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A REPORT TO
FIELDGATE PROPERTIES LIMITED

A HYDROGEOLOGICAL ASSESSMENT FOR PROPOSED INDUSTRIAL AND COMMERCIAL DEVELOPMENT

2809 TOWNLINE ROAD
TOWNSHIP OF PUSLINCH

REFERENCE NO. 2507-W060

November 13, 2025

DISTRIBUTION

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SEL Reference No.	Report Description	Date	Description of Issued and/or Revision
2507-W060	Final	November 13, 2025	Hydrogeological Assessment Report (Preliminary)

1.0 EXECUTIVE SUMMARY

Soil Engineers Ltd. (SEL) was retained by Fieldgate Properties Limited to conduct a hydrogeological assessment for proposed industrial/commercial development located at 2809 Townline Road, Puslinch, in the County of Wellington (the Subject Site).

The Subject Site is located north of Highway 401 and east of Townline Road, Puslinch, in the County of Wellington. The Subject Site is bounded by Townline Road, commercial and residential properties to the west, wooded lands, residential properties and highway 401 to the south, Puslinch golf club to the east, and sideroad 10 north, farm lands, and a residential property to the north.

The Subject Site currently consists of farm lands, one (1) residential dwelling, one (1) commercial building, and one (1) farmhouse.

The conceptual site plans, dated November 7, 2025, provided by Fieldgate Properties Limited, indicates that the proposed development will include the construction of either six (6) slab-on-grade industrial buildings and one (1) commercial slab-on-grade building, designated as Plan A, or eight (8) industrial slab-on-grade buildings, designated as Plan B.

The current investigation revealed that:

- The subsoil investigation has revealed that beneath the topsoil, the investigated area of the Subject Site is mainly underlain by sandy silt till/silty sand till, silt and sand, within the area of the boreholes drilled by SEL within the Subject Site. The investigation extended up to a maximum termination depth of investigation of 6.6 metres below ground surface (mbgs).
- The finding of the groundwater monitoring indicates that all the BH/MWs were dry with the exception of BH/MW 6 with the groundwater level measured ranging between El. 303.3 metres above sea level (masl) and 303.1 masl during the monitoring program.
- Groundwater seepage is not expected for construction of the proposed slab-on-grade industrial buildings, the anticipated flow rates considering a 2-year storm event with a duration of 3 hr/day for active excavation trench for construction of the perimeter footings for the proposed slab-on-grade with dimensions of 50.0 m length and 1.0 m width can reach 3,100.0 L/day.
- Since the range of the anticipated preliminary short-term construction dewatering flow which is expected only during storm event, remains below the MECP EASR threshold limit of 50,000.0 L/day for the construction of the proposed slab-on-grade industrial buildings, an EASR filing with the MECP will not be required. However, obtaining permit from the County of Wellington is required if the collected water during storm event is proposed to directed to the region or city's sewer system. Alternatively, the collected water can be hauled off-site by hiring a licenced contractor.

- The proposed excavation and construction will be completed above shallow groundwater table. As such, no ZOI and associated ground settlement is anticipated due to dewatering.
- The proposed development will be constructed above shallow groundwater table. As such, no short-term construction dewatering from the groundwater source is expected, and no significant impacts to the natural features are anticipated.
- A review of the MECP well records confirmed that there are fifty (50) records for a water supply that are registered within 500 m of the Subject Site. As no short-term construction dewatering from the groundwater source is expected, no significant impacts to the potential groundwater users are anticipated if the well exists and are in service.
- Record review indicates that there is one (1) water supply well within the Subject Site. The water supply well should be decommissioned in advance of construction if it is not required for the post-development site. If the water supply well is considered for the post-development site, it should be monitored during construction.

2.0 INTRODUCTION

2.1 Site Location and Project Description

Soil Engineers Ltd. (SEL) was retained by Fieldgate Properties Limited to conduct a hydrogeological assessment for proposed industrial/ commercial development located at 2809 Townline Road, Puslinch, in the County of Wellington (the Subject Site). The location of the Subject Site is shown on **Drawing 1**.

The Subject Site is located north of Highway 401 and east of Townline Road, Puslinch, in the County of Wellington. The Subject Site is bounded by Townline Road, commercial and residential properties to the west, wooded lands, residential properties and highway 401 to the south, Puslinch golf club to the east, and sideroad 10 north, farm lands, and a residential property to the north.

The Subject Site currently consists of farm lands, one (1) residential dwelling, one (1) commercial building, and one (1) farmhouse.

The conceptual site plans, dated November 7, 2025, provided by Fieldgate Properties Limited, indicates that the proposed development will include the construction of either six (6) slab-on-grade industrial buildings and one (1) slab-on-grade commercial building, designated as Plan A, or eight (8) industrial slab-on-grade buildings, designated as Plan B.

2.2 Project Objectives

The current hydrogeological assessment report presents the regional and local setting of the Subject Site. The findings of the fieldwork, including subsoil investigation, groundwater level monitoring, and hydraulic conductivity testing are presented in the report. Potential needs for preliminary short-term dewatering and preliminary long-term foundation drainage control are assessed, and hydrogeological impacts of the proposed development to the nearby groundwater receptors including water supply wells and natural heritage features, and structures are assessed (if applicable). This report provides comments on potential needs for mitigating the potential impacts of the proposed development to the groundwater receptors, and structures. Comments and recommendations are provided on any needs for applying for a Permit to Take Water (PTTW), or posting Environmental Activity and Sector Registry (EASR) with the Ministry of the Environment, Conservation and Parks (MECP).

2.3 Scope of Work

The scope of work for the hydrogeological assessment is summarized below:

- *Background Review:* Available background geological and hydrogeological information for the Subject Site including topographic mapping, surface geological, natural heritage features databases, County of Wellington official plans, Grand River Conservation Authority (GRCA) regulated area plans, and

MECP water well records were reviewed. Furthermore, findings of the previous investigation completed by Wood. were reviewed and considered for the current assessment.

- *Fieldwork:* Fieldwork includes inspecting the Subject Site and surrounding properties with respect to the natural features, groundwater receptors, and structures, as well as installing and developing the monitoring wells. in-situ hydraulic conductivity testing was completed within the installed monitoring wells.
- *Preliminary Short-Term Dewatering Flow Rate:* Based on a review of the available design drawings and findings of the current subsurface investigation, short-term dewatering flow rates including groundwater seepage, and anticipated water that should be collected over potential storm events were calculated. Comments and recommendations were provided on any needs for mitigation plan to mitigate potential short-term dewatering impacts to the nearby groundwater receptors (including natural heritage features and water supply wells), and structures, if applicable.
- *Preliminary Long-Term Foundation Drainage Control:* Potential needs for long-term foundation drainage control were discussed, and comments and recommendations were provided, where applicable.
- *Preliminary Permit Requirements:* Considering the estimated preliminary short-term construction dewatering and long-term foundation drainage flow rates, recommendations were provided on any need for applying for a PTTW or posting on the EASR with the MECP, and the Waterloo Region, if required.

3.0 APPLICABLE REGULATIONS AND OFFICIAL PLANS

The regulations and policies are relevant to this hydrogeological assessment and the location of the Subject Site within the official plans are summarized below.

3.1 Grand River Conservation Authority (GRCA) Policies and Regulation (O. Reg. 41/24)

Under Section 28 of the Conservation Authorities Act, local conservation authorities are mandated to protect the health and integrity of the regional greenspace system, and to maintain or improve the hydrological and ecological functions performed by valley and stream corridors. The GRCA, through its regulatory mandate, is responsible for issuing permits under O. Reg. 41/24, Development, Interference with Wetlands and Alterations to Shorelines and Watercourses for development proposal or Site alteration work to shorelines and watercourses within the regulated areas.

GRCA Regulated Area online mapping was reviewed on November 3, 2025. It is our understanding that the Subject Site is not located within GRCA Regulated Area. As such, it is anticipated that obtaining a permit from the GRCA under O. Reg. 41/24 will not be required for the proposed development.

3.2 Clean Water Act

The MECP mandates the protection of existing and future sources of drinking water under the Clean Water Act, 2006 (CWA). Initiatives under the CWA include the delineation of Wellhead Protection Areas (WHPAs), significant groundwater recharge areas (SGRAs) and Highly Vulnerable Aquifers (HVAs) as well as the assessment of drinking water quality and quantity threats within Source Protection Regions. Source Protection Plans are developed under the CWA and include the restriction and prohibition of certain types of activities and land uses within WHPAs.

Based on a regional-scale source water protection mapping (Source Water Protection Information Atlas) provided by the MECP updated June 16, 2025, reviewed on November 3, 2025, the Subject Site is located within, Wellhead Protection Areas C and D with a score of 4, B and C with a score of 6 and D with a score of 2, a Significant Groundwater Recharge Area, an Issue Contributing Area and Wellhead Protection Areas Q1 and Q2 with low stress.

3.3 County of Wellington Official Plan

The County of Wellington Official Plan sets up policies that deal with legislative and administrative concerns, guides physical growth, and addresses social, economic, and environmental concerns. The Official Plan provides land use planning designations and identifies areas of environmental significance where more stringent policies may apply for development applications.

County of Wellington Official Plan maps were reviewed for the current study with the results summarized below:

- Schedule B7 (Land Use Puslinch) – A review of the map, dated May, 2025, indicates that the Subject Site is located within an area designated as a Secondary Agricultural Area.
- Schedule C7 (Sourcewater Protection Puslinch) – A review of the map, dated July, 2024, indicates that the Subject Site is not located within a Sourcewater Protection Area.
- Appendix 3 (Provincially Significant Wetlands) – A review of the map, dated May, 2025, indicates that no Provincially significant wetlands are present within the Subject Site.
- Appendix 4 (Source Protection Plan Areas) – A review of the map, dated May, 2025, indicates that the Subject Site is not located within a Source Protection Plan Area.

4.0 METHODOLOGY

4.1 Borehole Advancement and Monitoring Well Installation

Drilling boreholes and construction of monitoring wells were conducted for the hydrogeological and geotechnical investigations by SEL on July 21 and 22, 2025. The program consisted of the drilling of ten (10) boreholes (BH) and the installation of five (5) monitoring wells (BH/MW) for hydrogeological assessment purposes within the footprint of the proposed development of the Subject Site. The locations of the boreholes and monitoring wells are shown on **Drawing 2**.

Borehole drilling and monitoring well construction were completed by a licensed water well contractor, under the full-time supervision of SEL's geotechnical supervisor who logged the soil strata encountered during borehole advancement and collected representative soil samples for textural classification. The boreholes were drilled using a track-mounted drill rig equipped with continuous flight, solid-stem augers. Detailed descriptions of the encountered subsoil and groundwater conditions as well as a grain size distribution graph are provided by SEL and presented on the borehole and monitoring well logs, in the enclosed **Appendix A**.

The monitoring wells were constructed using 50-mm diameter Trilock pipes and 1.5 or 3.0 m long 10-slot well screens, which were installed in each of the boreholes. The five (5) monitoring wells were equipped with monument protective casings.

The UTM coordinates and ground surface elevations at the monitoring wells' locations, as well as the monitoring well construction details, are presented in **Table 4-1**. The ground surface elevations and horizontal coordinates at the monitoring well locations were determined at the time of the investigation, using a handheld Global Navigation Satellite System survey equipment (Trimble TSC3) which has an accuracy of ±0.05 m.

Table 4-1- Monitoring Well Installation Details

Monitoring Well ID	Installation Date	UTM Coordinates (m)		Ground El. (masl)	Screen Interval (mbgs)	Soil in the Screen Interval	Casing Dia. (mm)	Protective Casing Type
		Easting	Northing					
BH/MW 2	July 22, 2025	558085.5	4808790	309.5	4.6 – 6.1	Sand	50	Monument
BH/MW 3	July 22, 2025	557888.1	4808577	311.7	3.1 - 6.1	Sand/Sandy Silt Till	50	Monument
BH/MW 6	July 21, 2025	558181.8	4808467	307.8	3.1 – 6.1	Sandy Silt Till/ Silt	50	Monument
BH/MW 7	July 21, 2025	557999.8	4808222	315.2	3.1 – 6.1	Silt/Sandy Silt Till	50	Monument
BH/MW 10	July 21, 2025	558300.6	4808116	311.4	3.1-6.1	Sandy Silt Till/ Silt	50	Monument

Notes:
mbgs metres below ground surface
masl metres above sea level

4.2 MECP Water Well Records Review

MECP Water Well Records (WWRs) were reviewed for the registered wells located within 500 m radius of the Subject Site (Study Area). The water well records indicate that sixty-six (66) wells are located within the 500 m zone of influence Study Area relative to the Subject Site. The findings of the MECP well records are summarized in the **Section 5.6** of the current report.

4.3 Groundwater Monitoring

The five (5) monitoring wells installed by SEL in July 21 and 22, 2025 were utilized to measure and monitor groundwater levels. Monitoring wells were developed, and the groundwater monitoring program confirmed the stabilized groundwater level beneath the Subject Site. The stabilized groundwater levels were manually measured over three (3) monitoring events on August 26, September 10 and September 23, 2025 with the results presented in **Section 7.1**.

4.4 In-Situ Hydraulic Conductivity Test

SEL has conducted in-situ hydraulic conductivity tests (falling head) in one (1) BH/MW installed by SEL. Four (4) remaining monitoring wells remained dry during the monitoring program. As such, in-situ hydraulic conductivity test could not be completed in the dry monitoring wells.

The in-situ hydraulic conductivity test (falling head and rising head) provides estimated hydraulic conductivity (K) for subsoil strata at the depths of the well screens. The monitoring wells were developed in advance of the tests. Well development involves the purging and removal of groundwater from each monitoring well to remove remnants of clay, silt and other debris introduced into the monitoring well during construction, and to induce the flow of formation groundwater through the well screens, thereby improving the transmissivity of the subsoil strata formation at the well screen depths.

The in-situ falling head hydraulic conductivity test involves the placement of a slug of known volume into the monitoring well, below the water table, to displace the groundwater level upward. The in-situ rising head hydraulic conductivity test involves removing a volume of water from the monitoring well to displace the groundwater level downward. The rate at which the water level recovers to static conditions (rising head/falling head) is tracked manually using a water level tape and a data logger. Slug tests in the monitoring wells with partially submerged screens may exabit double straight-line effect due to the filter pack drainage. Therefore, the data that represent the filter pack around the screen is eliminated during the interpretation of the slug test. The rate at which the water table recovers to static conditions is used to estimate the K value for the water-bearing strata formation at the well screen depth using the Bouwer and Rice method (1976). The findings for the hydraulic conductivity testing are presented in **Section 7.3** of the current report.

4.5 Review of Regional Data and Available Reports for the Subject Site

The maps, data, and documents provided by the MECP, Ontario Geological Survey (OGS), Ministry of Natural Resources (MNR), GRCA, and previously completed geotechnical investigation report were reviewed with the findings summarized in **Sections 5** and **8**.

5.0 REGIONAL AND LOCAL SITE SETTING

5.1 Regional Geology

The current understanding of the surface geological setting of the Subject Site is based on scientific work conducted by the OGS (OGS, 2003). The Subject Site is mainly located within an area mapped as Port Stanley Till (5b), comprising of diamicton and partially located within Ice-contact gravel (6) within the eastern boundary of the Subject Site. **Drawing 3** illustrates the mapped surficial geology for the Subject Site and the surrounding area.

The underlying bedrock at the Subject Site is the Guelph Formation, which consists of dolostone, shale, sandstone and siltstone (OGS, 2007).

5.2 Regional Physiography

The Subject Site is located within regional physiography's of Southern Ontario known as Horseshoe Moraines. The Horseshoe Moraines within the vicinity of the Subject Site comprises Till Moraines. **Drawing 4** shows the location of the Subject Site within the regional physiography map.

5.3 Regional Topography and Drainage

A review of a regional topography map presented on **Drawing 5** indicates that the topography of the Subject Site is relatively flat sloping towards the west.

The ground surface elevation ranges approximately between 307.8 and 315.3 metres above sea level (masl), based on ground surface elevations measured at the borehole and monitoring wells' locations installed by SEL at the Subject Site.

5.4 Watershed Setting

The Subject Site is located within the Grand River Watershed that falls in the Grand River Conservation Authority (GRCA) jurisdiction.

5.5 Local Surface Water and Natural Heritage Features

MNR database was reviewed for any natural heritage features including, watercourses, bodies of water, wetland features, Area of Natural and Scientific Interest (ANSI) and wooded areas. Details are presented below. **Drawing 6** shows the location of the Subject Site within the surrounding Natural Heritage Features.

Record review indicates there are no records of natural features within the Subject Site. However, there are records of wooded areas located approximately 200 m south, 300 m east and 100 m north of the Subject Site.

