PATERSON GROUP

Geotechnical Investigation

Proposed Residential Development

14337 Highway 50
Bolton, Ontario

Prepared for Tiffany Rox North Hill Ltd.

Report TG0257-1 dated January 23, 2026

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Appendices

1.0 Introduction

Paterson Group (Paterson) was commissioned by Tiffany Rox North Hill Ltd. to conduct a geotechnical investigation for the proposed residential development to be located at 14337 Highway 50, Bolton, Ontario (refer to Figure 1 - Key Plan in Appendix 2 for the general site location).

The objectives of the geotechnical investigation were to:

- Determine the subsoil and groundwater conditions at this site by means of boreholes.
- Provide geotechnical recommendations pertaining to the design of the proposed development including construction considerations which may affect the design.

The following report has been prepared specifically and solely for the aforementioned project which is described herein. It contains our findings and includes geotechnical recommendations pertaining to the design and construction of the subject development as they are understood at the time of writing this report.

Investigating the presence or potential presence of contamination on the subject property was not part of the scope of the present investigation. Therefore, the present report does not address environmental issues.

2.0 Proposed Development

Based on the available conceptual drawings, it is understood that the proposed development will consist of a residential development inclusive of single-family dwellings, townhomes, a stormwater management pond, and parklands.

At finished grades, the proposed residential dwellings will generally be surrounded by driveways, local right-of-ways, walkways, and landscaped areas. It is also understood that the proposed development is to be municipally serviced.

It is expected that the existing commercial and residential dwellings will be demolished to accommodate the construction of the proposed development.

3.0 Method of Investigation

3.1 Field Investigation

Field Program

The field program for the current geotechnical investigation was carried out on December 3, 5, 8 and 9, 2025, and consisted of advancing a total of ten (10) boreholes to a maximum depth of 9.8 m below the existing ground surface.

The test hole locations were distributed in a manner to provide general coverage of the proposed development, taking into consideration existing site features. The approximate locations of the test holes are shown on Drawing TG0257-1 - Test Hole Location Plan included in Appendix 2.

A previous field investigation was carried out on January 28, 2025, by Paterson Group. At that time three (3) boreholes BH11-25, BH12-25 and BH13-25 were drilled within the current property limit to a maximum depth of 6.7 m. The borehole logs from the investigation are shown in Appendix 1. The borehole locations from this investigation are shown on Drawing TG0257-1 - Test Hole Location Plan, included in Appendix 2.

The boreholes were put down using a track-mounted auger drill rig operated by a two-person crew. All fieldwork was conducted under the full-time supervision of personnel from Paterson's geotechnical division under the direction of a senior engineer. The testing procedure for boreholes consisted of augering to the required depths and at the selected locations and sampling the overburden.

Sampling and In-Situ Testing

Borehole samples were recovered from a 50 mm diameter split-spoon (SS) or the auger flights (AU). All soil samples were visually inspected and initially classified on site. The split-spoon and auger samples were placed in sealed plastic bags. All samples were transported to our laboratory for further examination and classification. The depths at which the split-spoon and auger samples were recovered from the test holes are shown as SS and AU, respectively, on the Soil Profile and Test Data sheets presented in Appendix 1.

A Standard Penetration Test (SPT) was conducted in conjunction with the recovery of the split spoon samples. The SPT results are recorded as "N" values on the Soil Profile and Test Data sheets. The "N" value is the number of blows required to drive the split spoon sampler 300 mm into the soil after a 150 mm initial penetration using a 63.5 kg hammer falling from a height of 760 mm.

The thickness of the overburden was evaluated during the course of the investigation by a dynamic cone penetration test (DCPT) at BH 12-25. The DCPT consists of driving a steel drill rod, equipped with a 50 mm diameter cone at its tip, using a 63.5 kg hammer falling from a height of 760 mm.

The number of blows required to drive the cone into the soil is recorded for each 300 mm increment.

Undrained shear strength testing was carried out in BH 2-25 and BH 11-25 cohesive soils using a field vane apparatus. The subsurface conditions observed in the test holes were recorded in detail in the field. The soil profiles are logged on the Soil Profile and Test Data sheets in Appendix 1 of this report.

The subsurface conditions observed in the boreholes were recorded in detail in the field. The soil profiles are presented on the Soil Profile and Test Data sheets in Appendix 1 of this report.

Groundwater

Monitoring wells were installed in nine (9) boreholes and standpipe piezometer was installed in three (3) boreholes to permit monitoring of the groundwater levels subsequent to the completion of the sampling program. The groundwater observations are further discussed in Section 4.3 and are presented in the Soil Profile and Test Data Sheets in Appendix 1.

Sample Storage

All samples will be stored in the laboratory for a period of six (6) months after the issuance of this report. They will then be discarded unless we are otherwise directed.

3.2 Field Survey

The borehole locations, and the ground surface elevations at each test hole location, were surveyed by Paterson using a handheld GPS unit, and referenced to a geodetic datum. The borehole locations are presented on Drawing TG0257-1 - Test Hole Location Plan in Appendix 2.

3.3 Laboratory Testing

Soils samples were collected from the subject site during the investigation and were visually examined in our laboratory to review the results of the field logging. Moisture content testing was completed on all recovered soil samples.

Additionally, four (4) grain-size distribution tests and four (4) Atterberg's test were conducted on selected soil samples recovered during the current field investigation and two (2) grain-size distribution tests were conducted during the previous field investigation, results are presented in Appendix 1.

3.4 Analytical Testing

Three (3) soil samples were submitted for analytical testing to assess the corrosion potential for exposed ferrous metals and the potential of sulphate attacks against subsurface concrete structures the samples were submitted to determine the concentration of sulphate and chloride, the resistivity, and the pH of the samples. The results are presented in Appendix 1 and are discussed further in Subsection 6.7

4.0 Observations

4.1 Surface Conditions

The majority of the subject site consists of agricultural lands. Agricultural outbuildings and residential buildings and associated gravel surfaced access lane are located within the southeast corner of the property. A marsh area is located within the northern limits of the site.

The subject site is bordered to the west by Highway 50, to the north, east, and southeast by vacant agricultural lands, and to the southwest by a commercial development. The site generally slopes downward from west to east, from approximate geodetic elevation 258 to 265.5 m.

A 4 to 6 m high gradual slope exists within the east portion of the subject site. The slope profile ranges between 10H:1V to 13H:1V with no signs of instability. the slope was noted to be part of the farmer's field with an existing pond located at the toe of the slope.

4.2 Subsurface Profile

Overburden

Generally, the subsurface profile at the test hole locations consists of topsoil underlain by a hard to very stiff brown silty clay to clayey silt deposit or compact silty sand to sandy silt. A fill material was observed underlying the topsoil layer at borehole BH 7-25, BH 8-25 and BH 11-25 and consisted of brown to grey silty clay with trace grave, organics and sand.

A hard to very stiff brown silty clay deposit was encountered underlying the topsoil and/or silt sand at all boreholes. The brown silty clay was observed to transition to very stiff to hard, grey silty clay to clayey silt deposit at approximate depths ranging 2.1 to 5.46 m. Further, a silty sand to sandy silt layer was interbedded between the clay layers or underneath the topsoil at boreholes BH 1-25, 4-25, 5-25, 8-25, 9-25 and BH 12-25. All boreholes were terminated within the silty clay to clayey silt deposit.

Practical refusal to the DCPT was encountered at an approximate depth of 8.2 m below the existing ground surface at Borehole BH 12-25.

Reference should be made to the Soil Profile and Test Data sheets presented in Appendix 1 for details of the soil profiles encountered at each borehole location.

Bedrock

Based on available geological mapping, the bedrock at the subject site consists of shale, limestone, dolostone and siltstone of varying geological formations consisting of the Georgian Bay, Blue Mountain, and Billings Formation. The overburden drift thickness is anticipated to be greater than 50 m.

Grain Size Distribution and Hydrometer Testing

Grain size distribution (sieve and hydrometer analysis) testing was completed on selected soil samples. The results of the grain size analysis are summarized in Table 1 and presented on the Grain-Size Distribution and Hydrometer Testing Results sheets in Appendix 1.

Table 1 – Summary of Grain Size Distribution Analysis

Borehole Number	Sample	Depth (m)	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
BH 1-25	SS3	1.5 – 2.1	0	44.2	53.1	2.7
BH 5-25	SS3	1.5 – 2.1	0.2	6.1	59.9	33.9
BH 7-25	SS4	2.3 - 2.9	2.6	10.7	53.3	33.4
BH 9-25	SS4	2.3 - 2.9	0	5.7	48.5	45.9
BH 11-25	SS5	3.0 - 3.7	0.2	7.9	59.5	32.5
BH 13-25	SS3	1.5 – 2.1	0	11.6	45.4	43

Atterberg Limit Tests

Four (4) samples were submitted for Atterberg Limits testing during the current investigation. The results are summarized in Table 2 below.

Table 2 – Summary of Atterberg Limits Results

Borehole Number	Sample	Depth (m)	LL (%)	PL (%)	PI (%)	Classification
BH 1-25	SS4	2.3 - 2.9	45	23	22	CL
BH 4-25	SS3	1.5 – 2.1	38	24	14	CL
BH 6-25	SS4	2.3 - 2.9	35	22	13	CL
BH 8-25	SS4	2.3 - 2.9	34	22	12	CL

Notes: LL: Liquid Limit; PL: Plastic Limit; PI: Plasticity Index; CL: Inorganic Clay of Low Plasticity

The test results indicate that the soil samples are generally classified as Inorganic Clay of Low Plasticity (CL). These classifications are in accordance with the Unified Soil Classification System.

4.3 Groundwater

Monitoring wells were installed in nine (9) boreholes and standpipe piezometer was installed in three (3) boreholes as part of our geotechnical investigation. Groundwater level measurements were recorded at all test hole locations on February 4, 2025, December 22, 2025, and January 8, 2026. The observed groundwater levels are shown in Table 3 below and are presented in the Soil Profile and Test Data Sheets in Appendix 1.

Table 3 – Summary of Groundwater Level readings

Test Hole ID	Structure	Ground Surface Elevation (m)	Groundwater Depth (m)	Groundwater Elevation (m)	Recording Date
BH 1-25	PZ	261.60	Dry	N/A	December 22, 2025
BH 2-25	MW	263.86	7.21	256.65	
BH 3-25	PZ	263.03	Dry	N/A	
BH 4-25	PZ	266.5	Dry	N/A	
BH 5-25	MW	264.25	Dry	N/A	
BH 6-25	MW	264.09	Dry	N/A	
BH 7-25	MW	265.3	3.03	262.27	
BH 8-25	MW	266.20	4.35	261.85	
BH 10-25	MW	263.78	1.5	262.28	
BH 11-25	MW	266.05	4.45	261.6	
BH 12-25	MW	264.18	2.96	261.22	
BH 13-25	MW	266.11	1.04	265.07	January 8, 2026
BH 11-25	MW	266.05	Dry	N/A	February 4, 2025
BH 12-25	MW	264.18	1.30	262.88	
BH 13-25	MW	266.11	1.33	264.78	

Note: The ground surface elevation at each monitoring well location was surveyed using a handheld GPS unit and references to a geodetic datum.
MW – Monitoring Well and PZ - Piezometer

It should be noted that the groundwater level is subject to seasonal fluctuations. Therefore, groundwater could vary at the time of construction.

5.0 Discussion

5.1 Geotechnical Assessment

From a geotechnical perspective, the subject site is considered suitable for the proposed development. It is anticipated that the proposed buildings founded on conventional footings placed on an undisturbed hard, to very stiff brown silty clay, compact silty sand, or on engineered fill placed over an approved bearing surface.

The above and other considerations are further discussed in the following sections.

5.2 Site Grading and Preparation

Stripping Depth

Topsoil and any fill containing significant amounts of deleterious or organic materials, should be stripped from under any buildings and other settlement sensitive structures. Care should be taken not to disturb adequate bearing soils below the founding level during site preparation activities.

Paterson should be consulted to assess potential areas of concern for root-impacted subsoils during topsoil stripping and/or the pre-engineering phase of the site. Where encountered, root-impacted subsoils may need to be removed beneath settlement-sensitive structures to provide an adequate bearing surface.

Further, existing foundations and other construction debris should be entirely removed from within the proposed residential dwelling footprints. Under paved areas, existing construction remnants, such as foundation walls should be excavated to a minimum of 1 m below final grade.

Fill Placement

Fill placed for grading beneath building footprints should consist, unless otherwise specified, of clean imported granular fill, such as Ontario Provincial Standard Specifications (OPSS) Granular A or Granular B Type II or approved equivalent. The imported fill material should be tested and approved by Paterson prior to site delivery. The fill should be placed in maximum 300 mm loose lifts and compacted by suitable compaction equipment as specified in OPSS 501. Fill placed beneath the building footprints should be compacted to a minimum 98% of the Standard Proctor Maximum Dry Density (SPMDD).

Non-specified existing fill along with site-excavated soil could be placed as general landscaping fill where settlement of the ground surface is of minor concern. These materials should be spread in thin lifts with a maximum thickness of 300 mm and compacted by the tracks of the spreading equipment to minimize voids.

Non-specified fill and site-excavated soils are not suitable for placement as backfill against foundation walls, unless used in conjunction with a geocomposite drainage membrane, such as Miradrain G100N or Delta Drain 6000.

If these materials are to be used to build up the subgrade level for areas to be paved, they should be compacted in maximum 225 mm thin lifts to a minimum density of 95% SPMDD using suitable compaction equipment as per OPSS 501.

Any soft or poor performing areas should be removed and replaced with engineered fill consisting of OPSS Granular A or Granular B Type II, with a maximum particle size of 50 mm or approved equivalent. The engineered fill should be placed in maximum 300 mm loose lifts and compacted to 98% SPMDD using suitable vibratory equipment as per OPSS 501.

5.3 Foundation Design

Bearing Resistance Values

Footings placed on an undisturbed very stiff to hard silty clay to clayey silt, or undisturbed, compact silty sand, or on an approved engineered fill pad placed directly over the approved native soil can be designed using a bearing resistance value at serviceability limit states (SLS) of **150 kPa** and a factored bearing resistance value at ultimate limit states (ULS) of **225 kPa.** A geotechnical resistance factor of 0.5 was applied to the above-noted bearing resistance value at ULS.

An undisturbed soil bearing surface consists of one from which all topsoil and deleterious materials, such as loose, frozen or disturbed soil, have been removed prior to the placement of concrete for footings.

Footings designed using the bearing resistance value at SLS given above will be subjected to potential post construction total and differential settlements of 25 and 20 mm, respectively.

Permissible Grade Raise Recommendations

Due to the presence of the silty clay deposit at the site, a permissible grade raise restriction of **3.0 m** is recommended.

If a higher permissible grade raise is required, preloading with or without surcharge, lightweight fill and/or other measures should be investigated to reduce the risks of unacceptable long-term post construction and differential settlements.

Lateral Support

The bearing medium under footing-supported structures is required to be provided with adequate lateral support with respect to excavations and different foundation levels. Above the groundwater level, adequate lateral support is provided to the in-situ bearing medium soils when a plane extending down and out from the bottom edge of the footing at a minimum of 1.5H:1V passes only through in-situ soil.

5.4 Design for Earthquakes

The site class for seismic site response can be taken as **Class X_D** for the foundations considered as defined in Table 4.1.8.4.A of the Ontario Building Code (OBC) 2024. Soils underlying the subject site are not susceptible to liquefaction. Reference should be made to the latest version of the OBC 2024 for a full discussion of the earthquake design requirements.

5.5 Floor Slab Construction

With the removal of all topsoil and deleterious fill from within the footprint of the proposed buildings, the native soil surface or approved engineered fill pad will be considered acceptable subgrades on which to commence backfilling for floor slab construction.

