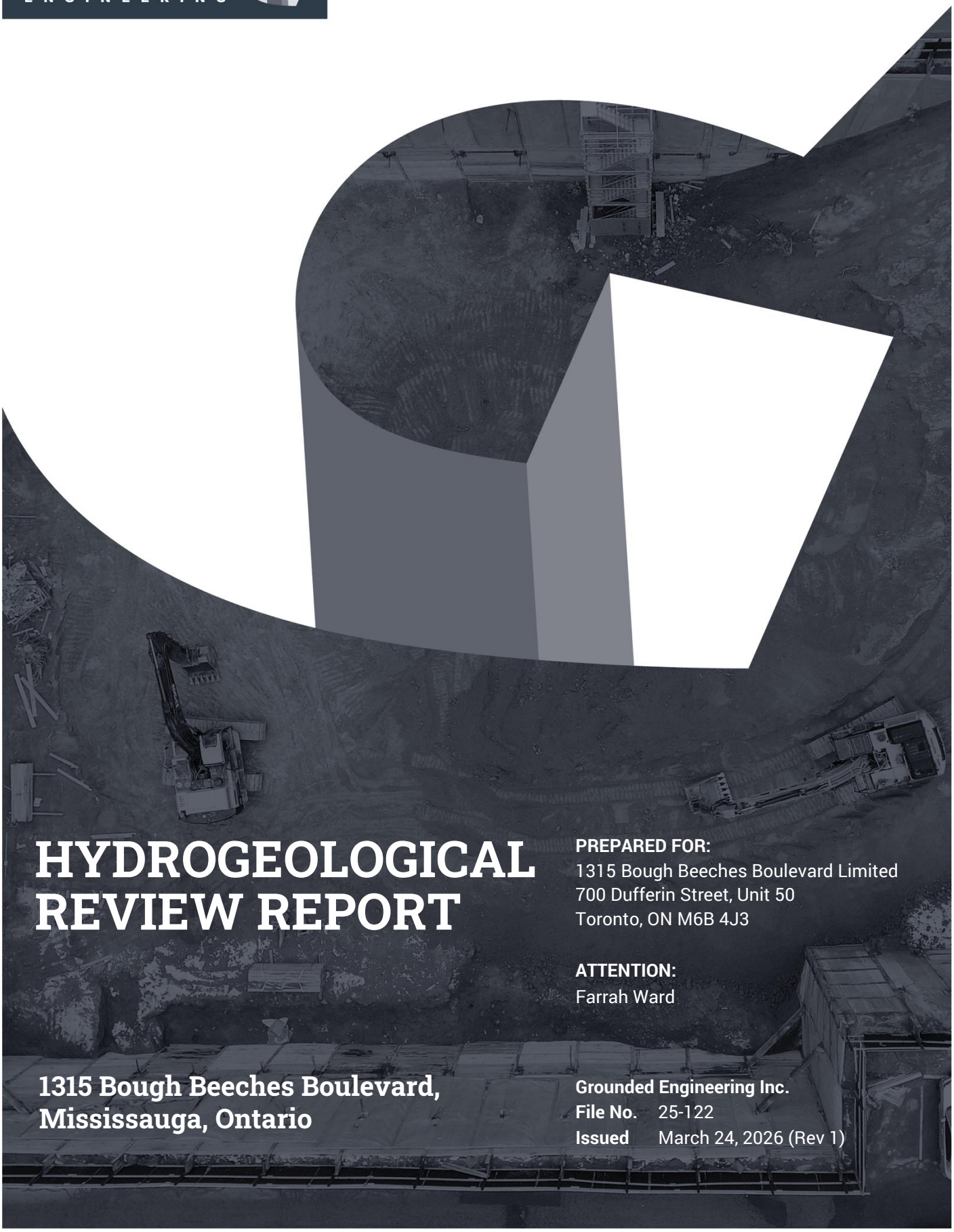


HYDROGEOLOGICAL REVIEW REPORT

PREPARED FOR:
1315 Bough Beeches Boulevard Limited
700 Dufferin Street, Unit 50
Toronto, ON M6B 4J3

ATTENTION:
Farrah Ward

1315 Bough Beeches Boulevard, Mississauga, Ontario

Grounded Engineering Inc.
File No. 25-122
Issued March 24, 2026 (Rev 1)

49 Mobile Drive, Toronto, ON M4A 1H5 | (647) 264-7909 | groundedeng.ca | Grounded Engineering

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

1 Introduction

1315 Bough Beeches Boulevard Limited has retained Grounded Engineering Inc. to provide hydrogeological engineering design advice for their proposed development at 1315 Bough Beeches Boulevard, in Mississauga, Ontario.

The following is the revision history for this hydrogeological review report:

- Report originally issued on March 11, 2026
- Revision 1 (March 24, 2026): Report has been updated with groundwater level measurements from March 2026.

Grounded has been provided with the following documents to assist in our scope of work:

- Site survey, prepared by RPE Surveying Ltd. (July 4, 2025).
- Architectural Drawings, "1315 Bough Beeches, Mississauga, Ontario"; Project 30280666, dated February 12, 2026, prepared by Arcadis.

Property Information	
Location of Site	1315 Bough Beeches Boulevard, Mississauga, Ontario, L4W 4A1
Ownership of Site	1315 Bough Beeches Boulevard Limited
Site Dimensions (m)	88 m x 31± m (irregular shape, see appendices)
Site Area (m^2)	2,691± m^2 (0.2691 ha)

Proposed Development	
Number of Building Structures	One (1)
Number of Underground Levels	Two (2)
Lowest Finished Floor Elevation (FFE)	Elev. 140.05± masl (Lower P2)
Approx. Base of Foundations*	Elev. 139.0± masl
Sub-Grade Area (m^2)	1,911 m^2 (0.1911 ha)
Land Use Classification	Residential

* Assumed: raft foundation / spread footings / pile caps for caissons

Hydrogeological Review Information	
Reviewer	Deepak Kanraj, M.A.Sc., P.Eng

Hydrogeological Review Information	
Consulting Firm	Grounded Engineering Inc.
Date of Hydrogeological Review	March 24, 2026 (Rev 1)
Scope of Work	▪ Review of MECP Water Well Records for the area ▪ Review of geological information for the area ▪ Review of topographic information for the area ▪ Advancement of 10 boreholes to a maximum depth of 21.4± m, which were instrumented with 3 monitoring wells within the proposed development limit ▪ The level of study presented in this report is consistent with the requirements for a Zoning Bylaw Amendment, Plan of Subdivision, Consent to Server, or Site Plan Control application. ▪ Completion of hydraulic conductivity testing in all available monitoring wells ▪ Groundwater elevation monitoring for three (3) months on a monthly basis (currently ongoing) ▪ Groundwater sampling and analysis to the City of Mississauga Storm Sewer Use Limits, and Region of Peel Sanitary/Combined Sewer Use Limits ▪ Assessment of groundwater controls and potential impacts ▪ Report preparation in accordance with Ontario Water Resources Act, Ontario Regulation 387/04

General Hydrogeological Characterization	
Site Topography	The site has an approximate ground surface elevation of 149.5± masl.
Local Physiographic Features	The site is composed of cohesionless glacial till and sand deposits. It is located the physiographic feature known as the Drumlinized Till Plains.
Regional Physiographic Features	The subject site is located in the region known as the South Slope. The South Slope is an approximately 2,500 km^2 area that encompasses the southern slope of the Oak Ridges Moraine. The area is narrow, only 10 to 11 km wide and extends from the Niagara Escarpment to the Trent River. The area is drumlinized with scattered drumlins and is characterised by a variety of soils developed on tills that are sandier in the east and more clayey in the west. Streams and rivers are common and have cut deep gullies into the till and occasionally the bedrock. The bedrock in the area is limestone of the Verulam and Lindsay Formations, or the shale of the Georgian Bay or Queenston Formations. Soils within the South Slope have been characterised as the Bondhead, Darlington, and Woburn loams, the King clay loam, Chinguacousy clay loam and the Oneida clay loam.
Watershed	The site is located within the Etobicoke Creek Watershed. Locally, groundwater is anticipated to flow southeast towards Etobicoke Creek.

General Hydrogeological Characterization	
Surface Drainage	Surface water is expected to flow towards municipal catch basins located on or adjacent to the site, via Dixie Road to the West, Rathburn Road East to the South, and Bough Beeches Boulevard to the East.

2 Study Area Map

A map has been enclosed which shows the following information:

- All monitoring wells identified on site, and within the study area
- All boreholes identified on site
- All buildings identified on site and within the study area
- The site boundaries
- Any watercourses and drainage features within the study area

3 Geology and Physical Hydrogeology

The site stratigraphy, including soil materials, composition and texture are presented in detail on the borehole logs in Appendix A. A summary of stratigraphic units that were encountered at the site, as relevant to the current hydrogeological study, is as follows:

Site Stratigraphy

Stratum/Formation	Depth Range (mbgs)	Elevation Range (masl)	Hydraulic Conductivity (m/s)	Method of Determination
Earth Fill	0.1 – 2.6	150.9 – 147.0±	1.0×10^{-6}	Literature[1]
Glacial Till	0.8 – 12.4	148.9 – 137.2±	4.9×10^{-8}	Slug Test
Sand and Silt	9.1 – 21.0	140.5 – 128.6±	4.9×10^{-6}	Slug Test
Bedrock*	Encountered at 13.7 to 22.9± m	Encountered at Elev. 135.9 to Elev. 128.5± masl	1.0×10^{-7}	Literature[1]

*Bedrock explored to a deepest elevation of 123.9 m. The bedrock extends beyond the target investigation depth.

[1] Freeze and Cherry (1979)

Surface Water			
Surface Water Body	**Distance from site (m)**	**Direction from site**	**Hydraulically Connected to Site (yes/no)**
Etobicoke Creek	730± m	southeast	no

4 Groundwater Elevations

4.1 Monitoring Well Information

Details of monitoring well construction are shown on the appended Table 1.

4.2 Well Observations

Details of monitoring well observation and groundwater measurements are shown on the appended Table 1.

Groundwater levels fluctuate with time depending on the amount of precipitation and surface runoff, and may be influenced by known or unknown dewatering activities at nearby sites.

The design groundwater table for engineering purposes is at Elev. 144.0± m. The groundwater table is in all the native soil units. The glacial till unit has a low permeability and will yield only minor seepage in the long term. The sand and silt unit has a high permeability and will yield free-flowing water when penetrated below the groundwater table.

There is also infiltrated stormwater perched in the earth fill which is flowing down towards the groundwater table.

Based on the measured groundwater elevations, the anticipated groundwater flow direction at this site is to the southwest.

Groundwater levels fluctuate with time depending on the amount of precipitation and surface runoff and may be influenced by known or unknown dewatering activities at nearby sites.

5 Aquifer Testing

5.1 Pumping Test

A pumping test was not attempted at the site. Hydraulic conductivity testing was conducted and the results are presented in the section below.

5.2 Single Well Response Testing (Hydraulic Conductivity)

The hydraulic conductivities from the monitoring wells were determined based on single-well response tests. These tests involve rapid removal of water or addition of a "slug" which displaces a known volume of water from a single well, and then monitoring the water level in the well until it recovers. The results of the slug tests were analyzed using the Bouwer and Rice method (1976), and are presented in Appendix B.

The hydraulic properties of the strata applicable to the site are as follows:

Well ID	Well Screen Elevation (masl)	Screened Geological Unit	Hydraulic Conductivity (m/s)
BH3*	142.2 - 139.2	Glacial Till	4.9×10^{-8}
BH7	140.1 - 137.0	Glacial Till	4.9×10^{-6}
BH104	140.4 - 137.3	Glacial Till and Sand and Silt	1.3×10^{-6}
BH105	138.7 - 135.7	Glacial Till and Sand and Silt	1.0×10^{-5}
BH108	140.4 - 137.4	Glacial Till	6.9×10^{-7}

*Monitoring well outside of proposed development area

5.3 Soil Grain Size Distribution

The hydraulic conductivities of various soil types can also be estimated from grain size analyses. An assessment of the grain sizes was conducted using the excel-based tool, HydrogeoSieve XL (*HydrogeoSieve XL ver.2.2, J.F. Devlin, University of Kansas, 2015*). HydrogeoSieve XL compares the results of the grain size analyses against fifteen (15) different analytical methods.

Given our experience in the area as well as published literature, some of the geometric means provided for the soil were biased low by one or more methods. In these instances, the values determined by these methods were excluded from the mean. The table below illustrates the hydraulic conductivity values estimated from the mean of the analytical methods where the soil met the applicable analysis criteria.

Sample ID	Soil Description	Applicable Analysis Methods	Hydraulic Conductivity (m/s)
BH7-SS8	Glacial Till	Alyamani and Sen, Barr, Sauerbrei, Krumbein and Monk	1.0×10^{-7}
BH104-SS6	Glacial Till	Alyamani and Sen, Barr, Sauerbrei	2.4×10^{-8}
BH105-SS12	Sand and Silt	Alyamani and Sen, Barr, Sauerbrei	3.1×10^{-7}
BH106-SS2	Glacial Till	Alyamani and Sen, Barr, Sauerbrei	3.5×10^{-7}

Sample ID	Soil Description	Applicable Analysis Methods	Hydraulic Conductivity (m/s)
BH108-SS8	Sand and Silt	Alyamani and Sen, Barr, Sauerbrei, Krumbein and Monk, Kruger	4.6×10^{-7}
BH108-SS10	Sand and Silt	Alyamani and Sen, Barr, Sauerbrei	2.2×10^{-7}

The results of the analyses are presented in Appendix D.

5.4 Literature

According to Freeze and Cherry (1979), the typical hydraulic conductivity of the strata investigated at the site are:

Stratum/Formation	Hydraulic Conductivity (m/s)
Earth Fill	10^{-2} to 10^{-6}
Gravels	1 to 10^{-3}
Sands	10^{-2} to 10^{-7}
Silts	10^{-5} to 10^{-9}
Glacial Tills	10^{-6} to 10^{-12}
Clays	10^{-9} to 10^{-12}
Bedrock (Shale)	10^{-6} to 10^{-13}

6 Sump Monitoring

A new basement structure is proposed for the site. The monitoring of the existing sumps (where present) is excluded from the present scope.

7 Water Quality

One (1) unfiltered groundwater sample was collected and analyzed by a Canadian laboratory accredited and licensed by Standards Council of Canada and or Canadian Association for Laboratory Accreditation.

The sample was collected directly from monitoring well (BH105) on January 5, 2026. The sample was analyzed for the following parameters:

- City of Mississauga Storm Sewer Bylaw (46-2022)
- Peel Sanitary & Storm Sewer Bylaw (53-2010)

The groundwater sample **exceeded** the **Limits for Storm Sewer Discharge** for the following parameters:

- Total BOD (Limit 15 mg/L, Result 51mg/L)
- Total Carbonaceous BOD (Limit 15 mg/L, Result 46 mg/L)
- Total Manganese (Limit 0.05 mg/L, 0.15 mg/L)

The groundwater sample **met** the **Limits for Sanitary and Combined Sewer Discharge** for all parameters analyzed.

A true copy of the analysis report, Certificate of Analysis and a chain of custody record for the sample are enclosed.

8 Proposed Construction Method

For design purposes, the stabilized groundwater table is at Elev. 144.0± m. The groundwater table is present in all the native soil units. The lowest (P2) FFE is at about Elev. 140.0± m. Bulk and foundation excavations will extend below the design groundwater table.

The proposed shoring at the site is assumed to consist of conventional soldier piling and lagging for present purposes. It is estimated that a rigid shoring system, consisting of interlocking caisson, wall will be required for the west walls of the excavation to maintain the existing P1 parking garage of the existing building in an at-rest condition. For the purposes of numerical modelling / dewatering estimates, a permeable shoring consisting of pile and lagging shoring is conservatively modelled for the entire site.

Prior to excavation, positive dewatering to lower the groundwater table will be required to facilitate construction as well as to maintain the integrity of the subgrade for foundation and slab-on-grade support. The water level must be kept at least 1.2 m below the lowest excavation elevation during construction. Failure to dewater prior to excavation will result in unrecoverable disturbance of the subgrade, which will render advice provided for undisturbed subgrade conditions inapplicable.

A professional dewatering contractor must be consulted to review the subsurface conditions and to design a site-specific dewatering system. It is the dewatering contractor's responsibility to assess the factual data and to provide recommendations on dewatering system requirements.

Dewatering will take some time to accomplish prior to the start of excavation. Stored water within the excavation will need to be considered prior to excavation/dewatering.

It is presently proposed to incorporate a drained underground structure in the design (i.e. not watertight).

9 Private Water Drainage System (PWDS)

If the proposed development consists of drained foundations, then a private water drainage system will be required. The total sub floor drain area will be approximately 2,691± m^2 based on the drawings which have been provided.

If the development is designed with a private water drainage system, the drainage system is a critical structural element since it keeps water pressure from acting on the basement walls and floor slab. As such, the sump that ensures the performance of this system must have a duplexed pump arrangement for 100% pumping redundancy and these pumps must be on emergency power. The size of the sump should be adequate to accommodate the estimated groundwater seepage. It is anticipated that the groundwater seepage can be controlled with typical, widely available, commercial/residential sump pumps.

If the proposed development is designed as a watertight structure, then a private water drainage system will not be required. However, the structure must then be designed to resist hydrostatic pressure and uplift forces. A connection to the City's sewer for emergency repair services is recommended.

10 Groundwater Extraction and Discharge

Numerical analyses were conducted for both short term and long term dewatering scenarios by finite element modelling using the *Slide2* software package by Rocscience. The Finite Element Model (FEM) for groundwater seepage indicates the short term (construction) and long term (permanent) dewatering requirements as provided below. The finite element model results are appended.

The groundwater seepage estimates provided below represent the steady state groundwater seepage. There will also be an initial drawdown of the groundwater before a steady state condition is reached. The rate of the initial drawdown, and therefore discharge, is dependent on the dewatering contractor and how the groundwater is being dealt with at the site.

An estimated initial volume of stored groundwater has been provided below, which will require removal before steady state is reached. In addition to the stored groundwater, there will also be additional transient groundwater flow during the initial drawdown. Transient flow volumes (and therefore discharge volumes) are a function of the rate of drawdown and will need to be accounted for in the dewatering plan for this site.

If the excavation is exposed to the elements, stormwater will have to be managed. The short term control of groundwater should consider stormwater management from rainfall events. A dewatering system should be designed to consider the removal of rainfall from excavation. A design storm of 25 mm has been used in the quantity estimates.

As required by Ontario Regulation 63/16, a plan for discharge must consider the conveyance of stormwater from a 100-year storm. The additional volume that will be generated in the occurrence of a 100-year storm event is approximately 257,000 L.

The following design considerations and values have been incorporated into the numerical modelling:

- A drained underground structure (permanent condition) is assumed for the determination of long-term groundwater seepage and infiltrated stormwater.
- If the structure is designed as a fully watertight structure, there will be no long term water takings or discharge and the volumes provided in this section for long-term discharge would not be applicable.
- It is estimated that a rigid shoring system, consisting of interlocking caisson, wall will be required for the west walls of the excavation to maintain the existing P1 parking garage of the existing building in an at-rest condition. For the purposes of numerical modelling / dewatering estimates, a permeable shoring consisting of pile and lagging shoring is conservatively modelled for the entire site.
- A Factor of Safety of 1.5 was used for all groundwater seepage volume calculations.

The design hydraulic conductivities for the site are:

Design Hydraulic Conductivity	
Stratum/Formation	**K (m/s)**
Earth Fill	1.0×10^{-6}
Glacial Till	4.9×10^{-8}
Sand and Silt	4.9×10^{-6}
Bedrock	1.0×10^{-7}

Stored Groundwater (pre-excavation/dewatering)					
Volume of Excavation (m^3)	Volume of Excavation Below Water Table (m^3)	Estimated Volume of Stored Groundwater		Estimated Volume of Available Groundwater	
		m^3	L	m^3	L
28,644	13,640	4,300	4,300,000	3,200	3,200,000

The quantity estimates for both short- and long-term conditions are presented below and in the appendices.

Short Term (Construction) Steady State Groundwater Quantity (Factor of Safety = 1.5)					
Estimated Groundwater Seepage		Design Rainfall Event (25mm)		Estimated Total Daily Water Takings	
L/day	L/min	L/day	L/min	L/day	L/min
215,000	149.3	69,000	47.9	284,000	197.2

Long Term (Permanent) Steady State Groundwater Quantity					
Estimated Groundwater Seepage		Estimated Infiltrated Stormwater – Design Rainfall Event (25mm)		Estimated Total Daily Water Takings	
L/day	L/min	L/day	L/min	L/day	L/min
195,000	135.4	16,000	11.1	211,000	146.5

Regulatory Requirements	
Environmental Activity and Sector Registry (EASR) Posting	Required
Short Term Permit to Take Water (PTTW)	Not Required*
Long Term Permit to Take Water (PTTW)	Not Required**
Short Term Discharge Agreement City of Mississauga / Region of Peel	Required
Long Term Discharge Agreement City of Mississauga / Region of Peel	Required

**Per amendments to O.Reg. 63/16 effective July 1st, 2025, a short term PTTW will not be required for construction dewatering above 400,000 L/day. An EASR will be required.*
***Recent Ontario Permit to Take Water (PTTW) amendments, effective July 1, 2025, and January 5, 2026, streamline the application process, mandate online submissions, and introduce new exemptions. Key changes include exempting residential foundation drainage (<379,000L/day), allowing easier renewal of expired/revoked permits, and shifting, as of Jan 5, 2026, to mandatory online applications.*

Please note:

- The proposed pump schedules for short and long term dewatering have not been completed. As such, the actual peak discharge rates are not available at the time of

writing this report. The pump schedule must be specified by either the dewatering contractor retained or the mechanical consultant.

- On-site containment (infiltration gallery/dry well etc.) has not been considered as part of the proposed development at this time. If this option is considered, additional work will have to be conducted (i.e. infiltration testing).

