

REPORT ON GEOTECHNICAL INVESTIGATION 0 & 12245 TORBRAM ROAD CALEDON, ONTARIO

> REPORT NO.: 5552-21-GB REPORT DATE: JUNE 24, 2021

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1.0 INTRODUCTION

Toronto Inspection Ltd. was retained by Tullamore Industrial GP Limited to conduct a geotechnical investigation for a proposed development at 0 & 12245 Torbram Road, Caledon, Ontario (hereinafter described as "the Site"). The field work for the geotechnical investigation was carried out in conjunction with a Phase II Environmental Site Assessment (ESA) and a Hydrogeological Study. The reports of findings, relating to the Phase II ESA and the hydrogeological study, will be issued under separate covers.

The purpose of the investigation was to determine the subsoil and groundwater conditions at the Site, affecting the design and construction of an industrial subdivision, consisting of a number of building blocks. In particular, geotechnical data was to be provided for:

- General founding conditions
- Foundation design for foundations
- Pavement Design and Construction
- Other Recommendations of Construction

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

2.0 SITE CONDITION

The Site, approximately 363 acres in area, is located on the east side of Torbram Road, on the west side of Airport Road and on the north side of Mayfield Road and, in Caledon, excluding a property at the northwest corner of Airport Road and Mayfield Road.

At the time of investigation, the Site was a farmland with farmhouses, including barns and silos at the south and west portions of the Site.

The existing site gradient was undulating, generally dropping to the south, southeast and east, with grade differences of more than 20m from north to south and 10m from west to east across the Site.





3.0 INVESTIGATION PROCEDURE

The field work for the investigation was carried out during the period of May 21 to June 3, 2021, which included drilling thirty eight sampled boreholes (21BH-1 to 21BH-38), extending to depths of 2.4m to 6.6m from grade, at the locations shown on he appended Borehole Location Plan (Drawing No. 1).

The boreholes were advanced using a track mounted drill rig, equipped with continuous flight solid stem augers and sampling rods, supplied by a specialist drilling contractor. Soil samples were retrieved from the boreholes at 0.76m intervals to depths of 3m or 4.5m 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). The soil samples were identified and logged in the field and were carefully bagged for later visual identification and laboratory testing, including moisture content determination.

Groundwater observations were made in the open boreholes during and upon the completion of drilling. Sixteen of the boreholes, 21BH-1, 21BH-3, 21BH-7, 21BH-10, 21BH-13, 21BH-16, 21BH-18, 21BH-20, 21BH-22, 21BH-23, 21BH-25, 21BH-29, 21BH-30, 21BH-33, 21BH-36 and 21BH-37, were completed as monitoring wells for the determination of the static groundwater conditions. The symbol (MW), besides the borehole identification on the Borehole Location Plan, indicates a monitoring well. The groundwater records are presented in the borehole logs.

The borehole locations were established with stakes in the field by the survey company, at the locations shown on the appended Borehole Location Plan (Drawing No.1). The ground elevations at the borehole locations were surveyed and plotted on a plan of Topographic Survey, Caldon Tullamore Lands Boreholes, prepared by CSS Inc., dated June 1, 2021.

4.0 SUMMARIZED SITE AND SUBSURFACE CONDITIONS

Reference is made to the Borehole Location Plan (Drawing No. 1) and the appended Logs of Borehole sheets (Drawing Nos. 2 to 39) for details of field work, including soil classification, inferred stratigraphy and groundwater observations carried out during and on completion of drilling of the boreholes.

The subsoil below the surficial topsoil and fill, at the borehole locations, consisted of native deposits of clayey silt and glacial silt till.



Brief descriptions of the subsoils encountered at the borehole locations are as follows:

4.1 Surface Course

Topsoil, 50mm to 950mm in thickness, was contacted at the ground surface at the borehole locations, including a 175mm compost layer at Borehole 21BH-1 location.

4.2 Fill

A layer of fill was contacted below the topsoil at all borehole locations. It is our opinion that the fill probably represent the material from the previous regrading of the Site or the native soils reworked during the farming process. For identification purpose, this material has been identified as fill in the borehole logs.

The fill consisted of a mixture of clayey silt, sandy silt, occasional trace gravel, with trace to some rootlets and topsoil, or pockets of organics. Borehole 21BH-8 was located at the top of a soil berm and a probable ³/₄ inch irrigation pipe was hit at a depth of 2.3m from grade.

Borehole 21BH-8 was terminated in the fill at a depth of 6.6m from top of the soil berm. Borehole 21BH-22 was terminated in the fill at a depth of 2.4m from grade, due to auger refusal on a probable boulder. With the exception of two of the boreholes, 21BH-28 and 21BH-37, the fill at the remaining boreholes extended to depths of 0.3m to 1.1m from grade. The fill in Boreholes 21BH-28 and 21BH-37 extended to depths of 2.1m and 3.2m from grade, respectively.

4.3 Silty Sand

A silty sand deposit was contacted below the fill at Borehole 21BH-6 location, at a depth of 0.5m from grade. The silty sand deposit contained some grave, some sandy silt, gravelly at 2.3m in depth, and with possible cobbles and boulders.

Borehole 21BH-6 was terminated in the silty sand deposit at a depth of 3.3m from grade, due to auger refusal on probable cobbles or bouilders.

Based on the Standard Penetration N-values of 29 to more than 100 blows per 0.3m penetration, the relative density of the silty sand deposit was compact to very dense.



The in-situ moisture content of the soil samples retrieved from this deposit ranged from 7% to 10%, indicating moist to very moist conditions.

4.4 Clayey Silt, Clayey / Sandy Silt Till

Native deposits of clayey silt and glacial silt till were contacted below the fill, at the borehole locations, except Boreholes 21BH-6, 21BH-8 and 21BH-22, at depths of 0.3m to 3.2m from grade. The deposits generally consisted of a heterogeneous mixture of silt and clay and sand, trace to some gravel, with occasional cobbles or boulders. The deposits also contained thin layers or seams of fine sand or occasional gravel layers.

Depending on the combination of silt, clay, sand and gravel, the deposits were classified as either clayey silt, clayey silt till or sandy silt till in the borehole logs.

Borehole 21BH-15 was terminated in the clayey / sandy silt till deposit, at a depth of 4.3m from grade, due to auger refusal on probable cobble or boulder. Boreholes 21BH-1 to 21BH-5, 21BH-7, 21BH-9 to 21BH-14, 21BH-16 to 21BH-21, 21BH-23 to 21BH-25, and 21BH-27 to 21BH-38 were terminated in the deposits of clayey silt, clayey silt till or sandy silt till, at depths of 6.1m to 6.6m from grade. The clayey silt till deposit at Borehole 21BH-26 location extended to a depth of 4.7m from grade.

Based on the Standard Penetration N-values of 8 to more than 100 blows per 0.3m penetration, the consistency of the clayey silt and clayey silt till deposits was stiff to hard, and the relative density of the sandy silt till deposit was compact to very dense.

The in-situ moisture content of the soil samples retrieved from these deposits ranged from 6% to 30%, indicating moist to very moist conditions, with wet pockets or layers.

Grain size analyses were carried out on two soil samples from these deposits, obtained from Boreholes 21BH-1 (SS3 – at a depth of 1.5m) and 21BH-15 (SS3 – at a depth of 1.5m), using both of mechanical sieves and hydrometer methods. The results of the grain side distribution are shown on the appended Figure No. 1.



4.5 Sand and Gravel

A sand and gravel deposit was contacted below the clayey silt till deposit at Borehole 21BH-26 location, at a depth of 4.7m from grade. The sand and gravel deposit contained trace silt to clayey silt.

Borehole 21BH-26 was terminated in the sand and gravel deposit at a depth of 6.4m from grade.

Based on the Standard Penetration N-values of 46 to more than 100 blows per 0.3m penetration, the relative density of the sand and gravel deposit was dense to very dense.

The in-situ moisture content of the soil samples retrieved from this deposit ranged from 7% to 8%, indicating wet conditions.

4.6 Ground Water

Upon the completion of borehole drilling, free water was recorded in the open boreholes at 21BH-6, 21BH-14 to 21BH-17, 21BH-19 to 21BH-24 and 21BH-26, at depths of 0.8m to 6.1m from grade; with wet cave-in in the open boreholes at 21BH-19 to 21BH-21 and 21BH-26, at depths of 4.6m to 5.9m from grade. Water flowing out in the open borehole 21BH-8 was due to hitting a probable underground irrigation pipe. No free water was contacted in the remaining boreholes throughout the investigation.

Based on the field records and the moisture content profiles of soil samples, as shown on the appended borehole logs, it is our opinion that the depths of free water or cave-in represent local water in sand layers or seams within the clayey silt and clayey / sandy silt till deposits, and water in the sand and gravel deposit at Borehole 21BH-26 location. It is our opinion that there is no continuous groundwater table within the depth of investigation.

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**

We understand that the proposed development at the Site will consist of an industrial subdivision, with a number of building blocks, designated as Tullamore Lands. Details of the development and the final gradient of the Site was not known at the time of this investigation. We have assumed that the final grade will be close to the existing ground surface.

Additional boreholes will be required when the details of the development are finalized.

Based on the subsoil data obtained at the borehole locations, our recommendations are as follows:

5.1 Site Preparation

The soil description and depth of fill shown on the Borehole Logs are specific depths at the borehole locations only. The thickness of topsoil and the depth of fill at locations beyond the boreholes may be thicker or deeper, especially in the location of previous excavations. We recommend that the contractor bidding for the job should determine the depths of deleterious material by test pits and allow for removal of any deleterious fill and material, with high moisture and/or organic content, during the site preparation for site grading.

Depending on the final grades, the Site may have to be regraded. If a cut and fill operation is proposed, the on-site excavated fill and/or native soils, to be used for site grading, should be organic free and maintained at or close to its optimum moisture content during placement and compaction. The new fill should be compacted in lifts of 200mm to at least 98% of its Standard Proctor maximum dry density (SPMDD).

At locations deep depths of fill were encountered during the investigation and might be revealed during the site grading, the building pad preparation should include removal of the existing fill and any compressible topsoil and deleterious material, where encountered, and backfilling within the building pad areas with selected on-site material, free of organics, or pre-approved material, to the subgrade level. The backfill within the building pad areas should be placed and compacted in 200mm lifts to at least 100% of its Standard Proctor maximum dry density, according to the Guidelines of Engineered Fill, as attached in Appendix A.

Compressible topsoil and fill material containing relatively high organic content will not be suitable for reuse in areas where future settlement cannot be tolerated.



This material will have to be disposed off-site or reused in landscaped areas, subject to approval by the landscape architect.

Any new fill at the site should consist of organic free material, placed in lifts of 200 to 300mm and compacted to at least 98% of its Standard Proctor maximum dry density (SPMDD).

5.2 Pipe Bedding

Based on the borehole information, the subsoil at service trench inverts may consist of fill, clayey silt or silt till deposits. Any unstable fill material at the trench invert should be sub-excavated and replaced with a granular material, compacted in lifts to the invert level to 98% of its SPMDD.

The pipe bedding for underground services, including catch basins and manholes, should consist of OPSS Granular A, 20mm crusher run limestone, or equivalent, compacted to 98% of its Standard Proctor maximum dry density (SPMDD). If free water is encountered in the trenches, from saturated sand layers, the bedding in the service trenches may consist of HL6 stone or equivalent, provided that a geotextile filter fabric (Terrafix 270R or equivalent) is used to separate the stone bedding from the base and the sides of the excavation. The geotextile filter fabric must surround the clear stone bedding completely.

