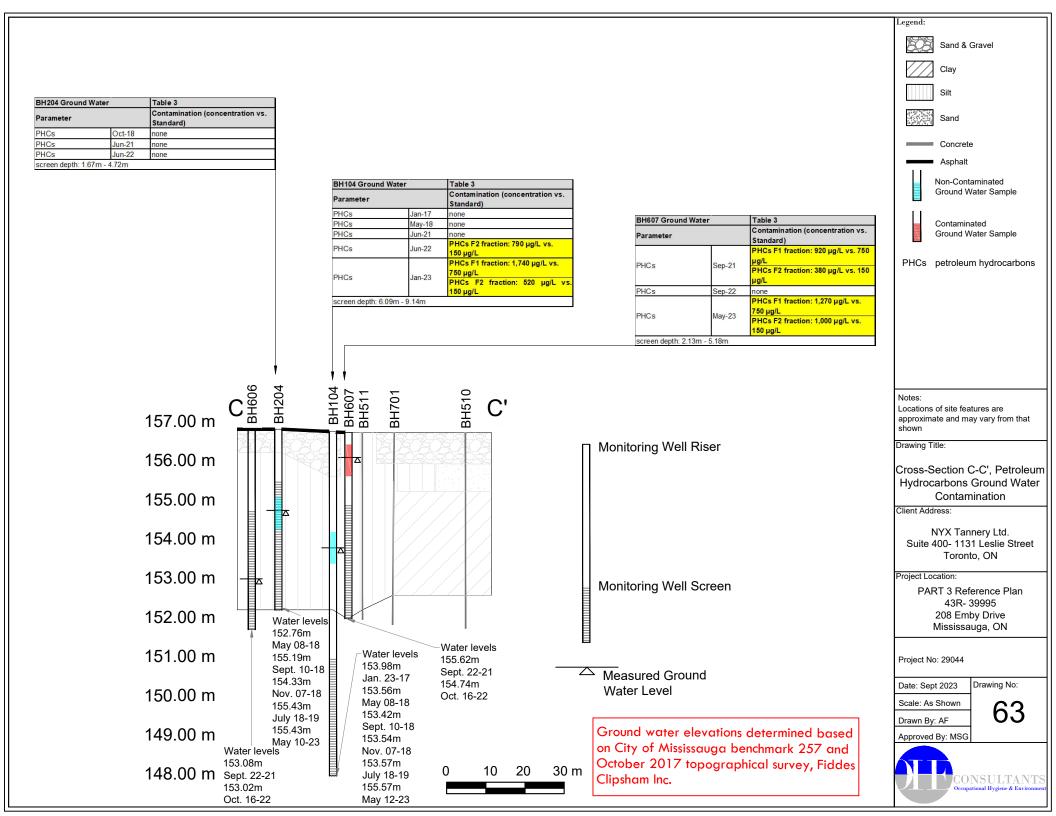


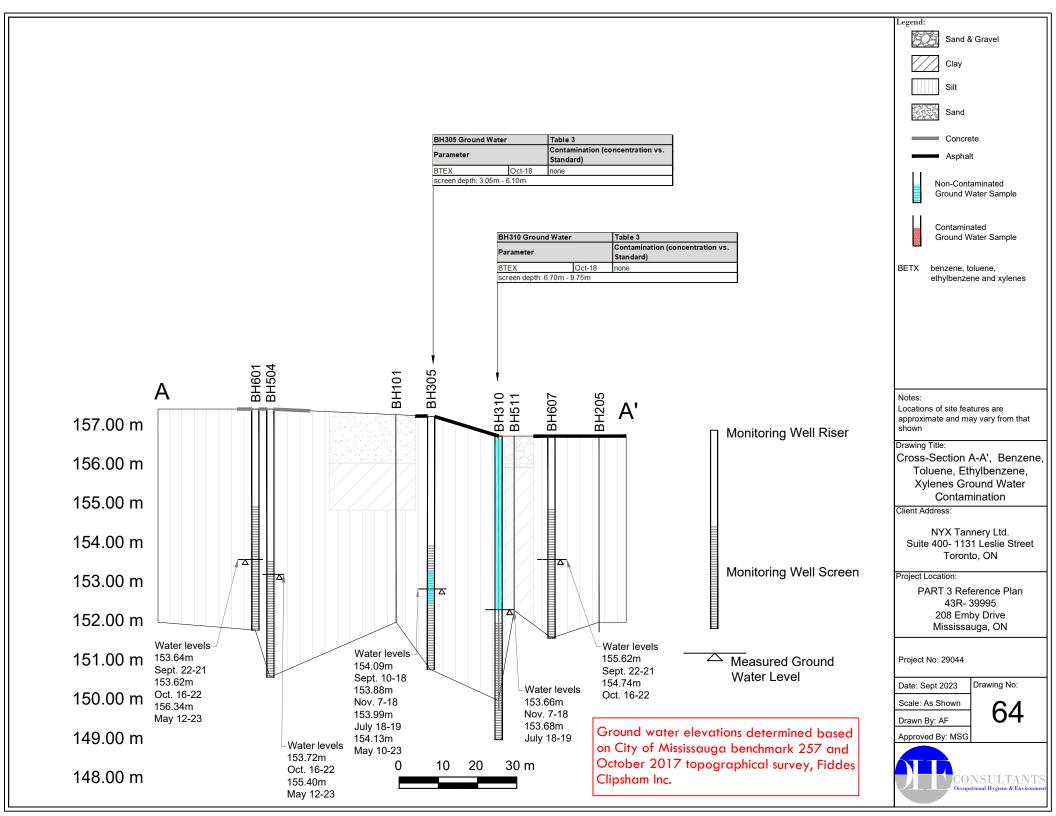


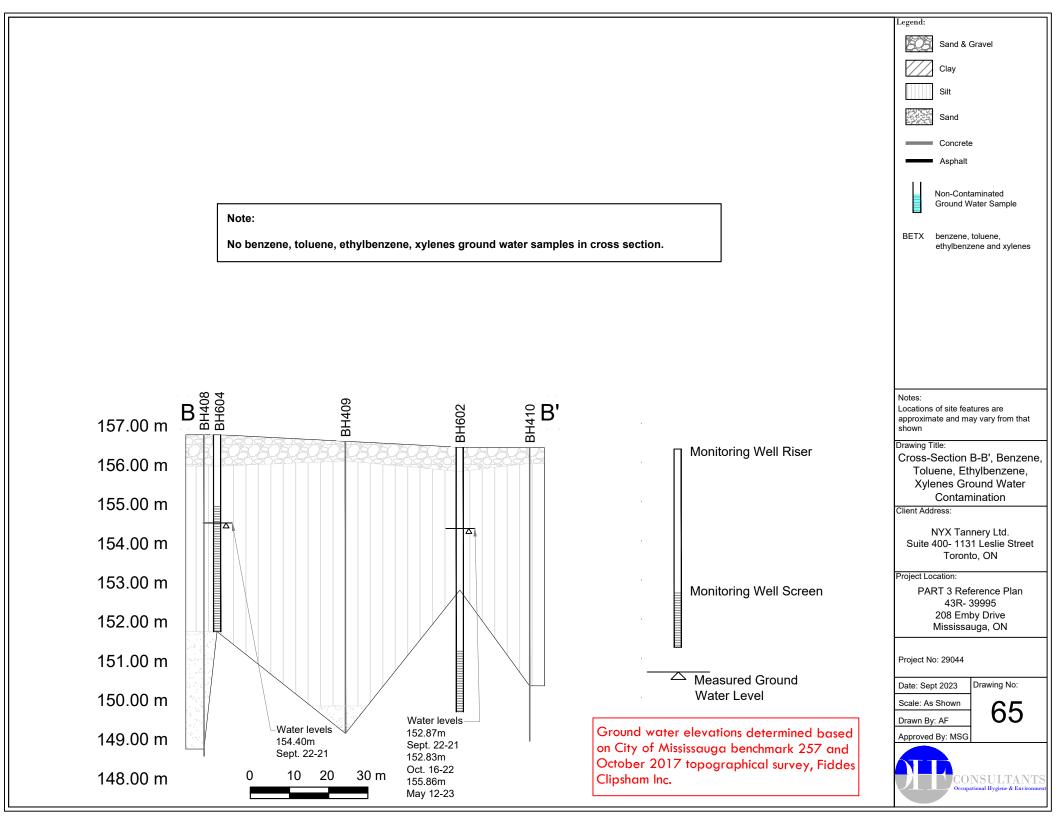


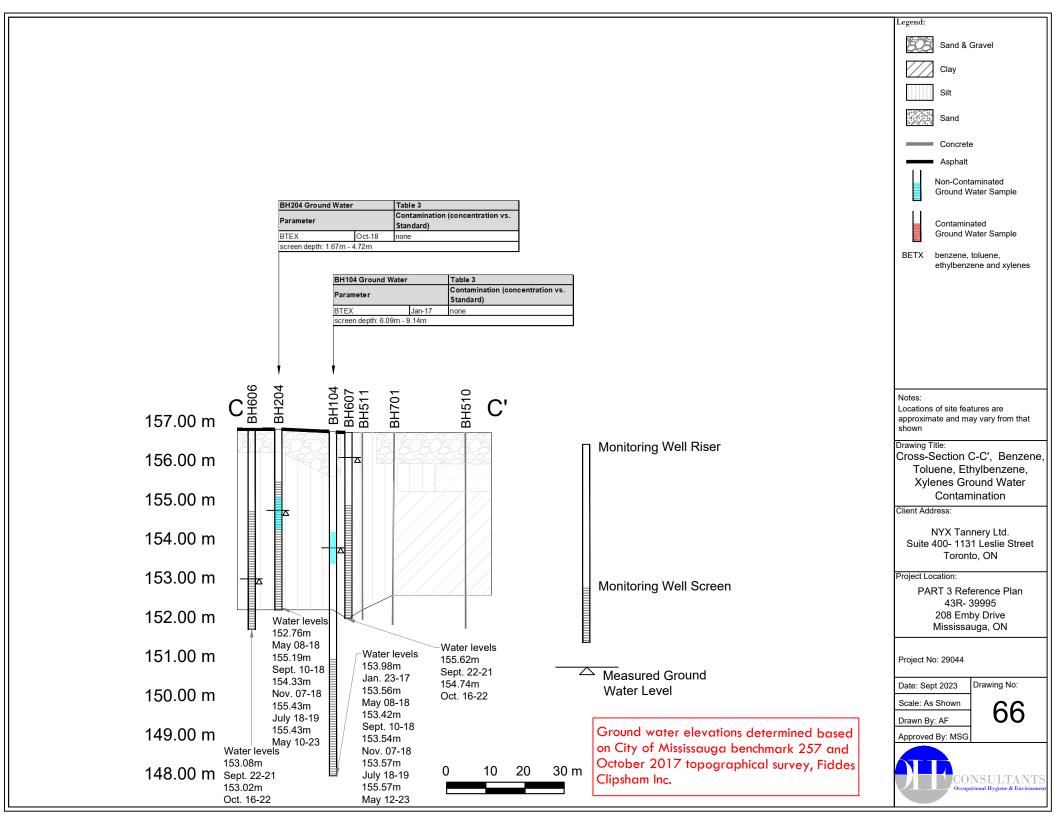


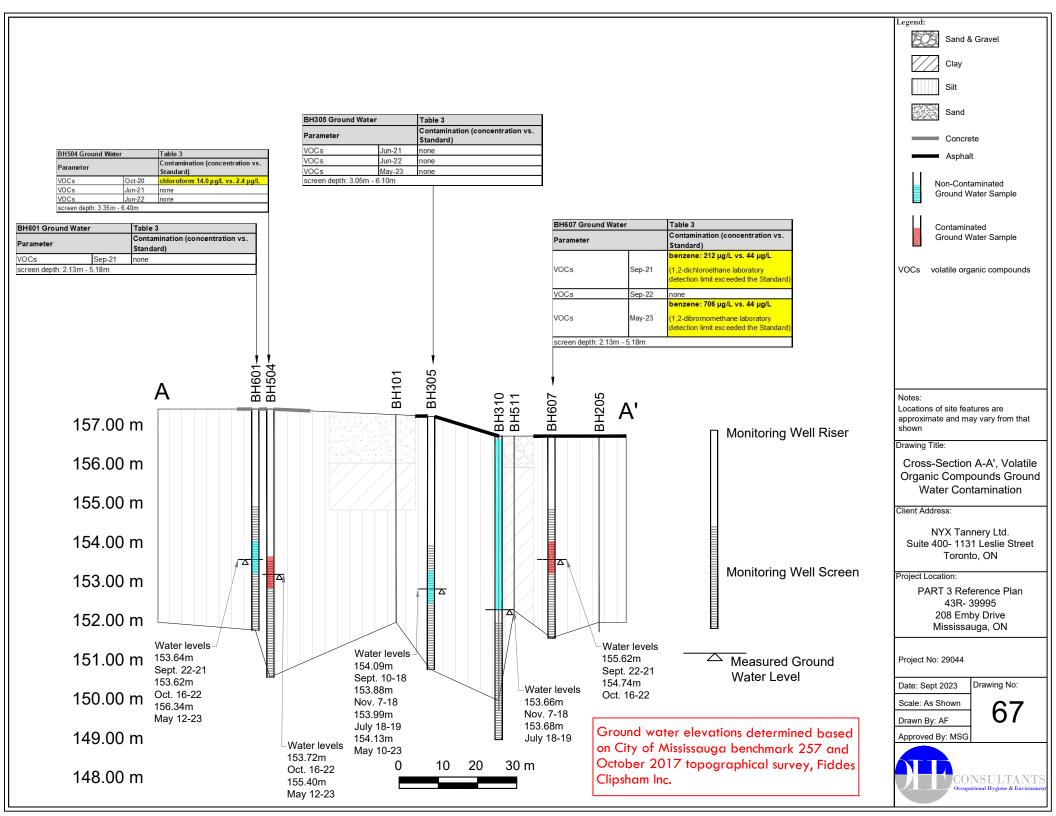


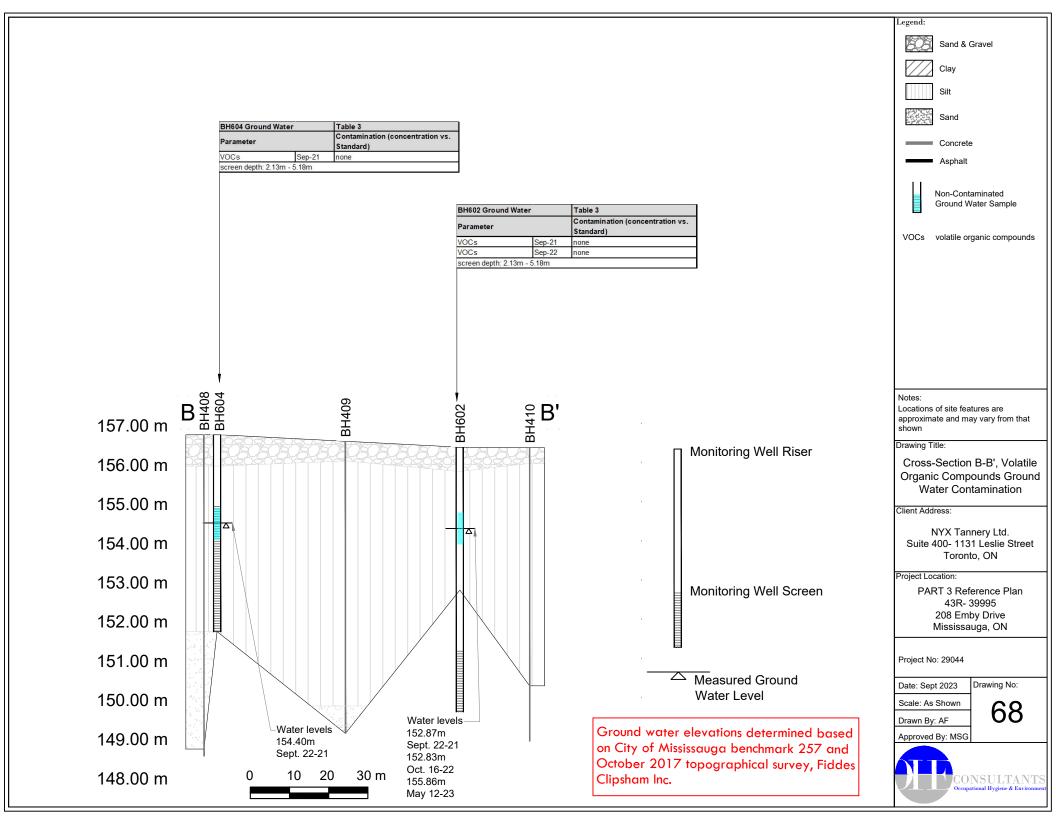


