REPORT ON
GEOTECHNICAL INVESTIGATION
466-468 DOVERCOURT ROAD
TORONTO, ONTARIO

REPORT NO.: 5166-19-GA
REPORT DATE: DECEMBER 17, 2019

PREPARED FOR
466 DCR URBAN PROPERTIES INC.
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1.0 INTRODUCTION

Toronto Inspection Ltd. (TIL), was authorized by Mr. Ali Saneinejad on behalf of 466 DCR Urban Properties Inc. to conduct a Geotechnical Investigation for the proposed redevelopment at 466-468 Dovercourt Road, Toronto, Ontario (hereinafter referred to as "the Site"). The field work for the geotechnical investigation was carried out in conjunction with a Hydrogeological Study. The report of findings, relating to the hydrogeological study, will be issued under a separate cover.

A review of the architectural drawings (Revision 2), prepared by AXIA Design Associates, dated December 16, 2019, provided to our office by the client, indicated that the redevelopment at the Site will consist of construction of one 6 storey residential building with a basement.

The purpose of the geotechnical investigation was to delineate the subsoil and groundwater conditions, encountered at the borehole locations, and provides our recommendations for the design and construction of the redevelopment. In particular, geotechnical data was to be provided for:

- General founding conditions
- Foundation design bearing pressures
- Construction recommendations
- Excavation recommendations

This geotechnical investigation report is provided on the basis of the above terms of reference and on an assumption that the design of structure will be in accordance with the applicable building codes and standards. If there are any changes in the design features relevant to the geotechnical analysis, our office should be consulted to review the foundation design and to confirm the recommendations and comments provided in the report.

2.0 SITE CONDITION

The Site, approximately 0.07 ha and rectangle in shape, is located on the west side of Dovercourt Road, approximately 35m north of College Street, east of Bill Cameron Lane, in Toronto, Ontario.

At the time of the investigation, the Site was occupied by a two storey brick commercial building with a partial basement at the east part, covering most of the Site, with a interlocking paver parking lot at the southwest corner of the Site.

A paved parking lot was located adjacent to the south of the Site and a two storey single detached dwelling with a partial basement was located to the north of the Site. The Site gradient was relatively flat and slightly higher than the street levels.

3.0 INVESTIGATION PROCEDURE

The field work for the investigation was carried out on November 21, 22 and 28, 2019, and consisted of drilling four boreholes, BH-1 to BH-4, extending to depths of 6.7m to 15.7m from grade, at the location shown on the appended Borehole Location Plan (Drawing No. 1). Boreholes BH-1 and BH-2 were drilled, using a hand hammer, inside the basement at the east part of the building and Boreholes BH-3 and BH-4 were drilled at the driveway at the west part of the Site.

The boreholes were advanced using a track mounted drill rig and a hand hammer, equipped with continuous flight solid stem augers and sampling rods, supplied by a specialist drilling contractor. Soil samples were generally retrieved from the boreholes at 0.76m or 0.60m intervals to depths of 3m below the existing ground level. Below the depths, the sampling frequency was increased to 1.5m. The samples were obtained using a split spoon sampler in conjunction with Standard Penetration Tests (SPT) using a driving energy of 475 joules (350 ft-lbs) for the mounted drill rig and 238 joules (175 ft-lbs) for the hand hammer. The samples were identified and logged in the field and were carefully bagged and delivered to our laboratory for moisture content determination and visual identification by a geotechnical engineer.

Groundwater observations were made in the open boreholes during and upon the completion of drilling. All boreholes, BH-1 to BH-4, were completed as observation wells for the determination of the static groundwater conditions.

The borehole locations were established in the field by our site personnel. The ground elevations at the borehole locations were interpolated using the survey data from Part 1 – Plan survey with Topography of Part of Lot 3, Registered Plan D262, City of Toronto, prepared by Speight, Van Nostrand & Gibson Limited, dated March 19, 2010, provided to our office by the client.

4.0 SUMMARISED SUBSURFACE CONDITIONS

Reference is made to the appended Borehole Location Plan (Drawing No. 1) and Logs of Borehole sheets (Drawing Nos. 2 to 5), including a section (Drawing No. 6), for details of field work, including soil classification, inferred stratigraphy, ground water observations carried out during and on completion of the boreholes.

The subsoil, below the surface course of concrete floor or interlocking paver, consisted of fill overlying native sand / silty sand, silty clay / clayey silt, clayey silt till and sandy silt till deposits. Brief descriptions of the subsurface materials, encountered at the borehole locations, are as follows:

4.1 Surface Course

Concrete floor, consisting of approximately 125mm thick of concrete slab over a granular base course, was contacted at the ground surface at BH-1 and BH-2 locations, and extended to depths of 0.3m to 0.4m from grade.

Interlocking pavers, approximately 70mm in thickness over a granular base, was contacted at the ground surface at BH-3 location, and extended to a depth of 90mm from grade. The interlocking pavers at BH-4 location were underlain by 80mm of concrete over a granular base, extending to a depth of 280mm from grade.

4.2 Fill

A layer of fill was contacted below the concrete floor and the interlocking pavers at BH-1 to BH-3 locations. The fill consisted of a mixture of sand, trace to some silt, trace gravel, with scattered minor topsoil, rootlets or wood fragments. The fill extended to depths of 0.5m to 0.6m from grade.

4.3 Sand / Silty Sand

Sand / silty sand deposits were contacted at all borehole locations, below the fill or interlocking pavers at depths of 0.3m to 0.6m from grade. The sand / silty sand deposits were fine to medium grained and contained occasional layers of sandy silt and trace clayey silt.

The sand / silty sand deposits at the borehole locations extended to depths of 3.1m to 7.0m from grade.

Based on the Standard Penetration N-values, 8 to 79 blows per 0.3m penetration, the relative density of the sand / silty sand deposits was compact to very dense, generally in the compact range. Occasional loose layers were observed at the upper portion at BH-3 and BH-4 locations.

The in-situ moisture contents of the soil samples, retrieved from the sandy silt deposit, varied from 9% to 20%, indicating moist to wet conditions.

A grain size analysis was carried out on one selected soil sample, obtained from BH-3 (SS5 - at a depth of 3.0m), using both of mechanical sieves and hydrometer. The grain size distribution is shown on the appended Figure No. 1.

4.4 Silty Clay / Clayey Silt

Silty clay / clayey silt deposits were contacted at BH-3 and BH-4 locations, below the sand / silty sand deposits, at depths of 6.0m to 7.0m from grade. These deposits, of low to medium plasticity, contained trace gravel and some sand.

Borehole BH-3 was terminated in the silty clay deposit at a depth of 8.1m from grade. The silty clay / clayey silt deposits at BH-4 location extended to a depth of 10.8m from grade.

Based on the Standard Penetration N-values, 6 to 11 blows per 0.3m penetration, the consistency of the silty clay / clayey silt deposits was firm to stiff.

The in-situ moisture contents of the soil samples, retrieved from the silty clay / clayey silt deposits, varied from 14% to 19%, indicating very moist conditions with wet pockets.

A grain size analysis was carried out on one selected soil sample, obtained from BH-4 (SS8 - at a depth of 7.6m), using both of mechanical sieves and hydrometer. The grain size distribution is shown on the appended Figure No. 1.

4.5 Clayey Silt Till

A clayey silt till deposit was contacted at BH-1, BH-2 and BH-4 locations, below the sand / silty sand or silty clay / clayey silt deposits at depths of 3.1m to 10.8m from grade. The deposit consisted of a heterogeneous mixture of silt, clay and sand with some gravel.

Borehole BH-2 was terminated in the clayey silt till deposit at a depth of 6.7m from grade. The clayey silt till deposit at BH-1 and BH-4 locations extended to depths of 6.7m and 13.1m from grade, respectively.

Based on the Standard Penetration N-values, in the range of 10 to 24 blows per 0.3m penetration, the consistency of the clayey silt till deposit was stiff to very stiff.

The in-situ moisture contents of the soil samples, retrieved from the clayey silt till deposit, varied from 12% to 17%, indicating moist to very moist conditions with occasional wet pockets.

4.6 Sandy Silt Till

A sandy silt till deposit was contacted at BH-1 and BH-4 locations, below the clayey silt till deposit at depths of 6.7m and 13.1m from grade, respectively. The deposit consisted of a heterogeneous mixture of silt, sand and clay with some gravel.

Boreholes BH-1 and BH-4 were terminated in the sandy silt till deposit at depths of 9.8m and 15.7m from grade.

Based on the Standard Penetration N-values, in the range of 31 to 55 blows per 0.3m penetration, the relative density of the sandy silt till deposit was dense to very dense.

The in-situ moisture contents of the soil samples, retrieved from the sandy silt till deposit, varied from 9% to 13%, indicating moist to very moist conditions.

A grain size analysis was carried out on one selected soil sample, obtained from BH-1 (SS8 - at a depth of 6.7m), using both of mechanical sieves and hydrometer. The grain size distribution is shown on the appended Figure No. 1.

4.7 Groundwater

Cave-in was recorded in all open boreholes BH-1 to BH-4, at depths of 8.4m, 6.0m, 3.4m and 13.1m from grade, respectively, during and upon completion of the drilling. It is our opinion that the cave-in could represent the wet cave-in within the sand / silty sand deposits in the boreholes.

