GEI Consultants

Consulting
Engineers and
Scientists

Geotechnical Investigation

Proposed Commercial Warehouse Development

6728 Sixth Line, Milton, Ontario

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Table of Contents

Figures

Appendices

1. Introduction

GEI Consultants Ltd. (GEI) was retained by Anatolia Investments Corporation (the Client) to complete a geotechnical investigation and report for the Proposed Commercial Warehouse Developments at 6728 Sixth Line in Milton, ON. A site location plan is enclosed as Figure 1.

The site is located at 6728 Sixth Line in Milton, Ontario, and comprises the land in the southwest quadrant of the Derry Road West and Sixth Line Intersection. The site is about 625 m north/south and about 1,000 m east/west. The site is currently the location of the former Trafalgar Golf and Country Club and has a few light structures associated with the golf facility, with predominant landscaped golf course areas. It is understood that some of the structures have been demolished in preparation for the redevelopment.

It is understood that three commercial buildings are proposed, and a grade raise is proposed for most of the site. Building 1 will be about 240 m by 450 m in plan (proposed slab Elev. 191.90), Building 2 will be about 180 m by 330 m in plan (proposed slab Elev. 192.10) and Building 3 will be approximately 85 m by 225 m in plan (proposed slab Elev. 191.05). All three buildings will be slab-on-grade and will have some form of truck loading docks on portions of the buildings. Paved parking and access will surround the buildings. Three Storm Water Management (SWM) facilities are proposed, one underground south of Building 1 and two at grade ponds south of Buildings 2 and 3 respectively. A new road (Clark Boulevard) is proposed between Buildings 1 and 2, connecting to Derry Road West in the north. A future watercourse channel is proposed between Buildings 2 and 3 and along the south of Buildings 1 and 2 (a re-alignment of the existing watercourses). An aerial image of the site is provided on Figure 2A and the proposed concept plan is included as Figure 2B.

The purpose of the geotechnical investigation was to assess the subsurface soil conditions at the site, and based on this information, provide geotechnical engineering recommendations in support of the proposed development. This report summarizes the borehole findings, provides design geotechnical engineering recommendations regarding available bearing capacities for foundations, slabs-on-grade, site servicing installation, SWM pond/infiltration and pavement design. Considerations for constructability such as soil excavation, compaction, on-site backfill suitability and temporary groundwater control are also provided.

It is noted that the recommendations provided in this report must be considered preliminary in nature due to the current uncertainty of the design for the project. As the design progresses further geotechnical review and input may be required which might necessitate the need for additional investigation and/or analysis.

GEI has also been retained to complete a hydrogeological study and slope stability assessment for the site and the findings and recommendations are provided under separate covers.

2. Procedures and Methodology

It is noted that all elevations in this report are metric/geodetic and expressed in metres (m). All measurements are also in metric and expressed in millimetres (mm), metres (m) or kilometres (km).

Prior to the commencement of drilling activities, the borehole locations were staked in the field by GEI. Ground surface elevations of the boreholes and horizontal co-ordinates (referencing NAD 83 geodetic datum) were surveyed by GEI with a Topcon FC – 5000 GPS Survey unit.

Underground utilities including natural gas, electrical, telephone, water, etc. were marked out by public and private utility locating companies prior to drilling.

The fieldwork for the drilling program was carried out between April 21 and May 1, 2023. Boreholes 1 to 42, 44 and 48 to 54 were advanced from 5.0 to 8.1 m below existing grade (Elev. 179.1 to 187.4). Boreholes 43, 45, 46 and 47 were drilled earlier for the slope stability assessment on March 6, 2023, and were advanced to 5.0 to 8.1 m depth (Elev. 180.2 to 183.5). Borehole logs are provided in Appendix A and the borehole locations are shown on Figure 2A (aerial image) and Figure 2B (concept plan).

The boreholes were advanced by a drilling subcontractor retained and supervised by GEI using a track-mounted drill rig, solid stem augers, and standard soil sampling equipment. Sampling was conducted using a 51 mm O.D. Split Spoon (SS) sampler. Standard Penetration Test (SPT) "N" Values (N values) were recorded for the sampled intervals as the number of blows required to drive an SS sampler 305 mm into the soil using a 63.5 kg drop hammer falling 750 mm, in accordance with ASTM D1586. In each borehole soil sampling was conducted at 0.75 m intervals for the upper 3.0 m and at 1.5 m intervals thereafter.

Monitoring wells were installed in Boreholes 1, 2, 13, 14, 22 to 24, 26, 28, 31, 35, 37, 40, 43, 45 and 52 by GEI to facilitate long-term groundwater monitoring, each consisting of 50 mm diameter PVC pipe with a 1.5 m long screen and protective casing. Monitoring well construction is shown on the borehole logs in Appendix A. Boreholes without wells were backfilled in accordance with O.Reg. 903.

The GEI field staff examined, and classified characteristics of the soils encountered in the boreholes, including the presence of fill materials, groundwater observations during and upon completion of the drilling, recorded observations of borehole construction, and processed the recovered samples. All recovered soil samples were logged in the field, carefully packaged, and transported to GEI's laboratory for more detailed examination and classification.

In GEI's laboratory, the samples were classified as to their visual and textural characteristics. A total of nineteen (19) representative samples of the major soil units were selected and submitted to our laboratory for grain size analysis. Seven (7) of the samples were also submitted for Atterberg Limits tests. Laboratory results are provided in Appendix B. It is noted that the laboratory testing from the slope stability report is presented on separate figures.

3. Subsurface Conditions

3.1 General Overview

The detailed soil profiles encountered in the boreholes are indicated on the attached borehole logs in Appendix A, and the geotechnical laboratory results are included in Appendix B. The borehole locations are shown in Figures 2A and 2B.

It should be noted that the conditions indicated on the borehole logs are for specific locations only and can vary between and beyond the locations. It should be noted that the soil boundaries indicated on the borehole logs are inferred from non-continuous sampling and observations during drilling. These boundaries are intended to reflect approximate transition zones and should not be interpreted as exact planes of geological change.

In addition, the descriptions provided in the borehole logs are inferred from a variety of factors, including: visual observations of the soil samples retrieved, laboratory testing, measurements prior to and after drilling, and the drilling process itself (speed of drilling, shaking/grinding of the augers, etc.). The passage of time also may result in changes in conditions interpreted to exist at locations where sampling was conducted.

3.2 Stratigraphy

3.2.1 Topsoil

A surficial topsoil layer was at the ground surface in all boreholes except Boreholes 17 and 27 ranging in thickness from 50 to 280 mm. In Borehole 27, the 180 mm topsoil layer was buried beneath the surficial fill.

3.2.2 Fill

A fill layer was encountered in most boreholes and considered to be associated with final grading for the golf course. Boreholes 3 to 8, 10 to 13, 15, 17 to 21, 23 to 34, 36, 37, 40, 41, and 43 to 54 encountered fill below the topsoil, locally at the surface, and the fill was penetrated at 0.2 to 2.3 m depth (Elev. 185.0 to 191.6). The fill predominantly consisted of clayey silt or sandy clayey silt or sandy silt, varying to sand and silt or silty sand. Trace organics and rootlets were observed in some boreholes. The fill was moist to wet with moisture contents of 10 to 32%. The fill typically had N values of 10 or less revealing soft to stiff / very loose to compact conditions.

3.2.3 Clayey Silt / Sandy Clayey Silt / Clay and Silt

A cohesive unit of soil comprising clayey silt, sandy clayey silt, or clay and silt was encountered below the fill and/or the topsoil, locally the discontinuous cohesionless soil layers (described below), in most boreholes, except Boreholes 16, 18, 34, 43, 49, 50- 53 and 54. The unit was penetrated at depths of 1.1 to 4.6 m (Elev. 183.0 to 189.9). Grain size analysis results of seven (7) samples are included in Figures B1 and B3 in Appendix B. Atterberg limits tests on three samples are provided in Figure B2, with plastic limits of 15.7 to 18.7 and liquid limits of 27.5 to 35.9. The moisture contents ranged between 8 and 28%, being moist to wet. The N values in these layers ranged between 4 to more than 50 blows, indicating firm to hard conditions but typically stiff to very stiff.

3.2.4 Sandy Silt / Silt / Sand and Silt / Sand / Sand and Gravel

Localized layers of cohesionless soil consisting of sandy silt, silt, sand and silt, sand or sand and gravel were observed below the upper clayey soil layers and/or the topsoil in Boreholes 1, 11, 16, 35, 38, 42 and 53. These layers were observed at depths of 0.2 to 2.6 m (Elev. 187.1 to 189.8) and extended to 1.5 to 3.5 m depth (Elev. 186.4 to 189.2), locally from 4.6 to 4.7 m depth (Elev. 186.4 to 186.5) in Borehole 38 and 4.6 to 5.0 m depth (Elev. 182.6 to 186.2) in Borehole 27. One (1) sample of the sand material was submitted for grain size analysis and the results are provided in Figure B4 in Appendix B. The soil was moist to wet with moisture contents of 16 to 25%. The soil was loose to compact, and N values ranged from 5 to 29 blows.

3.2.5 Glacial Till

A glacial till deposit was encountered in all boreholes below the upper soil layers and extended below the 5.0 to 8.1 m depth of exploration (Elev. 179.1 to 187.4). The till matrix predominantly consisted of sandy silt or sandy clayey silt, locally grading to clayey silt or gravelly sand. Cobbles and boulders should be expected based on augers grinding during advancement of the boreholes. Eleven (11) samples of the material were submitted for grain size analysis and the results are provided in Figures B5 and B6 in Appendix B. Four (4) samples were also submitted for Atterberg Limit tests and the results are presented on Figure B7 in Appendix B. Plastic limits of 8.0 to 16.9 and liquid limits of 20.4 to 34.0 were revealed from the lab testing. The glacial till was brown, brownish grey or grey near the base, and was typically moist to wet, with moisture contents ranging from 6 to 29%, typically 7 to 12%. N values were 4 to more than 50 blows, indicating compact to very dense / firm to hard conditions, typically compact / stiff to very stiff.

3.3 Groundwater

Unstabilized groundwater level measurements and cave measurements were taken upon the completion of drilling of each borehole as shown on the borehole logs in Appendix A. These measurements were taken to provide a rough estimate of the possible excavation and temporary groundwater control constructability considerations that may arise. Sixteen (16) boreholes were outfitted with a monitoring well with 50 mm diameter PVC standpipe and 1.5 m long screen. Monitoring well configuration and groundwater observations are noted on the borehole logs in Appendix A, and a summary is below.

Borehole	Depth of Cave (m) / Elev.	Unstabilized Groundwater Level Depth / Elev.	Depth / Elev. of Groundwater Table, May 23, 2023
1	Open (8.1 / 184.2)	No Water	0.7 / 191.5
2	Open (5.0 / 186.4)	No Water	0.5 / 190.7
3	Open (8.1 / 184.0)	7.6 / 184.5	N/A
4	Open (5.0 / 186.6)	No Water	N/A
5	3.9 / 186.7	3.0 / 187.6	N/A
6	Open (8.1 / 183.3)	7.6 / 183.8	N/A
7	Open (5.0 / 185.5)	3.2 / 187.1	N/A
8	Open (8.1 / 182.4)	7.4 / 183.1	N/A
9	Open (5.0 / 185.4)	No Water	N/A
10	Open (5.0 / 185.1)	No Water	N/A
11	Open (8.1 / 183.8)	7.3 / 184.6	N/A
12	Open (5.0 / 184.9)	No Water	N/A
13	Open (5.0 / 185.3)	No Water	1.0 / 189.3
14	Open (5.0 / 185.1)	No Water	0.5 / 189.5
15	Open (5.0 / 184.3)	No Water	N/A
16	Open (5.0 / 184.6)	No Water	N/A
17	Open (5.0 / 184.9)	No Water	N/A
18	6.7 / 184.1	4.5 / 186.3	N/A
19	Open (5.0 / 184.7)	4.5 / 185.1	N/A
20	Open (5.0 / 184.5)	4.1 / 185.4	N/A
21	Open (8.1 / 181.0)	5.7 / 183.4	N/A
22	Open (5.0 / 184.4)	No Water	0.4 / 189.0
23	Open (8.1 / 181.2)	6.0 / 183.3	0.9 / 188.4

Borehole	Depth of Cave (m) / Elev.	Unstabilized Groundwater Level Depth / Elev.	Depth / Elev. of Groundwater Table, May 23, 2023
24	4.8 / 184.7	4.5 / 185.0	0.6 / 188.9
25	3.6 / 186.0	1.8 / 187.8	N/A
26	Open (5.0 / 184.3)	No Water	1.1 / 188.2
27	Open (5.0 / 182.3)	No Water	N/A
28	Open (5.0 / 184.5)	1.5 / 188.0	0.9 / 188.6
29	Open (8.1 / 182.4)	No Water	N/A
30	4.8 / 187.0	4.4 / 187.4	N/A
31	Open (8.1 / 182.4)	No Water	1.0 / 189.5
32	Open (8.1 / 182.9)	7.0 / 184.0	N/A
33	7.0 / 183.6	4.6 / 186.0	N/A
34	Open (8.1 / 179.1)	7.0 / 180.2	N/A
35	Open (5.0 / 186.4)	No Water	0.4 / 191.0
36	Open (5.0 / 187.4)	2.1 / 190.3	N/A
37	Open (8.1 / 183.9)	7.1 / 184.9	1.2 / 190.8
38	Open (5.0 / 186.2)	4.2 / 187.0	N/A
39	Open (5.0 / 185.5)	No Water	N/A
40	Open (5.0 / 185.2)	4.2 / 186.0	0.5 / 189.7
41	Open (5.0 / 184.8)	No Water	N/A
42	Open (5.0 / 183.7)	4.5 / 184.1	N/A
43	Open (5.0 / 180.8)	No Water	0.0 / 185.8 (Mar 30, 3023)
44	Open (5.0 / 181.1)	No Water	N/A
45	Open (5.0 / 183.5)	4.6 / 183.9	2.7 / 185.8 (Mar 30, 3023)
46	Open (5.0 / 181.5)	No Water	N/A
47	Open (8.1 / 180.2)	6.7 / 181.6	N/A
48	Open (5.0 / 184.6)	No Water	N/A
49	Open (5.0 / 183.4)	No Water	N/A
50	4.8 / 182.6	4.5 / 182.9	N/A
51	3.6 / 185.1	0.9 / 187.8	N/A
52	5.6 / 184.3	4.7 / 184.2	Well Destroyed
53	3.3 / 186.3	0.9 / 188.7	N/A

Borehole	Depth of Cave (m) / Elev.	Unstabilized Groundwater Level Depth / Elev.	Depth / Elev. of Groundwater Table, May 23, 2023
54	0.6 / 187.3	0.9 / 187.0	N/A

The stabilized groundwater levels in the monitoring wells are typically within about 1 m of the ground surface corresponding to Elev. 185.8 to 191.5. This is believed to reflect perched water in the fill above the clayey silt/sandy clayey silt/clay and silt and underlying till.

The materials at the site are generally not permeable. Localized wet seams and permeable soil layers are present.

Groundwater levels are expected to show seasonal fluctuations and vary in response to prevailing climate conditions.

4. Engineering Design Parameters & Analysis

The site is located at 6728 Sixth Line in Milton, Ontario, and comprises the land in the southwest quadrant of the Derry Road West and Sixth Line Intersection. The site is about 625 m north/south and about 1,000 m east/west. The site is currently the location of the former Trafalgar Golf and Country Club and has a few light structures associated with the golf facility, with predominant landscaped golf course areas. It is understood that some of the structures have been demolished in preparation for the redevelopment.

It is understood that three commercial buildings are proposed, and a grade raise is proposed for most of the site. Building 1 will be about 240 m by 450 m in plan (proposed slab Elev. 191.90), Building 2 will be about 180 m by 330 m in plan (proposed slab Elev. 192.10) and Building 3 will be approximately 85 m by 225 m in plan (proposed slab Elev. 191.05). All three buildings will be slab-on-grade and will have some form of truck loading docks on portions of the buildings. Paved parking and access will surround the buildings. Three Storm Water Management (SWM) facilities are proposed, one underground south of Building 1 and two at grade ponds south of Buildings 2 and 3 respectively. A new road (Clark Boulevard) is proposed between Buildings 1 and 2, connecting to Derry Road West in the north. A future watercourse channel is proposed between Buildings 2 and 3 and along the south of Buildings 1 and 2 (a re-alignment of the existing watercourses). An aerial image of the site is provided on Figure 2A and the proposed concept plan is included as Figure 2B.

It is noted that the recommendations provided in this report must be considered preliminary in nature due to the current uncertainty of the design for the project. As the design progresses further geotechnical review and input may be required which might necessitate the need for additional investigation and/or analysis.

4.1 Site Grading

The latest concept drawings for the project were provided by the Client. Grading plans were not a part of the package, however Building 1 will have the ground floor set at Elev. 191.90, Building 2 will have the ground floor set at Elev. 192.10, and the Building 3 floor slab will be set at Elev. 191.05. In all cases the floor slab is at or just above the existing ground surface. When grading is established, GEI should review the drawings for geotechnical requirements.

The topsoil, fill and localized areas of weak native soil directly below the fill/topsoil are unsuitable to support the building. In this regard, it is recommended to strip the topsoil and stockpile separately then sub-excavate the fill (0.2 to 2.3 m depth) and/or upper weak native soil (typically about 0.8 m below grade where fill is not present, locally down to 1.5 m depth). The exposed competent native soil should be thoroughly compacted and then engineered fill

placement can commence, to the desired grade. Footings would be supported by native soil and/or the engineered fill and the floor slabs by the engineered fill.

4.1.1 Engineered Fill

GEI defines "engineered fill" as material that will support foundations, and which is placed and compacted in a specified and controlled manner under full-time supervision of geotechnical engineering staff.

In any location where engineered fill will be placed to raise grades or replace poor/weak soil, the topsoil, vegetation, weathered/disturbed or existing earth fill must be fully removed down to competent native soil. As noted above, the weak native soil to 0.8 m depth (locally 1.5 m depth) must also be removed. The exposed subgrade soil must be proof-rolled and inspected by the geotechnical engineer to ensure all unsuitable material (e.g., organics, weak or soft soil, weathered / disturbed soil, deleterious materials, existing fill) is removed from the engineered fill footprint. Any unsuitable areas must be further sub-excavated and replaced with fill compacted to targeted 100% Standard Proctor Maximum Dry Density (SPmdd), minimum 98% SPmdd in building areas and 95% SPmdd in road and servicing areas.

Once the subgrade is approved, engineered fill can be placed. Engineered fill must be placed under the full-time supervision of a geotechnical engineer as required in the Ontario Building Code. The engineered fill may consist of excavated on-site inorganic cohesionless soils provided they have been moisture conditioned to a moisture content within 2% of optimum moisture content and do not contain organics, topsoil or deleterious material. It is recommended that any imported soil consist of Granular B (OPSS.MUNI 1010) and be first used in building areas, with suitable on-site soil used in landscaped or road areas. Engineered fill must be placed in loose lifts of 200 mm or less and compacted as noted above.

In wet subgrade areas, the first lift of engineered fill shall consist of 400 mm of Granular B Type II (OPSS.MUNI 1010). This will help to bridge the weaker subgrade and improve the ability to achieve the compaction specifications for subsequent engineered fill lifts.

The engineered fill must extend a minimum of 1 m out from all sides of the foundations and extend at a 1 horizontal to 1 vertical slope (1H:1V) down to the exposed subgrade. A typical detail for engineered fill pad dimensioning is included in Appendix C.

4.2 Foundation Design

4.2.1 Foundations on Native Soil

Based on the building slab elevations, exterior footings are assumed at 1.5 m depth below the top of slab elevations, locally deeper near in loading dock areas, and interior footings are assumed to be established about 0.7 m below the top of slab elevations.

Based on the discussion in Section 4.1, foundations cannot be supported on the upper 0.8 m, locally 1.5 m of soil near the surface (where fill is absent). Footings will need to extend to more competent native soil or be founded on engineered fill (discussed in the next section).

Based on the N values in the boreholes, it is recommended that foundations supported by native soil be design based on a geotechnical bearing resistance of 150 kPa at Serviceability Limit State (SLS) and a factored bearing resistance at Ultimate Limit State (ULS) of 225 kPa. The geotechnical reaction at SLS allows for 25 mm or less of total settlement.

It is noted that higher bearing resistances are available at depth in the till in most areas and can be provided if requested.

4.2.2 Foundations on Engineered Fill

If the foundations are supported on an engineered fill pad, constructed as discussed in Section 4.1.1, the spread or strip footings can be designed using the underlying native soil bearing capacity shown above, up to a maximum of 150 kPa at SLS and 225 kPa at ULS.

It is recommended that nominal reinforcing steel for stiffening of the foundation walls made on engineered fill be provided to help mitigate minor cracking due to minor differential settlement. The reinforcing steel in the poured concrete foundation walls may consist of 2-15M bars continuous at the top of the foundation wall, and 2-15M bars continuous at the bottom of the foundation walls. Typically, these bars are placed 100 to 200 mm from the top or bottom of the foundation wall, respectively. The reinforcing steel should extend a minimum of 3 m past any transition zones between engineered fill and native soil. A typical reinforcing steel detail for foundation walls placed on engineered fill is provided within Appendix C. The recommended nominal reinforcing steel should not be considered a structural design. The need for different or additional reinforcement should be reviewed by a structural engineer to ensure the original structural design intent of the structure is maintained.

4.2.3 General Foundation Considerations

All footings exposed to ambient air temperature throughout the year must be provided with a minimum of 1.2 m of earth cover or equivalent insulation for frost protection (25 mm of polystyrene insulation is equivalent to 300 mm of soil cover). The minimum strip and spread

footing widths to be used shall be dictated as per the Ontario Building Code, regardless of loading considerations. Footings stepped from one level to another must be at a slope not exceeding 7V:10H. Loading dock areas may require insulation on the inside of the foundation wall to protect the interior under slab fill from frost issues.

The foundation design parameters provided above are predicated on the assumption that the foundation subgrade surface is undisturbed, and that all earth fill, deleterious, softened, disturbed, organic, and caved material is removed. The foundation excavation must be done in such a way that groundwater is controlled to prevent any disturbance to the foundation base. The groundwater table must be lowered at least 1 m below the founding elevation prior to excavation to prevent disturbance to the foundation subgrade from groundwater seepage.

The foundation subgrade must be reviewed prior to concrete placement to ensure the foundation design parameters provided are applicable, and to provide remedial recommendations if necessary. If the foundation excavation will be open for a prolonged period of time, the foundation subgrade should be protected with a skim coat of lean mix concrete (applied immediately after inspection by the geotechnical engineer), to ensure that no deterioration will occur due to weather effects.

4.3 Seismic Site Classification

Section 4.1.8.4 of the Ontario Building Code provides values of the acceleration and velocity-based site coefficients (F_a and F_v) for various time periods, associated with specific Site Classes. These Site Classes are based on the energy-corrected Average Standard Penetration Resistance values and undrained shear strength within the upper 30 m of soil underlying the grade beams or foundations of the proposed structure. As the boreholes were advanced less than this depth at the site, the site classification recommendation provided below assumes that the soil conditions are similar below the drilled depth.

Underneath the proposed foundations, the subsoil will consist of generally compact to dense cohesionless soils. The Site Classification for Seismic Site Response is “D” for this site.

4.4 Earth Pressure Design Parameters

The loading dock area, underground pond or other retaining type walls must be designed to resist unbalanced lateral earth pressures imparted from the weight of adjacent soils. Lateral earth pressures are calculated using the following equation:

$$\boldsymbol{P = K[\gamma h + q]}$$

where,
P = the horizontal pressure at depth, **h** (m)
K = the earth pressure coefficient (dimensionless)
h = depth below ground surface (m)
$\boldsymbol{\gamma}$ = the bulk unit weight of soil, (kN/m^3)
q = surcharge loading (kPa)

The above equation assumes that a drainage system is present which prevents the build-up of any hydrostatic pressure behind the structure subjected to the unbalanced lateral earth pressures. If this is not the case, the equation must be revised to also incorporate the submerged unit weight of the soil multiplied by the earth pressure coefficient, in addition to the water pressure itself.

