

Preliminary Geotechnical Investigation

Site Development for
Proposed Township of Centre Wellington
Operations Centre
965 Gartshore Street
Fergus, Ontario

Client:

Township of Centre Wellington
c/o R.J. Burnside & Associates Ltd.

Attention: H.T. Lam, OALA, CSLA
Principal Senior Landscape Architect

Type of Document:

Preliminary Geotechnical Report

Project Number:

G4599-22-6

JLP Services Inc.

Geotechnical and Environmental Consultants
405 York Road
Guelph, ON
N1E 3H3

Date Submitted:

December 19, 2022

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1. Introduction

JLP Services Inc. (JLP) was retained by R.J. Burnside & Associates Ltd. on behalf of Township of Centre Wellington to carry out a preliminary geotechnical investigation for the Site Development for the Proposed Township of Centre Wellington Operations Centre at 965 Gartshore Street in Fergus, Ontario.

Although final details concerning the proposed development are unavailable at the time of this report, it is understood that the proposed development will consist of a number of buildings with associated site services, roads, parking lots and storm water management facility.

The purpose of this investigation was to reveal the subsurface soil and groundwater conditions at the site and to determine the relevant soil properties for preliminary recommendations for the design and construction of building foundations, floor slab-on-grade, site services, roads, parking lots and storm water management facility.

The conclusions and recommendations given in this report are based on the assumption that the design concept mentioned above will proceed into construction. If changes are made in the design phase and/or during construction, JLP must be retained to review these changes. The outcome of this review may lead to modifications to our recommendations or may require additional field and/or laboratory analyses to determine if the proposed changes are acceptable from a geotechnical standpoint.

2. Site Description

The site is located on the southwest side of Gartshore Street north of Gregson Court and is accessed from Gartshore Street. The site is currently occupied by an operating farm and bound to the south/southwest by farmland and to the north/northeast by industrial properties as well as vacant treed properties.

The ground surface is generally flat with land gently sloping from southeast to northwest. The difference in ground surface elevations is about 3.9m± between the highest and the lowest

borehole locations and is typically about 2 to 3m± from the southeast to the northwest borehole locations. The site was most recently cultivated with soya bean crop.

3. Field Work

The fieldwork was carried out over the period of October 24 to 27, 2022 and consisted of seven (7) boreholes at the locations shown on the Borehole Location Plan, Enclosure 1.

Prior to the commencement of drilling and sampling operations at the site, the borehole locations were cleared of underground utilities by Ontario One Call and private locate contractors.

The boreholes were advanced to the sampling depths by means of a track-mounted, power auger machine, equipped with hollow stem augers and split spoon samplers for soil sampling. Standard Penetration tests were carried out at frequent intervals of depth and the results are shown on the Borehole Logs as N-values. The subsurface soils were visually examined, logged and sampled at the borehole locations.

Ground water conditions were observed in the open boreholes during the drilling and sampling operations. All the boreholes were instrumented with monitoring wells with two (2) nested monitoring wells installed in Boreholes 1 and 7, respectively for groundwater monitoring.

JLP Services Inc. engineering staff supervised and directed the fieldwork. The layout of borehole locations was carried out in the field using a handheld global positioning system with UTM coordinates. The coordinates and ground surface elevation at the borehole locations were obtained using a Sokkia GcX3 global position system referenced to the coordinate system known as NAD83(CSRS), which is the North American Datum of 1983 of the Canadian Spatial Reference System, and the Universal Transverse Mercator (UTM) Zone 17. The Canadian HT2_0 Geoid, Topnet live was used for Real Time Kinematic (RTK) positioning corrections. The approximate coordinates and ground surface elevation at the borehole locations are listed in Table 1 on the following page.

Table 1: Borehole Location and Ground Surface Elevations

Borehole	Northing	Easting	Latitude	Longitude	Ground Surface Elevation (m)
1	4841469	549204	--	--	423.88
2	4841374	549154	--	--	423.47
3	4841224	549288	--	--	425.06
4	4841099	549416	--	--	425.67
5	4841204	549414	--	--	427.34
6	4841366	549376	--	--	427.33
7	4841325	549274	--	--	425.35

4. Subsurface Conditions

Full details of the soil conditions encountered in each borehole are given on the Borehole Logs, Enclosures 2 to 10, inclusive and the following notes are intended to summarize this data.

A layer of **topsoil**, about 200 to 250mm thick, was encountered at the surface of all boreholes. The topsoil consisted of sandy silt, trace gravel, scattered organic inclusions. It was black to dark brown in colour.

The topsoil is considered to be in a generally loose to compact state of compactness and in a moist condition.

It should be noted that the thickness of topsoil may vary significantly between borehole locations and should not be relied upon to estimate the quantity of topsoil for removal.

A layer of discontinuous **sandy silt till** was encountered below the topsoil in Boreholes 1 to 4, inclusive to depths of 1.5 and 1.9 metres below grade. The sandy silt was dark brown to brown in colour and consisted of trace to some gravel, organic inclusions in upper zone. Standard Penetration tests in the sandy silt gave N-values ranging between 5 and 15 blows/300mm. The natural moisture content was found to range between 9 and 21%.

Based on the test results and visual and tactile examination of the soil samples, the deposit of sandy silt till is considered to be in a generally loose to compact state of compactness and in moist condition.

Below the topsoil in Boreholes 5 to 7, and the sandy silt till in Boreholes 1 to 4, respectively a discontinuous deposit of **silty sand** was encountered to depths of 4.5 to 7.3 metres below grade and the full depth of the investigation (i.e. 5.0 to 6.3 metres below grade). The silty sand was brown in colour and was fine grained. It contained scattered silt seams. In Borehole 7, the silty sand contained a coarse sand and gravel seam. Standard Penetration tests in this material gave N-values ranging from 2 to 73 blows/300mm. The natural moisture content was found to range from 5 to 25%.

Typical grain size distribution curves for the silty sand can be found on Enclosures 11 to 12, inclusive.

Based on the test results and visual and tactile examination of the soil samples, the deposit of silty sand is considered to be in a generally very loose to very dense state of compactness and in moist to saturated condition.

The deposits of silty sand in Boreholes 1, and 4 to 7, inclusive were underlain by a discontinuous deposit of **sandy silt till** extending to the full depth of the investigation (i.e. 5.2 to 25.3 metres below grade). The sandy silt till was brown to grey in colour and consisted of trace clay, trace to some gravel inclusions and/or occasional cobbles. Standard Penetration tests in this material gave N-values ranging from 10 to greater than 100 blows/300mm. The natural moisture content was found to range from 8 to 21%.

Typical grain size distribution curves for the sandy silt till can be found on Enclosures 13 to 14, inclusive.

Based on the test results and visual and tactile examination of the soil samples, the deposit of sandy silt till is considered to be in a compact to very dense state of compactness and in moist to wet condition.

5.0 Groundwater Conditions

Monitoring wells were installed in each of the boreholes, with additional deep monitoring wells installed at Boreholes 1 and 7. The monitoring wells were sealed with bentonite between 0.3 metres below grade and 0.3 metres above the top of well screen level, for groundwater level monitoring. Free water surfaces were measured at depths and elevations noted in Table 2 below.

Table 2: Observed Groundwater Levels

Location	Ground Elevation (m)	December 5, 2022	
		Depth Below Existing Grade* (m±)	Water Level Elevation* (m±)
MW 1 Shallow (S)	423.88	1.34	422.54
MW 1 Deep (D)	423.88	2.43	421.45
MW 2	423.47	1.23	422.24
MW 3	425.06	2.64	422.42
MW 4	425.67	2.21	423.46
MW 5	427.34	3.82	423.52
MW 6	427.33	3.88	423.45
MW 7 Shallow (S)	425.35	2.72	422.63
MW 7 Deep (D)	425.35	11.78	413.57

*Groundwater levels recorded by R.J. Burnside & Associates Ltd.

An examination of the soil samples indicated that the materials were generally moist to saturated.

It is noted that no sub-artesian water pressure was encountered in any of the boreholes.

Based on the foregoing and the moisture content profiles of the soil samples, the groundwater table at the site is considered to be located at about 1.2 to 3.8 metres below grade, Elevations 423.5m to 422.5m. The groundwater is believed to be perched within the pervious silty sand deposit between or above the sandy silt till deposits.

Seasonal fluctuation of the groundwater level should be anticipated.

6.0 Discussion and Recommendations

6.1 General

The boreholes generally encountered a surficial deposit of topsoil, followed by discontinuous deposits of sandy silt till and silty sand. The groundwater level at the site appears to range between about 1.2 to 3.8 metres below grade, with the localized groundwater table considered to be a perched condition. Seasonal fluctuation of the shallow groundwater level should be anticipated.

Final details concerning the proposed development are unavailable at the time of this report, although it is understood that the proposed development will consist of a number of buildings with associated site services, roads, parking lots and storm water management facility. Based on the foregoing, the following discussion is therefore considered preliminary. It should be reviewed when more details are available.

6.2 Site Grading

It is assumed some re-grading will be required at the site depending on the final design grades of the proposed development.

Following clearing and grubbing as required, the surficial topsoil may be removed and stockpiled for re-use and/or off-site disposal. The design site grades may be achieved by cut and fill operations. All cut and fill to support the proposed buildings, site services and pavement areas should be carried out following the procedure for “engineered fill”.

