

August 20, 2025

Domenic Santaguida
3625 Rivergate Way
Ottawa, ON
K1V 2A4

via email: mathieu@mssignatures.ca

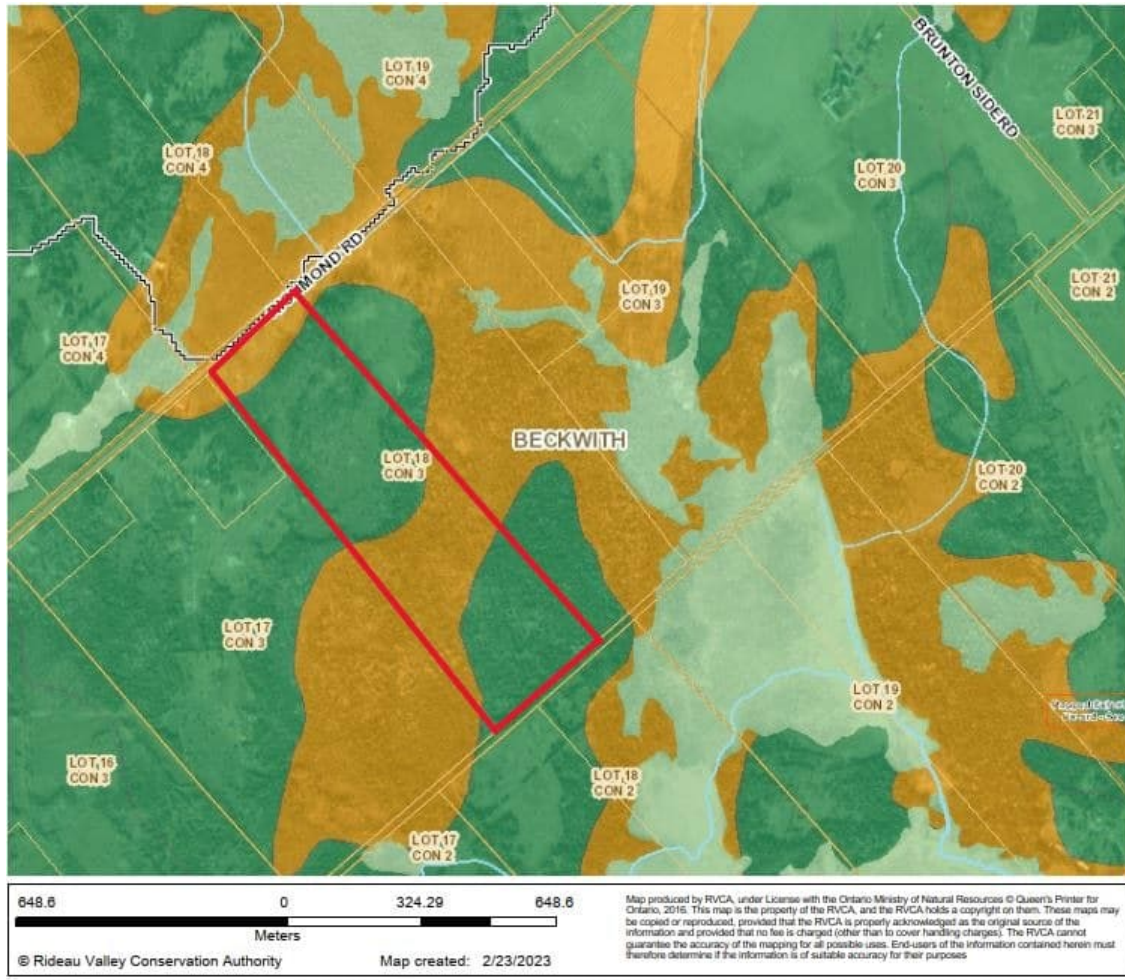
Re: Organic Soils Assessment – Proposed Subdivision, Beckwith, Ontario (PP-20-9510)

Dear Mathieu,

Egis Canada Ltd ('Egis') was retained by Domenic Santaguida (owner of the property and 'the Client') to conduct an Organic Soil Assessment in support of the proposed subdivision within the Township of Beckwith, Ontario. The Site is located south of Richmond Road, approximately midway between the community development areas of Franktown and Prospect, Ontario ('the Site', see Figure 1). It is our understanding that this Organic Soils Assessment was requested by the Rideau Valley Conservation Authority (RVCA) during the pre-consultation for this proposed subdivision.