The values for use in the design of structures subjected to unbalanced lateral earth pressures at this site are as follows.

Soil Type	γ - Bulk Unit Weight (kN/m^3)	φ - Friction Angle (degrees)	Earth Pressure Coefficient (dimensionless)		
			K_a - Active	K_o – At-Rest	K_p - Passive
Compact Cohesionless Native Soil/Stiff Cohesive Native Soil/Engineered Fill	20.0	30	0.33	0.50	3.0

The calculation of the earth pressure coefficients is based on Rankine theory, which provides a conservative estimate as no friction between the soil and the structure is accounted for. The earth pressure coefficients provided above are applicable for flat ground surfaces beyond the structure and must be revised for sloping ground surfaces.

The earth pressure coefficients referenced within the above table are a function of the friction angle of the adjacent soil, and both the degree and direction of movement of the structure subjected to unbalanced lateral earth pressures. For structures that are restrained at the top (such as basement walls), the at-rest earth pressure coefficient will apply. For structures that allow for 0.1 to 1% of movement away from the soil (such as unrestrained retaining walls), the full active earth pressure coefficient will apply. For structures that allow for 1 to 10% of movement into the soil, the full passive earth pressure coefficient will apply. The percentage movement is based on the height of the structure.

Other types of structures such as shoring walls with multiple rows of tiebacks and soil nail walls are subject to different loading conditions and must be analyzed separately.

4.5 Floor Slabs

As discussed in Section 4.1. slab-on-grade support is envisioned to comprise engineered fill which is considered suitable.

The engineered fill can be disturbed by the construction operation. The subgrade for the slab-on-grade must be proof-rolled and inspected by the geotechnical engineer, prior to the placement of an aggregate base. If any soft or weak subgrade areas are identified, or if there are areas containing excessive amounts of deleterious/organic material, they must be locally sub-excavated and backfilled with approved clean earth fill or imported granular material and compacted to a minimum of 98% SPmdd. The modulus of subgrade reaction appropriate for design of a slab-on-grade on approved engineered fill compacted fill, or undisturbed native soil is 30 MPa/m.

All building floor slabs must be provided with a capillary moisture barrier and drainage layer. This is made by placing the concrete slab on a minimum 200 mm layer of 19 mm clear stone (OPSS.MUNI 1004) compacted by vibration to a dense state. The upper 50 mm of clear stone can be replaced with 19 mm crusher run limestone for a working surface. The clear stone and a cohesionless subgrade must be separated by a geotextile such as Terrafix 270R (or approved equivalent) to prevent the migration of fines into the clear stone layer which could result in loss of support for the slab. Alternatively, Granular 'A' Type I (OPSS.MUNI 1010) compacted to 100% SPmdd can be utilized without the filter cloth.

For new structures that will be slab-on-grade with no basement levels, perimeter and under-slab drainage at the foundation level is not required, provided that the underside of concrete slab is at least 200 mm above the prevailing grade of the site and the surrounding surfaces slope away from the building at a gradient of at least 2% to promote surface water run-off and to reduce groundwater infiltration adjacent to foundations. To minimize infiltration of surface water, the upper 150 mm of backfill could consist of less permeable, compacted soil such as clayey silt at the site.

4.6 Site Servicing

It is expected that the proposed commercial development will be serviced with municipal water, sanitary and storm sewers. Inverts were assumed to extend as deep as 3 m below the existing grade for the purposes of this report.

4.6.1 Bedding

The type of material and depth of granular bedding below the pipe will, to some extent, depend on the method of construction used by the contractor. Pipe bedding for flexible pipes should follow the requirements in Ontario Provincial Standard Drawing 802.010 or applicable municipal standards. Pipe bedding for rigid pipes should follow the requirements in Ontario Provincial Standard Drawings 802.030 to 802.032 or applicable municipal standards.

A subgrade consisting of the native glacial till or engineered fill will provide adequate support for pipes with the bedding requirements as laid out in the above referenced OPS drawings. Where disturbance of the trench base has occurred from groundwater seepage, construction traffic, etc., or if in-situ fill is present at the invert level, the material should be sub-excavated and replaced with suitably compacted granular fill. If weak zones are encountered, additional bedding materials and differing construction practices may be required and should be determined during construction. Any zones of organic soil should be sub-excavated and replaced with approved earth fill or imported granular material compacted to 95% SPmdd. Details on temporary groundwater control are provided in Section 5.2.

Regardless of whether flexible or rigid pipes are implemented, granular bedding and cover material should consist of a well graded, free draining material, such as Granular “A” (OPSS.MUNI 1010). All granular bedding must be compacted to a minimum of 95% SPmdd.

4.6.2 Backfill

Excavated native inorganic cohesionless soil may be re-used as backfill in trenches, provided it is moisture conditioned so that the moisture content is within 2% of optimum. Additional soil compaction details are provided in Section 5.3. The backfill should be compacted to a minimum of 95% SPmdd. In confined areas the layer thickness will have to be reduced to utilize smaller compaction equipment efficiently or by using granular material instead of locally sourced fill. Any backfill that is frozen, contains a high percentage of organic material (topsoil, peat, etc.) or moisture, or has otherwise unsuitable deleterious inclusion should not be used as backfill. The maximum cobble or boulder size should not exceed half of the loose lift thickness (i.e., all particles with a diameter greater than 100 mm should be removed). Where cohesive soils are utilized as backfill a sheepsfoot compactor will be required. In general, excavated clayey silt soil from the site is not recommended for re-use as backfill because these soils have moisture contents above optimum. Reducing moisture in the cohesive soil is not practical and the compaction specifications cannot be achieved.

Where trenches are within the traveled portions of a roadway, backfill within the frost penetration depth of 1.2 m should consist of native, non-organic, excavated material consistent with the soils surrounding the trench. If this technique is not undertaken, then frequently problems arise with yearly differential frost heave movements between the trench backfill and the adjacent native soil. This would occur, for example, if imported granular material is used

to backfill trenches which is less susceptible to frost effects compared to the native soils on site. Alternatively, if different soil is used as the backfill due to issues with achieving compaction, a frost taper of 10H:1V can be implemented to help mitigate the potential for differential settlement and frost heave.

4.7 Pavement Design

The proposed development will have paved access, parking areas and Clark Boulevard, as shown on the concept plan Figure 2B.

4.7.1 Subgrade Preparation

The grading has not been completed at this time, however the building slab levels are noted to be at or just above the existing grade and as such, for purposes of this report, the road grade is also assumed to be at or just above the existing grade. Based on this the subgrade for the road is assumed to comprise engineered fill, the quality of which is unknown at this time, or the upper native cohesive soil which is highly frost susceptible.

The subgrade must be inspected and approved by the geotechnical engineer at the time of construction. If the subgrade does not comprise engineered fill, the exposed pavement subgrade should be compacted to a minimum 95% SPmdd. If any soft or weak subgrade areas are identified, or if there are areas containing excessive amounts of moisture or deleterious/organic material, they must be locally sub-excavated and backfilled with approved clean earth fill or imported granular material and compacted to a minimum of 95% SPmdd.

The long-term performance of the pavement structure is highly dependent upon the subgrade support conditions. Stringent construction control procedures must be maintained to ensure that uniform subgrade moisture and density conditions are achieved as much as possible when fill is placed, and the natural subgrade is not disturbed or weakened after it is exposed.

4.7.2 Drainage

Control of surface water is an important factor in achieving a good pavement life. The need for adequate subgrade drainage cannot be over-emphasized. The subgrade must be free of depressions and sloped (at a minimum grade of 2 percent) to provide effective drainage toward subgrade drains. Grading adjacent to pavement areas should be designed to ensure that water is not allowed to pond adjacent to the outside edges of the pavement.

Continuous pavement subdrains should be provided along both sides of the roadways and around the perimeter of parking areas and drained into respective catchbasins to facilitate drainage of the subgrade and the granular materials. The subdrain invert should be maintained at least 0.3 m below subgrade level. To minimize the problems of differential movement between the pavement and catchbasins/manholes due to frost action, the backfill around the

structures should consist of free-draining OPSS Granular B. Typical pavement drainage details are provided in Appendix C.

4.7.3 Pavement Structure

The two different types of pavements for this project are defined below:

- Light duty: Includes parking lots which will not see frequent heavy traffic loads such as buses, delivery or fire trucks, etc., and will mostly service small vehicles such as cars or pickup trucks. In this case this design should be used for the parking lot used by the cars
- Heavy Duty: Includes access and driveways (Clark Boulevard) which are designated fire truck routes, or will see frequent heavy traffic loads such as school buses, delivery or garbage trucks, etc. In this case this design should be used for the driveway used by trucks and loading aprons.

The industry pavement design methods are based on a design life of 15 to 20 years for typical weather conditions depending on actual traffic volumes. The following pavement thickness designs are provided on the above noted considerations and conservatively based on the highly frost susceptible native soil. When the subgrade is confirmed, the designs can be finalized.

Pavement Layer	Compaction Requirements	Minimum Component Thickness	
		Light-Duty	Heavy-Duty
Surface Course Asphaltic Concrete: HL3 (OPSS 1150) with PG 58-28 Asphalt Cement (OPSS.MUNI 1101)	OPSS 310	40 mm	40 mm
Binder Course Asphaltic Concrete: HL8 (OPSS 1150) with PG 58-28 Asphalt Cement (OPSS.MUNI 1101)	OPSS 310	50 mm	80 mm
Base Course: Granular A (OPSS.MUNI 1010)	100% Standard Proctor Maximum Dry Density (ASTM-D698)	150 mm	150 mm
Subbase Course: Granular B Type I or II (OPSS.MUNI 1010)	100% Standard Proctor Maximum Dry Density (ASTM- D698)	450 mm	600 mm

The granular materials should be placed in lifts 200 mm thick or less and be compacted to a minimum of 100% SPmdd for both granular base and subbase. Asphalt materials should be rolled and compacted as per OPSS 310. The granular and asphalt pavement materials and their placement should conform to OPSS 310, 501, 1010 and 1150.

If the pavement construction occurs in wet, winter or inclement weather, it may be necessary to provide additional subgrade support for heavy construction traffic by increasing the thickness of the granular subbase, base or both. Further, traffic areas for construction equipment may experience unstable subgrade conditions. These areas may be stabilized utilizing additional thickness of granular materials or geogrid materials.

It should be noted that in addition to adherence of the above pavement design recommendations, a close control on the pavement construction process will also be required in order to obtain the desired pavement life. Therefore, it is recommended that regular inspection and testing should be conducted during the pavement construction to confirm material quality, thickness, and to ensure adequate compaction.

Frost tapers of 10H:1V should be implemented between areas of differing pavement thickness and tie-in areas to existing pavement.

Smooth transitions are required in all areas where the new pavement meets the existing asphalt surface (existing road/Clark Boulevard). Asphalt joints shall follow OPSS.MUNI 310. Longitudinal asphalt joints should be milled into the existing asphalt a minimum of 0.5 m for each lift. Transvers joint shall be milled into the existing asphalt a minimum 0.5 m for each lift. Successive joints should be staggered.

4.8 Stormwater Management Ponds

SWM ponds are currently proposed at the south side of all three buildings. An underground SWM pond is proposed at Building 1 and two at grade SWM ponds are proposed at Buildings 2 and 3. Details of the ponds were not known at the time of this report.

Boreholes 37, 39 and 41 were drilled in the area of the proposed underground SWM pond south of Building 1 and revealed topsoil and fill to about 0.8 m depth, over clayey sandy silt to about 2.3 to 4.6 m depth. The glacial till was underlying the clayey sandy silt to the depth of the boreholes. The stabilized groundwater was measured at 1.2 m depth.

Boreholes 22, 23, 42, 44, 45 and 47 were advanced in the area of the SWM pond south of Building 2. The boreholes showed topsoil and fill to typically 0.8 m depth, overlying clayey silt and clay and silt to 1.5 to 3.0 m depth. A local sand layer was below the clayey silt in one borehole. Underlying the clayey silt/clay and silt and local sand, the glacial till deposit was present to 5.0 to 8.1 m depth of the boreholes. The stabilized groundwater was measured at 0.9 to 2.7 m depth.

Boreholes 51 and 52 were drilled in the area of the SWM pond south of Building 3. The topsoil and fill to 0.8 m depth were over the clay and silt/sandy clayey silt, that extended to 2.3 to 3.0 m depth. The till was below the cohesive units. Stabilized groundwater was assumed to be near about 1 m below grade (well was destroyed below water levels could be taken).

4.8.1 General Construction Considerations

Excavation and temporary ground water control construction considerations are provided with Section 5.1 of this report and apply to the construction of the SWM pond.

The steepest recommended pond slope inclination is 5H:1V and should follow the design guidelines of the local municipality.

It is recommended that any piping or trenching in the area of the pond should be provided with seepage cut-off collars (clay plugs, concrete plugs, or other barriers) to protect against water seepage through the pipe bedding and backfill.

Pond berms above grade will have to be constructed as engineered fill, constructed as described earlier in the report.

4.8.2 Pond Slope Surface Treatment

The final slope surface and all bare or exposed areas (where applicable) should be provided with suitable vegetation cover or erosion protection. The sloped surface should be provided with a layer of topsoil (minimum 100 mm thick) and should be hydro-seeded with a grass mixture and mulch. If seeded, during the first 2 to 3 years, the surface cover of topsoil and seeding may require periodic maintenance until the vegetation becomes well established. It is recommended that erosion netting/erosion control blankets be staked on the slope surface for erosion protection (including the inside slope above the water level).

4.8.3 Liner Considerations

Depending on the type of SWM pond that is planned, a liner may be required if a permanent pool is proposed. The liner should be placed along the entire pond bottom and extend a minimum of 1.0 m above the permanent pool elevation. The liner may consist of a natural soil material (such as clay), a synthetic membrane liner (such as a High-Density Polyethylene, Geo-synthetic Clay Liner, or PVC), a concrete liner, or a combination thereof. Details can be provided when the design has progressed.

The liner system must be designed to withstand uplift pressure due to hydrostatic head at the base of the liner for the worse-case condition when the pond is emptied for cleaning and maintenance activities. Uplift pressure can be assessed and reviewed when design details are established. A gravel/rip rap protection layer should also be considered for the liner when the pond is cleaned out in the future.

4.8.4 Infiltration Considerations

It is understood the pond south of Building 1 will be an underground infiltration area. The base of the facility has not been determined however considering the floor slab elevation of the building, the adjacent parking area and burial of an approximate 1 m high facility, the base is assumed to be about 2.5 m below the proposed grade near Elev. 189.0 +/-. Based on the boreholes the base of the facility would be in the clayey silt unit, possibly within the upper portion of the till.

Typical design of infiltration facilities has the base of the feature a minimum of 1 above the groundwater table. As such, the base of the infiltration gallery may need to be raised based on the groundwater level measurements, or may not be practical/possible. The infiltration rate provided below is not applicable below the groundwater table.

The hydraulic conductivity of the soils encountered on site is generally estimated to be less than 1 x 10^{-7} m/s based on the grain size curves and does not consider the density of the soil. The resulting unfactored infiltration rate is assumed to be less than 10 mm/hr.

Appendix C of “Low Impact Development Stormwater Management and Planning Design Guide” (Version 1.0, 2010, by CVC and TRCA) suggests safety factors to be applied to infiltration rates. The safety factor applicable to the site is expected to be 2.5 but this must be confirmed during detailed design. Once the final location and elevation of LID measures are known, in-situ infiltration testing using the Guelph Permeameter could be completed to refine the infiltration rates.

5. Constructability Considerations

5.1 Excavations

At this time, excavations for the project site are anticipated to be about 1.0 to 3.0 m below existing grade to account for SWM ponds, buildings and servicing. Below the surficial topsoil and fill, excavations are anticipated to encounter cohesive soil units (clayey silt/sandy clayey silt/clay and silt), discontinuous cohesionless soil layers (sandy silt/silt/sand and silt, sand or sand and gravel) over a major glacial till deposit. Harder digging can be expected in the glacial till. Cobbles and boulders can be expected in the glacial till.

Excavations must be carried out in accordance with the Occupational Health and Safety Act, Ontario Regulation 213/91 (as amended), Construction Projects, Part III - Excavations, Section 222 through 242. Where workers must enter a trench or excavation the soil must be suitably sloped and/or braced in accordance with the OHSA. These regulations designate four (4) broad classifications of soils to stipulate appropriate measures for excavation safety. If more than one soil type is encountered in an excavation, the most conservative soil type must be followed for sloping the sidewalls of the excavation. Excavations for the site should be completed considering a Type 3 soil geometry, 1H:1V from the base of the excavation, assuming that the soils are dewatered prior to excavation.

Excavation sidewalls will need to be continuously reviewed for evidence of instability and ground water seepage, particularly following periods of heavy rain or thawing. When required, remedial action must be taken to ensure the continued stability of excavation slopes and the safety of the workers.

Minimum support system requirements for steeper excavations are stipulated in Sections 235 through 238 and 241 of the OHSA and include provisions for timbering, shoring and moveable trench boxes. To reduce the potential for instability of the trench excavations, materials excavated from the service trenches and/or other fill materials or heavy equipment should not be placed near the crest of the trench excavations.

It is important to note that soil encountered in the construction excavations may vary significantly across the site. Our preliminary soil classifications are based solely on the materials encountered in the boreholes advanced on site. The contractor should verify that similar conditions exist throughout the proposed area of excavation. If different subsurface conditions are encountered at the time of construction, we recommend that GEI be contacted immediately to evaluate the conditions encountered.

5.2 Temporary Construction Groundwater Control

As noted above, excavation is envisioned to extend to about 1.0 to 3.0 m depth for the project.

The stabilized groundwater levels in the monitoring wells are typically within about 1 m of the ground surface corresponding to Elev. 185.8 to 191.5. This is believed to reflect perched water in the fill above the clayey silt/sandy clayey silt/clay and silt and till.

Excavation into/below the local perched water, wet seams or local wet sand layers will not yield large seepage volumes due to the nature of the predominate soil at the site.

The exact scenario where certain groundwater control techniques will work are directly correlated to how coarse/fine the native soils are in an excavation, and both the lateral and vertical extent of the wet cohesionless deposits encountered as noted above. If the groundwater table is not controlled during construction, the base of the excavations will be unstable, leading to difficulties in excavating and placement of pipes, footings or engineered fill, and providing safety for the workers.

Conventional sump pumping should suffice to control ground water seepage for excavations that extend to 3.0 m depth below existing grade. Locally in sandier zones several sumps or keg wells may be required.

It is recommended to carry out the work during the dry time of the year when the ground water table is lowest, to mitigate groundwater control measures. Also reducing the size of the excavation that is open at any one time will aid in reducing groundwater control requirements.

Based on the above, a Permit-to-Take-Water (PTTW) is not required. Registry on the Environmental Activity and Sector Registry (EASR) system may be a prudent action to allow for areas of greater groundwater seepage with no work stoppage.

GEI's hydrogeological study under a separate cover provides further details regarding water taking analysis, regulatory requirements, impact assessments, monitoring plans, etc. for the site and must be referenced for groundwater control considerations.

5.3 Compaction Specifications

Standard Proctor Maximum Dry Density the specification to indicate the degree to which soil or aggregate is compacted. To achieve the specified SPmdd as indicated in this report, all soils or aggregates must be placed in lift thicknesses no greater than 200 mm. If this is not the case, only the upper portion of the lift will be adequately compacted, and the lower portion of the lift has a high probability of not meeting compaction specifications. In addition, industry standard equipment used to determine the degree of compaction consists of nuclear densometers. These devices have an inherent limitation in that they cannot test beyond

300 mm in depth, and so the degree of compaction beyond this depth cannot be quantitatively determined.

Along with lift thickness, ensuring that the soil or aggregate is within 2% of its optimum moisture content ensures that the specified compaction can be reached. If the soil or aggregate is too dry/wet, it is either very difficult or impossible to reach the specified compaction. This is especially true for when higher compaction specifications such as 98% and 100% SPmdd are required.

Based on our review of the soil types encountered in the boreholes with associated moisture contents, the soils at this site above the ground water table are near optimum and the soil below the ground water table is wet of optimum.

Moisture can be increased by adding water and mixing the soil prior to re-use, blending the soil with wetter material, or by importing soil to the site that is at optimum and can be readily compacted.

Moisture can be reduced by tilling or spreading out the soil to dry or blending it with drier material. In-situ moisture contents can change based on the season and local groundwater levels and can also change for stockpiled material due to precipitation. Zones of the fine-grained soil beneath the site have very high moisture contents and moisture conditioning may be difficult to accomplish.

Excavated clayey soil from the site should not be re-used as engineered fill or common backfill because these soils have moisture contents well above optimum. Reducing moisture in the cohesive soil is likely not practical and the compaction specifications will not be achieved.

In addition to the above compaction specifications, in any areas where compacted fill will be placed over the exposed native soil subgrade, any loose, soft, wet, organic or unstable areas should be sub-excavated, and backfilled with clean earth fill or Granular 'B' (OPSS.MUNI 1010) compacted to a minimum of 95% SPmdd. This recommendation applies to site servicing and pavement subgrades. Where structures/buildings require upfilling beneath the structure the fill should be compacted to 100% SPmdd.

5.4 Quality Verification Services

On-site quality verification services are an integral part of the geotechnical design function, and for foundations, engineered fill and retaining walls, are required under the Ontario Building Code. Quality verification services are used to confirm that construction is being conducted in general conformance with the requirements as outlined in the drawings, reports and specifications prepared for the proposed development.

GEI Consultants can provide all the on-site quality verification services outlined below:

- The subgrade for shallow foundations for commercial buildings must be field reviewed by the geotechnical engineer as required by the municipal regulating authority.
- Installation of retaining structures over 1.0 m high and related backfilling operations must be field reviewed on a continuous basis by the geotechnical engineer as required in the OBC.
- Full-time monitoring, testing and inspection of engineered fill placement is required by the geotechnical engineer per the OBC.
- Part-time monitoring of the subgrade support capabilities, material quality, lift thickness, moisture content, degree of compaction, etc. is recommended for the following areas to ensure the recommendations within this report are followed and they perform adequately in the long-term;
    - Slab-on-grades;
    - Pavement structure (granular and asphalt); and
    - Bedding/backfilling of site servicing.
- Testing of the concrete (compressive strength, slump, air content, etc.) and testing of the asphalt (asphalt content and gradation) are recommended to ensure that the quality of the materials being brought to site meet the requirements of the project.

5.5 Site Work

The soils found at this site may become weakened when subjected to traffic, particularly when wet. If there is site work carried out during periods of wet weather, then it can be expected that the subgrade will be disturbed unless an adequate granular working surface is provided to protect the integrity of the subgrade soils from construction traffic. Subgrade preparation works cannot be adequately accomplished during wet weather and the project must be scheduled accordingly. The disturbance caused by the traffic can result in the removal of disturbed soil and use of granular fill material for site restoration or underfloor fill that is not intrinsic to the project requirements.

The most severe loading conditions on the subgrade may occur during construction. Consequently, special provisions such as end dumping and forward spreading of earth and aggregate fills, restricted construction lanes, and half-loads during paving and other work may be required, especially if construction is carried out during unfavourable weather.

If construction proceeds during freezing weather conditions, adequate temporary frost protection for the founding subgrade and concrete must be provided. The soil at this site is susceptible to frost damage. Consideration must be given to frost effects, such as heave or softening, on exposed soil surfaces in the context of this particular project development.

6. Limitations and Conclusions

6.1 Limitations

The recommendations and comments provided are necessarily on-going as new information of underground conditions becomes available. More specific information with respect to the conditions between samples, or the lateral and vertical extent of materials may become apparent during excavation operations. The interpretation of the borehole information must, therefore, be validated during excavation operations. Consequently, conditions not observed during this investigation may become apparent. Should this occur, GEI should be contacted to assess the situation and additional testing and reporting may be required.