During the groundwater monitoring rounds on November 29 and December 4, 2019, water levels documented in the observation wells are listed below:

Well ID	Ground Elevation	Well Depth	Groundwater Measured Depths / Elevations			
			Nov 29, 2019	Dec 4, 2019	Dec 12, 2019	Elevation *
BH-1	102.95m	6.55m	0.74m	0.87m	0.82m	102.13m
BH-2	103.68m	5.96m	0.99m	0.97m	0.95m	102.73m
BH-3	105.92m	6.10m	3.62m	3.60m	3.60m	102.32m
BH-4	105.97m	15.24m	8.69m	7.78m	8.13m	97.84m

*: Groundwater elevations based on the last round of monitoring, which represent the current stabilized water levels.

Based on the moisture content profile of the soil samples retrieved from the boreholes and our field observation at the Site and the groundwater records, it is our opinion that the water levels recorded represent a continuous groundwater table, at an elevation of 102.1m, in the sand / silty sand deposits and perched water in the seams of sand within the clayey / sandy silt till deposits.

Additional groundwater monitoring will be conducted as part of the Hydrogeological Study, to determine the seasonal fluctuations. Reference should, therefore, be made to the Hydrogeological Report for further details regarding the groundwater table / groundwater quality at the Site.

5.0 RECOMMENDATIONS

A review of the architectural drawings (Revision 2), prepared by AXIA Design Associates, dated December 16, 2019, provided to our office by the client, indicated that the redevelopment at the Site will consist of construction of one 6 storey residential building with a basement. The ground floor will be at an elevation of 105.88m, close or slightly below the existing ground level. The slab-on-grade elevation of the basement (i.e. Level -1) will be at an elevation of 101.26m, approximately 4.62m below the ground floor level. The founding levels of the spread footings are assumed to be 1.0m lower than the basement slab-on-grade, at an elevation of 100.3m, approximately 5.59m below the ground floor level (at or below depths of 5.7m below the existing ground level). However, the elevators and the surrounding foundations are anticipated to be approximately 1m to 2m deeper than the above assumed founding levels, at elevations of 98.3m to 99.3m, at depths of approximately 6.7m to 7.7m below the existing ground level.

These assumed foundation elevations/depths are more than 2m to 4m below the current static groundwater level, documented at the boreholes. Unless a permanent groundwater control system is used to maintain the water level a minimum of 0.5m below the proposed slab-on-grade elevation, we recommend that the part of the basement, below the highest anticipated water level, should be designed as a water tight structure and consideration should, therefore, be given to use a raft slab as the foundation of the proposed structure.

The recommendations provided in this report, for the design and construction of the redevelopment, are based on the subsoil encountered at the borehole locations and are on the assumption that the groundwater table will be maintained a minimum of 0.5m below the slab-on-grade elevation.

5.1 Foundations

The subsoil at and below the assumed founding elevations of 98.3m to 100.3m are anticipated to consist of compact sand / silty sand, stiff to very stiff clayey silt till, or firm to stiff silty clay / clayey silt deposits, at BH-1 to BH-4 locations. Provided that the groundwater table is maintained a minimum of 0.5m below the slab-on-grade elevation, the structure can be founded on spread / strip foundations.

Conventional spread and strip footings, founded in the undisturbed sand / silty sand, clayey silt till to silty clay / clayey silt deposits, at elevations of 98.3m to 100.3m, at BH-1 to BH-4 locations, can be designed using the following bearing pressures:

- 150 kPa at Serviceability Limit State (SLS)
- 220 kPa at Factored Ultimate Limit State (ULS)

The total and differential settlement of the new foundations, under the above recommended bearing pressures at Serviceability Limit State, will not exceed 25 mm and 20 mm, respectively.

Any footings, which may be exposed to freezing penetration, should be placed below the frost penetration depth of 1.2 m below the outside grade or be provided with an equivalent thermal protection.

If the groundwater table cannot be maintained below the basement slab-on-grade, consideration should be given to use a raft slab. The raft foundation can be designed using the above bearing pressures. For the design of raft foundation, a modulus of subgrade reaction of 15 MN/m^3 can be used on the compact sand / silty sand, stiff to very stiff clayey silt till, or firm to stiff silty clay / clayey silt deposits.

Alternatively, case-in-place caissons, founded into the dense to very dense sandy silt till deposit, at or below the elevation of 91.5m (approximately at the depth of 14.5m below the existing ground level), at BH-4 location, can be used to support the proposed building, designed for the following bearing pressures:

- 500 kPa at Serviceability Limit State (SLS)
- 750 kPa at Factored Ultimate Limit State (ULS)

It should be noted that to use the bearing pressures for the caissons, additional boreholes will have to be carried out, after the current structures at the Site have been demolished, to determine the elevation and the lower extent of the dense to very dense sandy silt till deposit.

For the construction of the raft foundation, provision will have to be made to provide a space between the top of the raft and the slab-on-grade, for the installation of sewers and any other in-ground services. Since the founding of the raft foundation will be below the groundwater table, we recommend that the part of the structure below the highest anticipated groundwater table, as established by the hydrogeological study, should be designed as a water tight structure.

It is our opinion that the temporary dewatering, before and during construction, would be to use an eductor system, deep wells, vacuum well points or a combination of these systems, after the excavation has reached approximately 1m above the current static water level. The dewatering system should be designed by the dewatering contractor to maintain the water level a minimum of .5m below the deepest footing level.

It should be noted that the above preliminary recommendations for the design and construction of footings have been analyzed by ***Toronto Inspection Ltd.*** from the information obtained at the borehole locations. The bearing material, the interpretation between the boreholes and the recommendations of this report must be checked through field inspection provided by ***TIL***, to validate the information for use during construction.

5.2 Floor Slab Construction

The subsoil under the proposed slab-on-grade of the basement is anticipated to consist of sand / silty sand deposit. Provided that the groundwater table is maintained a minimum of 0.5m below he slab-on-grade elevation, the floor slab of the proposed building can be designed and constructed as a conventional slab-on-grade method.

A granular base course, consisting of at least of 150 mm of Granular A (OPSS Form 1010) or its approved equivalent, should be provided between the subsoil and the slab-on-grade as a moisture barrier. The granular base should be compacted to at least 100% of its Standard Proctor maximum dry density. It will be necessary to install subfloor drains.

For raft foundation design, the space between the top of the raft foundation and the slab-on-grade, for installation of sewers and other in-ground services, can be filled with 19mm clear stone. The floor slab can be poured directly over the clear stone backfill.

5.3 Earthquake Consideration

The Ontario Building Code requires that all buildings be designed to resist earthquake forces. In accordance with Table 4.1.8.4.A of the Ontario Building Code, the site classification for the Seismic Site Response is Class D (stiff soil).

The acceleration and velocity based site coefficients, Fa and Fv, should conform to Tables 4.1.8.4.B and 4.1.8.4.C. These values should be reviewed by the Structural Engineer.

5.4 Excavation

All excavations should comply with the Ontario Occupational Health and Safety Act. Any excavation in the fill should be sloped back to a safe angle of 45 degrees or flatter.

The architectural drawings indicate that the basement will cover most of the Site and it is our opinion that adequate space will not be available for an open excavation. A temporary shoring system will have to be used to support the vertical faces of the excavation. The shoring design parameters and our recommendations on the installation and testing of the shoring system are provided in Appendix A of this report.

5.5 Lateral Earth Pressure

Where subsurface walls will retain unbalanced loads, the lateral earth pressure may be computed using the following equation:

$$P = K_o (\gamma H + q)$$

where P =	Lateral earth pressure	kPa
K_o =	Lateral earth pressure coefficient	0.4
γ =	Bulk unit weight of the soil	21.5 kN/m^3
H =	Depth of the wall below the finish grade	m
q =	Surcharge loads adjacent to the basement wall	kPa

The equation assumes that a permanent free draining system will be provided to prevent the buildup of hydrostatic pressure next to the wall.

For part of the structure is below the static groundwater table, it should be designed as a water tight structure. The lateral pressure of the structure, to a minimum of one metre above the static water level, should be computed using the following expression:

$$\mathbf{P_s} = K (\gamma' H_s + q) + \gamma_\omega H_s$$

where $\mathbf{P_s}$ =	Lateral earth pressure below the water table	kPa
K =	Lateral earth pressure coefficient	0.4
γ' =	Submerged unit weight of the soil	11.7 kN / m^3
H_s =	Depth of the wall below the water level	m
$\gamma\omega$=	Unit weight of water	9.8 kN / m3
q =	Surcharge loads adjacent to the basement wall	kPa

5.6 Permanent Perimeter Drainage

Permanent perimeter drains should be provided around the basement structure. At the shoring location, the permanent perimeter drain should consist of a prefabricated continuous blanket of Miradrain 6000 or its equivalent, as shown in Figure No. 2. The installation of this type of vertical drainage system and its connections should be carried out as per the manufacturer's specifications.

5.7 Groundwater Control

The hydrogeological report should be referred for source of the groundwater, the groundwater table and the temporary / permanent groundwater control.