The procedure for “engineered fill” construction would consist of the following:

1. All vegetation, surficial topsoil and any other deleterious materials encountered should be removed from the proposed building areas, site services and pavement areas. Any organic, excessively wet or otherwise deleterious materials should not be used as “engineered fill” material.
2. Existing groundwater monitoring wells and/or potable water wells, if any, should be properly decommissioned in accordance with the Ontario Water Resources Act, R.R.O. 1990, Ontario (O.Reg.) 903 – amended to O.Reg. 128/03.
3. The exposed subgrade should be proof rolled with a heavy-duty equipment, such as a loaded dump truck, and examined by geotechnical personnel from JLP. Any loose or soft areas encountered during the proof-rolling process should be further sub-excavated and replaced with approved on-site or imported soil material compacted to a minimum of 98% of the Standard Proctor Maximum Dry Density (SPMDD).
4. Low areas can then be brought up to the design pre-grade level with approved on-site or imported soil material placed in maximum 200mm thick lifts and compacted to a minimum of 98% of the SPMDD.
5. Moisture conditioning should be applied to the approved on-site and/or imported soil materials for effective compaction. Some of the on-site soil materials may require air drying before they can be properly compacted.
6. The “engineered fill” under all structures to be supported should extend to at least 1.0 metre laterally beyond the edge of their perimeter at the founding level and at least a distance equal to the depths of the fill pad, at the level of the approved subgrade.
7. Temporary fill slopes should be no steeper than 1 vertical to 2 horizontal and should be protected from surface erosion.
8. All imported fill materials should be assessed by JLP prior to transport to the site in accordance with the “On-Site and Excess Soil Management Regulation”, O.Reg. 406/19 and supporting amendments.
9. All imported fill materials should be free from organics and debris and should be tested geotechnically by JLP prior to transport to the site.

10. All topsoil and unsuitable material removal, subgrade preparation, fill placement and compaction should be monitored on a full-time basis by geotechnical staff from JLP to approve materials and to verify that the specified degree of compaction have been achieved.
11. The “engineered fill” should be in place at least three months prior to the construction of buildings over it to minimize potential settlement.

6.3 Site Services

The inverts of the proposed site services are not available at the time of this report. However, it is expected that the sanitary sewer, storm sewer and watermain inverts will be located at depths ranging between 2 and 4 metres below the finished grades. All sewers and watermains should be protected from frost actions by at least 1.4m of soil cover or equivalent thermal insulation.

Reference to the Borehole Logs indicates that the subgrade will consist of native sandy silt till, silty sand in generally compact state or “engineered fill” constructed during site grading. The subgrade will generally provide adequate support for the pipes and allow the use of OPSD 802.010 and/or OPSD 802.031 Class ‘B’ bedding using OPSS.MUNI 1010 Granular ‘A’ material.

Clear crushed stone should not be used as bedding as fine-grained particles may migrate into the voids of the stone and cause undesirable settlements. Where the exposed subgrade is less competent than the materials identified in the Borehole Logs, the bedding thickness may have to be increased.

If the trench excavation is above the observed groundwater level, the sides of the open cut excavation should either be cut back at a side slope of 1 vertical to 1 horizontal or supported with trench box or temporary shoring system.

If the trench excavation is below the observed groundwater level, construction dewatering by means of pumping from sump within the excavation or by pumping from well-points may be required to lower the groundwater level to at least 600 mm below the bottom of the trench to

facilitate construction. The sides of the open cut excavation should either be cut back at a side slope of 1 vertical to 2 horizontal or supported with trench box or temporary shoring system. The excavated materials will be generally suitable for re-use as trench backfill provided that they are free of topsoil, organic material and cobbles/boulders. If the on-site materials become wet, they should be air dried prior to re-use as trench backfill. The trench backfill should be placed in maximum 300mm thick layers and uniformly compacted to at least 95% of its Standard Proctor Maximum Dry Density (SPMDD).

The backfill around maintenance holes, catchbasins, valve chambers, thrust blocks and/or service connections should consist of free-draining granular material, such as the OPSS Granular 'B' Type I material and compacted to a minimum of 95% of its SPMDD.

To minimize potential problems and wetting of the subgrade material, backfilling operations should follow closely after excavations, so that only a minimal length of trench is exposed at a time. Should construction be carried out in the winter season, particular attention should be given to make sure no frozen material is used for backfill.

Cobbles and/or boulders may be present in the native sandy silt till deposit, and some difficulty or delays may be anticipated during excavation. Cobbles and/or boulders with nominal diameter larger than 150mm should not be re-used as trench backfill.

6.4 Storm Water Management Facility

Grain size distribution curves were prepared for representative samples of the subsoils obtained at the boreholes. These grain size distribution analyses were performed following applicable ASTM laboratory procedures and are found on Enclosures 11 to 14, inclusive.

The grain size distribution curves were compared to the family of curves presented in the Supplementary Standard SB-6 of the 2012 Building Code Compendium. According to the Unified Soils Classification System and taking into consideration the specific physical nature of the soils, the samples in question are considered to have the properties noted in the following Table 3.

Table 3: Soil Permeability and T-time Estimation

Sample Number	Material					Unified Soils Classification Group	Estimated Co-efficient of Permeability (k) (cm/sec)	Estimated T-time (min/cm)
	Description	Gravel (%)	Sand (%)	Silt (%)	Clay (%)			
BH1/SS6	Silty Sand	-	84	15	1	(SM)	$10^{-3} - 10^{-5}$	10
BH1/SS12	Sandy Silt Till	4	34	57	5	(ML)	$10^{-5} - 10^{-6}$	40
BH7/SS7	Silty Sand	-	72	25	3	(SM)	$10^{-3} - 10^{-5}$	15

If a storm water management pond is to be constructed for the proposed development, a low permeability liner may be required to maintain a permanent wet pond. The low permeability liner may be constructed with a minimum 1m thick layer of clayey soils conforming to OPSS.MUNI 1205 requirements. Alternatively, a geosynthetic clay liner, such as Bentofix CNSL, or a synthetic liner, such as Nilex Geomembrane PVC 40 mil or similar products, may be used.

If a geosynthetic or synthetic liner is used, a minimum 300mm thick marker layer should be placed above the liner as an indicator/protective soil cover. The liner should be installed as per manufacturer's guidelines and up to a minimum of 0.6m above the design flood level in the pond. An underdrainage system may be required to relieve the hydrostatic uplift against the liner if the bottom of pond is lower than the highest observed groundwater level in the vicinity of the pond.

6.5 Pavement Design and Construction

All topsoil and any deleterious materials encountered should be stripped from the proposed road pavement areas. The exposed subgrade should be re-compacted from the surface to at least 98% of its standard Proctor maximum dry density (SPMDD) prior to construction of the road pavement. Any loose areas which are detected should be sub-excavated and backfilled with approved imported granular fill. All granular fill materials should be placed in 150 to 200mm thick lifts and compacted to 100% of the SPMDD.

Considering the probable traffic requirements, subgrade conditions and a functional design life of 25 years, the following pavement structure designs are recommended:

Table 4: Recommended Pavement Structures

Pavement Components	Passenger Car Parking (Light Duty) (mm)	Driveway/Fire Route (Medium Duty) (mm)
Asphaltic Concrete – HL3	40	40
Asphaltic Concrete – HL4	50	50
Granular ‘A’ Base Course	150	150
Granular ‘B’ Type II Modified Subbase Course	250	450

The granular base and sub-base materials should meet Ontario Provincial Standard Specification OPSS.MUNI.1010 and local requirements and should be compacted to 100% of the Standard Proctor Maximum Dry Density (SPMDD) as per OPSS.MUNI.501 requirements. The asphaltic concrete should conform to OPSS.MUNI.1150 and should be compacted to a minimum of 92.0% of the Maximum Relative Density (MRD) as per OPSS.MUNI.310 requirements.

Frequent inspections by geotechnical personnel from JLP Services Inc. should be carried out during construction to verify the compaction of the subgrade, base courses and asphaltic concrete by in-situ density testing using nuclear gauges.

6.6 Building Foundations

The proposed buildings to be constructed at the site are assumed to be primarily slab-on-grade structures with or without basements. The proposed buildings can be supported on spread footings founded a minimum of 0.2m into the native undisturbed sandy silt till or silty sand in compact state of compactness or into the properly constructed “engineered fill” and designed to a geotechnical reaction of 150 kPa at Serviceability Limit States (S.L.S.) and a factored geotechnical resistance of 225 kPa at Ultimate Limit States (U.L.S.).

All exterior footings or footings in unheated areas should be located at least 1.4 metres below finished grade or provided with equivalent thermal insulation for adequate frost protection.

Elevation differences between adjacent footings should not be more than a half of the horizontal distance between them.

It is estimated that the total and differential settlements of spread footings designed to these bearing pressures will be less than 25mm and 20mm respectively, which are normally considered acceptable for the proposed structure.

It is recommended that all foundation excavations be inspected by geotechnical personnel from JLP to ensure the founding soils are similar to those identified in the boreholes or are competent “engineered fill” and that they are capable of supporting the design bearing pressures.

Based on the 2012 Building Code Compendium, the classification of soils for seismic design should be based on the average properties of the top 30 metres of the soil profile. The depth of the deepest borehole was 25.3 metres below existing grade and was terminated in very dense sandy silt till. Assuming this deposit extends to depth, the soils at the site may be classified as Site Class ‘D’ under the site classification for seismic site response of 2012 Building Code Compendium.