For structures with slab-on-grade construction, it is recommended that the upper 200 mm of sub-slab fill consist of OPSS Granular A crushed stone. All backfill material within the footprint of the proposed structures should be placed in a maximum of 300 mm thick loose layers and compacted to a minimum of 98% of the material's SPMDD.

If a basement level is considered for the proposed buildings, it is recommended that the upper 300 mm of sub-floor fill consists of 19 mm clear crush stone. All backfill material within the footprint of the proposed buildings should be placed in maximum 300 mm thick loose layers and compacted to a minimum of 98% of the material's SPMDD.

Any soft areas should be removed and backfilled with appropriate backfill material prior to placing any fill. OPSS Granular A or Granular B Type II, with a maximum particle size of 50 mm, are recommended for backfilling below the floor slab.

5.6 Pavement Design

For preliminary design purposes, the pavement structures in Tables 4 and 5 are recommended for the design of the proposed pavement structures.

Table 4 - Recommended Pavement Structure – Car only Parking Areas/Driveways	
Thickness (mm)	**Material Description**
40	**Wear Course** – HL-3 or Superpave 12.5 Asphaltic Concrete
50	**Binder Course** – HL-8 or Superpave 19.0 Asphaltic Concrete
150	**BASE** – OPSS Granular A Crushed Stone
300	**SUBBASE** – OPSS Granular B Type II
SUBGRADE – Either fill, in situ soil or OPSS Granular B Type I or II material placed over in situ soil or fill.	

Table 5 - Recommended Pavement Structure – Local Residential Roadways	
Thickness (mm)	**Material Description**
40	**Wear Course** – HL-3 or Superpave 12.5 Asphaltic Concrete
50	**Binder Course** – HL-8 or Superpave 19.0 Asphaltic Concrete
150	**BASE** – OPSS Granular A Crushed Stone
400	**SUBBASE** – OPSS Granular B Type II
SUBGRADE – Either fill, in situ soil or OPSS Granular B Type I or II material placed over in situ soil or fill.	

Minimum Performance Graded (PG) 58-34 asphalt cement should be used for this project. Cement asphalt should be compacted to a minimum average density of 93% and no more than 98%.

If soft spots develop in the subgrade during compaction or due to construction traffic, the affected areas should be excavated and replaced with OPSS Granular B Type II material. The pavement granular base and subbase should be placed in maximum 300 mm thick lifts and compacted to a minimum of 99% of the material's SPMDD using suitable compaction equipment as per OPSS 501.

Pavement Structure Drainage

Satisfactory performance of the pavement structure is largely dependent on the contact zone between the subgrade material and the base stone in a dry condition. Failure to provide adequate drainage under conditions of heavy wheel loading can result in fine subgrade soil being pumped into the voids in the stone subbase, thereby reducing load carrying capacity.

Due to the low permeability of the subgrade materials, consideration should be given to installing subdrains during the pavement construction. Where subdrains are to be connected to catch basins, the subdrain invert should be approximately 300 mm below subgrade level. The subdrains should be outfitted with a filter sock, surrounded by 19 mm clear stone and wrapped in a non-woven geotextile.

Where the heavy and light duty pavement structures intersect, the subdrain should be placed within subbase of the heavy-duty pavement structure. The subdrain should be outfitted with a filter cloth, surrounded by 100 mm of 19 mm clear stone and wrapped in a non-woven geotextile.

The road subgrade surface should be crowned to promote waterflow to the drainage lines.

6.0 Design and Construction Precautions

6.1 Foundation Drainage & Backfill

Foundation Drainage

Should the proposed buildings include below-grade space, a perimeter foundation drainage system is recommended to be provided for the proposed structures. The system should consist of a 150 mm diameter perforated and corrugated plastic pipe, surrounded on all sides by 150 mm of 19 mm clear crushed stone, which is placed at the footing level around the exterior perimeter of the structure. The pipe should have positive outlet, such as a gravity connection to the storm sewer.

Foundation Backfill

Backfill against the exterior sides of the foundation walls should consist of free draining non-frost susceptible granular materials. The greater part of the site excavated materials will be frost susceptible and, as such, are not recommended for re-use as backfill against the foundation walls, unless used in conjunction with a drainage geocomposite, such as Delta Drain 6000, connected to the perimeter foundation drainage system. Imported granular materials, such as clean sand or OPSS Granular B Type I granular material, should otherwise be used for this purpose.

6.2 Protection of Footings Against Frost Action

Perimeter foundations of heated structures are required to be insulated against the deleterious effects of frost action. A minimum 1.4 m thick soil cover, or an equivalent thickness of soil cover and foundation insulation, should be provided in this regard.

Exterior unheated foundations, such as isolated piers, are more prone to deleterious movement associated with frost action than the exterior walls of the structure, and require additional protection, such as soil cover of 1.8 m, or an equivalent combination of soil cover and foundation insulation.

6.3 Excavation Side Slopes

The side slopes of excavations in the overburden should either be cut back at acceptable slopes or should be retained by shoring systems from the start of the excavation until the structure is backfilled. For the proposed development, it is anticipated that sufficient room will be available for the greater part of the excavations to be undertaken by open-cut methods (i.e. unsupported excavations).

The excavation side slopes in the overburden soils above the groundwater level extending to a maximum depth of 3 m should be cut back at 1H:1V or flatter. Excavations below the groundwater level should be cut back at a maximum slope of 2H:1V. The subsoil at this site is considered to be mainly a Type 2 and 3 soil according to the Occupational Health and Safety Act and Regulations for Construction Projects.

Excavated soil should not be stockpiled directly at the top of excavations and heavy equipment should be kept away from the excavation sides. Slopes in excess of 3 m in height should be periodically inspected by the geotechnical consultant in order to detect if the slopes are exhibiting signs of distress.

It is recommended that a trench box be used at all times to protect personnel working in trenches with steep or vertical sides. It is expected that services will be installed by “cut and cover” methods and excavations will not be left open for extended periods of time.

6.4 Pipe Bedding and Backfill

Bedding and backfill materials should be in accordance with the most recent material specifications and standard detail drawings from the Region of Peel’s Public Works Design Standard, Specifications, & Procedures Manual.

A minimum of 150 mm of OPSS Granular A should be placed for bedding for sewer or water pipes when placed on a soil. It is recommended to carry a provision to increase the bedding layer thickness to a minimum thickness of 300 mm if the subgrade consists of relatively loose and saturated grey silty clay or grey silty sand and is difficult to achieve compaction over the relatively loose subgrade. The bedding should extend to the spring line of the pipe.

Cover material, from the spring line to a minimum of 300 mm above the obvert of the pipe, should consist of OPSS Granular A (concrete or PSM PVC pipes) or sand (concrete pipe). The bedding and cover materials should be placed in a maximum of 225 mm thick lifts and compacted to 99% of the SPMDD.

It should generally be possible to re-use the site generated fill materials (moist, not wet) above the cover material if excavation and filling operations are carried out in dry and non-freezing weather conditions. The wet silty clay should be given a sufficient drying period to decrease its moisture content to an acceptable level to make compaction possible prior to being re-used.

Where hard surface areas are considered above the trench backfill, the trench backfill material within the frost zone (about 1.4 m below finished grade) and above the cover material should match the soils exposed at the trench walls to minimize differential frost heaving. The trench backfill should be placed in maximum 300 mm thick loose lifts and compacted to a minimum of 95% of the material's SPMDD.

6.5 Groundwater Control

It is anticipated that groundwater infiltration into the excavation should be controllable using open sumps. The contractor should be prepared to direct water away from all bearing surfaces and subgrades, regardless of the source, to prevent disturbance to the founding medium.

Permit to Take Water

Under the current regulations enacted by the Ministry of Environment, Conservation and Parks (MECP), any dewatering in excess of 50,000 L/day requires a registration on the Environmental Activity and Sector Registry (EASR), so long as that dewatering is related to construction. If the dewatering is not related to construction, a Permit to Take Water obtained from the MECP will be required. In the event that an EASR is required to facilitate dewatering of the proposed development, a minimum of three to four weeks should be allotted for completion of the EASR registration and the Water Taking and Discharge Plan, to be prepared by a Qualified Person as stipulated under O.Reg. 63/16. Should a Permit to Take Water be required, a minimum of five to six months should be allotted for completion of the permit, due to the minimum review period imposed by the MECP.

6.6 Winter Construction

Precautions must be taken if winter construction is considered for this project. The subsoil conditions at this site consist of frost susceptible materials. In the presence of water and freezing conditions, ice could form within the soil mass. Heaving and settlement upon thawing could occur.

In the event of construction during below zero temperatures, the founding stratum should be protected from freezing temperatures using straw, propane heaters and tarpaulins or other suitable means.

In this regard, the base of the excavations should be insulated from sub-zero temperatures immediately upon exposure and until such time as heat is adequately supplied to the building and the footings are protected with sufficient soil cover to prevent freezing at founding level.

Trench excavations and pavement construction are also difficult activities to complete during freezing conditions without introducing frost into the subgrade or in the excavation walls and bottoms. Precautions should be taken if such activities are to be carried out during freezing conditions. Additional information could be provided, if required.

6.7 Corrosion Potential and Sulphate

The results of analytical testing show that the sulphate content is less than 0.1%. This result is indicative that Type 10 Portland cement (normal cement) would be appropriate for this site. The chloride content and the pH of the samples indicate that they are not significant factors in creating a corrosive environment for exposed ferrous metals at this site, whereas the resistivity is indicative of a non-aggressive to slightly aggressive corrosive environment.

7.0 Recommendations

It is recommended that the following be carried out by Paterson as design details of the proposed development are prepared by other members of the design team:

- ❑ Review preliminary and detailed grading, servicing, and structural plan(s) from a geotechnical perspective during the design phase of the project.
- ❑ Review geotechnical aspects of the excavation contractor's subgrade preparation and excavation work plans from a geotechnical perspective and prior to construction.

It is a requirement for the foundation design data provided herein to be applicable that a material testing and observation program be performed by the geotechnical consultant. The following aspects of the program should be performed by Paterson:

- ❑ Review detailed grading plan(s) from a geotechnical perspective.
- ❑ Observation of all bearing surfaces prior to the placement of concrete.
- ❑ Periodic observation of the condition of unsupported excavation side slopes in excess of 3 m in height, if applicable.
- ❑ Observation of all subgrades prior to backfilling.
- ❑ Field density tests to ensure that the specified level of compaction has been achieved.
- ❑ Sampling and testing of concrete and fill materials; including mix design reviews.

A report confirming that these works have been conducted in general accordance with our recommendations could be issued upon the completion of a satisfactory inspection program by the geotechnical consultant.

All excess soil must be handled as per ***Ontario Regulation 406/19: On-Site and Excess Soil Management.***

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8.0 Statement of Limitations

The recommendations provided are in accordance with the present understanding of the project. Paterson requests permission to review the recommendations when the drawings and specifications are completed.

A soils investigation is a limited sampling of a site. Should any conditions at the site be encountered which differ from those at the test locations, Paterson requests immediate notification to permit reassessment of our recommendations.

The recommendations provided herein should only be used by the design professionals associated with this project. They are not intended for contractors bidding on or undertaking the work. The latter should evaluate the factual information provided in this report and determine the suitability and completeness for their intended construction schedule and methods. Additional testing may be required for their purposes.

The present report applies only to the project described in this document. Use of this report for purposes other than those described herein or by person(s) other than Tiffany Rox North Hill Ltd., or their agents, is not authorized without review by Paterson for the applicability of our recommendations to the alternative use of the report.

Paterson Group Inc.

Balaji T. Nirmala, M.Eng., P.Eng. David J. Gilbert, P.Eng.

Report Distribution:

- ❑ Tiffany Rox North Hill Ltd. (email copy)
- ❑ Paterson Group (1 copy)

APPENDIX 1

SOIL PROFILE AND TEST DATA SHEETS

SYMBOLS AND TERMS

GRAIN SIZE DISTURBUTION AND HYDROMETER TESTING RESULTS

ATTERBERG LIMIT TESTING RESULTS

ANALYTICAL TESTING RESULTS

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

14337 Highway 50, Bolton, Ontario

COORD. SYS.: UTM ZONE 17N **EASTING:** 600124.69 **NORTHING:** 4861227.07 **ELEVATION:** 261.60

PROJECT: Proposed Residential Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 **DATE:** December 3, 2025

FILE NO. : TG0257

HOLE NO. : BH 1-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
AGRICULTURALLY DISTURBED ZONE: with organics and rootlets			AU 1			18			261
0.33m [261.27m]									
Firm, brown **SILTY CLAY** some sand and rootlets		1	SS 2	12	3-7-4-5 11	16			260
0.69m [260.91m]									
Compact, brown **SILTY SAND** to **SANDY SILT**		2	SS 3	33	3-3-7-11 10				
2.13m [259.47m]									259
GLACIAL TILL: Very stiff to hard, grey silty clay to clayey silt with some sand and gravel		3	SS 4	100	4-8-7-6 15	19			
			SS 5	92	5-8-7-8 15	17			258
		4	SS 6	100	3-4-7-9 11	21			
		5	SS 7	100	3-5-6-7 11	20			257
			SS 8	100	3-6-7-5 13	21			256
		6	SS 9	100	4-5-8-7 13	20			
6.71m [254.89m]									255
End of Borehole		7							
(BH Dry on - December 22, 2025)		8							254
		9							253
		10							252
		11							251

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

14337 Highway 50, Bolton, Ontario

COORD. SYS.: UTM ZONE 17N **EASTING:** 600025.21 **NORTHING:** 4861290.43 **ELEVATION:** 263.86

PROJECT: Proposed Residential Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 **DATE:** December 3, 2025

FILE NO. : TG0257

HOLE NO. : BH 2-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
AGRICULTURALLY DISTURBED ZONE: with organics and rootlets			AU 1			24			
0.15m [263.71m]									
Firm, brown **SILTY CLAY** some sand and rootlets									
0.69m [263.17m]									
GLACIAL TILL: Very stiff to hard, brown silty clay to clayey silt with some sand		1	SS 2	75	5-7-9-8 16	16	129		263
			SS 3	58	4-7-7-8 14	16 22			262
		2	SS 4	100	3-6-8-9 14	23			261
		3	SS 5	75	4-6-9-12 15	12			260
- Silty sand seam by 3.9 m depth		4	SS 6	83	4-7-8-6 15	13 17 17			259
4.27m [259.59m]									
GLACIAL TILL: Very stiff to hard, grey silty clay to clayey silt with some sand		5	SS 7	75	3-4-7-8 11	20			258
		6	SS 8	12	4-10-13-16 23	17			257
		7	SS 9	100	4-6-6-10 12	10		7.21 m 2025-12-22	256
		8	SS 10	83	4-7-9-11 16	17		7.55m	255
		9	SS 11	100	3-6-7-12 13	22		9.07m	254
		10	SS 12	100	3-7-8-12 15	20			253
9.75m [254.11m]			SS 13	100	6-7-13-16 20	14			
End of Borehole		11							
(GWL at 7.21 m depth - December 22, 2025)									

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

14337 Highway 50, Bolton, Ontario

COORD. SYS.: UTM ZONE 17N **EASTING:** 599976.62 **NORTHING:** 4861376.31 **ELEVATION:** 263.03

PROJECT: Proposed Residential Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 **DATE:** December 3, 2025