11 Evaluation of Impact

11.1 Zone of Influence

Localized dewatering of an aquifer produces a cone-shaped depression in the groundwater table that extends some distance away from the dewatering point. The lateral distance which the cone of depression extends (i.e., the distance to where drawdown is effectively zero) is known as the Zone of Influence (ZOI).

The ZOI was calculated using the Sichardt equation below.

$$R_0 = 3000(\Delta H)\sqrt{K}$$

ΔH	=	dewatering thickness (m)
K	=	hydraulic conductivity (m/s)
R_0	=	radius of influence (m)

The ZOI with respect to groundwater seepage at the site is summarized as follows.

Zone of Influence (ZOI)		
	Short Term (Construction), m	**Long Term (Permanent), m**
Pile and Lagging	41±	*30± m (drained structure)

**if the underground structure is constructed watertight, the ZOI in the long-term / permanent condition will effectively be 0 m.*

11.2 Land Stability

The impacts to land stability on adjacent structures due to the proposed short and long term dewatering at the site are summarized as follows:

Land Stability		
	Short Term (Construction)	**Long Term (Permanent)**
Dewatering Thickness (m)	6.2±	5.8±
Increase in Effective Stress (kPa)	61±	44±

Land Stability		
Maximum Theoretical Settlement due to Dewatering (mm)	8±	6±
Public Realm Theoretical Settlement due to Dewatering (mm)	<5±	<5±

The maximum induced settlement (estimated) occurs directly adjacent to the proposed excavation and decreases in a nonlinear fashion with distance away from the excavation.

On this basis, the impact of the proposed dewatering on the existing adjacent structures is considered by Grounded to be within acceptable limits.

11.3 City's Sewage Works

Negative impacts to City's sewage works may occur in terms of the quantity or quality of the groundwater discharged. This report provided the estimated quantity of the water discharge. However, this report does not speak to the sewer capacities. The sewer capacity analysis is provided under a separate cover by the civil consultant.

The quality of the proposed groundwater discharge is provided in Section 7. As noted in that section, the groundwater sample exceeded the Limits for Storm Sewer Discharge and met the Limits for Sanitary and Combined Sewer Discharge.

As such, treatment will be required before the groundwater can be discharged to the Storm Sewer to avoid impacts to the City's sewage works caused by groundwater quality. Treatment will not be required before the groundwater can be discharged to the Sanitary and Combined Sewer.

11.4 Natural Environment

There are no natural waterbodies within the ZOI that will be affected by the proposed construction dewatering or permanent drainage. Any groundwater which will be taken from the site will be discharged (if required) into the City's sewer systems and not into any natural waterbody. As such, there will be no impact to the natural environment caused by the water takings at the site.

11.5 Local Drinking Water Wells

The site is located within the municipal boundaries of the City of Toronto. The site and surrounding area are provided with municipal piped water and sewer supply. There is no use of

the groundwater for water supply in this area of Toronto. As such, there will be no impact to drinking water wells.

11.6 Contamination Source

The site and immediately surrounding area currently consist mostly of residential and commercial areas. These land uses are anticipated to be a source of potential contamination and are expected to provide an Area of Potential Environmental Concern for the site. As such, the pumping of groundwater at the is not anticipated to facilitate the movement of potential contaminants onto the site.

Evaluation of the environmental condition of the site has been completed by Grounded as part of a separate scope of work.

12 Proposed Mitigation Measures and Monitoring Plan

As a result of dewatering and draining the soil, changes in groundwater level have the potential to cause settlement based on the change in the effective stresses within the ZOI. The extent of the negative impact identified in previous sections will be limited to the ZOI caused by the groundwater taking at the site.

If adjacent buildings or municipal infrastructure are within the ZOI and will undergo settlement that may be considered unacceptable as identified the Land Stability Section, consideration should be given to implement a monitoring and mitigation program during dewatering activities.

The temporary construction dewatering system and the permanent building drainage system must be properly installed and screened to ensure sediments and fines will not be removed, which is typically a primary cause of dewatering related settlement.

13 Limitations

Natural occurrences, the passage of time, local construction, and other human activity all have the potential to directly or indirectly alter the subsurface conditions at or near the project site. Contractual obligations related to groundwater or stormwater control must be considered with attention and care as they relate this potential site alteration.

The hydrogeological engineering advice provided in this report is based on the factual observations made from the site investigations as reported. It is intended for use by the owner and their retained design team. If there are changes to the features of the development or to the scope, the interpreted subsurface information, geotechnical engineering design parameters, advice, and discussion on construction considerations may not be relevant or complete for the

project. Grounded should be retained to review the implications of such changes with respect to the contents of this report.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Grounded accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report, including consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

The authorized users of this report are 1315 Bough Beeches Boulevard Limited and their design team, for whom this report has been prepared. Grounded Engineering Inc. maintains the copyright and ownership of this document. Reproduction of this report in any format or medium requires explicit prior authorization from Grounded Engineering Inc. The City of Mississauga and/or Region of Peel may also make use of and rely upon this report, subject to the limitations as stated.

14 Closure

If there are any questions regarding the discussion and advice provided, please do not hesitate to contact our office. We trust that this report meets your requirements at present.

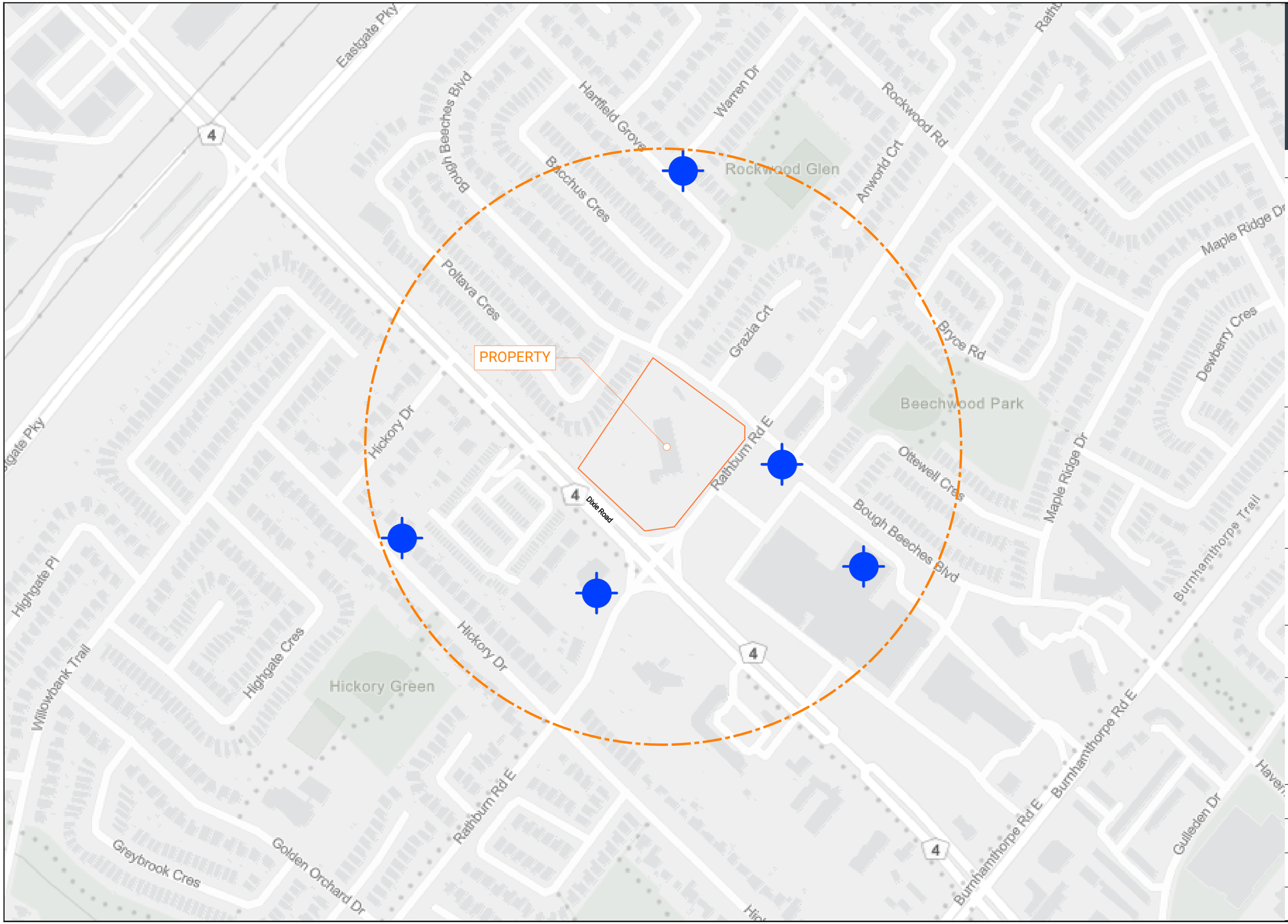
For and on behalf of our team,

GROUNDED ENGINEERING

Deepak Kanraj, M.A.Sc., P.Eng.
Project Engineer

Kyle Byckalo, P.Eng.
Associate

FIGURES



GROUNDED ENGINEERING

49 MOBILE DRIVE, TORONTO, ONT., M4A 1H5
www.groundedeng.ca

LEGEND

- APPRXIMATE PROPERTY BOUNDARY
- STUDY AREA (250 m RADIUS)

Note

Reference

ArcGIS Online Maps

Project

1315 BOUGH BEECHES BLVD, MISSISSAUGA, ONTARIO

Figure Title

STUDY AREA MAP

North

TRUE
PROJECT

Date

JANUARY 2026

Scale

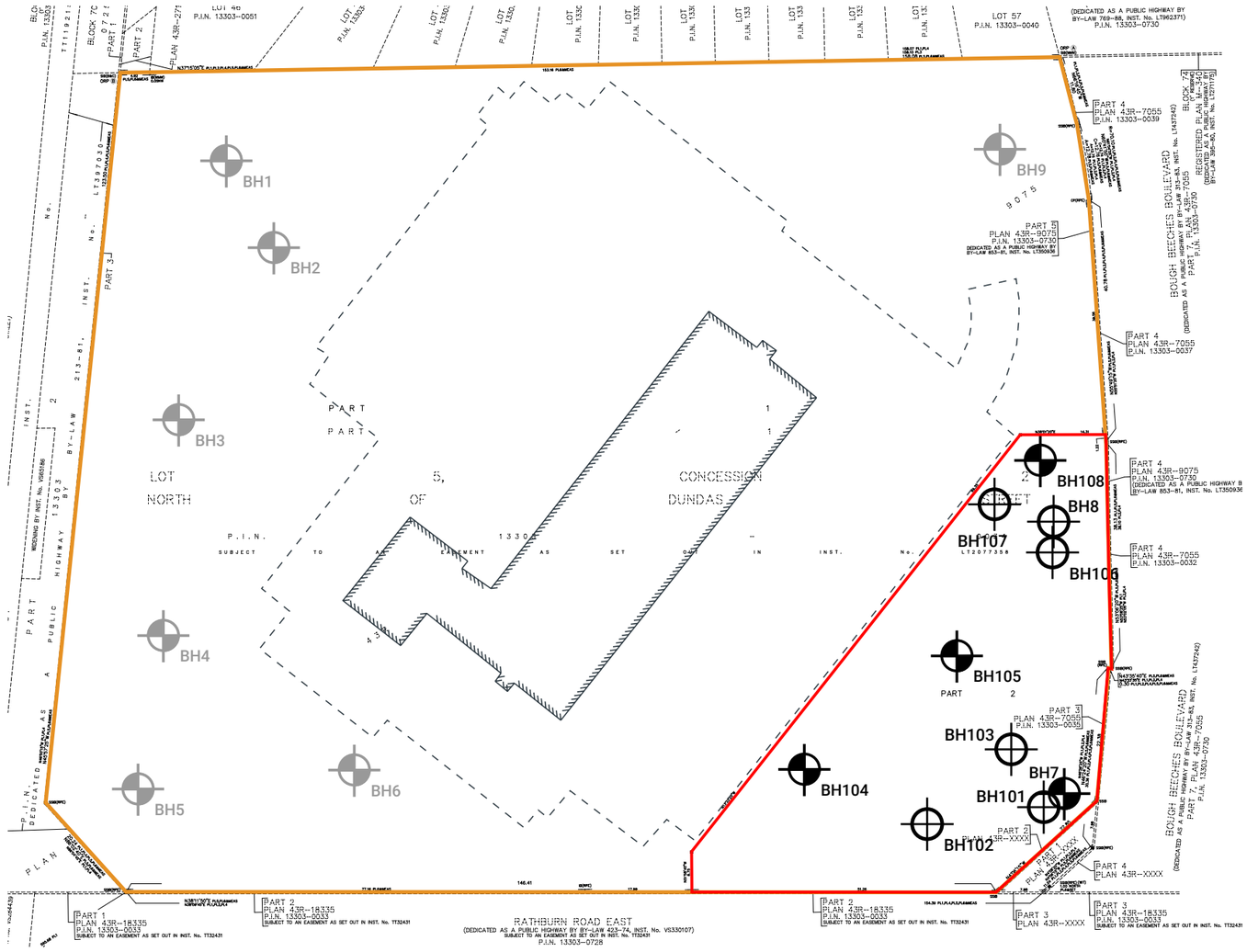
0m 75m 150m

Job No

25-122

Figure No

FIGURE 1



GROUNDED ENGINEERING

49 MOBILE DRIVE, TORONTO, ONT., M4A 1H5
www.groundedeng.ca

LEGEND

- APPRXIMATE PROPERTY BOUNDARY
- APPRXIMATE EXTENT OF PROPOSED DEVELOPMENT
- EXISTING BUILDING
- EXISTING UNDERGROUND GARAGE
- RELEVANT MONITORING WELL/BOREHOLE BY GROUNDED FOR PROPOSED DEVELOPMENT
- MONITORING WELL/BOREHOLE BY GROUNDED PREVIOUSLY DRILLED AT OTHER PORTIONS OF THE PROPERTY

Note

Reference

Survey Drawing job no. 25-080
Dated July 03, 2025
Prepared by R-PE SURVEYING LTD.
Received on July 07, 2025.

Project

1315 BOUGH BEECHES BLVD, MISSISSAUGA, ONTARIO

Figure Title

BOREHOLE AND MONITORING WELL LOCATION PLAN - EXISTING SITE CONDITION

North

TRUE
PROJECT

Date

MARCH 2026

Scale

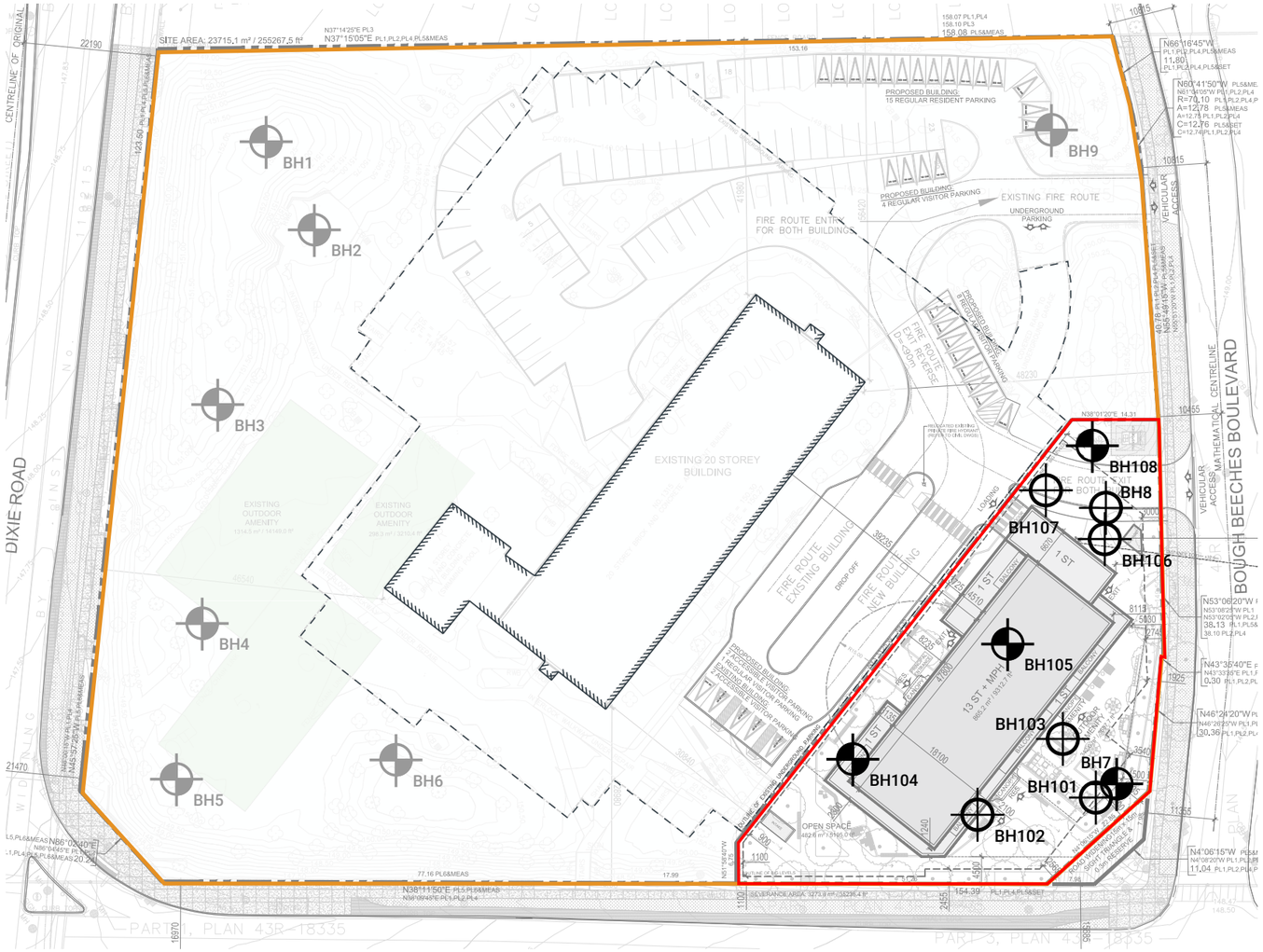
0m 15m 30m

Job No

25-122

Figure No

FIGURE 2



GROUNDED ENGINEERING
49 MOBILE DRIVE, TORONTO, ONT., M4A 1H5
www.groundedeng.ca

LEGEND

- APPRXIMATE PROPERTY BOUNDARY
- APPRXIMATE EXTENT OF PROPOSED DEVELOPMENT
- EXISTING BUILDING
- EXISTING UNDERGROUND GARAGE
- RELEVANT MONITORING WELL/BOREHOLE BY GROUNDED FOR PROPOSED DEVELOPMENT
- MONITORING WELL/BOREHOLE BY GROUNDED PREVIOUSLY DRILLED AT OTHER PORTIONS OF THE PROPERTY

Note

Reference

Architectural Drawing, "1315 Bough Beeches Boulevard", job no. 30280666, dated February 12, 2026 Prepared by Arcadis.