GEI should be retained for a general review of the final design drawings and specifications to verify that this report has been properly interpreted and implemented. If not accorded the privilege of making this review, GEI will assume no responsibility for interpretation of the recommendations in the report.

The comments given in this report are intended only for the guidance of the design engineers. The number of boreholes required to determine the localized underground conditions between boreholes affecting construction costs, techniques, sequencing, equipment, scheduling, etc. could be greater than has been carried out for design purposes. Contractors bidding on or undertaking the works should, in this light, decide on their own investigations, as well as their own interpretations of the factual borehole results, so that they may draw their own conclusions as to how the subsurface conditions may affect them.

This report was authorized by, and prepared by GEI for, the account of Anatolia Investments Corporation (as provided in the signed Standard Professional Services Agreement). Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. GEI accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this project.

6.2 Conclusion

It is recognized that municipal/regional governing bodies, in their capacity as the planning and building authority under Provincial statues, will make use of and rely upon this report, cognizant of the limitations thereof, both as are expressed and implied.

We trust this report is complete within our terms of reference, and the information presented is sufficient for your present purposes. If you have any questions, or when we may be of further assistance, please do not hesitate to contact our office.

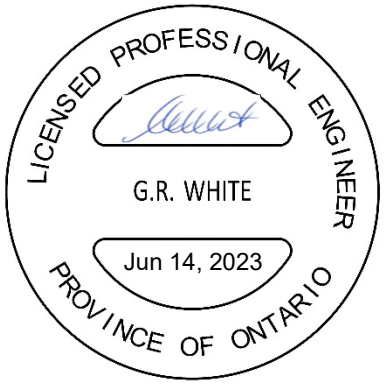
Yours Truly,

GEI Consultants

Prepared By:

Mohammed Razeen
Geotechnical E.I.T.

Reviewed By:

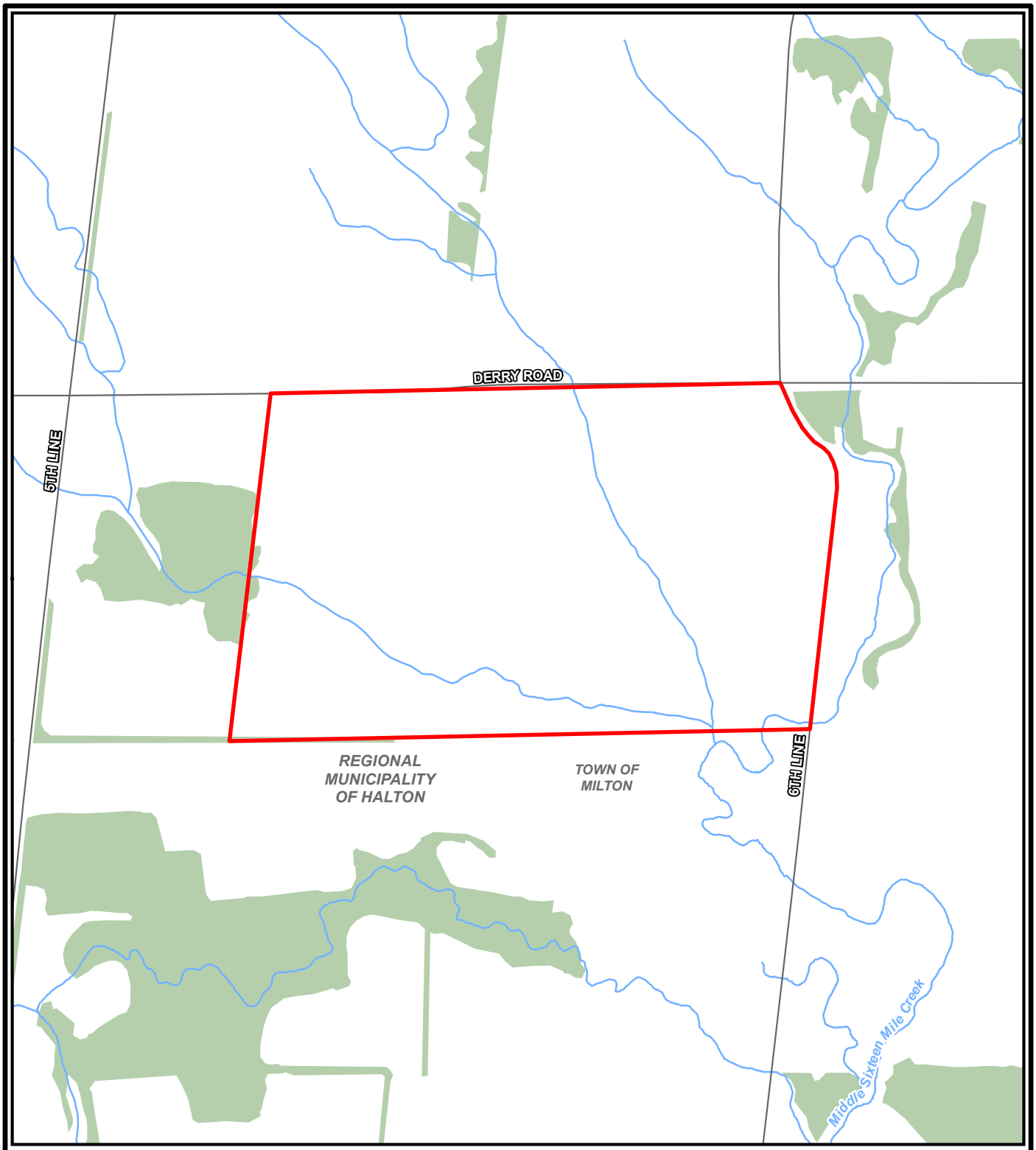


Geoffrey R. White, P.Eng.
Geotechnical Practice Lead

Figures

Site Location Plan

Borehole Location Plans



NOTES:
1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2023.

Legend
- Subject Lands
- Road
- Watercourse
- Wooded Area

N

0 50 100 m

1:10,000

Proposed Commercial Warehouse Development
6728 Sixth Line, Milton, ON

Anatolia Investments Corporation

GEI Consultants

Project 2300805

SITE LOCATION PLAN

June 2023

Fig. 1

NOTES:

1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2023.

Legend

- Subject Lands
- Road
- Boreholes
- Monitoring Wells

N

0 50 100 m

1:6,500

Proposed Commercial Warehouse Development
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BOREHOLE LOCATION PLAN (AERIAL)

June 2023 Fig. 2a

NOTES:

1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2023.

Legend

- Subject Lands
- Road
- Boreholes
- Monitoring Wells

N

0 50 100 m

1:6,500

Proposed Commercial Warehouse Development
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Project 2300805

BOREHOLE LOCATION PLAN (AERIAL)

June 2023 Fig. 2b

Appendix A

Borehole Logs

RECORD OF BOREHOLE No. 1

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821286** Date Started: **Apr 24/23**
Reviewed By: **GW** Easting: **594889.1** Date Completed: **Apr 24/23**

Depth	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Elevation (m)	Comments
0.0 / 192.2	TOPSOIL: 75 mm						
0.1	CLAY AND SILT: Some sand, trace gravel, firm to very stiff, brown, moist	SS	1	60	6		
		SS	2	100	15		
		SS	3	90	19		
2.4 / 189.9	SANDY SILT: Trace gravel, compact, brown, wet	SS	4	100	29		First Water Strike SS4
3.0 / 189.2	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, dense to compact, dark brown, moist	SS	5	100	40		
		SS	6	15	41		
		SS	7	100	37		
8.1 / 184.1		SS	8	100	27		
	Borehole Terminated at 8.1 m						

Depth (m): 0, 1.5, 3, 4.5, 6, 7.5
Elevation (m): 192, 190.5, 189, 187.5, 186, 184.5

FIELD TESTING
Shear Strength Testing (kPa)
× Other Test
+ Pocket Penetrometer
▲ Field Vane (Intact)
△ Field Vane (Remolded)
40 80 120 160
Penetration Testing
○ SPT ● DCPT
10 20 30 40

LAB TESTING
△ Combustible Organic Vapour (ppm)
▲ Combustible Organic Vapour (%LEL)
◇ Total Organic Vapour (ppm)
100 200 300 400
Atterberg Limits
PL ○ Water Content (%) LL
10 20 30 40

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

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Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: Open
Groundwater depth observed on: May 23/23 at depth of: 0.7 m.
Groundwater Elevation: 191.5 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 2

GEI Consultants

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821460** Date Started: **Apr 24/23**
Reviewed By: **GW** Easting: **595031.6** Date Completed: **Apr 24/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing SPT/DCPT)	LAB TESTING (Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits PL/LL; Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR	SA	SI	CL
0.0 / 191.2	0.2 / 191.0 TOPSOIL: 150 mm CLAY AND SILT: Some sand, trace gravel, firm to very stiff, brown, moist	SS	1	85	6	0	190.5	6	13					
		SS	2	100	19			19	18					
		SS	3	100	17	1.5	189	17	20		4	13	48	35
	2.3 / 188.9 SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, dense, brown, moist to wet	SS	4	100	34			34	10					
	- - Gravelly sand seam - - -	SS	5	100	46	3	187.5	46	14		First Water Strike SS5			
		SS	6	75	34	4.5		34	10					
	5.0 / 186.2 Borehole Terminated at 5.0 m													

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Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: Open
Groundwater depth observed on: May 23/23 at depth of: 0.5 m.
Groundwater Elevation: 190.7 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 3

GEI Consultants

Project Number:	**2300805**				
Project Client:	**Anatolia**				
Project Name:	**Proposed Commercial Warehouse**	Drilling Method: **Solid Stem Augers**		Drilling Machine: **Track Mount**	
Project Location:	**6728 Sixth Line, Milton, ON**	Logged By: **SDP**	Northing: **4821210**	Date Started: **Apr 24/23**	
Drilling Location:	**See Borehole Location Plan**	Reviewed By: **GW**	Easting: **5945031.6**	Date Completed: **Apr 24/23**	
Local Benchmark:					

Depth (m)	Elevation (m)	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value
0.0	192.1					
0.2	191.9	TOPSOIL: 125 mm				
		FILL: Clayey silt, some sand, trace organics, firm, brown, moist	SS	1	85	5
0.8	191.3					
		CLAYEY SILT: Some sand, trace gravel, stiff, brown, moist	SS	2	100	9
			SS	3	100	14
2.3	189.8					
		SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact to dense, brown, wet to moist	SS	4	100	25
			SS	5	100	32
		- - - Some gravel, brownish grey - - -	SS	6	100	24
			SS	7	100	19
8.1	183.9		SS	8	100	16
		Borehole Terminated at 8.1 m				

Field Testing: Shear Strength Testing (kPa) — Other Test; Pocket Penetrometer; Field Vane (Intact); Field Vane (Remolded); Penetration Testing: SPT, DCPT

Lab Testing: Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits: PL, LL; Water Content (%)

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%): GR, SA, SI, CL

First Water Strike SS4

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Groundwater depth encountered on completion of drilling: 7.6 m. Cave depth after auger removal: Open

Groundwater depth observed on: Groundwater Elevation:

RECORD OF BOREHOLE No. 4

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821304** Date Started: **Apr 24/23**
Reviewed By: **GW** Easting: **594968.5** Date Completed: **Apr 24/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing SPT/DCPT)	LAB TESTING (Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits PL–LL; Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	0.0 191.5										
	0.2 191.4 TOPSOIL: 150 mm					0					
	FILL: Clayey silt, some sand, trace gravel, firm, grey, moist	SS	1	60	6			6	22		
	0.8 190.8						190.5		16		First Water Strike SS2
	CLAYEY SILT: Some sand, trace gravel, very stiff, brown, wet	SS	2	100	18	1.5		18			
		SS	3	100	20		189	20	14		
	2.3 189.3								12		
	SANDY SILT GLACIAL TILL: Trace clay, trace gravel, inferred cobbles and boulders, dense to compact, brown, moist to wet	SS	4	65	48	3		48			
		SS	5	100	47		187.5	47	10		
		SS	6	100	25	4.5		25	9		
	5.0 186.5 Borehole Terminated at 5.0 m										

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Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 5

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Project Number:	**2300805**				
Project Client:	**Anatolia**				
Project Name:	**Proposed Commercial Warehouse**	Drilling Method:	**Hollow Stem Augers**	Drilling Machine:	**Track Mount**
Project Location:	**6728 Sixth Line, Milton, ON**	Logged By:	**SDP**	Northing:	**4821393**
Drilling Location:	**See Borehole Location Plan**	Reviewed By:	**GW**	Easting:	**595046.6**
Local Benchmark:					

Date Started: **Apr 21/23**
Date Completed: **Apr 21/23**

LITHOLOGY PROFILE / SOIL SAMPLING / FIELD TESTING / LAB TESTING

Field Testing – Shear Strength Testing (kPa): Other Test; Pocket Penetrometer; Field Vane (Intact); Field Vane (Remolded) — 40, 80, 120, 160. Penetration Testing: SPT, DCPT — 10, 20, 30, 40

Lab Testing: Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm) — 100, 200, 300, 400. Atterberg Limits: PL, LL. Water Content (%) — 10, 20, 30, 40

Depth (m)	Elevation (m)	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Water Content (%)	Comments
0.0 / 0.1	190.6 / 190.5	TOPSOIL: 75 mm						
		FILL: Clayey silt, some sand, trace organics, stiff, brown, wet	SS	1	75	10	18	
0.8	189.8	CLAYEY SILT: Some sand, trace gravel, stiff, brown, moist to wet	SS	2	80	13	18	First Water Strike SS2
			SS	3	85	13	27	
2.3	188.3	SANDY SILT GLACIAL TILL: Some clay, trace to some gravel, inferred cobbles and boulders, dense, brown to brownish grey, moist	SS	4	90	33	10	
			SS	5	85	43	9	
			SS	6	100	38	7	
5.0	185.6	Borehole Terminated at 5.0 m						

Depth scale: 0, 1.5, 3, 4.5. Elevation scale: 190.5, 189, 187.5, 186.

Comments & Grain Size Distribution (%): GR, SA, SI, CL

Groundwater depth encountered on completion of drilling: 3.0 m.
Cave depth after auger removal: 3.9 m.
Groundwater depth observed on:
Groundwater Elevation:

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Scale: **1 :75**

RECORD OF BOREHOLE No. 6

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Project Number:	**2300805**				
Project Client:	**Anatolia**				
Project Name:	**Proposed Commercial Warehouse**	Drilling Method:	**Solid Stem Augers**	Drilling Machine:	**Track Mount**
Project Location:	**6728 Sixth Line, Milton, ON**	Logged By:	**SDP**	Northing: **4821393**	Date Started: **Apr 24/23**
Drilling Location:	**See Borehole Location Plan**	Reviewed By:	**GW**	Easting: **595061.7**	Date Completed: **Apr 24/23**
Local Benchmark:					

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa): Other Test, Pocket Penetrometer, Field Vane (Intact), Field Vane (Remolded); Penetration Testing: SPT, DCPT)	LAB TESTING (Combustible Organic Vapour (ppm), Combustible Organic Vapour (%LEL), Total Organic Vapour (ppm), Atterberg Limits PL–LL, Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	0.0 / 191.3										
	0.2 / 191.2 TOPSOIL: 150 mm					0					
	FILL: Clayey silt, some sand, trace organics, firm, brown, moist	SS	1	85	5			5	22		
	0.8 / 190.6						190.5				
	CLAYEY SILT: Some sand, trace gravel, stiff to very stiff, brown, moist	SS	2	100	12	1.5		12	20		
		SS	3	100	19		189	19	17		
	2.3 / 189.0										
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, dense to compcat, brown to brownish grey, wet to moist	SS	4	100	41	3		41	13		First Water Strike SS4
		SS	5	100	40		187.5	40	9		
		SS	6	100	23	4.5		23	10		
							186				
		SS	7	100	22	6		22	11		
							184.5				
	- - - Some gravel - - -	SS	8	100	28	7.5		28	9		
	8.1 / 183.2										
	Borehole Terminated at 8.1 m										

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Groundwater depth encountered on completion of drilling: 7.6 m. Cave depth after auger removal: Open

Groundwater depth observed on: Groundwater Elevation:

RECORD OF BOREHOLE No. 7

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821327** Date Started: **Apr 25/23**
Reviewed By: **GW** Easting: **595205.4** Date Completed: **Apr 25/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing SPT/DCPT)	LAB TESTING (Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits PL–LL; Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	0.0 190.3					0					
	0.2 TOPSOIL: 150 mm 190.1										
	FILL: Clayey silt, some sand, trace organics, stiff, brown, moist 0.8 189.5	SS	1	75	10			10	30		
	CLAYEY SILT: Some sand, stiff, greyish brown, moist	SS	2	100	13	1.5	189	13	19		
		SS	3	100	13			13	27		
	2.3 188.0 SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, dense, dark brown, moist	SS	4	100	33			33	6		
		SS	5	100	43	3	187.5	43	9		
	- - - Wet - - - 5.0 185.3	SS	6	65	38	4.5	186	38	11		First Water Strike SS6 9 29 44 18
	Borehole Terminated at 5.0 m										

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Groundwater depth encountered on completion of drilling: 3.2 m. Cave depth after auger removal: Open
Groundwater depth observed on: Groundwater Elevation:

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Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 8

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Project Number:	2300805				
Project Client:	Anatolia				
Project Name:	Proposed Commercial Warehouse	Drilling Method:	Solid Stem Augers	Drilling Machine:	Track Mount
Project Location:	6728 Sixth Line, Milton, ON	Logged By:	SDP	Northing:	4821074
				Date Started:	Apr 27/23
Drilling Location:	See Borehole Location Plan	Reviewed By:	GW	Easting:	595147.5
				Date Completed:	Apr 27/23
Local Benchmark:					

LITHOLOGY PROFILE | **SOIL SAMPLING** | **FIELD TESTING** (Shear Strength Testing (kPa): Other Test, Pocket Penetrometer, Field Vane (Intact), Field Vane (Remolded); Penetration Testing: SPT, DCPT) | **LAB TESTING** (Combustible Organic Vapour (ppm), Combustible Organic Vapour (%LEL), Total Organic Vapour (ppm); Atterberg Limits PL–LL; Water Content (%)) | Instrumentation Installation | **COMMENTS & GRAIN SIZE DISTRIBUTION (%)**

Depth (m) / Elevation (m)	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Water Content (%)	Comments	GR	SA	SI	CL
0.0 / 190.5 – 0.1 / 190.4	TOPSOIL: 75 mm										
0.1 / 190.4 – 0.8 / 189.7	FILL: Clayey silt, some sand, firm, brown, moist	SS	1	75	7	20					
0.8 / 189.7 – 1.5 / 189.0	CLAYEY SILT: Some sand, stiff, brown, moist	SS	2	100	14	15					
1.5 / 189.0 – 6.1 / 184.4	SANDY SILT GLACIAL TILL: Some clay, inferred cobbles and boulders, compact to dense, brown, wet to moist	SS	3	100	28	23	First Water Strike SS3				
		SS	4	100	38	10					
		SS	5	100	28	9					
		SS	6	100	23	10					
6.1 / 184.4 – 8.1 / 182.4	CLAYEY SANDY SILT GLACIAL TILL: Trace gravel, inferred cobbles and boulders, compact to dense, brown to brownish grey, moist	SS	7	100	16	15		1	22	55	22
		SS	8	100	43	9					
8.1 / 182.4	Borehole Terminated at 8.1 m										

Groundwater depth encountered on completion of drilling: 7.4 m.
Cave depth after auger removal: Open
Groundwater depth observed on:
Groundwater Elevation:

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RECORD OF BOREHOLE No. 9

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821164** Date Started: **Apr 27/23**
Reviewed By: **GW** Easting: **595225.7** Date Completed: **Apr 27/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%)
	0.0 / 190.4							Shear Strength Testing (kPa): × Other Test; + Pocket Penetrometer; ▲ Field Vane (Intact); △ Field Vane (Remolded)	△ Combustible Organic Vapour (ppm); ▲ Combustible Organic Vapour (%LEL); ◇ Total Organic Vapour (ppm)		
	0.1 / 190.3 TOPSOIL: 100 mm							40 80 120 160	100 200 300 400		
	CLAYEY SILT: Some sand, trace gravel, firm to very stiff, brown, moist to wet	SS	1	90	7	0		Penetration Testing: ○ SPT ● DCPT	Atterberg Limits: PL ○ Water Content (%) LL		
	1.1 / 189.3	SS	2	85	17			10 20 30 40	10 20 30 40		
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact to very dense, brown, moist	SS	3	100	23	1.5	189				First Water Strike SS3
		SS	4	100	40						
		SS	5	100	51	3	187.5				
		SS	6	65	22	4.5	186				
	5.0 / 185.4 Borehole Terminated at 5.0 m										

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Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 10

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821245** Date Started: **Apr 27/23**
Reviewed By: **GW** Easting: **595296.6** Date Completed: **Apr 27/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)
	0.0 / 190.1						
	0.2 / 189.9 TOPSOIL: 205 mm						
	FILL: Clayey silt, some sand, firm, brown, moist	SS	1	80	6		
	0.8 / 189.3						
	CLAYEY SILT: Some sand, very stiff, brown, moist	SS	2	100	16	1.5	189
	- - - Trace gravel - - -	SS	3	100	19		
	2.3 / 187.8						
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, dense to very dense, brown, moist	SS	4	100	45	3	187.5
		SS	5	100	84	4.5	186
	5.0 / 185.0	SS	6	100	35		
	Borehole Terminated at 5.0 m						

FIELD TESTING
Shear Strength Testing (kPa)
× Other Test
+ Pocket Penetrometer
▲ Field Vane (Intact)
△ Field Vane (Remolded)
40 80 120 160
Penetration Testing
○ SPT ● DCPT
10 20 30 40

LAB TESTING
△ Combustible Organic Vapour (ppm)
▲ Combustible Organic Vapour (%LEL)
◇ Total Organic Vapour (ppm)
100 200 300 400
Atterberg Limits
PL ○ LL
Water Content (%)
10 20 30 40

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL

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Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

RECORD OF BOREHOLE No. 11

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Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821021** Date Started: **Apr 27/23**
Reviewed By: **GW** Easting: **595221.8** Date Completed: **Apr 27/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)
	0.0 191.9					0	
	0.2 TOPSOIL: 150 mm 191.7						
	FILL: Clayey silt, Some sand, trace organics, firm, brown, moist 0.8 191.1	SS	1	80	7		
	CLAYEY SILT: Some sand, trace gravel, very stiff, brown, moist	SS	2	100	18	1.5	190.5
		SS	3	100	21		
	2.6 189.3	SS	4	100	19		
	SILT AND SAND: Trace clay, compact, brown, wet 3.5 188.4	SS	5	100	28	3	189
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact, brownish grey, moist	SS	6	100	20	4.5	187.5
		SS	7	100	18	6	186
		SS	8	100	19	7.5	184.5
	8.1 183.8						
	Borehole Terminated at 8.1 m						

FIELD TESTING
Shear Strength Testing (kPa)
× Other Test
+ Pocket Penetrometer
▲ Field Vane (Intact)
△ Field Vane (Remolded)
40 80 120 160
Penetration Testing
○ SPT ● DCPT
10 20 30 40

LAB TESTING
△ Combustible Organic Vapour (ppm)
▲ Combustible Organic Vapour (%LEL)
◇ Total Organic Vapour (ppm)
100 200 300 400
Atterberg Limits
PL ○ Water Content (%) LL
10 20 30 40

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
4	17	47	32

First Water Strike SS4

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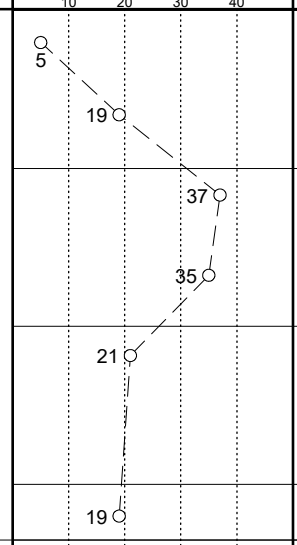
Groundwater depth encountered on completion of drilling: 7.3 m. Cave depth after auger removal: Open
Groundwater depth observed on: Groundwater Elevation:

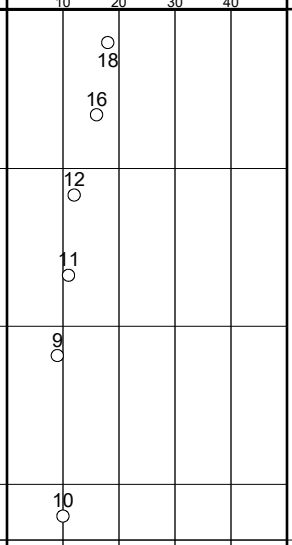
RECORD OF BOREHOLE No. 12

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821109** Date Started: **Apr 27/23**
Reviewed By: **GW** Easting: **595294.3** Date Completed: **Apr 27/23**

Depth	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Elevation (m)
0.0						189.9
0.2	TOPSOIL: 205 mm					189.7
0.6	FILL: Clayey silt, some sand, trace gravel, firm, brown, moist	SS	1	65	5	189.3
	CLAYEY SILT: Some sand, trace gravel, very stiff, brown, moist	SS	2	100	19	
1.5						188.4
	SANDY SILT GLACIAL TILL: Trace gravel, trace clay, inferred cobbles and boulders, dense to compact, brown to brownish grey, moist	SS	3	100	37	
		SS	4	100	35	
		SS	5	100	21	
		SS	6	100	19	
5.0						184.9
	Borehole Terminated at 5.0 m					





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Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

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Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 13

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821202** Date Started: **Apr 26/23**
Reviewed By: **GW** Easting: **595357.4** Date Completed: **Apr 26/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)
0.0						0	189.3
	TOPSOIL: 50 mm						
	FILL: Sandy clayey silt, firm, brown, very moist	SS	1	75	6		
0.8						1.5	189
	CLAYEY SILT: Some sand, very stiff, brown, moist	SS	2	100	17		
		SS	3	100	20		
		SS	4	100	27	3	187.5
3.0							187.2
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, dense to compact, brown to bronwish grey, moist	SS	5	100	48	4.5	186
5.0		SS	6	100	23		185.3
	Borehole Terminated at 5.0 m						

FIELD TESTING
Shear Strength Testing (kPa)
× Other Test
+ Pocket Penetrometer
▲ Field Vane (Intact)
△ Field Vane (Remolded)
40 80 120 160
Penetration Testing
○ SPT ● DCPT
10 20 30 40
6 17 20 27 48 23

LAB TESTING
△ Combustible Organic Vapour (ppm)
▲ Combustible Organic Vapour (%LEL)
◇ Total Organic Vapour (ppm)
100 200 300 400
Atterberg Limits
PL LL
○ Water Content (%)
10 20 30 40
27 18 18 14 10 11

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

First Water Strike SS2

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Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: Open
Groundwater depth observed on: May 23/23 at depth of: 1.0 m.
Groundwater Elevation: 189.3 m

RECORD OF BOREHOLE No. 14

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821572** Date Started: **May 1/23**
Reviewed By: **GW** Easting: **595174.6** Date Completed: **May 1/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)
0.0 / 190.0							
0.2 / 189.9	TOPSOIL: 175 mm						
	CLAYEY SILT: Some sand, trace gravel, firm to very stiff, grey, moist	SS	1	75	6	0	
		SS	2	100	17		189
		SS	3	100	20	1.5	
2.3 / 187.8							
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact to dense, brown, moist	SS	4	100	27		187.5
		SS	5	100	48	3	
							186
		SS	6	100	23	4.5	
5.0 / 185.0	Borehole Terminated at 5.0 m						

FIELD TESTING
Shear Strength Testing (kPa)
× Other Test
+ Pocket Penetrometer
▲ Field Vane (Intact)
△ Field Vane (Remolded)
40 80 120 160
Penetration Testing
○ SPT ● DCPT
10 20 30 40
Values: 6, 17, 20, 27, 48, 23

LAB TESTING
△ Combustible Organic Vapour (ppm)
▲ Combustible Organic Vapour (%LEL)
◇ Total Organic Vapour (ppm)
100 200 300 400
Atterberg Limits
PL LL
○ Water Content (%)
10 20 30 40
Values: 19, 18, 14, 9, 11, 11

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%)
GR | SA | SI | CL

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Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: Open
Groundwater depth observed on: May 23/23 at depth of: 0.5 m.
Groundwater Elevation: 189.5 m

RECORD OF BOREHOLE No. 15

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821605** Date Started: **Apr 21/23**
Reviewed By: **GW** Easting: **595261.4** Date Completed: **Apr 21/23q**

Depth	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Elevation (m)
0.0 / 0.1	TOPSOIL: 75 mm					189.3 / 189.2
0.8	FILL: Sand and silt, trace clay, trace organics, trace gravel, loose, brown, moist to wet	SS	1	100	5	188.5
		SS	2	100	10	
2.3	CLAYEY SILT: Some sand, trace gravel, till-like, inferred cobbles and boulders, stiff to very stiff, brown, moist	SS	3	90	16	187.0
		SS	4	90	24	
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact to dense, brown to brownish grey, moist	SS	5	100	32	
5.0		SS	6	100	15	184.2
	Borehole Terminated at 5.0 m					

Depth (m): 0, 1.5, 3, 4.5

Shear Strength Testing (kPa): Other Test; Pocket Penetrometer; Field Vane (Intact); Field Vane (Remolded)

Penetration Testing: SPT; DCPT

Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm)

Atterberg Limits: PL, LL; Water Content (%)

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%): GR, SA, SI, CL

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Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

Scale: **1 :75**

RECORD OF BOREHOLE No. 16

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Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821700** Date Started: **Mar 9/23**
Reviewed By: **GW** Easting: **595280.3** Date Completed: **Mar 9/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING: Shear Strength Testing (kPa) / Penetration Testing (SPT ○, DCPT ●)	LAB TESTING: Combustible Organic Vapour (ppm) △, Combustible Organic Vapour (%LEL) ▲, Total Organic Vapour (ppm) ◇, Atterberg Limits PL–LL, Water Content (%) ○	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	0.0 189.6										
	0.2 TOPSOIL: 205 mm 189.4					0					
	SAND AND SILT: Some clay, loose to compact, brown, moist	SS	1	75	5		189	5	23		
		SS	2	100	13			13	16		
	1.5 188.1					1.5					
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact to dense, brown, moist to wet	SS	3	100	26		187.5	26	14		
		SS	4	100	24			24	13		First Water Strike SS4
		SS	5	100	42	3	186	42	10		
		SS	6	100	27	4.5		27	9		
	5.0 184.6										
	Borehole Terminated at 5.0 m										

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Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

RECORD OF BOREHOLE No. 17

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821506** Date Started: **Apr 21/23**
Reviewed By: **GW** Easting: **595248.9** Date Completed: **Apr 21/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing SPT/DCPT)	LAB TESTING (Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits PL–LL; Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	0.0 189.9					0	189.9				
	FILL: Clayey silt, some sand, trace organics, firm, dark brown, moist	SS	1	60	5			5	23		
	0.8 189.1						189				
	CLAYEY SILT: Some sand, stiff, brown, moist	SS	2	90	14			14	17		
						1.5					
		SS	3	95	15			15	15		
	2.3 187.6						187.5				
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact, brown to brownish grey, wet to moist	SS	4	95	23			23	13		First Water Strike SS4
						3					
		SS	5	100	29			29	9		
							186				
						4.5					
	5.0 184.8	SS	6	100	18			18	8		
	Borehole Terminated at 5.0 m										

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Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 18

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Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Solid Stem Augers**
Logged By: **SDP** Northing: **4821646** Date Started: **May 1/23**
Reviewed By: **GW** Easting: **595336.2** Date Completed: **May 1/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa) / Penetration Testing)	LAB TESTING (Combustible Organic Vapour (ppm) / Combustible Organic Vapour (%LEL) / Total Organic Vapour (ppm) / Atterberg Limits / Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR	SA	SI	CL
	0.0 190.8													
	0.2 TOPSOIL: 230 mm 190.6													
	FILL: Clayey silt, some sand, firm to stiff, brown, moist	SS	1	100	5	0	190.5	5	12					
		SS	2	55	6			6	15					
	- - - Some organics - - -	SS	3	100	11	1.5	189	11	10					
	2.3 188.5													
	CLAYEY SAND AND SILT GLACIAL TILL: Some gravel, inferred cobbles and boulders, compact to dense, brown, moist	SS	4	100	22			22	10		12	31	31	26
	- - - Wet - - -	SS	5	100	18	3	187.5	18	15		First Water Strike SS5			
		SS	6	100	35	4.5	186	35	8					
	- - - Sand seam - - -	SS	7	100	25	6	184.5	25	7					
		SS	8	100	19	7.5	183	19	12					
	8.1 182.7													
	Borehole Terminated at 8.1 m													

Groundwater depth encountered on completion of drilling: 4.5 m. Cave depth after auger removal: 6.7 m.
Groundwater depth observed on: Groundwater Elevation:

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RECORD OF BOREHOLE No. 19

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821435** Date Started: **Apr 25/23**
Reviewed By: **GW** Easting: **595345.4** Date Completed: **Apr 25/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing SPT/DCPT)	LAB TESTING (Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits PL–LL; Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	0.0 189.6										
	0.2 189.5 TOPSOIL: 150 mm					0					
	FILL: Clayey silt, some sand, firm, brown, moist	SS	1	80	8		189	8	18		
	0.8 188.9										
	CLAYEY SILT: Trace gravel, very stiff, dark brown, moist	SS	2	100	16			16	19		
						1.5					
		SS	3	100	22		187.5	22	21		
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact, brownish grey, moist to wet	SS	4	100	29			29	11		
		SS	5	100	19	3	186	19	8		First Water Strike SS5
						4.5					
	5.0 184.6	SS	6	100	20			20	9		
	Borehole Terminated at 5.0 m										

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Groundwater depth encountered on completion of drilling: 4.5 m. Cave depth after auger removal: Open
Groundwater depth observed on: Groundwater Elevation:

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 20

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Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821473** Date Started: **Apr 26/23**
Reviewed By: **GW** Easting: **595427.7** Date Completed: **Apr 26/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING: Shear Strength (kPa) / Penetration Testing (SPT ○, DCPT ●)	LAB TESTING: Combustible Organic Vapour (ppm) △, Combustible Organic Vapour (%LEL) ▲, Total Organic Vapour (ppm) ◇, Atterberg Limits PL–LL, Water Content (%) ○	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR	SA	SI	CL
	0.0 / 189.5 TOPSOIL: 50 mm					0	189							
	0.1 / 189.4 FILL: Sandy clayey silt, trace organics, firm, brown, moist	SS	1	80	5			5	20					
	0.8 / 188.7 CLAYEY SILT: Some sand, trace gravel, very stiff, brown, moist	SS	2	100	17			17	16		4	16	48	32
	1.5 / 188.0 SANDY SILT GLACIAL TILL: Some clay, trace gravel, cobbles and boulders, compact to dense, brown, moist	SS	3	100	17	1.5	187.5	17	12					
		SS	4	100	22			22	10					
	- - - Sand seam, wet - - -	SS	5	100	48	3	186	48	10		First Water Strike SS5			
		SS	6	100	21	4.5	184.5	21	12					
	5.0 / 184.5 Borehole Terminated at 5.0 m													

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Groundwater depth encountered on completion of drilling: 4.1 m. Cave depth after auger removal: Open
Groundwater depth observed on: Groundwater Elevation:

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 21

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821561** Date Started: **Apr 25/23**
Reviewed By: **GW** Easting: **595444.9** Date Completed: **Apr 25/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing SPT/DCPT)	LAB TESTING (Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits PL–LL; Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	0.0 189.1										
	0.2 188.9 TOPSOIL: 150 mm										
	FILL: Clayey silt, some sand, firm, brown, moist	SS	1	85	4	0	189	4	15		
	0.8 188.3										
	CLAYEY SILT: Some sand, trace gravel, very stiff, brown, moist	SS	2	100	15			15	16		
		SS	3	100	26	1.5	187.5	26	16		
	- - - Sand seam, wet - - -	SS	4	100	20			20	10		First Water Strike SS4
	3.0 186.0										
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, dense, brownish grey, moist	SS	5	100	31	3	186	31	10		
		SS	6	100	34	4.5	184.5	34	11		
		SS	7	100	30	6	183	30	10		
		SS	8	100	38	7.5	181.5	38	9		
	8.1 181.0										
	Borehole Terminated at 8.1 m										

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Groundwater depth encountered on completion of drilling: 5.7 m. Cave depth after auger removal: Open
Groundwater depth observed on: Groundwater Elevation:

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 22

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Project Number:	**2300805**						
Project Client:	**Anatolia**						
Project Name:	**Proposed Commercial Warehouse**	Drilling Method:	**Solid Stem Augers**	Drilling Machine:	**Track Mount**		
Project Location:	**6728 Sixth Line, Milton, ON**	Logged By:	**SDP**	Northing:	**4821356**	Date Started:	**Apr 26/23**
Drilling Location:	**See Borehole Location Plan**	Reviewed By:	**GW**	Easting:	**595430.7**	Date Completed:	**Apr 26/23**
Local Benchmark:							

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%)
	0.0 / 189.4							Shear Strength Testing (kPa): × Other Test; + Pocket Penetrometer; ▲ Field Vane (Intact); △ Field Vane (Remolded); 40 80 120 160. Penetration Testing: ○ SPT ● DCPT; 10 20 30 40	△ Combustible Organic Vapour (ppm); ▲ Combustible Organic Vapour (%LEL); ◇ Total Organic Vapour (ppm); 100 200 300 400. Atterberg Limits: PL ○ Water Content (%) LL; 10 20 30 40		GR SA SI CL
	0.1 / 189.3 TOPSOIL: 100 mm					0	189				
	CLAYEY SILT: Some sand, firm to very stiff, brown, moist	SS	1	80	8			8	11		
	- - - Trace gravel - - -	SS	2	100	23			23	8		
	1.5 / 187.9					1.5	187.5				
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact to very dense, brown, moist	SS	3	100	18			18	9		
		SS	4	100	43			43	14		
	- - - Brownish grey - - -	SS	5	100	52	3	186	52	8		
						4.5	184.5				
	5.0 / 184.4	SS	6	100	24			24	10		
	Borehole Terminated at 5.0 m										

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Groundwater depth encountered on completion of drilling: Dry

Cave depth after auger removal: Open

Groundwater depth observed on: May 23/23 at depth of: 0.4 m.

Groundwater Elevation: 189.0 m

RECORD OF BOREHOLE No. 23

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Project Number:	2300805				
Project Client:	Anatolia				
Project Name:	Proposed Commercial Warehouse	Drilling Method:	Solid Stem Augers	Drilling Machine:	Track Mount
Project Location:	6728 Sixth Line, Milton, ON	Logged By:	SDP	Northing: 4821523	Date Started: May 1/23
Drilling Location:	See Borehole Location Plan	Reviewed By:	GW	Easting: 595461.3	Date Completed: May 1/23
Local Benchmark:					

Depth	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Elevation (m)
0.0						189.3
0.2	TOPSOIL: 205 mm					189.1
	FILL: Clayey silt, some sand, firm, brown, moist to wet	SS	1	90	5	
0.8						188.5
	CLAYEY SILT: Some sand, firm to very stiff, brown, moist	SS	2	100	5	
		SS	3	100	15	
		SS	4	100	28	
3.0						186.3
	SANDY SILT GLACIAL TILL: Some clay, inferred cobbles and boulders, dense to compact, brownish grey, moist	SS	5	60	39	
		SS	6	100	26	
		SS	7	90	19	
8.1		SS	8	100	27	181.2
	Borehole Terminated at 8.1 m					

FIELD TESTING: Shear Strength Testing (kPa) — Other Test; Pocket Penetrometer; Field Vane (Intact); Field Vane (Remolded); 40 80 120 160. Penetration Testing: SPT, DCPT; 10 20 30 40.

LAB TESTING: Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); 100 200 300 400. Atterberg Limits: PL, LL. Water Content (%); 10 20 30 40.

Instrumentation Installation: First Water Strike SS2

COMMENTS & GRAIN SIZE DISTRIBUTION (%): GR | SA | SI | CL

Groundwater depth encountered on completion of drilling: 6.0 m. Cave depth after auger removal: Open

Groundwater depth observed on: May 23/23 at depth of: 0.9 m. Groundwater Elevation: 188.4 m

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Scale: **1 :75**

RECORD OF BOREHOLE No. 24

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Buggy Mount**
Logged By: **SDP** Northing: **4821856** Date Started: **Mar 9/23**
Reviewed By: **GW** Easting: **595377.8** Date Completed: **Mar 9/23**

Depth	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Elevation (m)
0.0						189.5
0.2	TOPSOIL: 230 mm					189.3
	FILL: Sand and Silt, trace clay, loose, brown, wet	SS	1	45	6	
0.8						188.7
	CLAYEY SILT: Some sand, stiff, brown, wet	SS	2	100	12	
1.5						187.9
	CLAYEY SANDY SILT GLACIAL TILL: Trace gravel, inferred cobbles and boulders, compact, brown, moist	SS	3	100	20	
		SS	4	100	14	
	- - - Grey, wet - - -	SS	5	90	12	
5.0		SS	6	100	14	184.4
	Borehole Terminated at 5.0 m					

Groundwater depth encountered on completion of drilling: 4.5 m. Cave depth after auger removal: 4.8 m.
Groundwater depth observed on: May 23/23 at depth of: 0.6 m. Groundwater Elevation: 188.9 m

First Water Strike SS2

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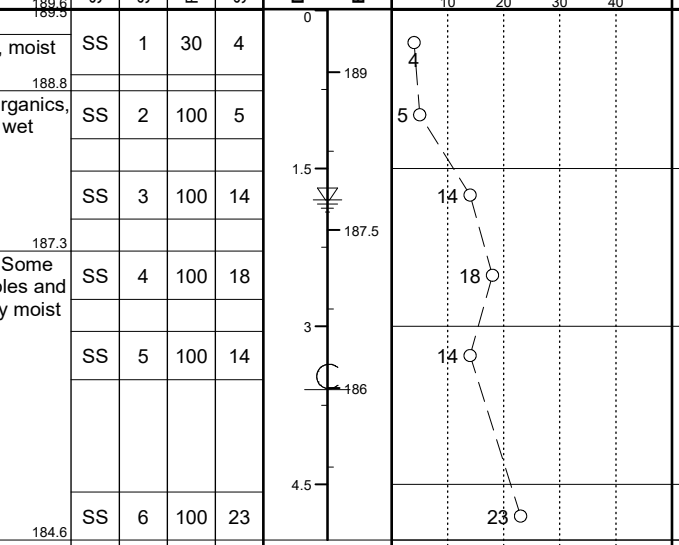
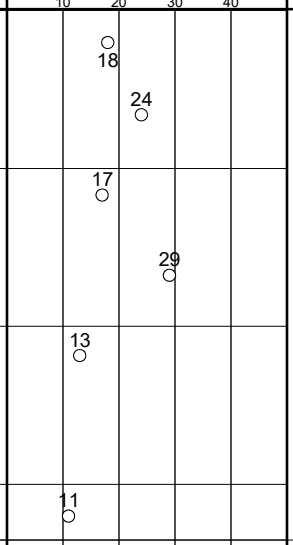
RECORD OF BOREHOLE No. 25

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Buggy Mount**
Logged By: **SDP** Northing: **4821795** Date Started: **Mar 12/23**
Reviewed By: **GW** Easting: **595486.1** Date Completed: **Mar 12/23**

Depth	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Elevation (m)
0.0						189.6
0.1	TOPSOIL: 100 mm					189.5
	FILL: Silty sand, loose, brown, moist	SS	1	30	4	
0.8						188.8
	SANDY CLAYEY SILT: Trace organics, firm to stiff, brown, moist to wet	SS	2	100	5	
		SS	3	100	14	
2.3						187.3
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact, brown, very moist	SS	4	100	18	
		SS	5	100	14	
		SS	6	100	23	
5.0						184.6
	Borehole Terminated at 5.0 m					





Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%)

First Water Strike SS3

GR	SA	SI	CL

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Groundwater depth encountered on completion of drilling: 1.8 m. Cave depth after auger removal: 3.6 m.
Groundwater depth observed on: Groundwater Elevation:

Scale: **1 :75**

RECORD OF BOREHOLE No. 26

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Buggy Mount**
Logged By: **SDP** Northing: **4821869** Date Started: **Mar 9/23**
Reviewed By: **GW** Easting: **595484.5** Date Completed: **Mar 9/23**

Depth	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Elevation (m)
0.0						189.3
0.3	TOPSOIL: 280 mm					189.0
0.8	FILL: Sand and silt, loose, brown, moist to wet	SS	1	100	4	188.5
		SS	2	95	10	
2.3	CLAYEY SILT: Some sand, trace organics, stiff to very stiff, brown, wet to moist	SS	3	100	20	187.0
		SS	4	100	22	
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact, brown, moist	SS	5	100	22	
5.0		SS	6	100	18	184.3
	Borehole Terminated at 5.0 m					

FIELD TESTING: Shear Strength Testing (kPa) — Other Test; Pocket Penetrometer; Field Vane (Intact); Field Vane (Remolded); Penetration Testing: SPT, DCPT

LAB TESTING: Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits (PL, LL); Water Content (%)

Instrumentation Installation: First Water Strike SS2

COMMENTS & GRAIN SIZE DISTRIBUTION (%): GR, SA, SI, CL

Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: Open
Groundwater depth observed on: May 23/23 at depth of: 1.1 m.
Groundwater Elevation: 188.2 m

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Scale: **1 :75**

RECORD OF BOREHOLE No. 27

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821820** Date Started: **Mar 10/23**
Reviewed By: **GW** Easting: **595579.4** Date Completed: **Mar 10/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing SPT/DCPT)	LAB TESTING (Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits; Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	0.0 187.2					0					
	FILL: Sand and gravel, loose, brown, moist 0.2 187.1 / 0.3 186.9	SS	1	75	5						
	TOPSOIL: 180 mm										
	SANDY CLAYEY SILT: Trace organics, stiff, brown to grey, wet	SS	2	70	10	1.5	186				First Water Strike SS2
	1.5 185.7										
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact, brown, moist	SS	3	100	23						
		SS	4	100	20	3	184.5				
		SS	5	70	22						
	4.6 182.6						183				
	SILT: Trace sand, compact, grey, wet 5.0 182.2	SS	6	100	12	4.5					
	Borehole Terminated at 5.0 m										

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Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

RECORD OF BOREHOLE No. 28

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Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Buggy Mount**
Logged By: **SDP** Northing: **4821729** Date Started: **Mar 10/23**
Reviewed By: **GW** Easting: **595539.0** Date Completed: **Mar 10/23**

Depth	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Elevation (m)
0.0						189.5
0.2	TOPSOIL: 125 mm					189.4
	FILL: Silty sand, loose, brown, wet	SS	1	45	4	
	- - - Sand and silt - - -	SS	2	100	4	
1.5						188.0
	SANDY CLAYEY SILT: Stiff, brown, wet	SS	3	100	10	
2.3						187.2
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact, brown, wet to moist	SS	4	100	18	
		SS	5	100	11	
5.0		SS	6	85	28	184.5
	Borehole Terminated at 5.0 m					

Shear Strength Testing (kPa): Other Test; Pocket Penetrometer; Field Vane (Intact); Field Vane (Remolded)
Penetration Testing: SPT; DCPT
Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm)
Atterberg Limits: PL; LL; Water Content (%)
Instrumentation Installation: First Water Strike SS2