5.8 Subsurface Concrete and Metal Requirements

Chemical tests of pH, Sulphate and Sulphide contents, Chloride, Conductivity, Resistivity and Redox Potential were undertaken on one selected soil sample of the soils close to anticipated footing founding elevation. The test results, as attached in Appendix B, are summarized below:

BH ID	Depth	Corrosivity Index	pH	Sulphate (µg/g)	Sulphide (%)	Chloride (ug/g)	Conductivity (mS/cm)	Resistivity (Ohm-cm)	Redox Potential (mV)
BH-3	6.1m - 6.6m	8	8.58	14	0.02	7.4	97	10300	226

The test results indicated that the soil sample contained pH value slightly higher than 7, indicating slightly alkaline. The sulphate content of the sample was 14 µg/g (0.00014 %). This concentration of sulphate in the soils would have a negligible potential of sulphate attach on subsurface concrete.

The chloride content of the sample was less than 0.00074%. The concentration of chloride in the soil would, therefore, have a negligible potential of chloride attack.

In accordance with National Standards of Canada, CAN/CSA – A23.1-04, normal Type 10 Portland Cement can be used in the construction of substructures with direct contact with the soils.

The electrical resistivity value indicated that the corrosion potential of the soil was "mild", based on the comparison of the test result with the literature reference, J.D. Palmer, Soil Resistivity Measurement and Analysis, Materials Performance, Volume 13, 1974.

The sulphide content of the sample was at the Reporting Limit of 0.02%. The concentration of sulphide in the soil would, therefore, have a negligible potential of sulphide attack for steel reinforcement.

6.0 GENERAL STATEMENT OF LIMITATION

The comments and recommendations presented in this preliminary report are based on the subsoil and ground water conditions encountered at the borehole locations, indicated in the borehole location plan, and are intended for the guidance of the design engineer. Although we consider this report to be representative of the subsurface conditions at the subject property, the soil and the ground water conditions between and beyond the borehole locations may differ from those encountered at the time of our investigation and may become apparent during construction. Any contractor bidding on, or undertaking the works, should decide on their own investigation and interpretations of the groundwater and the soil conditions between the borehole locations.

Any use and / or the interpretation of the data presented in this report, and any decisions made on it by the third party are responsibility of the third parties. The responsibility of ***Toronto Inspection Ltd.*** is limited to the accurate interpretation of the soil and ground water conditions prevailing in the locations investigated and accepts no responsibility for the loss of time and damages, if any, suffered by the third party as a result of decisions or actions based on this report.

Any legal actions arising directly or indirectly from this work and/or ***Toronto Inspection Ltd.'s*** performance of the services shall be filed no longer than two years from the date of ***Toronto Inspection Ltd.'s*** substantial completion of the services. ***Toronto Inspection Ltd.*** shall not be responsible to the client for lost revenues, lost of profits, cost of content, claims of customers, or other special indirect, consequential or punitive damages.

To the fullest extent permitted by law, the client's maximum aggregate recovery against ***Toronto Inspection Ltd.***, its directors, employees, sub-contractors and representatives, for any and all claims by clients for all causes including, but not limited to, claims of breach of contract, breach of warranty and /or negligence, shall be the amount of the fee paid to ***Toronto Inspection Ltd.*** for its professional services rendered under the agreement with respect to the particular site which is the subject of the claim by the client.

Yours very truly,
TORONTO INSPECTION LTD.

LICENSED PROFESSIONAL ENGINEER
S. WANG
100131918
Dec 17, 2019
PROVINCE OF ONTARIO

David S. Wang, P.Eng.
Senior Engineer

Upkar S. Sappal, P.Eng.
Principal Engineer

Toronto Inspection Ltd.

Drawings
Borehole Location Plan
Logs of Boreholes
Section

Source: Toronto Interactive Map

LEGEND:

- Borehole / Monitoring Well Location
- Property Boundary

NOT TO SCALE

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TITLE: Borehole / Monitoring Well Location Plan		
LOCATION: 466-468 Dovercourt Road, Toronto, Ontario		
PROJECT NO. 5166-19-GA	DATE : November 2019	DRAWING NO : 1

Project No. 5166-19-GA

Log of Borehole BH-1

Dwg No. 2

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 466-468 Dovercourt Road, Toronto, Ontario

Date Drilled: 11/21/19

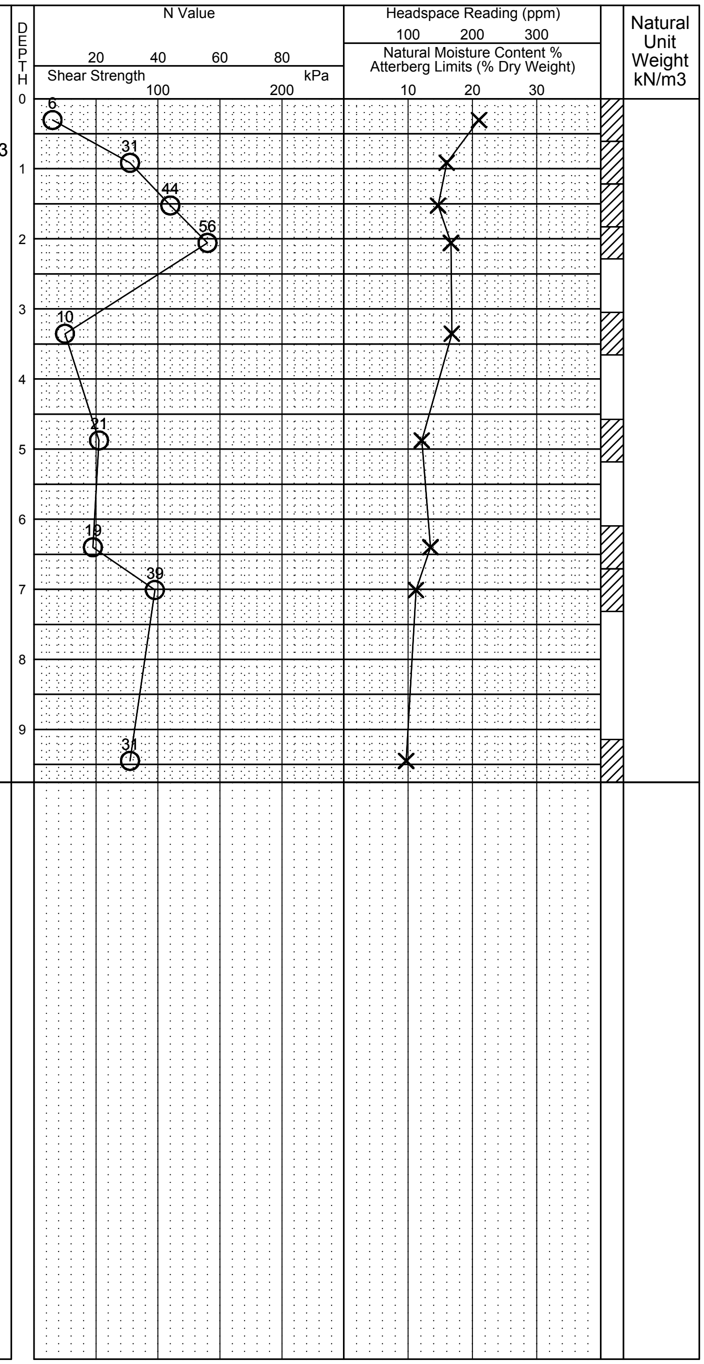
Drill Type: Hand Hammer

Datum: Geodetic

Legend		Legend	
Auger Sample	⊠	Headspace Reading (ppm)	•
SPT (N) Value	○ ⧄	Natural Moisture	×
Dynamic Cone Test	—	Plastic and Liquid Limit	├─┤
Shelby Tube	■	Unconfined Compression % Strain at Failure	⊗
Field Vane Test	✚ S	Penetrometer	▲

Soil Description	ELEV. m
Ground Surface	102.95
CONCRETE FLOOR	102.82
- 125mm conrete over a granular base (pea gravel)	102.67 / 102.44 / 102.13
FILL - dark brown to brown sand - some wood fragments - trace gravel, trace silt - wet	
SAND / SILTY SAND - dense to very dense - brown, grey below 0.7m - fine to medium grained - layers of sandy silt - trace clayey silt - wet	99.83
CLAYEY SILT TILL - stiff to very stiff - grey - layers of sandy silt till - some gravel - moist to very moist	96.24
SANDY SILT TILL - dense, grey - layers of clayey silt till - some gravel - moist to very moist	93.20

END OF BOREHOLE
NOTE:
Upon completion of drilling:
- cave-in at 8.4m



LGBE3 5166-19-GA.GPJ 12/16/19

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)
Nov. 29, 2019	0.74m	
Dec. 4, 2019	0.87m	
Dec. 12, 2019	0.82m	

Project No. 5166-19-GA

Log of Borehole BH-2

Dwg No. 3

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 466-468 Dovercourt Road, Toronto, Ontario