FILE NO. : TG0257

HOLE NO. : BH 3-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
AGRICULTURALLY DISTURBED ZONE: with organics and rootlets 0.05m [262.98m]		0	AU 1			23			263
Firm, brown **SILTY CLAY** with sand, organics and gravel 0.61m [262.42m]		1	SS 2	42	2-5-7-7 12	23			262
GLACIAL TILL: Very stiff to hard, brown silty clay some sand, trace gravel		2	SS 3	67	3-10-9-11 19	18			261
			SS 4	100	4-9-13-18 22	19			
		3	SS 5	100	4-12-13-18 25	20			260
		4	SS 6	100	6-13-16-21 29	19			259
		5	SS 7	100	5-9-12-19 21	21			258
5.46m [257.57m]									
GLACIAL TILL: Very stiff to hard, grey silty clay, trace gravel		6	SS 8	100	4-8-10-13 18	19 18			257
6.71m [256.32m]			SS 9	100	3-9-7-10 16	19			
End of Borehole		7							256
(BH Dry on - December 22, 2025)		8							255
		9							254
		10							253
		11							

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

14337 Highway 50, Bolton, Ontario

COORD. SYS.: UTM ZONE 17N **EASTING:** 599877.34 **NORTHING:** 4861282.17 **ELEVATION:** 266.50

PROJECT: Proposed Residential Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 **DATE:** December 5, 2025

FILE NO. : TG0257

HOLE NO. : BH 4-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
AGRICULTURALLY DISTURBED ZONE: with organics and rootlets 0.20m [266.30m]			AU 1			22			266
Firm, brown **SILTY CLAY** with sand, trace organics 0.69m [265.81m]		1	SS 2	83	9-10-10-13 20	11			
Compact, brown **SILTY SAND** 1.12m [265.38m]						18			265
GLACIAL TILL: Very stiff to hard, brown silty clay, trace gravel		2	SS 3	100	9-11-12-14 23	15			
2.97m [263.53m]			SS 4	100	6-11-15-22 26	18			264
Dense, brown **SILTY SAND** to **SANDY SILT**, some clay 3.73m [262.77m]		3	SS 5	75	10-19-14-25 33	21			263
GLACIAL TILL: Very stiff to hard, grey silty clay to clayey silt with some sand and gravel		4	SS 6	83	5-12-10-10 22	16			
									262
		5	SS 7	100	6-10-13-14 23	19			
			SS 8	75	7-9-9-7 18	16			261
		6							
6.71m [259.79m]			SS 9	83	9-12-19-20 31	18			260
End of Borehole		7							
(BH Dry on - December 22, 2025)									259
		8							
									258
		9							
									257
		10							
									256
		11							

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

14337 Highway 50, Bolton, Ontario

COORD. SYS.: UTM ZONE 17N **EASTING:** 599937.51 **NORTHING:** 4861174.35 **ELEVATION:** 264.25

PROJECT: Proposed Residential Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 **DATE:** December 5, 2025

FILE NO. : TG0257

HOLE NO. : BH 5-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
AGRICULTURALLY DISTURBED ZONE: with organics and rootlets 0.30m [263.95m]			AU 1			18			264
Brown **SILTY SAND**, organics and rootlets 0.69m [263.56m]		1	SS 2	67	5-7-8-9 15	17			263
GLACIAL TILL: Very stiff to hard, brown silty clay, some sand, trace gravel 1.83m [262.42m]		2	SS 3	83	4-6-8-8 14				262
Compact, brown **SILTY SAND** 2.59m [261.66m]			SS 4	100	6-12-13-16 25	20 18 20			
Hard, brown **SILTY CLAY** 2.74m [261.51m]		3	SS 5	75	8-13-15-12 28	18 18			261
Compact, brown **SILTY SAND**, some clay 3.51m [260.74m]		4	SS 6	100	6-8-11-11 19	18		4.27m	260
GLACIAL TILL: Very stiff to hard, grey silty clay to clayey silt with some sand and gravel 6.71m [257.54m]		5	SS 7	83	4-7-9-14 16	19		5.72m	259
		6	SS 8	83	5-5-7-8 12	20			258
			SS 9	92	4-5-8-8 13	22			
End of Borehole (BH Dry on - December 22, 2025)		7 8 9 10 11							257 256 255 254

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

14337 Highway 50, Bolton, Ontario

COORD. SYS.: UTM ZONE 17N **EASTING:** 599998.26 **NORTHING:** 4861053.38 **ELEVATION:** 264.09

PROJECT: Proposed Residential Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 **DATE:** December 5, 2025

FILE NO. : TG0257

HOLE NO. : BH 6-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									264
AGRICULTURALLY DISTURBED ZONE: with organics and rootlets 0.15m [263.94m]			AU 1			17			
Brown **SILTY CLAY** and organics 0.61m [263.48m]									
GLACIAL TILL: Stiff to hard, brown silty clay with some sand and garvel		1	SS 2	100	7-10-16-23 26	16			263
		2	SS 3	100	6-10-16-23 26	17			262
			SS 4	100	4-11-17-22 28	19			
3.00m [261.09m]		3							261
GLACIAL TILL: Very stiff to hard, grey silty clay to clayey silt with some sand and gravel			SS 5	100	3-6-8-10 14	17			
		4	SS 6	92	4-5-7-9 12	19			260
		5	SS 7	100	3-6-9-13 15	19			259
			SS 8	100	5-7-9-9 16	19			
6.71m [257.38m]		6	SS 9	100	4-6-10-11 16				258
End of Borehole		7							257
(BH Dry on - December 22, 2025)		8							256
		9							255
		10							254
		11							

3.58m

6.63m

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

14337 Highway 50, Bolton, Ontario

COORD. SYS.: UTM ZONE 17N **EASTING:** 599907.52 **NORTHING:** 4861030.66 **ELEVATION:** 265.30

PROJECT: Proposed Residential Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 **DATE:** December 8, 2025

FILE NO. : TG0257

HOLE NO. : BH 7-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	ELEVATION (m)
GROUND SURFACE							265
FILL: Stiff, brown silty sand with clay and gravel			AU 1			17	
0.61m [264.69m]							
GLACIAL TILL: Stiff to hard, brown silty clay, some sand and gravel		1	SS 2	50	3-2-3-4 5		264
		2	SS 3	50	3-3-6-9 9	24	263
			SS 4	100	5-7-10-12 17	17	
		3	SS 5	100	5-11-13-14 24	18	262
		4	SS 6	67	4-8-8-14 16	17	261
5.18m [260.12m]		5	SS 7	42	5-10-17-15 27	19	
GLACIAL TILL: Very stiff to hard, grey silty clay to clayey silt, some gravel			SS 8	100	3-5-7-10 12	25	260
6.71m [258.59m]		6	SS 9	83	4-6-8-8 14	20	259
End of Borehole		7					258
(GWL at 3.03 m depth - December 22, 2025)		8					257
		9					256
		10					255
		11					

PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80

REMOULDED SHEAR STRENGTH (kPa)

UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80

PL (%) WATER CONTENT (%) LL (%) 20 40 60 80

MONITORING WELL CONSTRUCTION

3.03 m 2025-12-22

6.03m

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

14337 Highway 50, Bolton, Ontario

COORD. SYS.: UTM ZONE 17N **EASTING:** 599873.80 **NORTHING:** 4861067.65 **ELEVATION:** 266.20

PROJECT: Proposed Residential Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 **DATE:** December 8, 2025

FILE NO. : TG0257

HOLE NO. : BH 8-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.05m [266.15m]			AU 1			9			266
FILL: Brown silty sand with clay and organics		1	SS 2	42	3-5-5-4 10	19			265
		2	SS 3	75	8-4-7-6 11	16			264
2.44m [263.76m]			SS 4	100	6-9-11-14 20	19 24			
GLACIAL TILL: Very stiff to hard, brown silty clay to clayey silt with some sand and gravel		3	SS 5	83	3-7-10-13 17	18		3.00m	263
		4	SS 6	100	4-16-15-18 31	17		4.35 m 2025-12-22	262
4.72m [261.48m]									
Dense, brown **SILTY SAND** with clay		5	SS 7	100	5-17-27-23 44	20			261
5.18m [261.02m]									
GLACIAL TILL: Very stiff, grey silty clay to clayey silt with some sand and gravel		6	SS 8	100	3-6-12-15 18	13		6.05m	260
6.71m [259.49m]			SS 9	75	2-6-8-9 14	19			
End of Borehole		7							259
(GWL at 4.35 m depth - December 22, 2025)		8							258
		9							257
		10							256
		11							

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

14337 Highway 50, Bolton, Ontario

COORD. SYS.: UTM ZONE 17N **EASTING:** 599849.33 **NORTHING:** 4860935.63 **ELEVATION:** 265.27

PROJECT: Proposed Residential Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 **DATE:** December 8, 2025

FILE NO. : TG0257

HOLE NO. : BH 9-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.05m [265.22m]			AU 1			14			265
Stiff to very stiff, brown **SILTY CLAY** to **CLAYEY SILT** with organics		1	SS 2	50	5-6-6-6 12	23			264
2.13m [263.14m]		2	SS 3	75	2-3-3-4 6	20			263
GLACIAL TILL: Very stiff to hard, brown silty clay to clayey silt with some sand and gravel		3	SS 4	83	4-8-12-13 20	20			262
3.96m [261.31m]		4	SS 5	100	3-6-9-12 15	17			261
GLACIAL TILL: Very stiff to hard, grey silty clay to clayey silt with some sand and gravel		5	SS 6	100	3-9-12-14 21	17			260
6.71m [258.56m]		6	SS 7	100	2-5-10-11 15	20			259
End of Borehole		7	SS 8	100	5-10-10-10 20	15			258
		8	SS 9	83	4-10-6-6 16	19			257
		9							256
		10							255
		11							

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

14337 Highway 50, Bolton, Ontario

COORD. SYS.: UTM ZONE 17N **EASTING:** 599751.17 **NORTHING:** 4860975.99 **ELEVATION:** 263.78

PROJECT: Proposed Residential Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 **DATE:** December 9, 2025

FILE NO. : TG0257

HOLE NO. : BH10-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
AGRICULTURALLY DISTURBED ZONE: with organics and rootlets 0.15m [263.63m]			AU 1			21			263
Brown **SILTY CLAY** with organics 0.71m [263.07m]		1	SS 2	33	2-8-10-16 18	19			
GLACIAL TILL: Very stiff to hard, brown silty clay with some sand and gravel		2	SS 3	83	2-9-9-13 18	21		1.50 m 2025-12-22	262
			SS 4	100	3-10-10-12 20	19		2.62m	261
3.35m [260.43m]		3	SS 5	100	3-7-7-8 14	21 14			
GLACIAL TILL: Stiff to very stiff, grey silty clay to clayey silt with some sand and gravel		4	SS 6	100	2-3-6-6 9	20		4.14m	260
		5	SS 7	100	2-3-6-7 9	21			259
5.94m [257.84m]		6	SS 8	67	3-5-7-8 12	20			258
End of Borehole		7							257
(GWL at 1.50 m depth - December 22, 2025)		8							256
		9							255
		10							254
		11							253

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

14337 Highway 50, Bolton, Ontario

COORD. SYS.: UTM ZONE 17N **EASTING:** 599818.32 **NORTHING:** 4861156.18 **ELEVATION:** 265.19

PROJECT: Proposed Residential Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: EGM96 (Global) **DATE:** January 28, 2025

FILE NO. : TG0257

HOLE NO. : BH11-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	ELEVATION (m)
GROUND SURFACE							265
AGRICULTURALLY DISTURBED ZONE: with organics and rootlets 0.18m [265.01m]		0	G 1			23	
Firm to stiff, brown to grey **SILTY CLAY**, trace gravel and sand 0.69m [264.50m]		1	SS 2	58	4-6-11-14 17	19	264
GLACIAL TILL: Hard to very stiff, brown silty clay with some sand and gravel		2	SS 3	100	2-7-10-11 17	18	263
2.79m [262.40m]		3	SS 4	75	P	16 26	262
GLACIAL TILL: Very stiff to hard, grey silty clay to clayey silt with some sand and gravel		4	SS 5	83	2-12-11-12 23	20	261
6.71m [258.48m]		5	SS 6	71	7-11-13-16 24	17	260
End of Borehole		6	SS 7	100	4-9-17-21 26	18	259
(BH Dry on - February 4, 2025)		7	SS 8	100	3-10-16-17 26	19	258
(GWL at 4.45 m depth - December 22, 2025)		8	SS 9	100	3-12-13-21 25	18	257
		9					256
		10					255
		11					

PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80

△ REMOULDED SHEAR STRENGTH (kPa)

▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80

PL (%) WATER CONTENT (%) LL (%) 20 40 60 80

MONITORING WELL CONSTRUCTION

249

4.45 m 2025-12-22

5.97m

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

14337 Highway 50, Bolton, Ontario

COORD. SYS.: UTM ZONE 17N **EASTING:** 600055.24 **NORTHING:** 4861150.74 **ELEVATION:** 263.33

PROJECT: Proposed Residential Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: EGM96 (Global) **DATE:** January 28, 2025

FILE NO. : TG0257

HOLE NO. : BH12-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	ELEVATION (m)
GROUND SURFACE							263
AGRICULTURALLY DISTURBED ZONE: with organics and rootlets			G 1			16	
0.23m [263.10m]							
Brown **SILTY CLAY**, trace roots to 0.6 m depth		1	SS 2	100	3-5-7-13 12	17	
1.20m [262.13m]							
Compact, brown **SILTY SAND**, trace gravel		2	SS 3	75	2-11-15-17 26	20	262
			SS 4	50	9-11-13-14 24	23	261
3.20m [260.13m]		3					
GLACIAL TILL: Very stiff to hard, grey silty clay to clayey silt with some sand and gravel			SS 5	75	5-10-8-9 18	22 19	260
		4	SS 6	0	6-8-12-16 20		259
		5	SS 7	100	2-12-14-20 26	17	258
			SS 8	75	5-11-17-26 28	17	
		6	SS 9	100	7-16-20-25 36	16	257
6.71m [256.62m]							
Dynamic Cone Penetration Test commenced at 6.71 m depth		7					256
8.23m [255.10m]		8					255
End of Borehole							
(GWL at 1.30 m depth - February 4, 2025)		9					254
(GWL at 2.96 m depth - December 22, 2025)		10					253
		11					

PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE)

20 40 60 80

△ REMOULDED SHEAR STRENGTH (kPa)

▲ UNDRAINED SHEAR STRENGTH (kPa)

20 40 60 80

PL (%) WATER CONTENT (%) LL (%)

20 40 60 80

45

52

68

118

153

MONITORING WELL CONSTRUCTION

1.30 m 2025-02-04

2.96 m 2025-12-22

4.51m

6.03m

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

14337 Highway 50, Bolton, Ontario

COORD. SYS.: UTM ZONE 17N **EASTING:** 599822.52 **NORTHING:** 4860874.63 **ELEVATION:** 265.25

PROJECT: Proposed Residential Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS: Datum: NAD1983 (Canada) Geoid: EGM96 (Global) **DATE:** January 28, 2025

FILE NO. : TG0257

HOLE NO. : BH13-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80	REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80	PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE											
TOPSOIL 0.05m [265.20m]			G 1			21					265
GLACIAL TILL: Very stiff to hard, brown silty clay to clayey silt with some sand and gravel		1	SS 2	100	2-5-10-16 15	20				1.04 m 2026-01-08	
		2	SS 3	100	3-9-10-16 19	19				1.33 m 2025-02-04	263
			SS 4	100	4-12-18-29 30	19					
		3	SS 5	100	3-8-14-16 22	19					262
4.57m [260.68m]		4	SS 6	8	3-6-11-14 17	20				4.26m	261
GLACIAL TILL: Very stiff to hard, grey silty clay to clayey silt with some sand and gravel		5	SS 7	100	3-8-17-28 25	19					260
		6	SS 8	100	3-7-14-13 21	23				5.78m	
6.71m [258.54m]			SS 9		5-6-14-18 20	18					259
End of Borehole		7									258
(GWL at 1.33 m depth - February 4, 2025)		8									257
(GWL at 1.04 m depth - January 08, 2026)		9									256
		10									255
		11									

SYMBOLS AND TERMS

SOIL DESCRIPTION

Behavioural properties, such as structure and strength, take precedence over particle gradation in describing soils. Terminology describing soil structure are as follows:

Desiccated	-	having visible signs of weathering by oxidation of clay minerals, shrinkage cracks, etc.
Fissured	-	having cracks, and hence a blocky structure.
Varved	-	composed of regular alternating layers of silt and clay.
Stratified	-	composed of alternating layers of different soil types, e.g. silt and sand or silt and clay.
Well-Graded	-	Having wide range in grain sizes and substantial amounts of all intermediate particle sizes (see Grain Size Distribution).
Uniformly-Graded	-	Predominantly of one grain size (see Grain Size Distribution).