5.3 Foundation Design

The existing fill is not competent to support building foundations. The proposed building foundations will have to extend through the fill and founded in the underlying native soil deposits. Conventional spread/strip footings founded in the native clayey silt and clayey /sandy silt till deposits below the fill, at a minimum depth of 1.2m from finished outside grade, can be designed for the bearing pressures:

- Serviceability Limit State: 150 kPa

The existing fill in the proposed building areas should be removed and replaced with selected on-site organic free material, compacted in lifts not exceeding 200mm, in accordance with the engineered fill requirement. Conventional spread/strip footings founded in the engineered fill can be designed for the bearing pressures:



-	Factored Ultimate Limit State:	240 kPa
-	Serviceability Limit State:	150 kPa

The total and differential settlement of footings, with the designed bearing pressures at the Serviceability Limit State as recommended above, will not exceed 25 mm and 20mm respectively.

Footings founded in engineered fill should be reinforced with at least $2 \ge 15M$ bars continuously. Consequently, the foundation walls on engineered fill should be reinforced with $2 \ge 15M$ bars at the top of the walls.

It should be noted that the recommendations for footings have been analysed by *Toronto Inspection Ltd.* from the information obtained at the borehole location. Further borehole investigation is necessary after the locations of the proposed buildings are finalised. In addition, the bearing material, the interpretation between the boreholes and the recommendations of this report must be checked through field inspection provided by *Toronto Inspection Ltd.* to validate the information for use during the construction stage.

5.4 Lateral Earth Pressure

Where subsurface walls, or retaining walls, will retain unbalanced earth loads, the lateral soil pressure may be computed using the following expression:

$$p = K (\gamma H + q)$$

where	p = lateral earth pressure	(kPa)
	K = lateral earth pressure coefficient	0.4
	γ = bulk unit weight of backfill	21.0 kN/m ³
	H= depth of wall below the finished grade	(m)
	q = surcharge loads adjacent to the walls	(kPa)

This expression assumes that a permanent free drainage system is provided to prevent a build up of hydrostatic pressure next to the wall.

The drainage system should include a free-draining granular backfill or a drainage membrane placed against the concrete wall, together with an effective perimeter weeping tile drainage system at the wall base. The weeping tile should consist of a minimum 100mm diameter perforated pipe, surrounded by a geotextile filter fabric (OPSS 405) and installed on a positive grade leading to a frost free sump or outlet.



5.5 Slab Construction

If the existing fill will be left in place for supporting a slab-on-grade, long term settlement will occur. We, therefore, recommend that all fill, within the building areas, should be completely removed. Selected on-site material, free of organics, may be reused and re-compacted in place for supporting the slab-on-grade. The selected fill should be compacted in 200mm lifts to at least 100% of its Standard Proctor maximum dry density, to the standard of the engineered fill.

A minimum of 150 mm thick layer of 19mm OPSS Granular A, or equivalent, is recommended as a moisture barrier below the floor slab.

A modulus of subgrade reaction of 20 MN/m3 is recommended for the design of the slab-on-grade on the native deposits and engineered fill.

5.6 Earthquake Consideration

The 2006 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 soils).

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. of the Ontario Building Code. These values should be reviewed by the Structural Engineer.

5.7 Excavation and Backfilling

All excavations should comply with the Ontario Occupational Health and Safety Act. Any excavation deeper than 1.2m should be sloped back to a safe angle of around 45°. A flatter slope will be required for excavation in saturated soils.

No groundwater problems are anticipated for excavation of foundations and sewers. Groundwater seepage from wet sand layers or seams will be minor which can be handled by pumping from filtered sumps, as necessary. However, if the excavation is into the sand and gravel deposit, at a depth of 4.7m from grade, at Borehole 21BH-26 location, temporary de-watering may be required for the sewer installation, which can be decided during construction.

The on site excavated material, separated from topsoil and organics, can be reused for site grading and trench backfill. In order to achieve the specified degree of compaction, drying of the on-site material may be required prior to placement and



compaction. Therefore, it is recommended that the excavation and backfilling process should be conducted in the dry and frost free seasons.

Any unsuitable fill, such as topsoil and other compressible fill, may be reused in landscape areas, subject to the approval of the landscape architect.

Backfill around catch basins, manholes and narrow trenches should consist of imported granular material, and should be compacted using a medium or light vibratory equipment.

5.8 Pavement Construction

The existing on-site material contains a mixture of clay and silt with sand, and is frost susceptible. The following pavement design is recommended based on the assumption that perforated sub-drains will be installed to prevent buildup of water in the granular bases of the pavement:

		Light Duty	Heavy Duty
		<u>Parking Lot</u>	<u>Fire Route</u>
Asphaltic Con	crete OPSS HL3 or equivalent	65mm	40mm
	OPSS HL8 or equivalent	-	60mm
Base:	OPSS Granular A or 20mm crusher-run	150mm	150mm
Sub-base:	OPSS Granular B or 50mm crusher-run	300mm	450mm

Roads and driveways to be assumed by the local municipality should be constructed to the municipal standards.

The granular base and sub-base should be compacted to a minimum of 100% SPMDD. Asphaltic concrete should be compacted to at least 96% Marshall density.

The above pavement thicknesses are based on favourable site conditions and the construction being carried out during the drier time of the year, that the subgrade is stable, not heaving under construction traffic. If the subgrade is wet and unstable, additional thickness of sub-base material will be required.

Following site grading, the subgrade of the entire pavement should be proofrolled using a heavy vibratory roller. Any soft spots revealed by the proof-rolling should be sub-excavated and replaced with approved dry material and compacted to at least 98% of the Standard Proctor maximum dry density (SPMDD) to the subgrade level.



Continuous perforated, OPSS 405, longitudinal drains, minimum diameter of 100mm, should be used as sub-drains, on both sides of the roadways. The subdrains should be installed on a positive gradient towards the outlets (collecting into catch basins), at a minimum depth of 800mm below the pavement level, to allow for a free flow of water. The backfill above the drains should comprise of free draining Granular B or its equivalent and should be continuous with the granular sub-base of the pavement. This will help in draining the pavement structure and minimize the differential heave of the pavement.



6.0 GENERAL STATEMENT OF LIMITATION

The comments and recommendations presented in this 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, loss 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.

David S. Wang, P.Eng.

Senior Engineer

S. WANG 100131918 The S. WANG 100131918 The S. WANG 100131918

Shan Goel, P. Eng. Project Engineer

Upkar S. Sappal, P. Eng. Principal Engineer



Drawings Borehole Location Plan Borehole Logs





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

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Time	Water Level (m)	Depth to Cave (m)
June 3, 2021	Dry	

Project No.	t No. <u>5552-21-GB</u> Log of Borehole <u>21BH-04</u>							
			Dwg No. 5					
Project:	Geotechnical Investigation		Sheet No. <u>1</u> of <u>1</u>					
Location:	Airport Road and Mayfield Road,	Caledon, Ontario						
Date Drilled: Drill Type: Datum:	5/21/21 Track Mounted Drill Rig Geodetic	Auger Sample Auger Sample Dynamic Cone Test Shelby Tube Field Vane Test	Headspace Reading (ppm) Natural Moisture Plastic and Liquid Limit Unconfined Compression % Strain at Failure Penetrometer					
GUL Gro L GUL Gro FILL brc tra	Soil Description ELEV. m 238.67 238.67 238.01 238.62 - (REWORKED) 238.06 own clayey silt 238.06 ce to some rootlets & topsoil 238.06 bist to very moist	Beam N Value 0 30 60 80 1 30 200 60 80 1 30 200 60 80 2 30 30 80 80 2 30 30 30 80 2 30 30 30 30 2 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30	Headspace Reading (ppm) 100 200 300 Natural Moisture Content % Atterberg Limits (% Dry Weight) 10 20 30 X X X X X X X X X X X X X					

- CLAYEY SILT / TILL - stiff to very stiff		1	Ŕ			*		
 brown, grey below 6.0m T- trace gravel, trace sand seams of fine sand _ moist 		2		22 0			x	
_	_			ð-				
_		3	ų į			*		
_	_	4						
_	_		12			*		
– –	_	5						
_	_	6	16					
END OF BOREHOLE NOTE: Upon completion of drilling:	232.11							

Toronto Inspection Ltd.

ORE USE BY UTHE		
Time	Water Level (m)	Depth to Cave (m)

Project No.	5552-21-GB	_og (0	f Bo	ore	ehol	e <u>2</u> ′	<u>1B</u>	<u> </u>	5			
									C	wg No	. 6		
Project:	Geotechnical Investigation								S	Sheet N	o. <u>1</u>	_ c	of <u>1</u>
Location:	Airport Road and Mayfield	Road,	Ca	ledon	i, On	tario							
Date Drilled: Drill Type: Datum:	5/25/21 Track Mounted Drill Rig Geodetic		_	Auger Sa SPT (N) ^V Dynamic Shelby Ti Field Van	imple Value Cone Te ube ne Test	(est —		Heads Natura Plastic Uncon % Stra Penetr	pace Rea I Moisture and Liqui fined Com in at Failu ometer	ding (ppn d Limit npression re	¹⁾ ⊢ ⊗	• × T	
G S M B O L Gro S M B O L Gro FILL dat dat sor - mo CLA - stif - brc - trat - trat - mo	Soil Description und Surface SOIL (REWORKED) k brown to brown clayey silt ne rootlets & topsoil ne sandy silt ist YEY SILT f to hard wn, grey below 6.0m ce to some gravel ce sand, trace silty clay ist	ELEV. m 237.16 236.96 - 236.56	DEPTH 0 1 3	Shear S		N Value 0 0 0 0 0 0 0 0 0 0 0 0 0	80 200 kPa	Hee 10 Nat Attert	adspace R 00 20 ural Moistu- erg Limits 0 21 0 20 0 20 0 0 20 0 20 0 0 0 0 0 0 0 0 0 0 0 0 0	eading (pp 0 30 ire Conter (% Dry W 0 3(١٣m) 0 t % iight) 2 		Natural Unit Weight kN/m3

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	_	5	13 O			*		
_	_							
		6	ť	• • • • • • • • • • • • • • • • • • •			×	
NOTE: Upon completion of drilling: - no free water								

INSPECTION LTD. BE

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO Inspection Ltd.