Date Drilled: 11/22/19

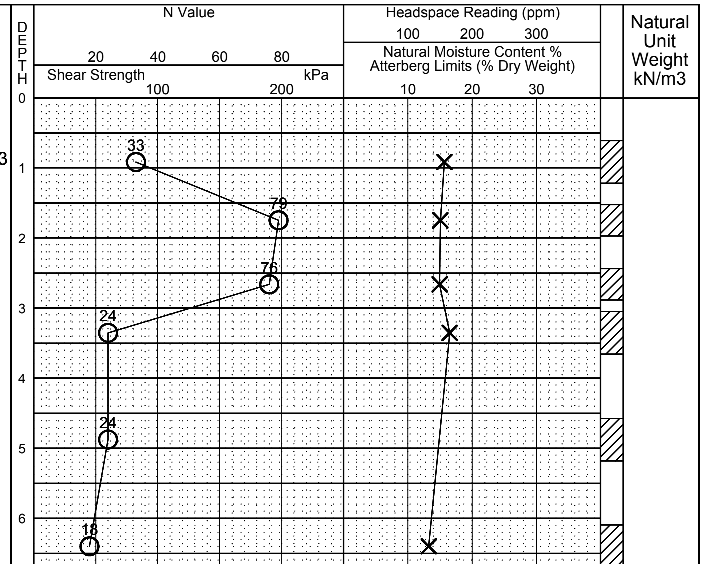
Drill Type: Hand Hammer

Datum: Geodetic

Legend	
Auger Sample	⊠
SPT (N) Value	○ ◪
Dynamic Cone Test	—
Shelby Tube	■
Field Vane Test	✚ S
Headspace Reading (ppm)	•
Natural Moisture	×
Plastic and Liquid Limit	├─┤
Unconfined Compression % Strain at Failure	⊗
Penetrometer	▲

Soil Description	ELEV. m
Ground Surface	103.68
CONCRETE FLOOR - 125mm concrete over a granular base (pea gravel)	103.56 / 103.30
FILL - brown sand - some silt - wet	103.02 / 102.73
SAND / SILTY SAND - compact to very dense - brown, grey below 1.5m - fine to medium grained - layers of sandy silt - very moist to wet	100.15
CLAYEY SILT TILL - very stiff, grey - some gravel - some sandy silt - moist to very moist, wet pockets	96.98

END OF BOREHOLE
NOTE:
Upon completion of drilling:
- cave-in at 6.0m



LGBE3 5166-19-GA.GPJ 12/16/19

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)
Nov. 29, 2019	0.99m	
Dec. 4, 2019	0.97m	
Dec. 12, 2019	0.95m	

Project No. 5166-19-GA

Log of Borehole BH-3

Dwg No. 4

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 466-468 Dovercourt Road, Toronto, Ontario

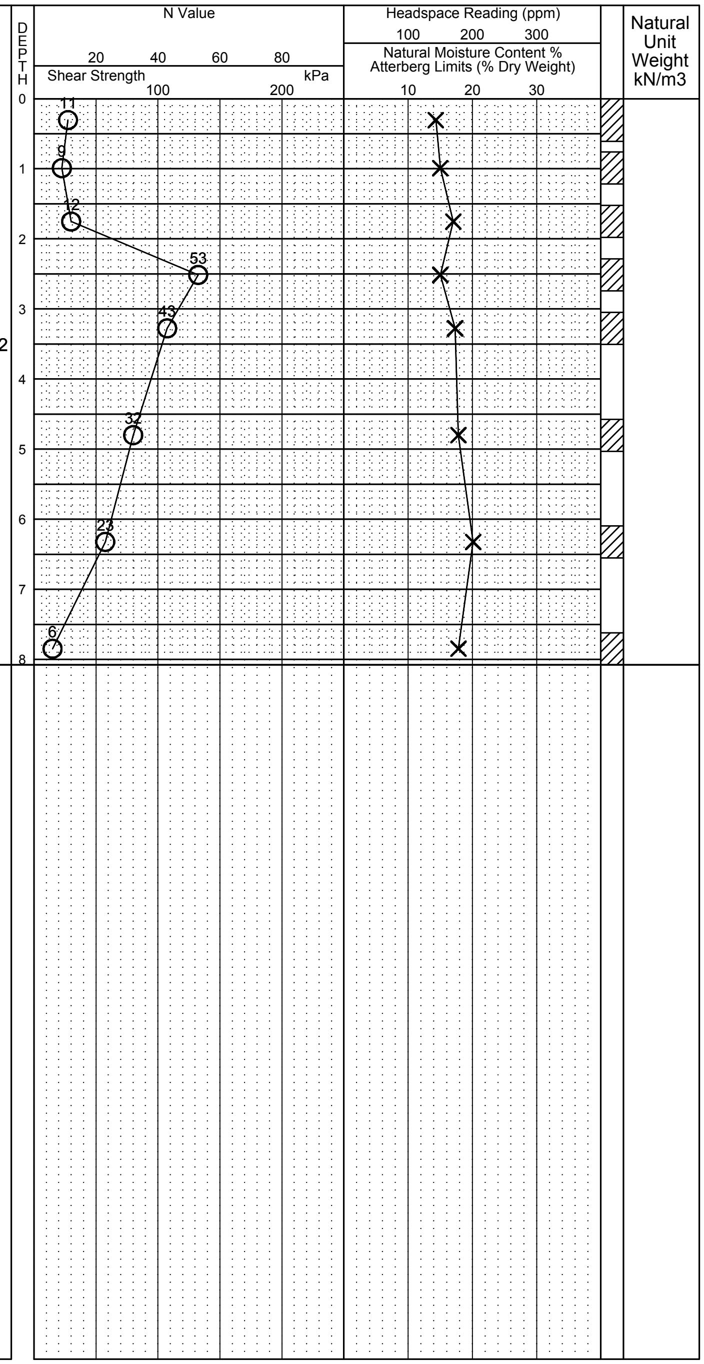
Date Drilled: 11/28/19

Drill Type: Track Mounted Drill Rig

Datum: Geodetic

Auger Sample	⊠	Headspace Reading (ppm)	•
SPT (N) Value	○ ▨	Natural Moisture	×
Dynamic Cone Test	—	Plastic and Liquid Limit	├─┤
Shelby Tube	■	Unconfined Compression % Strain at Failure	⊗
Field Vane Test	✚ S	Penetrometer	▲

GWL	SYMBOL	Soil Description	ELEV. m
		Ground Surface	105.92
		INTERLOCKING PAVER - 70mm paver over a granular base (20mm)	105.85 105.83
		FILL - brown sand - very minor topsoil or rootlets - trace silt - very moist	105.31
		SAND / SILTY SAND - loose to very dense - brown, grey pockets - fine to medium grained - layers of sandy silt - very moist, wet below 3.5m	102.32
		SILTY CLAY - firm, grey - low to medium plasticity - some clayey silt - very moist, wet pockets	98.91 97.84
		END OF BOREHOLE **NOTE:** Upon completion of drilling: - water level at 3.4m - cave-in at 3.4m	



LGBE3 5166-19-GA.GPJ 12/16/19

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)
Nov. 29, 2019	3.62m	
Dec. 4, 2019	3.60m	
Dec. 12, 2019	3.60m	

Log of Borehole BH-4

Project No. 5166-19-GA

Dwg No. 5

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 466-468 Dovercourt Road, Toronto, Ontario