6.7 Basement Walls

The basement walls, if constructed, of the proposed buildings may be designed to resist lateral earth pressures and the magnitude of which can be determined from the equation below:

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

where;

p	=	lateral earth pressure, kN/m ²
K	=	active earth pressure coefficient, $K = K_a = 0.33$, if retaining structure is permitted to move, otherwise, $K = K_o = 0.50$
γ	=	bulk unit weight of backfill, use 21 kN/m ³
d	=	depth below finished grade, metres
q	=	adjacent surcharge acting close to the wall, kN/m ²

The above equation assumes that there is no hydrostatic pressure build up against the basement walls. As such, the basement walls should be dampproofed and protected with a synthetic vertical drainage layer. A perimeter subdrain system should be installed at footing level outside the building envelope to facilitate drainage. The perimeter subdrain system should consist of 150mm diameter perforated pipe surrounded with a minimum of 300mm of 19mm clear stone all wrapped with a filter fabric, such as Texel 100C or other products with equivalent apparent opening size (AOS).

Water collected in the perimeter drainage system should be directed to the local storm drainage system either by gravity or by a permanent sump pump. Surface runoff around the proposed buildings should be directed away from the building.

Alternatively, the basement walls and floors can be sealed tight using waterproofing systems and designed to resist full hydrostatic pressures.

6.8 Floor Slabs

All topsoil and any deleterious materials encountered should be stripped from the proposed building areas. Any loose material encountered should be sub-excavated and replaced with approved fill. The exposed subgrade should be re-compacted from the surface to a minimum of 98% of the Standard Proctor Maximum Dry Density (SPMDD).

Backfill around the footings and basement walls should be compacted to a minimum of 98% of the SPMDD. The backfill should consist of approved imported granular materials, such as OPSS Granular 'B' Type I (natural sand, some gravel). All fills should be placed in 150 to 200mm thick lifts and compacted to a minimum of 95% of the SPMDD.

A layer of free-draining material, such as OPSS 1010 Granular 'A' or OPSS.MUNI 1004 19mm Clear Stone should be placed under the floor slabs to provide a uniform bearing surface and act as a moisture barrier. This layer should be at least 150mm thick and in the case of Granular 'A' compacted to at least 100% Standard Proctor maximum dry density or in the case of 19mm Clear Stone, nominally compacted in thin lifts.

The basement floors should be located at least 0.5 metres above the highest observed groundwater level, otherwise sub-floor drainage systems together with continual pumping from the drainage systems will be required.

Around the perimeter of the proposed buildings, the ground surface should be sloped on a positive grade away from the structure to promote surface water run-off and reduce groundwater infiltration adjacent to the foundations.

Frequent field review and testing by geotechnical personnel from JLP should be carried out during construction to verify the competency of the subgrade and compaction of granular base and/or backfill by in-situ density testing using nuclear gauges.

6.9 Excavation and Groundwater Control

Excavation to reach the footing founding levels will likely extend to about 1.4 metres below design pre-grades. Excavations must be carried out in accordance with the current Occupation Health and Safety Act (OHSA) and local regulations. For guidance, the side slopes should be cut back to 1 vertical to 1 horizontal as the native sandy silt till, silty sand or “engineered fill” using native soils as fill are considered to be Type 3 soils within the meaning of the OHSA.

Minor seepage from perched water in the native soil deposits or “engineered fill” should be anticipated during construction. However, it should be possible to control and remove seepage water from these sources or surface water from precipitation by pumping on as and where required basis.

7.0 Statement of Limitation

The Statement of Limitation including the Terms and Conditions of this report is presented on Appendix ‘A’ is an integral part of this report.

8.0 Closure

We trust this report is satisfactory for your purposes. Should you have any questions, please do not hesitate to contact this office.

Sincerely,

JLP Services Inc.



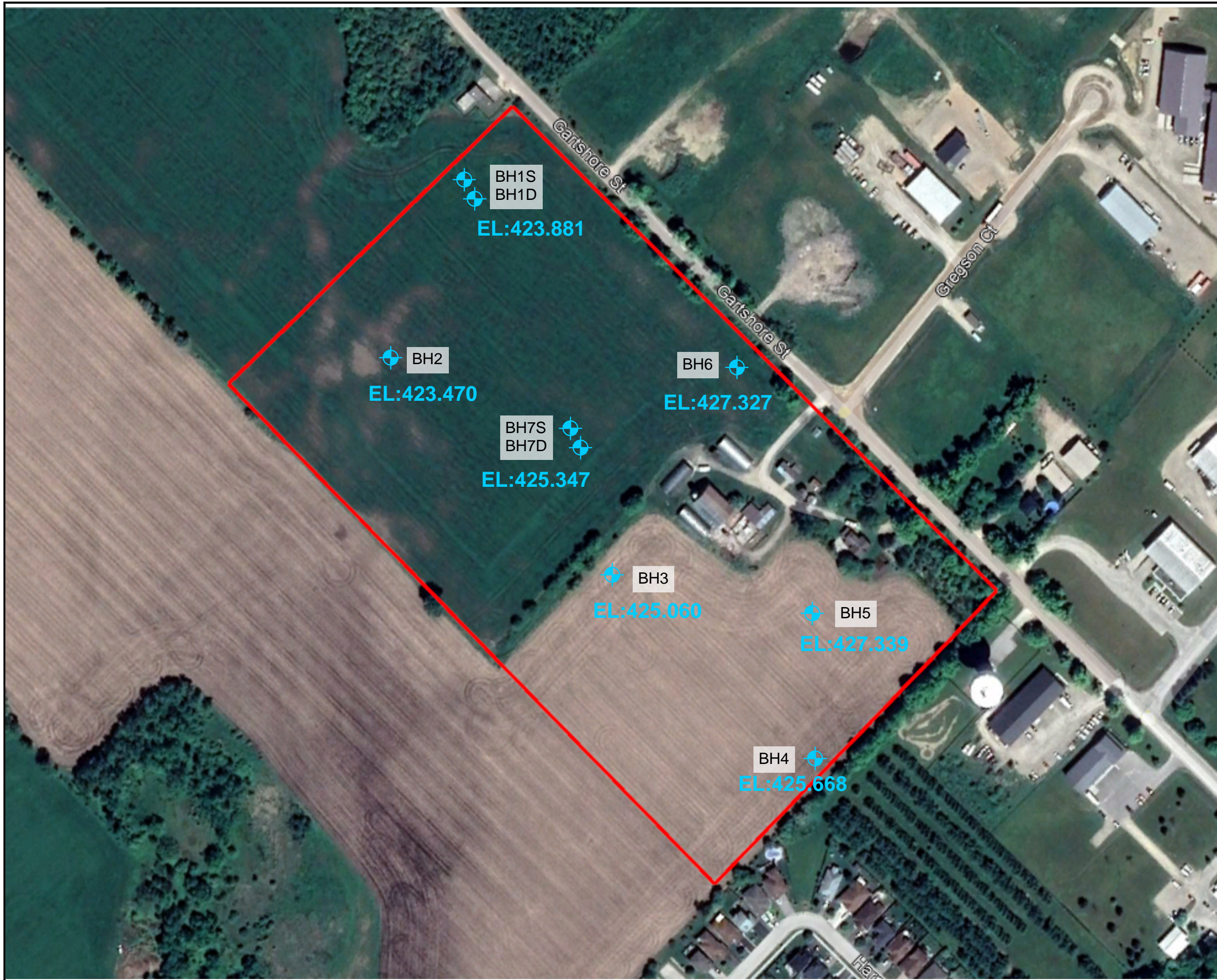
J. Board, B.A.
General Manager






Alexander Lee, M.Sc. (Eng.), P.Eng.
Senior Geotechnical Engineer



Enclosures



Legend

-  Project Area
-  Borehole (JLP, 2022)
-  Borehole with Monitor (JLP, 2022)



Notes:
 1. The soil types and boundaries are applicable only at the location of the boreholes. Between boreholes, they are assumed and may change substantially. The topsoil thicknesses quoted in the report are used for discussion purposes only and should not be used for estimating purposes.
 2. The Ground Surface elevations at the borehole locations were derived from the Temporary Benchmark (TBM) as shown.
 3. The soil samples will be retained for three months from the date of issue of the final report and then discarded, unless the client has requested to extend the storage period with fees.