The standard terminology to describe the relative strength of cohesionless soils is the compactness condition, usually inferred from the results of the Standard Penetration Test (SPT) 'N' value. The SPT N value is the number of blows of a 63.5 kg hammer, falling 760 mm, required to drive a 51 mm O.D. split spoon sampler 300 mm into the soil after an initial penetration of 150 mm. An SPT N value of "P" denotes that the split-spoon sampler was pushed 300 mm into the soil without the use of a falling hammer.

Compactness Condition	'N' Value	Relative Density %
Very Loose	<4	<15
Loose	4-10	15-35
Compact	10-30	35-65
Dense	30-50	65-85
Very Dense	>50	>85

The standard terminology to describe the strength of cohesive soils is the consistency, which is based on the undisturbed undrained shear strength as measured by the in situ or laboratory shear vane tests, unconfined compression tests, or occasionally by the Standard Penetration Test (SPT). Note that the typical correlations of undrained shear strength to SPT N value (tabulated below) tend to underestimate the consistency for sensitive silty clays, so Paterson reviews the applicable split spoon samples in the laboratory to provide a more representative consistency value based on tactile examination.

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

SYMBOLS AND TERMS (continued)

SOIL DESCRIPTION (continued)

Cohesive soils can also be classified according to their "sensitivity". The sensitivity, S_t, is the ratio between the undisturbed undrained shear strength and the remoulded undrained shear strength of the soil. The classes of sensitivity may be defined as follows:

Low Sensitivity:	$S_t < 2$
Medium Sensitivity:	$2 < S_t < 4$
Sensitive:	$4 < S_t < 8$
Extra Sensitive:	$8 < S_t < 16$
Quick Clay:	$S_t > 16$

ROCK DESCRIPTION

The structural description of the bedrock mass is based on the Rock Quality Designation (RQD).

The RQD classification is based on a modified core recovery percentage in which all pieces of sound core over 100 mm long are counted as recovery. The smaller pieces are considered to be a result of closely-spaced discontinuities (resulting from shearing, jointing, faulting, or weathering) in the rock mass and are not counted. RQD is ideally determined from NQ or larger size core. However, it can be used on smaller core sizes, such as BQ, if the bulk of the fractures caused by drilling stresses (called "mechanical breaks") are easily distinguishable from the normal in situ fractures.

RQD %	**ROCK QUALITY**
90-100	Excellent, intact, very sound
75-90	Good, massive, moderately jointed or sound
50-75	Fair, blocky and seamy, fractured
25-50	Poor, shattered and very seamy or blocky, severely fractured
0-25	Very poor, crushed, very severely fractured

SAMPLE TYPES

SS	-	Split spoon sample (obtained in conjunction with the performing of the Standard Penetration Test (SPT))
TW	-	Thin wall tube or Shelby tube, generally recovered using a piston sampler
G	-	"Grab" sample from test pit or surface materials
AU	-	Auger sample or bulk sample
WS	-	Wash sample
RC	-	Rock core sample (Core bit size BQ, NQ, HQ, etc.). Rock core samples are obtained with the use of standard diamond drilling bits.

SYMBOLS AND TERMS (continued)

PLASTICITY LIMITS AND GRAIN SIZE DISTRIBUTION

WC%	-	Natural water content or water content of sample, %
LL	-	Liquid Limit, % (water content above which soil behaves as a liquid)
PL	-	Plastic Limit, % (water content above which soil behaves plastically)
PI	-	Plasticity Index, % (difference between LL and PL)
Dxx	-	Grain size at which xx% of the soil, by weight, is of finer grain sizes These grain size descriptions are not used below 0.075 mm grain size
D10	-	Grain size at which 10% of the soil is finer (effective grain size)
D60	-	Grain size at which 60% of the soil is finer
Cc	-	Concavity coefficient = $(D30)^2$ / (D10 x D60)
Cu	-	Uniformity coefficient = D60 / D10

Cc and Cu are used to assess the grading of sands and gravels:
Well-graded gravels have: $1 < Cc < 3$ and $Cu > 4$
Well-graded sands have: $1 < Cc < 3$ and $Cu > 6$
Sands and gravels not meeting the above requirements are poorly-graded or uniformly-graded.
Cc and Cu are not applicable for the description of soils with more than 10% silt and clay
(more than 10% finer than 0.075 mm or the #200 sieve)

CONSOLIDATION TEST

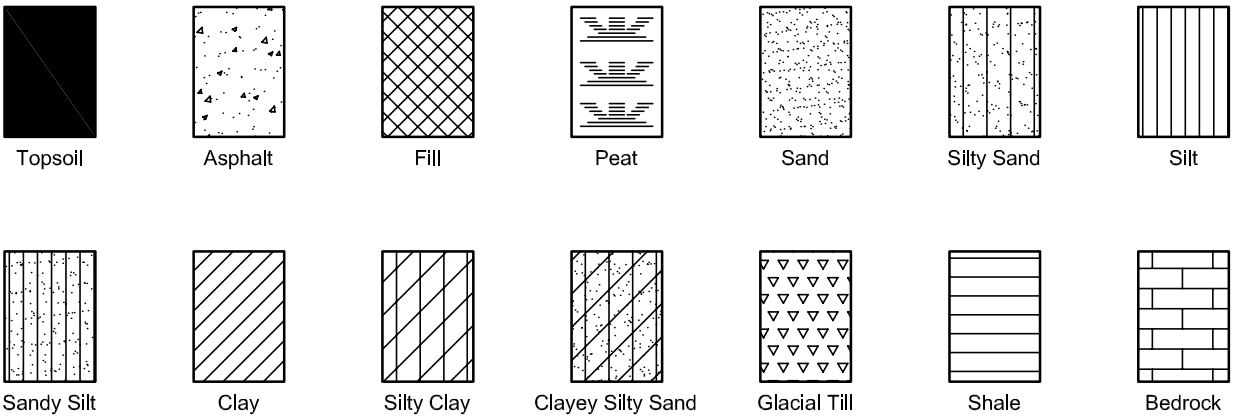
p'_o	-	Present effective overburden pressure at sample depth
p'_c	-	Preconsolidation pressure of (maximum past pressure on) sample
Ccr	-	Recompression index (in effect at pressures below p'_c)
Cc	-	Compression index (in effect at pressures above p'_c)
OC Ratio		Overconsolidaton ratio = p'_c / p'_o
Void Ratio		Initial sample void ratio = volume of voids / volume of solids
Wo	-	Initial water content (at start of consolidation test)

PERMEABILITY TEST

k	-	Coefficient of permeability or hydraulic conductivity is a measure of the ability of water to flow through the sample. The value of k is measured at a specified unit weight for (remoulded) cohesionless soil samples, because its value will vary with the unit weight or density of the sample during the test.

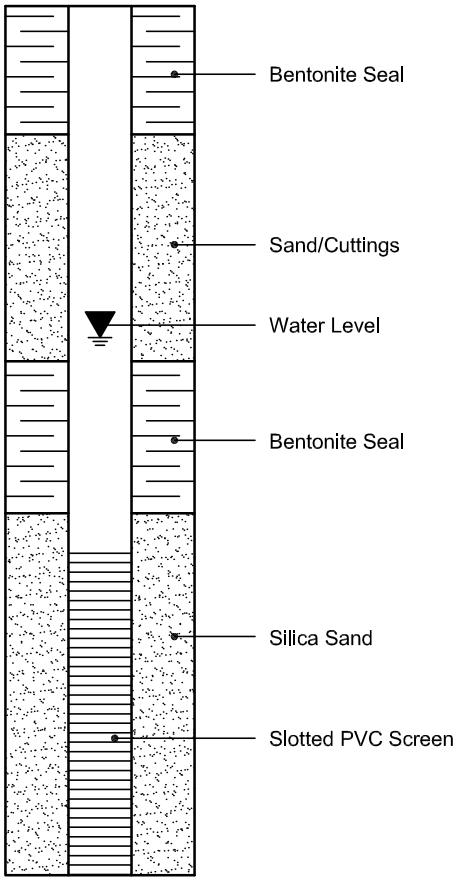
SYMBOLS AND TERMS (continued)

STRATA PLOT

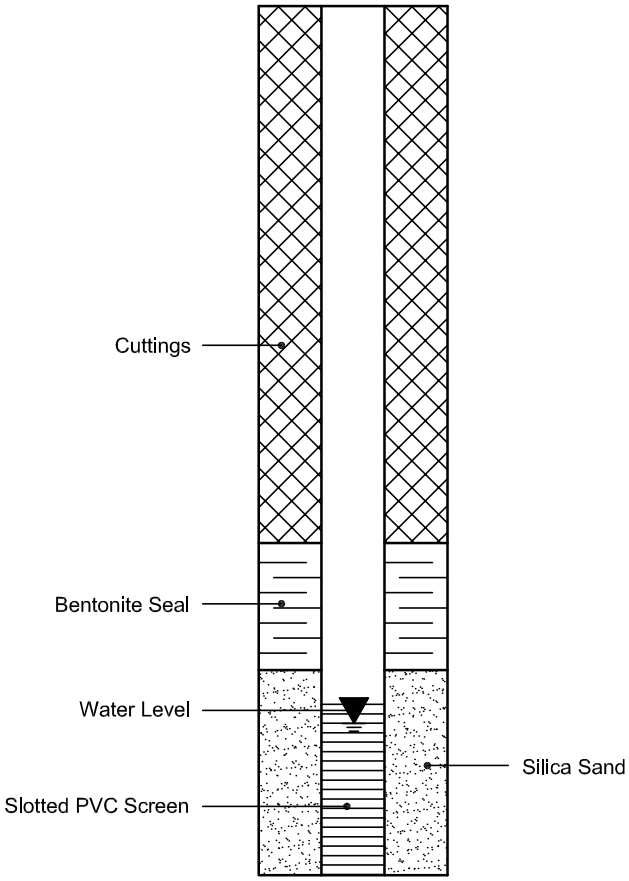


MONITORING WELL AND PIEZOMETER CONSTRUCTION

MONITORING WELL CONSTRUCTION



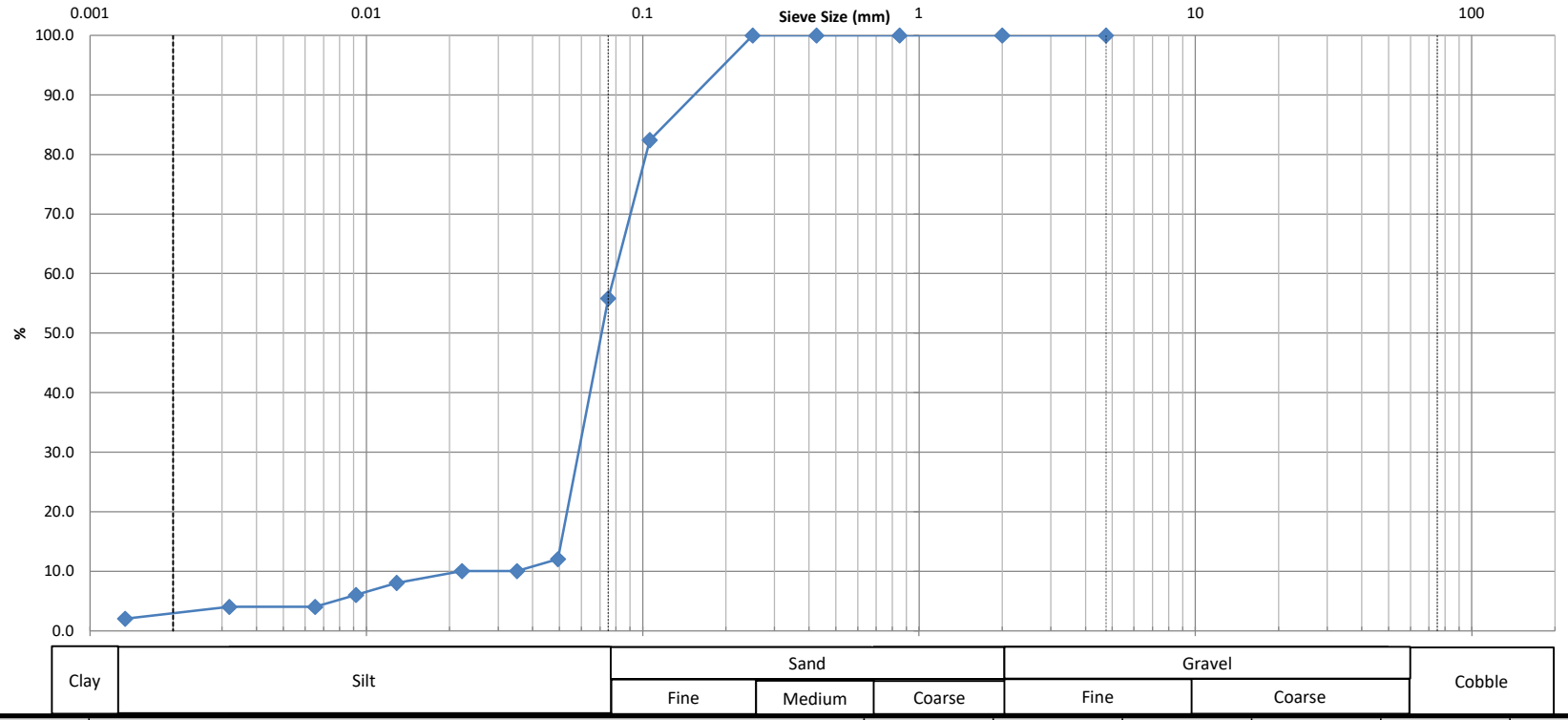
PIEZOMETER CONSTRUCTION



PATERSON GROUP

SIEVE ANALYSIS
ASTM C136

CLIENT:	Tiffany Rox North Hill Ltd.	DEPTH:	1.5-2.1 m	FILE NO:	TG0257
CONTRACT NO.:		BH OR TP No.:	BH1-25 SS3	LAB NO:	112
PROJECT:	14337 Highway 50, Caledon			DATE RECEIVED:	9-Dec-25
				DATE TESTED:	11-Dec-25
DATE SAMPLED:	9-Dec-25			DATE REPORTED:	14-Dec-25
SAMPLED BY:	B.N			TESTED BY:	S.E



Identification	Soil Classification					MC(%)	LL	PL	PI	Cc	Cu
						22.4%					
	D100	D60	D30	D10	Gravel (%)	Sand (%)		Silt (%)		Clay (%)	
					0.0	44.2		53.1		2.7	

Comments: The soil is classified as brown sandy silt with trace clay.