Date Drilled: 11/28/19

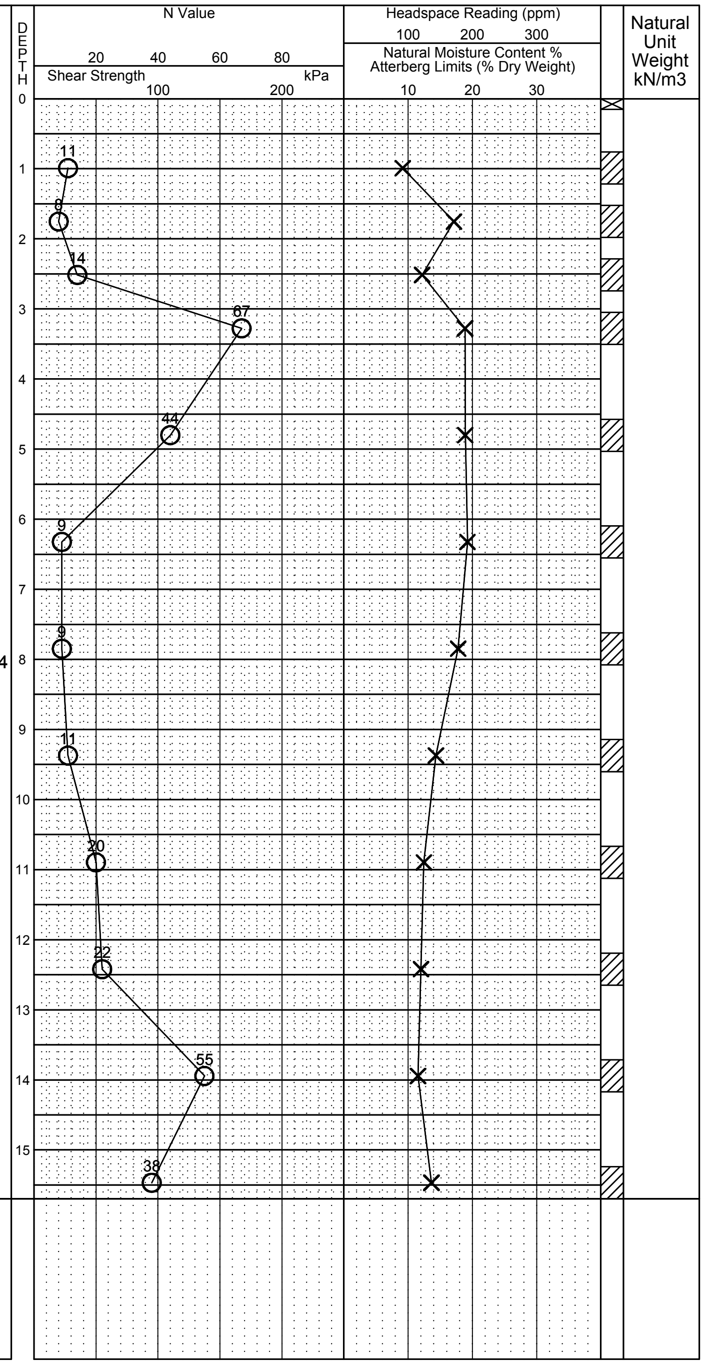
Drill Type: Track Mounted Drill Rig

Datum: Geodetic

Legend	Symbol	Legend	Symbol
Auger Sample	⊠	Headspace Reading (ppm)	•
SPT (N) Value	○ ▨	Natural Moisture	×
Dynamic Cone Test	—	Plastic and Liquid Limit	├─┤
Shelby Tube	■	Unconfined Compression % Strain at Failure	⊗
Field Vane Test	✚ S	Penetrometer	▲

Soil Description	ELEV. m
Ground Surface	105.97
INTERLOCKING PAVER	105.90
- 70mm paver over a granular base	105.86
(110mm), over a concrete (80mm),	105.78
over a granular base (20mm)	105.68
SAND / SILTY SAND - loose to very dense - brown - fine to medium grained - layers of sandy silt - moist to very moist, wet below 4.5m	
SILTY CLAY / CLAYEY SILT - stiff, grey - low to medium plasticity - some sandy silt - trace gravel - very moist	99.87
(water level)	97.84
CLAYEY SILT TILL - very stiff, grey - some gravel - some sandy silt - moist to very moist	95.15
SANDY SILT TILL - very dense to dense - grey - some gravel - some clayey silt - layers of clayey silt / till below 15.0m - moist to very moist	92.86
END OF BOREHOLE	90.27

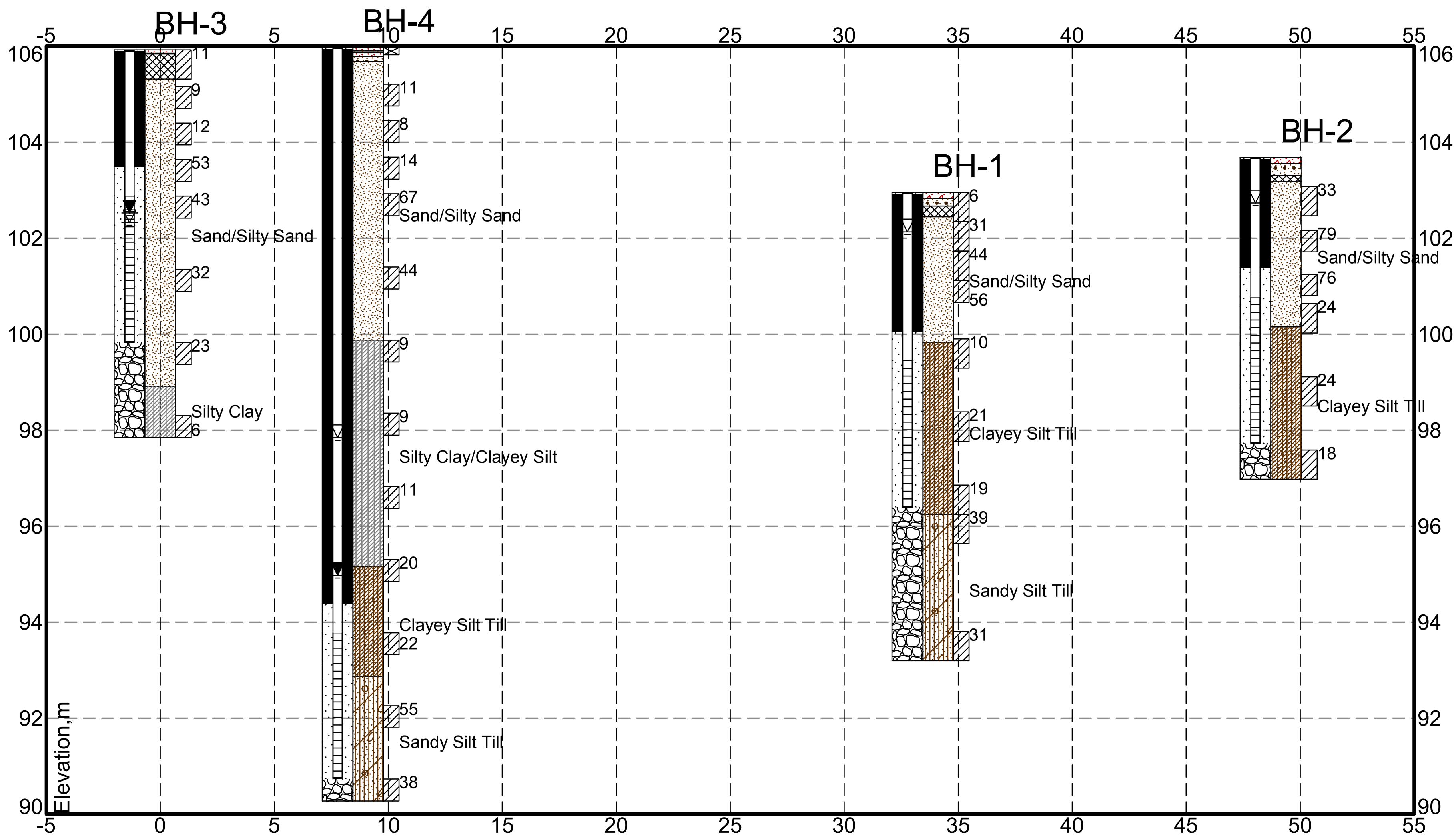
NOTE:
Upon completion of drilling:
- water level at 11.0m
- cave-in at 13.1m



NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)
Nov. 29, 2019	8.69m	
Dec. 4, 2019	7.78m	
Dec. 12, 2019	8.13m	



Borehole No	Elev.	Depth
BH-1	102.9	9.8
BH-2	103.7	6.7
BH-3	105.9	8.1
BH-4	106.0	15.7

Toronto Inspection Ltd.