ONE USE BI OTHE	110	
Time	Water Level (m)	Depth to Cave (m)

Project No.	<u>5552-21-GB</u>	_og (D.	fΒ	ore	ehc	ble	<u>2</u> ′	1BF	<u> </u>	<u>)6</u>				
		-						_		I	Dwg No	o. <u>7</u>			
Project:	Geotechnical Investigation	۱								\$	Sheet N	lo. <u>1</u>	_ (of <u>1</u>	
Location:	Airport Road and Mayfield	d Road, (Са	aledoi	n, Or	ntario									
Date Drilled: Drill Type: Datum:	5/25/21 Track Mounted Drill Rig Geodetic		-	Auger S SPT (N) Dynamic Shelby 1 Field Va	ample Value : Cone 1 Tube ne Test	ēst		3	Headsp Natural Plastic Unconf % Strai Penetro	bace Rea Moistur and Liqu ined Cor n at Fail pometer	ading (ppr e uid Limit mpression ure	n) 	×		
G M B O	Soil Description	ELEV. m	DUPT	Shear	20 Strength	N Value	60 8	30 kPa	Hea 10 Natu Atterb	idspace F 0 2 ural Moist erg Limits	Reading (p 00 30 ture Conter s (% Dry W	om) 10 1t % 'eight)		Natural Unit Weight	
	ound Surface PSOIL	277.78 277.53	н 0	3	Strength	100	20	00 KFa	1	<u>)</u>	20 3	0		kN/m3	
FIL	FILL (REWORKED)				29				×	<u> </u>					
Ţ ■ - mo SIL - de	- trace clayey slit - moist SILTY SAND - dense to very dense - brown grey below 1 5m	st Y SAND se to very dense	276.38	1 3		Ň									
- br - so - ar	own, grey below 1.5m me gravel, some sandy silt avelly at 2.3m		2			ð			X	‹					
- po	ssible cobbles or boulders at 3.2m pist to very moist					50/\$0mn	n		×				zz		
		_	3			50/7 <u>5</u> mn	n					· · · · · · · · · · · · · · · · · · ·			
FNI		274.45				0			×				8		
NO Upc - rei cob - wa	TE: on completion of drilling: fusal to augering on probable bles or boulders ater level at 1.4m														
LGBE3 5552-21-68.6PJ 6/22/21															

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

ONE OOL DI OTTIL		
Time	Water Level (m)	Depth to Cave (m)

roject: Geotechnical Investigation Sheet No. 1 of Airport Road and Mayfield Road, Caledon, Ontario	10,00110.		3、	- 1	_				_	1		Dwg No	o. <u>8</u>		-
Arport Road and Mayfield Road, Caledon, Ontario	Project:	Geotechnical Investigation	on									Sheet I	No. <u>1</u>	_ c	of _
ate Drilles: <u>5/25/21</u> mil Type: <u>Track Mounted Drill Rig</u> atum: <u>Geodetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Secondetic</u> <u>Sec</u>	ocation:	Airport Road and Mayfie	ld Road, (Са	ledo	n, Or	tario								
Soil Description ELEV. m Image: Soil Description Image: Soil Descr	Date Drilled: Drill Type: atum:	5/25/21 Track Mounted Drill Rig Geodetic		- ; - ; - ; - ;	Auger S SPT (N) Dynamic Shelby T Field Va	ample Value c Cone T rube ne Test	est			Heads Natura Plastic Uncon % Stra Penetr	pace Rea I Moistur and Liqu fined Cou in at Fail rometer	ading (pp re uid Limit mpression ure	m) n ©	• ~	
TOPSOIL 20.04 Fill (REWORKED) 239.36 - some rootest & topsoil 239.66 - way stiff - way stiff - very stiff - way stiff - way stiff - way stiff	• S • Y • M • O • L Grou	Soil Description	ELEV. m	D E P T H	Shear	20 Strength	N Value	60 E	30 kPa	He 1 Nat Attert	adspace F 00 2 tural Moist berg Limits	Reading (p 200 3 ture Conte s (% Dry V	opm) 00 ent % Veight) 30		Natu Uni Weig kN/n
- Pick (rayey sill) _239.56 - Cown (rayey sill) 239.56 - Cown (rayey sill)		SOIL	239.94	0	ဂိ						×			Ø	
CLAYEY SILT TILL - very stiff - vrown, grey below 4.5m - seams of fine sand - moist to very moist - moist to very moist - mo	- sor	wn clayey silt ne rootlets & topsoil ist	239.56			27					Î				
- brown, grey below 4.5m - cosome gravel - seams of fine sand - moist to very moist - moist to very moist to very moist - moist to	CLA - ver	YEY SILT / TILL y stiff		1		9					×			8	
- Sedin's Unite Sailu - moisit to Very moisit - moisit to Very moisit	bro - trac	wn, grey below 4.5m ce to some gravel	_			28		· · · · · · · · · · · ·							
THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LITD. BEFORE USE BY OTHERS	- sea mo	ist to very moist	-	2		$ \mathcal{I} $					Î			Ø	
END OF BOREHOLE -	_				÷	8						¥.			
END OF BOREHOLE -														Ø	
END OF BOREHOLE -				3 -	ł	8					,			Ø	
END OF BOREHOLE -	· –	_	-											8	
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END OF BOREHOLE -			235.63												
END OF BOREHOLE NOTE:					16 O						*				
The borehole data needs interpretation assistance by toronto inspection Ltd. Before use by others				5		2000									
Image: state of the second state of			-												
END OF BOREHOLE NOTE: Upon completion of drilling: - no free water 233.62 * * * Upon completion of drilling: - no free water -			_	6											
END OF BOREHOLE NOTE: Upon completion of drilling: - no free water OTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS			233.62		8						×			0	
OTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS	END NOT	OF BOREHOLE E: a completion of drilling:													
OTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS	- no	free water													
OTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS															
OTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS															
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OTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS															
	OTE: THE BOF	REHOLE DATA NEEDS INTERPRETATIO	ON ASSISTANC	E B	Y TOR		SPECT	ION LTD	. BEFOF	REUSE	BY OTH	ERS	· · · ·	_	

Time	Water Level (m)	Depth to Cave (m)
June 3, 2021	4.54m	

Project No	<u>5552-21-GB</u>	.og (0	f B	ore	eh	ole	<u>2</u>	1B	<u>H-(</u>	<u>8(</u>		
											Dwg No). <u>9</u>	
Project:	Geotechnical Investigation									-	Sheet N	√o. <u>1</u>	of
Location:	Airport Road and Mayfield	Road,	Ca	aledo	n, Or	ntario	0						
Date Drille Drill Type: Datum:	ate Drilled: 5/25/21 rill Type: Track Mounted Drill Rig atum: Geodetic		_	Auger S SPT (N) Dynami Shelby Field Va	ample Value c Cone ⊺ Tube ane Test	Гest	0		Heads Natura Plastic Uncor % Stra Penet	space Re al Moistu c and Liq nfined Co ain at Fai rometer	ading (ppr re uid Limit mpressior lure	n) I – I &	×
G M		ELEV/	DE			N Val	ue		He 1	eadspace	Reading (p 200 3	pm) 00	Natur
	Soil Description	m	Р Т Н	Shear	20 Strength	40	60	80 kPa	Na Atter	tural Mois berg Limit	ture Conte s (% Dry W	nt % /eight)	Weig kN/m
			9	Ő						× \			
	 trace gravel pockets of organics at 4.5m & 6.0m moist to very moist, wet layers 	_	1	•							*		
		_	2	¢							*		
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		_	3	- 13	/					>	<		
		_	4										
		_											
		_	5	0							*		
		_											-
		231.84	6	8							×		
E N U - b	ND OF BOREHOLE OTE: pon completion of drilling: hit a 3/4" pipe at 2.3m from top of the erm												
	berm - water level at 0.0m (flowing out)												

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)
	<u> </u>	<u>, , , , , , , , , , , , , , , , , , , </u>

Project No.	<u>5552-21-GB</u> LO	g of Boreho	ole <u>2</u>	<u>1BH-09</u>		
				Dwg No.	10	
Project:	Geotechnical Investigation			Sheet No	o. <u>1</u> of	1
Location:	Airport Road and Mayfield Ro	oad, Caledon, Ontario)			
Date Drilled: Drill Type: Datum:	5/25/21 Track Mounted Drill Rig Geodetic	Auger Sample SPT (N) Value Dynamic Cone Test Shelby Tube Field Vane Test		Headspace Reading (ppm) Natural Moisture Plastic and Liquid Limit Unconfined Compression % Strain at Failure Penetrometer	× × ×	
S		N Valu	ie	Headspace Reading (ppn	ⁿ⁾ Natur	ral

G N	Ŷ	Soil Description	ELEV.	DE									100	al Maia	200	30	00 01		Natura Unit
			m	T	Shear	20 r Strer	4 ngth	0	60	8	0 kPa	- Ati	terber	g Limi	ts (% l	Dry W	/eight)		Weigh kN/m
<u>7</u>	<u>1,, : .</u>		239.51	0			10)0 -:-:-:-		20)0 - : -: : : :		10		20	3	0		
	×.	FILL (REWORKED)	239.20		Ő			222	99					Ж					
	₩-	- brown sandy silt to clayey silt	-															-U	
- M	×.	- some rootlets & topsoil	238.74			5		-2-6-2-		010 010						• • • • • •			
X	14		<u>_</u>	1	⊢ ď	ŏ∣ –								*				-1/	
	XI	 soft to very stiff / compact 				$\langle \rangle$								1				2	
	14	brown, grey below 6.0m	-											<u> </u>		<u></u>			
	11	- seams of fine sand				ð		-0-0-0-0 -0-0-0-0-0			- 1 - 1 - 1 - 1 - 3 - 1 - 1 - 1			*					
	∦1	- moist to very moist	-	2										<u> </u>		· · · · · ·		<u> </u>	
11	il.																		
	11	_	_		-2-6-2-6		<u>)</u>	-2-0-2-	9 19 - 19	0 1 0 ·				*		• • • • •	· · · · · ·	-V	
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9	X1_	_	_	6															
	LØ.				12						- ;								
		_	232.95		0									X					
		END OF BOREHOLE					:::												
		NOTE: Upon completion of drilling:							: :									-	
		- no free water					:::		-										
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NOTE	E: T⊦	HE BOREHOLE DATA NEEDS INTERPRETATION	ASSISTAN	CE	BY TOF	RONT	O IN	SPEC	TION	I LTD	. BEFC	RE US	SE BY	′ OT⊦	IERS				
orc	n	nto Inspection 1 to	1									т	Time			Wat Lev	er el		epth f Cave
	- 1															(m)	Ì	(m)

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	Time	Water Level (m)	Depth to Cave (m)

Project No.	5552-21-GB	_og (of Borenc	ble <u>2'</u>	<u>IBH-10 (IMV</u>	<u>V)</u>
					Dwg No. <u>11</u>	
Project:	Geotechnical Investigation	า			Sheet No. 1	of <u>1</u>
Location:	Airport Road and Mayfield	d Road, (Caledon, Ontario			
Date Drilled: Drill Type: Datum:	5/26/21 Track Mounted Drill Rig Geodetic		Auger Sample SPT (N) Value Dynamic Cone Test Shelby Tube Field Vane Test		Headspace Reading (ppm) Natural Moisture Plastic and Liquid Limit Unconfined Compression % Strain at Failure Penetrometer	• < +
• • • • • • • • • • • • • • • • • • •	Soil Description und Surface SOIL	ELEV. m 243.38 243.15	N Value	60 80 kPa 200	Headspace Reading (ppm) 100 200 300 Natural Moisture Content % Atterberg Limits (% Dry Weight) 10 20 30	Natural Unit Weight kN/m3
Fill	. (REWORKED)	243.15	Q		× /	

<u> </u>	TOPSOIL	243 15	0												
	FILL (REWORKED)			Ó								×			
	- brown clayey silt to sandy silt	242.77		$ - \rangle$							- /	/			
ø	A logical sector logical lo	Л		$ \cdots\rangle$							/				
		<u>/_</u>	1	0.000	125						×				
	SANDY / CLAYEY SILT TILL		Ľ		ľ						T.				
	- brown grey below 4 5m				1:1	ΩΞ								<u></u>	
	- some gravel	-				33									
	- seams of fine sand					Φ			1.1.1.1.1		*			1	
	L- moist to very moist	_	2		122	1:1								-14	
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	Upon completion of drilling				111	:::	::::								
	- no free water														
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Toronto Inspection Ltd.