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Groundwater depth encountered on completion of drilling: 1.5 m. Cave depth after auger removal: Open
Groundwater depth observed on: May 23/23 at depth of: 0.9 m. Groundwater Elevation: 188.6 m

Scale: **1 :75**

RECORD OF BOREHOLE No. 29

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821552** Date Started: **Apr 21/23**
Reviewed By: **GW** Easting: **595065.4** Date Completed: **May 1/23**

Depth	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Elevation (m)	Field Testing (Penetration Testing: SPT / DCPT)	Lab Testing (Water Content (%))	Comments
0.0 / 190.5	TOPSOIL: 75 mm					0			
0.1 / 190.4	FILL: Clayey silt, some sand, firm, brown, moist	SS	1	90	6		6	14	
0.8 / 189.7	CLAYEY SILT: Some sand, trace gravel, very stiff, brown, moist	SS	2	100	16	1.5 / 189	16	17	
		SS	3	100	15		15	14	
	- - - Trace sand, wet - - -	SS	4	100	15		15	24	First Water Strike SS4
3.0 / 187.4	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact, brownish grey, very moist	SS	5	100	27	3 / 187.5	27	11	
		SS	6	65	11	4.5 / 186	11	10	
		SS	7	100	11	6 / 184.5	11	12	
8.1 / 182.4		SS	8	100	19	7.5 / 183	19	10	
	Borehole Terminated at 8.1 m								

Shear Strength Testing (kPa): Other Test; Pocket Penetrometer; Field Vane (Intact); Field Vane (Remolded) — 40 80 120 160
Lab Testing: Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm) — 100 200 300 400; Atterberg Limits PL LL
Penetration Testing: SPT DCPT — 10 20 30 40
Water Content (%) — 10 20 30 40

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%): GR SA SI CL

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

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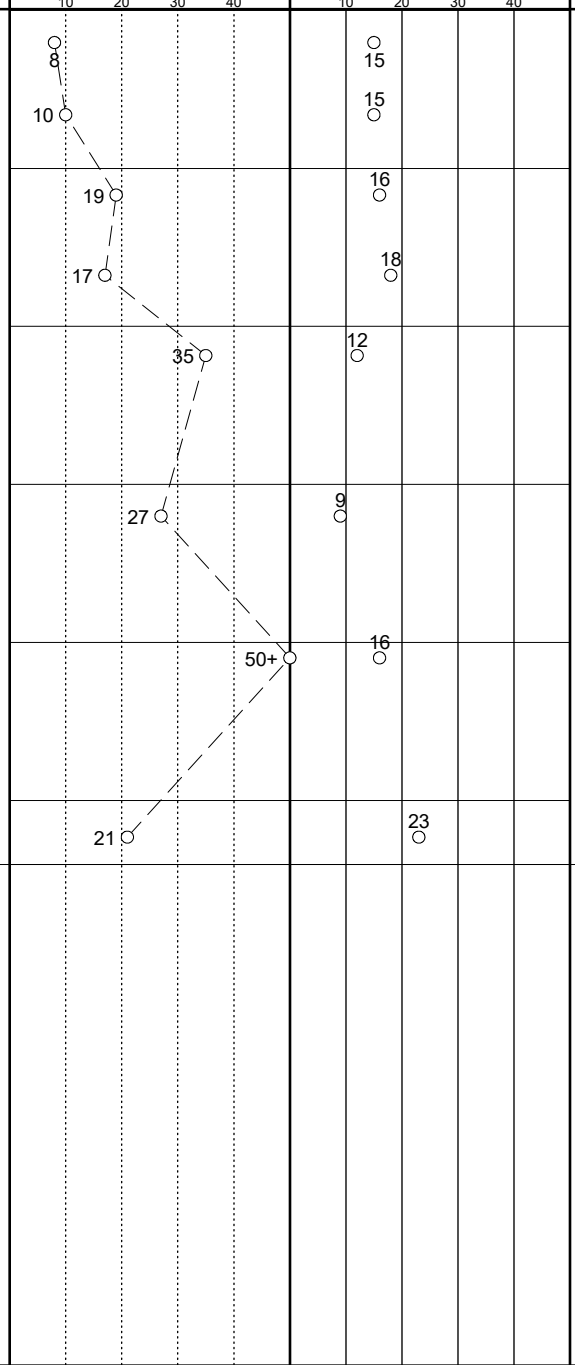
Scale: **1 :75**

RECORD OF BOREHOLE No. 30

Project Number:	**2300805**						
Project Client:	**Anatolia**						
Project Name:	**Proposed Commercial Warehouse**	Drilling Method:	**Hollow Stem Augers**	Drilling Machine:	**Track Mount**		
Project Location:	**6728 Sixth Line, Milton, ON**	Logged By:	**SDP**	Northing:	**4821503**	Date Started:	**Apr 21/23**
Drilling Location:	**See Borehole Location Plan**	Reviewed By:	**GW**	Easting:	**595121.7**	Date Completed:	**Apr 21/23**
Local Benchmark:							

Depth (m)	Elevation (m)	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value
0.0	191.8					
0.1	191.7	TOPSOIL: 50 mm				
		FILL: Silty sand, trace clay, loose, brown, very moist	SS	1	100	8
0.8	191.0					
		CLAYEY SILT: Some sand, trace gravel, stiff to very stiff, brown, moist	SS	2	25	10
			SS	3	100	19
			SS	4	100	17
3.0	188.7					
		SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, dense to compact, brownish grey, moist	SS	5	100	35
			SS	6	100	27
		- - - Very dense - - -	SS	7	50	50+
8.1	183.7		SS	8	100	21
		Borehole Terminated at 8.1 m				



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Groundwater depth encountered on completion of drilling: 4.4 m. Cave depth after auger removal: 4.8 m.

Groundwater depth observed on: Groundwater Elevation:

RECORD OF BOREHOLE No. 31

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Project Number:	2300805
Project Client:	Anatolia
Project Name:	Proposed Commercial Warehouse
Project Location:	6728 Sixth Line, Milton, ON
Drilling Location:	See Borehole Location Plan
Local Benchmark:	

Drilling Method:	Hollow Stem Augers			Drilling Machine:	Solid Stem Augers
Logged By:	SDP	Northing:	4821438	Date Started:	Apr 25/23
Reviewed By:	GW	Easting:	595217.2	Date Completed:	Apr 25/23

LITHOLOGY PROFILE | **SOIL SAMPLING** | **FIELD TESTING** | **LAB TESTING** | Instrumentation Installation | **COMMENTS & GRAIN SIZE DISTRIBUTION (%)**

FIELD TESTING — Shear Strength Testing (kPa): × Other Test; + Pocket Penetrometer; ▲ Field Vane (Intact); △ Field Vane (Remolded); 40, 80, 120, 160. Penetration Testing: ○ SPT; ● DCPT; 10, 20, 30, 40

LAB TESTING — △ Combustible Organic Vapour (ppm); ▲ Combustible Organic Vapour (%LEL); ◇ Total Organic Vapour (ppm); 100, 200, 300, 400. Atterberg Limits: PL, LL. ○ Water Content (%); 10, 20, 30, 40

Depth (m)	Elevation (m)	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Water Content (%)	GR	SA	SI	CL	Comments
0.0	190.5											
0.2	190.3	TOPSOIL: 150 mm										
		FILL: Clayey silt, some sand, firm, brown, moist	SS	1	100	8	25					
0.8	189.7	CLAYEY SILT: Some sand, stiff to very stiff, brown, moist	SS	2	25	10	16					
			SS	3	100	19	10					
			SS	4	100	17	18					
3.0	187.5	CLAYEY SAND AND SILT GLACIAL TILL: Trace gravel, inferred cobbles and boulders, compact to dense, brownish grey, moist	SS	5	100	35	8					
			SS	6	100	27	8					
		- - - Very dense - - -	SS	7	50	50+	13	5	35	34	26	First Water Strike SS7
8.1	182.4		SS	8	100	21	23					
		Borehole Terminated at 8.1 m										

Depth/Elevation scale: 0 / 190.5; 1.5 / 189; 3 / 187.5; 4.5 / 186; 6 / 184.5; 7.5 / 183

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Groundwater depth encountered on completion of drilling: Dry

Cave depth after auger removal: Open

Groundwater depth observed on: May 23/23 at depth of: 1.0 m.

Groundwater Elevation: 189.5 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**

RECORD OF BOREHOLE No. 32

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821382** Date Started: **Apr 25/23**
Reviewed By: **GW** Easting: **595290.3** Date Completed: **Apr 25/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing SPT/DCPT)	LAB TESTING (Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits PL–LL; Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	0.0 191.0										
	TOPSOIL: 330 mm					0	190.5				
	0.3 190.7	SS	1	75	4			4	32		First Water Strike SS2
	FILL: Silty sand, loose, brown, wet	SS	2	75	4			4	19		
	1.5 189.4					1.5	189				
	SANDY CLAYEY SILT: Trace gravel, very stiff, brown, moist	SS	3	40	21			21	12		
		SS	4	100	22			22	15		
	3.0 187.9					3	187.5				
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, dense, brownish grey, moist to wet	SS	5	100	33			33	7		
		SS	6	20	45	4.5	186	45	13		
		SS	7	25	31	6	184.5	31	15		
	- - - Silty clay layer - - -	SS	8	100	10	7.5	183	10	15		
	8.1 182.9										
	Borehole Terminated at 8.1 m										

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Groundwater depth encountered on completion of drilling: 7.0 m. Cave depth after auger removal: Open
Groundwater depth observed on: Groundwater Elevation:

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 33

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Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821304** Date Started: **Apr 26/23**
Reviewed By: **GW** Easting: **595357.3** Date Completed: **Apr 26/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing SPT/DCPT)	LAB TESTING (Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits PL/LL; Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	0.0 190.6										
	0.2 TOPSOIL: 150 mm 190.4					0	190.5				
	FILL: Silty sand, loose, brown, moist	SS	1	80	4			4	21		
	0.8 189.8							6	20		
	CLAYEY SILT: Some sand, firm to very stiff, brown, moist	SS	2	100	6	1.5	189				
		SS	3	100	20			20	13		
	- - - Wet - - -	SS	4	100	18			18	18		First Water Strike SS4
	3.0 187.5					3	187.5				
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact, brown, moist to wet	SS	5	95	22			22	12		
		SS	6	100	27	4.5	186	27	10		
		SS	7	100	25	6	184.5	25	11		
	8.1 182.5	SS	8	100	14	7.5	183	14	12		
	Borehole Terminated at 8.1 m										

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Groundwater depth encountered on completion of drilling: 4.5 m. Cave depth after auger removal: 7.0 m.
Groundwater depth observed on: Groundwater Elevation:

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 34

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Project Number:	**2300805**						
Project Client:	**Anatolia**						
Project Name:	**Proposed Commercial Warehouse**	Drilling Method:	**Solid Stem Augers**	Drilling Machine:	**Track Mount**		
Project Location:	**6728 Sixth Line, Milton, ON**	Logged By:	**SDP**	Northing:	**4821268**	Date Started:	**Apr 26/23**
Drilling Location:	**See Borehole Location Plan**	Reviewed By:	**GW**	Easting:	**595415.3**	Date Completed:	**Apr 26/23**
Local Benchmark:							

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%)
	0.0 / 187.2										GR SA SI CL
	0.1 / 187.1 TOPSOIL: 125 mm FILL: Sandy silt, some clay, loose, brown, moist	SS	1	70	4	0		4	18		
	0.8 / 186.4 SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact to dense, brown to brownish grey, moist	SS	2	100	19	1.5	186	19	10		
		SS	3	100	31			31	9		
		SS	4	100	20	3	184.5	20	10		
		SS	5	100	21	4.5	183	21	10		
	- - - Wet - - -	SS	6	100	14	6	181.5	14	11		First Water Strike SS6
		SS	7	100	27	7.5	180	27	9		
	8.1 / 179.1	SS	8	100	28			28	9		
	Borehole Terminated at 8.1 m										

Shear Strength Testing (kPa): × Other Test; + Pocket Penetrometer; ▲ Field Vane (Intact); △ Field Vane (Remolded); 40 80 120 160

Penetration Testing: ○ SPT ● DCPT; 10 20 30 40

△ Combustible Organic Vapour (ppm); ▲ Combustible Organic Vapour (%LEL); ◇ Total Organic Vapour (ppm); 100 200 300 400

Atterberg Limits: PL — LL; ○ Water Content (%); 10 20 30 40

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Groundwater depth encountered on completion of drilling: 7.0 m. Cave depth after auger removal: Open

Groundwater depth observed on: Groundwater Elevation:

RECORD OF BOREHOLE No. 35

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4820869** Date Started: **Apr 27/23**
Reviewed By: **GW** Easting: **595098.0** Date Completed: **Apr 27/23**

Depth (m)	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Elevation (m)
0.0						191.4
0.1	TOPSOIL: 50 mm					191.3
	CLAYEY SILT: Some sand, trace organics, firm to very stiff, brown, moist	SS	1	65	7	
		SS	2	60	15	
1.5						189.8
	SILT: Some clay, trace sand, compact, brown, wet	SS	3	100	19	
2.3						189.1
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact, brownish grey, wet	SS	4	90	22	
		SS	5	100	16	
5.0		SS	6	100	20	186.3
	Borehole Terminated at 5.0 m					

FIELD TESTING: Shear Strength Testing (kPa) — Other Test; Pocket Penetrometer; Field Vane (Intact); Field Vane (Remolded); 40 80 120 160; Penetration Testing — SPT, DCPT; 10 20 30 40

LAB TESTING: Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); 100 200 300 400; Atterberg Limits — PL, LL; Water Content (%); 10 20 30 40

Instrumentation Installation: First Water Strike SS3

COMMENTS & GRAIN SIZE DISTRIBUTION (%): GR SA SI CL

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Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on: May 23/23 at depth of: 0.4 m.
Cave depth after auger removal: Open
Groundwater Elevation: 191.0 m

Scale: **1 :75**

RECORD OF BOREHOLE No. 36

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4820869** Date Started: **Apr 28/23**
Reviewed By: **GW** Easting: **595240.4** Date Completed: **Apr 28/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%)
	0.0 / 192.4										
	0.2 / 192.2 TOPSOIL: 230 mm					0	192				
	FILL: Sandy silt, some clay, trace rootlets, loose, brown, moist to wet	SS	1	100	7			7	28		
	0.8 / 191.6										
	SANDY CLAYEY SILT: Trace gravel, very stiff, brown, moist	SS	2	100	15			15	18		
						1.5	190.5				
		SS	3	100	19			19	16		
		SS	4	100	22			22	17		
	3.4 / 189.0	SS	5	100	16	3	189	16	17		First Water Strike SS5
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact, brown, wet										
	4.8 / 187.5	SS	6	100	20	4.5	187.5	20	18		
	5.0 / 187.4 GRAVELLY SAND: Trace clay, trace silt, dense, brownish grey, wet										
	Borehole Terminated at 5.0 m										

Shear Strength Testing (kPa): × Other Test; + Pocket Penetrometer; ▲ Field Vane (Intact); △ Field Vane (Remolded); 40 80 120 160
Penetration Testing: ○ SPT ● DCPT; 10 20 30 40
△ Combustible Organic Vapour (ppm); ▲ Combustible Organic Vapour (%LEL); ◇ Total Organic Vapour (ppm); 100 200 300 400
Atterberg Limits: PL — LL; ○ Water Content (%); 10 20 30 40

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Groundwater depth encountered on completion of drilling: 2.1 m. Cave depth after auger removal: Open
Groundwater depth observed on: Groundwater Elevation:

RECORD OF BOREHOLE No. 37

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4820989** Date Started: **Apr 28/23**
Reviewed By: **GW** Easting: **595256.3** Date Completed: **Apr 28/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing SPT/DCPT)	LAB TESTING (Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits PL/LL; Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR	SA	SI	CL
	0.0 / 192.0					0								
	0.2 / 191.8 TOPSOIL: 150 mm													
	FILL: Clayey silt, some sand, firm, brown, moist	SS	1	65	5			5	21					
	0.8 / 191.2													
	SANDY CLAYEY SILT: Trace gravel, inferred cobbles and boulders, compact to dense, brown, moist	SS	2	100	19			19	14					
						1.5	190.5							
		SS	3	100	21			21	15					
		SS	4	100	32			32	12		3	22	49	26
						3	189							
	- - - Wet - - -	SS	5	100	30			30	24		First Water Strike SS5			
	4.6 / 187.4					4.5	187.5							
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, cobbles and boulders, compact, brown, moist	SS	6	100	27			27	10					
						6	186							
		SS	7	100	21			21	9					
						7.5	184.5							
	8.1 / 183.9	SS	8	100	17			17	11					
	Borehole Terminated at 8.1 m													

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Groundwater depth encountered on completion of drilling: 7.1 m. Cave depth after auger removal: Open
Groundwater depth observed on: May 23/23 at depth of: 1.2 m. Groundwater Elevation: 190.8 m

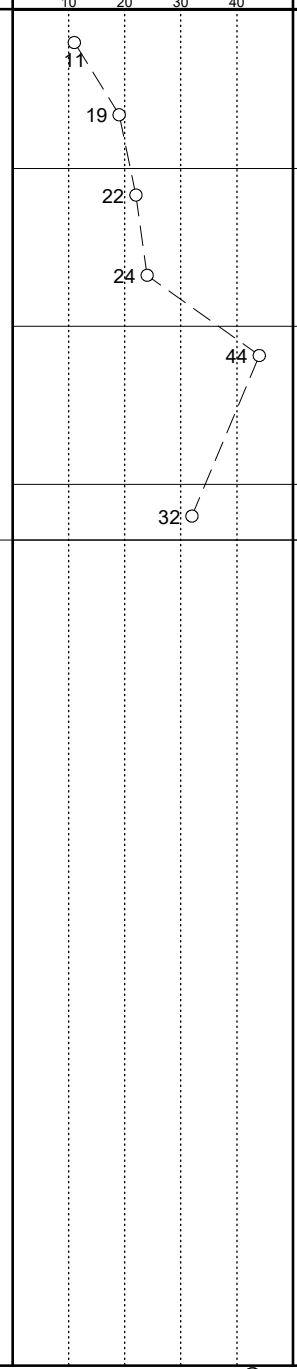
Scale: **1 :75**

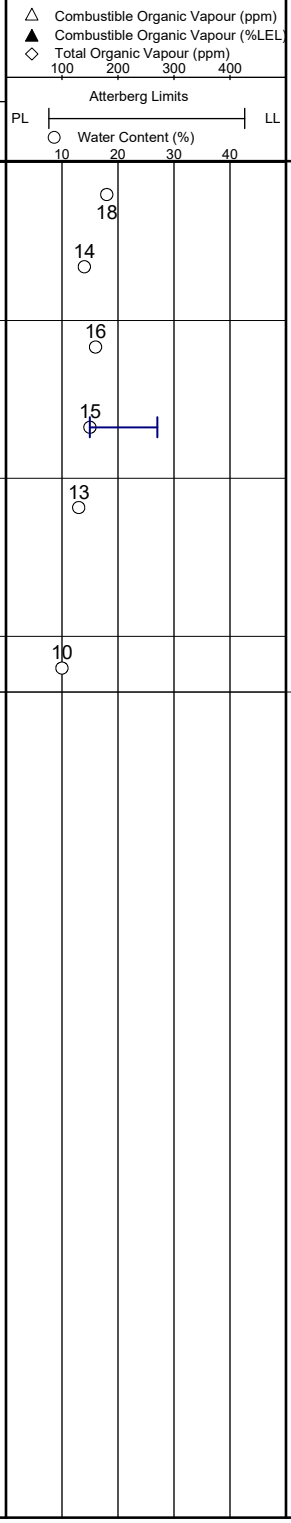
RECORD OF BOREHOLE No. 38

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4820983** Date Started: **Apr 28/23**
Reviewed By: **GW** Easting: **595335.2** Date Completed: **Apr 28/23**

Depth (m)	Elevation (m)	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Comments & Grain Size Distribution (%) GR	SA	SI	CL
0.0	191.2									
0.2	191.0	TOPSOIL: 205 mm								
		CLAYEY SILT: Some sand, stiff, brown, moist	SS	1	90	11				
		- - - Some gravel - - -	SS	2	100	19				
1.5	189.7		SS	3	100	22				
		- - - Trace gravel - - -	SS	4	100	24	3	18	47	32
		- - - Hard, wet - - -	SS	5	100	44	First Water Strike SS5			
4.6	186.6									
		GRAVELLY SAND: Dense, brown, wet								
5.0	186.1	SANDY SILT GLACIAL TILL: Trace gravel, inferred cobbles and boulders, dense, brownish grey, wet	SS	6	100	32				
		Borehole Terminated at 5.0 m								





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Groundwater depth encountered on completion of drilling: 4.2 m. Cave depth after auger removal: Open
Groundwater depth observed on: Groundwater Elevation:

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 39

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821080** Date Started: **Apr 28/23**
Reviewed By: **GW** Easting: **595334.0** Date Completed: **Apr 28/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)
	0.0 190.5					0	
	0.2 TOPSOIL: 230 mm 190.3						
	CLAYEY SANDY SILT: Trace gravel, firm to very stiff, brown, moist	SS	1	80	7		
		SS	2	100	18	1.5	189
		SS	3	100	19		
	2.3 188.2						
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, dense to compact, brown, moist	SS	4	100	36		
		SS	5	100	44	3	187.5
						4.5	186
	5.0 185.4	SS	6	100	25		
	Borehole Terminated at 5.0 m						

FIELD TESTING
Shear Strength Testing (kPa)
× Other Test
+ Pocket Penetrometer
▲ Field Vane (Intact)
△ Field Vane (Remolded)
40 80 120 160
Penetration Testing
○ SPT ● DCPT
10 20 30 40
7 18 19 36 44 25

LAB TESTING
△ Combustible Organic Vapour (ppm)
▲ Combustible Organic Vapour (%LEL)
◇ Total Organic Vapour (ppm)
100 200 300 400
Atterberg Limits
PL LL
○ Water Content (%)
10 20 30 40
18 14 15 10 9 10

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

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Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: Open
Groundwater depth observed on:
Groundwater Elevation:

RECORD OF BOREHOLE No. 40

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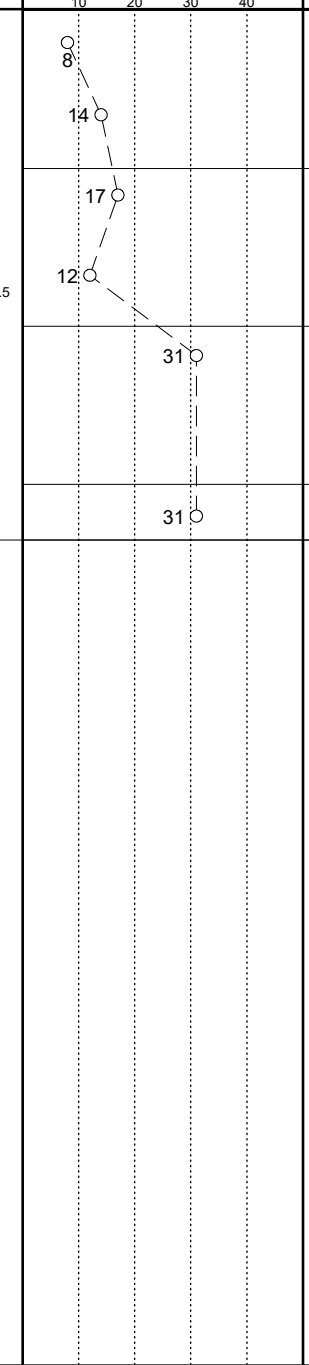
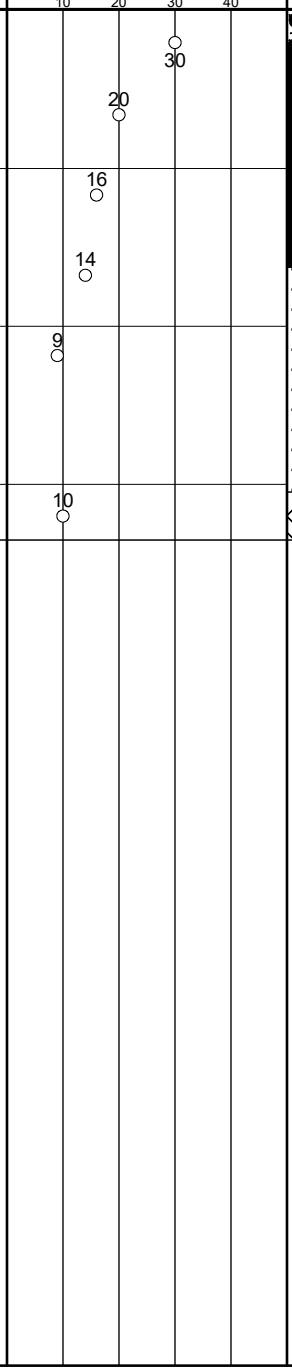
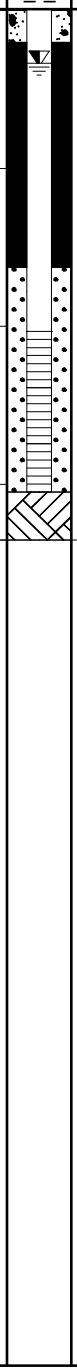
Project Number:	**2300805**				
Project Client:	**Anatolia**				
Project Name:	**Proposed Commercial Warehouse**	Drilling Method: **Hollow Stem Augers**		Drilling Machine: **Solid Stem Augers**	
Project Location:	**6728 Sixth Line, Milton, ON**	Logged By: **SDP**	Northing: **4821095**	Date Started: **Apr 28/23**	
Drilling Location:	**See Borehole Location Plan**	Reviewed By: **GW**	Easting: **595423.2**	Date Completed: **Apr 28/23**	
Local Benchmark:					