Provincially significant wetlands known as Puslinch Lake Irish Creek Wetland Complex are present 100 m northeast and southeast of the Subject Site. Puslinch Lake is present 500 m southeast of the Subject Site. Water bodies (Stormwater management ponds) are present 80 m west of the Subject Site.

5.6 Ground Water Resources (MECP Well Records)

MECP well record database was reviewed for records located within a radius of 500 m from the approximate Subject Site (Study Area). The records indicate that sixty-six (66) well records are located within the Study Area relative to the Subject Site boundaries. A summary of the final status of the records, obtained from the records review is presented in **Table 5-1**.

The locations of the well records, based on the UTM coordinates provided by the records, are shown on **Drawing 7**. Details of the MECP water well records that were reviewed are provided in **Appendix B**.

Table 5-1 - MECP Well Record Summary

Water Use- Final Status	Number of Records
Water Supply	50
Observation Wells	5
Unknown	4
Abandoned-Supply	2
Alteration	2
Test Hole	1
Abandoned-Other	1
Other Status	1
Total	**66**

The above summary indicates that there is one (1) record of water supply well within the Subject Site.

5.7 Active Permit to Take Water Application Record Review

MECP website was reviewed for any active PTTW application records within 1.0 km radius of the Subject Site on September 16, 2025. Record review indicates there are two (2) active PTTW within 1 km radius of the Subject Site, which are present in **Table 5-2** below.

Table 5-2 Permit to Take Water Review Summary

Permit Number	Purpose	Specific Purpose	Max L/day	Source Type	Distance
6555-CUTKDL	Commercial	Golf Course Irrigation	982,080.0	Groundwater	0.72 km northeast
6555-CUTKDL	Commercial	Golf Course Irrigation	1,022,040.0	Groundwater	0.86 km northeast

6.0 SOIL LITHOLOGY AND SUBSURFACE INVESTIGATION

The subsoil investigation completed by SEL has revealed that beneath the topsoil, the investigated area of the Subject Site is mainly underlain by sandy silt till/silty sand till, silt and sand, within the area of the boreholes drilled by SEL within the Subject Site. The investigation extended up to a maximum termination depth of investigation of 6.6 metres below ground surface (mbgs). Information regarding borehole logs and grain size distribution graphs are presented in **Appendix A** on **Figures 1** to **14**. The approximate locations of boreholes are shown on **Drawing 2**. Additionally, a key plan and subsoil profile are presented on **Drawing 8-1 and 8-2A** and **8-2B**, respectively. Based on a review of the borehole logs, the stratigraphy beneath the investigated areas of the Subject Site generally consists of the followings:

6.1 Topsoil

Topsoil was contacted at the ground surface of all boreholes, ranging in thickness from 15 to 36 cm.

6.2 Sandy Silt Till/ Silty Sand Till

The sandy silt till and silty sand till with traces to some gravel, trace of clay and occasional cobbles and boulders were contacted in all boreholes below the topsoil layer, with the exception of BH/MW 9. The sandy silt till and silty sand till extend to depths of 4.6 mbgs to termination depth of investigation at 6.6 mbgs. It is very loose to very dense in consistency. The moisture contents for the retrieved subsoil samples indicate generally damp to wet conditions. Grain size analysis was performed on representative sample for each of the sandy silt till and silty sand till layers, and the gradation is plotted in **Appendix A** (**Figure 11-12)**.

6.3 Silt

The silt layer was encountered in all BH/MW with the exception of BH/MW 2 and 3 and BHs 4 and 5, beneath the sandy silt till deposits. The silt layer is fine grained with some sand and traces of clay. The silt layer is loose to very dense in consistency and the moisture content for the retrieved subsoil samples indicate moist to wet conditions. Grain size analyses were performed on two (2) subsoil samples, and the gradations are plotted in **Appendix A** (**Figures 13)**.

6.4 Sand

The sand deposit was contacted at BH 4 and 8 and BH/MW 6 beneath the sandy silt till and silt deposits. The sand layer varies from fine to coarse grained with some silt and traces of clay and gravel. The sand layer is loose to very dense is consistency, and the moisture content for the retrieved subsoil samples indicated dry to very moist conditions. Grain size analyses were performed on one (1) subsoil sample, and the gradations are plotted in **Appendix A** (**Figures 14)**.

7.0 LOCAL HYDROGEOLOGICAL STUDY

7.1 Monitoring Well Development and Groundwater Level Monitoring

The groundwater levels in the monitoring wells were measured, manually on August 26, September 10 and September 23, 2025 to record the fluctuation of the shallow groundwater table beneath the Subject Site.

Monitoring wells were developed and groundwater levels were monitored over three (3) monitoring events. SEL measured the groundwater levels using an interface probe (Heron Water Tape Series #1900). A summary of the groundwater level observations and their corresponding elevations are provided in **Table 7-1**.

Table 7-1- A Summary of Groundwater Monitoring

MW ID	Unit	Groundwater Level		
		August 26, 2025	September 10, 2025	September 23, 2025
BH/MW 2	mbgs	Dry	Dry	Dry
	masl	<303.4	<303.4	<303.4
BH/MW 3	mbgs	Dry	Dry	Dry
	masl	<305.6	<305.6	<305.6
BH/MW 6	mbgs	4.5	4.6	4.7
	masl	303.3	303.2	303.1
BH/MW 7	mbgs	Dry	Dry	Dry
	masl	<309.1	<309.1	<30.9.1
BH/MW 10	mbgs	Dry	Dry	Dry
	masl	<304.8	<304.8	<304.8

Notes:
mbgs metres below ground surface
masl metres above sea level
NA Not accessible
[1] Monitoring Wells Installed by Wood.

The finding of the groundwater monitoring indicates that all the BH/MWs were dry with the exception of BH/MW 6 with the groundwater level measured ranging between El. 303.3 masl and 303.1 masl during the monitoring program.

Furthermore, two (2) unknown monitoring wells were observed during the fieldwork in the Subject Site. Groundwater conditions in the monitoring wells were monitored. However, the findings were disregarded for the current assessment, as the details of the monitoring wells are unknown.

7.2 Shallow Groundwater Flow Pattern

All BH/MWs within the Subject Site, with the exception of BH/MW 6, remained dry during the monitoring program dry. Therefore, shallow groundwater flow pattern could not be interpreted for the Subject Site.

7.3 Single Well Response Test

BH/MW 6 installed by SEL underwent a single well response testing (SWRTs) to assess the hydraulic conductivity (K) for saturated shallow aquifer or water bearing unit at the depths of the well screens. BH/MW 6 was equipped with a digital transducer to record the fluctuation made to complete the SWRT. The results of the SWRT tests are presented in **Appendix C**, with a summary of the findings provided in **Table 7-2**.

Table 7-2- A Summary of Falling Head Hydraulic Conductivity Testing

Well ID	Ground El. (masl)	Monitoring Well Depth (mbgs)	Screen Interval (mbgs)	Screened Soil Strata	Hydraulic Conductivity (K in m/s)	Test Method
BH/MW 6	307.8	6.1	3.1 - 6.1	Sandy Silt Till/Silt	8.5×10^{-7}	Falling Head Test

Notes:
mbgs metres below ground surface
masl metres above sea level

7.4 Hydraulic Conductivity Test Using Grain Size Distribution Graphs

The Hazen Equation method was adopted to estimate the hydraulic conductivity (K) for different soil layers that may contain groundwater during the seasonal high-water table (spring) period, or if they are not encountered within the screen intervals.

The Hazen Equation method relies on the interrelationship between hydraulic conductivity and effective grain size, d_{10}, in the soil media. This empirical relation predicts a power-law relation with K, as follow:

$$\boldsymbol{K = A d_{10}^{\,2}}$$

where;

d_{10}: Value of the soil grain size gradation curve as determined by sieve analysis, whereby 10% by weight of the soil particles are finer and 90% by weight of the soil particles are coarser.

A: Coefficient; it is equal to 1 when *K* in cm/sec and d_{10} is in mm

The Hazen Equation estimation provides an indication of the groundwater yield capacity for saturated soil strata at the depths where soil samples were selected for grain size analysis. The grain size distribution graphs prepared for the supplementary geotechnical investigation were used to estimate the hydraulic conductivity, with the details presented in **Appendix A**. The results of the Hazen equation are provided in **Table 7-3**, below.

Table 7-3 - A Summary of Hydraulic Conductivity Using Hazen Equation

Borehole ID	Soil Sample Depth (Sample Number) (mbgs)	Soil Sample Elevation (masl)	Soil Strata	Hydraulic Conductivity (m/s)
BH 5	6.4 (7)	308.9	Sandy Silt Till	9.0×10^{-8}
BH/MW 2	2.6 (4)	306.9	Silty Sand Till	4.9×10^{-7}

Borehole ID	Soil Sample Depth (Sample Number) (mbgs)	Soil Sample Elevation (masl)	Soil Strata	Hydraulic Conductivity (m/s)
BH 9	2.6 (4)	310.9	Silt	1.0×10^{-6}
BH 10	4.8 (6)	306.6	Silt	2.5×10^{-7}
BH 8	1.8 (3)	306.0	Sand	2.0×10^{-5}

Notes:
mbgs metres below ground surface
masl metres above sea level

8.0 DISCHARGE WATER CONTROL

8.1 A review of Proposed Development Plans

The conceptual site plans, dated November 7, 2025, provided by Fieldgate Properties Limited, indicates that the proposed development will include the construction of either six (6)slab-on-grade industrial buildings and one (1) slab-on-grade commercial building, designated as Plan A, or eight (8) industrial slab-on-grade buildings, designated as Plan B. The reviewed plans are presented in **Appendix D**.

8.2 Review of Previous Reports

A review of the Geotechnical Investigation report prepared by SEL titled "A Report to Fieldgate Properties Limited, A Preliminary Geotechnical Investigation for Proposed Commercial/Industrial Develoopment, 2809 Townline Road, Township of Puslinch" reference number 2507-W060, dated September 2025. Indicate that:

- The existing structure and foundation must be demolished and the debris must be removed and disposed off-site. The cavities must be backfilled with soil that is free of topsoil or deleterious material, placed and compacted to engineered fill specifications.
- Weathered soils must be subexcavated, sorted free of topsoil inclusions and deleterious materials, if any, prior to its reuse as a backfill material.
- Footings exposed to weathering or in unheated areas should have at least 1.3 m of earth cover for protection against frost action.
- The proposed slab-on-grade buildings can be constructed on conventional spread and strip footings founded on the sound native soils below the topsoil and weathered soil or on engineered fill.

8.3 Short-Term Construction Dewatering Needs-Preliminary

The conceptual site plans, dated November 7, 2025, provided by Fieldgate Properties Limited, indicates that the proposed development will include the construction of either six (6) slab-on-grade industrial buildings and one (1) slab-on-grade commercial building, designated as Plan A, or eight (8) industrial slab-on-grade buildings, designated as Plan B.

8.3.1 Methodology

Short-Term Dewatering Calculation: The pumping rate calculation for the construction for the proposed development was performed based on the assumption with each excavation acting as trench considering the dimensions of the proposed excavation boxes. The calculation was based on the equations provided by Powers

et al. (2007). For the purposes of this analysis, steady state flow into an open excavation is assumed. Additionally, the equations of radial flow have the following assumptions:

- Ideal aquifer conditions (homogeneous, isotropic, uniform thickness and has infinite areal extent)
- Fully penetrating pumping well
- Only lateral flow to the pumping well

The following equation was used for open trenches and is based on unconfined aquifer conditions (Powers et. al., 2007):

$$Q = \frac{\pi K(H^2 - h^2)}{\ln(R_0 / r_s)} + 2\left[\frac{xK(H^2 - h^2)}{2L}\right]$$

Where:

Q = Anticipated pumping Rate (m3/day)
K = Hydraulic Conductivity (m/day)
H = Distance from the static water level to the bottom of the saturated aquifer (m)
h = Depth of water in the well while pumping (m)
R_o = Distance from a point of greatest drawdown to a point where there is zero drawdown (radius of influence) (m)
r_s = Distance to the wellpoints from the centre of the trench, assumed to be half of the trench width (m) for Trench base calculation.
X = Trench Length (m)
L = Distance from a line source to the trench, Ro (m)/2

The calculated pumping rate was multiplied by a factor of safety of 1.5 to account for uncertainties and natural variability in the range of hydraulic conductivity.

Zone of Influence for Dewatering: An estimate of the Zone of Influence (ZOI) for dewatering in unconfined aquifers can be calculated using the following equation (Bear, 1979):

$$R_0 = 2.45\sqrt{\frac{HK}{S_y}}t$$

where,

R_o = Zone of Influence (m), beyond which there is negligible drawdown
H = Distance from initial static water level to bottom of saturated aquifer (m)
Sy = Specific yield of the aquifer formation
t = Time, in seconds, required to draw the static groundwater level to the desired level (assumed to be equivalent to 14 days)
K = Hydraulic Conductivity (m/s)

Stormwater flow Estimate: The amount of runoff that could accumulate in the excavation box was also considered for any construction dewatering needs assessment. Therefore, the dewatering flow rates at the

Subject Site should also include removing stormwater from the excavation. Additionally, the anticipated flow through infiltration after storm event for the post-development site should be considered.

A review of intensity duration frequency curve (IDF curve) for the year 2010 for the coordinates 43° 25' 45" N, 80° 16' 45" Wthe rainfall depth considering 2-year storm event over a 3-hour period per day is approximately 30.2 mm, and a 100-year storm event over a 12-hour period per day is 106.8 mm. The data was taken from the Ministry of Transportation's (MTO) website.

The accumulated runoff associated with rainfall events within the anticipated excavations for the proposed footings of the buildings was calculated using the estimated rainfall depth multiplied by the estimated area of the proposed excavation for the perimeter footings for the proposed slab-on-grade developments.

8.3.2 Preliminary Short-Term Dewatering for Slab-on-Grade Buildings

The followings are the assumptions and proposed development details for the preliminary short-term construction dewatering estimates for construction of the proposed slab-on-grade buildings:

- The proposed industrial development will include construction of eight (8) slab-on-grade industrial buildings, as per Plan A, or six (6) slab-on-grade industrial buildings and one (1) slab-on-grade commercial building, as per plan B. As per SEL's review of the site plans, Buildings 1 to 6 are the same dimensions for Plan A and B.
- The shallow groundwater table measured at the Subject Site using the five (5) monitoring wells installed by SEL was utilized for the assessment.
- The grading elevations were considered based on the measured ground surface elevations of the monitoring wells installed by SEL.
- The areas for the industrial buildings were utilized based on site plans A and B, dated November 7, 2025, provided by Fieldgate Properties Limited. The provided areas were taken into consideration for the dewatering assessment. Based on the reviewed plans, the area of the slab-on-grade buildings are 16,200.0 m^2 for buildings 1, 2 and 3; 9,814.0 m^2 for buildings 4, 5 and 6, for both site plans A and B. For site plan A, Retail Store area is 15,090.0 m^2, and for site plan B, the area for each of buildings 7 and 8 is 19,510.0 m^2.
- The approximate dimensions for the proposed Buildings 1, 2 and 3 are 236.2 m x 68.6 m; 4, 5 and 6 are 201.2 m x 48.8 m, 7 and 8 are 110.3 m x 176.8 m, as per site plan B and retail building is 157.0 m x 96.1 m, as pe site plan A.
- An excavation trench along the perimeter of each building with a width of 1.0 m was considered for excavation and construction of perimeter footings.
- The depth of the underside of the footings for the slab-on-grade buildings was assumed to be 1.3 mbgs as per SEL's geotechnical investigation recommendation for frost protection.

- The storm event of 2 years -3 hr. was also considered for the short-term construction dewatering.

Based on the above assumptions the underside of the footings will be constructed above the shallow groundwater table, and short-term construction dewatering from groundwater source is not expected.

Since no dewatering from groundwater source is not expected, only perched water and stormwater are expected for short-term dewatering when present on the Subject Site for the removal of the weathered material and installation of the footings for the proposed slab-on grade industrial buildings. The calculations for trench excavation for the installation of footings for the slab-on grade industrial buildings are present in **Appendix D** (Page 1). It is assumed that trench excavation for installation of perimeter footings will extend 50 m long for all the industrial and retail slab-on grade buildings, as per site plans A and B. **Table 8-1** below, indicates the estimated anticipated storm flow rates for the open and active trench with dimensions of 1.0 m width and 50 m length for construction of the footings of the proposed slab-on-grade buildings.