Based on correspondence provided by the RVCA, soil mapping provided by the OMAFRA indicates that organic soils are likely present over some of the proposed subdivision area. The approximate outline of the proposed subdivision area is indicated as a red outline below. The area of "organic soils" is denoted by the orange areas. This organic soils assessment focused on these areas.





Location of Site and Organic Soils Mapping (Proposed Subdivision outlined in red)

1.1 Soil Investigation Methodology

On June 15, 2023, Egis staff (Rebecca Leduc, M.Sc.) visited the property to conduct the field investigation. The work involved the advancement of six (6) test pits and three (3) hand-dug holes within the area of the suspected organic soils, each to a depth in which refusal on bedrock was encountered (average depth of refusal of 0.31 m below ground surface (bgs)).

Soil from each of the sample locations was inspected by Egis staff to assess and characterize the subsurface materials of the site to determine the presence and extent of “organic soils”. The location of each test pit was mapped. Sampling locations were photographed and select samples were labelled and stored in Ziploc bags for laboratory analysis and further evaluation. Samples for analysis were submitted to Egis’ geotechnical laboratory in Nepean, Ontario, for analysis to determine organic matter content in % by weight. Egis’ Geotechnical laboratory is certified by the Ministry of Transportation Ontario (MTO) under the RAQS program at Medium Complexity level for Soil and Rock Testing, including Testing for Foundation Engineering.

While the presence of organic soil was assessed in the field, three samples were collected and tested for organic matter content. Egis' in-house geoscience and geotechnical engineering staff examined samples to confirm field observations. Soils are typically considered to be "organic soils" if the soil organic matter exceeds 12-18% by weight (Troeh, Frederick R., and Louis M. Thompson. *Soils and Soil Fertility*. 6th Ed. Ames, Iowa: Blackwell Pub., 2005).

A summary of soil samples submitted is shown in the following table:

Sample Matrix	Sample ID	Average Depth (m bgs)/Stratigraphy	Organic Matter (%)	Rationale
Soil	OS-1	0.1 – 0.3: Clayey presumed organic material, moist, trace cobbles, brown	6.2	General Site characterization in areas of organic soils as noted on mapping
	OS-6	0 – 0.3: Sandy silt, presumed organic materials, moist, brown	18.3	
	OS-7	0 – 0.3: Silty sand, trace cobbles, moist, black	7.5	

1.2 Results

1.2.1 Soil

The Site currently consists predominantly of undeveloped mixed forested land, with some areas of low brush and/or grass. Two unevaluated wetlands are present within the northern portion of the Site, directly adjacent to Richmond Road. The results of the soil samples submitted for analysis are noted in the table above. Approximate locations of the test pits and holes and other features are noted on an aerial photograph of the area (Figure 1). The soil analysis results are appended.

At test pit OS-1, OS-2, OS-3, a thin layer of topsoil was underlain by clayey sand and organic materials. At the hand-dug locations OS-4 and OS-5, medium to fine -grained sand with clay was found. OS-6 consisted of moist, organic rich sandy silty soil. OS-6, OS-7 and OS-8 consisted of medium-grained sand with trace gravel. OS-7 consisted of medium-grained silty sand with cobbles. Finally, at location OS-8 and OS-9, soils consisted of loose medium-grained sand with trace cobbles. There were no obvious locations of organic-rich soil, with the

exception of OS-6 which consisted of moist, organic-rich sandy silt. Refusal on bedrock was encountered at all locations between 0.15 – 0.35 m bgs.

Three representative soil samples were collected and analyzed for organic matter content. One sample was from OS-1 at a depth of 0.1-0.3 m and was found to have an organic matter content of 6.2% by weight. A second sample collected from OS-6 at a depth of 0 – 0.3 m was found to have an organic matter content of 18.3% by weight. Finally, the third sample collected from OS-7 at a depth of 0-0.3 m was found to have an organic matter content of 7.5% by weight.

Only the sample collected from OS-6 is considered to be organic soil. This area is located in the middle-north portion of the proposed subdivision area. This area would therefore not be suitable for building (residence and septic), unless and until the organic soils are removed prior to construction or a design from a geotechnical engineer is provided.