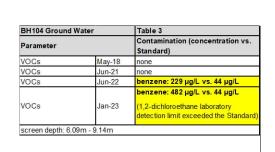












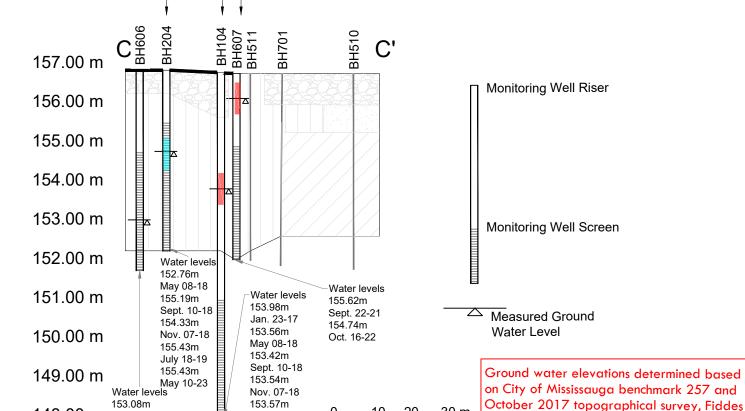
148.00 m Sept. 22-21

153.02m

Oct. 16-22

BH204 Ground Water Parameter		Table 3 Contamination (concentration vs. Standard)
VOCs	Jun-22	none

BH607 Ground Water Parameter		Table 3 Contamination (concentration vs. Standard)
VOCs	Sep-22	none
VOCs	May-23	benzene: 706 µg/L vs. 44 µg/L (1,2-dibromomethane laboratory detection limit exceeded the Standard)
screen depth: 2.1	13m - 5.18m	•



July 18-19

May 12-23

155.57m

30 m

Clipsham Inc.