Table 8-1- Estimated Construction Dewatering Flow Rates - Slab-on-Grade Buildings

Proposed Development	Dimensions of Excavation Trench (m)	Anticipated Storm Flow L/day (2-year 3 Hr)
Slab-on Grade Perimeter Footing (Per 50.0 m Trench Length)	50.0 x 1.0	3,100.0

Based on a review of the above table, as the elevation of the foundation for the proposed slab-on grade buildings are above the shallow groundwater table, no groundwater seepage is expected, the anticipated flow rates considering a 2-year storm event with a duration of 3 hr/day for active excavation trench for construction of the perimeter footings for the proposed slab-on-grade for considering 50 m long trench with 1.0 m width can reach 3,100.0 L/day for each building.

Additionally, a potential 100-year storm event with a duration of 12 hours is expected to reach 10,900.0 L/day considering the active excavation area dimensions mentioned in the assumptions above.

8.4 Preliminary Long-Term Foundation Drainage

The same assumptions considered for short-term dewatering flow rate assessment were considered to estimate long-term foundation drainage flow rate. No long-term foundation drainage is expected as the proposed slab-on-grade buildings will be constructed above the shallow groundwater table.

8.5 Preliminary Permit Requirements

Preliminary Short -Term Construction Dewatering: As per the recent amendment to O.Reg. 63/16 that came into effect on July 1, 2025, EASR registration with the MECP will be required for water takings, including groundwater seepage and precipitation, of more than 50,000 L/day.

A review of the total estimated dewatering flow rates presented in **Table 8-1** and **Appendix D** (**Page 1**) indicates that total estimated dewatering flow rates during the construction of the proposed slab-on-grade

perimeter footing (per 50.0 m length) could reach up to 3,100.0 L/day (stormwater flow only) for each building. As such, filing EASR with MECP is not required for the construction of the slab-on-grade buildings.

Additionally, applying for a discharge permit with the County of wellington is required if the collected water during construction is proposed to be conveyed to the sewer system. Alternatively, the collected water can be hauled off-site hiring a licenced contractor.

Preliminary Long-Term Foundation Drainage: No long-term foundation drainage is expected for the proposed slab-on-grade buildings. As such, applying for PTTW with the MECP is not required.

8.6 Preliminary Potential Dewatering Impacts and Mitigation Plan

8.6.1 Ground Settlement

Excavation and construction will be completed above shallow groundwater table. As such, no ZOI and associated ground settlement is anticipated due to dewatering.

8.6.2 Surface Water, Wetlands and Areas of Natural Significance

The proposed development will be constructed above shallow groundwater table. As such, no short-term construction dewatering from the groundwater source is expected, and no significant impacts to the natural features are anticipated.

8.6.3 Water Supply Wells and Zone of Influence

A review of the MECP well records confirmed that there is fifty (50) record for a water supply that is registered within 500 m of the Subject Site. As no short-term construction dewatering from the groundwater source is expected, no significant impacts to the potential groundwater users are anticipated if the well exists and are in service. Record review indicates that there is one (1) water supply well within the Subject Site. The water supply well should be decommissioned in advance of construction if it is not required for the post-development site. If the water supply well is considered for the post-development site, it should be monitored during construction.

9.0 CONCLUSIONS AND RECOMMENDATIONS

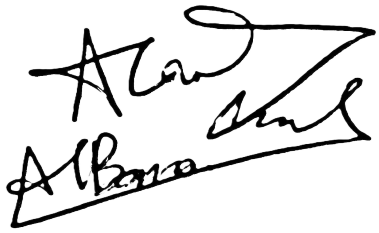
- The Subject Site is located within regional physiography's of Southern Ontario known as Horseshoe Moraines. The Horseshoe Moraines within the vicinity of the Subject Site comprises Till Moraines.
- The Subject Site is mainly located within an area mapped as Port Stanley Till (5b), comprising of diamicton and partially located within Ice-contact gravel (6) within the eastern boundary of the Subject Site.
- The Subject Site is located within the Grand River Watershed that falls in the Grand River Conservation Authority (GRCA) jurisdiction.
- The subsoil investigation has revealed that beneath the topsoil, the investigated area of the Subject Site is mainly underlain by sandy silt till/silty sand till, silt and sand, within the area of the boreholes drilled by SEL within the Subject Site. The investigation extended up to a maximum termination depth of investigation of 6.6 mbgs.
- The finding of the groundwater monitoring indicates that all the BH/MWs were dry with the exception of BH/MW 6 with the groundwater level measured ranging between El. 303.3 masl and 303.1 masl during the monitoring program.
- Groundwater seepage is not expected for construction of the proposed slab-on-grade industrial buildings, the anticipated flow rates considering a 2-year storm event with a duration of 3 hr/day for active excavation trench for construction of the perimeter footings for the proposed slab-on-grade with dimensions of 50.0 m length and 1.0 m width can reach 3,100.0 L/day.
- Since the range of the anticipated preliminary short-term construction dewatering flow which is expected only during storm event, remains below the MECP EASR threshold limit of 50,000.0 L/day for the construction of the proposed slab-on-grade industrial buildings, an EASR filing with the MECP will not be required. However, obtaining permit from the County of Wellington is required if the collected water during storm event is proposed to directed to the region or city's sewer system. Alternatively, the collected water can be hauled off-site by hiring a licenced contractor.
- The proposed excavation and construction will be completed above shallow groundwater table. As such, no ZOI and associated ground settlement is anticipated due to dewatering.
- The proposed development will be constructed above shallow groundwater table. As such, no short-term construction dewatering from the groundwater source is expected, and no significant impacts to the natural features are anticipated.
- A review of the MECP well records confirmed that there are fifty (50) records for a water supply that are registered within 500 m of the Subject Site. As no short-term construction dewatering from the groundwater source is expected, no significant impacts to the potential groundwater users are

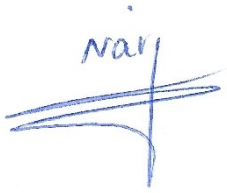
anticipated if the well exists and are in service. Record review indicates that there is one (1) water supply well within the Subject Site. The water supply well should be decommissioned in advance of construction if it is not required for the post-development site. If the water supply well is considered for the post-development site, it should be monitored during construction.

10.0 CLOSURE

We trust that the above-noted information is suitable for your review. If you have any questions regarding this information, please do not hesitate to contact the undersigned.

Yours truly,
SOIL ENGINEERS LTD.





Alaa Alborno B.Eng., E.I.T.
Project Manager-Hydrogeological Services

Narjes Alijani, M.Sc., P.Geo.
Department Manager-Hydrogeological Services

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7. Ministry of the Environment, Conservation and Parks, 2025, Source Protection Information Atlas Interactive Map.
8. Ministry of Natural Recourses, 2025, Natural Heritage Interactive Map.

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FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 542-2769

DRAWINGS 1 to 8

REFERENCE NO. 2507-W060

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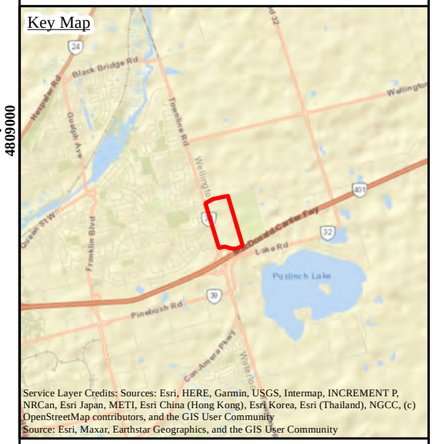

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Legend

- Approximate Boundary of Subject Site
- Expressway/Freeway
- Major Road
- Local Road
- Waterbody
- Watercourse

Soil Engineers Ltd.

Site Location Plan

Hydrogeological Assessment
Proposed Commercial/Industrial Development
2809 Townline Road
Township of Puslinch

Reference No. 2507-W060

Date: October 22, 2025

Scale:
0 45 90 180 270 360 450
Metres

Drawing No. 1

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557400
557700
558000
558300
558600
4808800
4808500
4808200
4807900
KERWOOD DRIVE
DECARO CRESCENT
HAMER CRES CENT
SIDEROAD 10 NORTH
ELLIS ROAD
GALLIN COURT
KROEGER CRESCENT
TOWNLINE ROAD
BH 1
BH/MW 2
BH 4
BH/MW 3
BH/MW 6
BH 5
BH 8
BH/MW 7
BH 9
BH/MW 10
ADLER DRIVE
LARDNER STREET
AMANDA WALK
JAMIESON PARKWAY
MARYANN PRICE LANE
HOUGHTON STREET
BARTLEMAN CRESCENT
PATTON DRIVE
MCFARLANE DRIVE
HIGHWAY 401
WELLINGTON ROAD 32
TRAVELLED ROAD
N
References: Ontario Ministry of Natural Resources and Forestry
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Key Map
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
Legend
Approximate Boundary of Subject Site
Expressway/Freeway
Major Road
Local Road
Waterbody
Borehole (5)
Borehole With Monitoring Well (5)
Soil Engineers Ltd.
Borehole and Monitoring Well Location Plan
Hydrogeological Assessment
Proposed Commercial/Industrial Development
2809 Townline Road
Township of Puslinch
Reference No. 2507-W060
Date: October 22, 2025
Scale:
0 25 50 100 150 200 250
Metres
Drawing No. 2
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557000
557500
558000
558500
559000
4809000
4808500
4808000
4807500

MARSTON CRESCENT
SWEENEY CRESCENT
MARGY CRESCENT
JERRY DRIVE
SOFRON DRIVE
NORTHCLIFFE CRESCENT
BLUEWATER DRIVE
HAMMET STREET
REDWOOD AVENUE
KERWOOD DRIVE
HAMER CRESCENT
MCLAUGHLIN STREET
DECARO CRESCENT
GEES WAY
ELLIS ROAD
CALVIN COURT
KROEGER CRESCENT
COOPER STREET
GUNN AVENUE
ADLER DRIVE
AMANDA WALK
HOUGHTON STREET
LARDNER STREET
PATTON DRIVE
ASHWOOD DRIVE
BREWSTER PLACE
KRIBS STREET
BARTLEMAN CRESCENT
MCFARLANE DRIVE
DARREN CRESCENT
WINSTON BOULEVARD
CHIPMAN STREET
ALONA AVENUE
ROSEBRIDGE CRESCENT
CARMINE CRESCENT
HANDORF DRIVE
JAMIESON PARKWAY
HIGHWAY 401
TOWNLINE ROAD
SIDEROAD 10 NORTH
WELLINGTON ROAD 32
TRAVELLED ROAD
SANDY SHORE BOULEVARD
MAPLE TRAIL
SWASTIKA TRAIL
CEDAR TRAIL

7b
5b
6
20
7a

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Legend

- Approximate Boundary of Subject Site
- Expressway/Freeway
- Major Road
- Local Road
- 20: Peat and muck: Consisting of organic deposits:
- 5b: Port Stanley Till: Consisting of diamicton:
- 6: Ice-contact gravel: Consisting of gravel: ice-contact
- 7a: Glaciofluvial sand: Consisting of sand: proglacial outwash
- 7b: Outwash gravel: Consisting of gravel: proglacial outwash

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Surface Geology Map

Hydrogeological Assessment
Proposed Commercial/Industrial Development
2809 Townline Road
Township of Puslinch

Reference No. 2312-W066

Date: October 22, 2025

Scale:
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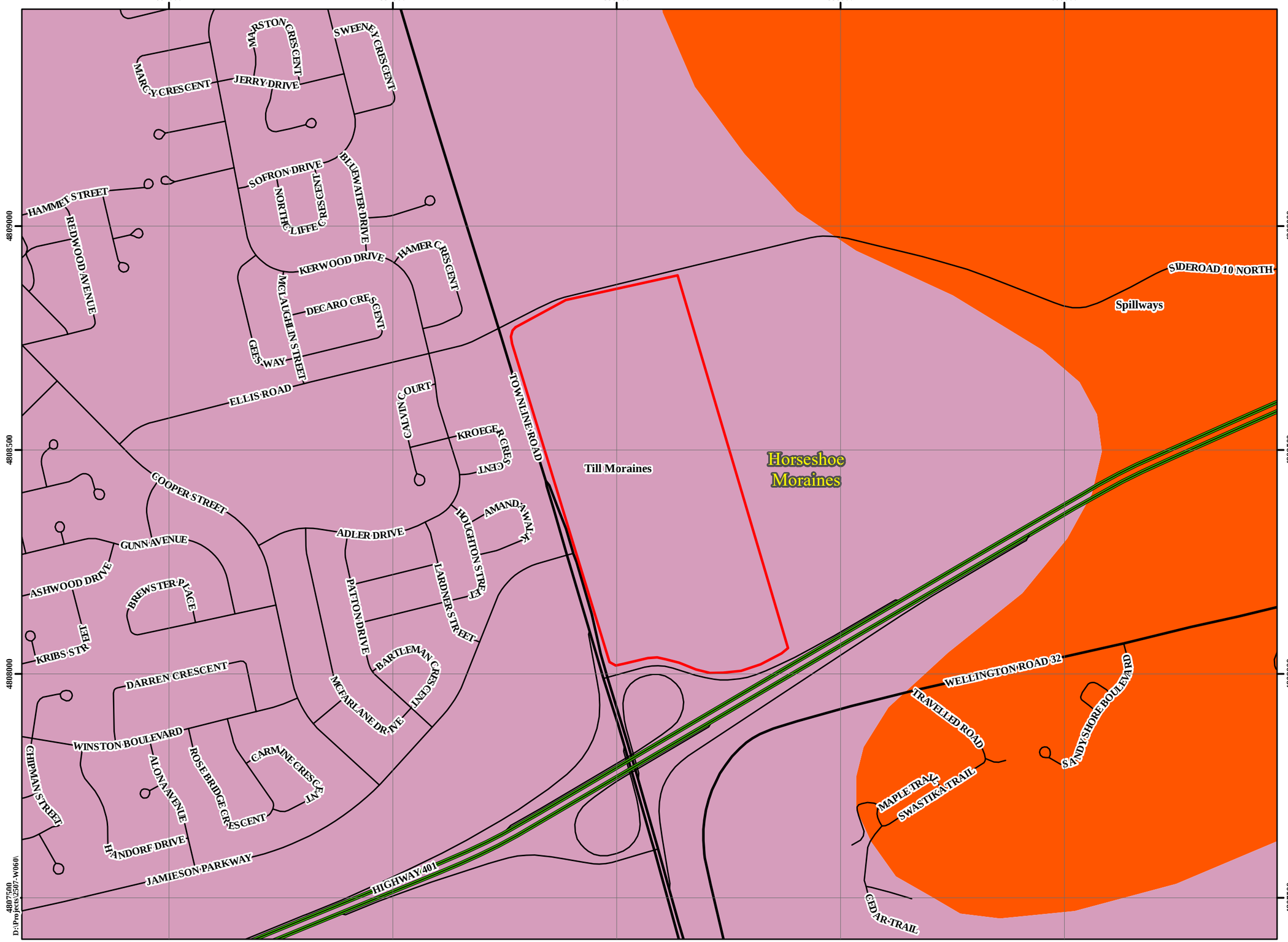
Metres

Drawing No. 3



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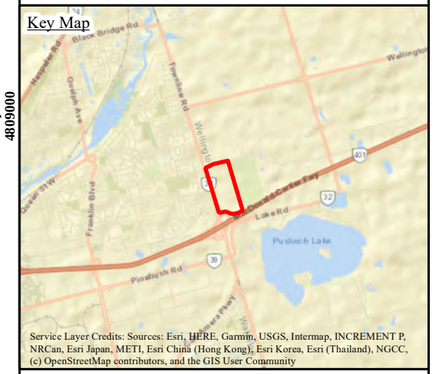

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Legend

- Approximate Boundary of Subject Site
- Expressway/Freeway
- Major Road
- Local Road
- Region Boundary
- Till Moraines
- Spillways

Soil Engineers Ltd.