1.3 Summary

The observations and testing show that the extent of "organic soils" throughout the property was only uncovered within the middle-north portion of the proposed subdivision area, in proximity to test well TW4 (indicated on Figure 1). The presence of organic soils was therefore not as wide as noted in the original soil mapping provided by OMAFRA. This letter report outlines the results of the soil evaluation in support of the subdivision application. The proposed subdivision is likely suitable for construction, with the exception of lots developed in close proximity to OS-6 due to the presence of "organic soils". Additional measures are required to construct any dwelling within the organic soils within the area of OS-6 such as the removal of the topsoil/organic layer on the property prior to construction. The area is densely wooded, so clearing will be required for development. It is also anticipated that a septic system will likely entail a "raised bed" system with imported fill as the bedrock is relatively shallow even if organic soils were not present.

All test pits and holes were identified in the field. As noted above, based on field observations and analytical data, only the area around test hole OS-6 is considered to consist of "organic soils". The locations are marked on Figure 1 and were collected from throughout the Site.

1.4 Conclusions

At this time, the proposed severances meet the Township's requirements for subdivision development, with the exception of the area in proximity to OS-6 (middle north portion of the Site). The presence of organic soils at this location is not necessarily a hindrance to development as the soil is very shallow and competent bedrock is present within 0.5 m of the surface. Roads, laneways and homes can readily be founded on bedrock (with appropriate engineered fill, as required) once the limited organic soils are removed.

Please note that this study does not in any way guarantee that the subdivision will be approved by the Township. Furthermore, the field evaluation is not suitable as an Engineer's Report suitable for a building permit or any other requirement of the municipality. This letter report is also not suitable for obtaining a septic permit.

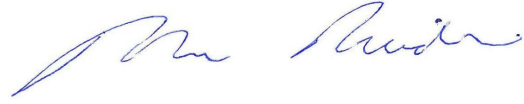
We trust this report is sufficient for your needs at this time. Should you have any questions or concerns please do not hesitate to contact us.

Regards,

Egis



Rebecca Leduc, M.Sc.
Environmental Scientist
Rebecca.LEDUC@egis-group.com



Mark Priddle, P.Geo.
Senior Environmental Geoscientist
Mark.PRIDDLE@egis-group.com