Project

1315 BOUGH BEECHES BLVD, MISSISSAUGA, ONTARIO

Figure Title

BOREHOLE AND MONITORING WELL LOCATION PLAN - PROPOSED SITE CONDITIONS

North

TRUE
PROJECT

Date

MARCH 2026

Scale

0m 15m 30m

Job No

25-122

Figure No

FIGURE 3

Ground Floor FFE: Elev. 149.75± m

Upper P2 FFE: Elev. 141.58± m

Design Groundwater Table Elev. 144.0± m

Lower P2 FFE: Elev. 140.05± m

Elevation (m)

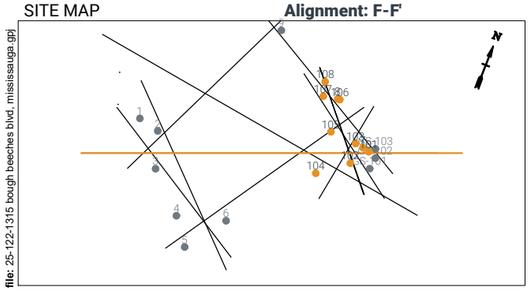
BH 104 | BH 107 | BH 108 | BH 105 | BH 8 | BH 106 | BH 102 | BH 103 | BH 7 | BH 101

PMT: 16 MPa
PMT: 120 MPa
PMT: 70 MPa
PMT: 453 MPa
PMT: 188 MPa

Boreholes Equally Spaced

SITE MAP

Alignment: F-F'



file: 25-122-1315 bough beeches blvd, mississauga.gpj

BOREHOLE STRATIGRAPHY LEGEND

- Topsoil
- Fill
- Sandy Silt Till
- Silty Sand Till
- Silty Sand
- Silt
- Blank
- Bedrock (inferred)
- Asphalt
- Aggregate
- Silt and Sand Till
- Sand and Silt
- Gravel
- Silt and Sand
- Gravelly Silty Sand
- Sand

GROUNDED ENGINEERING
49 Mobile Drive, Toronto ON, M4A 1H5
www.groundedeng.ca

LEGEND

- FILL
- GRAVELS (gravel to gravelly sand)
- SILT TO SAND (not till)
- COHESIONLESS TILLS
- COHESIVE SOILS (clayey silt to clay, incl. tills)
- DISTURBED/REWORKED/ORGANIC

BH 101 BOREHOLES BY GROUNDED

T-BH7 BOREHOLES BY OTHERS

- water level, unstabilized
- water level, stabilized (latest)
- water level, stabilized (highest)

Project

1315 BOUGH BEECHES BVLD MISSISSAUGA, ON

Figure Title

SUBSURFACE PROFILE

F-F'

Date

MARCH 2026

Scale

AS INDICATED

Job No

25-122

Figure No

FIGURE 4

TABLE 1

TABLE 1:
GROUNDWATER LEVEL MONITORING SUMMARY
1315 BOUGH BEECHES BOULEVARD, MISSISSAUGA

Well ID	Ground Surface Elev. (masl)	Well Screen Interval		Soil Strata	Grounded Engineering					
					August 21, 2025		September 18, 2025		October 17, 2025	
		(mbgs)	(masl)		(mbgs)	(masl)	(mbgs)	(masl)	(mbgs)	(masl)
BH7	151.0	11.0 - 14.0	140.1 - 137.0	Glacial Till	7.42	143.58	7.53	143.47	7.54	143.46
BH104	149.5	9.1 - 12.2	140.4 - 137.3	Sand and Silt	NA	-	NA	-	NA	-
BH105	149.4	10.7 - 13.7	138.7 - 135.7	Glacial Till	NA	-	NA	-	NA	-
BH108	149.6	9.1 - 12.2	140.4 - 137.4	Sand and Silt	NA	-	NA	-	NA	-

mbgs = metres below existing ground surface
masl = metres above sea level
NA = not available, unable to access monitoring well

TABLE 1:
GROUNDWATER LEVEL MONITORING SUMMARY
1315 BOUGH BEECHES BOULEVARD, MISSISSAUGA

Well ID	Ground Surface Elev. (masl)	Well Screen Interval		Soil Strata	Grounded Engineering							
					November 14, 2025		January 5, 2026		January 27, 2026		February 27, 2026	
		(mbgs)	(masl)		(mbgs)	(masl)	(mbgs)	(masl)	(mbgs)	(masl)	(mbgs)	(masl)
BH7	151.0	11.0 - 14.0	140.1 - 137.0	Glacial Till	7.30	143.70	7.44	143.56	7.32	143.68	7.32	143.68
BH104	149.5	9.1 - 12.2	140.4 - 137.3	Sand and Silt	NA	-	5.94	143.56	5.58	143.92	5.69	143.81
BH105	149.4	10.7 - 13.7	138.7 - 135.7	Glacial Till	NA	-	5.79	143.61	5.69	143.71	5.69	143.71
BH108	149.6	9.1 - 12.2	140.4 - 137.4	Sand and Silt	NA	-	5.96	143.64	5.87	143.73	6.10	143.50

mbgs = metres below existing ground surface
masl = metres above sea level
NA = not available, unable to access monitoring well

TABLE 1:
GROUNDWATER LEVEL MONITORING SUMMARY
1315 BOUGH BEECHES BOULEVARD, MISSISSAUGA

Well ID	Ground Surface Elev. (masl)	Well Screen Interval		Soil Strata	March 13, 2026		Minimum Elev. (Lowest)		Maximum Elev. (Highest)		Seasonal Fluctuation
		(mbgs)	(masl)		(mbgs)	(masl)	(mbgs)	(masl)	(mbgs)	(masl)	(±m)
BH7	151.0	11.0 - 14.0	140.1 - 137.0	Glacial Till	7.00	144.00	7.54	143.46	7.00	144.00	0.54
BH104	149.5	9.1 - 12.2	140.4 - 137.3	Sand and Silt	5.70	143.80	5.94	143.56	5.58	143.92	0.36
BH105	149.4	10.7 - 13.7	138.7 - 135.7	Glacial Till	5.50	143.90	5.79	143.61	5.50	143.90	0.29
BH108	149.6	9.1 - 12.2	140.4 - 137.4	Sand and Silt	5.90	143.70	6.10	143.50	5.87	143.73	0.23

mbgs = metres below existing ground surface
masl = metres above sea level
NA = not available, unable to access monitoring well

APPENDIX A

BOREHOLE LOG TERMINOLOGY

GROUNDED ENGINEERING

SAMPLING/TESTING METHODS

SS: split spoon sample

AS: auger sample

GS: grab sample

FV: shear vane

DP: direct push

PMT: pressuremeter test

ST: shelby tube

CORE: soil coring

RUN: rock coring

SYMBOLS & ABBREVIATIONS

MC: moisture content

LL: liquid limit

PL: plastic limit

NP: non-plastic

γ: soil unit weight (bulk)

G_s: specific gravity

S_u: undrained shear strength

▽ unstabilized water level

▼ water level measurement

▼ highest water level measurement

ENVIRONMENTAL SAMPLES

M&I: metals and inorganic parameters

PAH: polycyclic aromatic hydrocarbon

PCB: polychlorinated biphenyl

VOC: volatile organic compound

PHC: petroleum hydrocarbon

BTEX: benzene, toluene, ethylbenzene and xylene

PPM: parts per million

FIELD MOISTURE (based on tactile inspection)

DRY: no observable pore water

MOIST: inferred pore water, not observable (i.e. grey, cool, etc.)

WET: visible pore water

COHESIONLESS

Relative Density	N-Value
Very Loose	<4
Loose	4 - 10
Compact	10 - 30
Dense	30 - 50
Very Dense	>50

COHESIVE

Consistency	N-Value	Su (kPa)
Very Soft	<2	<12
Soft	2 - 4	12 - 25
Firm	4 - 8	25 - 50
Stiff	8 - 15	50 - 100
Very Stiff	15 - 30	100 - 200
Hard	>30	>200

COMPOSITION

Term	% by weight
trace silt	<10
some silt	10 - 20
silt***y***	20 - 35
sand ***and*** silt	>35

ASTM STANDARDS

ASTM D1586 Standard Penetration Test (SPT)
Driving a 51 mm O.D. split-barrel sampler ("split spoon") into soil with a 63.5 kg weight free falling 760 mm. The blows required to drive the split spoon 300 mm ("bpf") after an initial penetration of 150 mm is referred to as the N-Value.

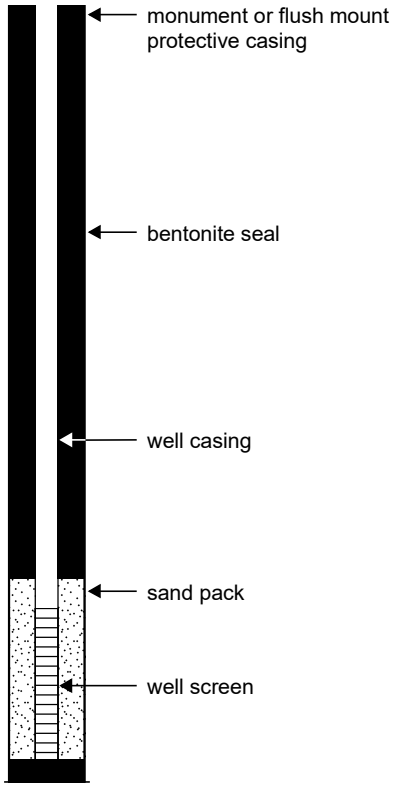
ASTM D3441 Cone Penetration Test (CPT)
Pushing an internal still rod with a outer hollow rod ("sleeve") tipped with a cone with an apex angle of 60° and a cross-sectional area of 1000 mm^2 into soil. The resistance is measured in the sleeve and at the tip to determine the skin friction and the tip resistance.

ASTM D2573 Field Vane Test (FVT)
Pushing a four blade vane into soil and rotating it from the surface to determine the torque required to shear a cylindrical surface with the vane. The torque is converted to the shear strength of the soil using a limit equilibrium analysis.

ASTM D1587 Shelby Tubes (ST)
Pushing a thin-walled metal tube into the in-situ soil at the bottom of a borehole, removing the tube and sealing the ends to prevent soil movement or changes in moisture content for the purposes of extracting a relatively undisturbed sample.

ASTM D4719 Pressuremeter Test (PMT)
Place an inflatable cylindrical probe into a pre-drilled hole and expanding it while measuring the change in volume and pressure in the probe. It is inflated under either equal pressure increments or equal volume increments. This provides the stress-strain response of the soil.

WELL LEGEND



BOREHOLE LOG 7

Date Started : Aug 11, 2025
Position : E: 612443, N: 4831462 (UTM 17T)
Elev. Datum : Geodetic

File No. : 25-122 **Project** : 1315 Bough Beeches Bvld, Mississauga, ON **Client** : 1315 Bough Beeches Boulevard Limited

drill method : CME 55

hollow stem augers OD=215 mm

mud rotary med OD=125 mm

elev depth (m)	description	graphic log	number	type	SPT N-value
151.0	**GROUND SURFACE**				
	100mm **TOPSOIL**		1	SS	22
	FILL, silty sand, trace clay, trace gravel, occassional rootlets, trace glass fragments, compact to dense, light brown with orange, moist		2	SS	34
			3	SS	17
148.7 / 2.3	**SANDY SILT**, gravelly, trace clay, trace gravel, dense to compact, light brown with orange, moist (GLACIAL TILL)		4	SS	32
	...at 2.9 m, trace gravel		5A / 5B	SS / SS	43
	...at 4.6 m, wet ...at 4.8 m, grey		6A / 6B	SS / SS	27
	...at 6.1 m, clayey		7	SS	19
142.6 / 8.4	**SILTY SAND**, some clay, some gravel, compact, grey, wet (GLACIAL TILL)		8	SS	12
			9	SS	40
			10	SS	50 / 75mm
138.6 / 12.4	**SILTY SAND**, some gravel, very dense, grey, wet		11A / 11B	SS / SS	90
	...at 13.7 m, trace gravel		12	SS	100 / 275mm
135.8 / 15.2	**SILT**, trace clay, trace sand, very dense, grey, wet		13	SS	99
133.6 / 17.4	...at 17.3 m, sandy silt, trace shale fragments		14A / 14B	SS / SS	58

depth scale (m) 0–17; elevation (m) 151–134

well details

undrained shear strength (kPa): ■ unconfined ✚ field vane ● pocket penetrometer ○ Lab Vane; 40 80 120 160

SPT N-values (bpf): ×dynamic cone; 10 20 30 40

headspace vapour (ppm): × hexane □ isobutylene △ methane; 100 200 300

moisture / plasticity: PL MC LL; 10 20 30

unstabilized water level

lab data and comments

grain size distribution (%) (MIT) GR SA SI CL

SS1: PAHs, OCs

2.3m: spoon bouncing

SS4: BTEX, OCs, PHCs, VOCs

SS5A: H-Ms, Metals, ORPs

SS7: PAHs, OCs

13 42 31 14

SS9: BTEX, H-Ms, Metals, ORPs, PHCs
9.8m: 10 mins of auger grinding **to 10.7m**

SS12: VOCs
13.7m: spoon bouncing

END OF BOREHOLE

Borehole was filled with drill water upon completion of drilling.

100 mm dia. monitoring well installed.
No. 10 screen

GROUNDWATER LEVELS

date	depth (m)	elevation (m)
Aug 20, 2025	7.4	143.6
Sep 18, 2025	7.5	143.5
Oct 17, 2025	7.5	143.5
Nov 14, 2025	7.3	143.7
Jan 5, 2026	7.4	143.6
Jan 27, 2026	7.3	143.7
Feb 27, 2026	7.3	143.7
Mar 13, 2026	7.0	144.0

file: 25-122-1315 bough beeches blvd, mississauga.gpj

Tech : EB | **PM** : DK | **Rev** : NN

BOREHOLE LOG 8

Date Started : Aug 11, 2025
Position : E: 612410, N: 4831491 (UTM 17T)
Elev. Datum : Geodetic

File No. : 25-122 **Project** : 1315 Bough Beeches Bvld, Mississauga, ON **Client** : 1315 Bough Beeches Boulevard Limited

drill method : *CME 55*

hollow stem augers OD=215 mm

elev depth (m)	description	graphic log	number	type	SPT N-value
150.1	**GROUND SURFACE**				
	225mm **TOPSOIL**		1	SS	16
	FILL, sandy silt, trace clay, trace gravel, occassional rootlets, compact to dense, light brown with orange, moist		2A / 2B	SS / SS	16
	...at 0.8 m, sand seam to 1.5 m		3	SS	31
147.8 / 2.3	...at 1.5 m, trace rock fragments, cobbles inferred, dense		4	SS	47
	SANDY SILT, trace clay, trace gravel, dense to very dense, light brown with orange, moist (GLACIAL TILL)		5	SS	50
			6	SS	58
144.9 / 5.2			7	SS	31

depth scale (m): 0, 1, 2, 3, 4, 5

well details

elevation (m): 150, 149, 148, 147, 146, 145

undrained shear strength (kPa)
■ unconfined + field vane
● pocket penetrometer ○ Lab Vane
40 80 120 160

SPT N-values (bpf)
× dynamic cone
10 20 30 40

headspace vapour (ppm)
× hexane □ isobutylene △ methane
100 200 300

moisture / plasticity
PL MC LL
10 20 30

unstabilized water level

lab data and comments

grain size distribution (%) (MIT)
GR SA SI CL

SS1: PAHs, OCs

SS3: H-Ms, Metals, ORPs

SS4: BTEX, OCs, PHCs, VOCs

SS7: BTEX, H-Ms, Metals, ORPs, PAHs, OCs, PHCs, VOCs

END OF BOREHOLE

Borehole was dry upon completion of drilling.

GROUNDED ENGINEERING

Date Started : Dec 15, 2025
Position : E: 612448, N: 4831461 (UTM 17T)
Elev. Datum : Geodetic

BOREHOLE LOG 101

File No. : 25-122 **Project** : 1315 Bough Beeches Bvld, Mississauga, ON **Client** : 1315 Bough Beeches Boulevard Limited

drill method : *LC rig*

hollow stem augers OD=215 mm

elev depth (m)	description	graphic log	number	type	SPT N-value
150.9	**GROUND SURFACE**				
	Straight drill to 13.7m. Refer to Borehole 7 for stratigraphy				
137.2 13.7	**SILTY SAND**, trace gravel, very dense, grey, wet		1A 1B	SS	50
135.7 15.2	**SILT**, trace sand, trace clay, very dense, grey, moist		2	SS	86
			3	SS	68 / 175mm
132.6 18.3	**INFERRED BEDROCK**, weathered shale fragments, grey, moist		4	SS	50 / 100mm
131.0 19.9	**END OF BOREHOLE**		5	SS	50 / 100mm

Unstabilized water level measured at 10.4 m below ground surface upon completion of drilling.

depth scale (m) 0–19

well details

elevation (m) 150–132

undrained shear strength (kPa): unconfined, field vane, pocket penetrometer, Lab Vane; 40 80 120 160

SPT N-values (bpf): dynamic cone; 10 20 30 40

headspace vapour (ppm): hexane, isobutylene, methane; 100 200 300

moisture / plasticity: PL MC LL; 10 20 30

unstabilized water level

lab data and comments

grain size distribution (%) (MIT) GR SA SI CL

16.8m: spoon bouncing

19.8m: auger grinding

file: 25-122-1315 bough beeches blvd, mississauga.gpj

Tech : EB | **PM** : DK | **Rev** : KB

GROUNDED ENGINEERING

Date Started : Dec 15, 2025
Position : E: 612438, N: 4831447 (UTM 17T)
Elev. Datum : Geodetic

BOREHOLE LOG 102

File No. : 25-122 **Project** : 1315 Bough Beeches Bvld, Mississauga, ON **Client** : 1315 Bough Beeches Boulevard Limited

drill method : *LC rig*

hollow stem augers OD=215 mm

elev depth (m)	description	graphic log	samples: number	samples: type	samples: SPT N-value
150.8	**GROUND SURFACE**				
	165mm **TOPSOIL**		1	SS	
	FILL, sandy silt, trace clay, trace gravel, trace rootlets, trace glass, brown, moist		2	SS	
148.7 2.1			3	SS	

depth scale (m): 0, 1, 2

well details

elevation (m): 150, 149

undrained shear strength (kPa): unconfined, field vane, pocket penetrometer, Lab Vane; 40, 80, 120, 160

SPT N-values (bpf): dynamic cone; 10, 20, 30, 40

headspace vapour (ppm): hexane, isobutylene, methane; 100, 200, 300

moisture / plasticity: PL, MC, LL; 10, 20, 30

unstabilized water level

lab data and comments

grain size distribution (%) (MIT) GR SA SI CL

SS1: BTEX, PAHs, OCs, PHCs, VOCs

SS2: EC/SAR, H-Ms, Metals, ORPs, pH

SS3: BTEX, PAHs, OCs, PHCs, VOCs

END OF BOREHOLE

Borehole was dry and caved to 1.4 m below ground surface upon completion of drilling.

file: 25-122-1315 bough beeches blvd, mississauga.gpj

Tech : EB/SA | **PM** : DK | **Rev** : KB

GROUNDED ENGINEERING

Date Started : Dec 16, 2025
Position : E: 612436, N: 4831463 (UTM 17T)
Elev. Datum : Geodetic

BOREHOLE LOG 103

File No. : 25-122 **Project** : 1315 Bough Beeches Bvld, Mississauga, ON **Client** : 1315 Bough Beeches Boulevard Limited

drill method : *LC rig*

hollow stem augers OD=215 mm

elev depth (m)	description	graphic log	number	type	SPT N-value
149.6	**GROUND SURFACE**				
149.3 / 0.3	150mm **ASPHALT**				
	150mm **AGGREGATE**		1	SS	
	FILL, sandy silt, trace to some clay, trace gravel, trace rootlets, brown, moist		2	SS	
147.5 / 2.1			3	SS	

depth scale (m): 0, 1, 2

well details

elevation (m): 149, 148

undrained shear strength (kPa)
■ unconfined + field vane
● pocket penetrometer ○ Lab Vane
40 80 120 160

SPT N-values (bpf)
× dynamic cone
10 20 30 40

headspace vapour (ppm)
× hexane □ isobutylene △ methane
100 200 300

moisture / plasticity
PL MC LL
10 20 30

unstabilized water level

lab data and comments

grain size distribution (%) (MIT)
GR SA SI CL

SS1: PAHs, OCs

SS2: BTEX, EC/SAR, H-Ms, Metals, ORPs, pH, PHCs, VOCs

SS3: BTEX, PAHs, OCs, PHCs, VOCs

END OF BOREHOLE

Borehole was dry upon completion of drilling.

file: 25-122-1315 bough beeches blvd, mississauga.gpj

Tech : CSH/SA | **PM** : DK | **Rev** : KB

BOREHOLE LOG 104

Date Started : Dec 16, 2025
Position : E: 612415, N: 4831430 (UTM 17T)
Elev. Datum : Geodetic

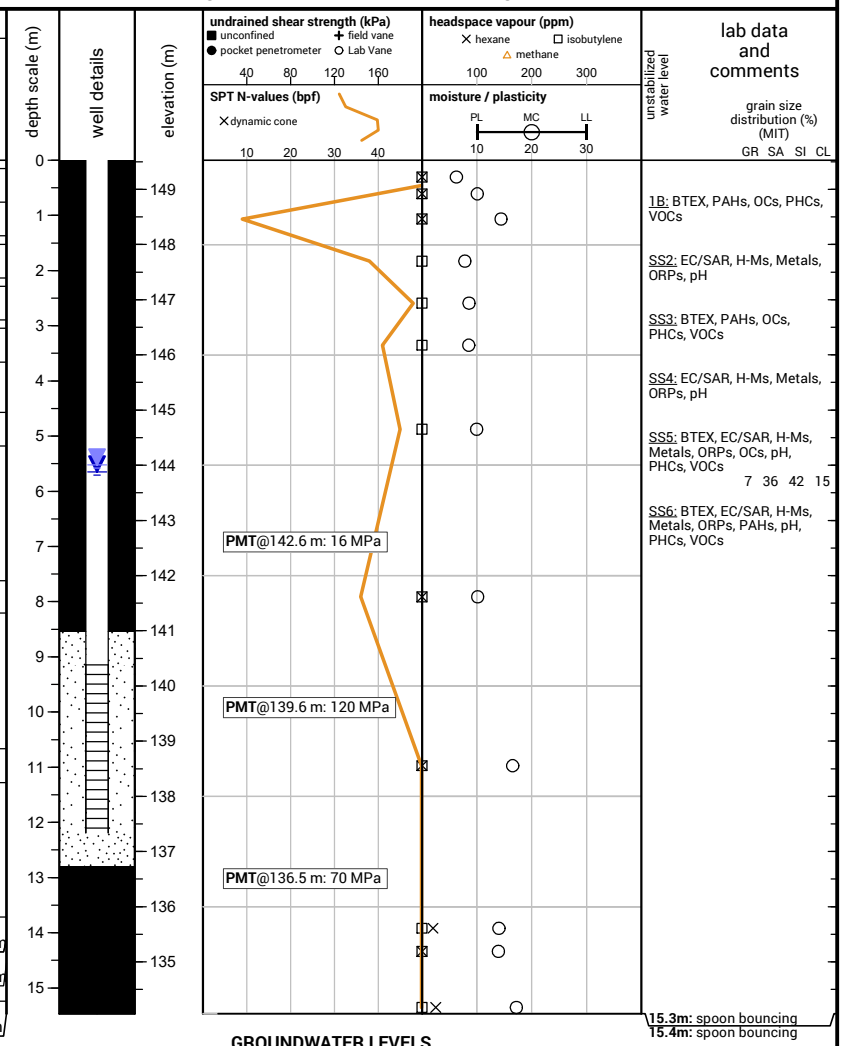
File No. : 25-122 **Project** : 1315 Bough Beeches Bvld, Mississauga, ON **Client** : 1315 Bough Beeches Boulevard Limited

drill method : CME 75

hollow stem augers OD=215 mm

mud rotary small OD=100 mm

elev depth (m)	description	graphic log	number	type	SPT N-value
149.5	**GROUND SURFACE**				
149.2 / 0.3	150mm **ASPHALT** 150mm **AGGREGATE**		1A 1B	SS	59
			2	SS	9
148.0 / 1.5	**FILL**, sandy silt, trace gravel, trace clay, very dense, dark brown, moist ...at 0.8 m, clayey silt, trace sand, stiff, dark brown, moist		3	SS	38
			4	SS	48
	SILT AND SAND, trace to some clay, trace gravel, dense, light brown with orange, moist (GLACIAL TILL)		5	SS	41
	...at 4.6 m, grey		6	SS	45
			1	PMT	
			7	SS	36
			2	PMT	
138.8 / 10.7	**SAND AND SILT**, trace gravel, very dense, grey, wet		8	SS	53
			3	PMT	
	...at 13.7 m, clayey, weathered shale fragments		9	SS	99 / 250mm
			10	SS	98 / 275mm
134.3 / 15.2	**INFERRED BEDROCK**, weathered shale and limestone fragments, grey, wet		11	SS	50 / 75mm
134.0 / 15.5	**END OF BOREHOLE**				



lab data and comments

grain size distribution (%) (MIT)
GR SA SI CL

1B: BTEX, PAHs, OCs, PHCs, VOCs

SS2: EC/SAR, H-Ms, Metals, ORPs, pH

SS3: BTEX, PAHs, OCs, PHCs, VOCs

SS4: EC/SAR, H-Ms, Metals, ORPs, pH

SS5: BTEX, EC/SAR, H-Ms, Metals, ORPs, OCs, pH, PHCs, VOCs
7 36 42 15

SS6: BTEX, EC/SAR, H-Ms, Metals, ORPs, PAHs, pH, PHCs, VOCs

15.3m: spoon bouncing
15.4m: spoon bouncing

GROUNDWATER LEVELS

date	depth (m)	elevation (m)
Jan 5, 2026	5.9	143.6
Jan 27, 2026	5.6	143.9
Feb 27, 2026	5.7	143.8
Mar 13, 2026	5.7	143.8

Borehole was filled with drill water upon completion of drilling.