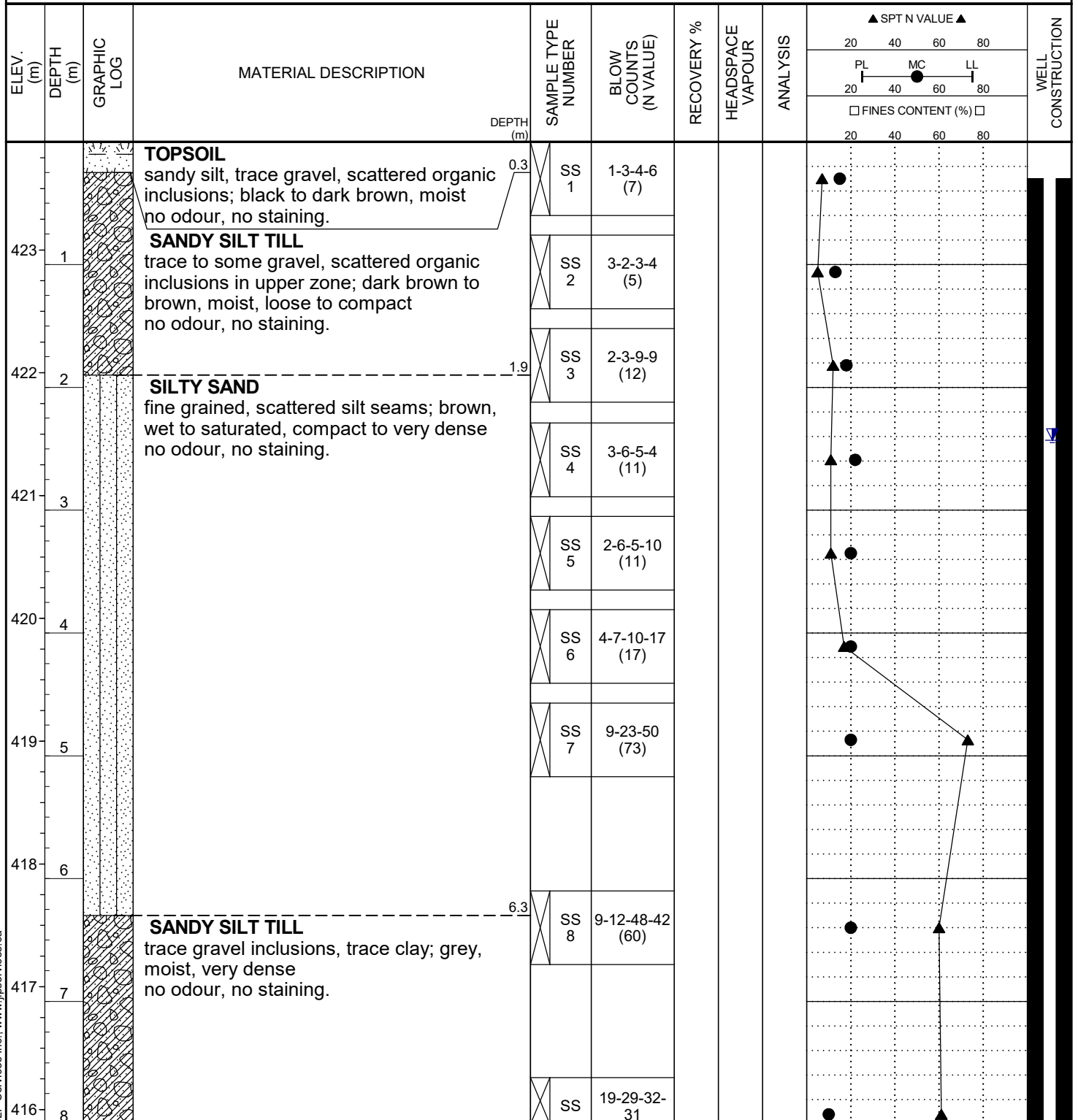


Borehole Location Plan
 Site Development, Operation Centre
 965 Gartshore Street
 Fergus, Ontario

Date: Dec 19, 2022	Ref. No. G4599-22-11	
Prepared By: CL	Checked By: AJ	FIG. No. 3
Source: Google Earth	Scale: N.T.S.	

CLIENT Township of Centre Wellington
PROJECT NUMBER G4599-22-6
DATE STARTED 26-10-22 **COMPLETED** 26-10-22
DRILLING CONTRACTOR Pontil Drilling
DRILLING METHOD D50. Hollow Stem
LOGGED BY GB **CHECKED BY** AL
NOTES _____

PROJECT NAME Operation Centre
PROJECT LOCATION 965 Gartshore Street, Fergus, Ontario
GROUND ELEVATION 423.881 m Geodetic **HOLE SIZE** 200mm
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING ---
▼ AFTER DRILLING 2.43 m / Elev 421.45 m




CLIENT Township of Centre Wellington

PROJECT NAME Operation Centre

PROJECT NUMBER G4599-22-6

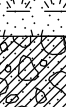

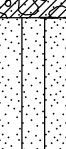
PROJECT LOCATION 965 Gartshore Street, Fergus, Ontario

ELEV. (m)	DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	RECOVERY %	HEADSPACE VAPOUR	ANALYSIS	▲ SPT N VALUE ▲		WELL CONSTRUCTION	
										20	40		60
415	9		SANDY SILT TILL trace gravel inclusions, trace clay; grey, moist, very dense no odour, no staining. (continued)		g	(61)							
414	10					SS 10	23-32-44-50 (76)						
413	11					SS 11	40-50						
412	12												
411	13					SS 12	24-33-20-47 (53)						
410	14					SS 13	50/0.10						
409	15												
						15.3	SS 14	50/0.10					

End of Borehole at 15.34 mbgs.

CLIENT Township of Centre Wellington
PROJECT NUMBER G4599-22-6
DATE STARTED 27-10-22 **COMPLETED** 27-10-22
DRILLING CONTRACTOR Pontil Drilling
DRILLING METHOD D50. Hollow Stem Auger
LOGGED BY GB **CHECKED BY** AL
NOTES _____

PROJECT NAME Operation Centre
PROJECT LOCATION 965 Gartshore Street, Fergus, Ontario
GROUND ELEVATION 423.881 m Geodetic **HOLE SIZE** 200mm
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING ---
▼ AFTER DRILLING 1.34 m / Elev 422.54 m

ELEV. (m)	DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	RECOVERY %	HEADSPACE VAPOUR	ANALYSIS	▲ SPT N VALUE ▲		WELL CONSTRUCTION
										PL	MC	
423	1		TOPSOIL sandy silt, trace gravel, scattered organic inclusions; black to dark brown, moist no odour, no staining.	0.3								
422	2		SANDY SILT TILL trace to some gravel, scattered organic inclusions in upper zone; dark brown to brown, moist, loose to compact no odour, no staining.	1.9								
421	3		SILTY SAND fine grained, scattered silt seams; brown, wet to saturated, compact to very dense no odour, no staining.									
420	4											
419	5											
			End of Borehole at 5.18 mbgs.	5.2								

CLIENT Township of Centre Wellington
PROJECT NUMBER G4599-22-6
DATE STARTED 27-10-22 **COMPLETED** 27-10-22
DRILLING CONTRACTOR Pontil Drilling
DRILLING METHOD D50. Hollow Stem
LOGGED BY GB **CHECKED BY** AL
NOTES _____

PROJECT NAME Operation Centre
PROJECT LOCATION 965 Gartshore Street, Fergus, Ontario
GROUND ELEVATION 423.47 m Geodetic **HOLE SIZE** 200mm
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING ---
▼ AFTER DRILLING 1.23 m / Elev 422.24 m

ELEV. (m)	DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	RECOVERY %	HEADSPACE VAPOUR	ANALYSIS	▲ SPT N VALUE ▲		WELL CONSTRUCTION
										20	40	
423	0.3		TOPSOIL sandy silt, scattered organic inclusions and rootlets; black to dark brown, moist no odour, no staining.	0.3	SS 1	2-4-8-8 (12)						
422	1.7		SANDY SILT TILL trace to some gravel inclusions; dark brown to brown, moist, compact no odour, no staining.	1.7	SS 2	3-4-9-7 (13)						
421	1.7		SILTY SAND fine grained, scattered silt seams; brown, wet to saturated, compact no odour, no staining.	1.7	SS 3	7-8-11-10 (19)						
420					SS 4	6-7-10-11 (17)						
420					SS 5	5-7-10-11 (17)						
419					SS 6	5-8-13-13 (21)						
419	5.0			5.0	SS 7	8-19-19-15 (38)						
	5.2		SANDY SILT TILL trace gravel inclusions, trace clay; grey, moist, dense no odour, no staining.	5.2								

End of Borehole at 5.18 mbgs.

CLIENT Township of Centre Wellington
PROJECT NUMBER G4599-22-6
DATE STARTED 27-10-22 **COMPLETED** 27-10-22
DRILLING CONTRACTOR Pontil Drilling
DRILLING METHOD D50. Hollow Stem
LOGGED BY GB **CHECKED BY** AL
NOTES _____

PROJECT NAME Operation Centre
PROJECT LOCATION 965 Gartshore Street, Fergus, Ontario
GROUND ELEVATION 425.06 m Geodetic **HOLE SIZE** 200mm
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING ---
▼ AFTER DRILLING 2.64 m / Elev 422.42 m

ELEV. (m)	DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	RECOVERY %	HEADSPACE VAPOUR	ANALYSIS	▲ SPT N VALUE ▲			WELL CONSTRUCTION
										20	40	60	
425	0.2		TOPSOIL sandy silt, scattered organic seams and inclusions; black to dark brown, moist no odour, no staining.	0.2	SS 1	2-5-9-12 (14)							
424	1.6		SANDY SILT TILL trace to some gravel inclusions, scattered organic inclusions in upper zone; dark brown to brown, moist, compact no odour, no staining.	1.6	SS 2	9-10-5-6 (15)							
423	5.2		SILTY SAND fine to medium grained; brown, moist to wet, compact to loose no odour, no staining.	5.2	SS 3	7-11-9-8 (20)							
422					SS 4	4-5-8-5 (13)							
421					SS 5	5-6-8-4 (14)							
420					SS 6	6-6-7-6 (13)							
					SS 7	4-3-5-5 (8)							

becoming grey at 5.0m
End of Borehole at 5.18 mbgs.