SUBSURFACE STRATIGRAPHY

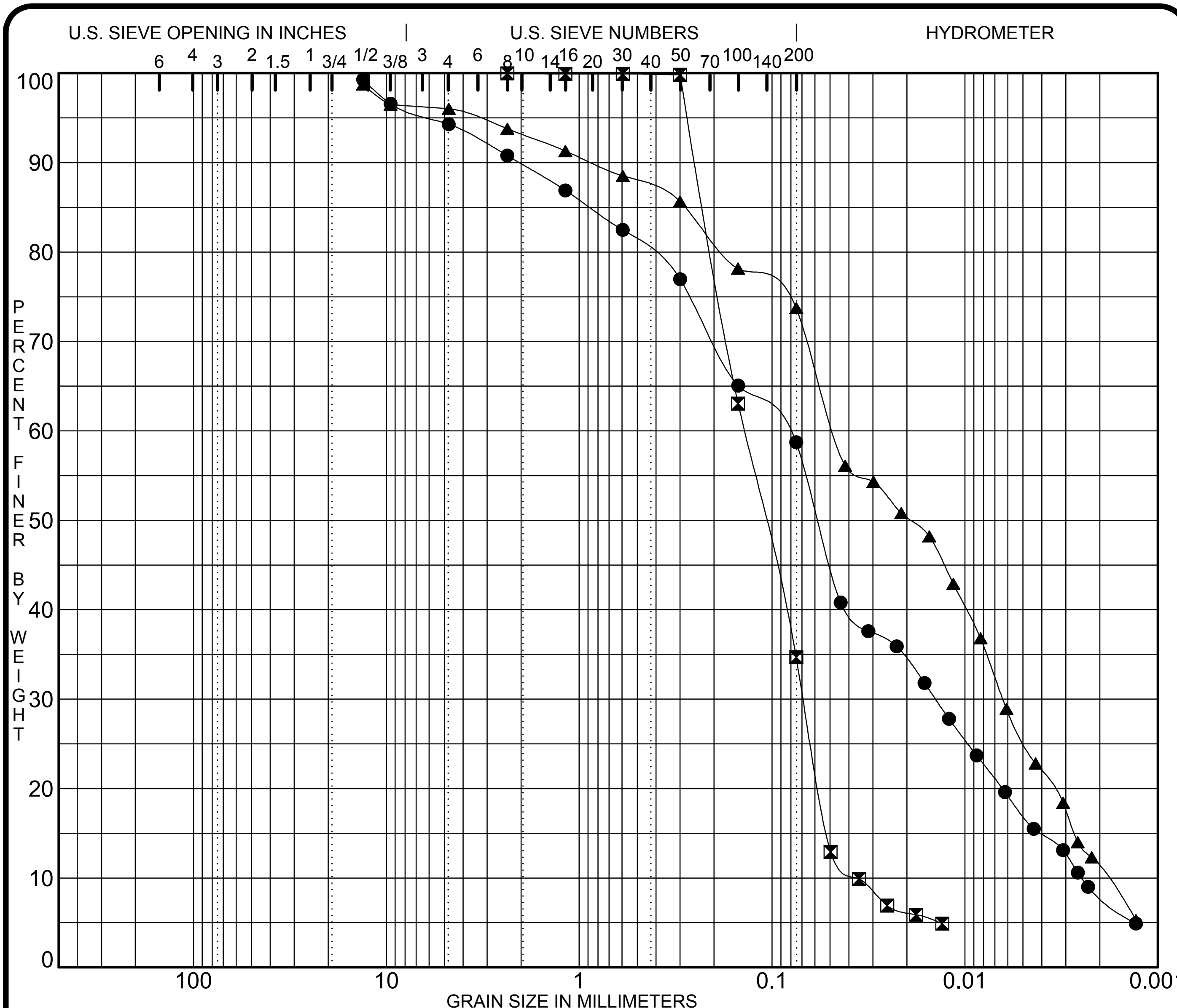
Section

Geotechnical Investigation

466-468 Dovercourt Road, Toronto, Ontario

PROJECT #	DATE	DRAWING
5166-19-GA	Dec 19	6

Figures
Gradation Curves
Permanent Perimeter Drainage System



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	MC%	LL	PL	PI	Cc	Cu
●	**BH-1**	**6.7**						**0.94**	**34.7**
⧗	**BH-3**	**3.0**						**0.94**	**3.9**
▲	**BH-4**	**7.6**	**LEAN CLAY with SAND CL**		**22**	**12**	**10**	**0.46**	**25.7**

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**BH-1**	**6.7**	**13.20**	**0.09**	**0.014**	**0.0025**	**5.0**	**35.6**	**41.7**	**17.0**
⧗	**BH-3**	**3.0**	**2.36**	**0.14**	**0.069**	**0.0359**	**0.0**	**65.3**	**34.7**	
▲	**BH-4**	**7.6**	**13.20**	**0.05**	**0.006**	**0.0019**	**2.7**	**22.3**	**48.3**	**25.4**

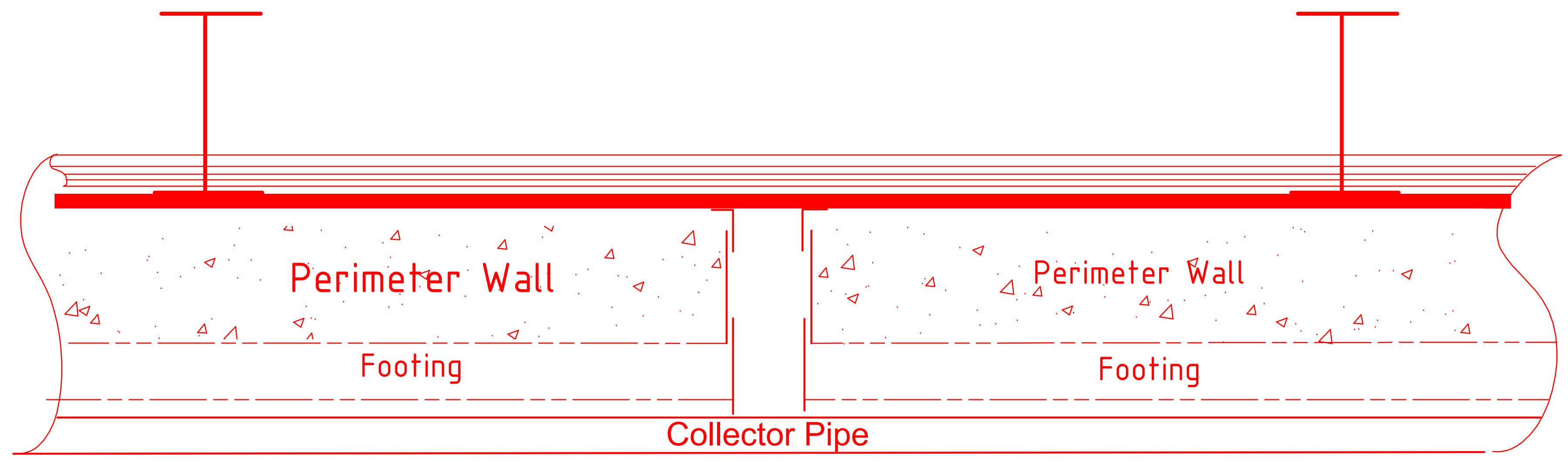
PROJECT **Geotechnical Investigation - 466-468 Dovercourt, Toronto, Ontario**

JOB NO. **5166-19-GA**
DATE **12/9/19**

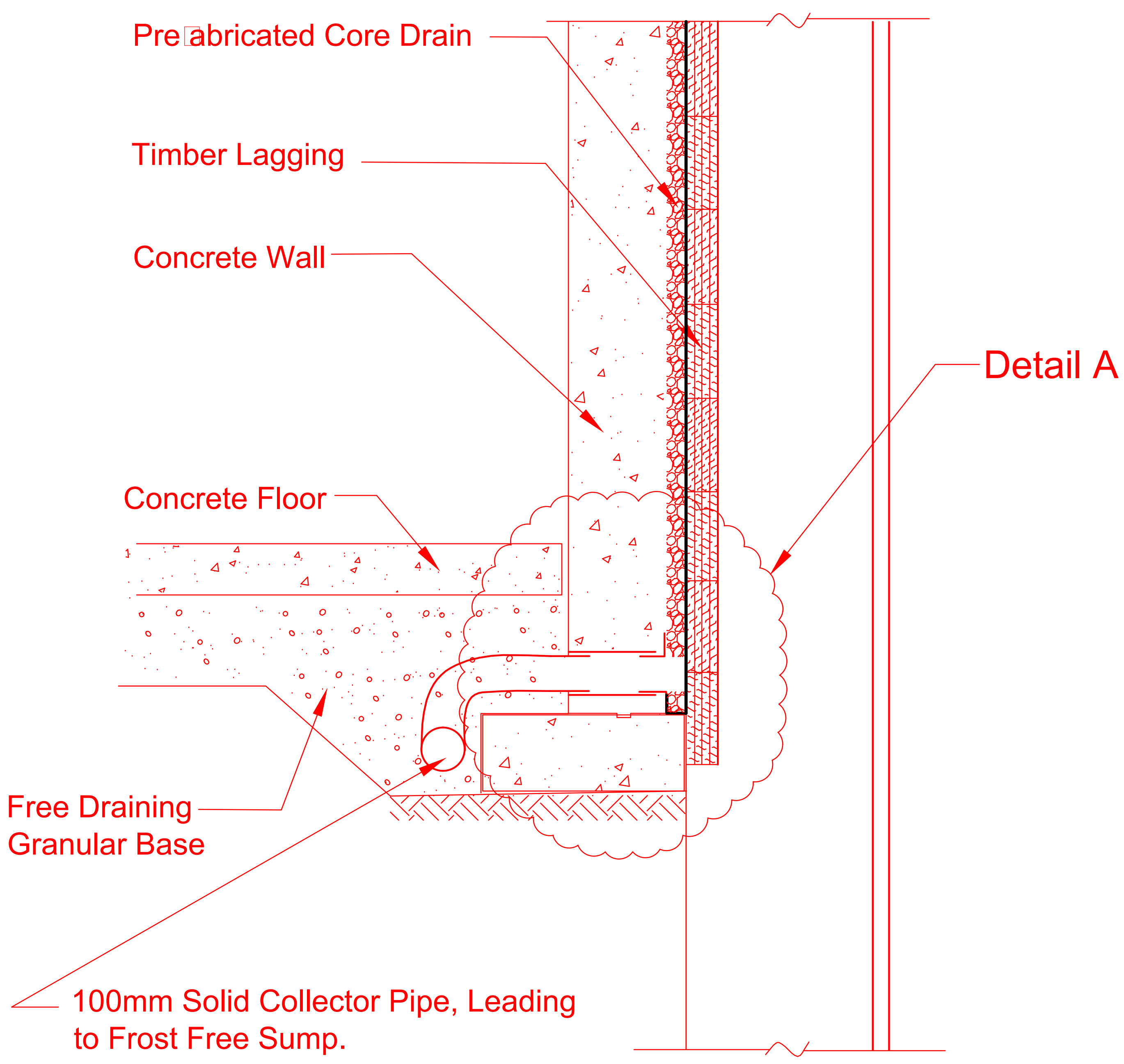
GRADATION CURVES

Toronto Inspection Ltd.