Physiographic Map

Hydrogeological Assessment
Proposed Commercial/Industrial Development
2809 Townline Road
Township of Puslinch

Reference No. 2507-W060

Date: October 22, 2025

Scale:
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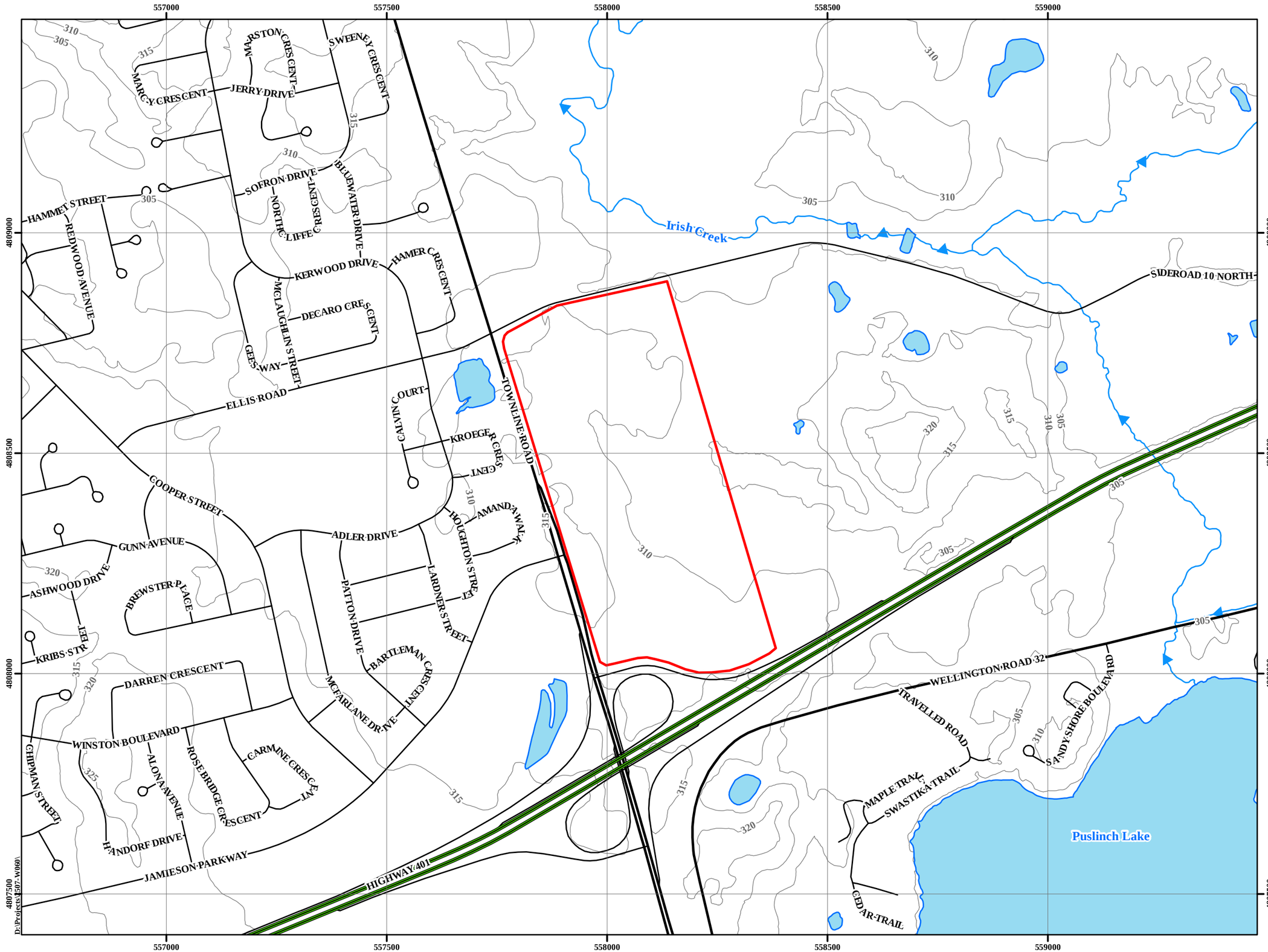
Metres

Drawing No. 4



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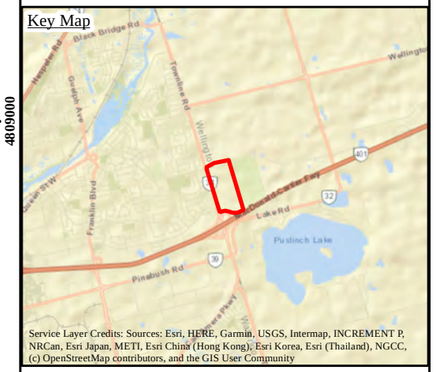

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Legend

- Approximate Boundary of Subject Site
- Expressway/Freeway
- Major Road
- Local Road
- Waterbody
- Watercourse
- Ontario - 5 m

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Topographic Map

Hydrogeological Assessment
Proposed Commercial/Industrial Development
2809 Townline Road
Township of Puslinch

Reference No. 2507-W060

Date: October 22, 2025

Scale:

0 45 90 180 270 360 450
Metres

Drawing No. 5

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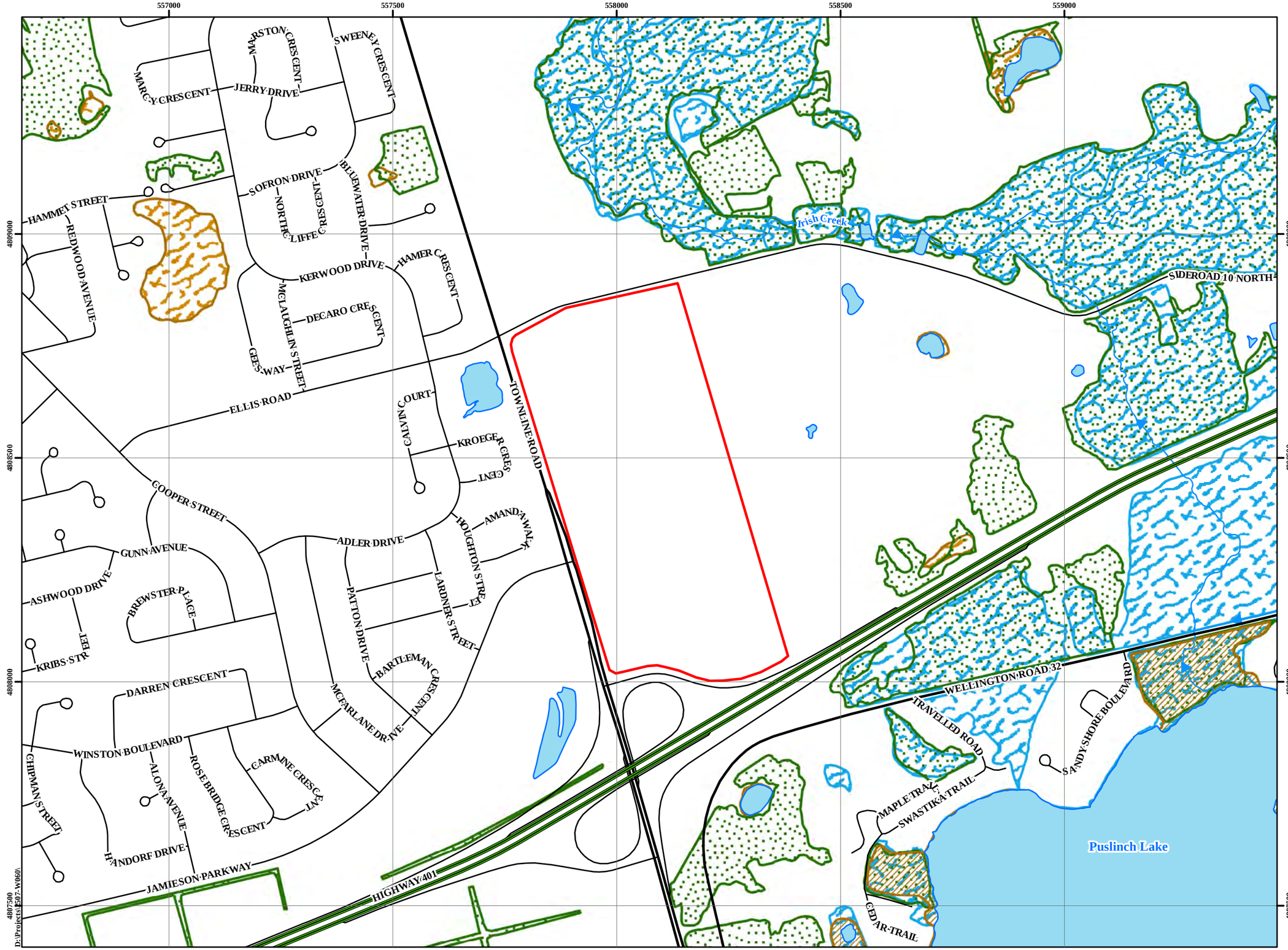

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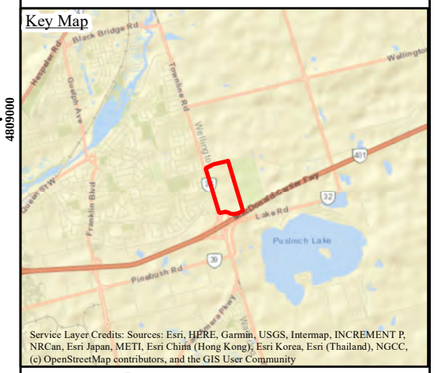

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Legend

- Approximate Boundary of Subject Site
- Expressway/Freeway
- Major Road
- Local Road
- Watercourse
- Waterbody
- Area of Natural and Scientific Interest (ANSI)
- Wooded Area *Wooded Area*
- Wetland (classified as Provincial)
- Wetland (Not evaluated per OWES)

Soil Engineers Ltd.

Natural Features and Protection Area Plan

Hydrogeological Assessment
Proposed Commercial/Industrial Development
2809 Townline Road
Township of Puslinch

Reference No. 2507-W060

Date: October 22, 2025

Scale:
0 90 180 270 360 450
Metres

Drawing No. 6

N

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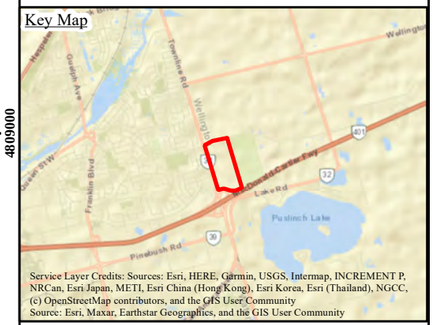
Key Map



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Legend

- Approximate Boundary of Subject Site
- 500 Metres From Subject Site Boundary
- Expressway/Freeway
- Major Road
- Local Road
- Waterbody
- Watercourse
- Unknown (4)
- Abandoned-Other (1)
- Abandoned-Supply (2)
- Alteration (2)
- Observation Wells (5)
- Other Status (1)
- Test Hole (1)
- Water Supply (50)

Soil Engineers Ltd.

MECP Well Location Plan

Hydrogeological Assessment
Proposed Commercial/Industrial Development
2809 Townline Road
Township of Puslinch

Reference No. 2507-W060

Date: October 22, 2025

Scale:

0 45 90 180 270 360 450
Metres

Drawing No. 7

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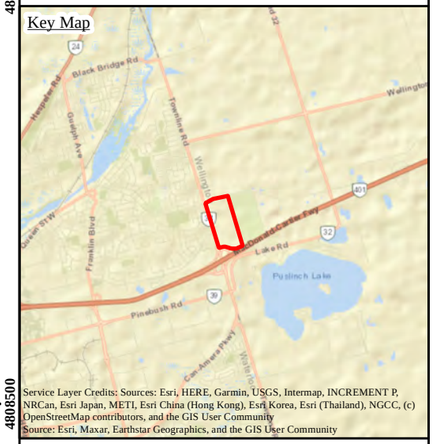
Key Map



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Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Legend

- Approximate Boundary of Subject Site
- Expressway/Freeway
- Major Road
- Local Road
- Waterbody
- Cross Section
- Borehole (5)
- Borehole With Monitoring Well (5)

Soil Engineers Ltd.

Subsurface Profile Cross-Section Key Plan

Hydrogeological Assessment
Proposed Commercial/Industrial Development
2809 Townline Road
Township of Puslinch

Reference No. 2507-W060

Date: October 22, 2025

Scale:
0 25 50 100 150 200 250
Metres

Drawing No. 2

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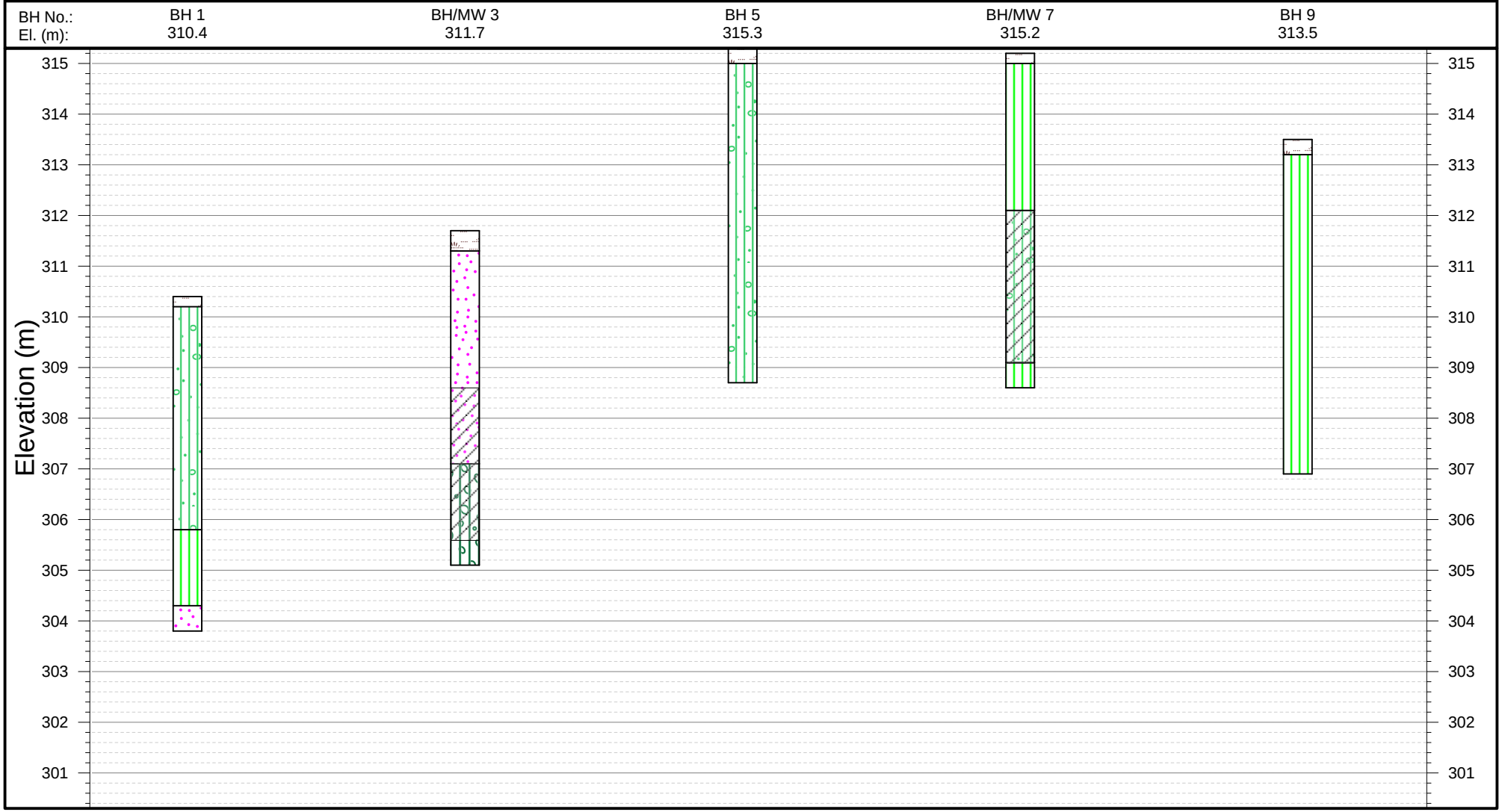
SUBSURFACE PROFILE
CROSS SECTION A-A'
DRAWING NO. 8-2A
SCALE: AS SHOWN

JOB NO.: 2507-W060
REPORT DATE: November 2025
PROJECT DESCRIPTION: Proposed Commercial/Industrial Development
PROJECT LOCATION: 2809 Townline Road, Township of Puslinch