1.5 Attachments

Figures

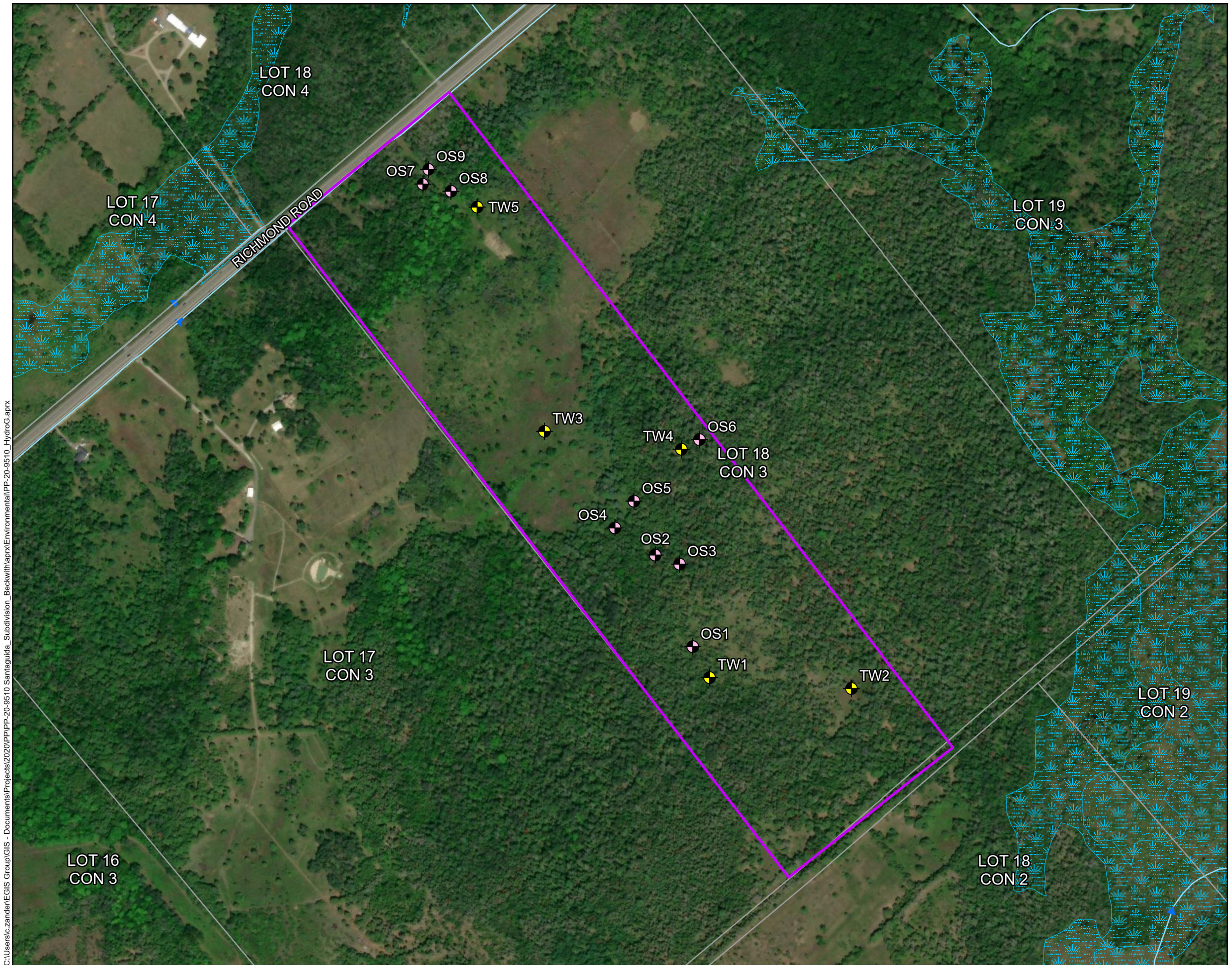
Figure 1 Soil Sampling Locations

Appendix

Appendix A Laboratory Certificate of Analysis

U:\Perth\MPCE JOBS\MPCE Projects\2020\PP-20-9510 Santaguida_Subdivision_Beckwith\Geo-Environmental\Hydro G\Organic Soils\PP-20-9510_Organic Soils Memorandum_Final_20Aug2025.docx

C:\Users\c.zanden\EGIS Group\GIS - Documents\Projects\2020\PP\PP-20-9510 Santiagoa_Subdivision_Beckwith\aprx\Environmental\PP-20-9510_HydroG.aprx

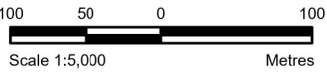


LEGEND

- Site Boundary
- Test Well Locations
- Organic Soils Test Locations
- Watercourse
- Unevaluated Wetland
- Lot & Concession