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)
	0.0 / 190.2					0	
	0.2 / 190.0 TOPSOIL: 180 mm						
	FILL: Clayey silt, some sand, stiff, brown, very moist	SS	1	100	8		
	0.8 / 189.4						189
	CLAYEY SILT: Some sand, stiff to very stiff, brownish grey, moist	SS	2	100	14	1.5	
		SS	3	100	17		
	2.3 / 187.9						187.5
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact to dense, brown to brownish grey, moist to very moist	SS	4	100	12	3	
		SS	5	100	31		
							186
						4.5	
	5.0 / 185.1	SS	6	100	31		
	Borehole Terminated at 5.0 m						







COMMENTS & GRAIN SIZE DISTRIBUTION (%)

First Water Strike SS5

GR	SA	SI	CL

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Groundwater depth encountered on completion of drilling: 4.2 m. Cave depth after auger removal: Open

Groundwater depth observed on: May 23/23 at depth of: 0.5 m. Groundwater Elevation: 189.7 m

Scale: **1 :75**

RECORD OF BOREHOLE No. 41

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821162** Date Started: **Apr 28/23**
Reviewed By: **GW** Easting: **595100.2** Date Completed: **Apr 28/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing SPT/DCPT)	LAB TESTING (Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits PL/LL; Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR	SA	SI	CL
	0.0 / 189.8													
	0.2 / 189.6 TOPSOIL: 180 mm													
	FILL: Clayey sandy silt, trace gravel, firm, brown, moist	SS	1	90	5	0	189	5	13					
	0.8 / 189.0 SANDY CLAYEY SILT: Trace gravel, very stiff, brown, moist	SS	2	100	17			17	15					
	- - - Some sand - - -	SS	3	100	20	1.5	187.5	20	17					
	2.3 / 187.5 SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, dense to very dense, brown to brownish grey, moist	SS	4	100	31			31	10		7	30	46	17
		SS	5	100	39	3	186	39	8					
	5.0 / 184.8	SS	6	80	71	4.5		71 →	9					
	Borehole Terminated at 5.0 m													

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

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RECORD OF BOREHOLE No. 42

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821313** Date Started: **Apr 26/23**
Reviewed By: **GW** Easting: **595502.9** Date Completed: **Apr 26/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)
	0.0 188.6					0	
	0.1 188.5 TOPSOIL: 125 mm						
	CLAYEY SILT: Some sand, trace gravel, firm to stiff, brown, moist	SS	1	75	6		
		SS	2	100	9		187.5
	1.5 187.1					1.5	
	SAND: Trace silt, trace gravel, trace clay, loose, brown, wet	SS	3	90	9		
	2.3 186.4						186
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, cobbles and boulders, dense to compcat, brown, moist	SS	4	100	30	3	
		SS	5	100	47		184.5
						4.5	
	5.0 183.6	SS	6	100	20		
	Borehole Terminated at 5.0 m						

FIELD TESTING
Shear Strength Testing (kPa)
× Other Test
+ Pocket Penetrometer
▲ Field Vane (Intact)
△ Field Vane (Remolded)
40 80 120 160
Penetration Testing
○ SPT ● DCPT
10 20 30 40

LAB TESTING
△ Combustible Organic Vapour (ppm)
▲ Combustible Organic Vapour (%LEL)
◇ Total Organic Vapour (ppm)
100 200 300 400
Atterberg Limits
PL ○ Water Content (%) LL
10 20 30 40

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
7	82	8	3

First Water Strike SS3

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Groundwater depth encountered on completion of drilling: 4.5 m. Cave depth after auger removal: Open
Groundwater depth observed on: Groundwater Elevation:

RECORD OF BOREHOLE No. 43

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Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821298** Date Started: **Mar 6/23**
Reviewed By: **GW** Easting: **595546** Date Completed: **May 1/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	GR	SA	SI	CL
	0.0 185.8										
	0.2 TOPSOIL: 255 mm 185.5					0					
	FILL: Clayey silt, some sand, firm, brown	SS	1	95	5						
	0.8 185.0										
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, dense to compact, brown, moist	SS	2	90	34	1.5	184.5				
		SS	3	55	39						
		SS	4	65	15	3	183				
		SS	5	100	19						
						4.5	181.5				
	5.0 180.7	SS	6	100	18			6	34	44	16
	Borehole Terminated at 5.0 m										

FIELD TESTING
Shear Strength Testing (kPa)
× Other Test
+ Pocket Penetrometer
▲ Field Vane (Intact)
△ Field Vane (Remolded)
40 80 120 160
Penetration Testing
○ SPT ● DCPT
10 20 30 40
5, 34, 39, 15, 19, 18

LAB TESTING
△ Combustible Organic Vapour (ppm)
▲ Combustible Organic Vapour (%LEL)
◇ Total Organic Vapour (ppm)
100 200 300 400
Atterberg Limits
PL LL
○ Water Content (%)
10 20 30 40
14, 10, 10, 11, 11, 10

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%)

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Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: Open
Groundwater depth observed on: May 23/23 at depth of: -0.4 m.
Groundwater Elevation: 186.2 m

RECORD OF BOREHOLE No. 44

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821391** Date Started: **May 1/23**
Reviewed By: **GW** Easting: **595492.5** Date Completed: **May 1/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%)
	0.0 / 186.1							Shear Strength Testing (kPa): × Other Test; + Pocket Penetrometer; ▲ Field Vane (Intact); △ Field Vane (Remolded); 40 80 120 160	△ Combustible Organic Vapour (ppm); ▲ Combustible Organic Vapour (%LEL); ◇ Total Organic Vapour (ppm); 100 200 300 400		
	0.1 / 186.0 TOPSOIL: 100 mm							Penetration Testing: ○ SPT ● DCPT; 10 20 30 40	Atterberg Limits: PL ○ Water Content (%) LL; 10 20 30 40		GR SA SI CL
	FILL: Clayey silt, some sand, trace organics, firm, brown, wet	SS	1	75	7	0	186	7	24		
	0.8 / 185.3 CLAYEY SILT: Some sand, trace organics, trace gravel, stiff to very stiff, brownish grey, wet	SS	2	100	8			8	19		First Water Strike SS2
		SS	3	90	16	1.5	184.5	16	15		
		SS	4	100	20			20	14		
	3.1 / 183.0 - - - Silt seam - - -					3	183				
	SANDY SILT GLACIAL TILL: Some clay, inferred cobbles and boulders, dense to compact, brown to brownish grey, moist	SS	5	100	41			41	8		
		SS	6	100	28	4.5	181.5	28	14		
	5.0 / 181.1 Borehole Terminated at 5.0 m										

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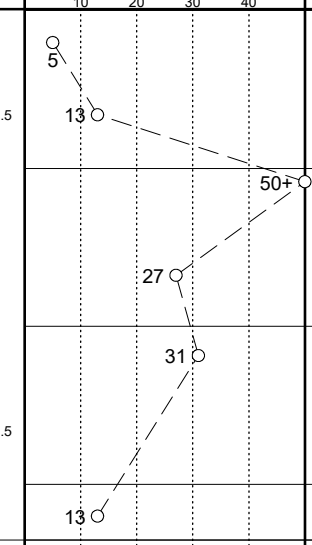
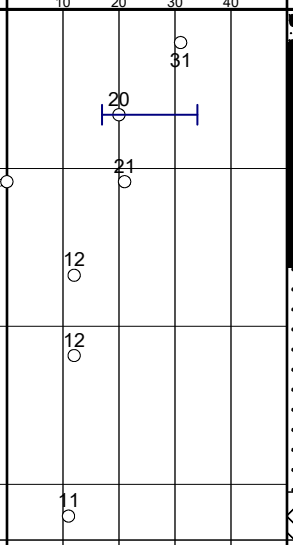
Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

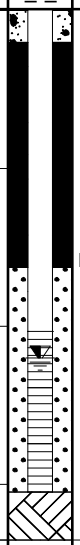
RECORD OF BOREHOLE No. 45

Project Number:	**2300805**						
Project Client:	**Anatolia**						
Project Name:	**Proposed Commercial Warehouse**	Drilling Method:	**Hollow Stem Augers**	Drilling Machine:	**Track Mount**		
Project Location:	**6728 Sixth Line, Milton, ON**	Logged By:	**SDP**	Northing:	**4821417**	Date Started:	**Mar 6/23**
Drilling Location:	**See Borehole Location Plan**	Reviewed By:	**GW**	Easting:	**595587**	Date Completed:	**May 1/23**
Local Benchmark:							

Depth	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Elevation (m)
0.0						188.5
0.2	TOPSOIL: 205 mm					188.3
	FILL: Clayey silt, trace sand, trace organics, firm, brown, moist to wet	SS	1	85	5	
0.8						187.7
	CLAY AND SILT: Some sand, trace gravel, stiff to hard, greenish brown to light brown, moist	SS	2	100	13	
		SS	3	100	50+	
2.3						186.2
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact to dense, brown, moist	SS	4	100	27	
		SS	5	100	31	
		SS	6	100	13	
5.0						183.5
	Borehole Terminated at 5.0 m					







GR	SA	SI	CL
3	16	42	39

First Water Strike SS4

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Groundwater depth encountered on completion of drilling: 4.6 m. Cave depth after auger removal: Open

Groundwater depth observed on: May 23/23 at depth of: 3.3 m. Groundwater Elevation: 185.2 m

Scale: **1 :75**

RECORD OF BOREHOLE No. 46

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821390** Date Started: **Mar 6/23**
Reviewed By: **GW** Easting: **595644** Date Completed: **May 1/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	GR	SA	SI	CL
	0.0 186.5					0	186				
	0.2 TOPSOIL: 230 mm 186.3										
	FILL: Clay, some sand, some silt, trace gravel, firm, brown 0.8 185.7	SS	1	85	7						
	CLAY AND SILT: Some sand, trace gravel, firm, greenish brown, light brown, moist 1.5 185.0	SS	2	50	4	1.5	184.5				
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact, brown	SS	3	100	10						
		SS	4	100	24	3	183	7	31	44	18
		SS	5	100	27						
	4.6 181.9					4.5	181.5				
	CLAYEY SANDY SILT GLACIAL TILL: Trace gravel, inferred cobbles and boulders, compact, grey, moist 5.0 181.4	SS	6	100	15			First Water Strike SS6 7	25	42	27
	Borehole Terminated at 5.0 m										

FIELD TESTING: Shear Strength Testing (kPa) — Other Test; Pocket Penetrometer; Field Vane (Intact); Field Vane (Remolded); 40 80 120 160. Penetration Testing — SPT; DCPT; 10 20 30 40.

LAB TESTING: Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); 100 200 300 400. Atterberg Limits — PL; LL. Water Content (%); 10 20 30 40.

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%)

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Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: 4.2 m.
Groundwater Elevation:

RECORD OF BOREHOLE No. 47

GEI Consultants

Project Number:	**2300805**						
Project Client:	**Anatolia**						
Project Name:	**Proposed Commercial Warehouse**	Drilling Method:	**Hollow Stem Augers**	Drilling Machine:	**Track Mount**		
Project Location:	**6728 Sixth Line, Milton, ON**	Logged By:	**SDP**	Northing:	**4821483**	Date Started:	**Mar 6/23**
Drilling Location:	**See Borehole Location Plan**	Reviewed By:	**GW**	Easting:	**595640**	Date Completed:	**May 1/23**
Local Benchmark:							

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%)
	0.0 188.3							Shear Strength Testing (kPa): × Other Test; + Pocket Penetrometer; ▲ Field Vane (Intact); △ Field Vane (Remolded); 40 80 120 160. Penetration Testing: ○ SPT ● DCPT; 10 20 30 40	△ Combustible Organic Vapour (ppm); ▲ Combustible Organic Vapour (%LEL); ◇ Total Organic Vapour (ppm); 100 200 300 400. Atterberg Limits: PL — LL; ○ Water Content (%); 10 20 30 40		GR SA SI CL
	0.2 TOPSOIL: 230 mm 188.1					0					
	FILL: Clayey silt, trace sand, trace, firm, brown	SS	1	85	5		187.5	5	29		
	0.8 187.5							10	21		
	CLAY AND SILT: Some sand, trace gravel, stiff to firm, greenish brown, light brown, moist	SS	2	100	10	1.5					
		SS	3	100	6		186	6	28		Vane shear test at 1.5 m: T = 100 lb-ft at torque arm length of 300 mm
	2.3 186.0										
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact to dense, brown, moist	SS	4	100	21			21	24		
		SS	5	100	33	3	184.5	33	9		
	- - - Orange staining, darker brown-grey - - -	SS	6	100	16	4.5	183	16	10		9 32 42 17
		SS	7	100	14	6	181.5	14	11		
	8.1 180.2	SS	8	100	23	7.5		23	11		
	Borehole Terminated at 8.1 m										

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Groundwater depth encountered on completion of drilling: 6.7 m. Cave depth after auger removal: Open

Groundwater depth observed on: Groundwater Elevation:

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**

RECORD OF BOREHOLE No. 48

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821738** Date Started: **Mar 9/23**
Reviewed By: **GW** Easting: **595220.3** Date Completed: **Mar 9/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%)
	0.0 189.6							Shear Strength Testing (kPa): × Other Test; + Pocket Penetrometer; ▲ Field Vane (Intact); △ Field Vane (Remolded); 40 80 120 160	△ Combustible Organic Vapour (ppm); ▲ Combustible Organic Vapour (%LEL); ◇ Total Organic Vapour (ppm); 100 200 300 400		GR SA SI CL
	0.2 189.4 TOPSOIL: 255 mm							Penetration Testing: ○ SPT ● DCPT; 10 20 30 40	Atterberg Limits: PL ○ Water Content (%) LL; 10 20 30 40		
	0.6 189.0 FILL: Sand and silt, very loose, brown, wet	SS	1	100	1	0	189	1	27		
	SANDY CLAYEY SILT: Trace organics, stiff, brownish grey, wet	SS	2	100	12	1.5	187.5	12	18		First Water Strike SS2
	1.5 188.1 SANDY SILT GLACIAL TILL: Trace gravel, trace clay, inferred cobbles and boudlers, compact, brown, moist	SS	3	100	16	3	186	16	15		
		SS	4	100	26	4.5		26	12		
		SS	5	100	27			27	10		
	5.0 184.6	SS	6	100	18			18	10		
	Borehole Terminated at 5.0 m										

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Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

RECORD OF BOREHOLE No. 49

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821767** Date Started: **Mar 9/23**
Reviewed By: **GW** Easting: **595351.0** Date Completed: **Mar 9/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing SPT/DCPT)	LAB TESTING (Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits; Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR	SA	SI	CL
	0.0 188.4													
	0.2 TOPSOIL: 255 mm 188.2													
	FILL: Sand and silt, loose, brown, wet 0.8 187.7	SS	1	75	4	0		4	23					
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact to dense, brown, moist	SS	2	100	13		187.5	13	16		First Water Strike SS2			
		SS	3	100	19	1.5		19	17					
		SS	4	100	31		186	31	12					
		SS	5	100	17	3		17	9		7	32	45	16
							184.5							
	5.0 183.4	SS	6	100	24	4.5		24	10					
	Borehole Terminated at 5.0 m													

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Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 50

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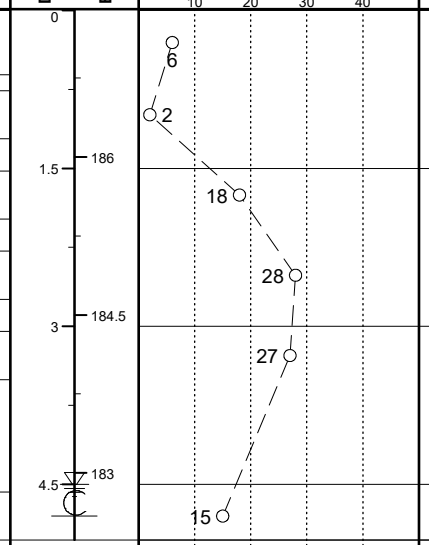
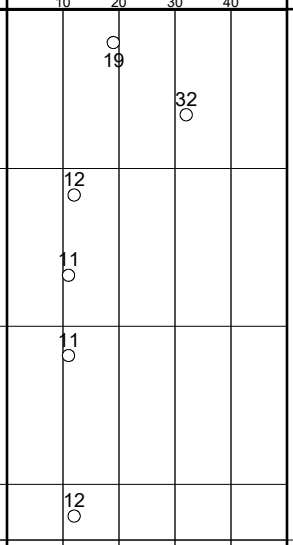
Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Buggy Mount**
Logged By: **SDP** Northing: **4821608** Date Started: **Mar 13/23**
Reviewed By: **GW** Easting: **595565.0** Date Completed: **Mar 13/23**

Depth	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Elevation (m)
0.0						187.4
0.2	TOPSOIL: 150 mm					187.2
	FILL: Sand and silt, orange brick waste, trace clay, loose to very loose, brown, wet	SS	1	75	6	
		SS	2	45	2	
1.5						185.9
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact, brown to brownish grey, wet	SS	3	100	18	
		SS	4	100	28	
		SS	5	75	27	
		SS	6	95	15	
5.0						182.4
	Borehole Terminated at 5.0 m					





First Water Strike SS2

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Groundwater depth encountered on completion of drilling: 4.5 m. Cave depth after auger removal: 4.8 m.
Groundwater depth observed on: Groundwater Elevation:

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 51

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Buggy Mount**
Logged By: **SDP** Northing: **4821674** Date Started: **Mar 10/23**
Reviewed By: **GW** Easting: **595597.8** Date Completed: **Mar 10/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing SPT/DCPT)	LAB TESTING (Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits; Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	0.0 / 188.7										
	0.2 / 188.5 TOPSOIL: 180 mm					0					
	FILL: Silty sand, trace organics, very loose, brown, wet 0.6 / 188.1	SS	1	75	3			3	22		
	SANDY CLAYEY SILT: stiff, brown, wet	SS	2	100	8		187.5	8	23		First Water Strike SS2
		SS	3	100	14	1.5		14	26		
	2.3 / 186.4										
	SANDY SILT GLACIAL TILL: Trace gravel, trace clay, cobbles and boulders, compact, brownish grey, wet	SS	4	85	12		186	12	14		
		SS	5	100	12	3		12	13		
							184.5				
	5.0 / 183.6	SS	6	85	18	4.5		18	11		
	Borehole Terminated at 5.0 m										

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Groundwater depth encountered on completion of drilling: 0.9 m. Cave depth after auger removal: 3.6 m.
Groundwater depth observed on: Groundwater Elevation:

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 52

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Buggy Mount**
Logged By: **SDP** Northing: **4821642** Date Started: **Mar 13/23**
Reviewed By: **GW** Easting: **595642.0** Date Completed: **Mar 13/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%)
	0.0 189.9							Shear Strength Testing (kPa): × Other Test; + Pocket Penetrometer; ▲ Field Vane (Intact); △ Field Vane (Remolded); 40 80 120 160. Penetration Testing: ○ SPT ● DCPT; 10 20 30 40	△ Combustible Organic Vapour (ppm); ▲ Combustible Organic Vapour (%LEL); ◇ Total Organic Vapour (ppm); 100 200 300 400. Atterberg Limits: PL LL. ○ Water Content (%); 10 20 30 40		GR SA SI CL
	TOPSOIL: 50 mm					0					
	FILL: Sand and silt, trace clay, trace organics, loose, brown, wet 0.8 189.1	SS	1	100	5		189	5	25		
	CLAY AND SILT: Trace sand, trace gravel, stiff to very stiff, brown, wet	SS	2	100	9	1.5		9	24		First Water Strike SS2
		SS	3	100	16		187.5	16	26		1 3 54 42
	3.0 186.8	SS	4	100	12	3		12	18		
	SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact, brown to brownish grey, wet to moist	SS	5	100	21		186	21	16		
	5.0 184.8	SS	6	100	12	4.5		12	11		
	Borehole Terminated at 5.0 m										

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Groundwater depth encountered on completion of drilling: 4.7 m. Cave depth after auger removal: 5.6 m.
Groundwater depth observed on: May 23/23 at depth of: Groundwater Elevation:

Scale: **1 :75**

RECORD OF BOREHOLE No. 53

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Buggy Mount**
Logged By: **SDP** Northing: **4821599** Date Started: **Mar 13/23**
Reviewed By: **GW** Easting: **595754.3** Date Completed: **Mar 13/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing SPT/DCPT)	LAB TESTING (Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits PL/LL; Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR	SA	SI	CL
	0.0 / 189.6													
	0.2 / 189.4 TOPSOIL: 150 mm													
	FILL: Sand and silt, some clay, loose, brown, wet	SS	1	70	5	0	189	5	24					
		SS	2	100	2			2	29					
	- - - Silty sand, very loose - - -					1.5	188.1							
	SAND AND GRAVEL: Some silt, trace clay, compact, brown, wet	SS	3	45	10		187.5	10	16					
	2.3 / 187.3													
	SANDY SILT GLACIAL TILL: Some clay trace gravel, cobbles and boulders, loose, brownish grey, wet	SS	4	75	8			8	14		8	31	41	20
		SS	5	100	8	3	186	8	12					
	- - - Grey - - -	SS	6	15	4	4.5		4	23					
	5.0 / 184.6 Borehole Terminated at 5.0 m													

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Groundwater depth encountered on completion of drilling: 0.9 m. Cave depth after auger removal: 3.3 m.
Groundwater depth observed on: Groundwater Elevation:

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 54

Project Number: **2300805**
Project Client: **Anatolia**
Project Name: **Proposed Commercial Warehouse**
Project Location: **6728 Sixth Line, Milton, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Solid Stem Augers** Drilling Machine: **Track Mount**
Logged By: **SDP** Northing: **4821712** Date Started: **May 1/23**
Reviewed By: **GW** Easting: **595698.9** Date Completed: **May 1/23**

DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)
0.0 187.9					0	187.5
0.2 TOPSOIL: 150 mm 187.8						
FILL: Clayey silt, some sand, firm, brown, moist	SS	1	65	4		
1.0 - - Silty sand seam and gravel, wet - - 186.9	SS	2	100	13	1.5	186
SANDY SILT GLACIAL TILL: Some clay, trace gravel, inferred cobbles and boulders, compact to loose, brown, wet	SS	3	100	16		
	SS	4	90	9	3	184.5
	SS	5	85	17		
- - - Dense - - -					4.5	183
5.0 182.9	SS	6	100	36		
Borehole Terminated at 5.0 m						