LEGEND

SAND | SILT | SILTY SAND TILL | TOPSOIL
SANDY SILT TILL | SCREEN

WATER LEVEL (STABILIZED) ▼



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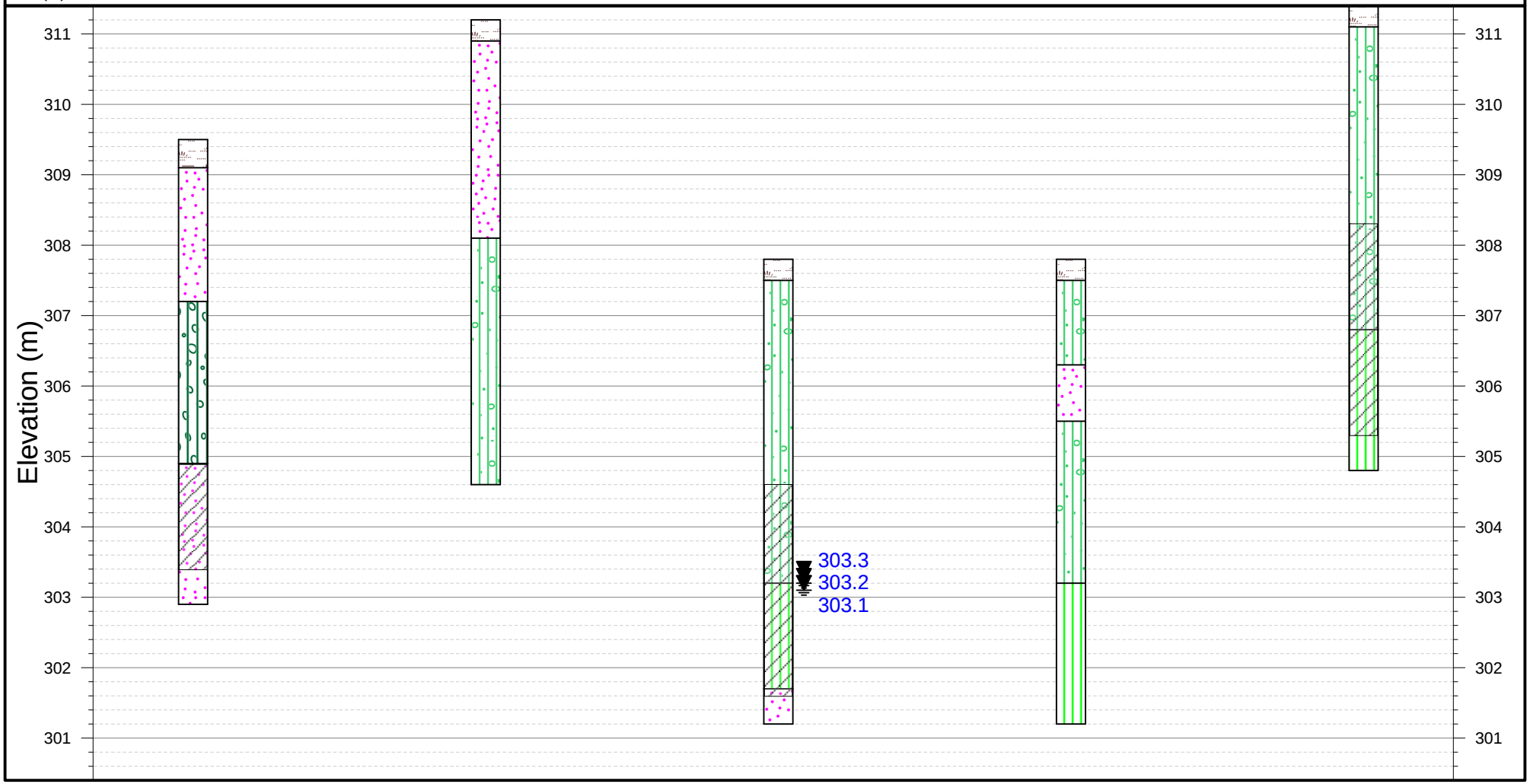
SUBSURFACE PROFILE
CROSS SECTION B-B'
DRAWING NO. 8-2B
SCALE: AS SHOWN

JOB NO.: 2507-W060
REPORT DATE: November 2025
PROJECT DESCRIPTION: Proposed Commercial/Industrial Development
PROJECT LOCATION: 2809 Townline Road, Township of Puslinch

LEGEND

SAND | SILT | SILTY SAND TILL | TOPSOIL
SANDY SILT TILL | SCREEN

WATER LEVEL (STABILIZED)



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90 WEST BEAVER CREEK ROAD, SUITE 100, RICHMOND HILL, ONTARIO L4B 1E7 · TEL: (416) 754-8515 · FAX: (905) 881-8335

BARRIE	MISSISSAUGA	OSHAWA	NEWMARKET	MUSKOKA	HAMILTON
TEL: (705) 721-7863	TEL: (905) 542-7605	TEL: (905) 440-2040	TEL: (905) 853-0647	TEL: (705) 684-4242	TEL: (905) 777-7956
FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 542-2769

APPENDIX 'A'

BOREHOLE LOGS/MONITORING WELL LOGS AND GRAIN SIZE DISTRIBUTION GRAPH

REFERENCE NO. 2507-W060

LIST OF ABBREVIATIONS AND DESCRIPTION OF TERMS

The abbreviations and terms commonly employed on the borehole logs and figures, and in the text of the report, are as follows:

SAMPLE TYPES

AS Auger sample
CS Chunk sample
DO Drive open (split spoon)
DS Denison type sample
FS Foil sample
RC Rock core (with size and percentage recovery)
ST Slotted tube
TO Thin-walled, open
TP Thin-walled, piston
WS Wash sample

PENETRATION RESISTANCE

Dynamic Cone Penetration Resistance:

A continuous profile showing the number of blows for each foot of penetration of a 2-inch diameter, 90° point cone driven by a 140-pound hammer falling 30 inches.

Plotted as '—●—'

Standard Penetration Resistance or 'N' Value:

The number of blows of a 140-pound hammer falling 30 inches required to advance a 2-inch O.D. drive open sampler one foot into undisturbed soil.

Plotted as '○'

WH Sampler advanced by static weight
PH Sampler advanced by hydraulic pressure
PM Sampler advanced by manual pressure
NP No penetration

SOIL DESCRIPTION

Cohesionless Soils:

'N' (blows/ft)	Relative Density
0 to 4	very loose
4 to 10	loose
10 to 30	compact
30 to 50	dense
over 50	very dense

Cohesive Soils:

Undrained Shear Strength (ksf)	'N' (blows/ft)	Consistency
less than 0.25	0 to 2	very soft
0.25 to 0.50	2 to 4	soft
0.50 to 1.0	4 to 8	firm
1.0 to 2.0	8 to 16	stiff
2.0 to 4.0	16 to 32	very stiff
over 4.0	over 32	hard

Method of Determination of Undrained Shear Strength of Cohesive Soils:

x 0.0 Field vane test in borehole; the number denotes the sensitivity to remoulding

△ Laboratory vane test

☐ Compression test in laboratory

For a saturated cohesive soil, the undrained shear strength is taken as one half of the undrained compressive strength

METRIC CONVERSION FACTORS

1 ft = 0.3048 metres
1lb = 0.454 kg
1 inch = 25.4 mm
1ksf = 47.88 kPa

JOB NO.: 2507-W060

LOG OF BOREHOLE:BH 1

FIGURE NO.: 1

PROJECT DESCRIPTION: Proposed Commercial/Industrial Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: 2809 Townline Road, Township of Puslinch

DRILLING DATE: July 22, 2025

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
310.4	Ground Surface							
0.0	**18 cm TOPSOIL**				0			
	Brown, loose to dense **SANDY SILT TILL** weathered traces of clay and gravel	1	DO	7			13	
		2	DO	11	1		12	
		3	DO	28	2		12	
		4	DO	27			9	
		5	DO	23	3		11	
305.8					4			
4.6	Brown, dense **SILT** traces of clay and sand	6	DO	40	5		13	
304.3					6			
6.1	Brown, dense **SAND** fine to medium grained, a trace of gravel	7	DO	35			5	
303.8					7			
6.6	**END OF BOREHOLE**				8			
					9			
					10			

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JOB NO.: 2507-W060

LOG OF BOREHOLE:BH/MW 2

FIGURE NO.: 2

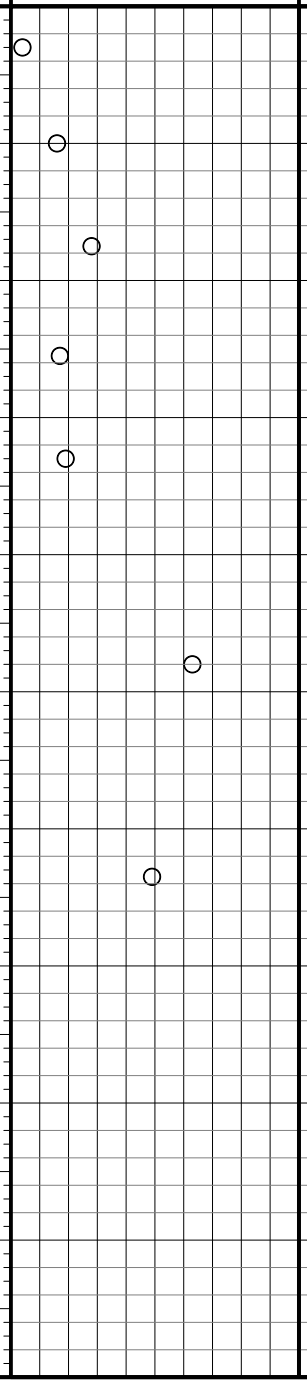
PROJECT DESCRIPTION: Proposed Commercial/Industrial Development

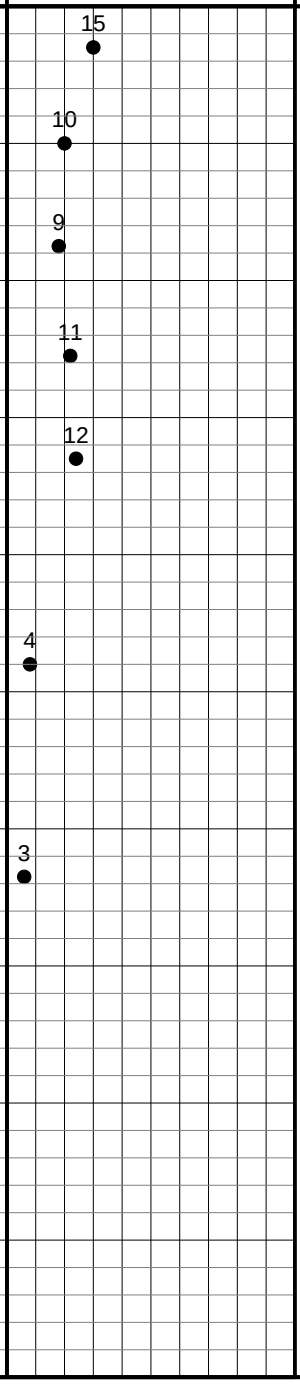
METHOD OF BORING: Solid Stem Augers

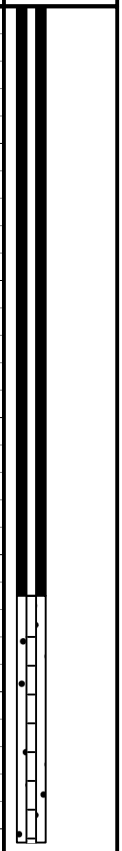
PROJECT LOCATION: 2809 Townline Road, Township of Puslinch

DRILLING DATE: July 22, 2025

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)
309.5 / 0.0	Ground Surface				
	36 cm TOPSOIL	1	DO	4	0
	Brown, loose to compact — weathered **SAND** fine grained, silty a trace of gravel	2	DO	16	1
		3	DO	28	2
307.2 / 2.3	Brown, compact **SILTY SAND TILL** some gravel a trace of clay	4	DO	17	3
		5	DO	19	4
304.9 / 4.6	Brown, dense to very dense **SAND** fine to coarse grained a trace of gravel	6	DO	63	5
		7	DO	49	6
302.9 / 6.6	**END OF BOREHOLE** Installed 50 mm Ø monitoring well to 6.1 m completed with 1.5 m screen Sand backfill from 4.3 to 6.1 m Bentonite seal from 0.0 m to 4.3 m Provided with a momument steel casing				7
	Water level reading: Dry on Aug 26, 2025 Dry on Sep 10, 2025 Dry on Sep 23, 2025				8 9 10







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JOB NO.: 2507-W060

LOG OF BOREHOLE:BH/MW 3

FIGURE NO.: 3

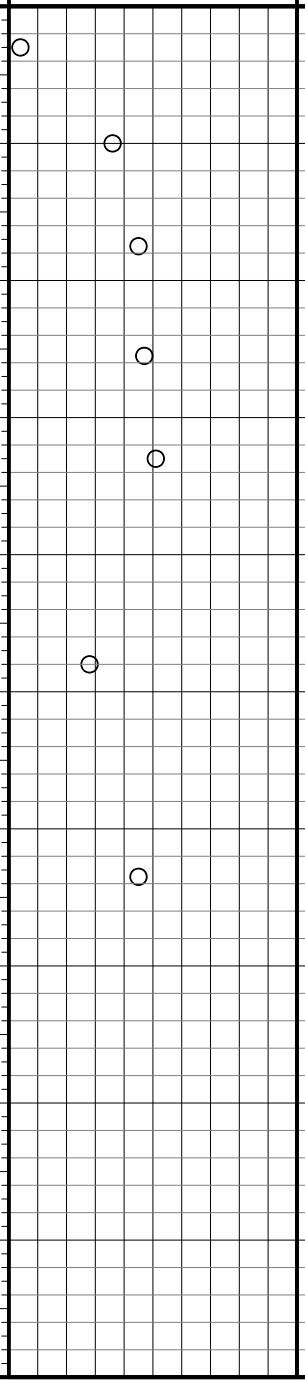
PROJECT DESCRIPTION: Proposed Commercial/Industrial Development

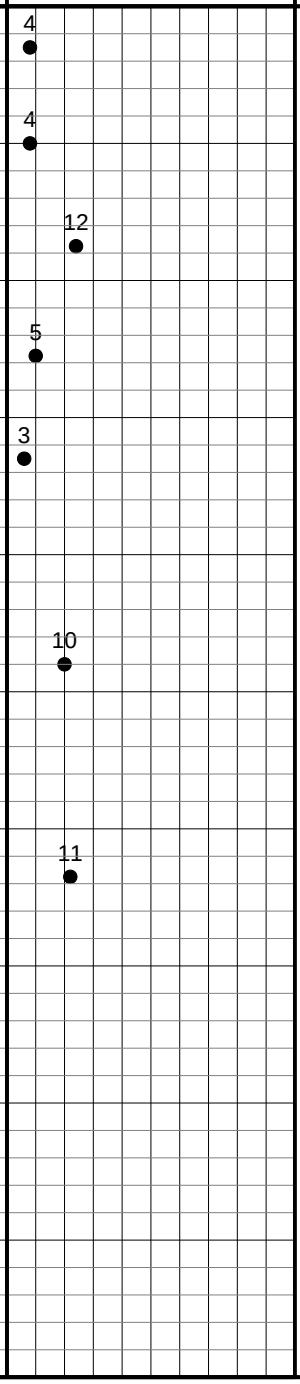
METHOD OF BORING: Solid Stem Augers

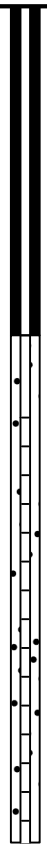
PROJECT LOCATION: 2809 Townline Road, Township of Puslinch

DRILLING DATE: July 22, 2025

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)
311.7 / 0.0	Ground Surface				
	36 cm TOPSOIL	1	DO	4	0
	Brown, loose to very dense — weathered **SAND** fine grained, silty occ. cobbles and boulders	2	DO	36	1
		3	DO	45	2
		4	DO	47	
		5	DO	51	3
307.1 / 4.6	Brown, compact to dense **SILTY SAND TILL** some gravel a trace of clay	6	DO	28	4
		7	DO	45	5
305.1 / 6.6	**END OF BOREHOLE**				6
	Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen Sand backfill from 2.4 to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with a momument steel casing				7
	Water level reading: Dry on Aug 26, 2025 Dry on Sep 10, 2025 Dry on Sep 23, 2025				8
					9
					10







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JOB NO.: 2507-W060

LOG OF BOREHOLE:BH 4

FIGURE NO.: 4

PROJECT DESCRIPTION: Proposed Commercial/Industrial Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: 2809 Townline Road, Township of Puslinch

DRILLING DATE: July 22, 2025

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
311.2	Ground Surface							
0.0	**25 cm TOPSOIL**				0			
	Brown, loose to dense **SAND** — weathered fine to medium grained a trace of gravel	1	DO	4			14	
		2	DO	6	1		12	
		3	DO	20	2		7	
		4	DO	46			3	
308.1					3			
3.1	Brown, dense **SANDY SILT TILL** traces of clay and gravel occ. clay seams	5	DO	38			9	
		6	DO	44	4		11	
		7	DO	47	5		12	
304.6					6			
6.6	**END OF BOREHOLE**				7			
					8			
					9			
					10			

Soil Engineers Ltd.

JOB NO.: 2507-W060

LOG OF BOREHOLE:BH 5

FIGURE NO.: 5

PROJECT DESCRIPTION: Proposed Commercial/Industrial Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: 2809 Townline Road, Township of Puslinch

DRILLING DATE: July 21, 2025

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
315.3	Ground Surface							
0.0	**25 cm TOPSOIL**				0			
	Brown, loose to dense **SANDY SILT TILL** — weathered traces of clay and gravel occ. cobbles and boulders	1	DO	4			12	
		2	DO	31	1		9	
		3	DO	45	2		9	
		4	DO	23			8	
		5	DO	23	3		9	
		6	DO	32	4 5		11	
		7	DO	36	6		14	
308.7								
6.6	**END OF BOREHOLE**				7 8 9 10			

Soil Engineers Ltd.