ORE 03E BT OTTL	110	
Time	Water Level (m)	Depth to Cave (m)
June 3, 2021	4.07m	

Project No.	<u>5552-21-GB</u>	.og of Boreh	ole <u>2</u>	<u>1BH-11</u>	
				Dwg No. <u>12</u>	
Project:	Geotechnical Investigation			Sheet No. <u>1</u> o	f <u>1</u>
Location:	Airport Road and Mayfield	Road, Caledon, Ontaric)		
Date Drilled:	5/26/21	Auger Sample		Headspace Reading (ppm) • Natural Moisture X	
Drill Type:	Track Mounted Drill Rig	SPT (N) Value Dynamic Cone Test Shelby Tube		Plastic and Liquid Limit Unconfined Compression % Strain at Failure	
Datum:	Geodetic	Field Vane Test	S	Penetrometer	
		N Valu	IP	Headspace Reading (ppm)	

	S V			D				N Value	9		н	eadspace	Reading (ppm)		Natural
G W	M B	Soil Description	ELEV.	E P T		20	4	0	60	80	Na	atural Mois	sture Conte	ent %	1	Unit Weight
	Ľ	Ground Surface	240.78	H	Shear	Stre	ngth 10	00		kPa 200	Alle	10 10	20	30		kN/m3
	<u>×1/</u>	TOPSOIL	240.55	0	6											
		FILL (REWORKED)			Q							X				
	****	─- dark brown to brown clayey slit ¬ - some rootlets & topsoil	「1240.17 「1												14	
		- moist				20							V			
	ЦИ			1		Ψ							1			
	КЦ	- very stiπ, brown - trace gravel, trace sandy silt														
	H	- moist to very moist	-			1	7					· · · · · · · · · · ·				
	1.11	-				9)					2	*			
	КЦ	_	-	2		+ t							1		. [4	
	ИШ					20										
	IШ	_	-			φ							*			
	КЦ														P	
	UH11-	_	4	3		-									-	
	ШИ				2	₿							*			
	ИЦ	_	_										1	+ + + + + + + + + + + + + + + + + + + +	12	
	LH I				0.000								/			
	11,74	_	_	4								/	-		-	
	КЦ		236.52									/				
	91	SANDY SILT TILL	_									/	· · · · · · · · · · · · · · · · · · ·		·	
	ĺЙ	- compact - brown, grev below 6.0m				18										
	19	some gravel, some clayey silt		5		Ψ_					•••••	1				
		- moist		ľ	0000			-0-0-0-0			• • • • • • • •				:	
	í µ															
	\mathcal{A}														•	
	X														:	
	(o /	_		0		22										
	ИŊ		224.22			Ø						*			0	
	ными	END OF BOREHOLE													14	
		NOTE:														
		Upon completion of drilling:														
						÷										
5																
1221																
16																
5																
Ū,																
2-20																
25																
RE3																
פ						:										

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

Toronto Inspection Ltd.

one coe bi chile		
Time	Water Level (m)	Depth to Cave (m)

Project No.	5552-21-GB	Log	0	fΒ	ore	ehc	ble	<u>2</u> ′	1Bł	 -1	2			
										I	Dwg N	o. <u>13</u>		
Project:	Geotechnical Investigati	on								:	Sheet I	No. <u>1</u>	of	f <u>1</u>
Location:	Airport Road and Mayfie	eld Road,	Са	aledoi	n, On	tario								
Date Drilled: Drill Type: Datum:	5/26/21 Track Mounted Drill Rig Geodetic	g	- - -	Auger S SPT (N) Dynamic Shelby 1 Field Va	ample Value Cone T ⁻ ube ne Test	est			Heads Natura Plastic Uncond % Stra Penetr	pace Rea I Moistur and Liqu fined Cor in at Fail ometer	ading (pp e uid Limit mpression ure Reading (r	m) h E	× 	
G M W B	Soil Description	ELEV.	DEPT	2	20 4	40 (60 E	30	10 Nati	00 2 ural Moist	00 3 ture Conte	00 nt %		Vatural Unit Neight
	und Surface	246.22	н о	Shear	Strength 1	00	2	kPa 00	1 Atterb	0 2	20 (% Dry V	veignt) 30 1	li	kN/m3
- CLA - sor - CLA - stif - bro - trac - mo - mo 	SolL (REWORKED) k brown to brown clayey silt ne rootlets & topsoil ist to very moist YEY SILT / TILL f to hard wwn, grey below 4.5m ce to some gravel ne silty clay at 4.5m ist to very moist	246.04 245.76 	1 2 3 4 5 6		ð ð						*	*		
- no	OF BOREHOLE E: n completion of drilling: free water	239.67												
LGBE3 5552-21-1														

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

ORE USE BI OTHE	10	
Time	Water Level (m)	Depth to Cave (m)

		-							_			Dwg N	o. <u>14</u>		
Project: Location:	Geotechnical Investigation Airport Road and Mayfield	n d Road, (Са	ledo	n, C	n	ario				-	Sheet I	No	1	of _
Date Drilled: Drill Type: Datum: •∎•	5/26/21 Track Mounted Drill Rig Geodetic		-	Auger S SPT (N) Dynamio Shelby ⊺ Field Va	ample Value Cone Tube ne Te	e e Te st	est	0		Heads Natura Plastic Uncor % Stra Penet	space Rea al Moistur c and Liqu nfined Cor ain at Fail rometer	ading (pp e uid Limit mpression ure	m) F A	× ⊗	(
• • • • • • • • • • • • • • • • • • • •	Soil Description	ELEV. m	DEPTH	Shear	20 Streng	4 th 10	N Value	60	80 kPa	He 1 Na Atter	eadspace F 100 2 tural Moist berg Limits	Reading (p 00 3 ture Conte s (% Dry V 20 2	opm) 00 Int % Veight) 30		Nat U We kN
TOP	SOIL (REWORKED)	248.14	0	ð							×				
- bro - trac - mo	wn clayey silt ce rootlets & topsoil ist YEY SILT / TILL		1	/	82 0						*				
- ver - trac - mo	y stiff, brown ce gravel ist to very moist	246.86	6		22						/				
		-	2		О							*			
		-			₽						+*				
		-	3	ł	}							k			
			4												
SAN	DY SILT TILL npact to dense	244.10													
- gre - son - mo	y ne gravel, some clayey silt ist	-	5		Š	Ď					*				
		-			/										
		-	6	ť	<u> </u>						×				
END NOT	OF BOREHOLE E: n completion of drilling: free water	241.81													
	REHOLE DATA NEEDS INTERPRETATION						SPECT								

 Time
 Water Level (m)
 Depth to Cave (m)

 June 3, 2021
 1.51m

P	roject No	5552-21-GB	Log	0	fВ	ore	ehc	ble	<u>2</u> ′	1BI	 -1	4			
											I	Dwg No	o. <u>15</u>		
P	roject:	Geotechnical Investig	ation								. :	Sheet N	No. <u>1</u>	_ 0	f <u>1</u>
Lo	ocation:	Airport Road and Ma	yfield Road,	Са	aledoi	n, Or	ntario								
	ate Drille rill Type: atum:	ed: 5/26/21 Track Mounted Drill Geodetic	Rig	- - -	Auger S SPT (N) Dynamic Shelby 1 Field Va	ample Value Cone Tube ne Test	Test N Value			Heads Natura Plastic Uncon % Stra Penetr	and Liqu and Liqu fined Con ain at Fail rometer	ading (pp e uid Limit mpressior ure Reading (p	m) n ©	× , ,	Natural
G W L	M B O	Soil Description	ELEV. m	U U U U U U U U U U U U U U U U U U U	Shear	20 Strength	40	60 8	30 kPa	1 Nat Attert	00 2 tural Moist perg Limits	00 3 ture Conte s (% Dry V	00 nt % Veight)	,	Unit Weight
		Ground Surface TOPSOIL FILL (REWORKED) brown clayey silt some rootlets & topsoil moist CLAYEY SILT / TILL very stiff brown, grey below 6.0m trace to some gravel some sandy silt till below 6.0m moist to very moist	246.16 245.83 245.55 	H 0 1 2 3 4 5 6	Snear			2				20 3 4 * *			kN/m3
LGBE3 5552-21-GB.GPJ 6/22/21		END OF BOREHOLE NOTE: Jpon completion of drilling: water level at 6.1m													

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

ORE 03E BI OTHE	110	
Time	Water Level (m)	Depth to Cave (m)

Project No.	<u>5552-21-GB</u>	.og d	D	fΒ	ore	eho	ble	<u>2</u> 2	<u>1B</u>	 -1	5			
		-								I	Dwg No	. <u>16</u>		
Project:	Geotechnical Investigation										Sheet N	lo. <u>1</u>	_ 0	of <u>1</u>
Location:	Airport Road and Mayfield	Road, (Ca	aledo	n, Or	ntario								
Date Drilled: Drill Type: Datum:	5/26/21 Track Mounted Drill Rig Geodetic		- - -	Auger S SPT (N) Dynamic Shelby T Field Va	ample Value c Cone 1 Fube ne Test	Fest N Value			Heads Natura Plastic Uncon % Stra Penetr	pace Rea Il Moistur and Liqu fined Cor in at Fail cometer	ading (ppi e iid Limit npressior ure Reading (p	n) I @	× 	Natural
G M W B L O	Soil Description	ELEV. m	EP T	Shear	20 Strength	40	60 8	80 kPa	1 Nat Atter	ural Moist	ure Conte s (% Dry W	nt % /eight)		Unit Weight
Gree Group 10252 1-08 G	bund Surface PSOIL L (REWORKED) own clayey silt own crootlets & topsoil oist AYEY / SANDY SILT TILL rry stiff to hard / compact to very ise own, grey below 4.5m ime gravel aams of fine sand oist to very moist	242.04 241.99 241.58	H 0 2 3 . 4	Shear	Strength	100 \$0x2501 \$0/7351 50/25m			*					kN/m3

Note: The Borehole data needs interpretation assistance by toronto inspection Ltd. Before use by others
Toronto Inspection Ltd.
Time

	_110	
Time	Water Level (m)	Depth to Cave (m)