REVIEWED BY:	Curtis Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

HYDROMETER
LS-702 ASTM-422

CLIENT:	Tiffany Rox North Hill Ltd.	DEPTH:	1.5-2.1 m	FILE NO.:	TG0257
PROJECT:	14337 Highway 50, Caledon	BH OR TP No.:	BH1-25 SS3	DATE SAMPLED:	09-Dec-25
LAB No. :	112	TESTED BY:	S.E	DATE RECEIVED:	09-Dec-25
SAMPLED BY:	B.N	DATE REPT'D:	14-Dec-25	DATE TESTED:	11-Dec-25

SAMPLE INFORMATION

SAMPLE MASS	SPECIFIC GRAVITY
125.0	2.700

INITIAL WEIGHT	50.10	**HYGROSCOPIC MOISTURE**		
WEIGHT CORRECTED	49.27	TARE WEIGHT	169.00	ACTUAL WEIGHT
WT. AFTER WASH BACK SIEVE	22.30	AIR DRY	296.10	127.10
SOLUTION CONCENTRATION	40 g/L	OVEN DRY	294.00	125.00
		CORRECTED	0.983	

GRAIN SIZE ANALYSIS

SIEVE DIAMETER (mm)	WEIGHT RETAINED (g)	PERCENT RETAINED	PERCENT PASSING
26.5			
19			
13.2			
9.5			
4.75	**0.0**	0.0	**100.0**
2.0	**0.0**	0.0	**100.0**
Pan	**124.6**		
0.850		0.0	**100.0**
0.425		0.0	**100.0**
0.250		0.0	**100.0**
0.106	**8.80**	17.6	**82.4**
0.075	**22.12**	44.2	**55.8**
Pan	**22.30**		
SIEVE CHECK 0.0	MAX = 0.3%		

HYDROMETER DATA

ELAPSED	TIME (24 hours)	Hs	Hc	Temp. (°C)	DIAMETER	(P)	TOTAL PERCENT PASSING
1	10:05	11.0	5.0	23.0	0.0494	12.0	**12.0**
2	10:06	10.0	5.0	23.0	0.0351	10.0	**10.0**
5	10:09	10.0	5.0	23.0	0.0222	10.0	**10.0**
15	10:19	9.0	5.0	23.0	0.0129	8.0	**8.0**
30	10:34	8.0	5.0	23.0	0.0092	6.0	**6.0**
60	11:04	7.0	5.0	23.0	0.0065	4.0	**4.0**
250	14:14	7.0	5.0	23.0	0.0032	4.0	**4.0**
1440	10:04	6.0	5.0	23.0	0.0013	2.0	**2.0**

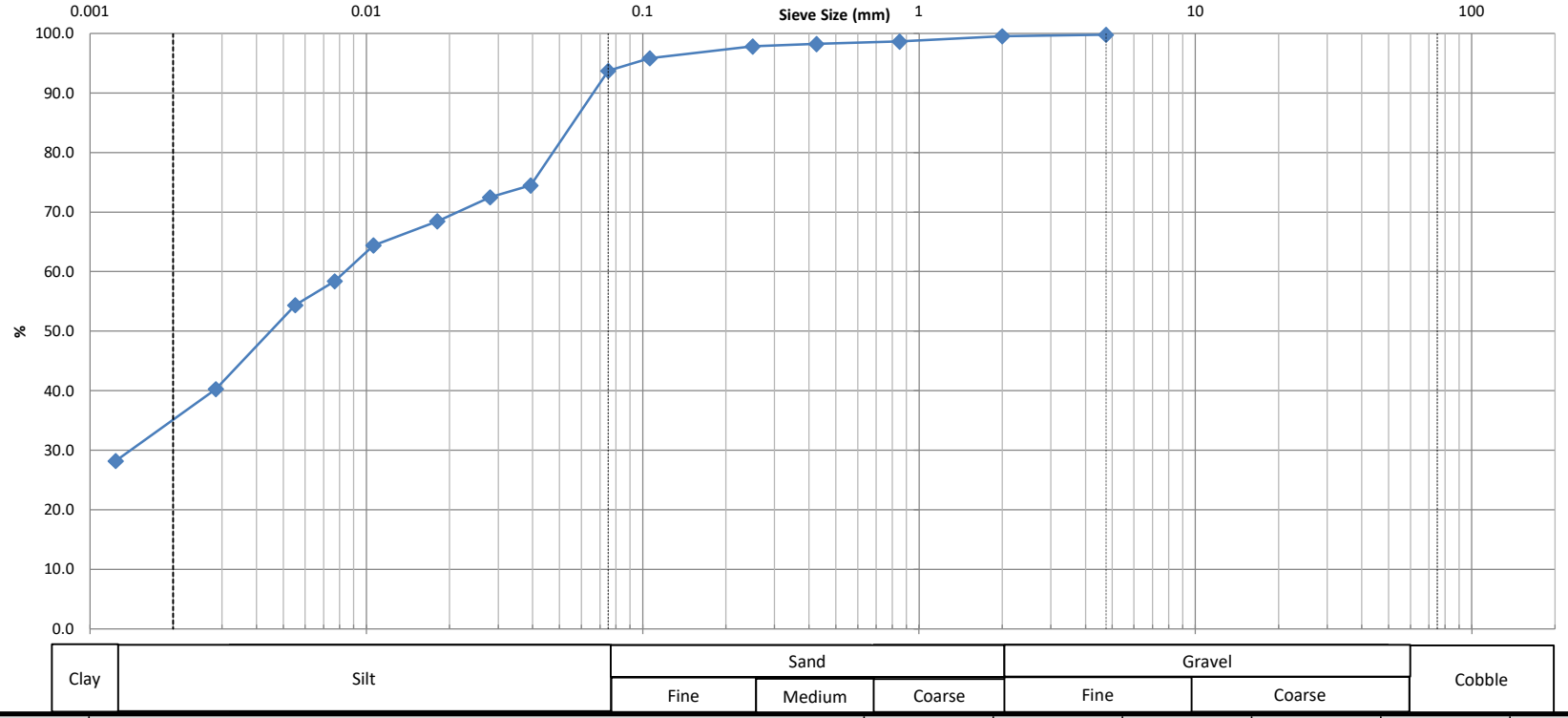
Moisture = 22.4%

REVIEWED BY:	C. Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

SIEVE ANALYSIS
ASTM C136

CLIENT:	Tiffany Rox North Hill Ltd.	DEPTH:	1.5 – 2.1 m	FILE NO:	TG0257
CONTRACT NO.:		BH OR TP No.:	BH5-25 SS3	LAB NO:	113
PROJECT:	14337 Highway 50			DATE RECEIVED:	9-Dec-25
				DATE TESTED:	11-Dec-25
DATE SAMPLED:	9-Dec-25			DATE REPORTED:	14-Dec-25
SAMPLED BY:	B.N			TESTED BY:	S.E



Identification	Soil Classification					MC(%)	LL	PL	PI	Cc	Cu
						20.7%					
	D100	D60	D30	D10	Gravel (%)	Sand (%)		Silt (%)		Clay (%)	
					0.2	6.1		59.9		33.9	

Comments: This soil is classified as brown clayey silt with trace sand.

REVIEWED BY:	Curtis Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

HYDROMETER
LS-702 ASTM-422

CLIENT:	Tiffany Rox North Hill Ltd.	DEPTH:	1.5 – 2.1 m	FILE NO.:	TG0257
PROJECT:	14337 Highway 50	BH OR TP No.:	BH5-25 SS3	DATE SAMPLED:	09-Dec-25
LAB No. :	113	TESTED BY:	S.E	DATE RECEIVED:	09-Dec-25
SAMPLED BY:	B.N	DATE REPT'D:	14-Dec-25	DATE TESTED:	11-Dec-25

SAMPLE INFORMATION

SAMPLE MASS	SPECIFIC GRAVITY
154.0	2.700

INITIAL WEIGHT	50.00	**HYGROSCOPIC MOISTURE**		
WEIGHT CORRECTED	48.89	TARE WEIGHT	166.60	ACTUAL WEIGHT
WT. AFTER WASH BACK SIEVE	2.92	AIR DRY	324.10	157.50
SOLUTION CONCENTRATION	40 g/L	OVEN DRY	320.60	154.00
		CORRECTED	0.978	

GRAIN SIZE ANALYSIS

SIEVE DIAMETER (mm)	WEIGHT RETAINED (g)	PERCENT RETAINED	PERCENT PASSING
26.5			
19			
13.2			
9.5			
4.75	**0.3**	0.2	**99.8**
2.0	**0.7**	0.5	**99.5**
Pan	**152.5**		
0.850	**0.45**	1.4	**98.6**
0.425	**0.65**	1.7	**98.3**
0.250	**0.86**	2.2	**97.8**
0.106	**1.86**	4.2	**95.8**
0.075	**2.91**	6.2	**93.8**
Pan	**2.92**		
SIEVE CHECK 0.0	MAX = 0.3%		

HYDROMETER DATA

ELAPSED	TIME (24 hours)	Hs	Hc	Temp. (°C)	DIAMETER	(P)	TOTAL PERCENT PASSING
1	10:25	42.0	5.0	23.0	0.0393	74.8	**74.5**
2	10:26	41.0	5.0	23.0	0.0281	72.8	**72.5**
5	10:29	39.0	5.0	23.0	0.0181	68.8	**68.5**
15	10:39	37.0	5.0	23.0	0.0106	64.7	**64.4**
30	10:54	34.0	5.0	23.0	0.0077	58.7	**58.4**
60	11:24	32.0	5.0	23.0	0.0055	54.6	**54.4**
250	14:34	25.0	5.0	23.0	0.0029	40.5	**40.3**
1440	10:24	19.0	5.0	23.0	0.0012	28.3	**28.2**

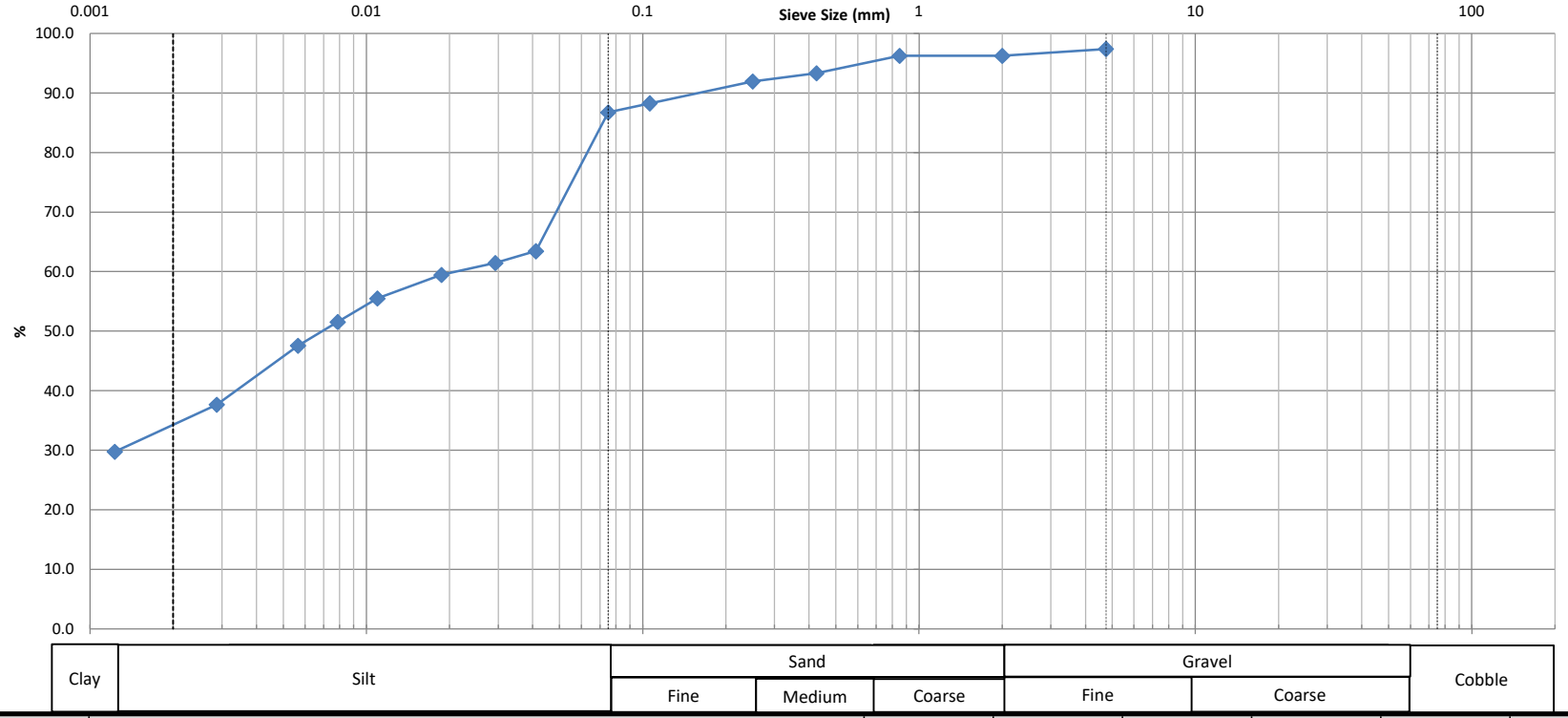
Moisture = 20.7%

REVIEWED BY:	C. Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

SIEVE ANALYSIS
ASTM C136

CLIENT:	Tiffany Rox North Hill Ltd.	DEPTH:	2.3 - 2.9 m	FILE NO:	TG0257
CONTRACT NO.:		BH OR TP No.:	BH7-25 SS4	LAB NO:	114
PROJECT:	14337 Highway 50			DATE RECEIVED:	9-Dec-25
				DATE TESTED:	11-Dec-25
DATE SAMPLED:	9-Dec-25			DATE REPORTED:	14-Dec-25
SAMPLED BY:	B.N			TESTED BY:	S.E



Identification	Soil Classification					MC(%)	LL	PL	PI	Cc	Cu
						17.7%					
	D100	D60	D30	D10	Gravel (%)	Sand (%)		Silt (%)		Clay (%)	
					2.6	10.7		53.3		33.4	

Comments: This soil is classified as brown clayey silt with minor sand and trace gravel.