Sand & Gravel Asphalt Non-Contaminated Ground Water Sample Contaminated Ground Water Sample volatile organic compounds

Notes:

Locations of site features are approximate and may vary from that

Drawing Title:

Cross-Section C-C', Volatile Organic Compounds Ground Water Contamination

Client Address:

NYX Tannery Ltd. Suite 400- 1131 Leslie Street Toronto, ON

Project Location:

PART 3 Reference Plan 43R-39995 208 Emby Drive Mississauga, ON

Project No: 29044

Date: Sept 2023

Scale: As Shown

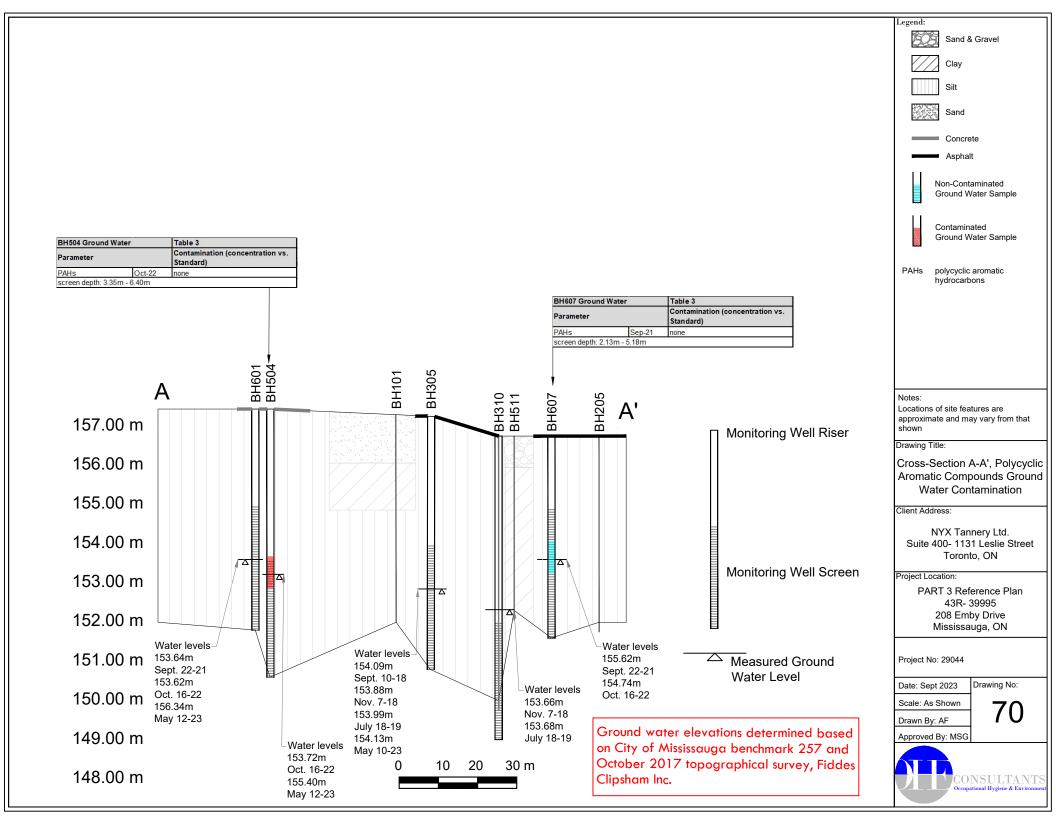
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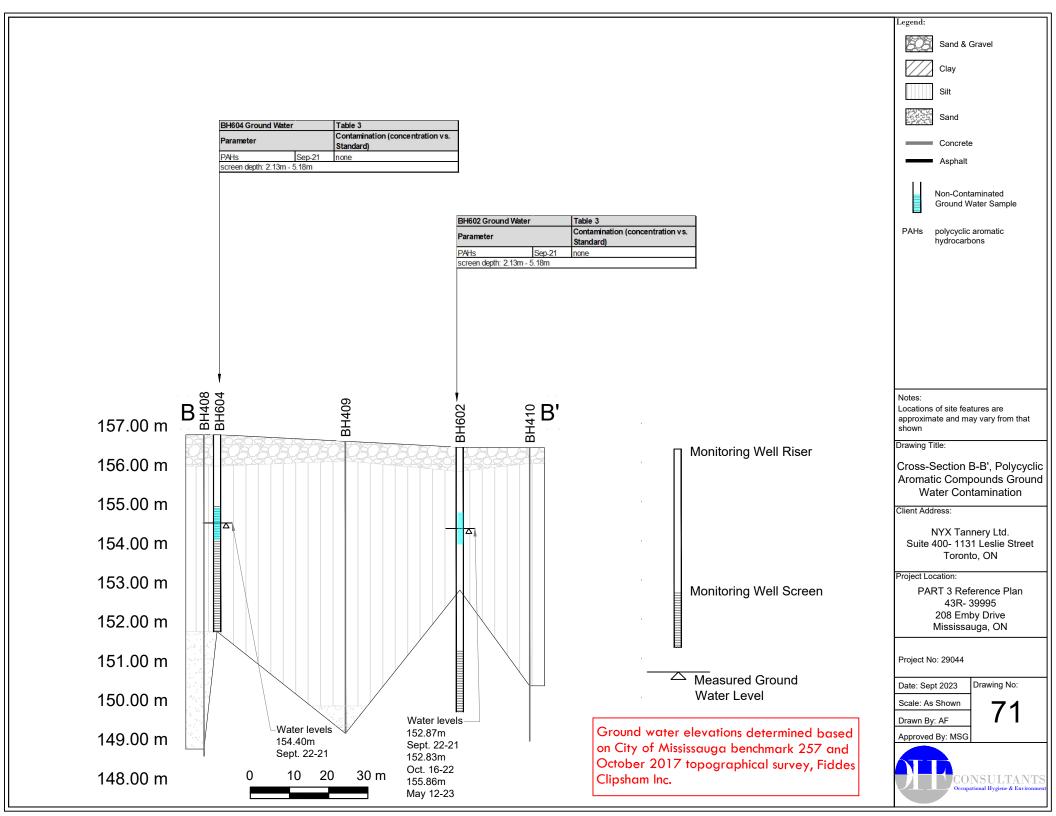
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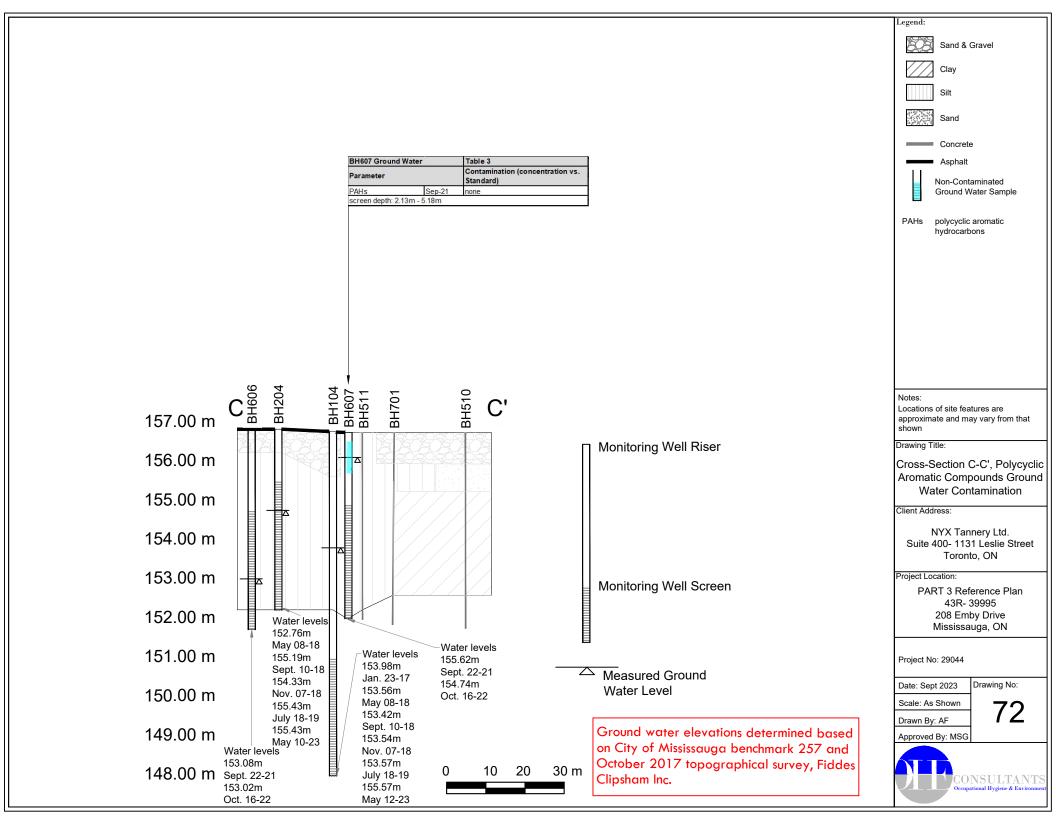