50 mm dia. monitoring well installed.
No. 10 screen

file: 25-122-1315 bough beeches blvd, mississauga.gpj

Tech : CSH/SA | **PM** : DK | **Rev** : KB

GROUNDED ENGINEERING

Date Started : Dec 22, 2025
Position : E: 612415, N: 4831465 (UTM 17T)
Elev. Datum : Geodetic

BOREHOLE LOG 105

File No. : 25-122 **Project** : 1315 Bough Beeches Bvld, Mississauga, ON **Client** : 1315 Bough Beeches Boulevard Limited

drill method : CME 75

hollow stem augers OD=215 mm

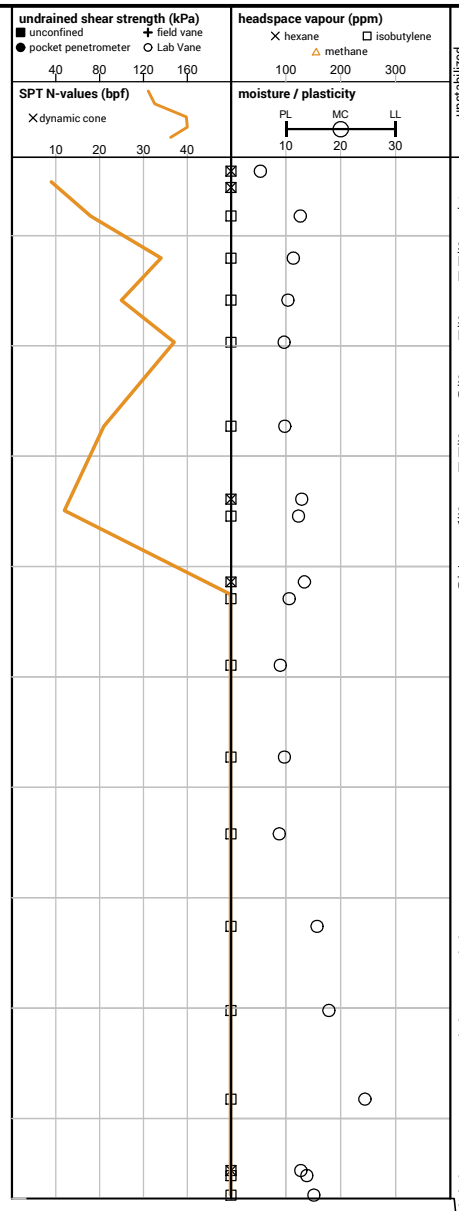
mud rotary small OD=100 mm

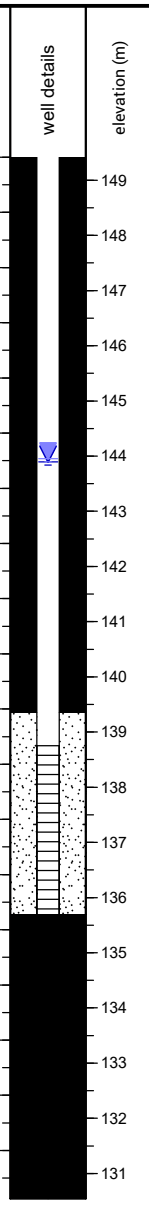
elev depth (m)	description	graphic log	number	type	SPT N-value
149.4	**GROUND SURFACE**				
	140mm **ASPHALT**		1A	SS	9
	65mm **AGGREGATE**		1B		
147.9 / 1.5	**FILL**, sandy silt, trace gravel, loose to compact, light brown, moist		2	SS	18
	SANDY SILT, trace to some clay, trace gravel, dense to compact, orangey brown with grey, moist (GLACIAL TILL)		3	SS	34
	...at 3.0 m, grey with orange		4	SS	25
			5	SS	37
	...at 4.6 m, grey		6	SS	21
	...at 6.3 m, clayey to 6.7 m		7A / 7B	SS	12
141.6 / 7.8	...at 7.6 m, silty clay seams to 7.8 m		8A / 8B	SS	62
	SILTY SAND, trace to some clay, trace gravel, very dense, grey, wet (GLACIAL TILL)		9	SS	50 / 125mm
			10	SS	99 / 250mm
137.2 / 12.2	**GRAVEL**, trace sand, trace silt, very dense, grey, wet		11	SS	50 / 140mm
135.7 / 13.7	**SILT AND SAND**, trace clay, trace gravel, occasional rock fragments, very dense, grey, wet		12	SS	98 / 290mm
			13	SS	91 / 290mm
132.6 / 16.8	**SILTY SAND**, trace clay, very dense, grey, wet		14	SS	69
131.0 / 18.4	...at 18.3 m, weathered rock fragments		15A	SS	50 / 75mm
130.5 / 18.9	**INFERRED BEDROCK**, weathered shale and limestone fragments, grey, moist to wet		15B / 16	SS	50 / 125mm

END OF BOREHOLE

Borehole was filled with drill water upon completion of drilling.

50 mm dia. monitoring well installed.
No. 10 screen





unstabilized water level

lab data and comments

grain size distribution (%) (MIT)
GR SA SI CL

1B: OCs

SS2: BTEX, EC/SAR, H-Ms, Metals, ORPs, PAHs, pH, PHCs, VOCs

SS3: BTEX, PAHs, OCs, PHCs, VOCs

SS4: EC/SAR, H-Ms, Metals, ORPs, pH

SS5: BTEX, EC/SAR, H-Ms, Metals, ORPs, OCs, pH, PHCs, VOCs

SS6: BTEX, PAHs, PHCs, VOCs

7A: EC/SAR, H-Ms, Metals, ORPs, pH

2 45 47 6

13.9m: spoon bouncing **to 14.2m**

15.6m: spoon bouncing **to 15.7m**

18.4m: auger grinding **to 18.7m**
18.4m: spoon bouncing **to 18.5m**
18.7m: auger refusal
18.8m: spoon bouncing **to 18.9m**

GROUNDWATER LEVELS

date	depth (m)	elevation (m)
Jan 5, 2026	5.8	143.6
Jan 27, 2026	5.7	143.7
Feb 27, 2026	5.7	143.7
Mar 13, 2026	5.5	143.9

file: 25-122-1315 bough beeches blvd, mississauga.gpj

Tech : CSH/SA | **PM** : DK | **Rev** : KB

GROUNDED ENGINEERING

Date Started : Dec 23, 2025
Position : E: 612412, N: 4831491 (UTM 17T)
Elev. Datum : Geodetic

BOREHOLE LOG 106

File No. : 25-122 **Project** : 1315 Bough Beeches Bvld, Mississauga, ON **Client** : 1315 Bough Beeches Boulevard Limited

drill method : CME 75

hollow stem augers OD=215 mm

mud rotary small OD=100 mm

elev depth (m)	description	graphic log	number	type	SPT N-value
149.7	**GROUND SURFACE**				
148.9	125mm **ASPHALT**		1A	SS	14
0.8	150mm **AGGREGATE**		1B		
	FILL, sandy silt, trace gravel, compact, dark brown, moist		2	SS	22
			3	SS	28
	SANDY SILT, trace to some clay, trace gravel, compact, orangey brown with grey, moist		4	SS	35
	(GLACIAL TILL)				
	...at 2.3 m, dense		5	SS	35
	...at 4.6 m, compact, grey, wet		6	SS	27
			7	SS	15
	...at 7.6 m, very dense		8	SS	59
			9	SS	50 / 125mm
139.0					
10.7	**SAND AND SILT**, trace clay, trace gravel, very dense, grey, wet		10	SS	50 / 125mm
137.5					
12.2	**SILTY SAND**, trace gravel, very dense, grey, wet		11	SS	50 / 100mm
			12	SS	50 / 125mm
134.5					
15.2	**SILT**, some clay, trace sand, trace gravel, very dense, grey, wet		13	SS	93 / 275mm
			14	SS	70
			15	SS	61
129.7	...at 19.8 m, weathered shale fragments		16A	SS	50 / 50mm
20.0			16B	SS	
129.5	**INFERRED BEDROCK**, weathered shale and		17	SS	50 / 50mm
20.2	limestone fragments, grey, wet, moist				

END OF BOREHOLE

Borehole was filled with drill water upon completion of drilling.

depth scale (m) 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

well details

elevation (m) 149 148 147 146 145 144 143 142 141 140 139 138 137 136 135 134 133 132 131 130

undrained shear strength (kPa)
■ unconfined + field vane
● pocket penetrometer ○ Lab Vane
40 80 120 160

SPT N-values (bpf)
× dynamic cone
10 20 30 40

headspace vapour (ppm)
× hexane □ isobutylene △ methane
100 200 300

moisture / plasticity
PL MC LL
10 20 30

unstabilized water level

lab data and comments

grain size distribution (%) (MIT)
GR SA SI CL

1B: BTEX, PAHs, OCs, PHCs, VOCs
8 47 30 15

SS2: EC/SAR, H-Ms, Metals, ORPs, pH

SS3: EC/SAR, H-Ms, Metals, ORPs, pH

SS4: EC/SAR, H-Ms, Metals, ORPs, OCs, pH

SS5: BTEX, PAHs, PHCs, VOCs

SS6: BTEX, EC/SAR, H-Ms, Metals, ORPs, pH, PHCs, VOCs

SS7: EC/SAR, H-Ms, Metals, ORPs, PAHs, pH

19.5m: auger grinding
20.0m: spoon bouncing **to 20.0m**
20.1m: spoon bouncing **to 20.2m**

file: 25-122-1315 bough beeches blvd, mississauga.gpj

Tech : CSH/SA | **PM** : DK | **Rev** : KB

GROUNDED ENGINEERING

Date Started : Dec 16, 2025
Position : E: 612399, N: 4831488 (UTM 17T)
Elev. Datum : Geodetic

BOREHOLE LOG 107

File No. : 25-122 **Project** : 1315 Bough Beeches Bvld, Mississauga, ON **Client** : 1315 Bough Beeches Boulevard Limited

drill method : *CME 75*
hollow stem augers OD=215 mm

elev depth (m)	description	graphic log	number	type	SPT N-value
149.7	**GROUND SURFACE**				
149.3	125mm **ASPHALT**		1	SS	
0.4	250mm **AGGREGATE**				
148.2	**FILL**, sandy silt, trace clay, trace gravel, dark brown with orange, moist		2	SS	
1.5					
147.6	**SANDY SILT**, trace clay, trace gravel, orangey brown, moist (GLACIAL TILL)		3	SS	
2.1					

END OF BOREHOLE

Borehole was dry upon completion of drilling.

depth scale (m): 0, 1, 2
well details
elevation (m): 149, 148

undrained shear strength (kPa)
■ unconfined + field vane
● pocket penetrometer ○ Lab Vane
40 80 120 160

SPT N-values (bpf)
× dynamic cone
10 20 30 40

headspace vapour (ppm)
× hexane □ isobutylene
△ methane
100 200 300

moisture / plasticity
PL MC LL
10 20 30

unstabilized water level

lab data and comments

grain size distribution (%) (MIT)
GR SA SI CL

SS1: BTEX, PAHs, OCs, PHCs, VOCs

SS2: EC/SAR, H-Ms, Metals, ORPs, pH

SS3: BTEX, PAHs, OCs, PHCs, VOCs

file: 25-122-1315 bough beeches blvd, mississauga.gpj

Tech : CSH/SA | **PM** : DK | **Rev** : KB

BOREHOLE LOG 108

Date Started : Dec 18, 2025
Position : E: 612396, N: 4831500 (UTM 17T)
Elev. Datum : Geodetic

File No. : 25-122 **Project** : 1315 Bough Beeches Bvld, Mississauga, ON **Client** : 1315 Bough Beeches Boulevard Limited

drill method : CME 75

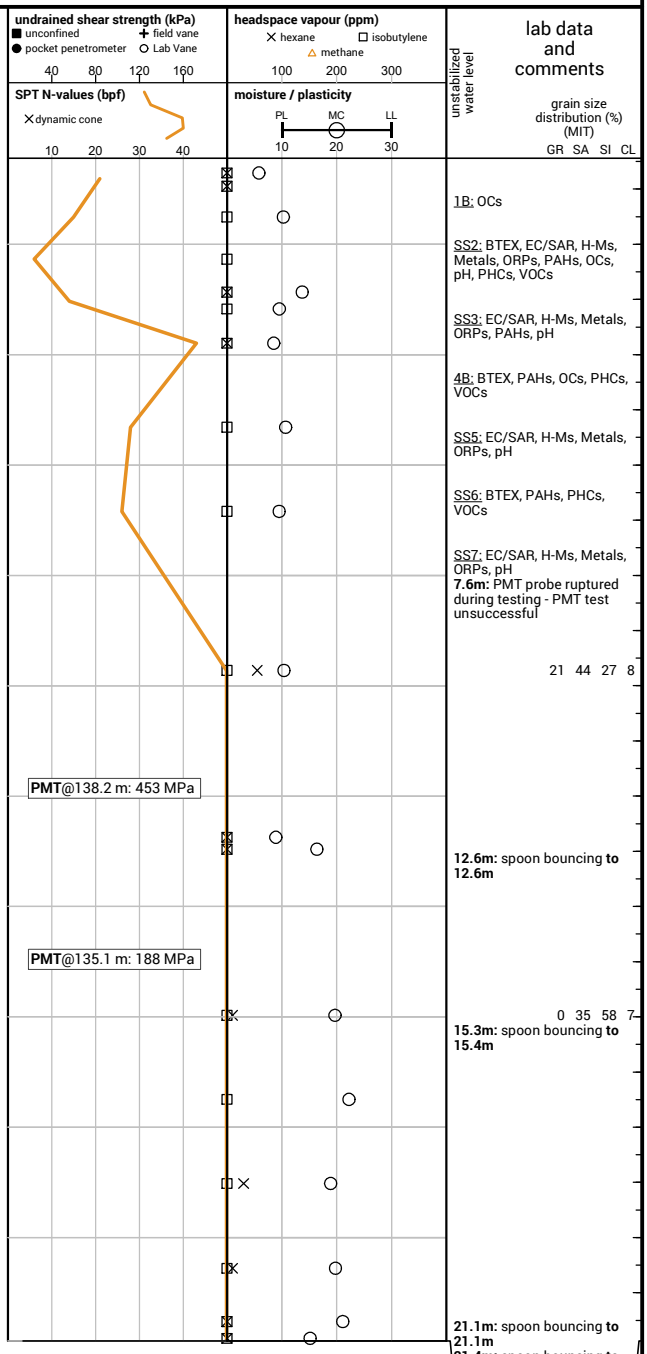
hollow stem augers OD=215 mm

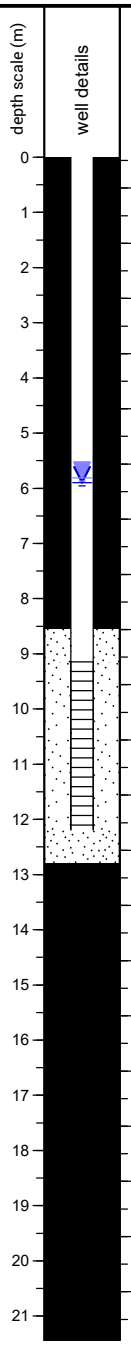
mud rotary small OD=100 mm

elev depth (m)	description	graphic log	number	type	SPT N-value
149.6	**GROUND SURFACE**				
149.2 / 0.4	125mm **ASPHALT** 280mm **AGGREGATE**		1A 1B	SS	21
	FILL, gravelly sand, some silt, compact, brown, moist		2	SS	15
			3	SS	6
147.0 / 2.6	...at 2.3 m, clayey ...at 2.6 m, some clay, light brown with orange		4A 4B	SS	14
	SANDY SILT, trace to some clay, trace gravel, compact to loose, dark brown with orange, moist (GLACIAL TILL) ...at 3.0 m, dense ...at 4.6 m, compact, grey		5	SS	43
			6	SS	28
			7	SS	26
			1	PMT	
140.5 / 9.1	**SILTY SAND**, gravelly, trace clay, very dense, grey, wet		8	SS	50 / 125mm
			2	PMT	
137.2 / 12.4	**SAND**, trace silt, trace gravel, very dense, grey, wet		9A 9B	SS	98 / 275mm
			3	PMT	
134.4 / 15.2	**SILT AND SAND**, trace clay, very dense, grey, wet		10	SS	70
			11	SS	77
			12	SS	51
			13	SS	66
128.6 / 21.0	**INFERRED BEDROCK**, weathered shale and limestone fragments, grey, wet, moist		14 15	SS SS	50 / 100mm 50 / 100mm
128.2 / 21.4	**END OF BOREHOLE**				

Borehole was filled with drill water upon completion of drilling.

50 mm dia. monitoring well installed.
No. 10 screen





unstabilized water level

lab data and comments

grain size distribution (%) (MIT)
GR SA SI CL

1B: OCs

SS2: BTEX, EC/SAR, H-Ms, Metals, ORPs, PAHs, OCs, pH, PHCs, VOCs

SS3: EC/SAR, H-Ms, Metals, ORPs, PAHs, pH

4B: BTEX, PAHs, OCs, PHCs, VOCs

SS5: EC/SAR, H-Ms, Metals, ORPs, pH

SS6: BTEX, PAHs, PHCs, VOCs

SS7: EC/SAR, H-Ms, Metals, ORPs, pH
7.6m: PMT probe ruptured during testing - PMT test unsuccessful

21 44 27 8

12.6m: spoon bouncing **to 12.6m**

0 35 58 7
15.3m: spoon bouncing **to 15.4m**

21.1m: spoon bouncing **to 21.1m**
21.4m: spoon bouncing **to 21.4m**

GROUNDWATER LEVELS

date	depth (m)	elevation (m)
Jan 5, 2026	6.0	143.6
Jan 27, 2026	5.9	143.7
Feb 27, 2026	6.1	143.5
Mar 13, 2026	5.9	143.7

file: 25-122-1315 bough beeches blvd, mississauga.gpj

Tech : CSH/SA | **PM** : DK | **Rev** : KB

APPENDIX B

GROUNDED ENGINEERING

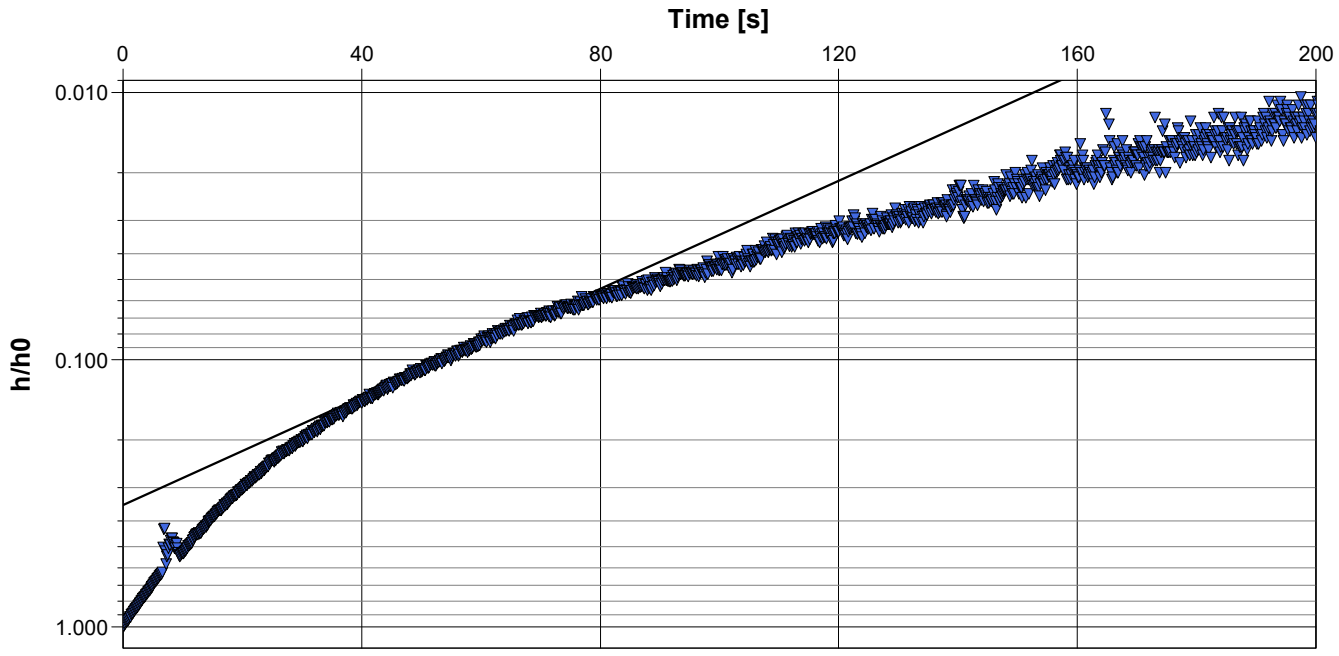
Slug Test Analysis Report

Project: 1315 Bough Beeches Bvld

Number: 25-122

Client: Standford Destination Home

Location: Mississauga, ON	Slug Test: BH105-Slug Test 2	Test Well: BH105 - Slug Out
Test Conducted by: SA		Test Date: 2026-01-05
Analysis Performed by: RR/DK	BH105	Analysis Date: 2026-01-09
Aquifer Thickness: 15.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]	
BH105	1.01×10^{-5}	