REVIEWED BY:	Curtis Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

HYDROMETER
LS-702 ASTM-422

CLIENT:	Tiffany Rox North Hill Ltd.	DEPTH:	2.3 - 2.9 m	FILE NO.:	TG0257
PROJECT:	14337 Highway 50	BH OR TP No.:	BH7-25 SS4	DATE SAMPLED:	09-Dec-25
LAB No. :	114	TESTED BY:	S.E	DATE RECEIVED:	09-Dec-25
SAMPLED BY:	B.N	DATE REPT'D:	14-Dec-25	DATE TESTED:	11-Dec-25

SAMPLE INFORMATION

SAMPLE MASS	SPECIFIC GRAVITY
155.3	2.700

INITIAL WEIGHT	50.00	**HYGROSCOPIC MOISTURE**		
WEIGHT CORRECTED	48.02	TARE WEIGHT	167.40	ACTUAL WEIGHT
WT. AFTER WASH BACK SIEVE	4.98	AIR DRY	329.10	161.70
SOLUTION CONCENTRATION	40 g/L	OVEN DRY	322.70	155.30
		CORRECTED	0.960	

GRAIN SIZE ANALYSIS

SIEVE DIAMETER (mm)	WEIGHT RETAINED (g)	PERCENT RETAINED	PERCENT PASSING
26.5			
19			
13.2			
9.5			
4.75	**4.0**	2.6	**97.4**
2.0	**5.8**	3.7	**96.3**
Pan	**149.0**		
0.850	**0.00**	3.7	**96.3**
0.425	**1.52**	6.7	**93.3**
0.250	**2.24**	8.0	**92.0**
0.106	**4.14**	11.7	**88.3**
0.075	**4.94**	13.2	**86.8**
Pan	**4.98**		
SIEVE CHECK 0.0	MAX = 0.3%		

HYDROMETER DATA

ELAPSED	TIME (24 hours)	Hs	Hc	Temp. (°C)	DIAMETER	(P)	TOTAL PERCENT PASSING
1	10:45	37.0	5.0	23.0	0.0411	65.9	**63.4**
2	10:46	36.0	5.0	23.0	0.0293	63.8	**61.4**
5	10:49	35.0	5.0	23.0	0.0187	61.8	**59.5**
15	10:59	33.0	5.0	23.0	0.0110	57.7	**55.5**
30	11:14	31.0	5.0	23.0	0.0079	53.5	**51.5**
60	11:44	29.0	5.0	23.0	0.0057	49.4	**47.6**
250	14:54	24.0	5.0	23.0	0.0029	39.1	**37.7**
1440	10:44	20.0	5.0	23.0	0.0012	30.9	**29.7**

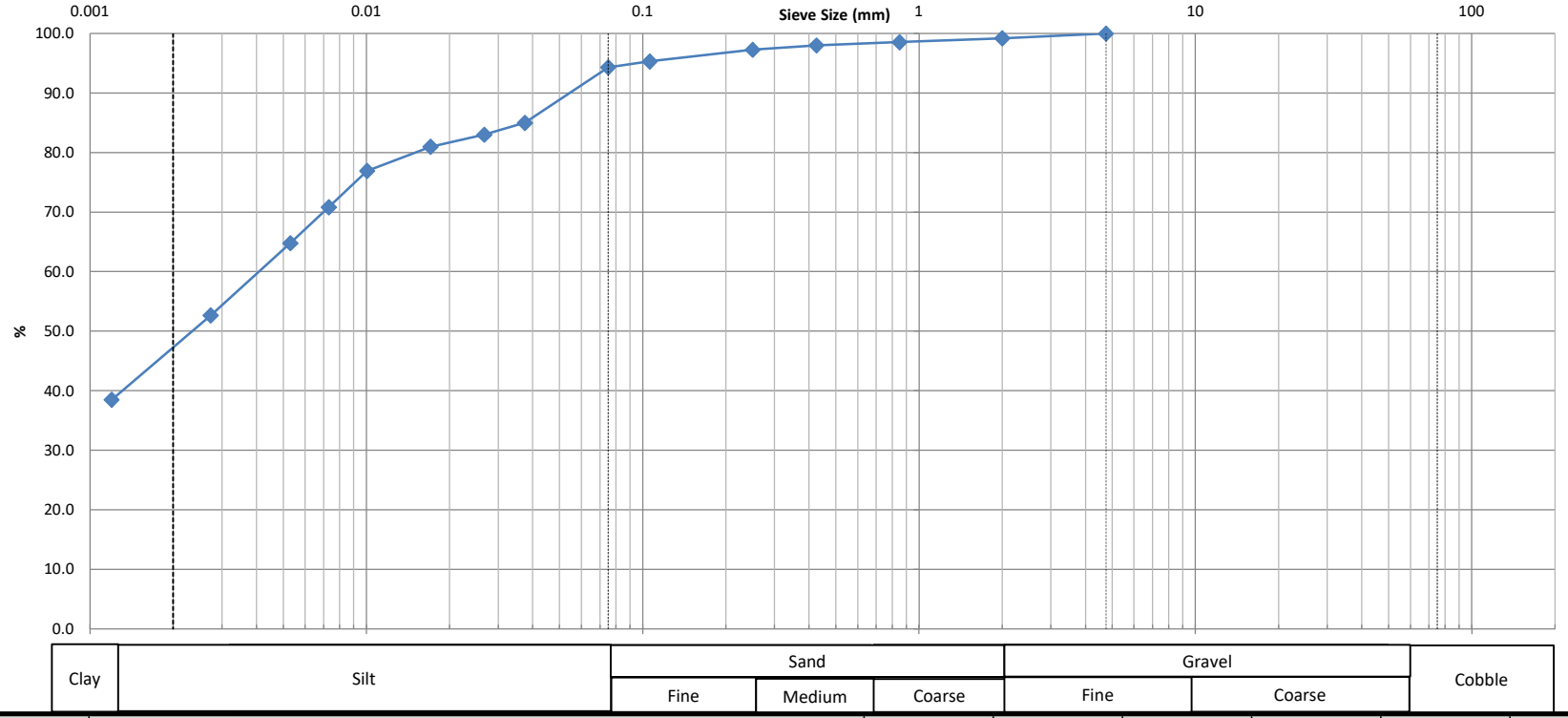
Moisture = 17.7%

REVIEWED BY:	C. Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

SIEVE ANALYSIS
ASTM C136

CLIENT:	Tiffany Rox North Hill Ltd.	DEPTH:	2.3 - 2.9 m	FILE NO:	TG0257
CONTRACT NO.:		BH OR TP No.:	BH9-25 SS4	LAB NO:	115
PROJECT:	14337 Highway 50			DATE RECEIVED:	9-Dec-25
				DATE TESTED:	11-Dec-25
DATE SAMPLED:	9-Dec-25			DATE REPORTED:	14-Dec-25
SAMPLED BY:	B.N			TESTED BY:	S.E



Identification	Soil Classification					MC(%)	LL	PL	PI	Cc	Cu
						21.1%					
	D100	D60	D30	D10	Gravel (%)	Sand (%)		Silt (%)		Clay (%)	
					0.0	5.7		48.5		45.9	

Comments: This soil is classified as brown clayey silt with trace sand.

REVIEWED BY:	Curtis Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

HYDROMETER
LS-702 ASTM-422

CLIENT:	Tiffany Rox North Hill Ltd.	DEPTH:	2.3 - 2.9 m	FILE NO.:	TG0257
PROJECT:	14337 Highway 50	BH OR TP No.:	BH9-25 SS4	DATE SAMPLED:	09-Dec-25
LAB No. :	115	TESTED BY:	S.E	DATE RECEIVED:	09-Dec-25
SAMPLED BY:	B.N	DATE REPT'D:	14-Dec-25	DATE TESTED:	11-Dec-25

SAMPLE INFORMATION

SAMPLE MASS	SPECIFIC GRAVITY
153.8	2.700

		HYGROSCOPIC MOISTURE		
INITIAL WEIGHT	50.10			
WEIGHT CORRECTED	48.46	TARE WEIGHT	166.30	ACTUAL WEIGHT
WT. AFTER WASH BACK SIEVE	2.47	AIR DRY	325.30	159.00
SOLUTION CONCENTRATION	40 g/L	OVEN DRY	320.10	153.80
		CORRECTED	0.967	

GRAIN SIZE ANALYSIS

SIEVE DIAMETER (mm)	WEIGHT RETAINED (g)	PERCENT RETAINED	PERCENT PASSING
26.5			
19			
13.2			
9.5			
4.75	**0.0**	0.0	**100.0**
2.0	**1.2**	0.8	**99.2**
Pan	**151.1**		
0.850	**0.34**	1.5	**98.5**
0.425	**0.61**	2.0	**98.0**
0.250	**0.98**	2.7	**97.3**
0.106	**1.96**	4.7	**95.3**
0.075	**2.46**	5.7	**94.3**
Pan	**2.47**		
SIEVE CHECK 0.0	MAX = 0.3%		

HYDROMETER DATA

ELAPSED	TIME (24 hours)	Hs	Hc	Temp. (°C)	DIAMETER	(P)	TOTAL PERCENT PASSING
1	11:08	47.0	5.0	23.0	0.0374	85.7	**85.0**
2	11:09	46.0	5.0	23.0	0.0267	83.7	**83.0**
5	11:12	45.0	5.0	23.0	0.0171	81.6	**81.0**
15	11:22	43.0	5.0	23.0	0.0101	77.5	**76.9**
30	11:37	40.0	5.0	23.0	0.0073	71.4	**70.9**
60	12:07	37.0	5.0	23.0	0.0053	65.3	**64.8**
250	15:17	31.0	5.0	23.0	0.0027	53.0	**52.6**
1440	11:07	24.0	5.0	23.0	0.0012	38.8	**38.5**

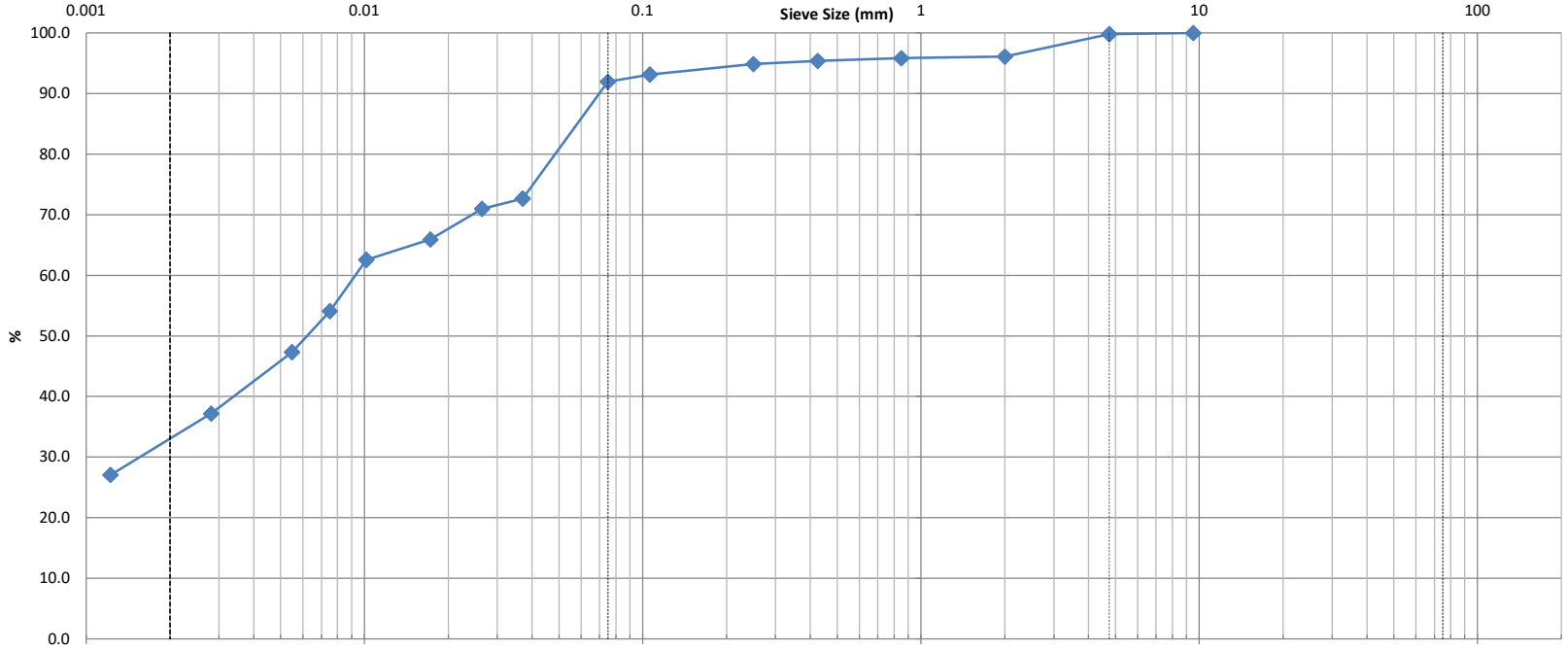
Moisture = 21.1%

REVIEWED BY:	C. Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

SIEVE ANALYSIS
ASTM C136

CLIENT:	Tiffany Rox North Hill Ltd.	DEPTH:	3.0 - 3.7 m	FILE NO:	TG0257
CONTRACT NO.:		BH OR TP No.:	BH11-25 SS5	LAB NO:	00054
PROJECT:	Highway 50, Bolton			DATE RECEIVED:	28-Jan-25
				DATE TESTED:	27-Feb-25
DATE SAMPLED:	28-Jan-25			DATE REPORTED:	1-Mar-24
SAMPLED BY:	JM			TESTED BY:	J.R



Clay	Silt	Sand			Gravel		Cobble
		Fine	Medium	Coarse	Fine	Coarse	

Identification	Soil Classification				MC(%)	LL	PL	PI	Cc	Cu
					25.0%					

D100	D60	D30	D10	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
				0.2	7.9	59.5	32.5

Comments:

REVIEWED BY:	Curtis Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

HYDROMETER
LS-702 ASTM-422

CLIENT:	Tiffany Rox North Hill Ltd.	DEPTH:	3.0 - 3.7 m	FILE NO.:	TG0257
PROJECT:	Highway 50, Bolton	BH OR TP No.:	BH11-25 SS5	DATE SAMPLED:	28-Jan-25
LAB No. :	00054	TESTED BY:	J.R	DATE RECEIVED:	28-Jan-25
SAMPLED BY:	JM	DATE REPT'D:	01-Mar-24	DATE TESTED:	27-Feb-25

SAMPLE INFORMATION

SAMPLE MASS	SPECIFIC GRAVITY
100.0	2.700

INITIAL WEIGHT	50.00	**HYGROSCOPIC MOISTURE**		
WEIGHT CORRECTED	48.90	TARE WEIGHT	0.00	ACTUAL WEIGHT
WT. AFTER WASH BACK SIEVE	2.20	AIR DRY	100.00	100.00
SOLUTION CONCENTRATION	40 g/L	OVEN DRY	97.80	97.80
		CORRECTED	0.978	

GRAIN SIZE ANALYSIS

SIEVE DIAMETER (mm)	WEIGHT RETAINED (g)	PERCENT RETAINED	PERCENT PASSING
26.5			
19			
13.2			
9.5	**0.0**	0.0	**100.0**
4.75	**0.2**	0.2	**99.8**
2.0	**3.9**	3.9	**96.1**
Pan	**96.1**		
0.850	**0.14**	4.2	**95.8**
0.425	**0.37**	4.6	**95.4**
0.250	**0.64**	5.1	**94.9**
0.106	**1.53**	6.8	**93.2**
0.075	**2.15**	8.0	**92.0**
Pan	**2.20**		
SIEVE CHECK 0.0	MAX = 0.3%		

HYDROMETER DATA

ELAPSED	TIME (24 hours)	Hs	Hc	Temp. (°C)	DIAMETER	(P)	TOTAL PERCENT PASSING
1	9:29	48.0	5.0	23.0	0.0371	75.6	**72.7**
2	9:30	47.0	5.0	23.0	0.0265	73.9	**71.0**
5	9:33	44.0	5.0	23.0	0.0173	68.6	**65.9**
15	9:43	42.0	5.0	23.0	0.0102	65.1	**62.5**
30	9:58	37.0	5.0	23.0	0.0075	56.3	**54.1**
60	10:28	33.0	5.0	23.0	0.0055	49.2	**47.3**
250	13:38	27.0	5.0	23.0	0.0028	38.7	**37.2**
1440	9:28	21.0	5.0	23.0	0.0012	28.1	**27.0**