Project N	No.	<u>5552-21-GB</u>	Log	C	ΓB	or	e	nc	ne	<u>Z</u>	<u>IB</u>	<u>H</u> -	- _ _	0 (Dwg No	. 17	VV	<u>/</u>)
Project:		Geotechnical Investigat	ion									_	S	Sheet N	No1		of _
Location	1:	Airport Road and Mayfi	eld Road,	Ca	aledo	n, O	nt	ario									
Date Drilled: 5/ Drill Type: 1 Datum: G Datum: G Datum: G Datum: G Datum: C Datum: G Datum: C Datum: C Datum: G Datum: C Datum: C Datum: G Datum: C Datum: C	5/27/21 Track Mounted Drill Ri Geodetic	g	-	Auger S SPT (N) Dynami Shelby Field Va	Sample) Value c Cone Tube ane Tes	Te: t	st	0		Head Natur Plasti Unco % Str Pene	space al Moi c and nfined ain at tromet	Rea sture Liqu Con Failu	nding (pp e id Limit npressior ure	m) H	× 		
SYMBOL	Grou	Soil Description	ELEV. m	DEPTH	Shear	20 Strength	40	N Value	0	80 kPa	H Na Atte	eadspa 100 atural M rberg L 10	ace R 20 Moistu .imits 2	eading (p 003 ure Conte (% Dry W 03	pm) 00 nt % /eight) 30		Natu Ur Wei kN/
	TOP	SOIL (REWORKED)	239.92	0	Ô								×				
	bro - son <u> - mo</u> - SAN	wn clayey silt ne rootlets & topsoil ist DY SILT TILL	23 939 .32	2									/				
	- con - bro - son	npact to very dense wn, grey below 3.0m ne gravel, some clayey silt	_		11							· · · · · · · · · · · · · · · · · · ·					
	- stra pos - mo	atified clayey silt at 6.1m sible shale pieces at 6.4m ist to very moist	-	2									*				
	-		-			23 0						+*					
	-			3		8							×				
	_		_	4												• • •	
	-		_		14												
	-		-	5		$\left \right\rangle$						-1	N				
	_			6				$\overline{\ }$	$\overline{\langle}$							**	
			233.41							89/265mr O	• >	k					
	NOT Upor - wat	CF BOREHOLE E: n completion of drilling: ter level at 2.0m															
													· · · · · · · · · · · · · · · · · · ·				
NOTE: TH	HE BOF	REHOLE DATA NEEDS INTERPRETAT				ONTO	INS	SPECTI	ON LTI	D. BEFOI	REUSE	BY C) THE	ERS			
oron	nto	Inspection L	.td.							Γ	Tii	me		Wa Lev	ter /el	De	epth Cave

Time	Water Level (m)	Depth to Cave (m)
June 3, 2021	0.6m	

P	roject No.	<u>5552-21-GB</u>	.og (0	f B	ore	ehc	ole	<u>2</u> 2	IBł	- -1	7		
			-								D	wg No	b. <u>18</u>	
P	roject:	Geotechnical Investigation									S	heet N	lo. <u>1</u>	of
Lo	ocation:	Airport Road and Mayfield	Road,	Ca	aledor	n, On	tario							
D D D	ate Drilled: rill Type: atum:	5/27/21 Track Mounted Drill Rig Geodetic		_	Auger Sa SPT (N) Dynamic Shelby T Field Va	ample Value Cone To Ube ne Test	est			Headsp Natural Plastic Unconf % Strai Penetro	bace Read Moisture and Liqui ined Com in at Failu pometer	ding (ppr d Limit pressior re	m) 1 @	×
G W L	S Y M B O	Soil Description	ELEV.	DUPT	2 Shear S	0 4	N Value	60 80) kPa	Hea 10 Natu Atterb	adspace Ro 00 20 ural Moistu erg Limits	eading (p 0 30 re Conte (% Dry W	pm) 00 nt % /eight)	Natural Unit Weight
	Group G	und Surface SOIL (REWORKED) wn clayey silt ne rootlets & topsoil ist YEY SILT / TILL f to very stiff wn, grey below 4.5m ce gravel asional layers of sandy silt till ist to very moist, wet pockets	240.60 240.40 239.99	1 2 3 4 5 0 6		^o 1 ^o ^o ^o ^o ^o			0					
	END NOT Upor - wat	OF BOREHOLE E: n completion of drilling: ter level at 6.1m												

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

Time	Water Level (m)	Depth to Cave (m)

Project No.	<u>5552-21-GB</u>	LUY	וע		510		JIG	<u>∠</u>	וסו	-	Dwg No	. <u>19</u>	<u>/ V</u>	1		
Project:	Geotechnical Investigation	on								. :	Sheet N	No. <u>1</u>	_ c	of _		
Project No. Project: Location: Date Drilled: Drill Type: Datum:	Airport Road and Mayfie	ld Road, (Ca	aledor	1, OI	ntario)									
Date Drilled:	oject No. <u>5552-21-GB</u> oject: <u>Geotechnical Investiga</u> reation: <u>Airport Road and Mayr</u> ate Drilled: <u>5/27/21</u> ill Type: <u>Track Mounted Drill R</u> atum: <u>Geodetic</u> <u>Soil Description</u> <u>Ground Surface</u> <u>TOPSOIL</u> <u>FILL (REWORKED)</u> - brown clayey silt - trace to some rootlets & topsoil - brown, grey below 4.5m - some gravel, some sandy silt - moist - - - - - - - - - - - - -		-	Auger Sa	mple			3	Headspace Reading (ppm) Natural Moisture X							
Drill Type:	Track Mounted Drill Rig		_	Dynamic	Cone	Test		_	Plastic Uncon	c and Liqu	uid Limit mpressior					
Datum:	Geodetic		-	Shelby T Field Var	ube ne Test			S	% Stra Penetr	ain at Fail rometer	ure	▲	•			
	Soil Description	ELEV.	DEPT H	2 Shear S	0 Strength	N Value	e 60	80 kPa	He 1 Nat Attert	adspace F 00 2 tural Moist berg Limits	Reading (p 200 3 ture Conte s (% Dry W	pm) 00 nt % /eight)		Nat U We kN		
	SOIL (PEWORKED)	240.63 240.48	0	7		100	2						Ø			
- bro	wn clayey silt	240.17									1		8			
<u>- mo</u> — CLA	ist YEY SILT TILL		1							+						
- ver - bro	y stiff wn, grey below 4.5m												P			
[—] - son - moi	ne gravel, some sandy silt ist				ð					*						
—		-	2													
		-			- 28 					*						
		_	3										Ĺ			
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		_														
			5	Ċ) 					*						
		235.34														
		-														
<u> </u>		-	6													
Ž		234.08		C)					<u> </u>	\$		8			
	OF BOREHOLE E:															
- no 1	free water															
	REHOLE DATA NEEDS INTERPRETATION	ON ASSISTANC] ;e e			NSPECT		D. BEFOF	REUSE	BY OTH	ERS					
ronto	Inspection I t	h						Γ	Tin	ne	Wa	ter	De	pth		

1			
	Time	Water Level (m)	Depth to Cave (m)
	June 3, 2021	5.29m	

Project No	o. <u>5552-21-GB</u>	_og o) [.]	f B	or	٦e	ehc	ble	<u>2</u> ′	1BI	H- 1	9			
		•									I	Dwg N	o. <u>20</u>		
Project:	Geotechnical Investigation	า									. :	Sheet I	No1	<u> </u>	of <u>1</u>
Location:	Airport Road and Mayfield	d Road, (Ca	aledor	п, C	Dn	tario								
Date Drille Drill Type Datum:	ed: 5/27/21 Track Mounted Drill Rig Geodetic		-	Auger Sa SPT (N) Dynamic Shelby T Field Va	ample Valu Con ube ne Te	e e Te est	est			Heads Natura Plastic Uncor % Stra Penet	space Rea al Moistur c and Liqu fined Cor ain at Fail rometer	ading (pp e uid Limit mpressio ure	n) n ¢	• ≺ ⊗	
G Y W M	Soil Description	ELEV.	DEB				N Value			He 1	adspace F	Reading (p	opm) 300		Natural Unit
	Ground Surface	m 242.70	H H	Shear S	20 Streng	4 gth 10	<u>0 (</u> 00	60 2	80 kPa 200	Atter	berg Limits	s (% Dry V 20	Veight) 30		Weight kN/m3
	FILL (REWORKED) • brown clayey silt • some rootlets & topsoil • moist CLAYEY SILT TILL • very stifft to hard • brown, grey below 3.0m • some gravel, some sandy silt • gravelly at 6.2m • moist to very moist, wet at 6.2m	242.70 242.50 242.09 241.90 	0 1 2 3 4 5		8						*				
		_	6				50)75mn	n			/				
3BE3 5552-21-GB.GPJ 6/22/21	END OF BOREHOLE NOTE: Jpon completion of drilling: water level at 0.8m cave-in at 5.2m	236.38									9				

 Image: Second control in the second

VA/ = t = m	
vvater Level (m)	Depth to Cave (m)
	Level (m)

		U								[Dwg No	b. <u>21</u>		
Project:	Geotechnical Investigation	on 								-	Sheet I	No	1	of _
Location:	Airport Road and Mayfie	eld Road,	Са	ledo	n, O	ntario								
Date Drilled:	5/27/21		-	Auger S	ample			3	Heads Natura	space Rea al Moisture	ading (pp e	m)	• ×	
Drill Type:	Track Mounted Drill Ric	1	-	SPT (N) Dynami	Value c Cone	Test		2	Plasti	c and Liqu	iid Limit	Ē		J
Datum:	Geodetic		-	Shelby Field Va	Tube	ł			% Stra	ain at Faile	ure	' (⊗ ▲	
		1	_					S		iometer				
• • S •G• Y •W• P	Soil Description	ELEV.	DEP		20		60	80	1 Na	100 20 101 Altural Moist	00 3 ure Conte	00 00 nt %		Na
	und Surface	m 245.32	T H O	Shear	Strength	100		kPa 200	Atter	berg Limits	s (% Dry V 20 3	Veight) 30		kN
		245.04		ð							X			
- bro	wn clayey silt ne rootlets & topsoil	_]244.71 ∏												
≝ sor <u></u>	ne sandy silt ist	244.2	B 1		\$						<u> </u>			
CLA ver	YEY / SANDY SILT TILL y stiff to hard / compact to dense	e _												
- bro	own, grey below 4.5m ce to some gravel				ð						k			
-as -an	nedium sand layer at 6.0m to 6.2	2m	2											
- 110 110	ist to very moist, wet at 0.0m	_			∲ —	2 - 2 - 2 - 2 - 2 2 - 2 - 2 - 2 - 2 - 2 2 - 2 -			• • • • • • •	· · · · · · · · · · · · · · · ·	*			
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		-											-	
		_	6							/				
		238.77				ð			×					
END NOT	OF BOREHOLE													
Upo - wa	n completion of drilling: ter level at 2.0m													
- cav	/e-in at 5.9m													
NOTE: THE BOP	REHOLE DATA NEEDS INTERPRETATION	ON ASSISTAN	CE B	Y TOR	ONTO	INSPECT	ION LT	D. BEFO	RE USE	BY OTH	ERS			
vronto	Inspection L	td.							Tir	ne		ter /el	De	epth Cav

Time	Water Level (m)	Depth to Cave (m)
June 3, 2021	1.04m	

Project I	No.	<u>5552-21-GB</u>	Log	<u>)</u>	fВ	ore	eho	ble	<u>2</u> ′	B	H-2	<u>21</u>		
			-								I	Dwg No	. <u>22</u>	
Project:		Geotechnical Investigation	on									Sheet N	lo. <u>1</u>	_ of _1
Locatior	ו:	Airport Road and Mayfie	eld Road,	Ca	aledo	n, On	tario							
Date Dri Drill Typ Datum:	illed: be:	5/31/21 Track Mounted Drill Rig Geodetic]	- - -	Auger S SPT (N) Dynamic Shelby 1 Field Va	ample Value c Cone T Fube ne Test	est			Heads Natura Plastic Uncon % Stra Penetr	pace Rea I Moistur and Liqu fined Cou in at Fail rometer	ading (ppi re uid Limit mpressior lure	n) I &	• ×
G Y W B		Soil Description	ELEV.	DEP		20 4	40	, 60 8	30	1 Nat	00 2 ural Moist	200 30 ture Conte	00 01 01 %	Natural Unit Weight
	Grou	und Surface	m 246.75	H U	Shear	Strength 1	00	2	kPa	Attert	perg Limits	s (% Dry W 20 3	/eight) 0	kN/m3
	TOP: FILL brov - son - CLAY - very - brov - son - a si - sea - moi - moi -	SOIL (REWORKED) wn clayey silt he rootlets & topsoil ist YEY SILT TILL y stiff to hard wn, grey below 4.5m he gravel, some sandy silt It layer at 4.5m ms of fine sand he sand with gravel at 6.0m ist to very moist, wet at 6.0m	246.73 246.65 246.14 	0 1 2 3 4 5		28 28						× ×		
			240.51	6			50/140m	m		>	ł			
BE3 5552-21-GB.GPJ 6/22/21	END NOT Upor - wat - cav	OF BOREHOLE E: n completion of drilling: er level at 4.4m e-in at 5.5m												