GROUNDED ENGINEERING

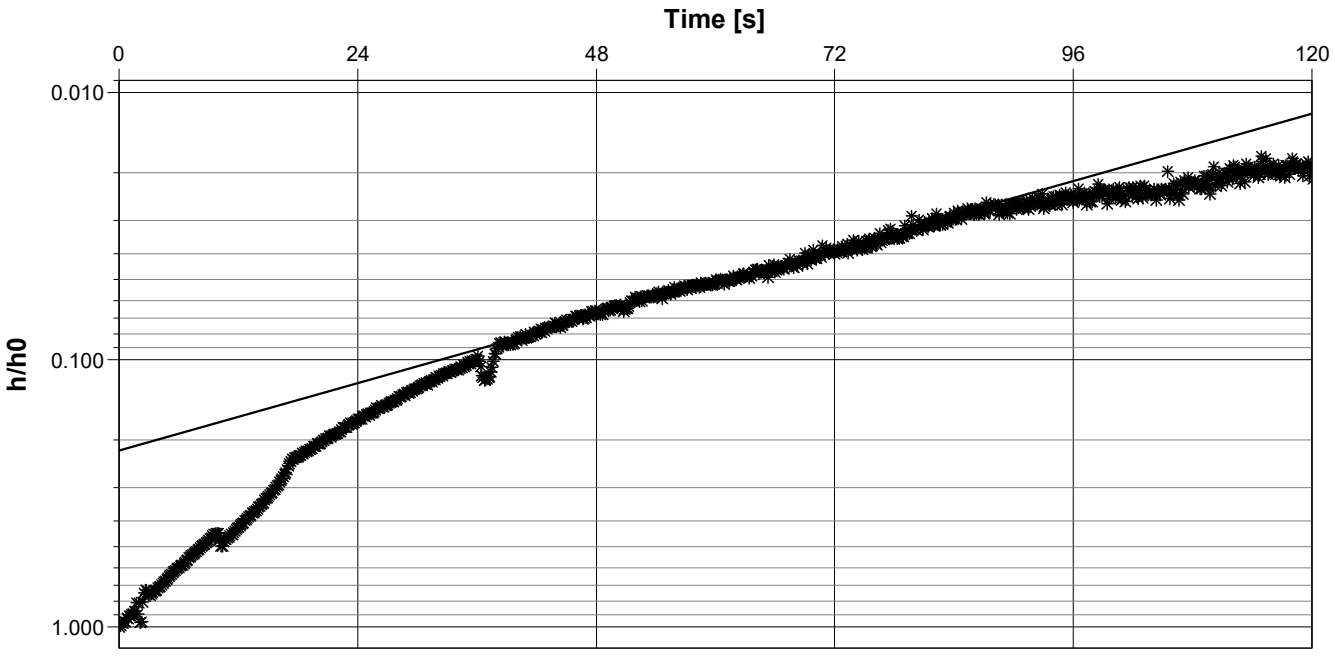
Slug Test Analysis Report

Project: 1315 Bough Beeches Bvld

Number: 25-122

Client: Standford Destination Home

Location: Mississauga, ON	Slug Test: BH105-Slug Test 1	Test Well: BH105 - Slug In
Test Conducted by: SA		Test Date: 2026-01-05
Analysis Performed by: RR/DK	BH105	Analysis Date: 2026-01-09
Aquifer Thickness: 15.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]	
BH105	1.04×10^{-5}	

GROUNDED ENGINEERING

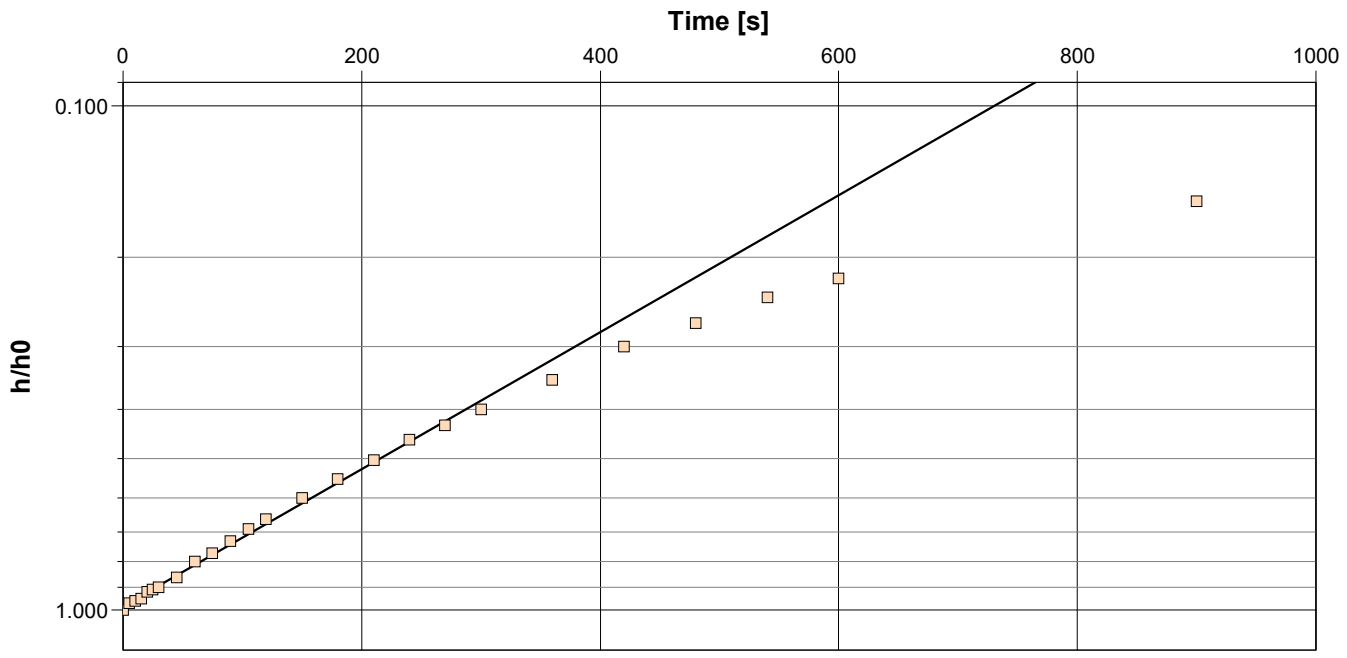
Slug Test Analysis Report

Project: 1315 Bough Beeches Bvld

Number: 25-122

Client: Standford Destination Home

Location: Mississauga, ON	Slug Test: BH104	Test Well: BH104
Test Conducted by: SA		Test Date: 2026-01-05
Analysis Performed by: RR/DK	BH104	Analysis Date: 2026-01-09
Aquifer Thickness: 15.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]	
BH104	1.32×10^{-6}	

GROUNDED ENGINEERING

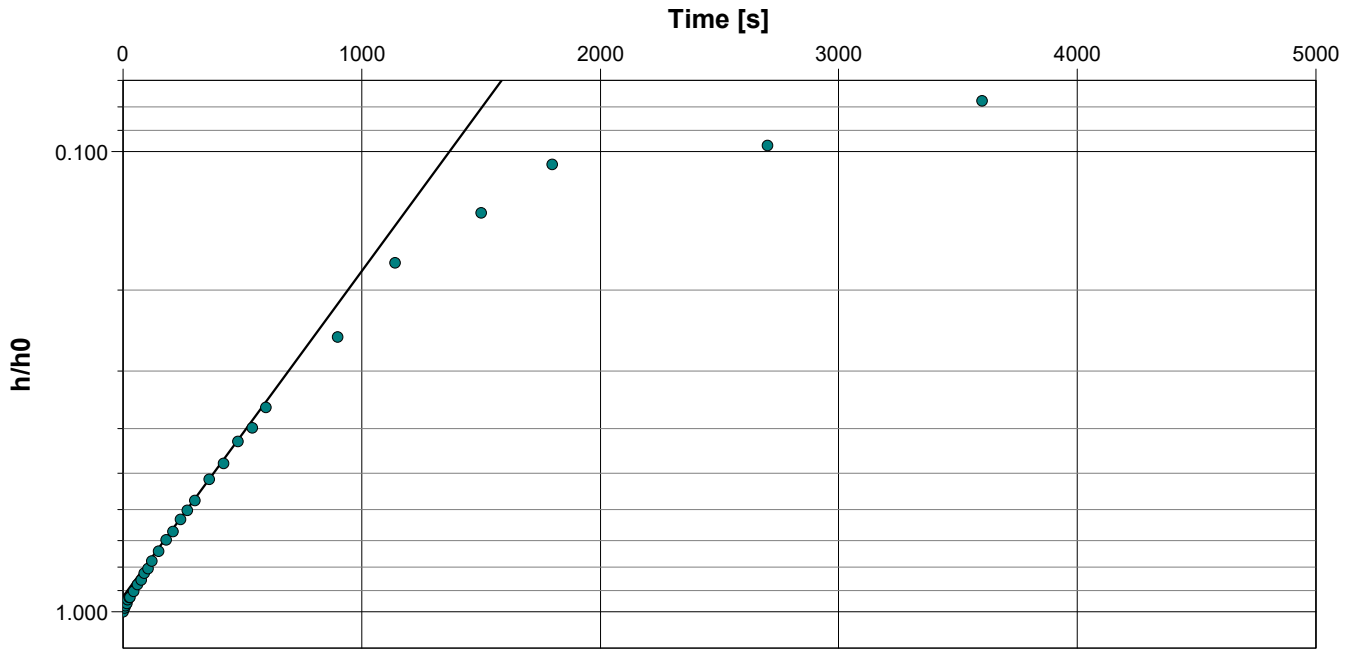
Slug Test Analysis Report

Project: 1315 Bough Beeches Bvld

Number: 25-122

Client: Standford Destination Home

Location: Mississauga, ON	Slug Test: BH108	Test Well: BH108
Test Conducted by: SA		Test Date: 2026-01-05
Analysis Performed by: RR/DK	BH108	Analysis Date: 2026-01-09
Aquifer Thickness: 15.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]	
BH108	6.88×10^{-7}	

GROUNDED ENGINEERING

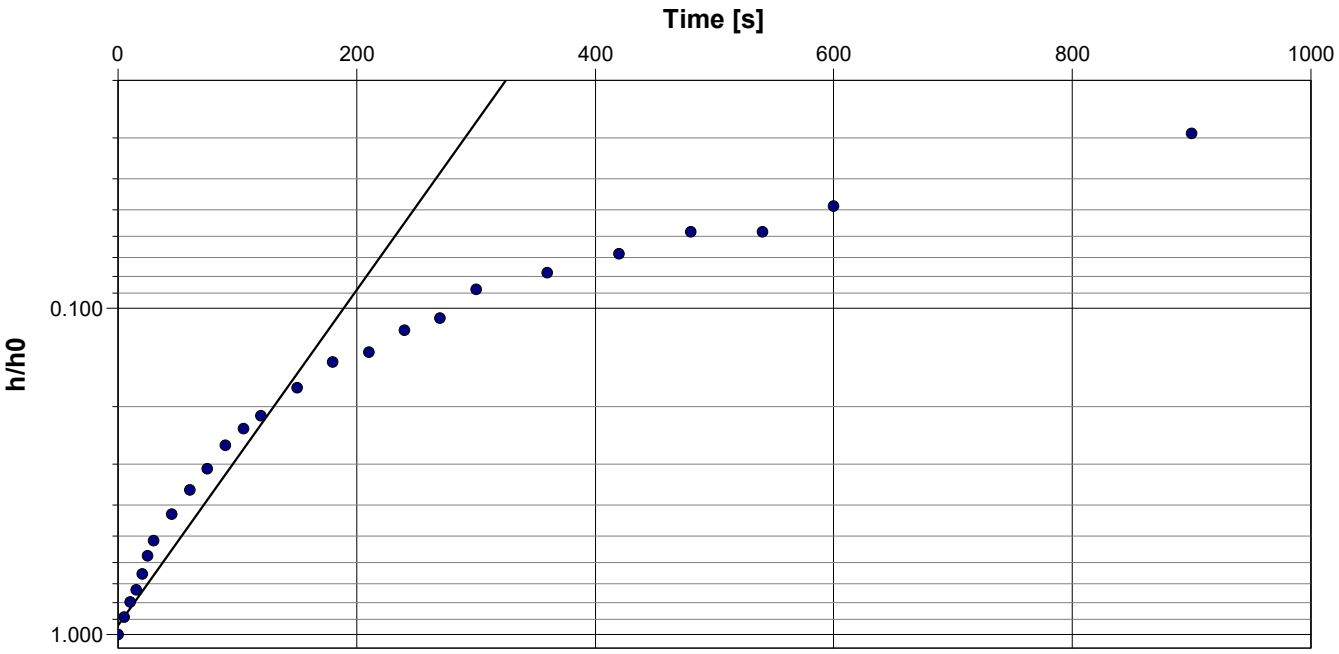
Slug Test Analysis Report

Project: 1315 Bough Beeches Bvld

Number: 25-122

Client: Standford Destination Home

Location: Mississauga, ON	Slug Test: BH7	Test Well: BH7
Test Conducted by:		Test Date: 2025-08-22
Analysis Performed by: DK	BH7 RHT Analysis	Analysis Date: 2025-09-04
Aquifer Thickness: 15.10 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]	
BH7	4.89×10^{-6}	

GROUNDED ENGINEERING

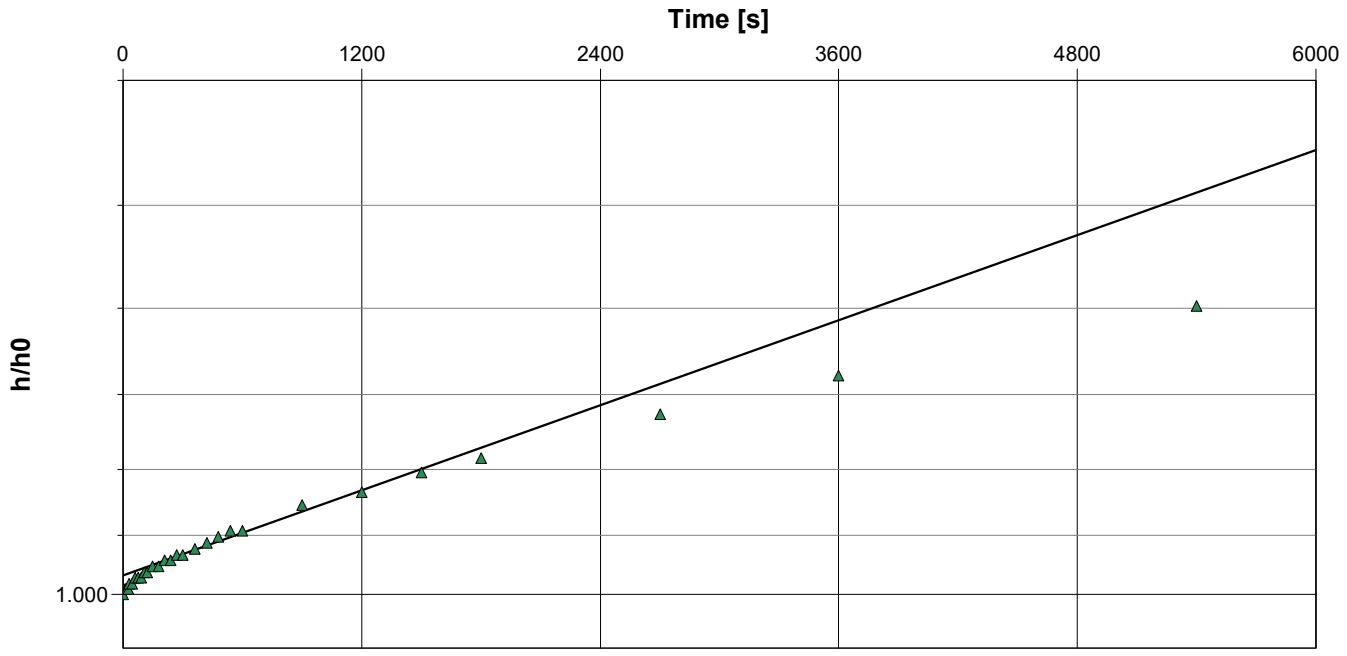
Slug Test Analysis Report

Project: 1315 Bough Beeches Bvld

Number: 25-122

Client: Standford Destination Home

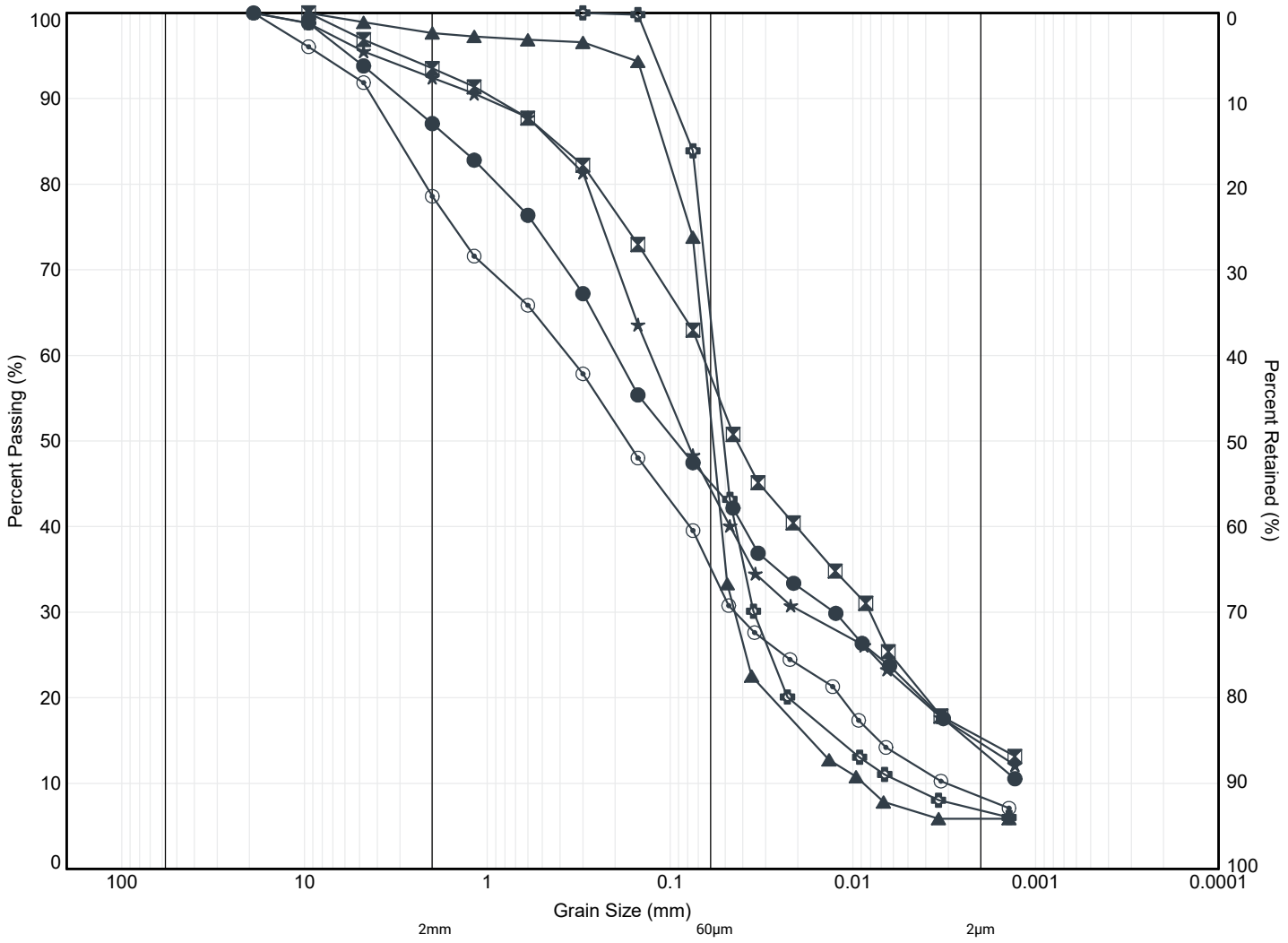
Location: Mississauga, ON	Slug Test: BH3	Test Well: BH3
Test Conducted by: GS		Test Date: 2025-09-04
Analysis Performed by: DK	BH3 RHT Analysis	Analysis Date: 2025-09-04
Aquifer Thickness: 17.90 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]	
BH3	4.89×10^{-8}	

APPENDIX C



MIT SYSTEM	COBBLES	GRAVEL			SAND			SILT	CLAY
		COARSE	MEDIUM	FINE	COARSE	MEDIUM	FINE		

MIT SYSTEM

	Location	Sample	Depth (m)	Elev. (m)	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
●	**BH 7**	SS8	8.7	142.4	13	42	31	14
⊠	**BH 104**	SS6	4.9	144.7	7	36	42	15
▲	**BH 105**	SS12	13.9	135.5	2	45	47	6
★	**BH 106**	SS2	1.1	148.6	8	47	30	15
⊙	**BH 108**	SS8	9.3	140.3	21	44	27	8
✿	**BH 108**	SS10	15.5	134.0	0	35	58	7