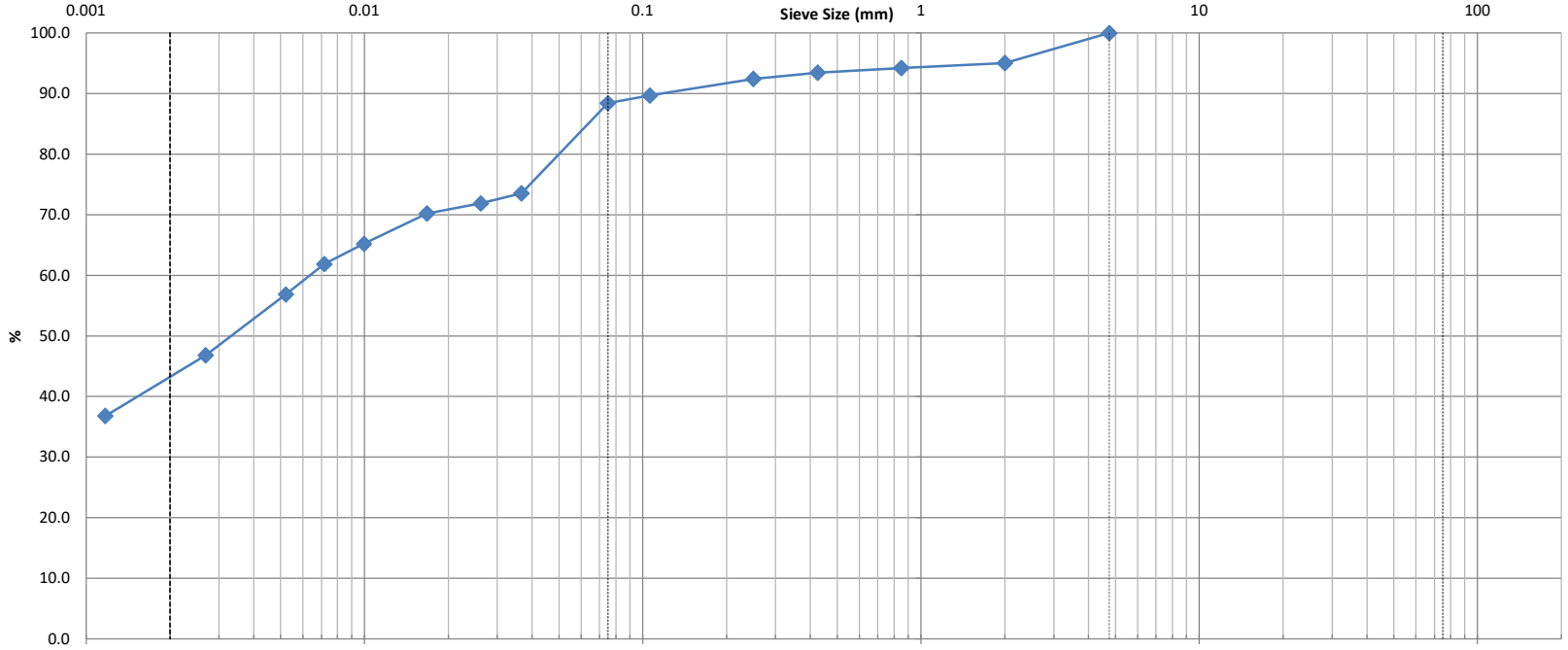
Moisture = 25.0%

REVIEWED BY:	C. Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

SIEVE ANALYSIS
ASTM C136

CLIENT:	Tiffany Rox North Hill Ltd.	DEPTH:	1.5 – 2.1 m	FILE NO:	TG0257
CONTRACT NO.:		BH OR TP No.:	BH13-25 SS3	LAB NO:	00054
PROJECT:	Highway 50, Bolton			DATE RECEIVED:	28-Jan-25
				DATE TESTED:	27-Feb-25
DATE SAMPLED:	28-Jan-25			DATE REPORTED:	1-Mar-24
SAMPLED BY:	JM			TESTED BY:	J.R



Clay	Silt	Sand			Gravel		Cobble
		Fine	Medium	Coarse	Fine	Coarse	

Identification	Soil Classification				MC(%)	LL	PL	PI	Cc	Cu
					25.0%					
	D100	D60	D30	D10	Gravel (%)	Sand (%)		Silt (%)		Clay (%)
					0.0	11.6		45.4		43.0

Comments:

REVIEWED BY:	Curtis Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

HYDROMETER
LS-702 ASTM-422

CLIENT:	Tiffany Rox North Hill Ltd.	DEPTH:	1.5 – 2.1 m	FILE NO.:	TG0257
PROJECT:	Highway 50, Bolton	BH OR TP No.:	BH13-25 SS3	DATE SAMPLED:	28-Jan-25
LAB No. :	00054	TESTED BY:	J.R	DATE RECEIVED:	28-Jan-25
SAMPLED BY:	JM	DATE REPT'D:	01-Mar-24	DATE TESTED:	27-Feb-25

SAMPLE INFORMATION

SAMPLE MASS	SPECIFIC GRAVITY
97.9	2.700

INITIAL WEIGHT	50.00	**HYGROSCOPIC MOISTURE**		
WEIGHT CORRECTED	48.90	TARE WEIGHT	0.00	ACTUAL WEIGHT
WT. AFTER WASH BACK SIEVE	3.52	AIR DRY	100.00	100.00
SOLUTION CONCENTRATION	40 g/L	OVEN DRY	97.80	97.80
		CORRECTED	0.978	

GRAIN SIZE ANALYSIS

SIEVE DIAMETER (mm)	WEIGHT RETAINED (g)	PERCENT RETAINED	PERCENT PASSING
26.5			
19			
13.2			
9.5			
4.75	**0.0**	0.0	**100.0**
2.0	**4.8**	4.9	**95.1**
Pan	**93.1**		
0.850	**0.43**	5.8	**94.2**
0.425	**0.83**	6.5	**93.5**
0.250	**1.38**	7.6	**92.4**
0.106	**2.82**	10.3	**89.7**
0.075	**3.49**	11.6	**88.4**
Pan	**3.52**		
SIEVE CHECK 0.0	MAX = 0.3%		

HYDROMETER DATA

ELAPSED	TIME (24 hours)	Hs	Hc	Temp. (°C)	DIAMETER	(P)	TOTAL PERCENT PASSING
1	9:00	49.0	5.0	23.0	0.0367	77.4	**73.6**
2	9:01	48.0	5.0	23.0	0.0262	75.6	**71.9**
5	9:04	47.0	5.0	23.0	0.0167	73.9	**70.2**
15	9:14	44.0	5.0	23.0	0.0100	68.6	**65.2**
30	9:29	42.0	5.0	23.0	0.0072	65.1	**61.9**
60	9:59	39.0	5.0	23.0	0.0052	59.8	**56.8**
250	13:09	33.0	5.0	23.0	0.0027	49.2	**46.8**
1440	8:59	27.0	5.0	23.0	0.0012	38.7	**36.8**

Moisture = 25.0%

REVIEWED BY:	C. Beadow	Joe Forsyth, P. Eng.

PATERSON GROUP

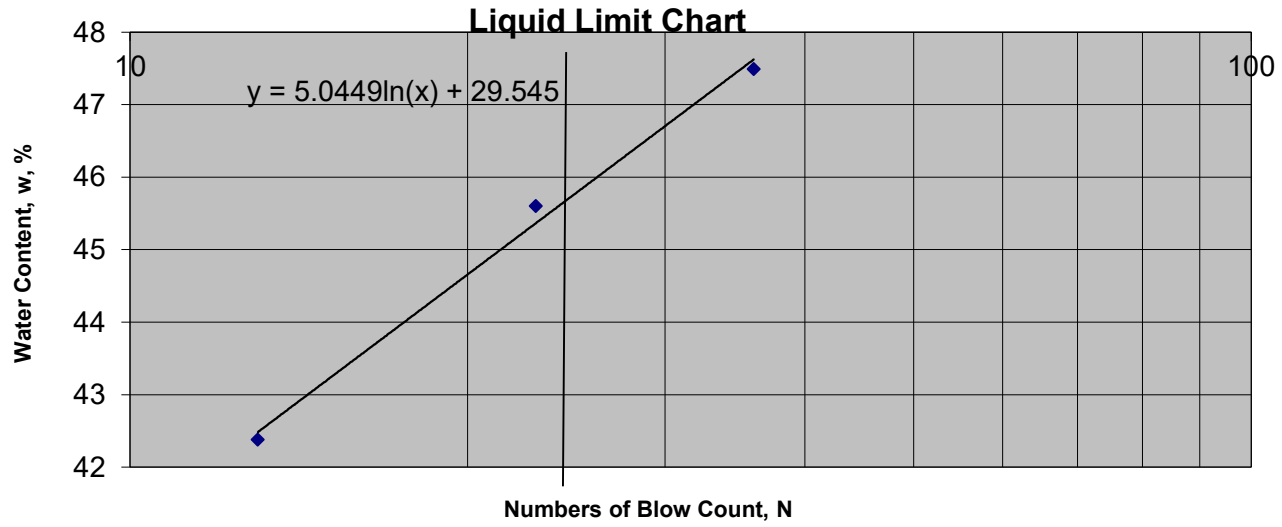
ATTERBERG LIMITS
LS-703/704

CLIENT:	Tiffany Rox North Hill Ltd.	FILE NO.:	TG0257
PROJECT:	116	DATE SAMPLED:	08-Dec
LOCATION:	BH1-25 SS4	DATE REPORTED:	17-Dec

CAN NO.	7	12	13				
WT. OF CAN	13.91	14.01	14.12				
WT. OF SOIL & CAN	45.9	46.90	41.57				
WT. OF DRY SOIL & CAN	35.60	36.60	33.40				
WT. OF MOISTURE	10.3	10.3	8.17				
WT. OF DRY SOIL & CAN	21.69	22.59	19.28				
WATER CONTENT, w, %	**47.49**	**45.6**	**42.38**				
NO. OF BLOWS, N	36	23	13				

CAN NO.	15	16
WT. OF CAN	14	14.13
WT. OF SOIL & CAN	25.46	26.80
WT. OF DRY SOIL & CAN	23.32	24.40
WT. OF MOISTURE	2.14	2.4
WT. OF DRY SOIL & CAN	9.32	10.27
WATER CONTENT, w, %	**22.96**	**23.37**

RESULTS	
LIQUID LIMIT	**45**
PLASTIC LIMIT	**23**
PLASTICITY INDEX	**22**



TECHNICIAN: SE	REVIEWED BY:	C. Beadow	J. Forsyth, P. Eng.

PATERSON GROUP

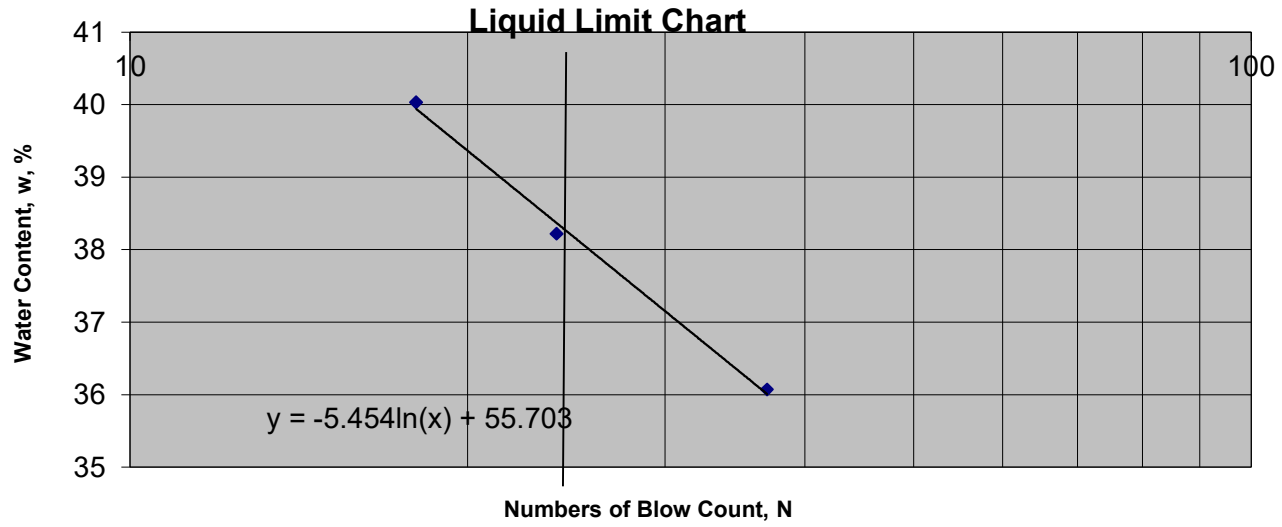
ATTERBERG LIMITS
LS-703/704

CLIENT:	Tiffany Rox North Hill Ltd.	FILE NO.:	TG0257
PROJECT:	117	DATE SAMPLED:	08-Dec
LOCATION:	BH4-25 SS3	DATE REPORTED:	17-Dec

CAN NO.	9	8	10				
WT. OF CAN	13.86	13.92	13.98				
WT. OF SOIL & CAN	42.79	47.70	46.99				
WT. OF DRY SOIL & CAN	34.52	38.36	38.24				
WT. OF MOISTURE	8.27	9.34	8.75				
WT. OF DRY SOIL & CAN	20.66	24.44	24.26				
WATER CONTENT, w, %	**40.03**	**38.22**	**36.07**				
NO. OF BLOWS, N	18	24	37				

CAN NO.	17	18
WT. OF CAN	14.09	13.86
WT. OF SOIL & CAN	34.68	36.71
WT. OF DRY SOIL & CAN	30.66	32.23
WT. OF MOISTURE	4.02	4.48
WT. OF DRY SOIL & CAN	16.57	18.37
WATER CONTENT, w, %	**24.26**	**24.39**

RESULTS	
LIQUID LIMIT	**38**
PLASTIC LIMIT	**24**
PLASTICITY INDEX	**14**



TECHNICIAN: SE	REVIEWED BY:	C. Beadow	J. Forsyth, P. Eng.

PATERSON GROUP

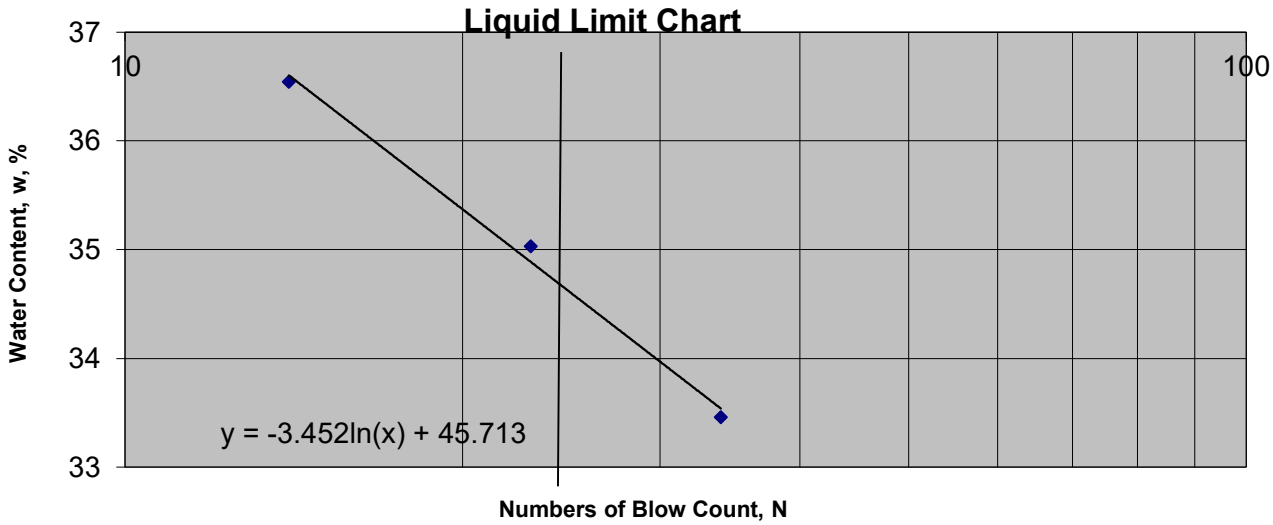
ATTERBERG LIMITS
LS-703/704

CLIENT:	Tiffany Rox North Hill Ltd.	FILE NO.:	TG0257
PROJECT:	118	DATE SAMPLED:	08-Dec
LOCATION:	BH6-25 SS4	DATE REPORTED:	17-Dec

CAN NO.	5	4	11				
WT. OF CAN	14.00	13.91	13.99				
WT. OF SOIL & CAN	50.77	49.80	52.96				
WT. OF DRY SOIL & CAN	40.93	40.49	43.19				
WT. OF MOISTURE	9.84	9.31	9.77				
WT. OF DRY SOIL & CAN	26.93	26.58	29.2				
WATER CONTENT, w, %	**36.54**	**35.03**	**33.46**				
NO. OF BLOWS, N	14	23	34				

CAN NO.	14	2
WT. OF CAN	14.13	13.90
WT. OF SOIL & CAN	29.07	25.00
WT. OF DRY SOIL & CAN	26.42	23.03
WT. OF MOISTURE	2.65	1.97
WT. OF DRY SOIL & CAN	12.29	9.13
WATER CONTENT, w, %	**21.56**	**21.58**

RESULTS	
LIQUID LIMIT	**35**
PLASTIC LIMIT	**22**
PLASTICITY INDEX	**13**



TECHNICIAN: SE	REVIEWED BY:	C. Beadow	J. Forsyth, P. Eng.