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

ORE USE BT UTHE	-RO	-
Time	Water Level (m)	Depth to Cave (m)

Project:	Geotechnical Investigation	<u>1</u>								\$	Sheet N	No. <u>1</u>	_ of _
ocation:	Airport Road and Mayfiel	d Road, C	Ca	ledoi	ı, On	tario							
Date Drilled:	5/31/21			Auger S SPT (N)	ample Value]]	Heads Natura	pace Rea	ading (ppi e	m)	×
Drill Type:	Track Mounted Drill Rig		. [Dynamic Shelby 1	Cone T	est		-	Uncon % Stra	fined Cor	mpressior ure	י ⊗ י	-1
Datum:	Geodetic		F	Field Va	ne Test		S		Penetr	ometer			
S S S S S S S S S S S S S S S S S S S	Soil Description	ELEV. m	D E P T H	Shear	0 4 Strength	N Value	60 E	30 kPa	Hea 10 Nat Atterb	adspace F 00 2 ural Moist berg Limits	Reading (p 00 3 ture Conte s (% Dry W	pm) 00 nt % /eight)	Nat Ur We kN/
	SOIL	242.39	0	3			2						
<u>v</u> <u>v</u> –		_		1									2
// ∖/ ₩₩ FILI	_ (REWORKED)	241.42	1	¢.								X	
- bro	own sandy silt to clayey silt me rootlets & topsoil to 1.2m	_		$\langle \rangle$									
- bro	own clayey silt with gravel below n avelly at 2.3m				X				· · · · · · · · · · · · · · · · · · ·		×		
- yra - po	ssible cobble or boulder at 2.3m	239 95	2			50/75mn	0		×				
ENI NO	O OF BOREHOLE	200.00											
Upo - ref	n completion of drilling: usal to augering at 2.4m on												
prot - wa	bable boulders ter level at 2.3m												

Time	Water Level (m)	Depth to Cave (m)
June 3, 2021	1.18m	

t No.	5552-21-GB	_og (C	f B	or	e	hc	le	<u>2</u> ′	1B	H	-2	23 (<u>(M</u>)	M	<u>/)</u>
ŧ.	Geotechnical Investigation	h)wg No	b. <u>24</u>	1	
on.	Airport Road and Mavfield	d Road. (Ca	aledor	n. O	nta	ario				-		neet i	NO	<u> </u>	<u> </u>
Drilled: ype: n:	5/31/21 Track Mounted Drill Rig Geodetic		-	Auger Sa SPT (N) Dynamic Shelby T Field Var	ample Value Cone ube ne Tes	Tes	t			Heads Natur Plasti Uncor % Str Penet	space al Mc c and nfined ain at trome	e Rea bisture I Liqui d Con t Failu eter	ding (pp) did Limit pression re	n) I (× ⊗	: I
	Soil Description	ELEV.	D E P	2	0	40	a value	0 8	30	Na	100 100 atural	20 Moistu	ine Conte	00 00 nt %		Natural Unit Woight
Grou	und Surface	m 247.76	Т Н 0	Shear S	Strengt	h 100		2	kPa 00	Atter	berg	Limits	(% Dry V 0 3	/eight) 0		kN/m3
FILL - bro - son - moi	(REWORKED) wn sandy silt to clayey silt ne rootlets & topsoil ist	247.66 247.15		Ó	1							×				
- CLA - ver - bro - son	YEY SILT TILL y stiff to hard wn, grey below 4.5m ne gravel, some sandy silt	246.30	1		P R							*				
- moi —	ist to very moist, wet pockets	_	2		đ							*	••••••			
— —		_	3		-							*				
_		_			ð							ĸ				
_ _			4													
_		_	5	ð								*				
_		_	6												•	
		241.20			ð						×					
END NOT Upor - wat	OF BOREHOLE E: n completion of drilling: er level at 1.7m															
	t No. t: prilled: (pe: : TOP FILL FILL FILL FILL - bro - son - moi - or - son - moi - moi - son - son - moi - son - moi - son - moi - son - son	t No. <u>3032-21-GB</u> t: <u>Geotechnical Investigation</u> Airport Road and Mayfield brilled: <u>5/31/21</u> /pe: <u>Track Mounted Drill Rig</u> <u>Geodetic</u> Soil Description <u>Ground Surface</u> TOPSOIL FILL (REWORKED) - brown sandy silt to clayey silt - some gravel, some sandy silt - moist - some gravel, some sandy silt - moist to very moist, wet pockets - - - - - - - - - - - - -	t: <u>Geotechnical Investigation</u> airport Road and Mayfield Road, of brilled: 5/31/21 //pe: <u>Track Mounted Drill Rig</u> : <u>Geodetic</u> Soil Description <u>ELEV.</u> <u>TOPSOIL</u> - brown sandy silt o clayey silt - some gravel, some sandy silt - moist to very moist, wet pockets 	t. Og Classical and Mayfield Road, Ca brilled: 5/31/21 per Track Mounted Drill Rig c. Geodetic Cround Surface Classical and Mayfield Road, Ca Soil Description Ground Surface Classical and Surface C	t: <u>Geotechnical Investigation</u> Auger Si SPT (N) prilled: <u>5/31/21</u> Auger Si SPT (N) pre: <u>Track Mounted Drill Rig</u> Geodetic <u>ToPSOIL</u> <u>FILL (REWORKED)</u> - brown grey blow 4.5m - some gravel, some sandy silt - moist to very moist, wet pockets END OF BOREHOLE MOTE: Upon completion of drilling: - water level at 1.7m	tive is in the set of	trivo. <u>3552-21-GB</u> LOG OF DOFC t: <u>Geotechnical Investigation</u> on: <u>Airport Road and Mayfield Road, Caledon, Onta</u> on: <u>Airport Road and Mayfield Road, Caledon, Onta</u> on: <u>Airport Road and Mayfield Road, Caledon, Onta</u> Soil Description <u>Ground Surface</u> <u>Soil Description</u> <u>TOPSOIL</u> <u>FILL (REWORKED)</u> - brown sandy silt to clayey silt - some credets & topsoil - some gravel, some sandy silt - moist to very moist, wet pockets <u>ClaYEY SILT TILL</u> - wery stiff to hard - brown gravel, some sandy silt - moist to very moist, wet pockets <u>END OF BOREHOLE</u> <u>Den Completion of drilling:</u> - water level at 1.7m	two. <u>3052-21-05</u> LOG OF DOPENTED EXAMPLES CONCENTER Airport Road and Mayfield Road, Caledon, Ontario Airport Road and Mayfield Road, Caledon, Ontario Soft (N) Value Dynamic Cone Test Shelby Tube Field Vane Test Soll Description FILL (REWORKED) - brown andy slit to clayey slit - some provels some sandy slit - moist to very moist, wet pockets - moist to very moist, wet pocket	two. <u>5052-21-GB</u> LOG OF DOPENDIC t: Geotechnical Investigation Airport Road and Mayfield Road, Caledon, Ontario priled: <u>5/31/21</u> Auger Sample SPT (N) Value Dynamic Core Test Shelty Tube Field Vane Test	two. <u>3052-21-05</u> t: <u>Geotechnical Investigation</u> airport Road and Mayfield Road, Caledon, Ontario brilled: <u>5/31/21</u> uppe: <u>Track Mounted Drill Rig</u> geodetic <u>Geodetic</u> <u>Soil Description</u> <u>CLAYEY SILT TILL</u> - brown sandy silt to Clayey silt - some gravel, some sandy silt - moist to very moist, wet pockets <u>CLAYEY SILT TILL</u> - water level at 1.7m <u>END OF BOREHOLE</u> NDECENDE <u>Soil Description</u> <u>CLAYEY SILT TILL</u> - water level at 1.7m <u>Soil Description</u> <u>CLAYEY SILT TILL</u> - water level at 1.7m <u>Soil Description</u> <u>CLAYEY SILT TILL</u> - water level at 1.7m	tronometric constraints of the second state of	two <u>sources</u> <u>events</u>	Choice Sold Part Point Poi	Choo S332-21-35 Cog of Doricination (2000) Dury No t: Geotechnical Investigation Sheet N nn: Airport Road and Mayfield Road, Caledon, Ontario Material Meature pre: Track Mounted Drill Rig Dury No geodetic Soil Description ELEV r Geodetic Bite Strang Road FILL (REWORKED) 247.76 - brown sandy silt to layey silt - brown sandy silt to very moist, wet pockets - brown sandy silt to very moist, wet pockets - brown sandy silt to very moist, wet pockets - brown sandy silt to very moist, wet pockets - brown sandy silt to very moist, wet pockets - brown sandy silt to very moist, wet pockets - brown sandy silt to very moist, wet pockets - brown sandy silt to very moist, wet pockets	Choo 3332-21-35 Cog of Dorontoci C 2100 C 2100 C 2100 C 2000	Cited Subscription Cited Subscription Cited Subscription Cited Subscription r: Geodetic Auger Sample SPT (N) Value Site No. 1 r: Geodetic Auger Sample Subscription Site No. 1 r: Geodetic Part Ro Site No. 1 r: Soil Description Field Value Test Site No. 1 r: Soil Description Field Value Test Site No. 1 r: Soil Description Field Value Test Site No. 1 r: Soil Description Field Value Test Site No. 1 r: Soil Description Field Value Test Site No. 1 r: Soil Description Field Value Test Site No. 1 r: Soil Description Field Value Test Site No. 1 r: Soil Description Field Value Test Site No. 1 r: Soil Description Field Value Test Site No. 1 r: Soil Description Field Value Test Site No. 1 r: Soil Description Site No. 1 Site No. 1 r:

Toronto Inspection Ltd.