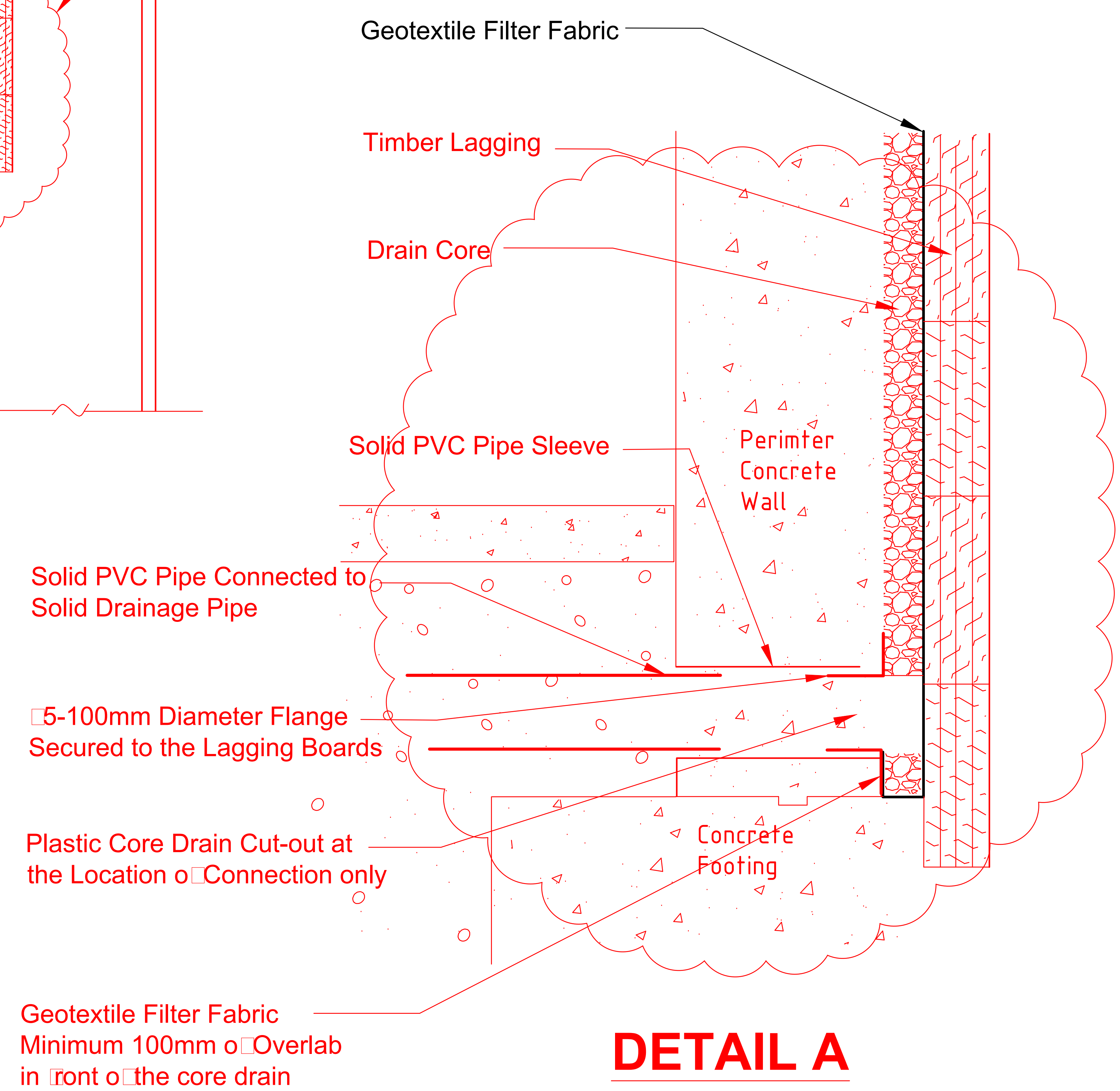
FIGURE NO. 1



PLAN



TYPICAL SECTION



DETAIL A

Note:

1. A continuous blanket of prefabricated drainage system, Miradrain 6000 or equivalent, should extend continuously from the top of footings to approximately 1.2m below the ground surface.
2. All joints of the Miradrain should be taped. All openings, including the exposed end above the footing, must be covered with filter fabic to prevent intrusion of concrete into the core of the drain.
3. The backfill behind the lagging must be free draining. Filter fabric or straw should be used to prevent loss of fines behind the lagging.
4. The perimeter drainage and subfloor drainage systems must be kept separate.

NOT TO SCALE

TIL Toronto Inspection LTD.
GEO-ENVIRONMENTAL CONSULTANTS

110 Konrad Crescent, Unit 16, Markham, Ontario L3R 9X2

Tel: 905-940 8509 Fax: 905-940 8192

TITLE:	Permanent Perimeter Drainage System
LOCATION:	466-468 Dovercourt Road, Toronto, Ontario
PROJECT NO.: 5166-19-GA	DATE: December, 2019
FIGURE NO.	2

Appendix A
Shoring Design

APPENDIX A

SHORING DESIGN

All specifications for the design of the shoring system are in accordance with Chapter 26 of the 4th Edition of the Canadian Foundation Engineering Manual (Manual).

The construction of the shoring system should be carried out by a contractor experienced in this type of construction.

1. Earth pressure

For a single and multiple level support systems, the recommended earth pressure distributions are shown on Drawing A1.

The lateral earth pressure expressions, recommended in the drawings, assume that there will be no build up of hydrostatic pressure behind the shoring.

2. Pile Penetration

The soldier piles should be installed in pre-augured holes which should be filled to excavation level with 20 MPa (3000 psi) concrete and above that with 1-1/2 bag mix.

The depth of pile penetration in the non-cohesive sand / silty sand to low plasticity clayey silt till deposits should be calculated from the following expressions:

$$R = 1.5\ D\ Kp\ L^2 \gamma$$

where	R	= Ultimate Load to be restrained	kN
	D	= Diameter of concrete filled hole	m
	Kp	= Passive resistance in the silt till and sand deposits	5.0
	L	= Embedment Depth of the pile	m
	γ	= Unit weight of the soil - use 21 kN/m^3 for unsaturated soils - use 10.2 kN/m^3 for saturated soils	

The depth of pile penetration in the low to medium plasticity silty clay / clayey silt deposits, should be calculated from the following expression:

$$R = 9CuD\ (\ L - 1.5D\ )$$

where	R- Ultimate Load to be restrained	kN
	D=Diameter of the concrete filled hole	m
	Cu= Undrained Shear Strength of the deposits	50 kPa
	L = Embedment depth of the Pile	m

The shoring system should be designed for a factor of safety of F = 2. The overall factor of safety of the anchored block of soil must be considered.

3. Lagging Boards

The following thicknesses of lagging boards have been recommended in the Manual:

Thickness of lagging	Maximum Spacing of Soldier Piles
50 mm (2 in)	2.0 m (6.5 ft)
75 mm (3 in)	2.5 m (8.0 ft)
100 mm (4 in)	3.0 m (10 ft)

Local experience has indicated that the lagging thickness of 75 mm has been adequate for soldier pile spacing of 3 m for soil conditions similar to those encountered at the subject site. However, it is important to consider all local conditions, such as the duration of excavation, the weather likely to be encountered, seasonal variations in the ground water and ice lensing causing frost heave in determining the lagging thickness.

All spaces behind the lagging must be filled with free draining granular fill. If wet conditions are encountered the space between boards should be packed with geotextile filter fabric or straw to prevent loss of ground.

4. Tie Backs

The minimum spacing and the depths of the soil anchors should be as recommended in the Manual.

The tie back anchor lengths, in the non-cohesive sand / silty sand to clayey silt till deposits or silty clay / clayey silt deposits, can be estimated using the adhesion values of 50 kPa (1000 psf) or 20 kPa (4000 psf), respectively. At least two full scale load tests should be carried out on the tieback anchors in each of the above subsoils. These tests should be taken to 200% of the design load or until there is a significant increase in the pullout rate. In the latter case, the design load must be limited to 50% of the load at which the pullout increases. Based on the results of the pullout test, it may be necessary to modify the anchor design and place limits on the capacity.

In addition, each anchor must be proof loaded. This is done by loading the anchor to 133% of the design load, and the anchor must be capable of sustaining this load for a minimum of 10 minutes without creep. The load may then be relaxed to 100% of design and locked in. The higher the lock in loads, the less will be the outward movement after excavation.

The proposed design of the tie-back system and method of installation must be discussed with this office prior to the finalization. Systems involving high grout pressures should be avoided if working near other basements or buried services.

5. Rakers

An alternative to tie backs is to use rakers. Rakers founded in the sand / silty sand, clayey silt till, silty clay / clayey silt deposits should be designed for allowable bearing pressure of 100 kPa (2.0 k.s.f.), for rakers inclined at an angle of 45 degrees. The raker footings should be located outside the zone of influence of the buried portion of the soldier piles and at a distance of not less than 1.5 L from the piles, where L = the embedment of the pile. No excavation should be made within two footing width of the raker footings on the side opposite the rakers.

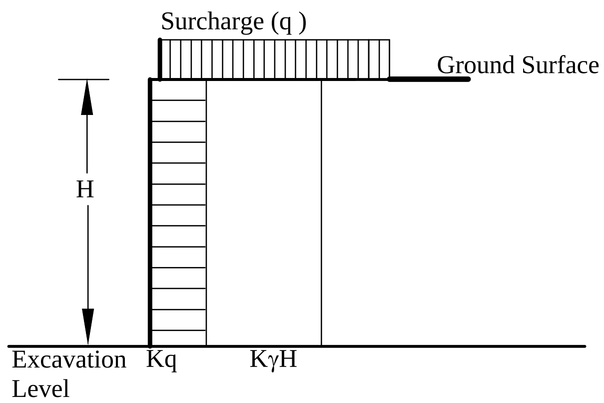
6. General Shoring Notes

It is recommended that close monitoring of vertical and lateral movement of the shoring system should be carried out at the site. If movements at the top of the piles are more than 12 mm (0.5 in), extra bracing may be required. In this regard, monitoring by inclinometers and by survey on targets should be instituted to ensure that the contractor maintains movements within design limit.