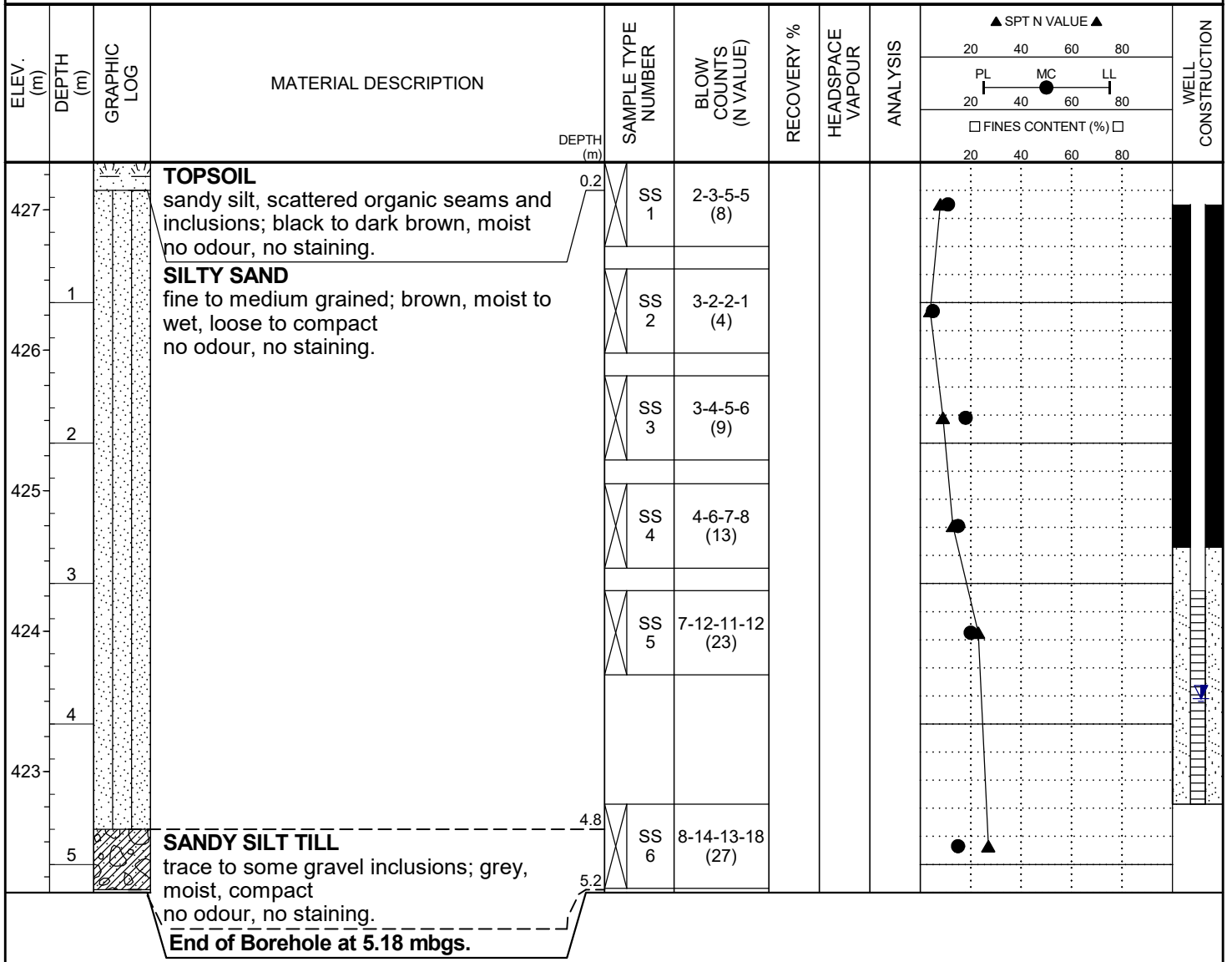
CLIENT Township of Centre Wellington
PROJECT NUMBER G4599-22-6
DATE STARTED 27-10-22 **COMPLETED** 27-10-22
DRILLING CONTRACTOR Pontil Drilling
DRILLING METHOD D50. Hollow Stem
LOGGED BY GB **CHECKED BY** AL
NOTES _____

PROJECT NAME Operation Centre
PROJECT LOCATION 965 Gartshore Street, Fergus, Ontario
GROUND ELEVATION 425.668 m Geodetic **HOLE SIZE** 200mm
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING ---
▼ AFTER DRILLING 2.21 m / Elev 423.46 m

ELEV. (m)	DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	RECOVERY %	HEADSPACE VAPOUR	ANALYSIS	▲ SPT N VALUE ▲		WELL CONSTRUCTION
										20	40	
425.668	0.2		TOPSOIL sandy silt, scattered organic inclusions and rootlets; black to dark brown, moist no odour, no staining.	0.2	SS 1	2-5-7-5 (12)						
424.5	1.5		SANDY SILT TILL trace gravel inclusions, scattered organic inclusions in upper zone; dark brown to brown, moist, compact no odour, no staining.	1.5	SS 2	3-5-8-7 (13)						
423.5	2.0		SILTY SAND fine to medium grained; brown, wet to saturated, compact to loose no odour, no staining.	2.0	SS 3	4-5-5-5 (10)						
423.0	3.0			3.0	SS 4	4-5-5-7 (10)						
422.5	4.0			4.0	SS 5	2-2-7-4 (9)						
421.5	4.5		becoming grey at about 4.1m	4.5	SS 6	4-10-8-4 (18)						
421.0	5.2		SANDY SILT TILL trace to some clay, trace gravel inclusions, scattered sand seams; grey, wet, compact no odour, no staining.	5.2	SS 7	3-6-4-5 (10)						
<p>End of Borehole at 5.18 mbgs.</p>												

CLIENT Township of Centre Wellington
PROJECT NUMBER G4599-22-6
DATE STARTED 25-10-22 **COMPLETED** 25-10-22
DRILLING CONTRACTOR Pontil Drilling
DRILLING METHOD D50. Hollow Stem
LOGGED BY GB **CHECKED BY** AL
NOTES _____

PROJECT NAME Operation Centre
PROJECT LOCATION 965 Gartshore Street, Fergus, Ontario
GROUND ELEVATION 427.339 m Geodetic **HOLE SIZE** 200mm
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING ---
▼ AFTER DRILLING 3.82 m / Elev 423.52 m



CLIENT Township of Centre Wellington
PROJECT NUMBER G4599-22-6
DATE STARTED 25-10-22 **COMPLETED** 25-10-22
DRILLING CONTRACTOR Pontil Drilling
DRILLING METHOD D50. Hollow Stem Auger
LOGGED BY GB **CHECKED BY** AL
NOTES _____

PROJECT NAME Operation Centre
PROJECT LOCATION 965 Gartshore Street, Fergus, Ontario
GROUND ELEVATION 427.327 m Geodetic **HOLE SIZE** 200mm
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING ---
▼ AFTER DRILLING 3.88 m / Elev 423.45 m

ELEV. (m)	DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	RECOVERY %	HEADSPACE VAPOUR	ANALYSIS	▲ SPT N VALUE ▲			WELL CONSTRUCTION
										20	40	60	
427	0.3		TOPSOIL sandy silt, scattered organic seams and inclusions; black to dark brown, moist no odour, no staining.	0.3	SS 1	1-5-6-4 (11)							
426	1		SILTY SAND fine to medium grained; brown, moist to wet, loose to compact no odour, no staining.		SS 2	2-1-1-1 (2)							
425	2				SS 3	1-5-7-9 (12)							
424	3				SS 4	3-6-9-7 (15)							
424	4				SS 5	5-8-8-10 (16)							
423	4				SS 6	4-4-6-7 (10)							
423	4.7		SANDY SILT TILL trace to some gravel inclusions; brown, moist, dense no odour, no staining.	4.7	SS 7	13-19-28-37 (47)							
	5.2		End of Borehole at 5.18 mbgs.	5.2									

CLIENT Township of Centre Wellington
 PROJECT NUMBER G4599-22-6
 DATE STARTED 24-10-22 COMPLETED 25-10-22
 DRILLING CONTRACTOR Pontil Drilling
 DRILLING METHOD D50. Hollow Stem Auger
 LOGGED BY AK CHECKED BY AL
 NOTES _____

PROJECT NAME Operation Centre
 PROJECT LOCATION 965 Gartshore Street, Fergus, Ontario
 GROUND ELEVATION 425.347 m Geodetic HOLE SIZE 200mm
 GROUND WATER LEVELS:
 AT TIME OF DRILLING ---
 AT END OF DRILLING ---
 AFTER DRILLING 11.78 m / Elev 413.57 m