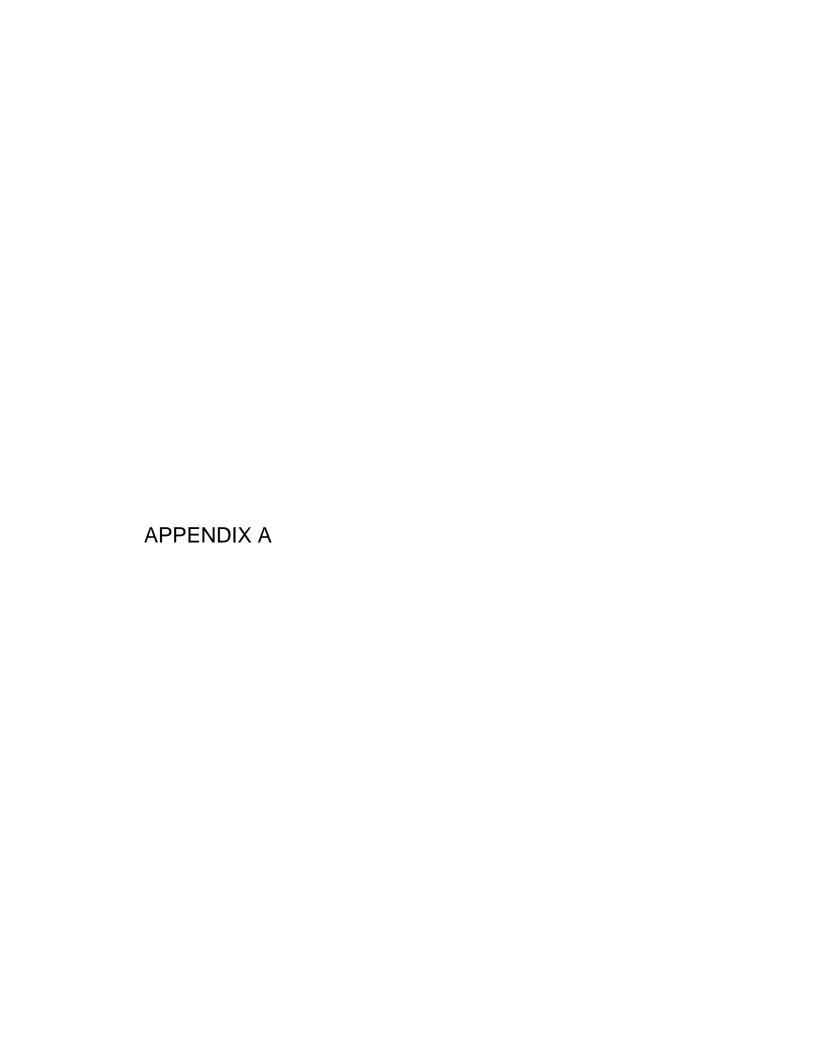
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69