-ORE USE BY O	THERS	
Time	Water Level (m)	r Depth to Cave (m)
June 3, 202	1 1.46m	

Pro	oject No.	<u>5552-21-GB</u>	.og (0	f B	ore	ehc	ble	<u>2</u> ′	1BI	H-2	<u>24</u>			
			-								I	Dwg No	o. <u>25</u>	1	
Pro	oject:	Geotechnical Investigation									. :	Sheet N	lo1	<u> </u>	of <u>1</u>
Lo	cation:	Airport Road and Mayfield	Road,	Ca	aledoi	n, On	tario								
Da Dri Da	te Drilled: Il Type: tum:	5/31/21 Track Mounted Drill Rig Geodetic		 	Auger S SPT (N) Dynamic Shelby T Field Va	ample Value c Cone T rube ne Test	est		3	Heads Natura Plastic Uncon % Stra Penetr	pace Rea al Moistur and Liqu fined Cou ain at Fail cometer	ading (ppr e uid Limit mpressior ure	m) I E	• - ≥	
G W L	S Y M B	Soil Description	ELEV.	D E P T	Chear	20 4	40 (60 8	30 kDa	1 Nat Attert	00 2 tural Moist	ture Conters (% Dry W	pini) 00 nt % /eight)	$\left \right $	Natural Unit Weight
	Gro FiLL - brc - brc - CLA - stif - brc - soi - mc - soi - mc -	und Surface >SOIL - (REWORKED) own clayey silt bist /YEY SILT TILL ft to very stiff own, grey below 2.3m me gravel, some sandy silt bist to very moist	245.18 ~245.05 244.57 	H 0 1 2 3 4 5	Shear 1 6 15 16 12	Strength						20 3	0		kN/m3
Ţ	_		239.18	3 ₆		Q									
	ENC		238.62			D 					×.				
GBE3 5552-21-GB.GPJ 6/22/21	NOT Upo - wa	rE: n completion of drilling: iter level at 6.0m													

Note: The Borehole data needs interpretation assistance by toronto inspection Ltd. Before use by others
Toronto Inspection Ltd.
Time

ORE 03E BT OTTL	110	
Time	Water Level (m)	Depth to Cave (m)

											Dwg No	o. <u>26</u>		
Project:	Geotechnical Investiga	tion	~								Sheet I	No. <u>1</u>		of _
ocation:	Airport Road and May	field Road,	Ca	ledo	n, Oi	ntari	0							
ate Drilled:	5/31/21		-	Auger S	Sample		~	\boxtimes	Heads Natura	pace Rea	ading (pp ·e	m)	• ×	
rill Type:	Track Mounted Drill R	ig	_ :	SPT (N Dynam) Value ic Cone	Test	0		Plastic Uncor	and Liqu	uid Limit mpressio	⊢ °	— ~	
)atum:	Geodetic		_	Shelby Field V	Tube ane Test			∎ s	% Stra Penet	ain at Fail rometer	lure		•	
• • S		ELEV/	P			N Va	lue		He 1	adspace I 00 2	Reading (p 200 3	opm) 00		Natu
• 0 • 0 • ^L Grou	Soil Description	247 05	P T H	Shear	20 Strength	40 100	60	80 kPa 200	Na Atter	tural Mois berg Limit 10	ture Conte s (% Dry V 20	nt % Veight) 30		Weig kN/r
TOP	SOIL (REWORKED)	246.87	0	ŏ						*				
- bro	wn clayey silt ce to some rootlets & topsoil	246.44 ∫												
– CLA – CLA	YEY SILT / TILL f to very stiff		1		ð,						*			
bro ─- trac	wn, grey below 3.0m ce to some gravel	_			1							· · · · · · · · · · · ·		
- trac silty	ce sandy silt y clay at 6.0m	_	2		ð						*			
- mo	ist to very moist				29									
-		_			$\uparrow p$						*			
_		_	3		22									
		_			φ						 X			
—		-		1	3									
-		_	5	<u> </u>									P	
_		_											-	
X			0	ð								k		
END	OF BOREHOLE	240.49												
	E: n completion of drilling: free water													
	REHOLE DATA NEEDS INTERPRETA										EDQ			

Time	Water Level (m)	Depth to Cave (m)
June 3, 2021	Dry	

Project No	o. <u>5552-21-GB</u>	Log) [.]	f B	ore	ehc	ole	<u>2</u> ′	1Bł	<u> </u>	<u>26</u>		
											Dwg No	b. <u>27</u>	
Project:	Geotechnical Investig	ation								:	Sheet I	No1	of
Location:	Airport Road and May	yfield Road,	Са	aledo	n, On	tario							
Date Drille Drill Type Datum:	ed: <u>5/31/21</u> :: <u>Track Mounted Drill F</u> Geodetic	Rig	-	Auger S SPT (N) Dynamic Shelby T Field Va	ample Value : Cone T ⁻ ube ne Test	est			Heads Natura Plastic Uncont % Stra Penetr	pace Rea I Moistur and Liqu fined Cou in at Fail ometer	ading (pp re uid Limit mpression lure	m) H	• × •
GWL GWL	Soil Description	ELEV. m 246 49	DEPTH	Shear	20 4 Strength 1	N Value	60 i	80 kPa	Hea 10 Nati Atterb 1	adspace I 00 2 ural Mois berg Limit	Reading (p 200 3 ture Conte s (% Dry V 20 3	opm) 00 nt % Veight) 30	- Natura Unit Weigh kN/m3
	TOPSOIL FILL (REWORKED) - brown clayey silt - some rootlets & topsoil maiot	246.34 	0	Õ									
	- TIOSE - very stiff, brown - some gravel, some sandy silt - moist		1	6	8					*			
⊻ –		244.39 	2										
		_	3		/ 8					>			
-		-	4							/			
-	SAND AND GRAVEL	241.76				¥6 0			×	/			
	- dense to very dense - grey - trace silt to clayey silt - wet	_	5										
		240.14	6			50/100m	m		*				
2/21	NOTE: Upon completion of drilling: - water level at 2.1m - cave-in at 4.6m												
GBE3 5552-21-GB.GPJ 6/2													

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

ORE USE BI OTHE	-R3	
Time	Water Level (m)	Depth to Cave (m)

Project No.	<u>5552-21-GB</u>	Log	of Borehole 21BH-27	
			Dwg No. <u>28</u>	
Project:	Geotechnical Investig	ation	Sheet No1_ o	of <u>1</u>
Location:	Airport Road and Ma	yfield Road,	Caledon, Ontario	
Date Drilled: Drill Type: Datum:	Date Drilled: 6/1/21 Drill Type: Track Mounted Drill Rig Datum: Geodetic		Auger Sample SPT (N) Value Dynamic Cone Test Field Vane Test Field Vane Test Shelby Tube Field Vane Test Shelby Tube Shelby Tube S	
G M B L Ora	Soil Description	ELEV. m	N Value Headspace Reading (ppm) 100 200 300 20 40 60 80 H Shear Strength Atterberg Limits (% Dry Weight) Atterberg Limits (% Dry Weight)	Natura Unit Weigh kN/m3
	Soll (REWORKED)	243.65 243.48	0 100 200 10 20 30 Q	-
- soi	me rootlets & topsoil bist	243.04		
- stif - bro - tra	ff to very stiff own, grey below 6.0m ce to some gravel	_		
- tra sea	ce sandy silt ams of fine sand bist to very moist	_	2 0 X	
_		_	₿	
—		_	3	
—		_		
—		_	4	
—		_		
—		_	5	
—		_		
—		_	6 8	
ENC	O OF BOREHOLE	237.10		
Upo - no	FE: n completion of drilling: free water			

 Image: Borehole data needs interpretation assistance by toronto inspection Ltd. Before use by others

 Toronto Inspection Ltd.

 Time
 Water Level (m)

 (m)

0		110	
	Time	Water Level (m)	Depth to Cave (m)

Project No.	<u>5552-21-GB</u> Log	of Boreho	ole <u>2</u> '	<u>1BH-28</u>
				Dwg No. 29
Project:	Geotechnical Investigation			Sheet No. <u>1</u> of <u>1</u>
Location:	Airport Road and Mayfield Road,	Caledon, Ontario)	
Date Drilled: Drill Type: Datum:	6/1/21 Track Mounted Drill Rig Geodetic	Auger Sample SPT (N) Value Dynamic Cone Test Shelby Tube Field Vane Test		Headspace Reading (ppm) Natural Moisture X Plastic and Liquid Limit X Unconfined Compression S % Strain at Failure S Penetrometer A



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

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Time	Water Level (m)	Depth to Cave (m)							

Pro	oject No.	<u>5552-21-GB</u>	Log	D.	fΒ	ore	ehc	ble	<u>2</u> ′	1BI	H-2	9	(M	M	/)
			C								0)wg N	o. <u>3</u> ()	
Pro	oject:	Geotechnical Investiga	ation								. 5	Sheet I	No	1	of <u>1</u>
Lo	cation:	Airport Road and May	field Road,	Са	aledo	n, On	tario								
Da Dri Da	te Drilled: Il Type: tum:	6/2/21 Track Mounted Drill R Geodetic	Rig	-	Auger S SPT (N) Dynamie Shelby ⁻ Field Va	ample Value c Cone T ſube ne Test	est N Value			Heads Natura Plastic Uncon % Stra Peneti	space Rea al Moisture and Liqui fined Com ain at Failu rometer	ding (pp did Limit npressio rre eading (j	m) F	× ≪ ▲	Natural
•G• •W•	Ϋ́ Μ Β	Soil Description	ELEV.	DEPT		20 4	40 6	60 E	30	1 Nat	00 20 tural Moistu	ine Conte	ent %	-	Unit Weight
•∟• •••		und Surface	243.27	н о	Shear	Strength 1	00	2	kPa 00	Allen	10 2	0 0	30		kN/m3
		SOIL (REWORKED) wn sandy silt to clayey silt ce rootlets & topsoil ist IYEY SILT / TILL f to hard wn, grey below 4.5m ce gravel ne silty clay below 4.5m ist to very moist	243.07 242.66 	1 2 3 4 5		8 8 8 7					X	*			
	_		_	6											
			236.72		Ŏ								*		
LGBE3 5552-21-GB.GPJ 6/22/21	END NOT Upoi - no	OF BOREHOLE TE: n completion of drilling: free water													

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

Time	Water Level (m)	Depth to Cave (m)								
June 3, 2021	Dry									

Project No.	<u>5552-21-GB</u>	Log	of Borehole <u>21BH-30 (N</u>	IW)
			Dwg No. 3	1
Project:	Geotechnical Investigati	ion	Sheet No.	1_of_1_
Location:	Airport Road and Mayfi	eld Road,	Caledon, Ontario	
Date Drilled:6/2/21Drill Type:Track Mounted Drill RigDatum:Geodetic			Auger Sample Image: Sample Image: Sample Image: Sample Natural Moisture SPT (N) Value Image: Sample Image: Sample Natural Moisture Dynamic Cone Test Image: Sample Image: Sample Image: Sample Shelby Tube Image: Sample Image: Sample Image: Sample Field Vane Test Image: Sample Penetrometer	× ×
• • s • • Y		ELEV/	D N Value Headspace Reading (ppm) 100 200 300	Natural
	Soil Description	m	P 20 40 60 80 Natural Moisture Content % Atterberg Limits (% Dry Weight) H Shear Strength 60 80 P P	Weight kN/m3
	PSOIL	240.55	$0 \frac{100}{4} \frac{200}{4} \frac{10}{2} \frac{20}{3} \frac{10}{3} \frac{20}{3} \frac{10}{3} \frac{10}{$	
Fill	L (REWORKED)		<u> </u>	
- SO	me to trace rootlets & topsoil	000.40		
	AYEY SILT / TILL	239.49	1	
- stil - bro	ft to very stiff own, grey below 6.0m	-	6	
- tra	ce to some gravel			
- soi - mo	me silty clay at 6.0m bist to very moist			
		-	<u>₿</u>	
		_	3	
			₩ ₩	
		-		
		_	4	
			B	
		-	5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
- 		-	6	
			0 ×	

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

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Toronto Inspection Ltd.