FIELD TESTING
Shear Strength Testing (kPa)
× Other Test
+ Pocket Penetrometer
▲ Field Vane (Intact)
△ Field Vane (Remolded)
40 80 120 160
Penetration Testing
○ SPT ● DCPT
10 20 30 40

LAB TESTING
△ Combustible Organic Vapour (ppm)
▲ Combustible Organic Vapour (%LEL)
◇ Total Organic Vapour (ppm)
100 200 300 400
Atterberg Limits
PL ○ LL
Water Content (%)
10 20 30 40

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL

First Water Strike SS3

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Groundwater depth encountered on completion of drilling: 0.9 m. Cave depth after auger removal: 0.6 m.
Groundwater depth observed on: Groundwater Elevation:

Scale: **1 :75**

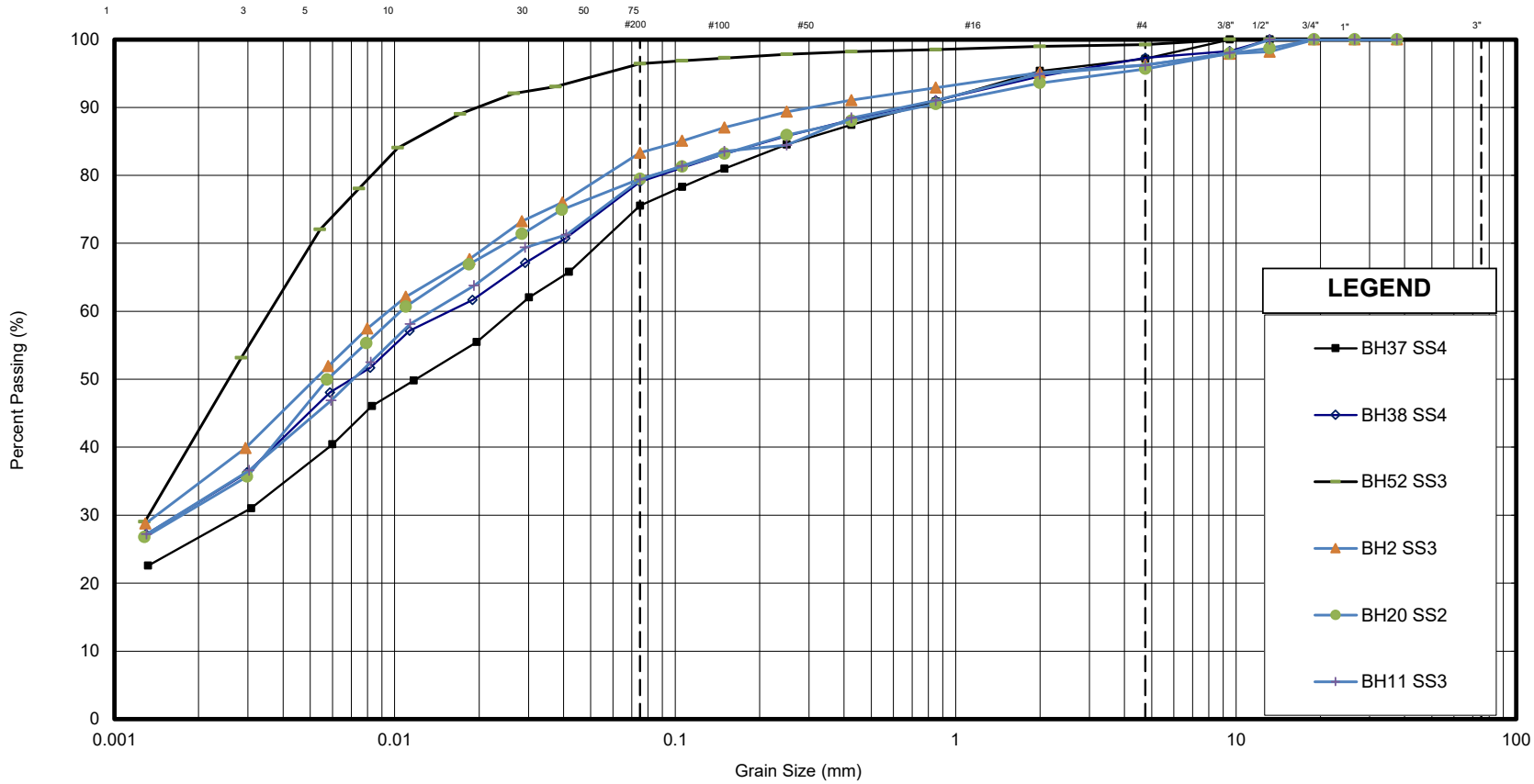
Appendix B

Geotechnical Laboratory Testing

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY AND SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse

GRAIN SIZE IN MICROMETERS — SIEVE DESIGNATION (IMPERIAL)



Sample	Description	Gr.	Sa.	Si.	Cl.	D_{10}	D_{30}	D_{60}	C_u	C_c
BH37 SS4	SANDY CLAYEY SILT, Trace Gravel	3	22	49	26	-	0.003	0.026	-	-
BH38 SS4	CLAYEY SILT, Some Sand, Trace Gravel	3	18	47	32	-	0.002	0.016	-	-
BH52 SS3	CLAY AND SILT, Trace Sand, Trace Gravel	1	3	54	42	-	0.001	0.004	-	-
BH2 SS3	CLAY AND SILT, Some Sand, Trace Gravel	4	13	48	35	-	0.001	0.009	-	-
BH20 SS2	CLAYEY SILT, Some Sand, Trace Gravel	4	16	48	32	-	0.002	0.011	-	-
BH11 SS3	CLAYEY SILT, Some Sand, Trace Gravel	4	17	47	32	-	0.002	0.014		

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GRAIN SIZE DISTRIBUTION - 6728 6TH Line, Milton

CLAY AND SILT / CLAYEY SILT

FIGURE No.	B1
REF. No.	2300805
DATE	June 2023

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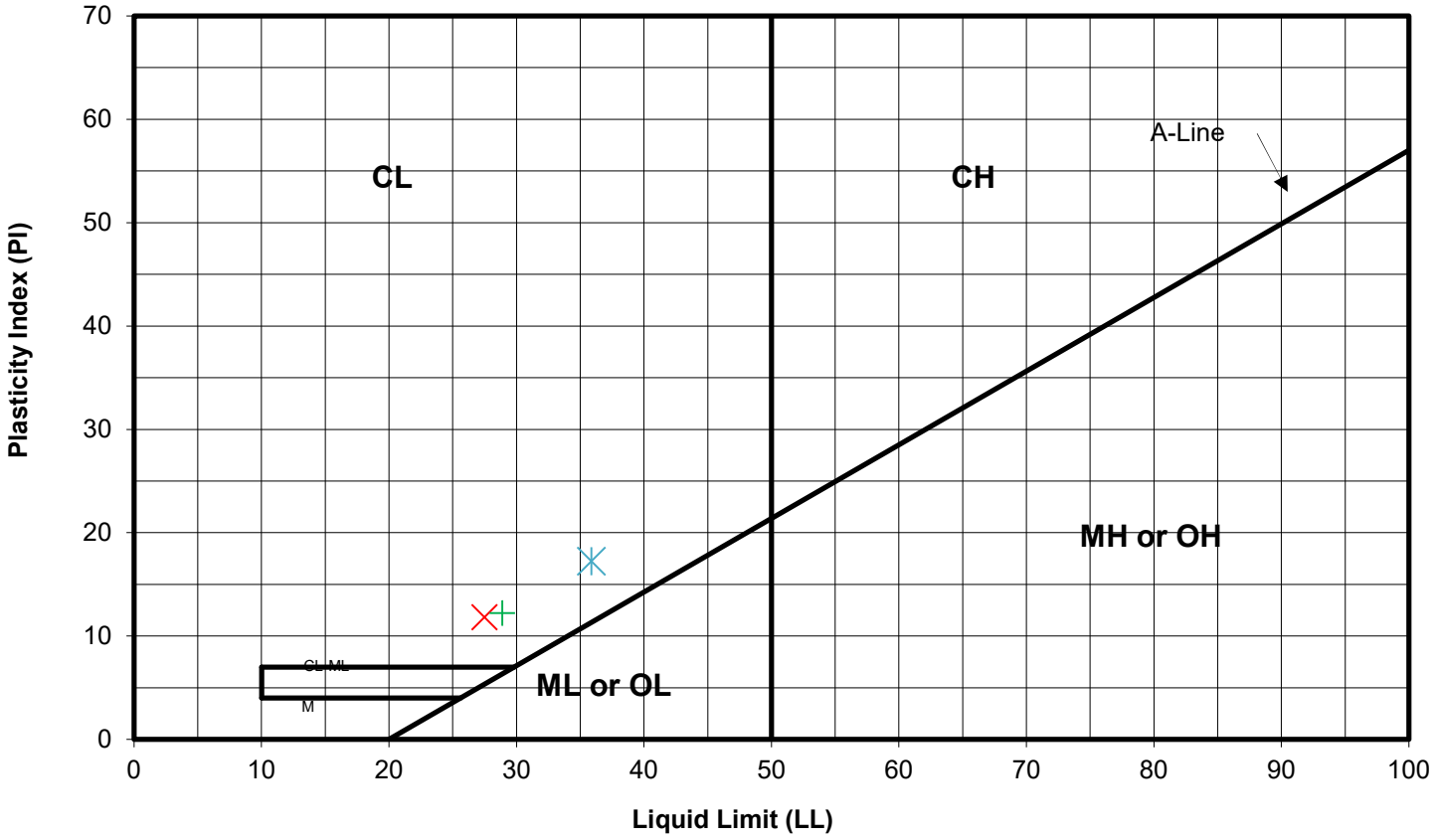
Atterberg Limits Report

Project Name: Slope Stability - 6728 Sixth Line Milton
Project No.: 2300805
Client: Anatolia Investments Corporation

Figure No.: B2
Date Tested: June 8, 2023
Date Sampled: -

SAMPLE INFORMATION								
SAMPLE ID	BH38 SS4	LIQUID LIMIT (LL):	27.5	PLASTIC LIMIT (PL)	15.7	PLASTIC INDEX (PI)	11.8	X
SAMPLE ID	BH52 SS3	LIQUID LIMIT (LL):	35.9	PLASTIC LIMIT (PL)	18.7	PLASTIC INDEX (PI)	17.2	✳
SAMPLE ID	BH11 SS3	LIQUID LIMIT (LL):	28.9	PLASTIC LIMIT (PL)	16.7	PLASTIC INDEX (PI)	12.2	+

Plasticity Chart

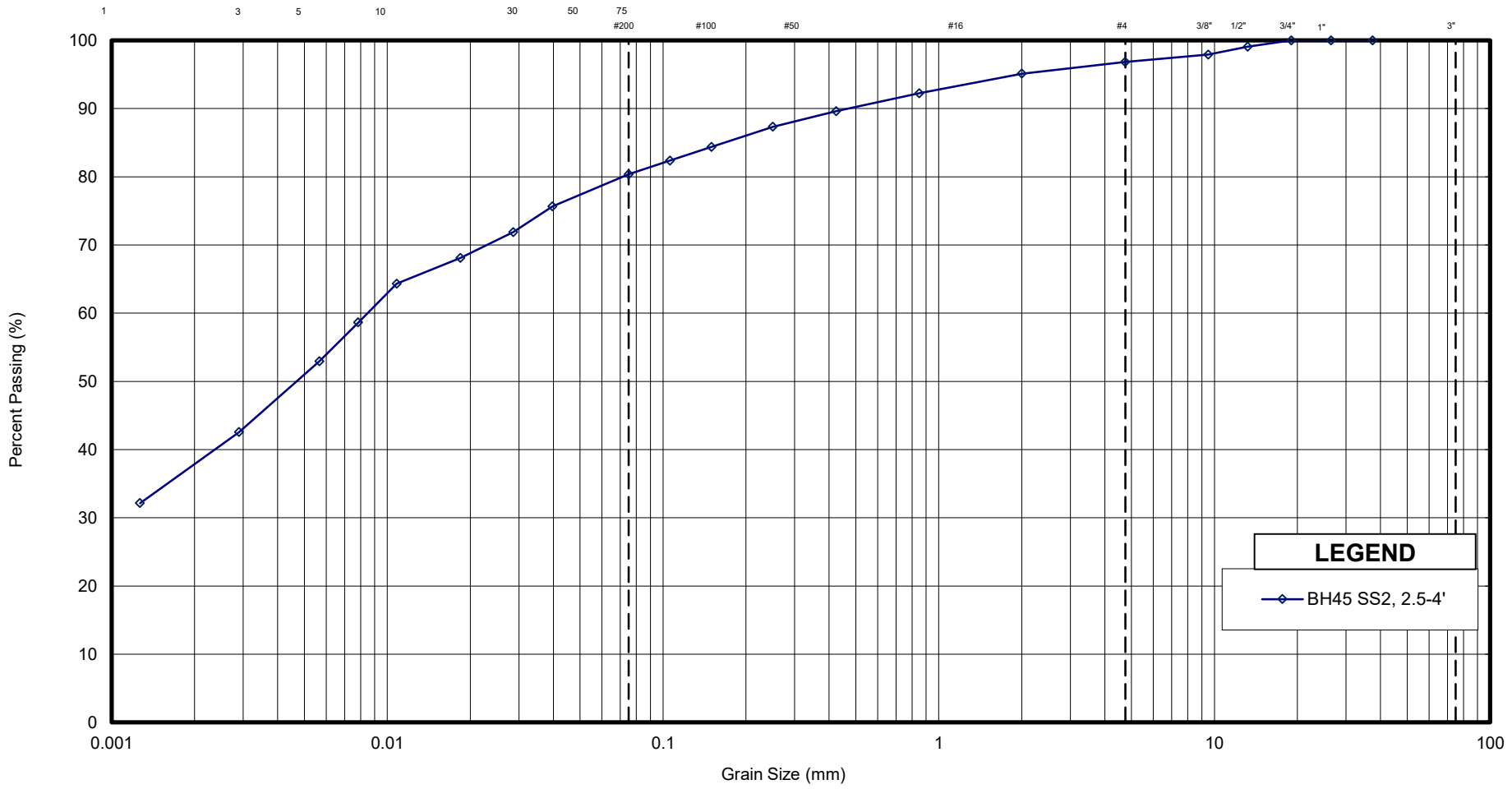


DISTRIBUTION:	Prepared By: D. Gorry	Checked By:

Report No. _____

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY AND SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse



Sample	Description	Gr.	Sa.	Si.	Cl.	D_{10}	D_{30}	D_{60}	C_u	C_c
BH45 SS2	CLAY AND SILT, Some Sand, Trace Gravel	3	16	42	39	-	-	0.008	-	-

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GRAIN SIZE DISTRIBUTION - Slope Stability - 6728 Sixth Line

CLAY AND SILT

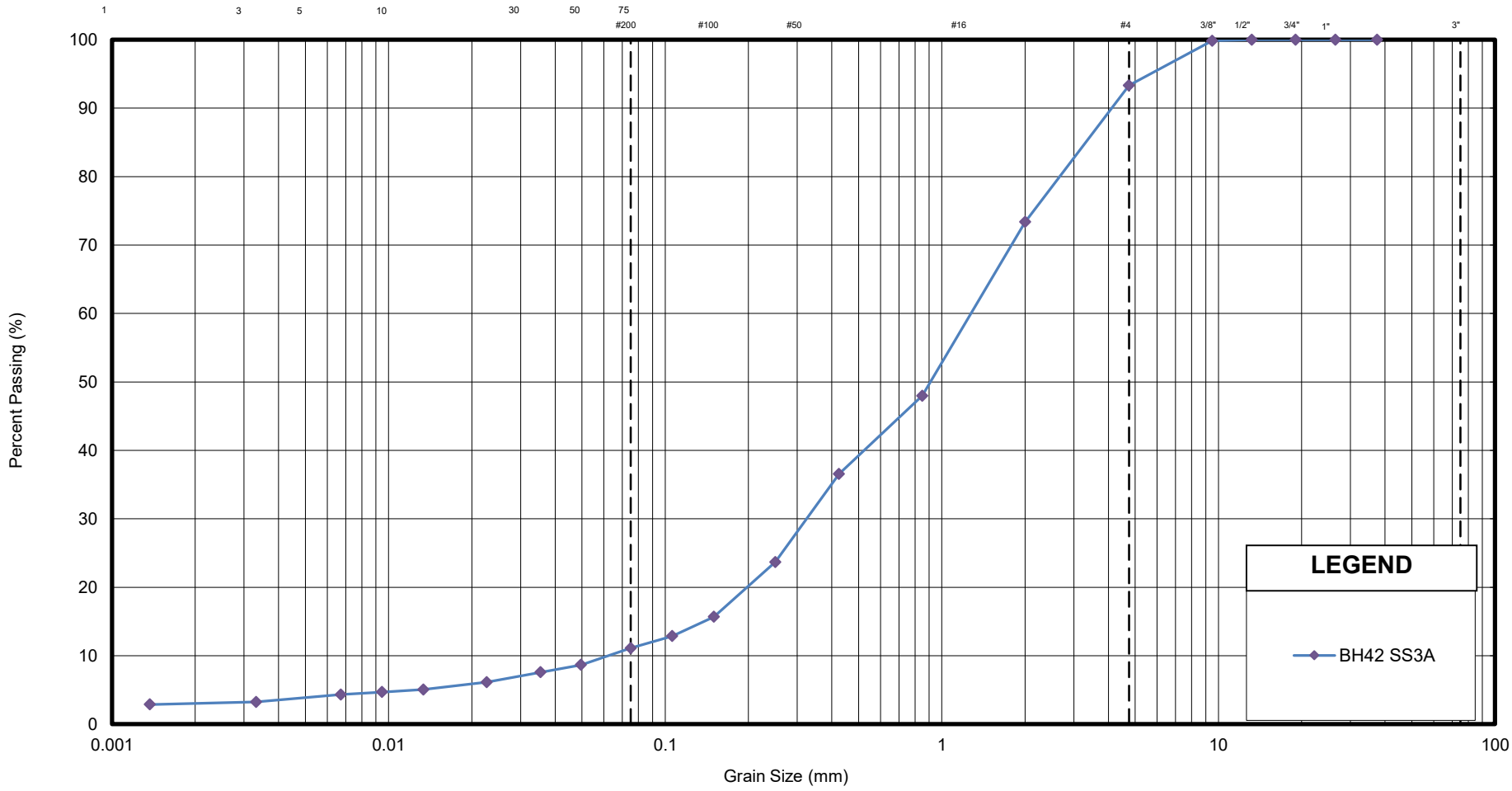
FIGURE No.	B3
REF. No.	2300805
DATE	March 2023

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY AND SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse

GRAIN SIZE IN MICROMETERS

SIEVE DESIGNATION (IMPERIAL)



Sample	Description	Gr.	Sa.	Si.	Cl.	D_{10}	D_{30}	D_{60}	C_u	C_c
BH42 SS3A	SAND, Trace Silt, Trace Gravel, Trace Clay	7	82	8	3	0.062	0.324	1.275	20.6	1.3

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GRAIN SIZE DISTRIBUTION - 6728 6TH Line, Milton

SAND

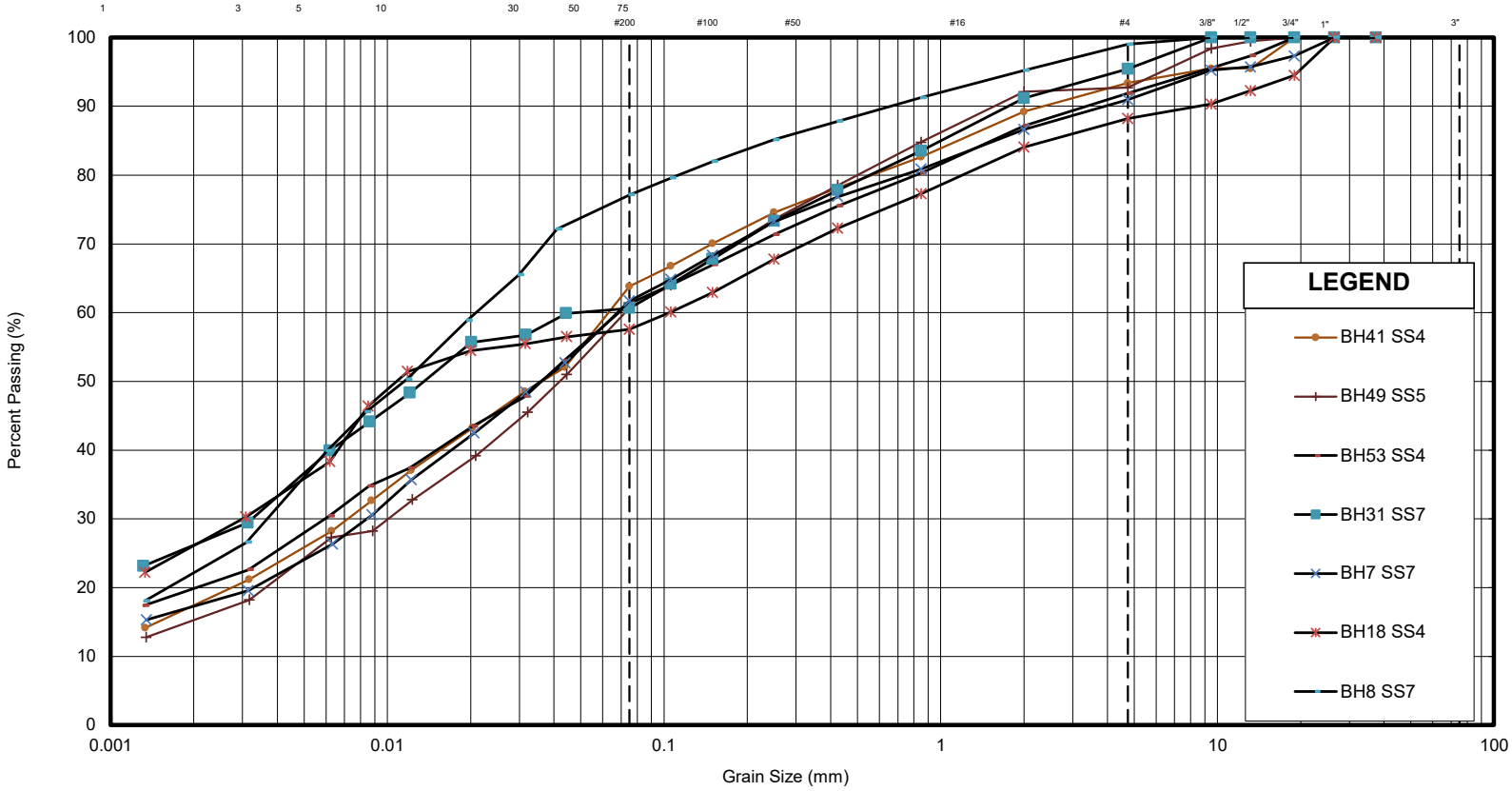
FIGURE No.	B4
REF. No.	2300805
DATE	June 2023

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY AND SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse

GRAIN SIZE IN MICROMETERS

SIEVE DESIGNATION (IMPERIAL)



Sample	Description	Gr.	Sa.	Si.	Cl.	D_{10}	D_{30}	D_{60}	C_u	C_c
BH41 SS4	SANDY SILT, Some Clay, Trace Gravel	7	30	46	17	-	0.007	0.063	-	-
BH49 SS5	SANDY SILT, Some Clay, Trace Gravel	7	32	45	16	-	0.010	0.072	-	-
BH53 SS4	SANDY SILT, Some Clay, Trace Gravel	8	31	41	20	-	0.006	0.069	-	-
BH31 SS7	CLAYEY SILTY SAND, Trace Gravel	5	35	34	26	-	0.003	0.047	-	-
BH7 SS6	SANDY SILT, Some Clay, Trace Gravel	9	29	44	18	-	0.008	0.068	-	-
BH18 SS4	CLAYEY SAND AND SILT, Some Gravel	12	31	31	26	-	0.003	0.104		
BH8 SS7	CLAYEY SANDY SILT, Trace Gravel	1	22	55	22	-	0.004	0.021	-	-