ELEV. (m)	DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	RECOVERY %	HEADSPACE VAPOUR	ANALYSIS	▲ SPT N VALUE ▲			WELL CONSTRUCTION
										20	40	60	
425	0.2		TOPSOIL sandy silt, scattered organic seams and inclusions; black to dark brown, moist no odour, no staining.	0.2	SS 1	2-4-6-6 (10)							
424	1		SILTY SAND fine grained, scattered organic inclusions in upper zone; dark brown to brown, moist to wet, compact no odour, no staining.		SS 2	5-4-5-6 (9)							
423	2				SS 3	7-9-10-10 (19)							
422	3				SS 4	3-5-6-6 (11)							
422	4				SS 5	5-6-8-7 (14)							
421	5				SS 6	3-8-9-9 (17)							
420	6				SS 7	8-8-10-8 (18)							
419	7		sand and gravel, some silt, coarse grained, clayey seams; wet		SS 8	18-16-50 (66)							
418	7.3		SANDY SILT TILL some clay, trace to some gravel; grey, wet, very dense no odour, no staining.	7.3	SS 9	50/0.10							


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CLIENT Township of Centre Wellington

PROJECT NAME Operation Centre

PROJECT NUMBER G4599-22-6

PROJECT LOCATION 965 Gartshore Street, Fergus, Ontario


ELEV. (m)	DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	RECOVERY %	HEADSPACE VAPOUR	ANALYSIS	▲ SPT N VALUE ▲		WELL CONSTRUCTION		
									20	40		60	80
417			SANDY SILT TILL some clay, trace to some gravel; grey, wet, very dense no odour, no staining. (continued)										
	9												
416						SS 10	50/0.13						
	10												
415						SS 11	41-50						
	11												
414													
	12												
413						SS 12	50/0.10						
	13												
412													
	14					SS 13	45-45-50 (95)						
411													
	15												
410						SS 14	16-16-50 (66)						
	16												
409													
	17			SS 15	50/0.13								

CLIENT Township of Centre Wellington

PROJECT NAME Operation Centre

PROJECT NUMBER G4599-22-6

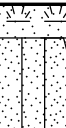
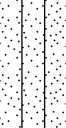
PROJECT LOCATION 965 Gartshore Street, Fergus, Ontario

ELEV. (m)	DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	RECOVERY %	HEADSPACE VAPOUR	ANALYSIS	▲ SPT N VALUE ▲		WELL CONSTRUCTION	
									20	40		60
408	18		SANDY SILT TILL some clay, trace to some gravel; grey, wet, very dense no odour, no staining. (continued)									
407	19			SS 16	50/0.13							●
406	20			SS 17	50/0.13							●
405	21											
404	22			SS 18	50/0.13							●
403	23			SS 19	50/0.13							●
402	24											
401	25			SS 20	50/0.13							●
	25.3			SS 21	40-50							●

End of Borehole at 25.3 mbgs.

CLIENT Township of Centre Wellington
 PROJECT NUMBER G4599-22-6
 DATE STARTED 25-10-22 COMPLETED 25-10-22
 DRILLING CONTRACTOR Pontil Drilling
 DRILLING METHOD D50. Hollow Stem Auger
 LOGGED BY GB CHECKED BY AL
 NOTES _____

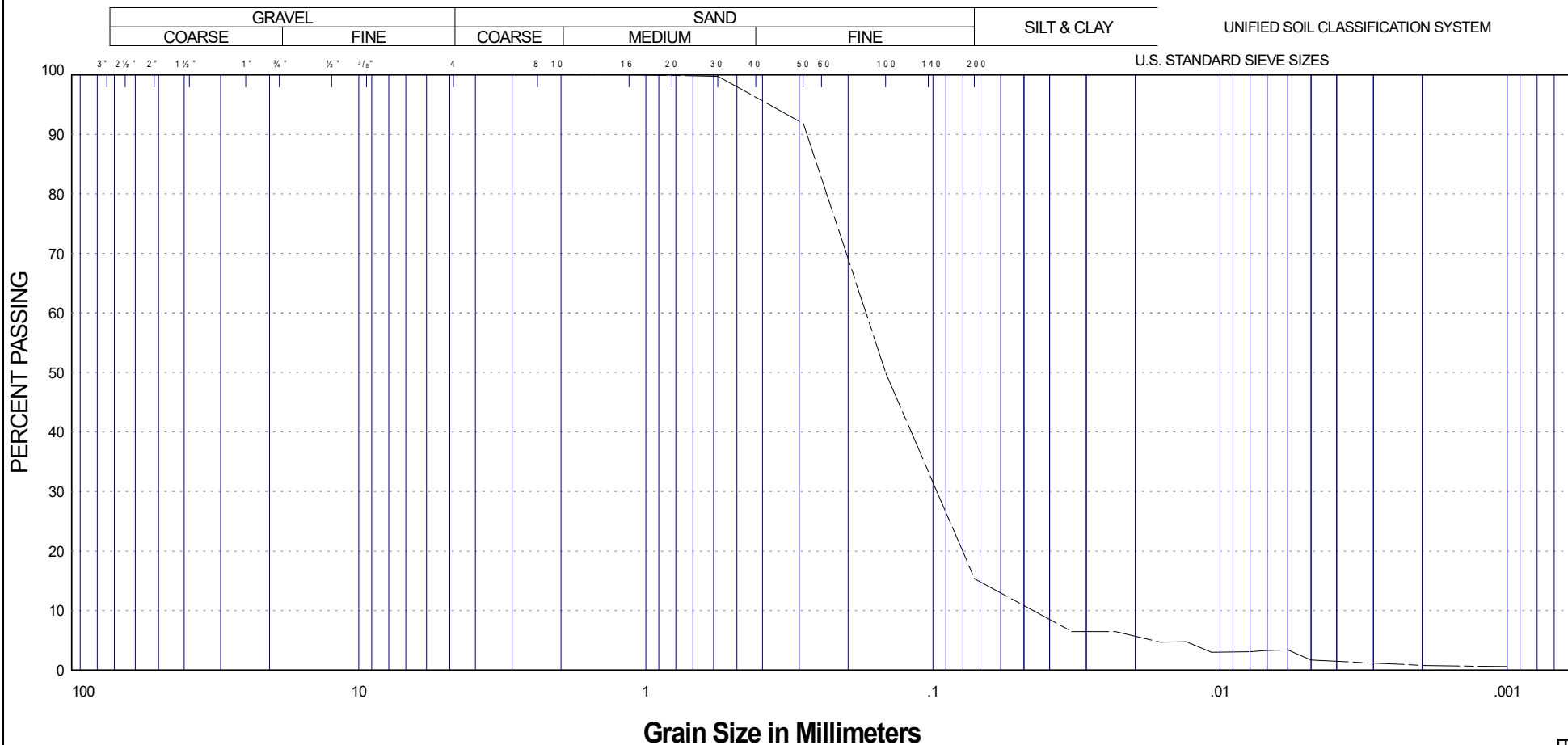
PROJECT NAME Operation Centre
 PROJECT LOCATION 965 Gartshore Street, Fergus, Ontario
 GROUND ELEVATION 425.347 m Geodetic HOLE SIZE 200mm
 GROUND WATER LEVELS:
 AT TIME OF DRILLING ---
 AT END OF DRILLING ---
 AFTER DRILLING 2.72 m / Elev 422.63 m

ELEV. (m)	DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	RECOVERY %	HEADSPACE VAPOUR	ANALYSIS	▲ SPT N VALUE ▲		WELL CONSTRUCTION
									PL	MC	
425	0.2		TOPSOIL sandy silt, scattered organic seams and inclusions; black to dark brown, moist no odour, no staining.								
424			SILTY SAND fine grained, scattered organic inclusions in upper zone; dark brown to brown, moist to wet, compact no odour, no staining.								
423											
422											
421											
	5.2										

End of Borehole at 5.18 mbgs.

GRAIN SIZE DISTRIBUTION

OUR REFERENCE N° G4599-22-6



PROJECT: Operations Centre
 LOCATION: 965 Gartshore Street, Fergus, ON
 BOREHOLE N°: 1
 SAMPLE N°: 6
 DEPTH: 3.8 - 4.4 m±
 ELEVATION: 420.1 - 419.5 m±