JOB NO.: 2507-W060

LOG OF BOREHOLE:BH/MW 6

FIGURE NO.: 6

PROJECT DESCRIPTION: Proposed Commercial/Industrial Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: 2809 Townline Road, Township of Puslinch

DRILLING DATE: July 21, 2025

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
307.8	Ground Surface							
0.0	**33 cm TOPSOIL**				0			
	Brown, very loose to dense **SANDY SILT TILL** traces of clay and gravel	1	DO	3			18	
	weathered	2	DO	2	1		19	
		3	DO	10			7	
					2			
	sand layer	4	DO	22			18	
		5	DO	44	3		13	
					4			
303.2 4.6	Brown, compact, wet **SILT** traces of clay and sand	6	DO	22			18	
301.7 6.1	Brown, dense, wet **SAND** fine to medium grained traces of cobbles and gravels	7	DO	41	6		13	
301.2 6.6	**END OF BOREHOLE** Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen Sand backfill from 2.4 to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with a momument steel casing				7			
					8			
					9			
					10			

Water level reading:
W.L. @ El. 303.3 masl on Aug 26, 2025
W.L. @ El. 303.2 masl on Sep 10, 2025
W.L. @ El. 303.1 masl on Sep 23, 2025

Soil Engineers Ltd.

JOB NO.: 2507-W060

LOG OF BOREHOLE:BH/MW 7

FIGURE NO.: 7

PROJECT DESCRIPTION: Proposed Commercial/Industrial Development

METHOD OF BORING: Solid Stem Augers

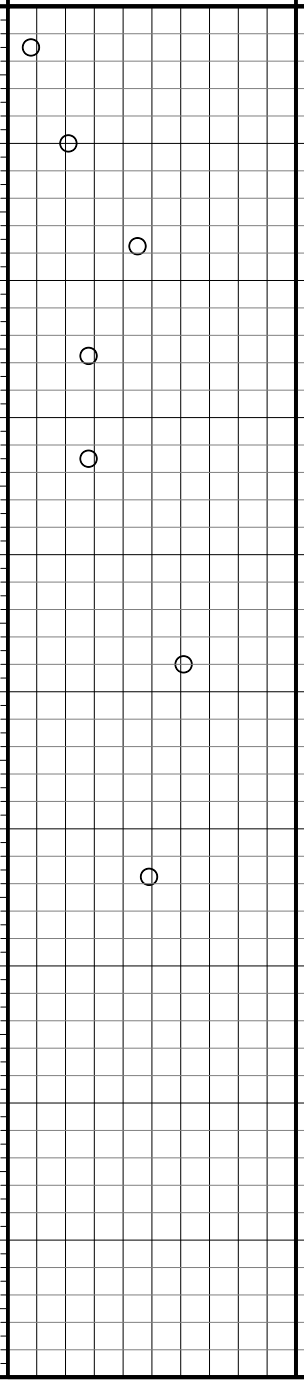
PROJECT LOCATION: 2809 Townline Road, Township of Puslinch

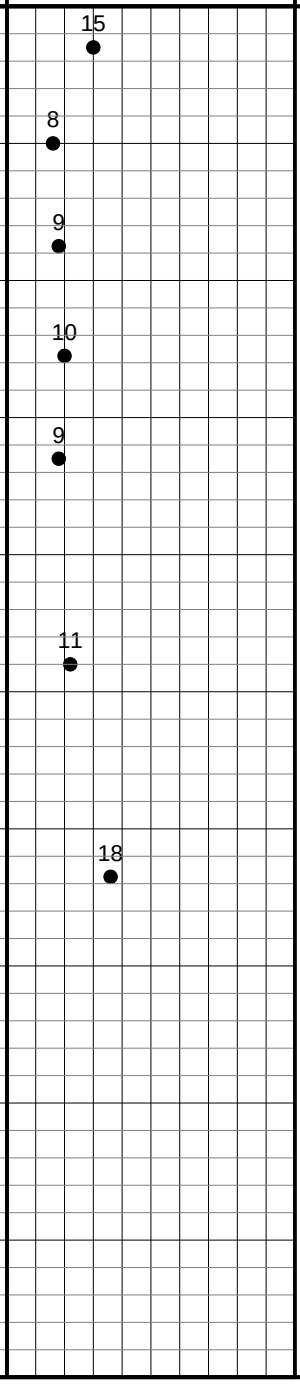
DRILLING DATE: July 21, 2025

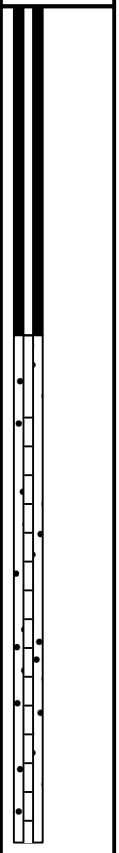
El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)
315.2 / 0.0	Ground Surface				
	15 cm TOPSOIL				0
	Brown, loose to dense **SILT** sandy a trace of clay — weathered	1	DO	8	
		2	DO	21	1
		3	DO	45	2
		4	DO	28	
312.1 / 3.1	Brown, compact to very dense **SANDY SILT TILL** traces of clay and gravel	5	DO	28	3
		6	DO	61	4 5
309.1 / 6.1	Brown, dense, wet **SILT** sandy, a trace of clay	7	DO	49	6
308.6 / 6.6	**END OF BOREHOLE**				7 8 9 10

Installed 50 mm Ø monitoring well to 6.1 m
completed with 3.1 m screen
Sand backfill from 2.4 to 6.1 m
Bentonite seal from 0.0 m to 2.4 m
Provided with a momument steel casing

Water level reading:
Dry on Aug 26, 2025
Dry on Sep 10, 2025
Dry on Sep 23, 2025







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JOB NO.: 2507-W060

LOG OF BOREHOLE:BH 8

FIGURE NO.: 8

PROJECT DESCRIPTION: Proposed Commercial/Industrial Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: 2809 Townline Road, Township of Puslinch

DRILLING DATE: July 21, 2025

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
307.8	Ground Surface							
0.0	**28 cm TOPSOIL**	1	DO	4	0		19	
	Brown, loose to dense **SANDY SILT TILL** — weathered some clay a trace of gravel	2	DO	33	1		16	
306.3								
1.5	Brown, compact **SAND** fine to coarse grained gravelly, some silt	3	DO	24	2		12	
305.5								
2.3	Brown, compact to dense **SANDY SILT TILL** some clay a trace of gravel	4	DO	25			11	
		5	DO	39	3		11	
303.2								
4.6	Brown, dense to very dense, wet **SILT** sandy a trace of clay	6	DO	56	4 5		13	
		7	DO	37	6		17	
301.2								
6.6	**END OF BOREHOLE**				7 8 9 10			

JOB NO.: 2507-W060

LOG OF BOREHOLE:BH 9

FIGURE NO.: 9

PROJECT DESCRIPTION: Proposed Commercial/Industrial Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: 2809 Townline Road, Township of Puslinch

DRILLING DATE: July 21, 2025

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
313.5	Ground Surface							
0.0	**33 cm TOPSOIL**				0			
	Brown, loose to very dense **SILT** sandy a trace of clay wet below 6.0 m — weathered	1	DO	5			8	
		2	DO	18	1		10	
		3	DO	23	2		11	
		4	DO	40			12	
		5	DO	43	3		13	
		6	DO	78/13	4 5		11	
		7	DO	54	6		16	
306.9								
6.6	**END OF BOREHOLE**				7 8 9 10			

JOB NO.: 2507-W060

LOG OF BOREHOLE:BH/MW 10

FIGURE NO.: 10

PROJECT DESCRIPTION: Proposed Commercial/Industrial Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: 2809 Townline Road, Township of Puslinch

DRILLING DATE: July 21, 2025

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
311.4	Ground Surface							
0.0	**25 cm TOPSOIL**	1	DO	2	0		19	
	Brown, loose to compact **SANDY SILT TILL** traces of clay and gravel occ. cobbles and boulders	2	DO	6	1		23	
	weathered	3	DO	21	2		11	
		4	DO	30	3		12	
		5	DO	28			8	
306.8					4			
4.6	Brown, compact to dense, wet **SILT** traces of clay and sand	6	DO	29	5		16	
		7	DO	38	6		17	
304.8								
6.6	**END OF BOREHOLE**				7			
	Installed 50 mm Ø monitoring well to 6.1 m completed with 3.1 m screen Sand backfill from 2.4 to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with a momument steel casing				8			
	Water level reading: Dry on Aug 26, 2025 Dry on Sep 10, 2025 Dry on Sep 23, 2025				9			
					10			

Soil Engineers Ltd.

Soil Engineers Ltd.

GRAIN SIZE DISTRIBUTION

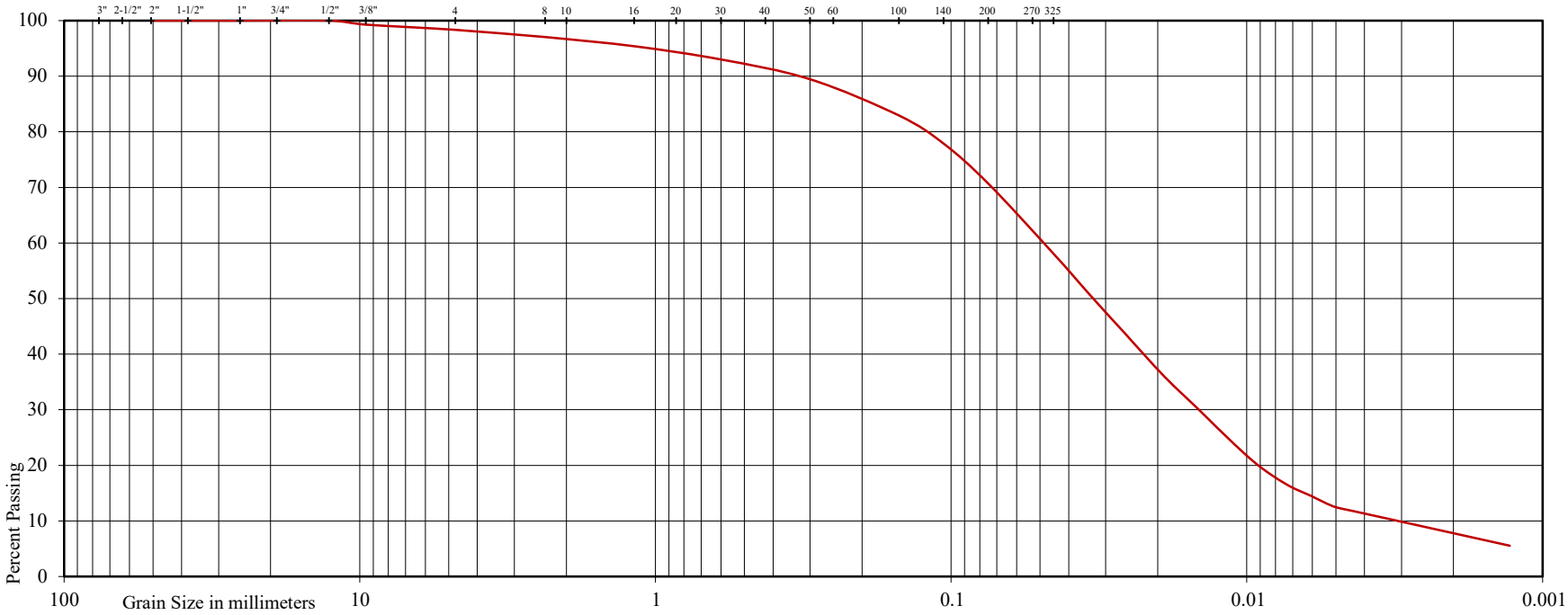
Reference No: 2507-W060

U.S. BUREAU OF SOILS CLASSIFICATION

GRAVEL		SAND				SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	V. FINE		

UNIFIED SOIL CLASSIFICATION

GRAVEL		SAND			SILT & CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



Project: Proposed Commercial/Industrial Development

Location: 2809 Townline Road, Township of Puslinch

BH./Sa. 5/7

Liquid Limit (%) = -

Borehole No: 5

Plastic Limit (%) = -

Sample No: 7

Plasticity Index (%) = -

Depth (m): 6.4

Moisture Content (%) = 14

Elevation (m): 308.9

Estimated Permeability (cm./sec.) = 10^{-5}

Classification of Sample [& Group Symbol]: SANDY SILT TILL

traces of clay and gravel

Figure: 11

Soil Engineers Ltd.

GRAIN SIZE DISTRIBUTION

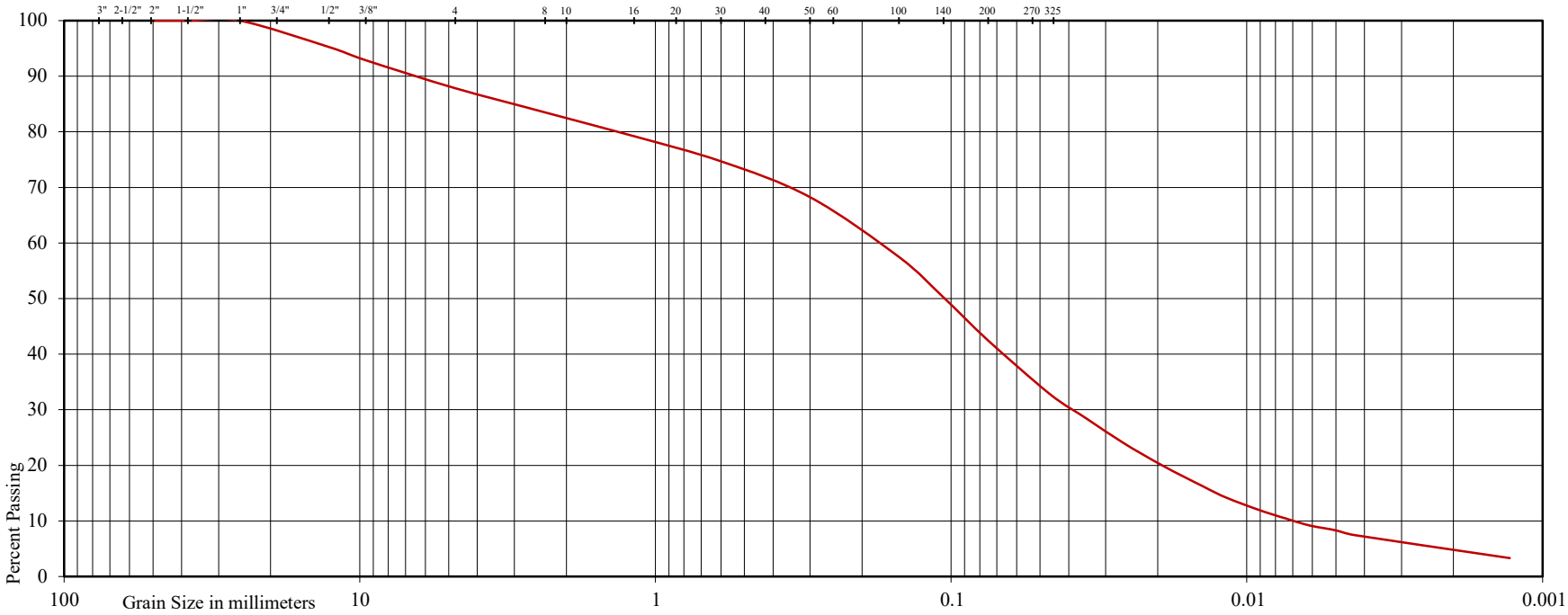
Reference No: 2507-W060

U.S. BUREAU OF SOILS CLASSIFICATION

GRAVEL		SAND				SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	V. FINE		

UNIFIED SOIL CLASSIFICATION

GRAVEL		SAND			SILT & CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



Project: Proposed Commercial/Industrial Development

Location: 2809 Townline Road, Township of Puslinch

BH./Sa. 2/4

Liquid Limit (%) = -

Borehole No: 2

Plastic Limit (%) = -

Sample No: 4

Plasticity Index (%) = -

Depth (m): 2.6

Moisture Content (%) = 11

Elevation (m): 306.9

Estimated Permeability (cm./sec.) = 10^{-5}

Classification of Sample [& Group Symbol]: SILTY SAND TILL

some gravel, a trace of clay

Figure: 12

Soil Engineers Ltd.