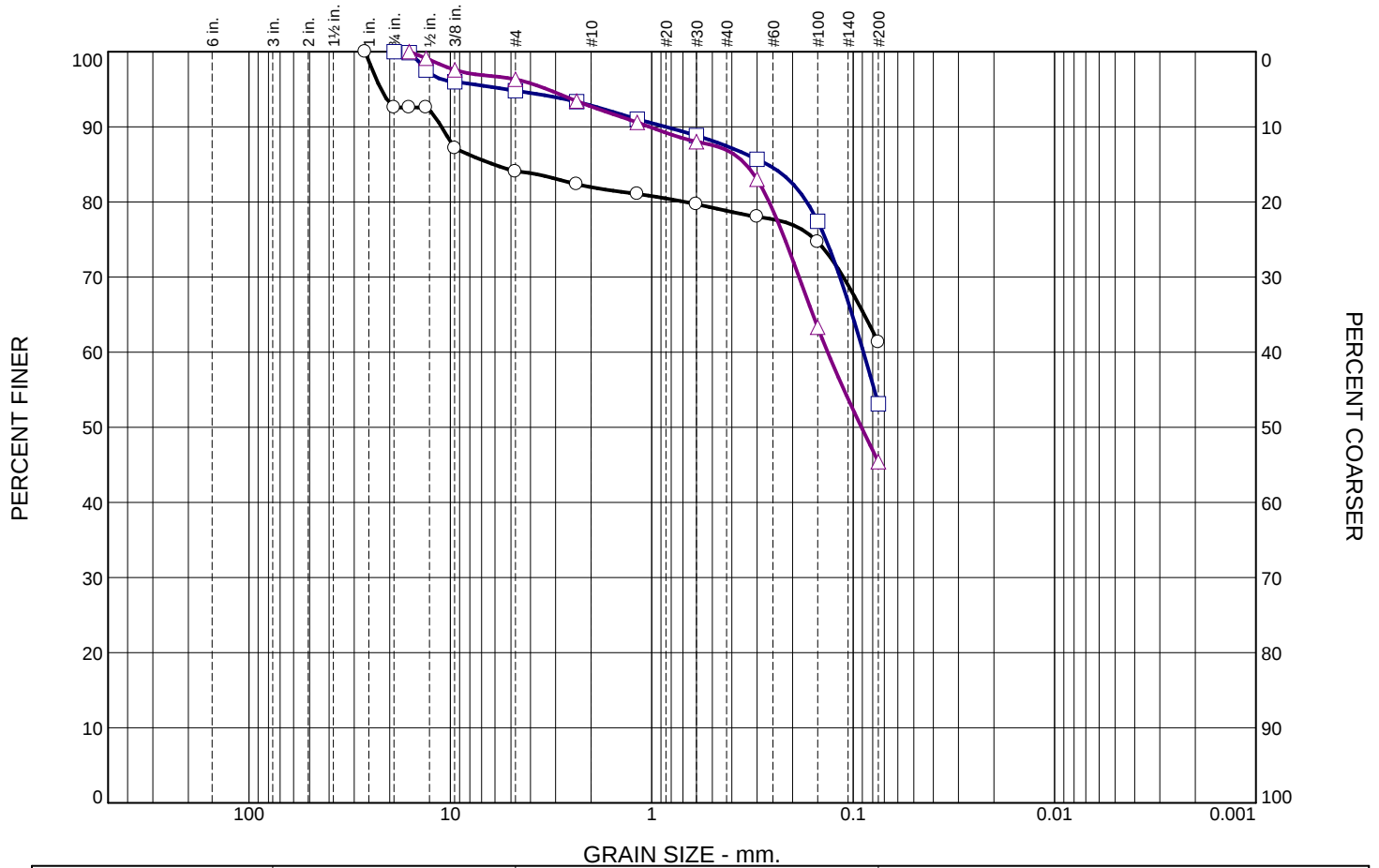
REFERENCE

GIS data provided by the Ontario Ministry of Natural Resources and Forestry, 2024.



CLIENT:	DOMENIC SANTAGUIDA		
PROJECT:	ORGANIC SOILS ASSESSMENT		
TITLE:	SOIL SAMPLING LOCATIONS		
 115 Walgreen Road, RR3, Carp, ON K0A1L0 Tel: 613-836-2184 Fax: 613-836-3742	PROJECT NO: 0PP-20-9510		FIGURE:
	Date	Dec., 05, 2024	1
	GIS	AH	
	Checked By	RL	

Particle Size Distribution Report



GRAIN SIZE - mm.

	% +75mm	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	7.4	8.6	2.0	3.2	17.5	61.3	
□	0.0	0.0	5.2	2.0	5.4	34.3	53.1	
△	0.0	0.0	3.7	3.6	5.8	41.5	45.4	

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	Beckwith	TP-1		Sandy Silt/Clay some Gravel - High Organics present	
□	Beckwith	TP-3		Sand and Silt/Clay trace fine Gravel - Organics Present	
△	Beckwith	TP-8		Sand and Silt/Clay trace fine Gravel - Organics Present	



Client: 13126102 Canada Inc
Project: Santaguida_Subdivision_Beckwith

Project No.: OPP-20-9510-06-08

Figure

Tested By: N.T **Checked By:** J.Hopwood-Jones

GRAIN SIZE DISTRIBUTION TEST DATA

2024-09-25

Client: 13126102 Canada Inc
Project: Santaguida_Subdivision_Beckwith
Project Number: OPP-20-9510-06-08
Location: TP-1
Sample Number: TP-1
Material Description: Sandy Silt/Clay some Gravel - High Organics present
Tested by: N.T
Checked by: J.Hopwood-Jones

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer	Percent Retained
372.90	0.00	0.00	26.5mm	0.00	100.0	0.0
			19.0mm	27.70	92.6	7.4
			16.0mm	27.70	92.6	7.4
			13.2mm	27.70	92.6	7.4
			9.5mm	47.95	87.1	12.9
			4.75mm	59.53	84.0	16.0
			2.36mm	65.79	82.4	17.6
			1.18mm	70.65	81.1	18.9
			0.600mm	75.73	79.7	20.3
			0.300mm	81.96	78.0	22.0
			0.150mm	94.51	74.7	25.3
			0.075mm	144.22	61.3	38.7

Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	7.4	8.6	16.0	2.0	3.2	17.5	22.7			61.3

D5	D10	D15	D20	D30	D40	D50	D60	D80	D85	D90	D95
								0.6842	6.1130	11.0619	22.0945

Fineness Modulus
1.40

GRAIN SIZE DISTRIBUTION TEST DATA

2024-09-25

Client: 13126102 Canada Inc
Project: Santaguida_Subdivision_Beckwith
Project Number: OPP-20-9510-06-08
Location: TP-3
Sample Number: TP-3
Material Description: Sand and Silt/Clay trace fine Gravel - Organics Present
Tested by: N.T
Checked by: J.Hopwood-Jones

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer	Percent Retained
288.73	0.00	0.00	19.0mm	0.00	100.0	0.0
			16.0mm	0.38	99.9	0.1
			13.2mm	7.03	97.6	2.4
			9.5mm	11.56	96.0	4.0
			4.75mm	15.00	94.8	5.2
			2.36mm	19.22	93.3	6.7
			1.18mm	25.93	91.0	9.0
			0.600mm	32.25	88.8	11.2
			0.300mm	41.35	85.7	14.3
			0.150mm	65.20	77.4	22.6
			0.075mm	135.35	53.1	46.9

Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	5.2	5.2	2.0	5.4	34.3	41.7			53.1

D5	D10	D15	D20	D30	D40	D50	D60	D80	D85	D90	D95
							0.0889	0.1699	0.2672	0.8554	5.2967

Fineness Modulus
0.73

GRAIN SIZE DISTRIBUTION TEST DATA

2024-09-25

Client: 13126102 Canada Inc
Project: Santaguida_Subdivision_Beckwith
Project Number: OPP-20-9510-06-08
Location: TP-8
Sample Number: TP-8
Material Description: Sand and Silt/Clay trace fine Gravel - Organics Present
Tested by: N.T
Checked by: J.Hopwood-Jones

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer	Percent Retained
210.05	0.00	0.00	16.0mm	0.00	100.0	0.0
			13.2mm	1.85	99.1	0.9
			9.5mm	5.11	97.6	2.4
			4.75mm	7.73	96.3	3.7
			2.36mm	13.81	93.4	6.6
			1.18mm	19.79	90.6	9.4
			0.600mm	25.18	88.0	12.0
			0.300mm	35.68	83.0	17.0
			0.150mm	77.07	63.3	36.7
			0.075mm	114.67	45.4	54.6

Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	3.7	3.7	3.6	5.8	41.5	50.9			45.4

D5	D10	D15	D20	D30	D40	D50	D60	D80	D85	D90	D95
						0.0909	0.1339	0.2613	0.3412	1.0285	3.3037

Fineness Modulus
0.88



Organic Matter of Soils

Test Procedure Utilized: ☐ ASTM D2974 ☐ AASHTO T-??				
Project No.: OPP-20-9510-06-08			Date Received: September 19,2024	
Project Name/Location: Santaguida_Subdivision_Beckwith			Date Tested: September 25,2024	
Material Type:				
Lab Sample No.	A	B	C	
Borehole No.	OS-1	OS-6	OS-7	
Sample No.				
Sample Description				
Moisture Content				
Mass of Tare (g)	118.41	120.6	127.41	
Mass of Tare & Wet Sample (g)	434.79	348.9	372.08	
Mass of Tare & Dry Sample (g)	340.89	240.48	302.56	
Mass of Water (g)	93.9	108.42	69.52	
Mass of Dry Soil (g)	222.48	119.88	175.15	
Moisture Content (%)	42.2	90.4	39.7	
Determination of Ash & Organic Matter Content				
Mass of Oven dried Sample (g)	222.48	119.88	175.15	
Mass of Sample (Ash) After Ignition (g)	208.78	97.9	161.96	
Mass of Loss (g)	13.7	21.98	13.19	
Oven Temperature (°C)	480	480	480	
Ash Content (%)	93.8	81.7	92.5	
Organic Matter (%)	6.2	18.3	7.5	
Comments:				
Non-Conformance's from Test Procedure: N/A				
Tested by: Jason Hopwood-Jones		Signature: 		
Checked by: Jason Hopwood-Jones		Signature: _____		