Appendix A Phase Two Environmental Site Assessment Conceptual Site Model Remedial Activities

Residential / Industrial Property

PART 3, Reference Plan 43R-39995 Representing Part of 208 Emby Drive Mississauga, Ontario L5M 1H6



December 13, 2021

OHE Project No.: 23322

Submitted by:

OHE Consultants

Occupational Hygiene & Environment 311 Matheson Boulevard East Mississauga, Ontario L4Z 1X8

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1.0 EXCAVATION A:	. 1
2.0 EXCAVATION C	. 3
3.0 OVERALL	. 4

Phase Two Environmental Site Assessment – Conceptual Site Model, Appendix A PART 3, Reference Plan 43R-39995, Part of 208 Emby Drive, Mississauga, Ontario OHE Project No.: 23322

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On August 14, 2020 two (2) discrete soil remediations were undertaken. These were carried out by Tri-Phase Group, retained directly by the Property owner, and were supervised by OHE. These remediations are discussed separately below:

1.0 Excavation A:

Excavation A was carried out in order to remove petroleum hydrocarbon (PHC) contaminated soil from the location of soil sample HA401. This location was noted by OHE to have black surface staining. PHC F1 to F4 fraction contamination was found at 1.0 m below grade and 2.0 m below grade in soil samples retrieved from HA401.

An area of 2.0 m by 1.2 m was excavated. The excavation extended to encompass the surface location of staining. The excavation was extended to a depth of 1.0 m. At this time OHE field screened two (2) excavation floor locations, and one (1) excavation wall sample from the centre of each wall. Field screening consisted of an examination of the soil retrieved by way of a decontaminated hand trowel for any visual or olfactory evidence of contamination. Soil headspace vapour concentrations were also measured from these soil samples by way of an RKI Eagle 2 gas detector. This instrument was calibrated to methane.

No field evidence of soil contamination was identified at the locations of the field screen samples or visually over the entirety of the excavation. OHE retrieved two (2) floor samples (ExcA SS1 and ExcA SS2) as well as three (3) wall samples (ExcA SS3, ExcA SS4 and ExcA SS5) at a depth of 0.5 m. These soil samples were submitted for laboratory analysis of PHCs F1 to F4 fractions. The PHC F1 vials were lost so only fractions F2 to F4 were laboratory analyzed.

The laboratory analytical results were compared to the Table 1 Full Depth Background Site Condition Standards from the *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act.* This Standard was selected due to the onsite presence of Tannery Creek.

The reported PHC concentrations for these fractions was below the applicable Table 1 Standard. The data is shown in the attached table.

Phase Two Environmental Site Assessment – Conceptual Site Model, Appendix A PART 3, Reference Plan 43R-39995, Part of 208 Emby Drive, Mississauga, Ontario

OHE Project No.: 23322 December 13, 2021 page 2 of 4

	laboratory detection limit	OHE sample id.	ExcA SS1	CA SS1 ExcA SS2 ExcA SS3			
parameter		laboratory sample id.	L2489063-1	L2489063-2	L2489063-3	Table 1	
P an announce		date	August 14, 2020	August 14, 2020	August 14, 2020	Standard	
		depth	1.0 m	1.0 m	0.5 m		
PHC F1	5.0		-	-	-	25	
PHC F2	10		<10	<10	<10	10	
PHC F3	50		<50	<50	<50	240	
PHC F4	50		<50	<50	<50	120	