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GRAIN SIZE DISTRIBUTION - 6728 6TH Line, Milton

GLACIAL TILL

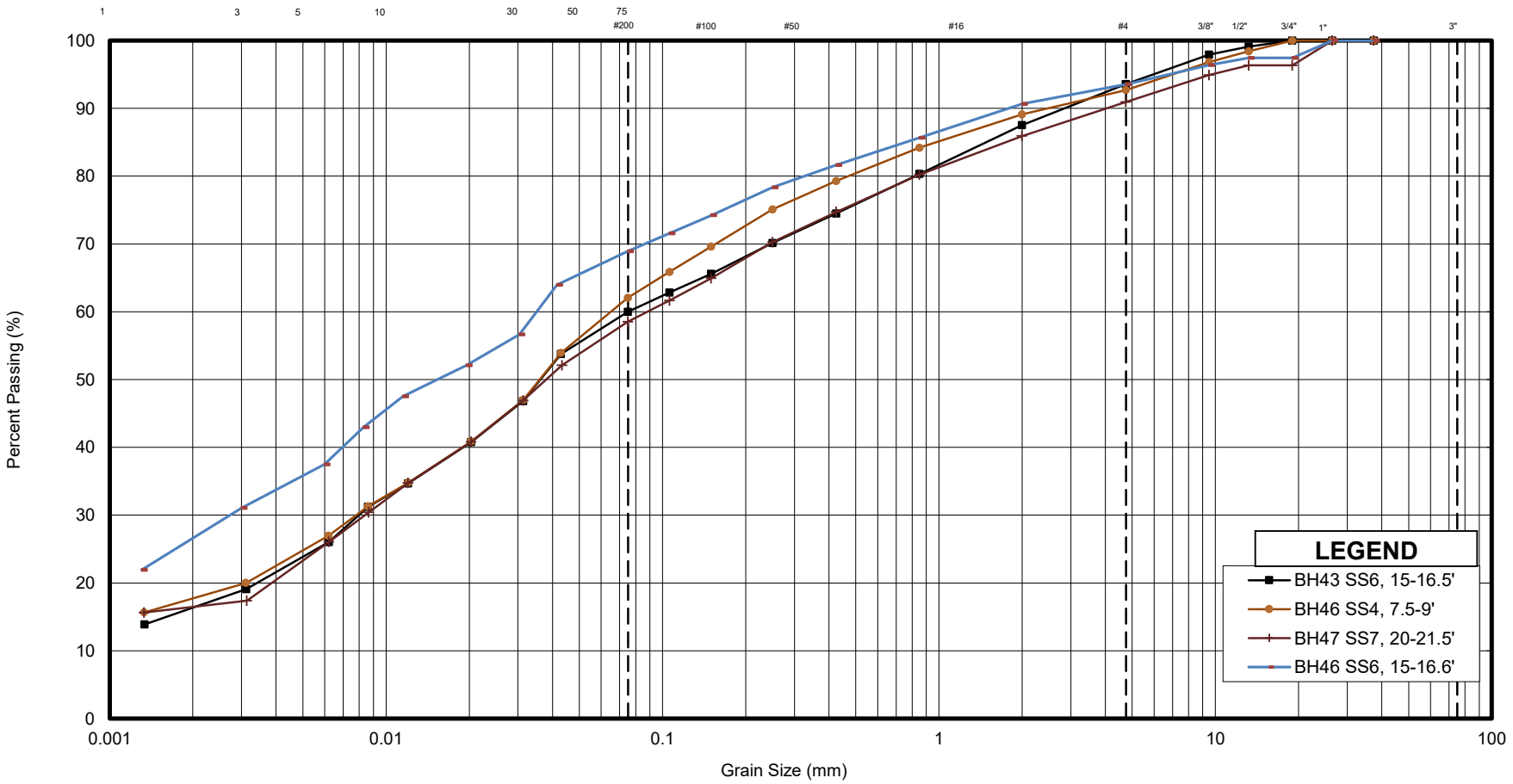
FIGURE No. B5

REF. No. 2300805

DATE June 2023

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY AND SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse



Sample	Description	Gr.	Sa.	Si.	Cl.	D_{10}	D_{30}	D_{60}	C_u	C_c
BH43 SS6	SANDY SILT, Some Clay, Trace Gravel	6	34	44	16	-	0.008	0.075	-	-
BH46 SS4	SANDY SILT, Some Clay, Trace Gravel	7	31	44	18	-	0.008	0.065	-	-
BH46 SS6	SANDY CLAYEY SILT, Trace Gravel	6	25	42	27	-	0.003	0.035	-	-
BH47 SS7	SANDY SILT, Some Clay, Trace Gravel	9	32	42	17	-	0.008	0.088	-	-

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GRAIN SIZE DISTRIBUTION - Slope Stability - 6728 Sixth Line

GLACIAL TILL

FIGURE No. B6

REF. No. 2300805

DATE March 2023

GEI Consultants

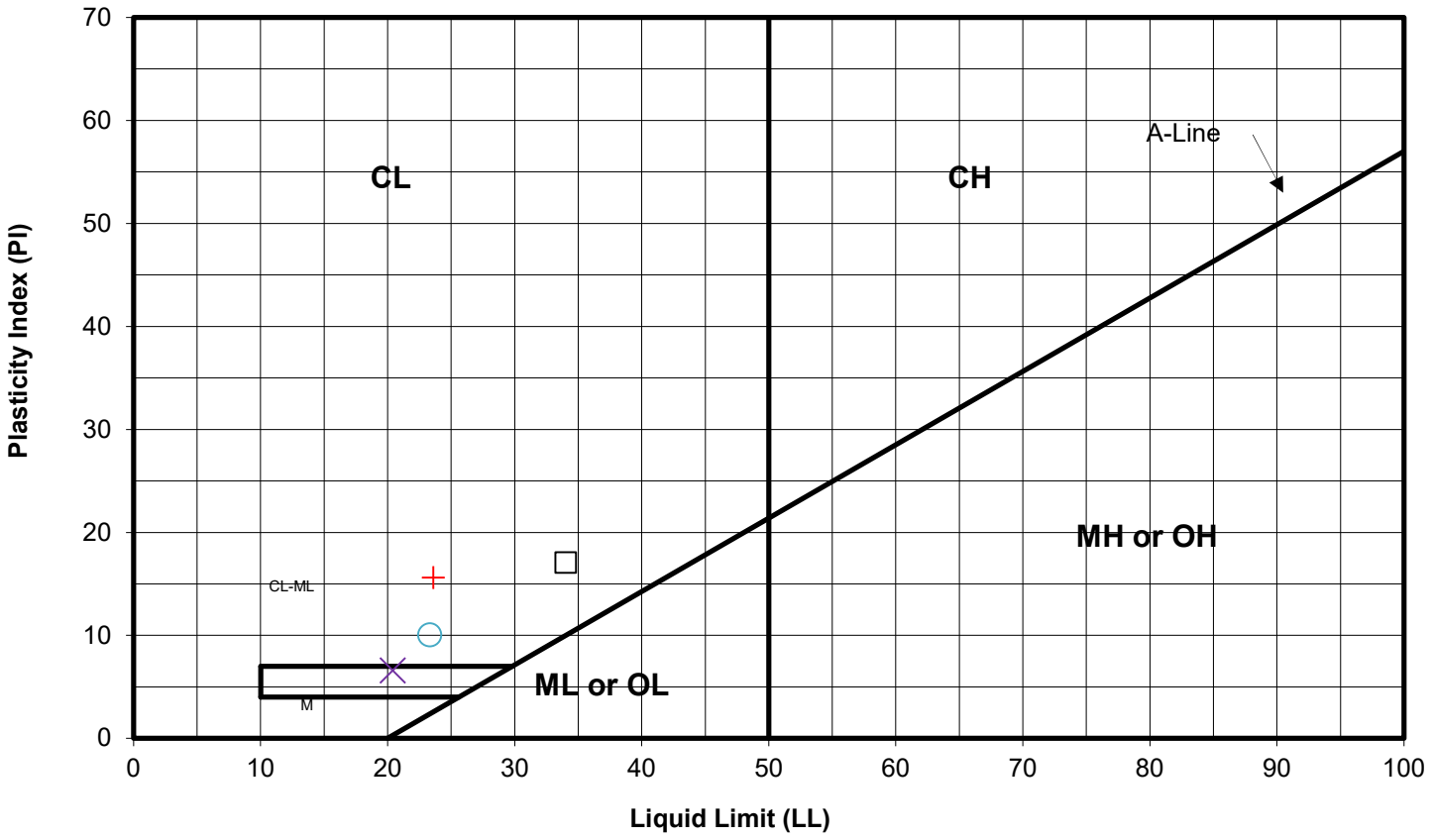
Atterberg Limits Report

Project Name: 6728 Sixth Line, Milton
roject No.: 2300805
Client: Anatolia Investments Corporation

Figure No.: B7
Date Tested: March 23, 2023
Date Sampled: -

SAMPLE INFORMATION								
SAMPLE ID	BH43 SS6, 15-16.6'	LIQUID LIMIT (LL):	20.4	PLASTIC LIMIT (PL)	13.8	PLASTIC INDEX (PI)	6.6	X
SAMPLE ID	BH45 SS2, 2.5-4'	LIQUID LIMIT (LL):	34	PLASTIC LIMIT (PL)	16.9	PLASTIC INDEX (PI)	17.1	□
SAMPLE ID	BH46 SS4, 7.5-9'	LIQUID LIMIT (LL):	23.3	PLASTIC LIMIT (PL)	13.2	PLASTIC INDEX (PI)	10.1	○
SAMPLE ID	BH46 SS6, 15-16.6'	LIQUID LIMIT (LL):	23.6	PLASTIC LIMIT (PL)	8.0	PLASTIC INDEX (PI)	15.6	+

Plasticity Chart

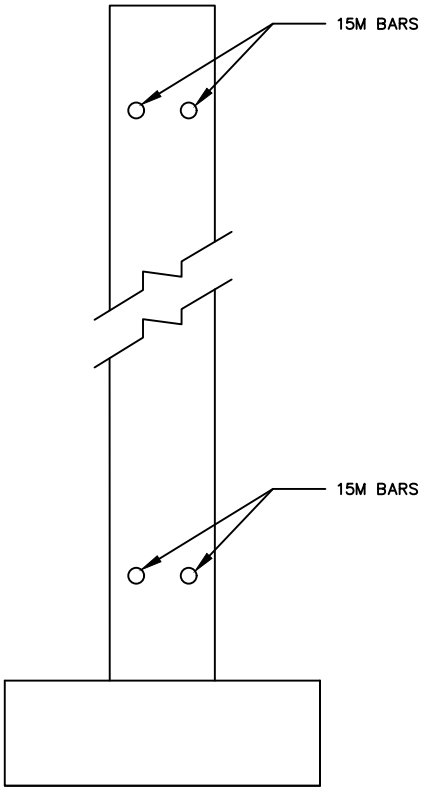


DISTRIBUTION:	Prepared By: D. Gorry	Checked By: M. H-Cabal

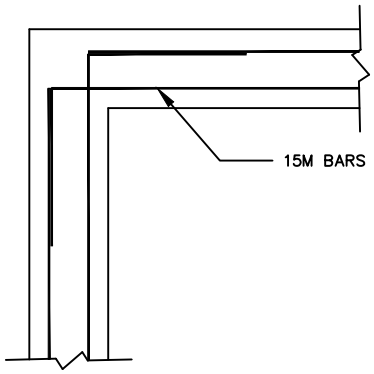
Report No. _____

Appendix C

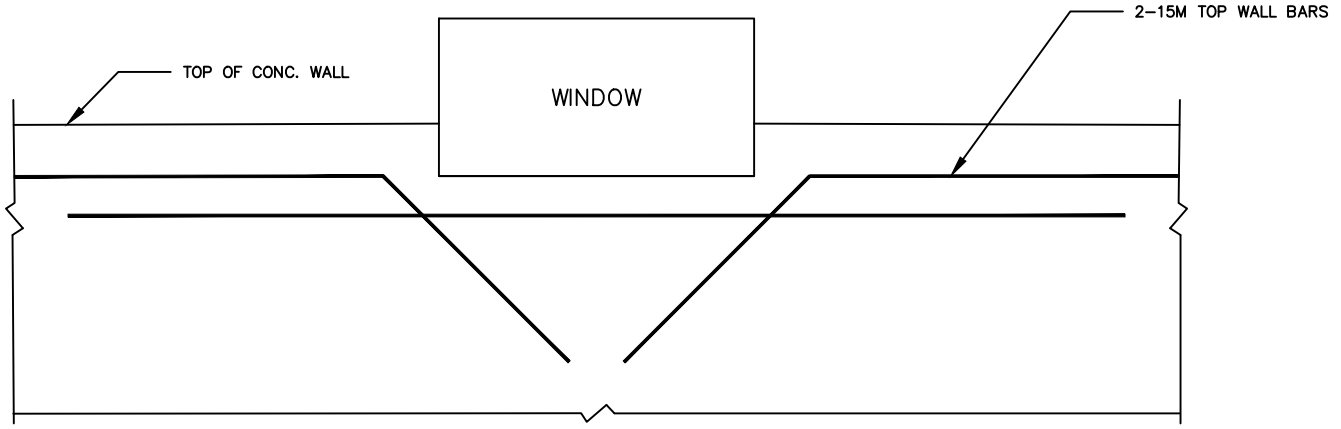
Typical Details



TYPICAL REINFORCED WALL



TYPICAL SPLICING AT CORNERS



TYPICAL WINDOW REINFORCING

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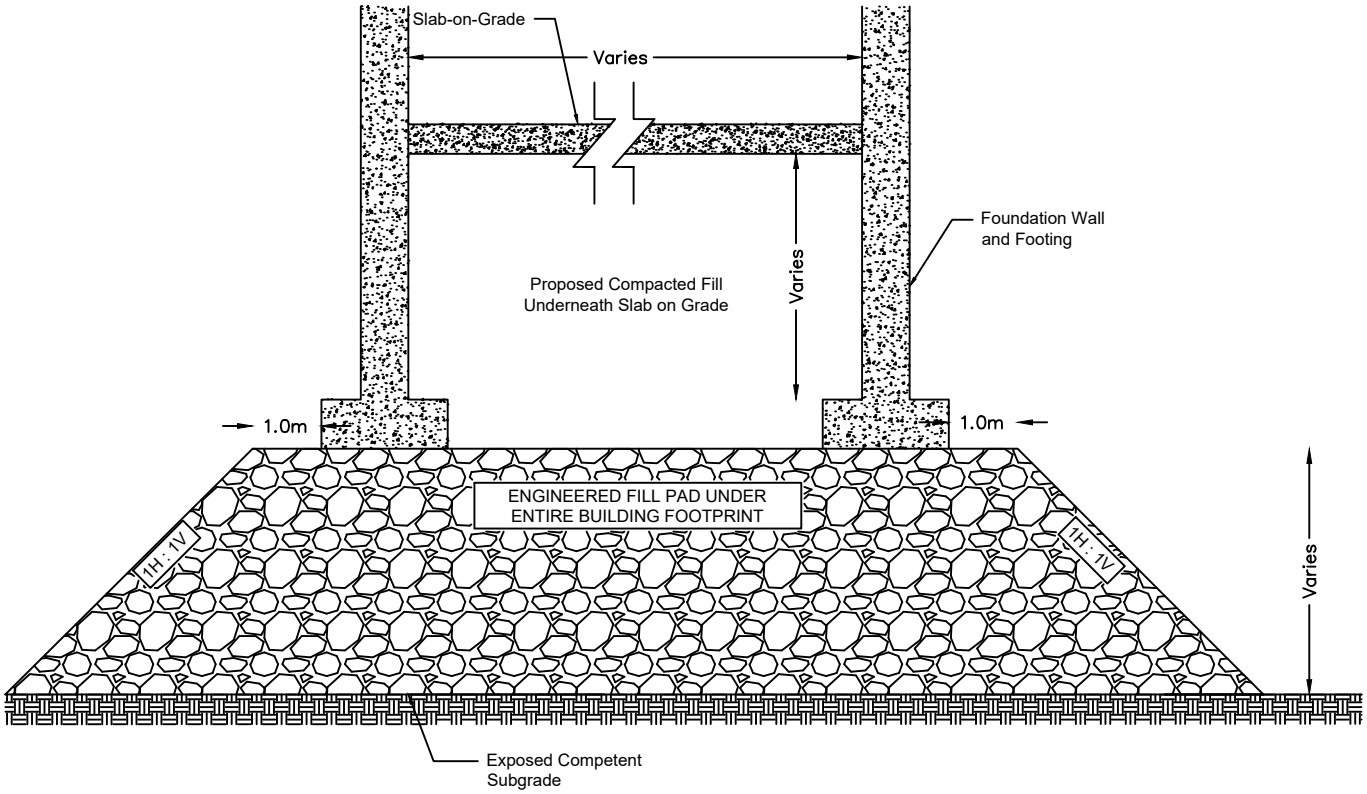
FOUNDATION WALL REINFORCING ON ENGINEERED FILL TYPICAL DETAIL

Notes:

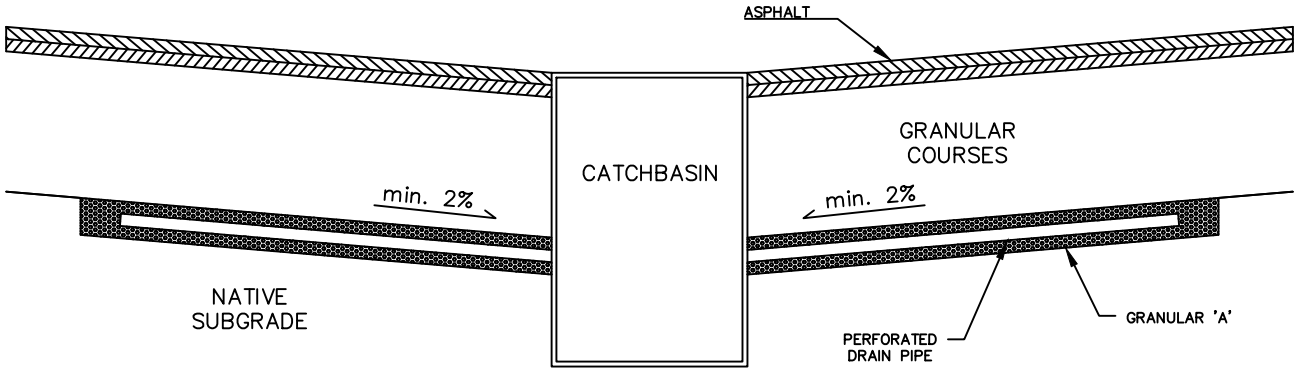
1. Engineered Fill compacted to 98% S.P.M.D.D and inspected under the full time supervision of CEE.
2. Interior non-structural compacted fill compacted to 98% S.P.M.D.D. with recommended part-time inspection.

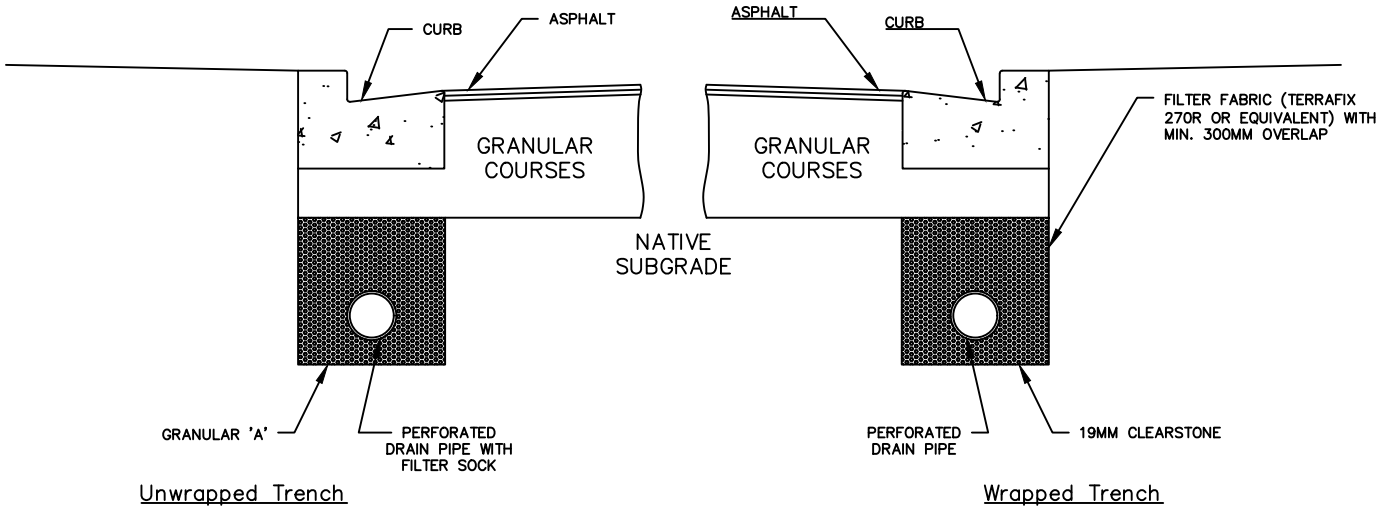
S.P.M.D.D.- Standard Proctor Maximum Dry Density



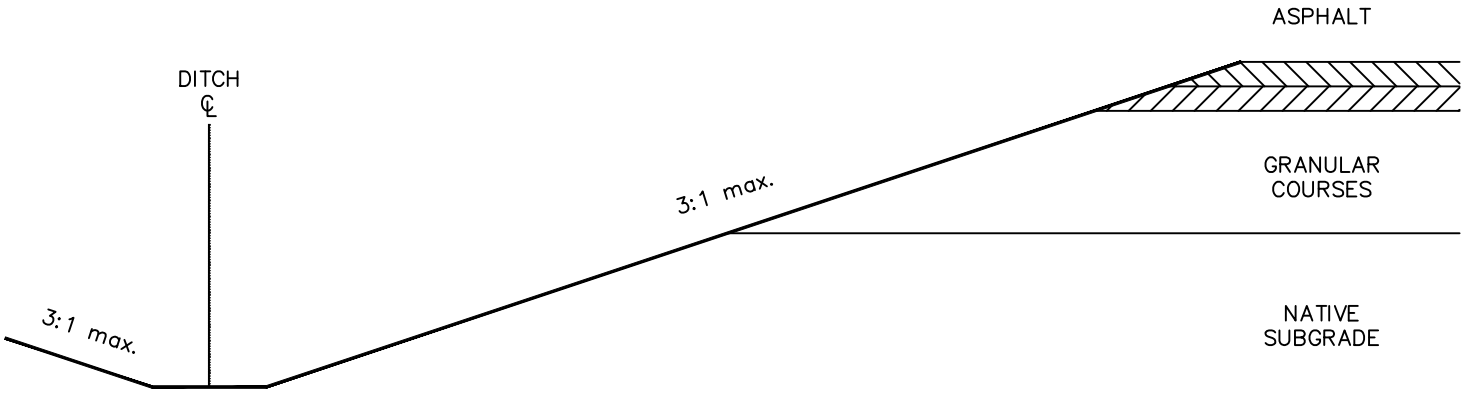
GEI Consultants
647 Welham Rd, Unit 14, Barrie, ON, L4N 0B7

ENGINEERED FILL PAD DIMENSIONING TYPICAL DETAIL





Urban Cross Sections



Rural Cross Section

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PAVEMENT DRAINAGE ALTERNATIVES TYPICAL DETAILS