COEFFICIENT OF UNIFORMITY: -
 COEFFICIENT OF CURVATURE: -

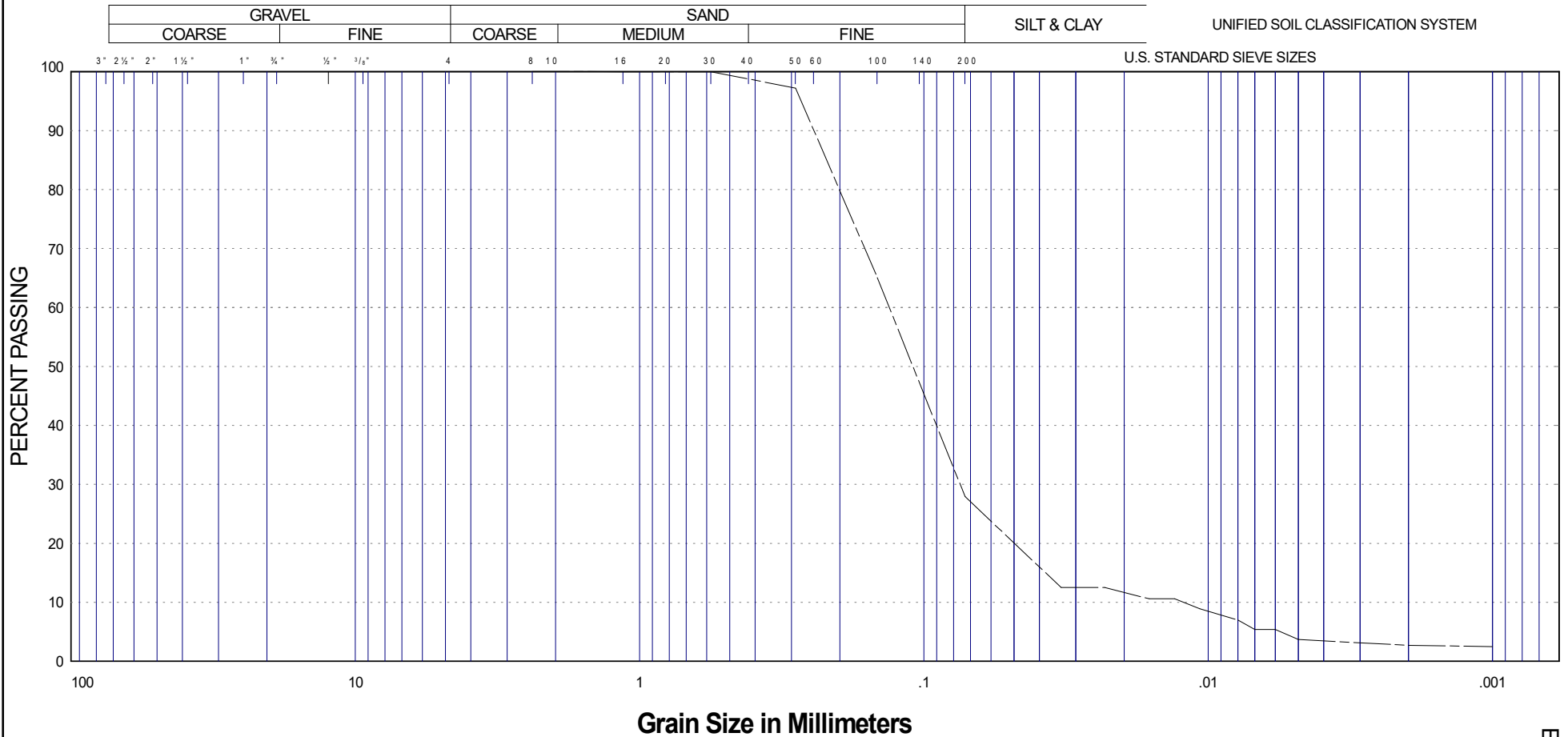
Classification of Sample and Group Symbol:
 SAND, some silt

PLASTIC PROPERTIES
 LIQUID LIMIT % = -
 PLASTIC LIMIT % = -
 PLASTICITY INDEX % = -
 MOISTURE CONTENT % = 18.6

ENCLOSURE N° 11

GRAIN SIZE DISTRIBUTION

OUR REFERENCE N° G4599-22-6



PROJECT: Operations Centre
 LOCATION: 965 Gartshore Street, Fergus, ON
 BOREHOLE N°: 7
 SAMPLE N°: 7
 DEPTH: 4.6 - 5.2 m±
 ELEVATION: 420.8 - 420.2 m±

COEFFICIENT OF UNIFORMITY: -
 COEFFICIENT OF CURVATURE: -

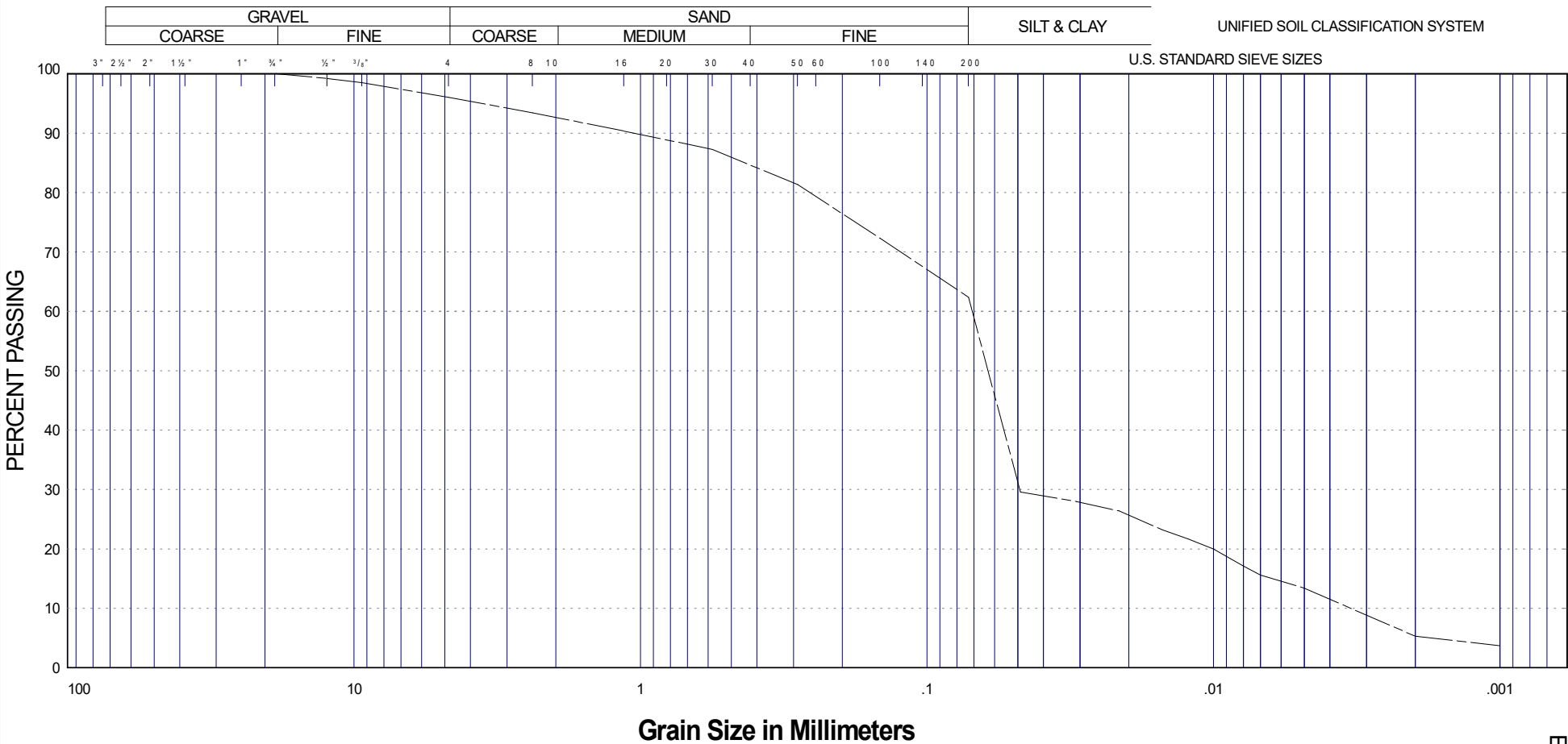
Classification of Sample and Group Symbol:
 SILTY SAND, trace clay

PLASTIC PROPERTIES
 LIQUID LIMIT % = -
 PLASTIC LIMIT % = -
 PLASTICITY INDEX % = -
 MOISTURE CONTENT % = 20.0

ENCLOSURE N° 12

GRAIN SIZE DISTRIBUTION

OUR REFERENCE N° G4599-22-6



PROJECT: Operations Centre
 LOCATION: 965 Gartshore Street, Fergus, ON
 BOREHOLE N°: 1
 SAMPLE N°: 12
 DEPTH: 12.2 - 12.8 m±
 ELEVATION: 411.7 - 411.1 m±

COEFFICIENT OF UNIFORMITY:
 COEFFICIENT OF CURVATURE:

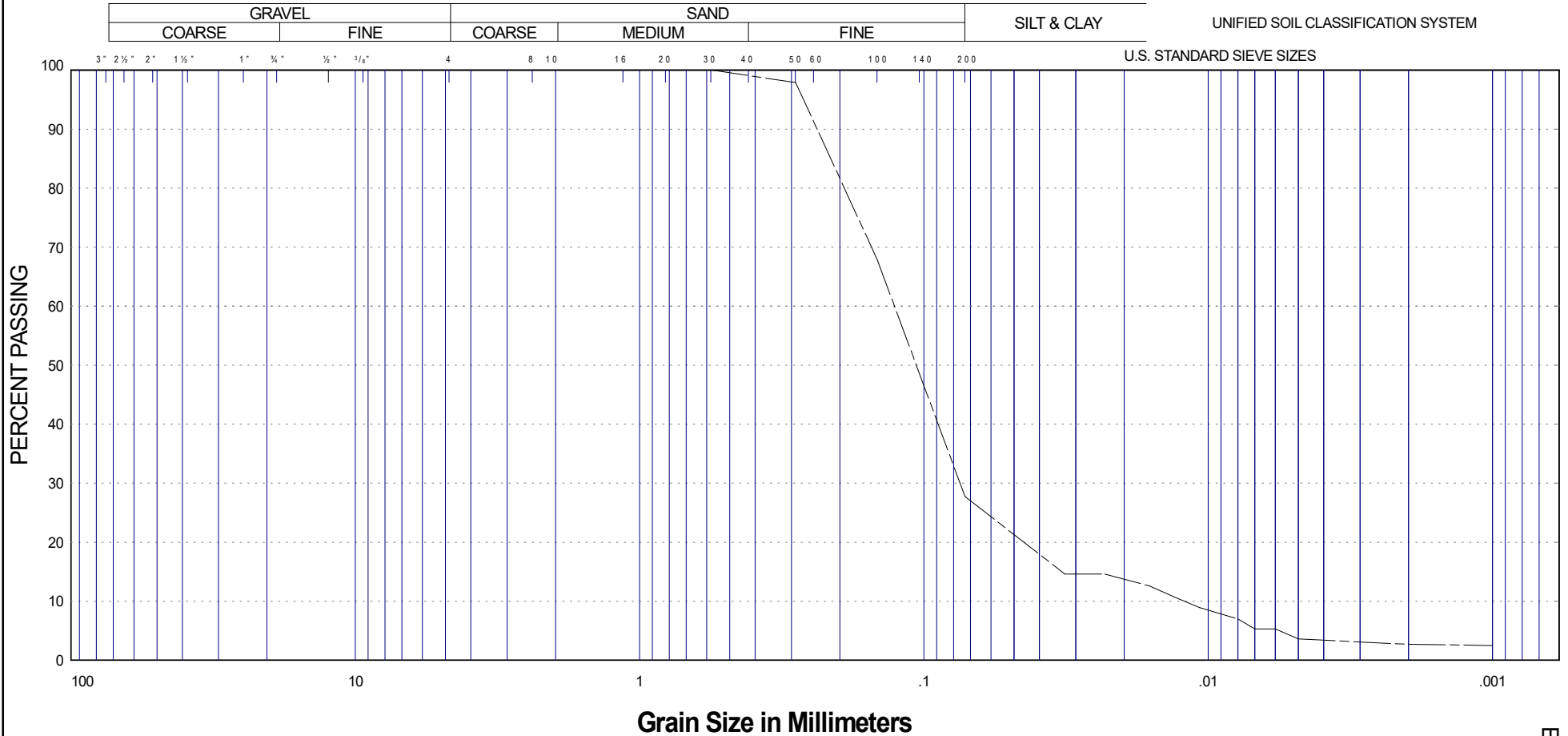
Classification of Sample and Group Symbol:
 SANDY SILT, trace clay, trace gravel (ML)

PLASTIC PROPERTIES
 LIQUID LIMIT % = 10.6
 PLASTIC LIMIT % = 9.2
 PLASTICITY INDEX % = 1.4
 MOISTURE CONTENT % = 10.0

ENCLOSURE N° 13

GRAIN SIZE DISTRIBUTION

OUR REFERENCE N° G4599-22-6



PROJECT: Operations Centre
 LOCATION: 965 Gartshore Street, Fergus, ON
 BOREHOLE N°: 7
 SAMPLE N°: 15
 DEPTH: 16.8 - 17.4 m±
 ELEVATION: 408.6 -408.0 m±

COEFFICIENT OF UNIFORMITY: -
 COEFFICIENT OF CURVATURE: -

Classification of Sample and Group Symbol:
 SILTY SAND, trace clay (SM)

PLASTIC PROPERTIES
 LIQUID LIMIT % = -
 PLASTIC LIMIT % = -
 PLASTICITY INDEX % = -
 MOISTURE CONTENT % = 21.5

ENCLOSURE N° 14

Appendix A – Limitations and Use of Report

REPORT TERMS AND CONDITIONS

NOTICE: THE FOLLOWING PROVISIONS SET FORTH IMPORTANT QUALIFICATIONS AND LIMITATIONS ON THE FINDINGS AND RECOMMENDATIONS IN THE REPORT AS WELL AS THE USE OF, AND RELIANCE ON, THE REPORT.

1. **DEFINITIONS.** The following capitalized terms have the following meanings:

- (a) **“Additional Investigations”** means investigations that JLP has indicated to the Client should be undertaken to take into account any Out-of-Scope Requirements, but that are not otherwise specifically within the scope of investigations conducted for the purpose of the Report.
- (b) **“Applicable Laws”** means and includes without limitation all applicable provincial laws, regulations, guidelines, policies, standards, protocols, and objectives administered by the Ministry of the Environment and Climate Change or any other duly-constituted governmental authority, all as in force as of the date of the Report.
- (c) **“Client”** means the Client as referred to in the Report.
- (d) **“Client Information”** means the information, representations, and instructions provided by the Client, the Client’s representatives, and/or others and upon which the Report is based, in whole or in part.
- (e) **“Findings”** means the evaluations and conclusions set forth in the Report.
- (f) **“JLP”** means JLP Services Inc.
- (g) **“Out-of-Scope Requirements”** means special concerns or requirements of the Client in respect of the subject matter of the Report.
- (h) **“Recommendations”** mean the findings and recommendations referred to in the Report, taking into account any Out-of-Scope Requirements that were disclosed to JLP prior to the date of the Report.
- (i) **“Report”** means the report to which these Terms and Conditions are attached and form part.
- (j) **“Report Documents”** means the underlying documents, records, data, and files, in any medium whatsoever, generated in connection with the preparation of the Report, including without limitation, the instructions and objectives communicated to JLP by the Client, communications between JLP and the Client, and other reports, proposals, or documents prepared by JLP for the Client in connection with the Site.
- (k) **“Site”** means the site in respect of which the Report was prepared.
- (l) **“Site Conditions”** means Site conditions known as a result of, or reasonably imputed by, the investigations that were undertaken as of the date of the Report.

2. **BASIS OF REPORT.** The Report is based on the Site Conditions. Any changes to the Site Conditions after the date of the Report that could or will affect the Site Conditions may or will have a corresponding effect on the Recommendations. The Report does not take into account any (a) Additional Investigations that were not undertaken, or (b) Out-of-Scope Requirements that were not communicated prior to completion of the investigations that were been undertaken as of the date of the Report. Where recommended field services are referred to, they are the minimum services necessary to determine compliance of construction with Applicable Laws,

generally accepted industry-standard practices, and the Recommendations.

3. **RELIANCE & USE.** The Report has been prepared only for the Site and the related design, development, building, or building assessment objectives identified by the Client. The Findings and Recommendations are based on the Site Conditions and the Client Information. In preparing the Report, JLP has relied upon the Client Information and disclaims any responsibility for any inaccuracy, misstatement, omission, unintentional misrepresentation, or other deficiency contained in the Report as a result of such reliance. Unless specifically stated otherwise, the applicability and reliability of the Findings and the Recommendations expressed in the Report are only valid to the extent that (a) there has been no material change to or variation from any of the Client Information, (b) the Client Information contains no untrue statement of a material fact, or (c) the Client Information omits no statement of a material fact necessary in order to make the Client Information not misleading.

The Report and the Findings and Recommendations are for the sole benefit of the Client. No other party may use or rely upon the Report in whole or in part without the prior written consent of JLP, which may be arbitrarily withheld or conditioned.

RELIANCE UPON THE REPORT OR ANY OF THE DETERMINATIONS MADE HEREIN BY A THIRD PARTY WITHOUT JLP'S CONSENT IS PROHIBITED AND JLP MAKES NO REPRESENTATION, GUARANTEE, OR WARRANTY IN FAVOUR OF ANY THIRD PARTY WITH RESPECT TO THE REPORT WHATSOEVER. JLP FULLY DISCLAIMS, AND WILL HAVE NO LIABILITY FOR, ANY LOSS, DAMAGES, OR EXPENSES WHICH ANY THIRD PARTY MAY INCUR OR SUFFER AS A RESULT OF THE USE OF OR RELIANCE ON THIS REPORT WHERE JLP HAS NOT EXPRESSLY AUTHORIZED SAME. ANY THIRD PARTY WHO RELIES ON THE REPORT TO ANY EXTENT DOES SO AT SUCH PARTY'S OWN RISK AND COMPLETELY WAIVES ANY AND ALL CLAIMS AGAINST JLP IN CONNECTION WITH THE REPORT, REGARDLESS OF THE THEORY OF LAW (WHETHER IN CONTRACT, TORT, OR ANY THEORY OF LAW COMING INTO EXISTENCE HEREAFTER).

4. **STANDARD OF CARE.** The Report has been prepared in a manner consistent with the degree of care and skill exercised by engineering consultants currently practicing under similar circumstances. No other warranty, expressed or implied, is made or intended in the Report. It is intended that the Findings and Recommendations are meant to assist in reducing the Client's risk associated with environmental impairment at the Site. The Report should not be considered risk mitigation.
5. **ENTIRE REPORT.** The Report also includes the Report Documents. In order to properly understand the Findings and Recommendations, reference must be made to the Report in its entirety. JLP is not responsible for use by any party of a part of the Report only.
6. **GOVERNING FORMAT.** Notwithstanding that JLP may have submitted an electronic version of the Report or any document forming part of the Report, only the signed and sealed physical copy of the Report shall be deemed to be the original and in the event of any dispute or discrepancy, the physical copy shall govern. JLP makes no representation about the compatibility of its electronic or digital file format with the Client's current or future software and/or hardware systems. The documents described herein are JLP's instruments of professional service and shall not be altered without the written consent of JLP.
7. **GENERAL LIMITATIONS.**
- (a) Unless specifically stated otherwise, the Report does not contain environmental consulting advice.
 - (b) The Report contains no opinion or determination as to any matters governed by laws other than the laws of the Province of Ontario and the federal laws of Canada applicable therein as of the date hereof.
 - (c) During any future development of the Site, conditions not observed during JLP's investigations may become apparent. If this occurs, JLP should be contacted to assess the situation and whether there is a need for additional testing.