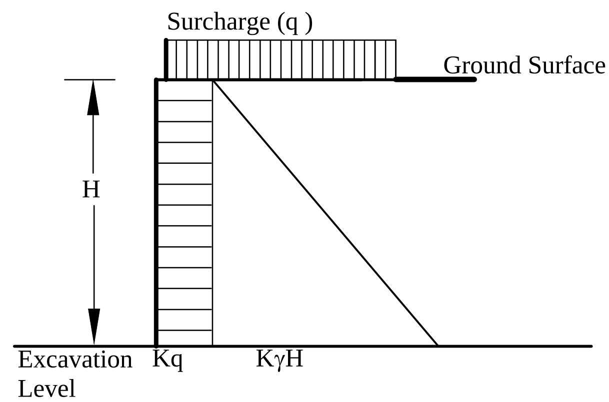
TEMPORARY SHORING

Laterial Pressure

I. Multiple Level Support



II. Single Level Support



Lateral Pressure $P = K(\gamma H + q)$

where	H = Height of Shoring	m
	γ = Unit Weight of Retained Soil	21.0 kN/ m^3
	q = Surcharge	kPa
	K = Earth Pressure Coefficient	

If moderate ground and shoring movements are permissible then:
K = Ka = Active Earth Pressure Coefficient = 0.25

If there are building foundations or underground services within a distance of 0.5 H behind the shoring then:
K = Ko = Earth Pressure at rest = 0.4

If there are building foundations or underground services within a distance of between 0.5 H and H behind the shoring then:
K = 0.5 (Ka + Ko) = 0.33

Note:
The lateral pressure equation assumes effective drainage from behind the temporary shoring

NOT TO SCALE

TorontoInspection LTD.
GEO-ENVIRONMENTAL CONSULTANTS
110 Konrad Crescent, Unit 16, Markham, Ontario L3R 9X2
Tel: 905-940 8509 Fax: 905-940 8192

TITLE: Temporary Shoring Design

LOCATION: 466-468 Dovercourt Road, Toronto, Ontario

PROJECT NO.: 5166-19-GA

DATE: December, 2019

DRAWING NO.: A1

Appendix B Chemical Test Results

SGS

FINAL REPORT

CA14232-DEC19 R1

5166

Prepared for

Toronto Inspection Ltd.

FINAL REPORT

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	Toronto Inspection Ltd.	Project Specialist	Brad Moore Hon. B.Sc
		Laboratory	SGS Canada Inc.
Address	110 Konrad Crescent, Unit 16 Markham, ON L3R 9X2. Canada	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Shan Goel	Telephone	705-652-2143
Telephone	905-940-8509	Facsimile	705-652-6365
Facsimile	905 940 8192	Email	brad.moore@sgs.com
Email	lab@torontoinspection.com	SGS Reference	CA14232-DEC19
Project	5166	Received	12/06/2019
Order Number		Approved	12/13/2019
Samples	Soil (1)	Report Number	CA14232-DEC19 R1
		Date Reported	12/13/2019

COMMENTS

Temperature of Sample upon Receipt: 4 degrees C

Cooling Agent Present:Yes

Custody Seal Present:Yes

Chain of Custody Number:003013

Corrosivity Index is based on the American Water Works Corrosivity Scale according to AWWA C-105. An index greater than 10 indicates the soil matrix may be corrosive to cast iron alloys.

SIGNATORIES

Brad Moore Hon. B.Sc

TABLE OF CONTENTS

FINAL REPORT

CA14232-DEC19 R1

Client: Toronto Inspection Ltd.

Project: 5166

Project Manager: Shan Goel

Samplers: Cyntia

PACKAGE: **- Corrosivity Index** (SOIL)

Sample Number	5
Sample Name	BH3 SS7 20'
Sample Matrix	Soil
Sample Date	28/11/2019

Parameter	Units	RL	Result
Corrosivity Index			
Corrosivity Index	none	1	8
Soil Redox Potential	mV	-	226
Sulphide	%	0.02	0.02
pH	pH Units	0.05	8.58
Resistivity (calculated)	ohms.cm	-9999	10300

PACKAGE: **- General Chemistry** (SOIL)

Sample Number	5
Sample Name	BH3 SS7 20'
Sample Matrix	Soil
Sample Date	28/11/2019

Parameter	Units	RL	Result
General Chemistry			
Conductivity	uS/cm	2	97

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

Sample Number	5
Sample Name	BH3 SS7 20'
Sample Matrix	Soil
Sample Date	28/11/2019

Parameter	Units	RL	Result
Metals and Inorganics			
Moisture Content	%	0.1	14.5
Sulphate	µg/g	0.4	14

FINAL REPORT

CA14232-DEC19 R1

Client: Toronto Inspection Ltd.
Project: 5166
Project Manager: Shan Goel
Samplers: Cyntia

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

Sample Number	5
Sample Name	BH3 SS7 20'
Sample Matrix	Soil
Sample Date	28/11/2019

Parameter	Units	RL		Result
Other (ORP)				
Chloride	µg/g	0.4		7.4

FINAL REPORT

QC SUMMARY

Anions by IC

Method: EPA300/MA300-Ions1.3 | Internal ref.: ME-CA-[ENV]IC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chloride	DIO0155-DEC19	µg/g	0.4	<0.4	12	20	96	80	120	105	75	125
Sulphate	DIO0155-DEC19	µg/g	0.4	<0.4	11	20	98	80	120	100	75	125

Carbon/Sulphur

Method: ASTM E1915-07A | Internal ref.: ME-CA-[ENV]ARD-LAK-AN-020

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Sulphide	ECS0019-DEC19	%	0.02	<0.02	4	20	113	80	120			

Conductivity

Method: SM 2510 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Conductivity	EWL0110-DEC19	uS/cm	2	< 0.002	1	10	97	90	110	NA		

QC SUMMARY

pH

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0110-DEC19	pH Units	0.05	NA	0		100			NA		

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

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

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

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

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

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

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

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

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

LEGEND

FOOTNOTES

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

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

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

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

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-- End of Analytical Report --

SGS

Request for Laboratory Services and CHAIN OF CUSTODY

No: 003013

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

Laboratory Information Section - Lab use only

Received By: DAVID REID
Received By (signature): D Reid
Received Date (mm/dd/yyyy): 12 06 19 (mm\dd\yy)
Received Time: 18 : 52
Custody Seal Present: ☐ Yes
Custody Seal Intact: ☐ Yes
Cooling Agent Present: ☑ ice
Temperature Upon Receipt (°C) 4°
LAB LIMS #: CA-14232 Dec 19

REPORT INFORMATION

Company: Toronto Inspection
Contact: Shan / Cynthia
Address: 110 Konrad Crescent
Markham, ON
Phone: (905) 9408509
Email: lab@torontoinspection.com
Email: Cynthia@torontoinspection.com
shan@torontoinspection.com

INVOICE INFORMATION

☑ (same as Report Information)
Company:
Contact: Shannon
Address:
Phone:
Email: shannon@torontoinspection.com

PROJECT INFORMATION

Quotation #:
P.O. #:
Project #: 5166 ~~[illegible]~~
Site Location/ID:

TURNAROUND TIME (TAT) REQUIRED

☑ Regular TAT (5-7days)

TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days

PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date:
Rush Confirmation ID:

NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

Regulation 153/04:
☐ Table 1 ☐ R/P/I
☐ Table 2 ☐ I/C/C
☐ Table 3 ☐ A/O
☐ Table

Soil Texture:
☐ Coarse
☐ Medium
☐ Fine

Other Regulations:
☐ Reg 347/558 (3 Day min TAT)
☐ PWQO ☐ MMER
☐ CCME ☐ Other:
☐ MISA

Sewer By-Law:
☐ Sanitary
☐ Storm
Municipality:

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	Metals & Inorganics	PAH ☐ ABN ☐ SVOC(all) ☐	PCB Total ☐ Aroclor ☐	PHC F1-F4 ☐ VOC ☐ BTEX ☐ BTEX/F1 ☐ F2-F4 ☐	VOC ☐ BTEX ☐ THM ☐	Pesticides OC ☐ OP ☐	TCLP M&I ☐ VOC ☐ PCB ☐ B(a)P ☐ ABN ☐ Ignit. ☐	Water Pkg Gen. ☐ Ext. ☐	Sewer Use:	Consistivity Test	COMMENTS:
1	BH3 SS7 20'	Nov 28/2019	12:00	1	Soil											\	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	

Observations/Comments/Special Instructions

Sampled By (NAME): Cynthia   Signature: [signature]   Date: 12/06/19 (mm/dd/yy)   Pink Copy - Client
Relinquished by (NAME): Cynthia   Signature: [signature]   Date: 12/06/19 (mm/dd/yy)   Yellow & White Copy - SGS