END OF BOREHOLE NOTE: Upon completion of drilling: - no free water

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LGBE3 5552-21-GB.GPJ 6/22/21

Time	Water Level (m)	Depth to Cave (m)
June 3, 2021	Dry	

Project No.	<u>5552-21-GB</u>	.og (0	f B	O	re	eho	ble) <u>2</u>	1B	<u>H-:</u>	<u>31</u>			
												Dwg No	o. <u>32</u>		
Project:	Geotechnical Investigation										-	Sheet N	No. <u>1</u>	_ 0	of <u>1</u>
Location:	Airport Road and Mayfield	Road,	Са	aledo	n, (Ont	tario								
Date Drilled: Drill Type: Datum:	rate Drilled: 6/2/21 rill Type: Track Mounted Drill Rig atum: Geodetic		_ _ _	Auger S SPT (N) Dynami Shelby Field Va	Sampl) Valu c Cor Tube ane To	e ne Te est	est N Value	0		Heads Natur Plasti Uncor % Str Penet	space Re al Moistu c and Lic nfined Ce ain at Fa crometer	eading (ppr ure quid Limit ompressior illure	m) I (Constant) I	• ~ ~	
G Y W B	Soil Description	ELEV.	DEP		20	40	0	60	80	Na	100 itural Moi	200 3 sture Conte	00 nt %		Natural Unit Weight
	und Surface	m 241.93	H 0	Shear	Stren	gth 10	0	1	kPa 200	Atter	berg Lim	20 3	/eignt) 10		kN/m3
FILL FILL - bro - sor - mo	SOIL (REWORKED) wn clayey silt ne rootlets & topsoil ist	241.75 241.32	1	Ő	9							×			
- stiff	f to very stiff		1		ľ									Ø	
- 6.0m - trac	n ce gravel ist to very moist	_			ð							*			
			2												
			3	ł	5						· · · · · · · · · · · · · · · · · · ·	*			
			4												
			5	18								*			
			5								· · · · · · · · · · · ·				
			6												
		235 37		b								×			
END	OF BOREHOLE	200.01													
Upor - no	n completion of drilling: free water														
121															
PJ 6/22															
-11-GB.G															
5552-2															
LGBE3															

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)							

Project No.	<u>5552-21-GB</u>	Log	D	fΒ	ore	ehc	ble	<u>2</u> ′	1Bł	 -3	<u>82</u>			
										[Dwg No	o. <u>33</u>		
Project:	Geotechnical Investig	ation								S	Sheet N	lo. <u>1</u>		of <u>1</u>
Location:	Airport Road and May	yfield Road, (Са	ledo	n, On	tario								
Date Drilled: Drill Type: Datum:	ate Drilled: 6/2/21 rill Type: Track Mounted Drill Rig atum: Geodetic			Auger Sample Auger Sample SPT (N) Value OZ Dynamic Cone Test Shelby Tube Field Vane Test						Headspace Reading (ppm) Natural Moisture Plastic and Liquid Limit H Unconfined Compression % Strain at Failure Penetrometer				
G M W B	Soil Description	ELEV.	DEPT		20 4	40 (60 8	30	1 Nat	00 20 ural Moist	ure Conte	00 nt % (eight)	$\left \right $	Unit Weight
Gr	ound Surface	242.16	н о	Shear	Strength 1	00	2	kPa 00	1	0 2	0 3	0		kN/m3
• TO FIL - bi - tr: - CL - st - bi - tr: - m - tr: - m - m tr: - m tr: - m	PSOIL L (REWORKED) rown clayey silt ace rootlets & topsoil oist AYEY SILT iff to very stiff rown, grey below 2.3m ace gravel loist		1 2 3 4	Å	8						× ×			
GBE3 5552-21-GB.GPJ 6/22/21	D OF BOREHOLE DTE: on completion of drilling: o free water	235.61	6								<			

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Time	Water Level (m)	Depth to Cave (m)

Ρ	roject	No.	5552-21-GB	Log) [.]	f B	ore	ehc	ble	<u>2</u> ′	<u>1B</u>	H-3	33	(M	M	/)
												[Dwg N	o. <u>34</u>	1	
Ρ	roject	:	Geotechnical Investiga	tion								. 9	Sheet I	No	1	of <u>1</u>
Lo	ocatio	n:	Airport Road and May	field Road, (Ca	aledo	n, On	itario								
D D D	ate D rill Ty atum:	rilled: pe:	6/2/21 Track Mounted Drill R Geodetic	ig	-	Auger S SPT (N) Dynamic Shelby T Field Va	ample Value c Cone T Fube ne Test	est			Heads Natura Plastic Uncon % Stra Peneti	space Rea al Moisture c and Liqu fined Cor ain at Faile rometer	ading (pp e id Limit npressio ure Reading (j	om) P- n ppm)	• × ⊗ ▲	Natural
GW	• M • B		Soil Description	ELEV.		2	20 4	40 (60 8	0	1 Nat Atter	00 2 tural Moist	00 3 ure Conte (% Dry V	300 ent % Veight)	-	Unit Weight
•		Grou	Ind Surface	238.48	Ĥ 0	Shear	Strength 1	00	2	kPa 00		10 2	0	30		kN/m3
		FILL - bro - trac - son - moi	(REWORKED) wn clayey silt er rootlets & topsoil ne sandy silt st	238.02	1	Ó 5						X	×			
		CLA - stiff - bro - trac - moi	YEY SILT to very stiff wn, grey below 4.5m æ gravel st to very moist	_	2		8						K			
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NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS
TORONTO INSPECTION LTD.
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Time	Water Level (m)	Depth to Cave (m)
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						Dwg No. 35	
Project:	Geotechnical Investigation					Sheet No. <u>1</u> of	_1_
Location:	Airport Road and Mayfield Roa	d, C	Cal	ledon, Ontario			
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NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

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Project:	Geotechnical Investigati	on									Sheet I	No. <u>1</u>	of
Location:	Airport Road and Mayfi	eld Road,	Са	aledo	n, Or	itario							
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TOronto Inspection Ltd.

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ORE USE BY UTHE	-RO	-
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				Dwg No. 38
Project:	Geotechnical Investigation			Sheet No. <u>1</u> of <u>1</u>
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nor	nto Inspection I t	d				Γ	Tin	ne	Wa Lev	ter /el	Depth Cave
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Time	Water Level (m)	Depth to Cave (m)							
June 7, 2021	Dry								

Pr	oject	No.	5552-21-GB	Log	0	f B	ore	ehc	ble	<u>2</u> ′	<u>1B</u>	H-3	<u>88</u>			
												I	Dwg No	o. <u>39</u>		
Project: Geotechnical Investigation												Sheet N	No. <u>1</u>	_ (of <u>1</u>	
Lo	catio	n:	Airport Road and Mayfiel	ld Road,	Са	aledor	n, On	tario								
Date Drilled: Drill Type: Datum:		rilled: pe: <u>Grou</u> TOP	6/3/21 Track Mounted Drill Rig Geodetic Soil Description und Surface SOIL (REWORKED)	ELEV. m 240.72 240.57		Auger S: SPT (N) Dynamic Shelby T Field Va	ample Value : Cone Tr ube ne Test 0 2 Strength 1	N Value		3 - - - - - - - - - - - - - - - - - - -	Headspace Reading (ppm) Natural Moisture Plastic and Liquid Limit Unconfined Compression % Strain at Failure Penetrometer Headspace Reading (ppm) 100 200 300 Natural Moisture Content % Atterberg Limits (% Dry Weight) 10 20 30					Natural Unit Weight kN/m3
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NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

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URE USE BT UTHERS								
Time	Water Level (m)	Depth to Cave (m)						



Figure Grain Size Distribution





Appendix A Engineering Fill Guidelines



GUIDELINES FOR ENGINEERED FILL

The information presented in this guideline is intended for general guidance only. Site specific and prevailing weather conditions may require modification of the material(s) to be used and the compaction standards or procedures changed. The site preparation and the material(s) to be used must be discussed and procedures agreed with *Toronto Inspection Ltd.* prior to the start of the earthworks and must be subjected to on going review during construction.

For fill to be classified as engineered fill, suitable for supporting structural loads, a number of conditions must be satisfied, including but not necessarily limited to the following:

1. Areal Extent

The engineered fill must extend beyond the envelope of the structure to be supported. The minimum extent should be 2.0m beyond the envelope in all directions at the foundation level, including the loading dock pad and the front sidewalk, and sloping downwards to the sub-grade at 45°. Once the envelope is set, the structure cannot be moved out of the envelope without consultation with *Toronto Inspection Ltd.* Similarly, no excavation should encroach on the engineered fill envelope without consultation with *Toronto Inspection Ltd.*

2. Survey Control

Accurate survey control is essential to the success of an engineered fill project. The boundaries of the engineered fill must be laid out by a surveyor. During construction. it is necessary to have qualified surveyors providing control stations on the three-dimensional extent of the engineered fill.

3. Subsurface Preparation

Prior to placement of the engineered fill, the sub-grade must be prepared to the satisfaction of *Toronto Inspection Ltd.* All deleterious material must be removed and in some cases excavation of native mineral soils may also be required. Particular attention must be paid to wet sub-grade and possible additional measures required to achieve sufficient compaction. Where fill is placed against a slope, benching will be necessary and natural drainage paths must not be blocked.

4. Suitable Fill Material

All material to be used as fill must be approved by *Toronto Inspection Ltd.* Such approval will be influenced by weather factors. External sources of fill material must be sampled, tested and approved prior to material being hauled to the job site.

5. Trial Test Section

In advance of the construction of the engineered fill pad, the contractor should conduct a trial test section. The compaction criterion will be assessed for the backfill material to be used, using specified lift thicknesses and number of passes for the compaction equipment proposed by the contractor. To achieve a uniform degree of compaction of each layer, the lift thickness of loose



material, prior to start of compaction, must not exceed 200mm (8 inches). Additional trial test section(s) may be required throughout the course of the project to reflect changes in material sources, the moisture content of the material and the weather conditions.

6. Degree of Compaction

The minimum degree of compaction for the engineered fill should not be less than 100% of the Standard Proctor maximum dry density, or 95% of the Modified Proctor maximum dry density, to the level at or above 0.3m from proposed footing founding level. Each layer must be tested and approved by this office before the next layer is placed.

7. Inspection and Testing

Uniform and thorough compaction is crucial to the performance of the fill and the supported structure. Hence, all subgrade preparation, filling and compacting must be done with full time inspection and to the satisfaction of *Toronto Inspection Ltd.* All founding surfaces must be inspected and approved by *Toronto Inspection Ltd.* prior to placement of concrete.

8. **Protection of Fill**

Fills are generally more susceptible to the effects of weather than are natural soils. Fill placed and approved to the level at which structural support is required must be protected from excessive wetting, drying, erosion or freezing. Where inadequate protection had been provided, it may be necessary to provide deeper founding level for footings or to strip and re-compact some of the filled layers.

9. Limitations

The engineered fill is subjected to the following limitations:

- i. Proper drainage must be maintained at all times within the engineered fill pad.
- ii. If the engineered fill is left in place during the winter months, adequate protection must be provided against frost penetration to the proposed footing depths.
- iii. If the engineered fill depth exceeds 5m below the foundation depth, the construction of the foundations might have to be delayed for a period of 1 year after placement, depending on the type of fill material used.
- iv. Strip footings and foundation walls founded on engineered fill must be reinforced continuously with a minimum of two 15mm steel bars with at least 1m of overlap.