		OHE sample id.	ExcA SS4 ExcA SS5			
parameter	laboratory detection limit	laboratory sample id.	L2489063-4	L2489063-5	Table 1 Standard	
		date	August 14, 2020	August 14, 2020		
		depth	0.5 m	0.5 m		
PHC F1	5.0		-	-	25	
PHC F2	10		<10	<10	10	
PHC F3	50		<50	<50	240	
PHC F4	50		<50	<50	120	

OHE drilled three (3) hand auger holes in the excavation area on December 17, 2020. Sampling was limited at this time due to the storage of derelict vehicles in the excavation area. In order to achieve sufficient floor depth OHE first excavated approximately 0.6 m of gravel using a hand shovel. Beyond this depth excavation was difficult due to cave-in. OHE then hand augered one (1) location from 0.6 m depth (HA501). Excavation floor soil was captured in the bottom of the auger. Two excavation wall sample locations (HA502 and HA503) were also hand augered. These were located based upon the visible extent of the gravel backfill. The hand auger contents at 0.5 m comprised a mix of gravel and soil indicating that the excavation wall was likely successfully located.

There was insufficient soil from HA501 for field screening. Soil from sample locations HA501 and HA503 was field for any visual or olfactory evidence of contamination. Soil headspace vapour concentrations were also measured from these soil samples by way of an RKI Eagle 2 gas detector. This instrument was calibrated to methane. Soil

samples were submitted for PHCs F1 fraction laboratory analysis. All sample results indicated soil concentrations below the applicable Table 1 Standard.

At the commencement of field work and between soil samples all sampling equipment was decontaminated through use of Alconox® detergent and reverse-osmosis deionized water.

	laboratory detection limit	OHE sample id.	HA501	HA502	HA503	
parameter		laboratory sample id.	L2541575-1	L2541575-2	L2541575-3	Table 1
J		date	December 17, 2020	December 17, 2020	December 17, 2020	Standard
		depth	1.0 m	0.5 m	0.5 m	
PHC F1	5.0		<5.0	<5.0	<5.0	25
PHC F2	10		-	-	-	10
PHC F3	50		-	-	-	240
PHC F4	50		-	-	-	120

Contaminated soil was removed and was transported to Trillium Recovery (2019) Ltd., Disco Road, Toronto. Clear stone backfill was imported from Strata Aggregates, Whitchurch-Stouffville. Due to the natural of this material it was not possible to carry out imported backfill laboratory sample analysis.

The locations of HA401 and Excavation A are included in Drawing 6 and Drawing 7 of the Conceptual Site Model.

2.0 Excavation C:

Excavation C was carried out in order to remove PHC contaminated soil from the location of soil sample BH201. PHC F3 and F4 fraction contamination was found at 2.3 m to 2.7 m below grade at this location.

A test pit remedial excavation was carried out. The excavation was extended to a depth of 2.5 m. At this time OHE field screened soil from a depth of 2.5 m at the bottom of the test pit. Field screening was carried out for visual or olfactory evidence of soil contamination. Soil headspace vapour concentrations were also measured from these soil samples by way of an RKI Eagle 2 gas detector. This instrument was calibrated to methane.

No field evidence of soil contamination was identified at a depth of 2.5 m. Two (2) soil samples (ExcC SS1 and ExcC SS2) was retrieved using a decontaminated hand trowel

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from the excavator bucket and was submitted for laboratory analysis of PHCs F2 to F4 fractions.

The laboratory analytical results were compared to the Table 1 Full Depth Background Site Condition Standards. The reported PHC concentrations for these fractions was below the applicable Table 1 Standard.

		OHE sample id.	ExcC SS1 ExcC SS2		
parameter	laboratory detection limit	laboratory sample id.	L2489063-8	L2489063-9	Table 1 Standard
paramotor		date	August 14, 2020	August 14, 2020	
		depth	2.5 m	2.5 m	
PHC F1	5.0		-	-	25
PHC F2	10		<10	<10	10
PHC F3	50		<50	<50	240
PHC F4	50		79	80	120

At the commencement of field work and between soil samples all sampling equipment was decontaminated through use of Alconox® detergent and reverse-osmosis deionized water.

Contaminated soil was removed and was transported to Trillium Recovery (2019) Ltd., Disco Road, Toronto. Clear stone backfill was imported from Strata Aggregates, Whitchurch-Stouffville. Due to the natural of this material it was not possible to carry out imported backfill laboratory sample analysis.

The locations of the remediations are shown in Drawing 7 of the Conceptual Site Model.

3.0 Overall:

A total of 17.59 tonnes of contaminated soil was transported to the Property to Trillium Recovery (2019) Ltd. A total of 17.25 tonnes of clear stone backfill was transported to the site from Strata Aggregates. It should be noted that this quantity also included material used for Excavation B, completed within PARTs 1 and 2, Reference Plan 43R-39995.