GRAIN SIZE DISTRIBUTION

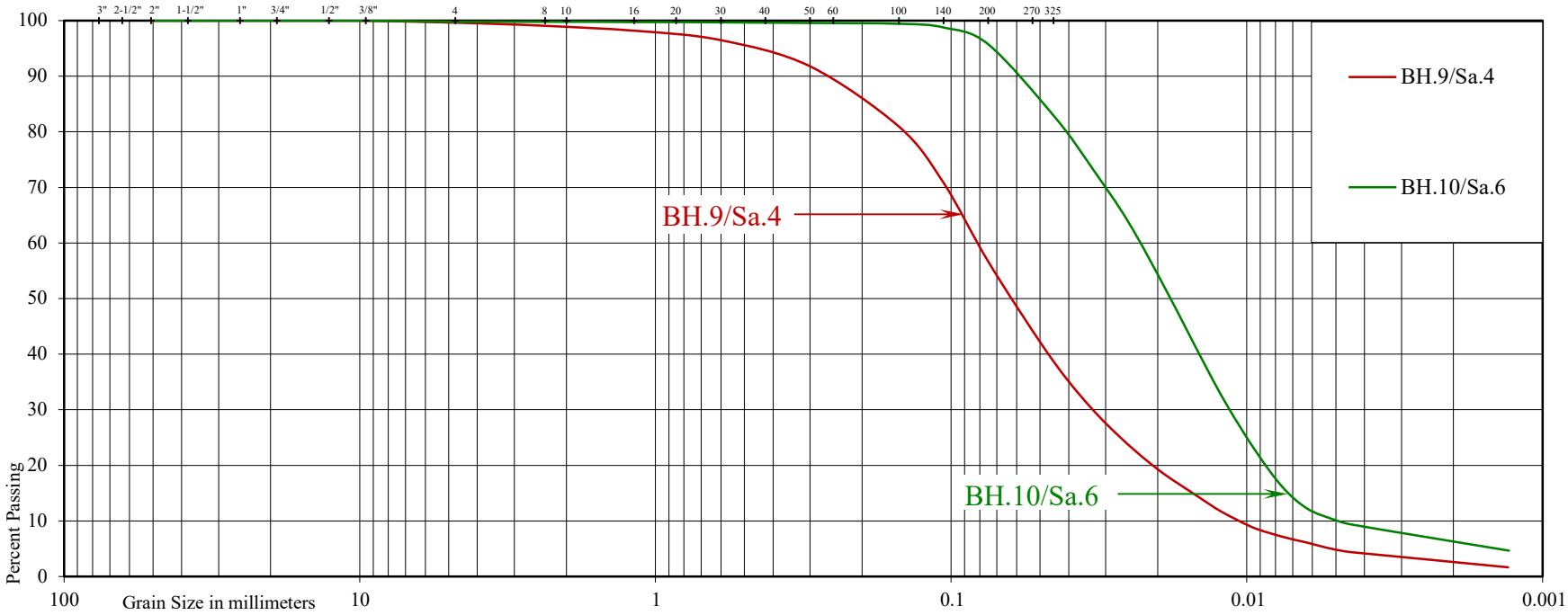
Reference No: 2507-W060

U.S. BUREAU OF SOILS CLASSIFICATION

GRAVEL		SAND				SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	V. FINE		

UNIFIED SOIL CLASSIFICATION

GRAVEL		SAND			SILT & CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



Project: Proposed Commercial/Industrial Development

Location: 2809 Townline Road, Township of Puslinch

Borehole No:	9	10
Sample No:	4	6
Depth (m):	2.6	4.8
Elevation (m):	310.9	306.6

BH./Sa.	9/4	10/6
Liquid Limit (%) =	-	-
Plastic Limit (%) =	-	-
Plasticity Index (%) =	-	-
Moisture Content (%) =	12	16
Estimated Permeability (cm./sec.) =	10^{-4}	10^{-5}

Classification of Sample [& Group Symbol]: SILT

a trace of sand to sandy, a trace of clay

Figure: 13

Soil Engineers Ltd.

GRAIN SIZE DISTRIBUTION

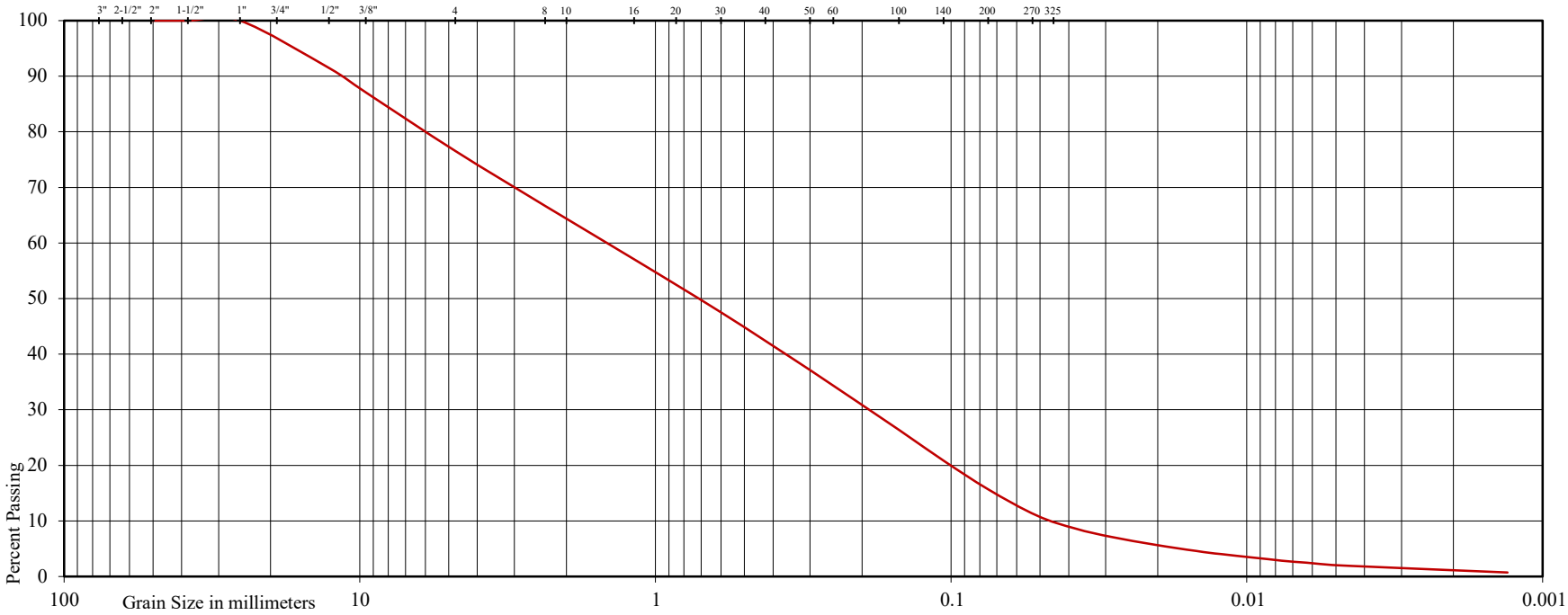
Reference No: 2507-W060

U.S. BUREAU OF SOILS CLASSIFICATION

GRAVEL		SAND				SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	V. FINE		

UNIFIED SOIL CLASSIFICATION

GRAVEL		SAND			SILT & CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



Project: Proposed Commercial/Industrial Development

Location: 2809 Townline Road, Township of Puslinch

BH./Sa. 8/3

Liquid Limit (%) = -

Borehole No: 8

Plastic Limit (%) = -

Sample No: 3

Plasticity Index (%) = -

Depth (m): 1.8

Moisture Content (%) = 12

Elevation (m): 306.0

Estimated Permeability (cm./sec.) = 10^{-3}

Classification of Sample [& Group Symbol]: SAND

fine to coarse grained, gravelly, some silt, a trace of clay

Figure: 14

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BARRIE	MISSISSAUGA	OSHAWA	NEWMARKET	MUSKOKA	HAMILTON
TEL: (705) 721-7863	TEL: (905) 542-7605	TEL: (905) 440-2040	TEL: (905) 853-0647	TEL: (705) 684-4242	TEL: (905) 777-7956
FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 542-2769

APPENDIX 'B'

MECP WATER WELL RECORDS SUMMARY

REFERENCE NO. 2507-W060

MECP Well Records Summary

WELL ID	MECP* WWR ID	Construction Method	Well Depth (m)**	Well Usage		Static Water Level (m)**	Top of Screen Depth (m)**	Bottom of Screen Depth (m)**	Date Completed
				Final Status	First Use				
1	6503205	Cable Tool	27.4	Water Supply	Domestic	10.7	-	-	1970-04-15
2	6510366	Boring	7.6	Observation Wells	-	-	3.1	7.6	2005-11-22
3	6510504	Boring	-	Abandoned-Other	-	-	-	-	2006-02-17
4	6702250	Cable Tool	30.8	Water Supply	Domestic	3.4	-	-	1952-07-21
5	6702252	Cable Tool	36.9	Water Supply	Domestic	1.5	-	-	1955-10-18
6	6702253	Cable Tool	36.0	Water Supply	Domestic	7.6	-	-	1955-07-07
7	6702254	Cable Tool	30.5	Water Supply	Domestic	-	-	-	1956-05-24
8	6702255	Cable Tool	30.5	Water Supply	Domestic	4.6	-	-	1959-10-22
9	6702259	Cable Tool	32.9	Water Supply	Domestic	4.6	-	-	1963-06-25
10	6702267	Cable Tool	28.0	Water Supply	Domestic	6.1	-	-	1966-08-09
11	6702291	Cable Tool	33.5	Water Supply	Domestic	11.3	-	-	1956-07-30
12	6702292	Cable Tool	39.6	Water Supply	Domestic	14.0	-	-	1961-03-22
13	6703138	Cable Tool	43.3	Water Supply	Domestic	10.7	-	-	1968-07-16
14	6703188	Cable Tool	33.5	Water Supply	Domestic	3.0	-	-	1968-07-26
15	6703190	Cable Tool	35.1	Water Supply	Domestic	0.6	-	-	1968-09-16
16	6703191	Cable Tool	28.0	Water Supply	Domestic	1.5	-	-	1968-09-23
17	6703192	Cable Tool	28.7	Water Supply	Domestic	0.9	-	-	1968-09-18
18	6703316	Cable Tool	36.6	Water Supply	Domestic	6.1	-	-	1968-12-09
19	6703722	Cable Tool	30.5	Water Supply	Domestic	2.4	-	-	1970-04-23
20	6704314	Rotary (Convent.)	24.4	Water Supply	Domestic	1.2	-	-	1972-05-09
21	6704479	Cable Tool	29.3	Water Supply	Domestic	14.0	-	-	1972-11-24
22	6704487	Cable Tool	27.4	Water Supply	Domestic	4.6	-	-	1972-06-19
23	6705567	Cable Tool	36.0	Water Supply	Domestic	4.0	-	-	1975-06-24
24	6706097	Cable Tool	35.7	Water Supply	Domestic	4.0	-	-	1976-06-23
25	6706160	Cable Tool	25.0	Water Supply	Domestic	0.9	-	-	1976-08-11
26	6706431	Cable Tool	12.5	Water Supply	Domestic	0.6	-	-	1977-06-14
27	6706432	Cable Tool	33.5	Water Supply	Domestic	3.0	-	-	1977-06-17
28	6706546	Rotary (Convent.)	85.3	Water Supply	Commercial	2.4	-	-	1977-10-26
29	6707265	Cable Tool	50.6	Water Supply	Domestic	10.7	-	-	1979-05-04
30	6708185	Cable Tool	31.1	Water Supply	Domestic	1.2	-	-	1985-03-21
31	6708318	Cable Tool	33.8	Water Supply	Domestic	3.7	-	-	1985-08-07
32	6708335	Rotary (Air)	26.5	Water Supply	Domestic	0.9	-	-	1985-10-28
33	6708492	Cable Tool	33.5	Water Supply	Domestic	1.8	-	-	1986-05-02
34	6708551	Rotary (Convent.)	35.7	Water Supply	Domestic	6.4	-	-	1986-10-18
35	6708573	Cable Tool	34.7	Water Supply	Domestic	6.7	-	-	1986-10-30
36	6709165	Rotary (Air)	30.2	Water Supply	Domestic	2.1	-	-	1987-12-31
37	6709524	Rotary (Air)	29.0	Water Supply	Domestic	2.4	-	-	1988-06-02
38	6709949	Cable Tool	30.8	Water Supply	Domestic	2.7	-	-	1989-08-26
39	6711485	Rotary (Air)	30.5	Water Supply	Domestic	1.5	-	-	1994-03-03

MECP Well Records Summary

WELL ID	MECP* WWR ID	Construction Method	Well Depth (m)**	Well Usage		Static Water Level (m)**	Top of Screen Depth (m)**	Bottom of Screen Depth (m)**	Date Completed
				Final Status	First Use				
40	6712760	Rotary (Air)	34.1	Water Supply	Domestic	6.1	-	-	1998-11-04
41	6713183	Rotary (Air)	19.8	Water Supply	Domestic	2.7	-	-	1999-10-07
42	6713337	Cable Tool	36.6	Water Supply	Domestic	6.1	-	-	1999-12-07
43	6714316	Cable Tool	30.5	Water Supply	Domestic	4.0	-	-	2002-12-03
44	6715914	Rotary (Air)	36.6	Water Supply	Domestic	7.6	-	-	2006-08-31
45	7116612	-	-	-	Domestic	-	-	-	-
46	7149940	-	-	-	-	-	-	-	2010-04-13
47	7164129	Rotary (Air)	42.7	Water Supply	Domestic	8.2	-	-	2011-05-05
48	7186600	-	-	Other Status	-	-	-	-	2012-07-13
49	7190119	-	-	Alteration	Domestic	-	-	-	2012-10-03
50	7204338	-	-	Abandoned-Supply	-	-	-	-	2013-06-18
51	7247264	-	-	Alteration	-	-	-	-	2015-07-23
52	7271837	Rotary (Convent.)	35.5	Water Supply	Domestic	6.1	-	-	2016-06-08
53	7291566	Other Method	29.6	Water Supply	Public	3.9	-	-	2017-07-11
54	7293893	Cable Tool	36.9	-	-	9.8	-	-	2017-07-28
55	7293914	-	-	Abandoned-Supply	Domestic	9.1	-	-	2017-07-28
56	7295498	-	-	Water Supply	Domestic	-	-	-	2017-09-22
57	7325912	-	-	-	-	-	-	-	2017-05-03
58	7330380	Rotary (Convent.)	7.6	Test Hole	Monitoring and Test Hole	-	4.6	7.6	2019-03-25
59	7339434	Other Method	29.3	Water Supply	Domestic	2.1	-	-	2019-07-25
60	7353154	Rotary (Convent.)	6.1	Observation Wells	Monitoring	5.2	4.6	6.1	2019-10-09
61	7357882	Rotary (Convent.)	22.3	Water Supply	Domestic	2.9	-	-	2020-04-08
62	7389416	-	-	Water Supply	Domestic	-	-	-	2021-05-27
63	7417605	Diamond	45.1	Observation Wells	Monitoring	-	-	43.6	2022-04-05
64	7417606	Rotary (Convent.)	112.8	Observation Wells	Monitoring	-	-	70.1	2022-04-06
65	7417635	Auger	25.9	Observation Wells	Monitoring	-	-	18.3	2022-04-11
66	7421280	Other Method	31.7	Water Supply	Domestic	6.1	-	-	2022-06-08

Notes:
*MECP WWID: Ministry of the Environment, Conservation and Parks Water Well Records Identification
**Metres below ground surface