GROUNDED ENGINEERING

Title: **GRAIN SIZE DISTRIBUTION**

File No.: **25-122**

file: 25-122-1315 bough beeches blvd, mississauga.gpj

APPENDIX D

K from Grain Size Analysis Report

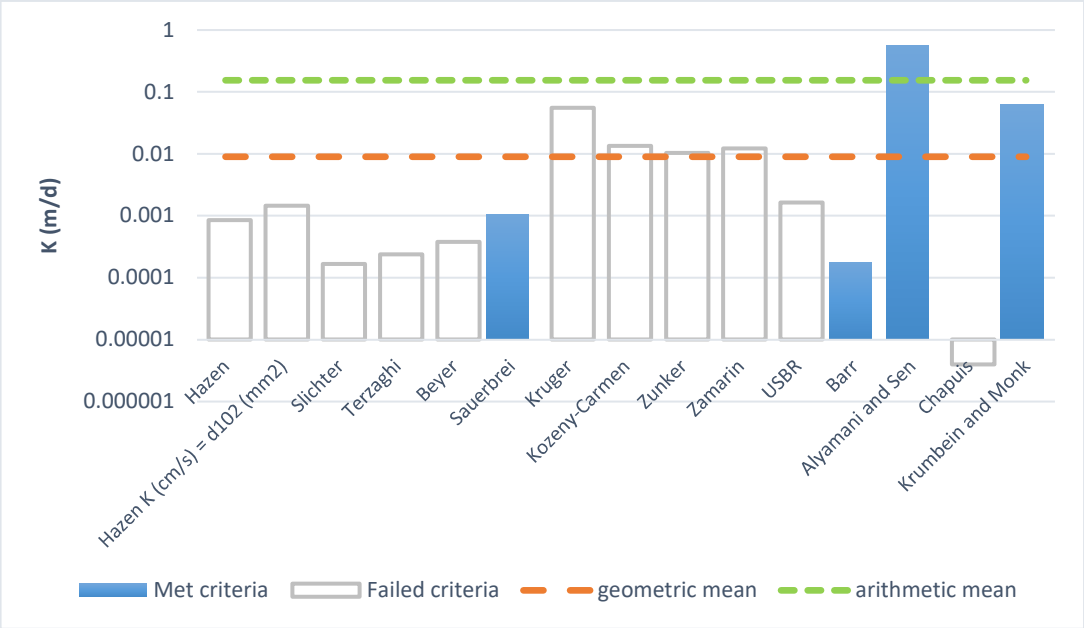
Date: 25-Sep-25

Sample Name: BH7-SS8

Mass Sample (g): 152.38

T (oC) 21.5

Poorly sorted gravelly sand with fines



Estimation of Hydraulic Conductivity	cm/s	m/s	m/d	de
Hazen	9.8E-07	9.8E-09	0.00	
Hazen K (cm/s) = d_{10} (mm)	1.7E-06	1.7E-08	0.00	
Slichter	1.9E-07	1.9E-09	0.00	
Terzaghi	2.7E-07	2.7E-09	0.00	
Beyer	4.4E-07	4.4E-09	0.00	
Sauerbrei	1.2E-06	1.2E-08	0.00	
Kruger	6.4E-05	6.4E-07	0.06	
Kozeny-Carmen	1.6E-05	1.6E-07	0.01	
Zunker	1.2E-05	1.2E-07	0.01	
Zamarin	1.4E-05	1.4E-07	0.01	
USBR	1.9E-06	1.9E-08	0.00	
Barr	2.1E-07	2.1E-09	0.00	
Alyamani and Sen	6.5E-04	6.5E-06	0.56	
Chapuis	4.6E-09	4.6E-11	0.00	
Krumbein and Monk	7.3E-05	7.3E-07	0.06	
geometric mean	1.0E-05	1.0E-07	0.01	
arithmetic mean	1.8E-04	1.8E-06	0.16	

K from Grain Size Analysis Report

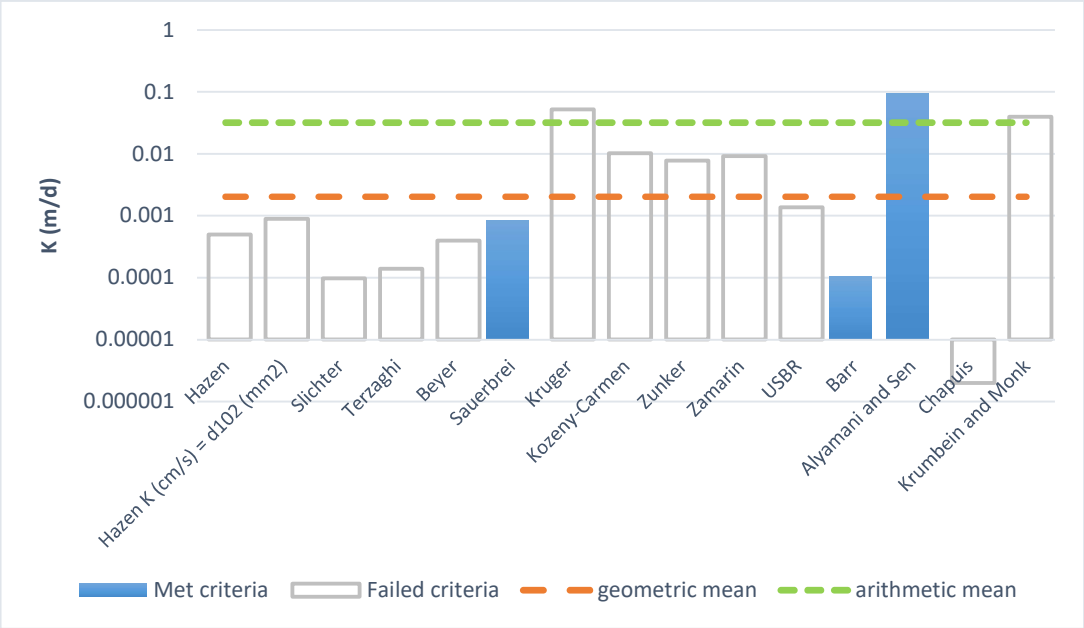
Date: 04-Mar-26

Sample Name: BH104-SS6

Mass Sample (g): 164.28

T (oC) 19.5

Poorly sorted sandy silt with fines



Estimation of Hydraulic Conductivity	cm/s	m/s	m/d	de
Hazen	5.7E-07	5.7E-09	0.00	
Hazen K (cm/s) = d_{10} (mm)	1.0E-06	1.0E-08	0.00	
Slichter	1.1E-07	1.1E-09	0.00	
Terzaghi	1.6E-07	1.6E-09	0.00	
Beyer	4.6E-07	4.6E-09	0.00	
Sauerbrei	9.8E-07	9.8E-09	0.00	
Kruger	6.0E-05	6.0E-07	0.05	
Kozeny-Carmen	1.2E-05	1.2E-07	0.01	
Zunker	9.0E-06	9.0E-08	0.01	
Zamarin	1.1E-05	1.1E-07	0.01	
USBR	1.6E-06	1.6E-08	0.00	
Barr	1.2E-07	1.2E-09	0.00	
Alyamani and Sen	1.1E-04	1.1E-06	0.10	
Chapuis	2.3E-09	2.3E-11	0.00	
Krumbein and Monk	4.6E-05	4.6E-07	0.04	
geometric mean	2.4E-06	2.4E-08	0.00	
arithmetic mean	3.7E-05	3.7E-07	0.03	

K from Grain Size Analysis Report

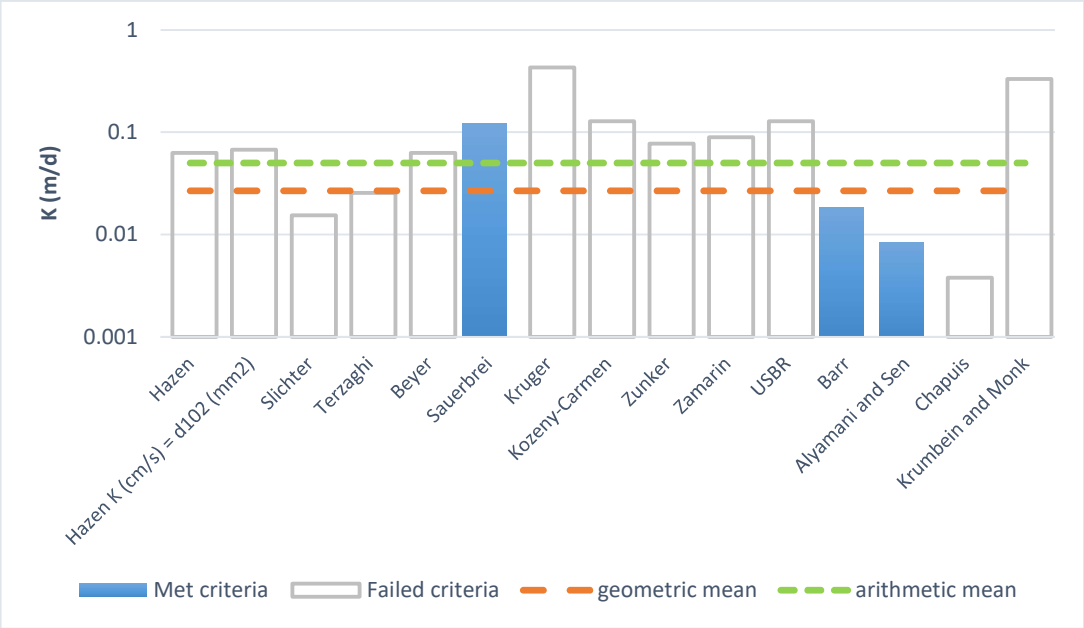
Date: 04-Mar-26

Sample Name: BH105-SS12

Mass Sample (g): 175.63

T (oC) 19.5

Poorly sorted sandy silt low in fines



Estimation of Hydraulic Conductivity	cm/s	m/s	m/d	de
Hazen	7.3E-05	7.3E-07	0.06	
Hazen K (cm/s) = d_{10} (mm)	7.8E-05	7.8E-07	0.07	
Slichter	1.8E-05	1.8E-07	0.02	
Terzaghi	3.0E-05	3.0E-07	0.03	
Beyer	7.3E-05	7.3E-07	0.06	
Sauerbrei	1.4E-04	1.4E-06	0.12	
Kruger	5.0E-04	5.0E-06	0.43	
Kozeny-Carmen	1.5E-04	1.5E-06	0.13	
Zunker	8.9E-05	8.9E-07	0.08	
Zamarin	1.0E-04	1.0E-06	0.09	
USBR	1.5E-04	1.5E-06	0.13	
Barr	2.1E-05	2.1E-07	0.02	
Alyamani and Sen	9.8E-06	9.8E-08	0.01	
Chapuis	4.4E-06	4.4E-08	0.00	
Krumbein and Monk	3.8E-04	3.8E-06	0.33	
geometric mean	3.1E-05	3.1E-07	0.03	
arithmetic mean	5.8E-05	5.8E-07	0.05	

K from Grain Size Analysis Report

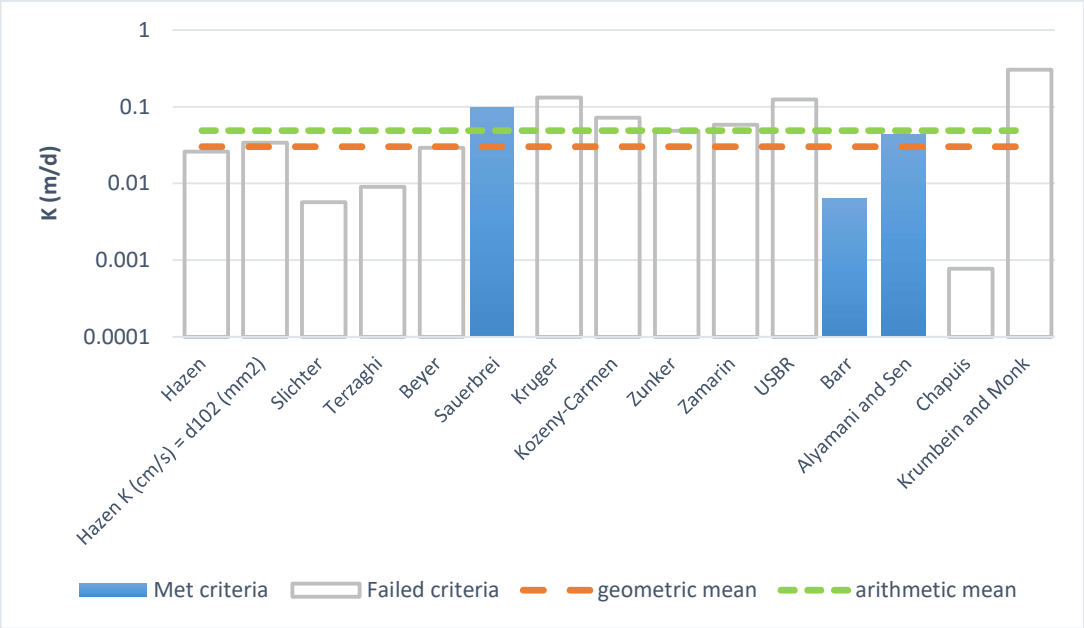
Date: 04-Mar-26

Sample Name: BH106-SS2

Mass Sample (g): 188.69

T (oC) 19.5

Poorly sorted sandy silt with fines



Estimation of Hydraulic Conductivity	cm/s	m/s	m/d	de
Hazen	3.0E-05	3.0E-07	0.03	
Hazen K (cm/s) = d_{10} (mm)	3.9E-05	3.9E-07	0.03	
Slichter	6.6E-06	6.6E-08	0.01	
Terzaghi	1.0E-05	1.0E-07	0.01	
Beyer	3.4E-05	3.4E-07	0.03	
Sauerbrei	1.1E-04	1.1E-06	0.10	
Kruger	1.5E-04	1.5E-06	0.13	
Kozeny-Carmen	8.3E-05	8.3E-07	0.07	
Zunker	5.6E-05	5.6E-07	0.05	
Zamarin	6.7E-05	6.7E-07	0.06	
USBR	1.4E-04	1.4E-06	0.12	
Barr	7.5E-06	7.5E-08	0.01	
Alyamani and Sen	5.0E-05	5.0E-07	0.04	
Chapuis	8.9E-07	8.9E-09	0.00	
Krumbein and Monk	3.5E-04	3.5E-06	0.30	
geometric mean	3.5E-05	3.5E-07	0.03	
arithmetic mean	5.7E-05	5.7E-07	0.05	

K from Grain Size Analysis Report

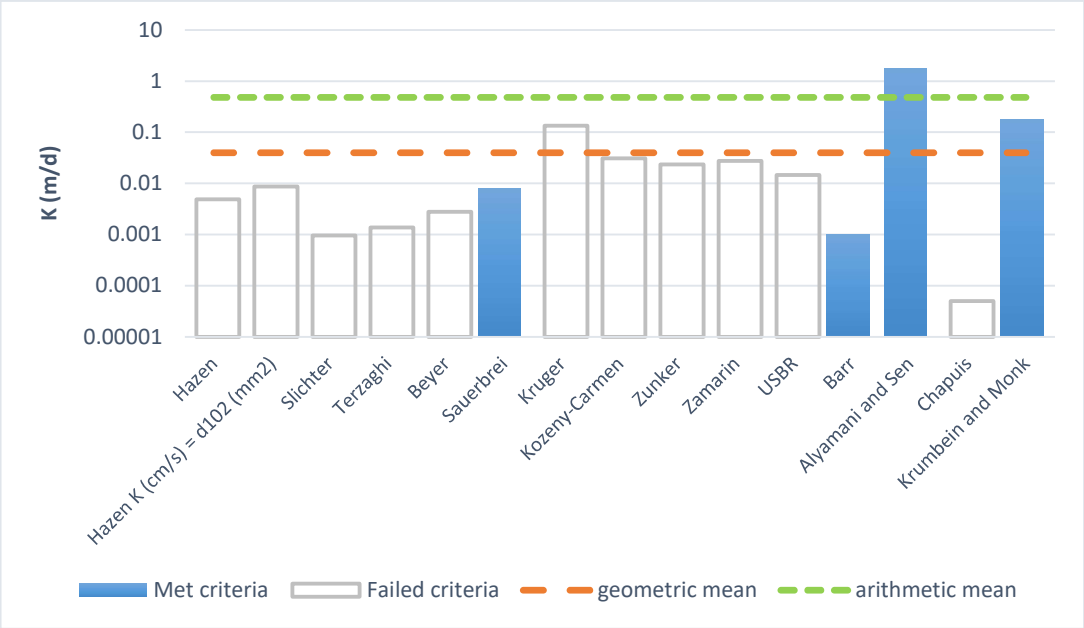
Date: 04-Mar-26

Sample Name: BH108-SS8

Mass Sample (g): 244.98

T (oC) 19.5

Poorly sorted gravelly sand with fines



Estimation of Hydraulic Conductivity	cm/s	m/s	m/d	de
Hazen	5.7E-06	5.7E-08	0.00	
Hazen K (cm/s) = d_{10} (mm)	1.0E-05	1.0E-07	0.01	
Slichter	1.1E-06	1.1E-08	0.00	
Terzaghi	1.6E-06	1.6E-08	0.00	
Beyer	3.2E-06	3.2E-08	0.00	
Sauerbrei	9.2E-06	9.2E-08	0.01	
Kruger	1.6E-04	1.6E-06	0.13	
Kozeny-Carmen	3.6E-05	3.6E-07	0.03	
Zunker	2.7E-05	2.7E-07	0.02	
Zamarin	3.2E-05	3.2E-07	0.03	
USBR	1.7E-05	1.7E-07	0.01	
Barr	1.2E-06	1.2E-08	0.00	
Alyamani and Sen	2.0E-03	2.0E-05	1.75	
Chapuis	5.8E-08	5.8E-10	0.00	
Krumbein and Monk	2.1E-04	2.1E-06	0.18	
geometric mean	4.6E-05	4.6E-07	0.04	
arithmetic mean	5.6E-04	5.6E-06	0.48	

K from Grain Size Analysis Report

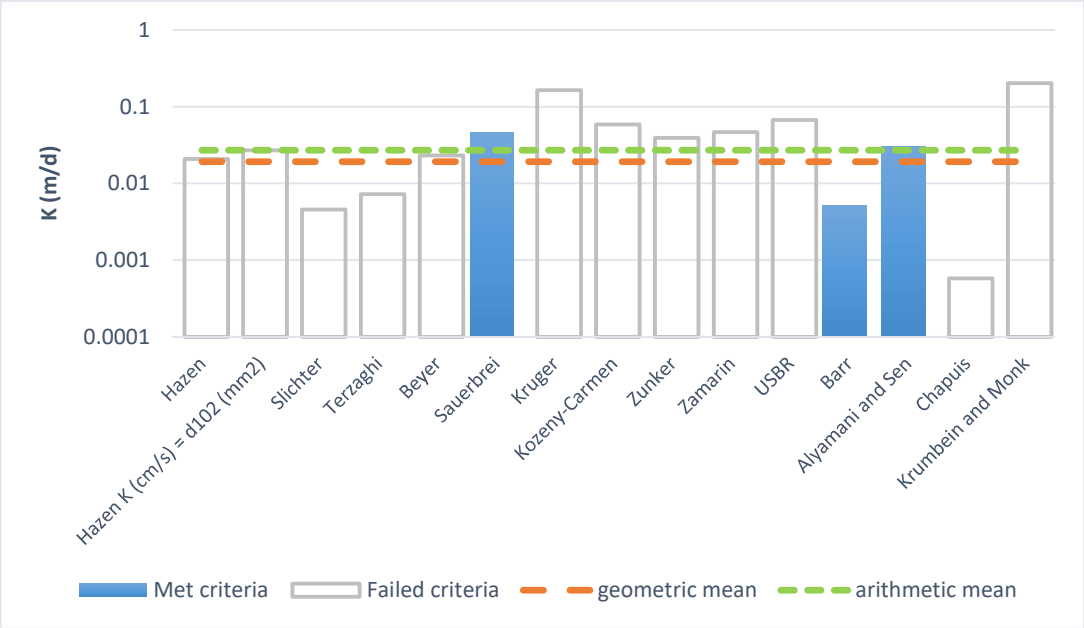
Date: 04-Mar-26

Sample Name: BH108-SS10

Mass Sample (g): 232.21

T (oC) 19.5

Poorly sorted sandy silt low in fines



Estimation of Hydraulic Conductivity	cm/s	m/s	m/d	de
Hazen	2.4E-05	2.4E-07	0.02	
Hazen K (cm/s) = d_{10} (mm)	3.1E-05	3.1E-07	0.03	
Slichter	5.3E-06	5.3E-08	0.00	
Terzaghi	8.4E-06	8.4E-08	0.01	
Beyer	2.7E-05	2.7E-07	0.02	
Sauerbrei	5.3E-05	5.3E-07	0.05	
Kruger	1.9E-04	1.9E-06	0.16	
Kozeny-Carmen	6.8E-05	6.8E-07	0.06	
Zunker	4.5E-05	4.5E-07	0.04	
Zamarin	5.4E-05	5.4E-07	0.05	
USBR	7.8E-05	7.8E-07	0.07	
Barr	6.0E-06	6.0E-08	0.01	
Alyamani and Sen	3.5E-05	3.5E-07	0.03	
Chapuis	6.7E-07	6.7E-09	0.00	
Krumbein and Monk	2.4E-04	2.4E-06	0.20	
geometric mean	2.2E-05	2.2E-07	0.02	
arithmetic mean	3.1E-05	3.1E-07	0.03	

APPENDIX E

Your Project #: 25-122
Site Location: 1315 BOUGH BEECHES BOULEVARD,
Your C.O.C. #: C#1074372-01-01

Attention: Kristen Shaver

Grounded Engineering Inc.
49 Mobile Dr
North York, ON
CANADA M4A 1H5

Report Date: 2026/01/13
Report #: R8680992
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C600444
Received: 2026/01/05, 13:15