PATERSON GROUP

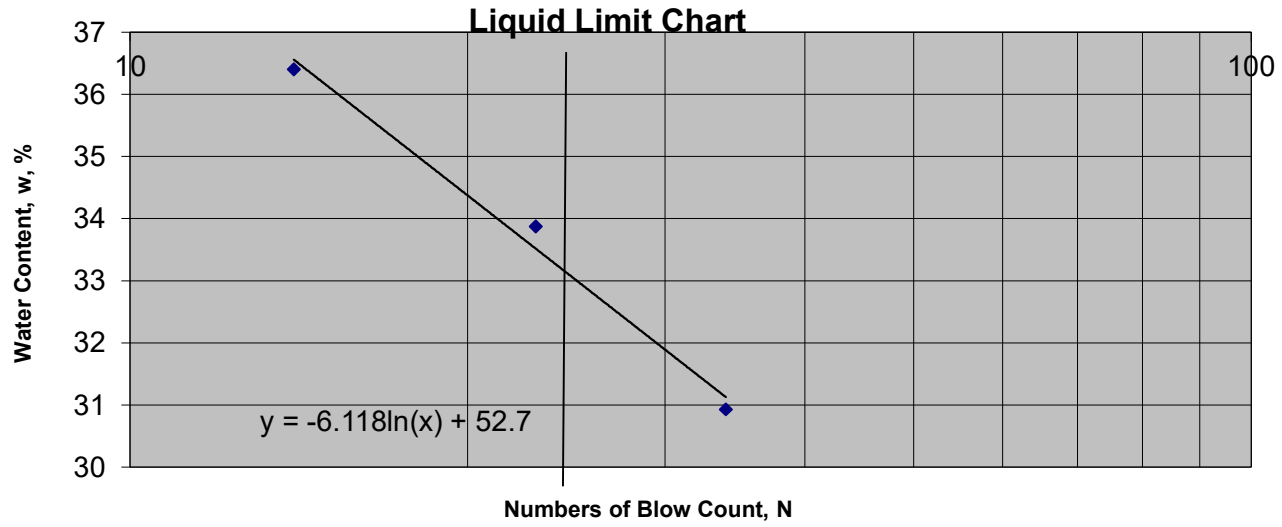
ATTERBERG LIMITS
LS-703/704

CLIENT:	Roxborough Developments	FILE NO.:	TG0257
PROJECT:	112	DATE SAMPLED:	08-Dec
LOCATION:	BH8-25 SS4	DATE REPORTED:	11-Dec

CAN NO.	C16	C32	B9				
WT. OF CAN	38.02	38.02	38.17				
WT. OF SOIL & CAN	83.96	92.21	77.62				
WT. OF DRY SOIL & CAN	71.70	78.50	68.30				
WT. OF MOISTURE	12.26	13.71	9.32				
WT. OF DRY SOIL & CAN	33.68	40.48	30.13				
WATER CONTENT, w, %	**36.4**	**33.87**	**30.93**				
NO. OF BLOWS, N	14	23	34				

CAN NO.	C29	B13
WT. OF CAN	37.9	38.01
WT. OF SOIL & CAN	68.72	64.05
WT. OF DRY SOIL & CAN	63.10	59.30
WT. OF MOISTURE	5.62	4.75
WT. OF DRY SOIL & CAN	25.2	21.29
WATER CONTENT, w, %	**22.3**	**22.31**

RESULTS	
LIQUID LIMIT	**34**
PLASTIC LIMIT	**22**
PLASTICITY INDEX	**12**



TECHNICIAN: SE	REVIEWED BY:	C. Beadow	J. Forsyth, P. Eng.

Certificate of Analysis

Report Date: 17-Dec-2025

Client: Paterson Group Consulting Engineers (Mississauga)

Order Date: 11-Dec-2025

Client PO: 64700

Project Description: TG0257

	Client ID:	BH-10-25-SS3	-	-	-
	Sample Date:	09-Dec-25 12:00	-	-	-
	Sample ID:	2550304-01	-	-	-
	MDL/Units	Soil	-	-	-
Physical Characteristics					
% Solids	0.1 % by Wt.	82.7	-	-	-
General Inorganics					
pH	0.05 pH Units	7.59	-	-	-
Resistivity	0.1 Ohm.m	37.6	-	-	-
Anions					
Chloride	10 ug/g dry	<10	-	-	-
Sulphate	10 ug/g dry	100	-	-	-

Certificate of Analysis

Report Date: 19-Jan-2026

Client: **Paterson Group Consulting Engineers (Mississauga)**

Order Date: 29-Jan-2025

Client PO: **62254**

Project Description: TG0257

	Client ID:	BH12-25-SS4	-	-	-
	Sample Date:	28-Jan-25 12:00	-	-	-
	Sample ID:	2505304-01	-	-	-
	MDL/Units	Soil	-	-	-
Physical Characteristics					
% Solids	0.1 % by Wt.	83.6	-	-	-
General Inorganics					
pH	0.05 pH Units	7.27	-	-	-
Resistivity	0.10 Ohm.m	91.2	-	-	-
Anions					
Chloride	5 ug/g dry	7	-	-	-
Sulphate	5 ug/g dry	7	-	-	-

Certificate of Analysis

Report Date: 19-Jan-2026

Client: **Paterson Group Consulting Engineers (Mississauga)**

Order Date: 31-Jan-2025

Client PO: **62254**

Project Description: TG0257

	Client ID:	BH13-25-SS3	-	-	-
	Sample Date:	28-Jan-25 12:00	-	-	-
	Sample ID:	2506060-01	-	-	-
	MDL/Units	Soil	-	-	-
Physical Characteristics					
% Solids	0.1 % by Wt.	84.2	-	-	-
General Inorganics					
pH	0.05 pH Units	6.94	-	-	-
Resistivity	0.10 Ohm.m	63.4	-	-	-
Anions					
Chloride	5 ug/g dry	7	-	-	-
Sulphate	5 ug/g dry	43	-	-	-

APPENDIX 2

FIGURE 1 - KEY PLAN

DRAWING TG0257-1 - TEST HOLE LOCATION PLAN

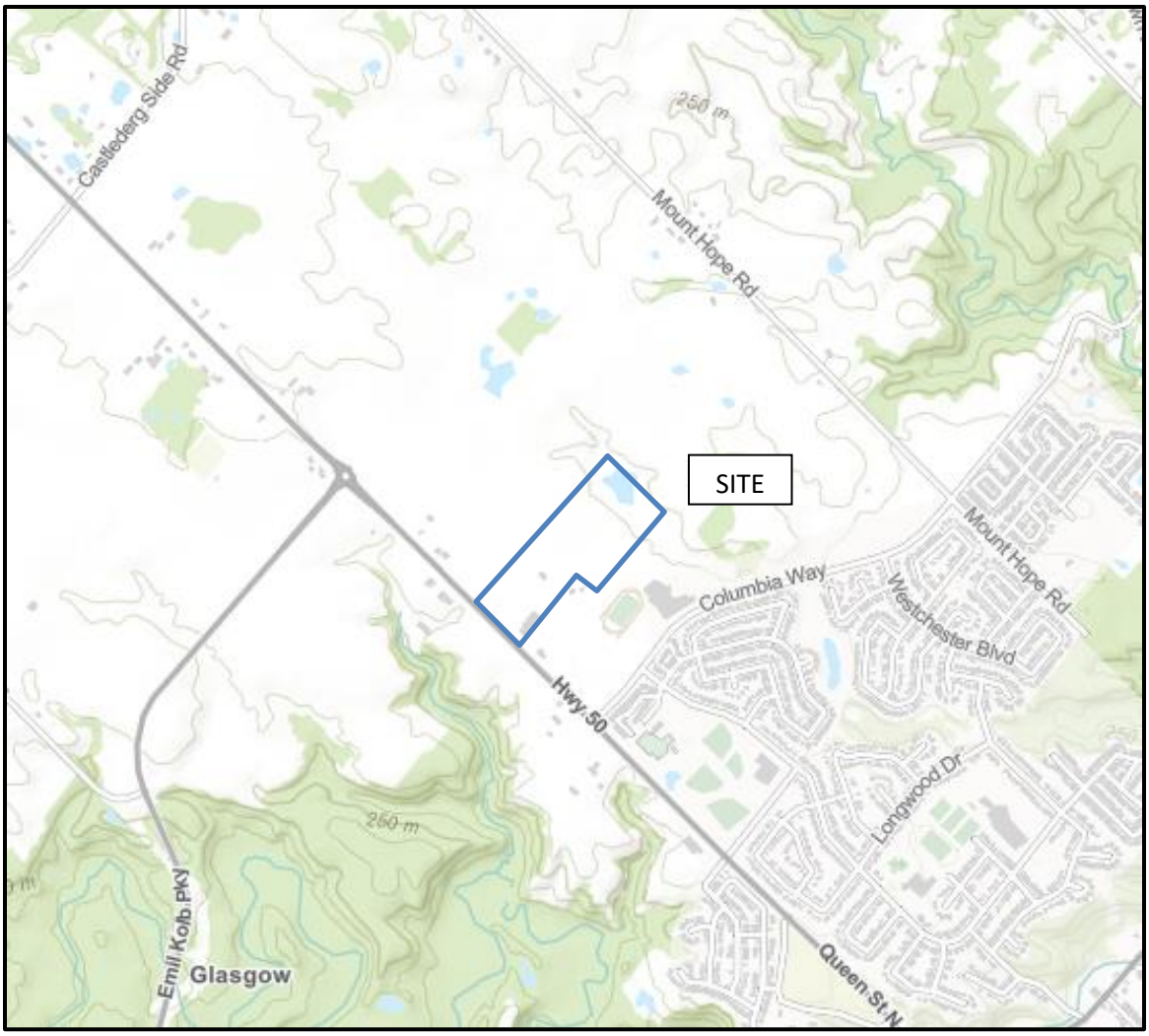
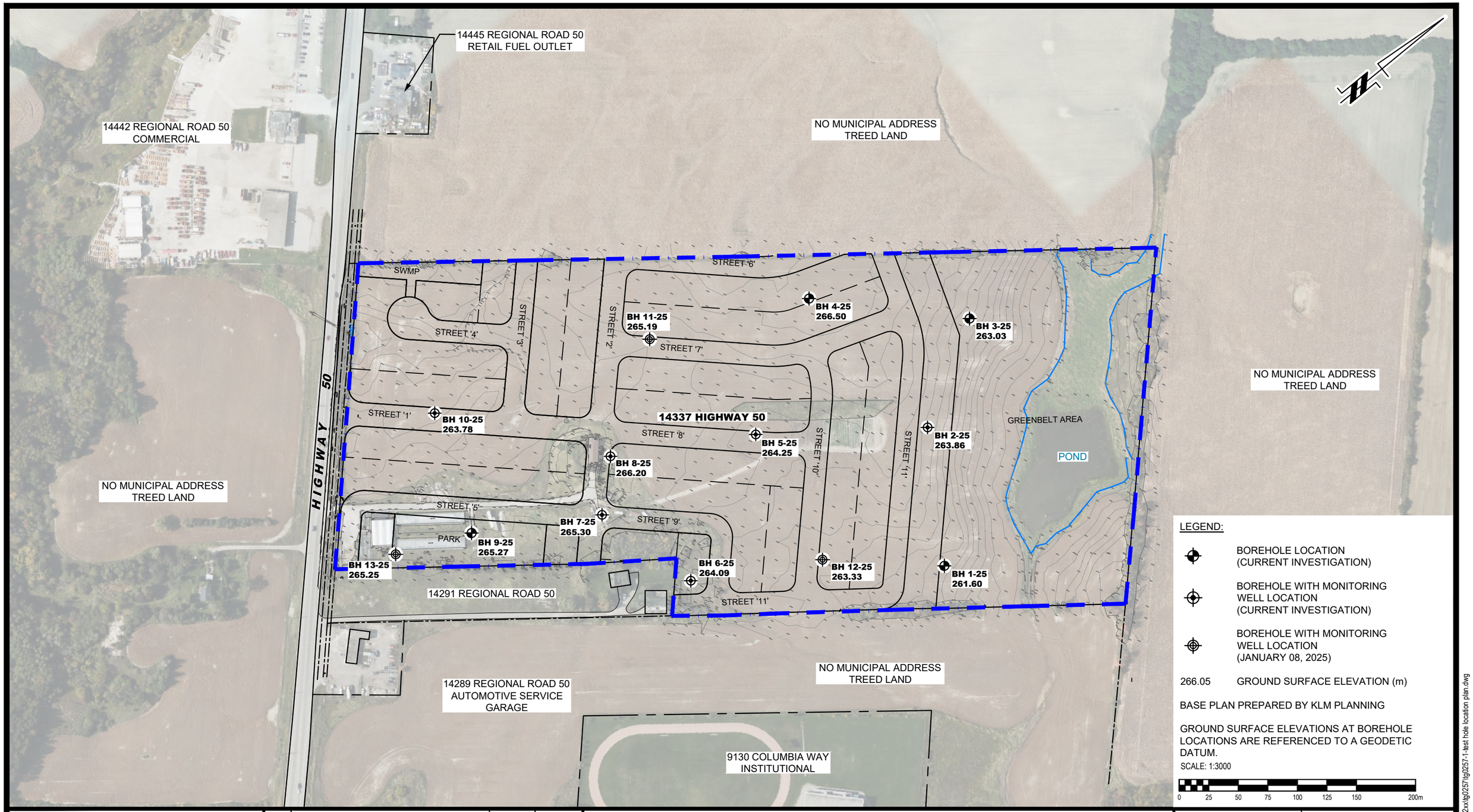


FIGURE 1

KEY PLAN



LEGEND:

- BOREHOLE LOCATION (CURRENT INVESTIGATION)
- BOREHOLE WITH MONITORING WELL LOCATION (CURRENT INVESTIGATION)
- BOREHOLE WITH MONITORING WELL LOCATION (JANUARY 08, 2025)

266.05 GROUND SURFACE ELEVATION (m)

BASE PLAN PREPARED BY KLM PLANNING

GROUND SURFACE ELEVATIONS AT BOREHOLE LOCATIONS ARE REFERENCED TO A GEODETIC DATUM.

SCALE: 1:3000

0 25 50 75 100 125 150 200m

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL

TIFFANY ROX NORTH HILL LTD.

GEOTECHNICAL INVESTIGATION
PROPOSED RESIDENTIAL DEVELOPMENT
14337 HIGHWAY 50
BOLTON, ONTARIO

Title:

TEST HOLE LOCATION PLAN

Scale: 1:3000	Date: 01/2026
Drawn by: YA	Report No.: TG0257-1
Checked by: BN	Dwg. No.: TG0257-1
Approved by: DG	Revision No.:

p:\autocad drawings\geotechnical\tg02xx\tg0257\tg0257-1-test hole location plan.dwg

11x17