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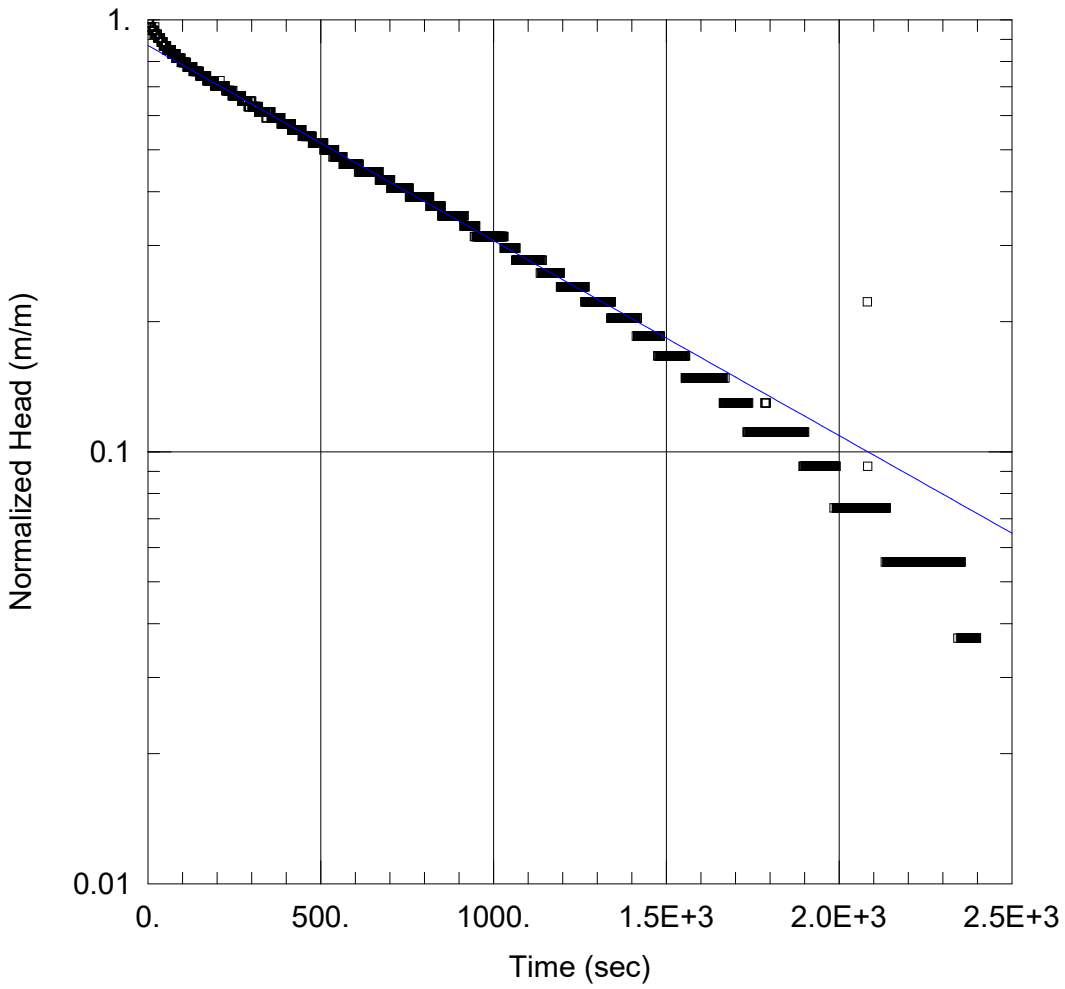
APPENDIX 'C'

IN-SITU HYDRAULIC CONDUCTIVITY TESTING DETAILS

REFERENCE NO. 2507-W060

Falling Head SWRT of BHMW 6

Prepared By:	Prepared For:
Soil Engineers Ltd.	Fieldgate Properties Limited
Project:	**Location:**
2507-W060	2890 Townline Road, Puslinch



SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 8.549E-7 m/sec y0 = 0.1412 m

AQUIFER DATA

Saturated Thickness: 1.2 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BHMW 6)

Initial Displacement: 0.162 m
Static Water Column Height: 1.2 m
Total Well Penetration Depth: 4. m
Screen Length: 3. m
Casing Radius: 0.0254 m
Well Radius: 0.0508 m

Soil Engineers Ltd.

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FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 542-2769

APPENDIX 'D'

PRELIMINARY SHORT-TERM DEWATERING FLOW RATE ESTIMATES AND REVIEWED PLANS

REFERENCE NO. 2507-W060

DEWATERING CALCULATION 2507-W060 Short Term Construction Dewatering (Perimeter Footings)	
Proposed Development	Slab-on Grade Perimeter Footing (Per 50.0 m Trench Length)
Excavation width (m)	1.0
Excavation length (m)	50.0
Area (m2)	50.0
perimeter (m)	102.0
2 year 3 hr rain event Depth (mm)	30.2
2 year 3 hr rain event Depth (m)	0.030
100 year 12 hr rain event depth (mm)	106.8
100 year 12 hr rain event depth (m)	0.1
Anticipated Storm Flow (2- year storm event with duration of 3 hr/day) (L/day)	3,100.0
100 Year Event (L/Day)	10,900.0
Total Estimated Short-Term Dewatering Flow Rate for 2-year storm event	**3,100.0**

PROJECT DATA:

SITE AREA:		
GROSS:	84.10 AC	34.03 HA
	3,663,298 SF	340,332 m²
LS/DRY	@ 18%	62,943 m²
SERVICE		
NET:	68.54 AC	27.74 HA
	2,985,781 SF	277,388 m²
BUILDING AREA:		
BUILDING 1	174,375 SF	16,200 m²
BUILDING 2	174,375 SF	16,200 m²
BUILDING 3	174,375 SF	16,200 m²
BUILDING 4	112,236 SF	10,427 m²
BUILDING 5	112,236 SF	10,427 m²
BUILDING 6	105,636 SF	9,814 m²
RETAIL BOX	162,428 SF	15,090 m²
TOTAL:	1,015,662 SF	94,358 m²
PARKING REQUIREMENTS		
WAREHOUSE		
<10,000 m²		1/100 m²
>10,000 m²		1/200 m²
OFFICE		1/20 m²
RETAIL		1/20 m²
FAR:		
GROSS:		0.28
NET:		0.34
COVERAGE:		
GROSS:		28%
NET:		34%

BUILDING 1

▲ DOCK-HIGH DOORS		44
O GRADE-LEVEL DOORS		2
REQ. PARKING	@ 5% OFFICE	167 STALLS
AUTO PARKING		170 STALLS
	@0.97/1000 SF	@1.05/100 m²
REQ. ACCESSIBLE		*To be confirmed by City*

BUILDING 2

▲ DOCK-HIGH DOORS		44
O GRADE-LEVEL DOORS		2
REQ. PARKING	@ 5% OFFICE	167 STALLS
AUTO PARKING		167 STALLS
	@0.96/1000 SF	@1.03/100 m²
REQ. ACCESSIBLE		*To be confirmed by City*

BUILDING 3

▲ DOCK-HIGH DOORS		44
O GRADE-LEVEL DOORS		2
REQ. PARKING	@ 5% OFFICE	167 STALLS
AUTO PARKING		167 STALLS
	@0.96/1000 SF	@1.03/100 m²
REQ. ACCESSIBLE		*To be confirmed by City*

BUILDING 4

▲ DOCK-HIGH DOORS		11
O GRADE-LEVEL DOORS		11
REQ. PARKING	@ 10% OFFICE	152 STALLS
AUTO PARKING		160 STALLS
	@1.43/1000 SF	@1.53/100 m²
REQ. ACCESSIBLE		*To be confirmed by City*

BUILDING 5

▲ DOCK-HIGH DOORS		11
O GRADE-LEVEL DOORS		11
REQ. PARKING	@ 10% OFFICE	152 STALLS
AUTO PARKING		160 STALLS
	@1.43/1000 SF	@1.53/100 m²
REQ. ACCESSIBLE		*To be confirmed by City*

BUILDING 6

▲ DOCK-HIGH DOORS		11
O GRADE-LEVEL DOORS		11
REQ. PARKING	@ 10% OFFICE	149 STALLS
AUTO PARKING		160 STALLS
	@1.51/1000 SF	@1.63/100 m²
REQ. ACCESSIBLE		*To be confirmed by City*
TRAILER STALLS		53 STALLS

RETAIL BOX

▲ DOCK-HIGH DOORS		4
REQ. PARKING		755 STALLS
AUTO PARKING		1,400 STALLS
	@8.62/1000 SF	@9.28/100 m²
REQ. ACCESSIBLE		*To be confirmed by City*

DEVELOPMENT STANDARDS:

ZONING:	IND	*
MAX. COVERAGE:	20%	
MAX. HEIGHT:	40m	1
BUILDING SETBACKS:		
FRONT:	15m	2
INT. SIDE YARD:	15m	
EXT. SIDE YARD:	15m	
REAR:	15m	
LANDSCAPE SETBACKS:		6
FRONT:	9m	
SIDE:	9m	
REAR:	9m	
LANDSCAPE REQ.:	25%	
OFF-STREET PARKING:		
STANDARD:	3mX6m	
COMPACT:	N/A	
COMPACT %:	N/A	
DRIVE AISLE:	6m	
FIRE LANE:	TBD	
OVERHANG:	TBD	
TREE WELL:	TBD	
REQ. PARKING RATIO BY USE:		
WAREHOUSE:	1/200 m²	3
INDUSTRIAL:	1/100 m²	4
OFFICE:	1/20 m²	5
RETAIL:	1/20 m²	

NOTES:

★ Property is currently zoned as agricultural and it's rezoned to industrial.

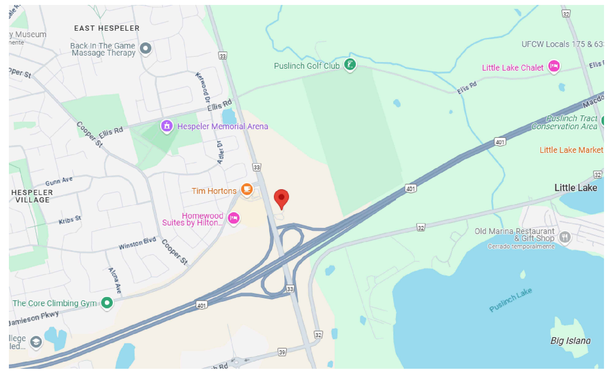
1 Building height (max.): asphalt or concrete plants – 40 m, all other buildings and structures –15 m.

2 Lot area (min.): 6 ha, Lot frontage (min.): 180 m.

3 Parking requirements (min.) for uses within a multi-tenanted building: 1 space per 50 m2 of net floor area.

4 1/100 m² for the first 10,000 m² of floor area and 1/200 m² for any floor area after the first 10,000 m²

5 1 per 20 m² of net floor area



1:2000

0 20m 50m 100m 200m

NORTH

TOWNSHIP OF PUSLINCH est. 1850

scheme: 06 (Plan A)

Conceptual Site Plan A

Townline

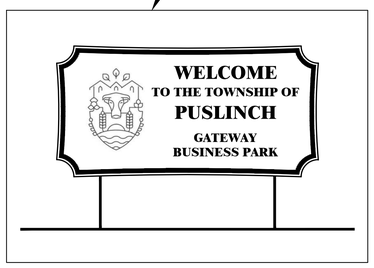
2809 Townline Rd, Cambridge, ON, CA

WARE MALCOMB

TOR25-0087-00

11.07.2025

SHEET 1



TOWNSHIP OF PUSLINCH
EST. 1850

PROJECT DATA:

SITE AREA:		
GROSS:	84.10 AC	34.03 HA
	3,663,298 SF	340,332 m²
LS/DRY	@ 17%	58,387 m²
SERVICE		
NET:	69.67 AC	28.19 HA
	3,034,829 SF	281,945 m²
BUILDING AREA:		
BUILDING 1	174,375 SF	16,200 m²
BUILDING 2	174,375 SF	16,200 m²
BUILDING 3	174,375 SF	16,200 m²
BUILDING 4	112,236 SF	10,427 m²
BUILDING 5	112,236 SF	10,427 m²
BUILDING 6	105,636 SF	9,814 m²
BUILDING 7	210,000 SF	19,510 m²
BUILDING 8	210,000 SF	19,510 m²
TOTAL:	1,273,234 SF	118,287 m²
PARKING REQUIREMENTS		
WAREHOUSE		
<10,000 m²		1/100 m²
>10,000 m²		1/200 m²
OFFICE		1/20 m²
RETAIL		1/20 m²
FAR:		
GROSS:		0.35
NET:		0.42
COVERAGE:		
GROSS:		35%
NET:		42%

BUILDING 1

▲ DOCK-HIGH DOORS		44
O GRADE-LEVEL DOORS		2
REQ. PARKING	@ 5% OFFICE	167 STALLS
AUTO PARKING		170 STALLS
	@0.97/1000 SF	@1.05/100 m²
REQ. ACCESSIBLE		*To be confirmed by City*

BUILDING 2

▲ DOCK-HIGH DOORS		44
O GRADE-LEVEL DOORS		2
REQ. PARKING	@ 5% OFFICE	167 STALLS
AUTO PARKING		167 STALLS
	@0.96/1000 SF	@1.03/100 m²
REQ. ACCESSIBLE		*To be confirmed by City*

BUILDING 3

▲ DOCK-HIGH DOORS		44
O GRADE-LEVEL DOORS		2
REQ. PARKING	@ 5% OFFICE	167 STALLS
AUTO PARKING		167 STALLS
	@0.96/1000 SF	@1.03/100 m²
REQ. ACCESSIBLE		*To be confirmed by City*

BUILDING 4

▲ DOCK-HIGH DOORS		11
O GRADE-LEVEL DOORS		11
REQ. PARKING	@ 10% OFFICE	152 STALLS
AUTO PARKING		160 STALLS
	@1.43/1000 SF	@1.53/100 m²
REQ. ACCESSIBLE		*To be confirmed by City*
TRAILER		*53 STALLS*

BUILDING 5

▲ DOCK-HIGH DOORS		11
O GRADE-LEVEL DOORS		11
REQ. PARKING	@ 10% OFFICE	152 STALLS
AUTO PARKING		160 STALLS
	@1.43/1000 SF	@1.53/100 m²
REQ. ACCESSIBLE		*To be confirmed by City*

BUILDING 6

▲ DOCK-HIGH DOORS		11
O GRADE-LEVEL DOORS		11
REQ. PARKING	@ 10% OFFICE	149 STALLS
AUTO PARKING		160 STALLS
	@1.51/1000 SF	@1.63/100 m²
REQ. ACCESSIBLE		*To be confirmed by City*
REQ. ACCESSIBLE		*To be confirmed by City*

BUILDING 7

▲ DOCK-HIGH DOORS		33
O GRADE-LEVEL DOORS		2
REQ. PARKING		196 STALLS
AUTO PARKING		226 STALLS
	@1.08/1000 SF	@1.16/100 m²
REQ. ACCESSIBLE		*To be confirmed by City*

BUILDING 8

▲ DOCK-HIGH DOORS		33
O GRADE-LEVEL DOORS		2
REQ. PARKING		244 STALLS
AUTO PARKING		250 STALLS
	@1.19/1000 SF	@1.28/100 m²
REQ. ACCESSIBLE		*To be confirmed by City*

DEVELOPMENT STANDARDS:

ZONING:	IND	*
MAX. COVERAGE:	20%	
MAX. HEIGHT:	40m	1
BUILDING SETBACKS:		
FRONT:	15m	2
INT. SIDE YARD:	15m	
EXT. SIDE YARD:	15m	
REAR:	15m	
LANDSCAPE SETBACKS:		6
FRONT:	9m	
SIDE:	9m	
REAR:	9m	
LANDSCAPE REQ.:	25%	
OFF-STREET PARKING:		
STANDARD:	3mX6m	
COMPACT:	N/A	
COMPACT %:	N/A	
DRIVE AISLE:	6m	
FIRE LANE:	TBD	
OVERHANG:	TBD	
TREE WELL:	TBD	
REQ. PARKING RATIO BY USE:		
WAREHOUSE:	1/200 m²	3
INDUSTRIAL:	1/100 m²	4
OFFICE:	1/20 m²	5
RETAIL:	1/20 m²	

NOTES:

- Property is currently zoned as agricultural and it's rezoned to industrial.

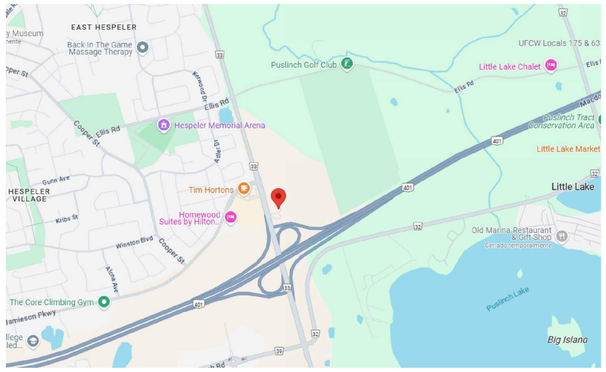
1 Building height (max.): asphalt or concrete plants – 40 m, all other buildings and structures –15 m.

2 Lot area (min.): 6 ha, Lot frontage (min.): 180 m.

3 Parking requirements (min.) for uses within a multi-tenanted buildings: 1 space per 50 m2 of net floor area.

4 1/100 m² for the first 10,000 m² of floor area and 1/200 m² for any floor area after the first 10,000 m²

5 1 per 20 m² of net floor area



1:2000
0 20m 50m 100m 200m

NORTH

scheme: 07 (Plan B)

Conceptual Site Plan B

Townline
2809 Townline Road, Puslinch, Ontario

WARE MALCOMB

TOR25-0087-00
11-07-2025

SHEET
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