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
ABN Compounds in Water by GC/MS	1	2026/01/10	2026/01/12	CAM SOP-00301	EPA 8270E m
Biochemical Oxygen Demand (BOD)	1	2026/01/06	2026/01/11	CAM SOP-00427	SM 24 5210B m
Carbonaceous BOD	1	2026/01/06	2026/01/11	CAM SOP-00427	SM 24 5210B m
Total Residual Chlorine	1	2026/01/06	2026/01/06	CAM SOP 00425	SM 24 4500-CL G m
Chromium (VI) in Water	1	N/A	2026/01/07	CAM SOP-00436	EPA 7199 m
Total Cyanide	1	2026/01/06	2026/01/06	CAM SOP-00457	OMOE E3015 5 m
Fluoride	1	2026/01/07	2026/01/07	CAM SOP-00449	SM 24 4500-F C m
Mercury in Water by CVAA	1	2026/01/06	2026/01/06	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by ICPMS	1	2026/01/09	2026/01/09	CAM SOP-00447	EPA 6020B m
E.coli, (CFU/100mL)	1	N/A	2026/01/05	CAM SOP-00552	SM9222B, MECP E3371
Total Nonylphenol in Liquids by HPLC	1	2026/01/06	2026/01/07	CAM SOP-00313	In-house Method
Nonylphenol Ethoxylates in Liquids: HPLC	1	2026/01/06	2026/01/07	CAM SOP-00313	Bureau Veritas
Animal and Vegetable Oil and Grease	1	N/A	2026/01/06	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2026/01/06	2026/01/06	CAM SOP-00326	EPA1664B m,SM5520B m
PAH Compounds in Water by GC/MS (SIM)	1	2026/01/08	2026/01/08	CAM SOP-00318	EPA 8270E
Polychlorinated Biphenyl in Water	1	2026/01/08	2026/01/09	CAM SOP-00309	EPA 8082A m
Phenols (4AAP)	1	N/A	2026/01/09	CAM SOP-00444	OMOE E3179 m
pH	1	2026/01/07	2026/01/07	CAM SOP-00413	SM 24th-4500H+ B
Sulphate by Automated Turbidimetry	1	N/A	2026/01/08	CAM SOP-00464	SM 24 4500-SO42- E m
Total Kjeldahl Nitrogen in Water	1	2026/01/06	2026/01/08	CAM SOP-00938	SM 4500-N B m
Total PAHs: Barrie/Mississauga Sewer Use (1)	1	N/A	2026/01/09	CAM SOP - 00301	
Mineral/Synthetic O & G (TPH Heavy Oil) (2)	1	2026/01/06	2026/01/06	CAM SOP-00326	EPA1664B m,SM5520F m
Total Suspended Solids	1	2026/01/07	2026/01/08	CAM SOP-00428	SM 24 2540D m
Volatile Organic Compounds in Water	1	N/A	2026/01/06	CAM SOP-00228	EPA 8260D

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Your Project #: 25-122
Site Location: 1315 BOUGH BEECHES BOULEVARD,
Your C.O.C. #: C#1074372-01-01

Attention: Kristen Shaver

Grounded Engineering Inc.
49 Mobile Dr
North York, ON
CANADA M4A 1H5

Report Date: 2026/01/13
Report #: R8680992
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C600444
Received: 2026/01/05, 13:15

Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Total PAHs include only those PAHs specified in the sewer use by-by-law.
(2) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Marijane Cruz, Senior Project Manager
Email: Marijane.Cruz@bureauveritas.com
Phone# (905)817-5756

==========

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas Job #: C600444
Report Date: 2026/01/13

Grounded Engineering Inc.
Client Project #: 25-122
Site Location: 1315 BOUGH BEECHES BOULEVARD,
Sampler Initials: EB

MISSISSAUGA STORM SEWER BYLAW (46-2022)

Bureau Veritas ID			AYUM74		
Sampling Date			2026/01/05 10:45		
COC Number			C#1074372-01-01		
	UNITS	Criteria	SW-UF-BH105	RDL	QC Batch
Inorganics					
Total BOD	mg/L	15	**51**	2	A083473
Total Chlorine	mg/L	-	<0.1	0.1	A083652
Metals					
Chromium (VI)	mg/L	-	<0.00050	0.00050	A084000
Calculated Parameters					
Total PAHs	mg/L	-	<0.00020	0.00020	A083286
Polyaromatic Hydrocarbons					
Biphenyl	mg/L	-	<0.000050	0.000050	A084753
Acenaphthene	mg/L	-	<0.000050	0.000050	A084753
Acenaphthylene	mg/L	-	<0.000050	0.000050	A084753
Anthracene	mg/L	-	<0.000050	0.000050	A084753
Benzo(a)anthracene	mg/L	-	<0.000050	0.000050	A084753
Benzo(a)pyrene	mg/L	-	<0.0000090	0.0000090	A084753
Benzo(b/j)fluoranthene	mg/L	-	<0.000050	0.000050	A084753
Benzo(g,h,i)perylene	mg/L	-	<0.000050	0.000050	A084753
Benzo(k)fluoranthene	mg/L	-	<0.000050	0.000050	A084753
Chrysene	mg/L	-	<0.000050	0.000050	A084753
Dibenzo(a,h)anthracene	mg/L	-	<0.000050	0.000050	A084753
Fluoranthene	mg/L	-	<0.000050	0.000050	A084753
Fluorene	mg/L	-	<0.000050	0.000050	A084753
Indeno(1,2,3-cd)pyrene	mg/L	-	<0.000050	0.000050	A084753
1-Methylnaphthalene	mg/L	-	<0.000050	0.000050	A084753
2-Methylnaphthalene	mg/L	-	<0.000050	0.000050	A084753
Naphthalene	mg/L	-	<0.000050	0.000050	A084753
Phenanthrene	mg/L	-	<0.000030	0.000030	A084753
Pyrene	mg/L	-	<0.000050	0.000050	A084753
Surrogate Recovery (%)					
D10-Anthracene	%	-	103		A084753
D14-Terphenyl (FS)	%	-	86		A084753

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The Regional Municipality of Peel Storm Sewer Discharge.
By-Law Number 53-2010.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Bureau Veritas Job #: C600444
Report Date: 2026/01/13

Grounded Engineering Inc.
Client Project #: 25-122
Site Location: 1315 BOUGH BEECHES BOULEVARD,
Sampler Initials: EB

MISSISSAUGA STORM SEWER BYLAW (46-2022)

Bureau Veritas ID			AYUM74		
Sampling Date			2026/01/05 10:45		
COC Number			C#1074372-01-01		
	UNITS	**Criteria**	**SW-UF-BH105**	**RDL**	**QC Batch**
D8-Acenaphthylene	%	-	83		A084753

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The Regional Municipality of Peel Storm Sewer Discharge.
By-Law Number 53-2010.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID				AYUM74		
Sampling Date				2026/01/05 10:45		
COC Number				C#1074372-01-01		
	UNITS	Criteria	Criteria-2	SW-UF-BH105	RDL	QC Batch
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	150	-	<0.50	0.50	A083142
Inorganics						
Total Carbonaceous BOD	mg/L	300	15	**46**	2	A083475
Fluoride (F-)	mg/L	10	-	0.31	0.10	A084060
Total Kjeldahl Nitrogen (TKN)	mg/L	100	1	0.51	0.10	A083770
pH	pH	5.5:10.0	6.0:9.0	7.71		A084061
Phenols-4AAP	mg/L	1	0.008	0.0011	0.0010	A085076
Total Suspended Solids	mg/L	350	15	<10	10	A084120
Dissolved Sulphate (SO4)	mg/L	1500	-	69	1.0	A084145
Total Cyanide (CN)	mg/L	2	0.02	<0.0050	0.0050	A083477
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	-	-	<0.50	0.50	A083447
Total Oil & Grease Mineral/Synthetic	mg/L	15	-	<0.50	0.50	A083449
Miscellaneous Parameters						
Nonylphenol Ethoxylate (Total)	mg/L	0.2	-	<0.025	0.025	A083423
Nonylphenol (Total)	mg/L	0.02	-	0.002	0.001	A083421
Metals						
Mercury (Hg)	mg/L	0.01	0.0004	<0.00010	0.00010	A083540
Total Aluminum (Al)	mg/L	50	-	0.038	0.0049	A084948
Total Antimony (Sb)	mg/L	5	-	<0.00050	0.00050	A084948
Total Arsenic (As)	mg/L	1	0.02	0.0017	0.0010	A084948
Total Cadmium (Cd)	mg/L	0.7	0.008	<0.000090	0.000090	A084948
Total Chromium (Cr)	mg/L	5	0.08	<0.0050	0.0050	A084948
Total Cobalt (Co)	mg/L	5	-	0.0013	0.00050	A084948
Total Copper (Cu)	mg/L	3	0.05	<0.00090	0.00090	A084948
Total Lead (Pb)	mg/L	3	0.12	<0.00050	0.00050	A084948
Total Manganese (Mn)	mg/L	5	0.05	**0.15**	0.0020	A084948

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The Regional Municipality of Peel Sanitary Sewer Discharge. By-Law Number 53-2010.
Criteria-2: The Regional Municipality of Peel Storm Sewer Discharge. By-Law Number 53-2010.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID				AYUM74		
Sampling Date				2026/01/05 10:45		
COC Number				C#1074372-01-01		
	UNITS	Criteria	Criteria-2	SW-UF-BH105	RDL	QC Batch
Total Molybdenum (Mo)	mg/L	5	-	0.0081	0.00050	A084948
Total Nickel (Ni)	mg/L	3	0.08	0.0024	0.0010	A084948
Total Phosphorus (P)	mg/L	10	-	0.19	0.10	A084948
Total Selenium (Se)	mg/L	1	0.02	<0.0020	0.0020	A084948
Total Silver (Ag)	mg/L	5	0.12	<0.000090	0.000090	A084948
Total Tin (Sn)	mg/L	5	-	0.0035	0.0010	A084948
Total Titanium (Ti)	mg/L	5	-	<0.0050	0.0050	A084948
Total Zinc (Zn)	mg/L	3	0.04	0.012	0.0050	A084948
Semivolatile Organics						
Bis(2-ethylhexyl)phthalate	mg/L	0.012	0.0088	<0.0020	0.0020	A085425
Di-N-butyl phthalate	mg/L	0.08	0.015	<0.0020	0.0020	A085425
Volatile Organics						
Benzene	mg/L	0.01	0.002	<0.00020	0.00020	A081970
Chloroform	mg/L	0.04	0.002	<0.00020	0.00020	A081970
1,2-Dichlorobenzene	mg/L	0.05	0.0056	<0.00040	0.00040	A081970
1,4-Dichlorobenzene	mg/L	0.08	0.0068	<0.00040	0.00040	A081970
cis-1,2-Dichloroethylene	mg/L	4	0.0056	<0.00050	0.00050	A081970
trans-1,3-Dichloropropene	mg/L	0.14	0.0056	<0.00040	0.00040	A081970
Ethylbenzene	mg/L	0.16	0.002	<0.00020	0.00020	A081970
Methylene Chloride(Dichloromethane)	mg/L	2	0.0052	<0.0020	0.0020	A081970
Methyl Ethyl Ketone (2-Butanone)	mg/L	8.0	-	<0.010	0.010	A081970
Styrene	mg/L	0.2	-	<0.00040	0.00040	A081970
1,1,1,2-Tetrachloroethane	mg/L	-	-	<0.00050	0.00050	A081970
1,1,2,2-Tetrachloroethane	mg/L	1.4	0.017	<0.00040	0.00040	A081970
Tetrachloroethylene	mg/L	1	0.0044	<0.00020	0.00020	A081970
Toluene	mg/L	0.27	0.002	<0.00020	0.00020	A081970
Trichloroethylene	mg/L	0.4	0.008	<0.00020	0.00020	A081970
p+m-Xylene	mg/L	-	-	<0.00020	0.00020	A081970

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The Regional Municipality of Peel Sanitary Sewer Discharge. By-Law Number 53-2010.
Criteria-2: The Regional Municipality of Peel Storm Sewer Discharge. By-Law Number 53-2010.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID				AYUM74		
Sampling Date				2026/01/05 10:45		
COC Number				C#1074372-01-01		
	UNITS	Criteria	Criteria-2	SW-UF-BH105	RDL	QC Batch
o-Xylene	mg/L	-	-	<0.00020	0.00020	A081970
Total Xylenes	mg/L	1.4	0.0044	<0.00020	0.00020	A081970
PCBs						
Total PCB	mg/L	0.001	0.0004	<0.00005	0.00005	A084664
Microbiological						
Escherichia coli	CFU/100mL	-	200	<10	10	A083396
Surrogate Recovery (%)						
2,4,6-Tribromophenol	%	-	-	47		A085425
2-Fluorobiphenyl	%	-	-	44		A085425
2-Fluorophenol	%	-	-	10		A085425
D14-Terphenyl	%	-	-	59		A085425
D5-Nitrobenzene	%	-	-	47		A085425
D5-Phenol	%	-	-	9.8 (1)		A085425
Decachlorobiphenyl	%	-	-	65		A084664
4-Bromofluorobenzene	%	-	-	99		A081970
D4-1,2-Dichloroethane	%	-	-	97		A081970
D8-Toluene	%	-	-	96		A081970

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The Regional Municipality of Peel Sanitary Sewer Discharge.
By-Law Number 53-2010.
Criteria-2: The Regional Municipality of Peel Storm Sewer Discharge.
By-Law Number 53-2010.
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID				AYUM74		
Sampling Date				2026/01/05 10:45		
COC Number				C#1074372-01-01		
	UNITS	Criteria	Criteria-2	SW-UF-BH105 Lab-Dup	RDL	QC Batch
Inorganics						
Fluoride (F-)	mg/L	10	-	0.29	0.10	A084060
pH	pH	5.5:10.0	6.0:9.0	7.74		A084061
Total Cyanide (CN)	mg/L	2	0.02	<0.0050	0.0050	A083477
Miscellaneous Parameters						
Nonylphenol Ethoxylate (Total)	mg/L	0.2	-	<0.025	0.025	A083423
Volatile Organics						
Benzene	mg/L	0.01	0.002	<0.00020	0.00020	A081970
Chloroform	mg/L	0.04	0.002	<0.00020	0.00020	A081970
1,2-Dichlorobenzene	mg/L	0.05	0.0056	<0.00040	0.00040	A081970
1,4-Dichlorobenzene	mg/L	0.08	0.0068	<0.00040	0.00040	A081970
cis-1,2-Dichloroethylene	mg/L	4	0.0056	<0.00050	0.00050	A081970
trans-1,3-Dichloropropene	mg/L	0.14	0.0056	<0.00040	0.00040	A081970
Ethylbenzene	mg/L	0.16	0.002	<0.00020	0.00020	A081970
Methylene Chloride(Dichloromethane)	mg/L	2	0.0052	<0.0020	0.0020	A081970
Methyl Ethyl Ketone (2-Butanone)	mg/L	8.0	-	<0.010	0.010	A081970
Styrene	mg/L	0.2	-	<0.00040	0.00040	A081970
1,1,1,2-Tetrachloroethane	mg/L	-	-	<0.00050	0.00050	A081970
1,1,2,2-Tetrachloroethane	mg/L	1.4	0.017	<0.00040	0.00040	A081970
Tetrachloroethylene	mg/L	1	0.0044	<0.00020	0.00020	A081970
Toluene	mg/L	0.27	0.002	<0.00020	0.00020	A081970
Trichloroethylene	mg/L	0.4	0.008	<0.00020	0.00020	A081970
p+m-Xylene	mg/L	-	-	<0.00020	0.00020	A081970

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: The Regional Municipality of Peel Sanitary Sewer Discharge.
By-Law Number 53-2010.
Criteria-2: The Regional Municipality of Peel Storm Sewer Discharge.
By-Law Number 53-2010.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID				AYUM74		
Sampling Date				2026/01/05 10:45		
COC Number				C#1074372-01-01		
	UNITS	Criteria	Criteria-2	SW-UF-BH105 Lab-Dup	RDL	QC Batch
o-Xylene	mg/L	-	-	<0.00020	0.00020	A081970
Total Xylenes	mg/L	1.4	0.0044	<0.00020	0.00020	A081970
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	-	-	99		A081970
D4-1,2-Dichloroethane	%	-	-	98		A081970
D8-Toluene	%	-	-	95		A081970

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: The Regional Municipality of Peel Sanitary Sewer Discharge. By-Law Number 53-2010.
Criteria-2: The Regional Municipality of Peel Storm Sewer Discharge. By-Law Number 53-2010.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Bureau Veritas Job #: C600444
Report Date: 2026/01/13

Grounded Engineering Inc.
Client Project #: 25-122
Site Location: 1315 BOUGH BEECHES BOULEVARD,
Sampler Initials: EB

TEST SUMMARY

Bureau Veritas ID: AYUM74
Sample ID: SW-UF-BH105
Matrix: Water

Collected: 2026/01/05
Shipped:
Received: 2026/01/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in Water by GC/MS	GC/MS	A085425	2026/01/10	2026/01/12	Adriana Zurita
Biochemical Oxygen Demand (BOD)	DO	A083473	2026/01/06	2026/01/11	Prakash Piya
Carbonaceous BOD	DO	A083475	2026/01/06	2026/01/11	Prakash Piya
Total Residual Chlorine	SPEC	A083652	2026/01/06	2026/01/06	Nachiketa Gohil
Chromium (VI) in Water	IC	A084000	N/A	2026/01/07	Rupinder Sihota
Total Cyanide	SKAL/CN	A083477	2026/01/06	2026/01/06	Prgya Panchal
Fluoride	ISE	A084060	2026/01/07	2026/01/07	Surinder Rai
Mercury in Water by CVAA	CV/AA	A083540	2026/01/06	2026/01/06	Prabhdeep Kaur
Total Metals Analysis by ICPMS	ICP/MS	A084948	2026/01/09	2026/01/09	Azita Fazaeli
E.coli, (CFU/100mL)	PL	A083396	N/A	2026/01/05	Yizhou Han
Total Nonylphenol in Liquids by HPLC	LC/FLU	A083421	2026/01/06	2026/01/07	Michael Huynh
Nonylphenol Ethoxylates in Liquids: HPLC	LC/FLU	A083423	2026/01/06	2026/01/07	Michael Huynh
Animal and Vegetable Oil and Grease	BAL	A083142	N/A	2026/01/06	Automated Statchk
Total Oil and Grease	BAL	A083447	2026/01/06	2026/01/06	Navneet Singh
PAH Compounds in Water by GC/MS (SIM)	GC/MS	A084753	2026/01/08	2026/01/08	Mitesh Raj
Polychlorinated Biphenyl in Water	GC/ECD	A084664	2026/01/08	2026/01/09	Svitlana Shaula
Phenols (4AAP)	TECH/PHEN	A085076	N/A	2026/01/09	Jency Sara Johnson
pH	AT	A084061	2026/01/07	2026/01/07	Surinder Rai
Sulphate by Automated Turbidimetry	SKAL	A084145	N/A	2026/01/08	Massarat Jan
Total Kjeldahl Nitrogen in Water	SKAL	A083770	2026/01/06	2026/01/08	Rajni Tyagi
Total PAHs: Barrie/Mississauga Sewer Use	CALC	A083286	N/A	2026/01/09	Automated Statchk
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	A083449	2026/01/06	2026/01/06	Navneet Singh
Total Suspended Solids	BAL	A084120	2026/01/07	2026/01/08	Hiu Fung Yan (James)
Volatile Organic Compounds in Water	GC/MS	A081970	N/A	2026/01/06	Manpreet Sarao

Bureau Veritas ID: AYUM74 Dup
Sample ID: SW-UF-BH105
Matrix: Water

Collected: 2026/01/05
Shipped:
Received: 2026/01/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Cyanide	SKAL/CN	A083477	2026/01/06	2026/01/06	Prgya Panchal
Fluoride	ISE	A084060	2026/01/07	2026/01/07	Surinder Rai
Nonylphenol Ethoxylates in Liquids: HPLC	LC/FLU	A083423	2026/01/06	2026/01/07	Michael Huynh
pH	AT	A084061	2026/01/07	2026/01/07	Surinder Rai
Volatile Organic Compounds in Water	GC/MS	A081970	N/A	2026/01/06	Manpreet Sarao

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	8.7°C

Results relate only to the items tested.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A081970	4-Bromofluorobenzene	2026/01/06	100	70 - 130	100	70 - 130	100	%				
A081970	D4-1,2-Dichloroethane	2026/01/06	99	70 - 130	100	70 - 130	98	%				
A081970	D8-Toluene	2026/01/06	103	70 - 130	101	70 - 130	96	%				
A084664	Decachlorobiphenyl	2026/01/09	62	60 - 130	65	60 - 130	65	%				
A084753	D10-Anthracene	2026/01/08	105	50 - 130	105	50 - 130	101	%				
A084753	D14-Terphenyl (FS)	2026/01/08	82	50 - 130	93	50 - 130	89	%				
A084753	D8-Acenaphthylene	2026/01/08	88	50 - 130	87	50 - 130	82	%				
A085425	2,4,6-Tribromophenol	2026/01/12	99	10 - 130	96	10 - 130	52	%				
A085425	2-Fluorobiphenyl	2026/01/12	81	30 - 130	53	30 - 130	64	%				
A085425	2-Fluorophenol	2026/01/12	30	10 - 130	30	10 - 130	17	%				
A085425	D14-Terphenyl	2026/01/12	83	30 - 130	84	30 - 130	89	%				
A085425	D5-Nitrobenzene	2026/01/12	72	30 - 130	65	30 - 130	63	%				
A085425	D5-Phenol	2026/01/12	21	10 - 130	22	10 - 130	17	%				
A081970	1,1,1,2-Tetrachloroethane	2026/01/06	120	70 - 130	106	70 - 130	<0.00050	mg/L	NC	30		
A081970	1,1,2,2-Tetrachloroethane	2026/01/06	100	70 - 130	90	70 - 130	<0.00040	mg/L	NC	30		
A081970	1,2-Dichlorobenzene	2026/01/06	109	70 - 130	97	70 - 130	<0.00040	mg/L	NC	30		
A081970	1,4-Dichlorobenzene	2026/01/06	113	70 - 130	100	70 - 130	<0.00040	mg/L	NC	30		
A081970	Benzene	2026/01/06	112	70 - 130	100	70 - 130	<0.00020	mg/L	NC	30		
A081970	Chloroform	2026/01/06	112	70 - 130	100	70 - 130	<0.00020	mg/L	NC	30		
A081970	cis-1,2-Dichloroethylene	2026/01/06	116	70 - 130	105	70 - 130	<0.00050	mg/L	NC	30		
A081970	Ethylbenzene	2026/01/06	114	70 - 130	100	70 - 130	<0.00020	mg/L	NC	30		
A081970	Methyl Ethyl Ketone (2-Butanone)	2026/01/06	104	60 - 140	102	60 - 140	<0.010	mg/L	NC	30		
A081970	Methylene Chloride(Dichloromethane)	2026/01/06	106	70 - 130	96	70 - 130	<0.0020	mg/L	NC	30		
A081970	o-Xylene	2026/01/06	117	70 - 130	106	70 - 130	<0.00020	mg/L	NC	30		
A081970	p+m-Xylene	2026/01/06	113	70 - 130	100	70 - 130	<0.00020	mg/L	NC	30		
A081970	Styrene	2026/01/06	111	70 - 130	100	70 - 130	<0.00040	mg/L	NC	30		
A081970	Tetrachloroethylene	2026/01/06	113	70 - 130	98	70 - 130	<0.00020	mg/L	NC	30		
A081970	Toluene	2026/01/06	115	70 - 130	100	70 - 130	<0.00020	mg/L	NC	30		
A081970	Total Xylenes	2026/01/06					<0.00020	mg/L	NC	30		
A081970	trans-1,3-Dichloropropene	2026/01/06	125	70 - 130	106	70 - 130	<0.00040	mg/L	NC	30		
A081970	Trichloroethylene	2026/01/06	113	70 - 130	102	70 - 130	<0.00020	mg/L	NC	30		
A083421	Nonylphenol (Total)	2026/01/07	88	50 - 130	92	50 - 130	<0.001	mg/L	NC	40		

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A083423	Nonylphenol Ethoxylate (Total)	2026/01/07	86	50 - 130	93	50 - 130	<0.025	mg/L	NC	40		
A083447	Total Oil & Grease	2026/01/06			99	80 - 110	<0.50	mg/L	0	25		
A083449	Total Oil & Grease Mineral/Synthetic	2026/01/06			96	65 - 130	<0.50	mg/L	0.52	25		
A083473	Total BOD	2026/01/11					<2	mg/L	2.5	30	92	80 - 120
A083475	Total Carbonaceous BOD	2026/01/11					<2	mg/L	3.8	30	96	80 - 120
A083477	Total Cyanide (CN)	2026/01/06	92	80 - 120	99	80 - 120	<0.0050	mg/L	NC	20		
A083540	Mercury (Hg)	2026/01/06	99	75 - 125	93	80 - 120	<0.00010	mg/L	NC	20		
A083652	Total Chlorine	2026/01/06	94	80 - 120	98	80 - 120	<0.1	mg/L	0	20		
A083770	Total Kjeldahl Nitrogen (TKN)	2026/01/08	NC	80 - 120	100	80 - 120	<0.10	mg/L			98	80 - 120
A084000	Chromium (VI)	2026/01/07	97	80 - 120	98	80 - 120	<0.00050	mg/L	NC	20		
A084060	Fluoride (F-)	2026/01/07	98	75 - 125	98	75 - 125	<0.10	mg/L	7.6	20		
A084061	pH	2026/01/07			102	98 - 103			0.38	N/A		
A084120	Total Suspended Solids	2026/01/08			100	80 - 120	<10	mg/L	2.8	20		
A084145	Dissolved Sulphate (SO4)	2026/01/08	NC	75 - 125	97	80 - 120	<1.0	mg/L	3.3	20		
A084664	Total PCB	2026/01/09	49 (1)	60 - 130	73	60 - 130	<0.00005	mg/L	NC	40		
A084753	1-Methylnaphthalene	2026/01/08	82	50 - 130	75	50 - 130	<0.000050	mg/L	62 (2)	30		
A084753	2-Methylnaphthalene	2026/01/08	83	50 - 130	75	50 - 130	<0.000050	mg/L	49 (2)	30		
A084753	Acenaphthene	2026/01/08	84	50 - 130	81	50 - 130	<0.000050	mg/L	16	30		
A084753	Acenaphthylene	2026/01/08	83	50 - 130	79	50 - 130	<0.000050	mg/L	NC	30		
A084753	Anthracene	2026/01/08	108	50 - 130	104	50 - 130	<0.000050	mg/L	NC	30		
A084753	Benzo(a)anthracene	2026/01/08	89	50 - 130	91	50 - 130	<0.000050	mg/L	NC	30		
A084753	Benzo(a)pyrene	2026/01/08	96	50 - 130	100	50 - 130	<0.0000090	mg/L	NC	30		
A084753	Benzo(b/j)fluoranthene	2026/01/08	100	50 - 130	108	50 - 130	<0.000050	mg/L	NC	30		
A084753	Benzo(g,h,i)perylene	2026/01/08	102	50 - 130	107	50 - 130	<0.000050	mg/L	NC	30		
A084753	Benzo(k)fluoranthene	2026/01/08	109	50 - 130	109	50 - 130	<0.000050	mg/L	NC	30		
A084753	Biphenyl	2026/01/08	93	50 - 130	87	50 - 130	<0.000050	mg/L				
A084753	Chrysene	2026/01/08	95	50 - 130	99	50 - 130	<0.000050	mg/L	NC	30		
A084753	Dibenzo(a,h)anthracene	2026/01/08	105	50 - 130	108	50 - 130	<0.000050	mg/L	NC	30		
A084753	Fluoranthene	2026/01/08	112	50 - 130	112	50 - 130	<0.000050	mg/L	NC	30		
A084753	Fluorene	2026/01/08	91	50 - 130	88	50 - 130	<0.000050	mg/L	NC	30		
A084753	Indeno(1,2,3-cd)pyrene	2026/01/08	105	50 - 130	111	50 - 130	<0.000050	mg/L	NC	30		
A084753	Naphthalene	2026/01/08	80	50 - 130	73	50 - 130	<0.000050	mg/L	63 (2)	30		

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A084753	Phenanthrene	2026/01/08	109	50 - 130	106	50 - 130	<0.000030	mg/L	NC	30		
A084753	Pyrene	2026/01/08	112	50 - 130	113	50 - 130	<0.000050	mg/L	NC	30		
A084948	Total Aluminum (Al)	2026/01/09	110	80 - 120	106	80 - 120	<0.0049	mg/L				
A084948	Total Antimony (Sb)	2026/01/09	113	80 - 120	108	80 - 120	<0.00050	mg/L				
A084948	Total Arsenic (As)	2026/01/09	99	80 - 120	103	80 - 120	<0.0010	mg/L				
A084948	Total Cadmium (Cd)	2026/01/09	97	80 - 120	103	80 - 120	<0.000090	mg/L				
A084948	Total Chromium (Cr)	2026/01/09	99	80 - 120	100	80 - 120	<0.0050	mg/L				
A084948	Total Cobalt (Co)	2026/01/09	98	80 - 120	101	80 - 120	<0.00050	mg/L				
A084948	Total Copper (Cu)	2026/01/09	102	80 - 120	101	80 - 120	<0.00090	mg/L				
A084948	Total Lead (Pb)	2026/01/09	92	80 - 120	101	80 - 120	<0.00050	mg/L				
A084948	Total Manganese (Mn)	2026/01/09	99	80 - 120	100	80 - 120	<0.0020	mg/L	0.0058	20		
A084948	Total Molybdenum (Mo)	2026/01/09	111	80 - 120	100	80 - 120	<0.00050	mg/L				
A084948	Total Nickel (Ni)	2026/01/09	94	80 - 120	101	80 - 120	<0.0010	mg/L				
A084948	Total Phosphorus (P)	2026/01/09	104	80 - 120	100	80 - 120	<0.10	mg/L	NC	20		
A084948	Total Selenium (Se)	2026/01/09	96	80 - 120	110	80 - 120	<0.0020	mg/L				
A084948	Total Silver (Ag)	2026/01/09	93	80 - 120	99	80 - 120	<0.000090	mg/L				
A084948	Total Tin (Sn)	2026/01/09	107	80 - 120	102	80 - 120	<0.0010	mg/L				
A084948	Total Titanium (Ti)	2026/01/09	110	80 - 120	105	80 - 120	<0.0050	mg/L				
A084948	Total Zinc (Zn)	2026/01/09	90	80 - 120	105	80 - 120	<0.0050	mg/L				
A085076	Phenols-4AAP	2026/01/09	97	80 - 120	102	80 - 120	<0.0010	mg/L	NC	20		
A085425	Bis(2-ethylhexyl)phthalate	2026/01/12	101	30 - 130	104	30 - 130	<0.0020	mg/L	NC	40		

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A085425	Di-N-butyl phthalate	2026/01/12	117	30 - 130	114	30 - 130	<0.0020	mg/L				

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Matrix spike exceeds acceptance limits, probable matrix interference.

(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Bureau Veritas Job #: C600444
Report Date: 2026/01/13

Grounded Engineering Inc.
Client Project #: 25-122
Site Location: 1315 BOUGH BEECHES BOULEVARD,
Sampler Initials: EB

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

Louise A Harding

Louise Harding, Scientific Specialist

Yizhou Han

Yizhou Han, Analyst 1

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

C600444
2026/01/05 13:15

MICRO

Bureau Veritas
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5777 www.bvna.com

CHAIN OF CUSTODY RECORD

Invoice To:		Report To:		PROJECT INFORMATION:		Laboratory Use Only:	
Company:	#36876 Grounded Engineering Inc.	Company:		Quotation #:	C35487	Bureau Veritas Job #:	Bottle Order #: 1074372
Attention:	Kristen Shaver	Attention:	Kristen Shaver	P.O. #:			
Address:	49 Mobile Dr North York ON M4A 1H5	Address:		Project:	25-122	COC #:	Project Manager:
Tel:	(905) 435-8633 Fax:	Tel:	(905) 435-8633 Fax:	Project Name:		C#1074372-01-01	Marijane Cruz
Email:	kshaver@groundedeng.ca	Email:	kshaver@groundedeng.ca	Site #:	1315 Bough Beeches Boulevard,		
				Sampled By:	Kirsten Shaver/Elizabeth Beard		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___	☐ CCME ☒ Sanitary Sewer Bylaw ☐ Reg 558 ☒ Storm Sewer Bylaw ☐ MISA Municipality Region of Peel, City of Mississauga ☐ PWQO ☐ Reg 406 Table ☐ Other	

Include Criteria on Certificate of Analysis (Y/N)? ___

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	ANALYSIS REQUESTED (PLEASE BE SPECIFIC): Peel Sanitary & Storm Sewer (53-2010)	Mississauga Storm Sewer Bylaw (45-2022)	# of Bottles	Comments
1		SW-UF-BH105	2026/01/05	10:45	GW	N	X	X	21	
2										
3										
4										
5										
6										
7										
8										
9										
10										

NONT-2026-01-213

* Relinquished By (Print):	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Recei	Custody Seal Present	Yes	No
Elizabeth Beard	26/01/05	13:15	AMMOCOREFF GIUCM	2026/01/05	13:15			8.9.9	Intact	✓	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

on ice

Bureau Veritas Canada (2019) Inc.

Exceedance Summary Table – Peel Region Sanitary 2010

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

Exceedance Summary Table – Peel Region Storm 2010

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
SW-UF-BH105	AYUM74-09	Total BOD	15	51	2	mg/L
SW-UF-BH105	AYUM74-09	Total Carbonaceous BOD	15	46	2	mg/L
SW-UF-BH105	AYUM74-10	Total Manganese (Mn)	0.05	0.15	0.0020	mg/L

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

APPENDIX F

P2 Seepage model - Permeable Shoring
Short Term Dewatering

Excavation Dimensions: 31 m x 88 m
Section Cut: E-W

P2 Level Finished Floor: Elev. 141.6 to 140.05± m
P2 Level Base of Excavation: Elev. 139.0± m
P2 Level Drainage Layer: Elev. 139.5± m

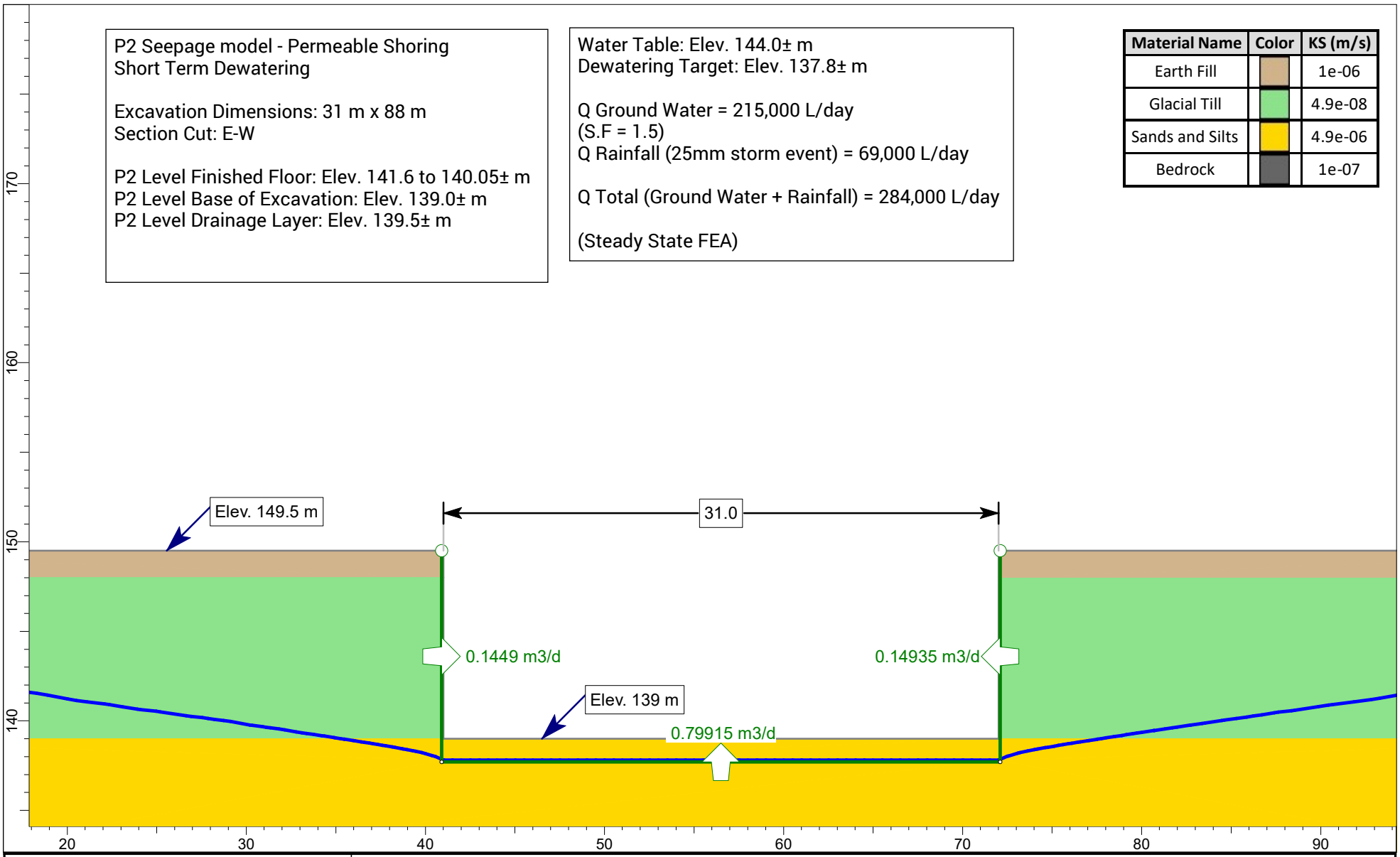
Water Table: Elev. 144.0± m
Dewatering Target: Elev. 137.8± m

Q Ground Water = 215,000 L/day
(S.F = 1.5)
Q Rainfall (25mm storm event) = 69,000 L/day

Q Total (Ground Water + Rainfall) = 284,000 L/day

(Steady State FEA)

Material Name	Color	KS (m/s)
Earth Fill		1e-06
Glacial Till		4.9e-08
Sands and Silts		4.9e-06
Bedrock		1e-07



GROUNDED ENGINEERING

Project	[25-122] 1315 Bough Beeches Blvd, Mississauga, ON		
Analysis Description	P2 Seepage Model	Model	Southeast Development | Short Term
Drawn By	DK	Scale 1:300	Date 2026-03-09
Source	Hydrogeological Report 2025	File Name	25-122 Seepage Model.slmd

SLIDEINTERPRET 9.041

P2 Seepage model - Permeable Shoring
Long Term Drained Structure

Excavation Dimensions: 31 m x 88 m
Section Cut: E-W

P2 Level Finished Floor: Elev. 141.6 to 140.05± m
P2 Level Base of Excavation: Elev. 139.0± m
P2 Level Drainage Layer: Elev. 139.5± m

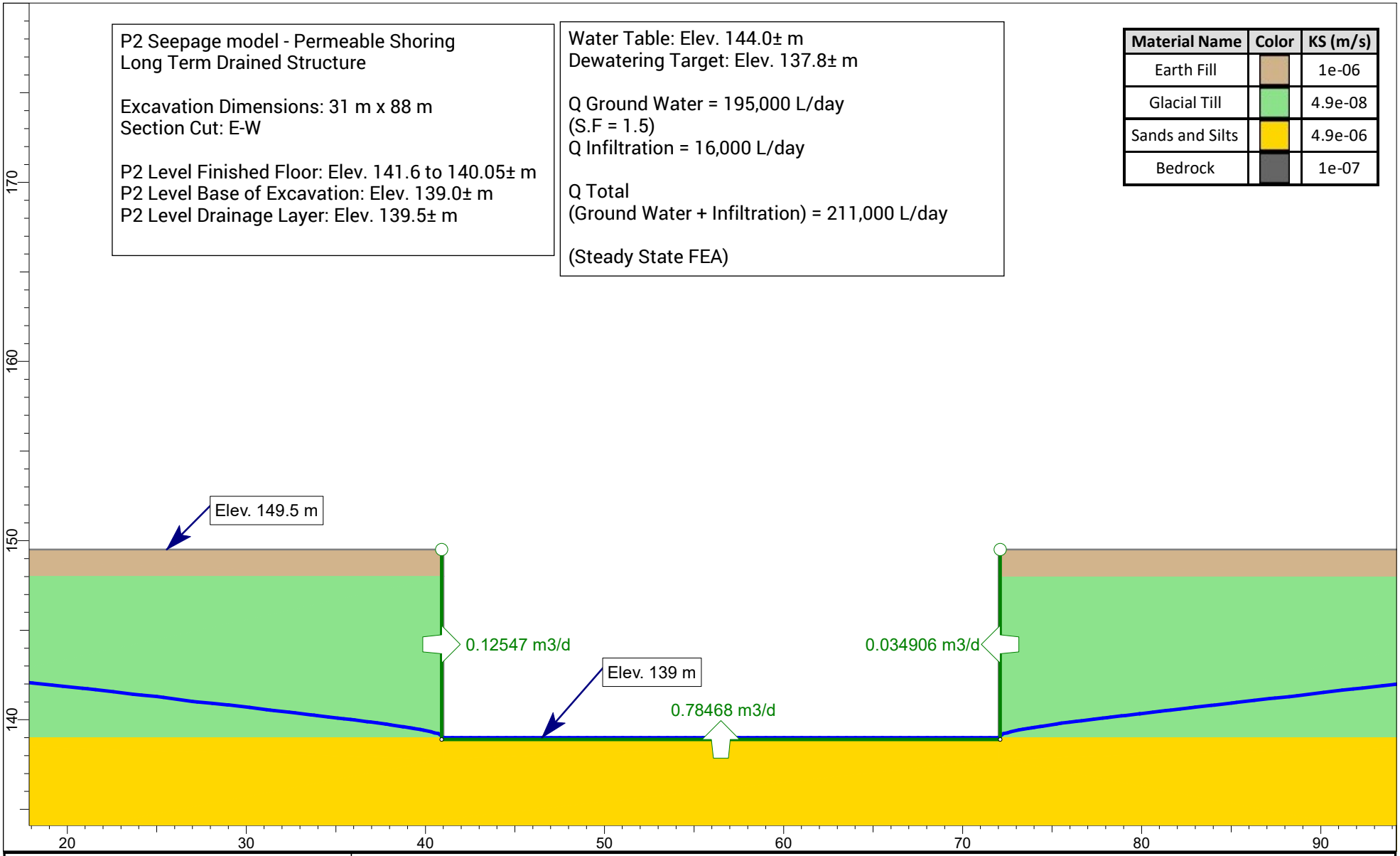
Water Table: Elev. 144.0± m
Dewatering Target: Elev. 137.8± m

Q Ground Water = 195,000 L/day
(S.F = 1.5)
Q Infiltration = 16,000 L/day

Q Total
(Ground Water + Infiltration) = 211,000 L/day

(Steady State FEA)

Material Name	Color	KS (m/s)
Earth Fill		1e-06
Glacial Till		4.9e-08
Sands and Silts		4.9e-06
Bedrock		1e-07



GROUNDED ENGINEERING

Project	[25-122] 1315 Bough Beeches Blvd, Mississauga, ON		
Analysis Description	P2 Seepage Model	Model	Southeast Development | Long Term Drained
Drawn By	DK	Scale 1:300	Date 2026-03-09
Source	Hydrogeological Report 2025		File Name 25-122 Seepage Model.slmd

SLIDEINTERPRET 9.041

SHORT TERM - P2 EXCAVATION - PERMEABLE SHORING

Excavation Dimensions [m]	
N-S(*)	31
E-W(*)	88
Area (m^2)	2728
Perimeter (m)	238

* irregular shape, equivalent dimension

Rainfall Data		
Year	2	100
Hour	3	12
Depth (mm)	25	94
Depth (m)	0.025	0.094

Storm Events	
2 Year [L/day]	100 Year [L/day]
68,200	257,000

Summary	L/day	L/min
Groundwater flow, unfactored	141,416	98.2
Design groundwater flow (FS = 1.5)	215,000	149.3
Rainfall, per event	69,000	47.9
Total flow	284,000	197.2

LONG TERM - P2 DRAINED UNDERGROUND STRUCTURE

Excavation Dimensions [m]	
N-S(*)	31
E-W(*)	88
Area (m^2)	2728
Area (ha)	0.2728
Perimeter (m)	238

* irregular shape, equivalent dimension

Rainfall Data		
Year	2	100
Hour	3	12
Depth (mm)	25	94
Depth (m)	0.025	0.094

Infiltration [L/day]
15525

Summary	L/day	L/min
Groundwater flow, unfactored	128,776	89.4
Design groundwater flow (FS = 1.5)	195,000	135.4
Infiltration, per event	16,000	11.1
Total flow	211,000	146.5