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Desktop Hydrogeological Review for a Private Water Supply Well Proposed Commercial Development

3713 Borrisokane Ottawa, Ontario

Prepared For

Caivan Greenbank North Inc.

Paterson Group Inc.

Consulting Engineers 154 Colonnade Road Ottawa (Nepean), Ontario Canada K2E 7J5

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Report PH3959-REP.02

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1.0 INTRODUCTION

1.1 **Terms of Reference**

Paterson Group Inc. (Paterson) was retained by Caivan Greenbank North Inc. (Caivan) to carry out a desktop water supply assessment in support of a Site Plan, Zoning and Official Plan application at 3713 Borrisokane Road, Ottawa, Ontario. The proposed development is to be serviced by municipal services and above mentioned Official Plan Amendment has been submitted to permit development on municipal services. However, private servicing options are being reviewed due to the potential timing and delivery of the municipal services.

The proposed development within the severed lot is expected to consist of a singlestorey, slab-on-grade warehouse and office building with a combined footprint of approximately 12,806 m². The subject site and retained parcel to the east was previously used as an aggregate extraction operation that is now considered to be depleted of resources and is undergoing rehabilitation. The subject site includes a number of sheds and a large vehicle scale. Reference should be made to Paterson Drawing PH3959 - 1 - Proposed Site Layout in Appendix 2 for the site location and general proposed site layout.

The subject site is located immediately west of the approved Community Design Plan (CDP) boundary within a rural zone requiring private services. If private servicing is required as an interim measure, a potable water supply well would be constructed onsite with a private sewage treatment system.

The purpose of this study has been to carry out a desktop hydrogeological review to determine the suitability of the water supply aguifer system underlying the site to adequately supply the proposed development for interim potable usage, if the timing and delivery of municipal services are delayed. Specifically, the intent of this report is not to design the water distribution system, but to determine the availability of a safe, reliable water supply having sufficient quality and quantity to provide interim potable water for the proposed development.

This desktop study was conducted in general accordance with Ontario Ministry of Environment guidance document Procedure D-5-5 - Technical Guideline for Private Wells; Water Supply Assessment.

The following report has been prepared specifically and solely for the aforementioned project described herein. It contains our findings and recommendations pertaining to



the private services for the subject site as it is understood at the time of writing this report.



Kingston

2.0 BACKGROUND

2.1 Subject Site

The subject site is approximately 7.9 ha and is a portion of a larger lot. Borrisokane is located to the west of the site followed by Highway 416 and the Trail Road Landfill Facility. An undeveloped partially treed lot borders the site to the north and a proposed residential development to the south. East of the site is undeveloped land with future plans to construct a residential development on municipal services. Specifically, the property is located at the southwest extent of 3713 Borrisokane Road, in the City of Ottawa, Ontario (refer to Paterson Drawing PH3959 - 1 - Proposed Site Layout Plan in Appendix 2). The property is currently zoned Mineral Extraction Operation - Pit with an ME2 zoning designation.

The subject site was formerly used as part of an aggregate extraction operation. Various fill piles, excavated areas, gravel roads, as well as scattered construction debris are located across the site. Some sheds and a large weigh scale currently occupy the site.

2.2 **Neighbouring Properties**

The subject property is bordered by Borrisokane Road to the west followed by Highway 416 and then by the Trail Road Landfill Facility, an undeveloped partially treed lot to the north, undeveloped lands being rehabilitated to the east for a proposed residential development in the future and a proposed residential development to the south. See Paterson Drawing PH3959 - 1 - Proposed Site Layout Plan in Appendix 2.

2.3 Adjacent Water Well Records

A search of the Ministry of the Environment, Conservation and Parks (MECP) online water well mapping database found nine (9) well records within 500 m of the subject site. Six (6) of the WWRs were recorded as either monitoring/test wells, and the other three (3) WWRs are abandonment records. There are no recorded potable water wells within 500 m of the subject site. All nearby rural properties currently consist of commercial and industrial usages. Municipal services will exist in the proposed developments to the east, south and northeast within the CDP boundary. See Paterson Drawing PH3959 - 2 - MECP Water Well Location Plan in Appendix 2.



2.4 Regional Geology

Published surficial geology mapping for the area in the vicinity of the subject site indicate the site is underlain by a glaciofluvial deposit with a portion of the site located within the Ottawa Valley Kars Esker. Refer to Paterson Drawing PH3959 - 4 - Surficial Geology in Appendix 2 for the Ontario Geological Survey (OGS) mapping.

Based on site specific investigative works carried out by this firm (Paterson Report No. PG5155-1, dated December 2019), the general subsoil profile encountered within the subject area consisted of a fill layer overlying a silty sand and/or sand deposit with varying amount of gravel, cobbles and boulders. A discontinuous brown to grey silty clay was encountered below the sand deposit and/or fill layer at select test hole locations. The clay layer extends from west to east and pinches out within the subject site. Reference should be made to Paterson Drawing PG5155-1 - Test Hole Location Plan and the associated Soil Profile and Test Data sheets in Appendix 2 for specific details of the soil profiles encountered at each test hole location.

According to the available mapping from Natural Resources Canada for Drift Thickness, the overburden across the site ranges in thickness from approximately 15 to 25 m. Paterson borehole BH14-19 extended to a depth of 31.72 m and did not encounter bedrock.

The OGS mapping indicates that the subject lands are underlain by dolostone and limestone bedrock of the Oxford Formation. Refer to Paterson Drawing PH3959-6 - Bedrock Geology in Appendix 2 for the OGS mapping. Underlying the Oxford Formation is the March and Nepean Formations consisting of sandstone. The Oxford Formation is widely used as an aquifer to provide good quality and quantity water supplies. The underlying sandstone formations are well known to provide very high quantity and quality. Some of the municipal water supplies for the Villages surrounding the City use the Nepean aquifer to provide adequate quantity and quality without adversely affecting other water users or the aquifer.

2.5 **Proposed Development**

The proposed development is to be serviced through municipal services and Caivan is following the process to obtain these services. However, private servicing options are being reviewed due to the potential timing and delivery of the municipal services. If private services are needed on an interim basis then the buildings are proposed to be constructed in a phased approach as noted below.

Phase 1

The proposed Phase 1 building is expected to consist of a single-storey, slab-on-grade assembly building with a footprint of approximately $9,341 \text{ m}^2$. It is anticipated that associated paved access lanes, vehicle parking areas and landscaped areas will surround the proposed buildings. The building is to be municipally serviced, however, this desktop review will assess the potential for private servicing options due to the potential timing and delivery of the municipal services. The estimated peak season employee count is 40 employees working two shifts a day, with an estimated maximum daily sewage flow volume of 6,650 L/day (based on Ontario Building Code - 2012 - Part 8).

Phase 2

The proposed Phase 2 building is an office/showroom building. This phase is proposed to be completed subsequent to Phase 1. The office building has a footprint of 3,465 m². The estimated maximum daily flow volume is 33,000 L/day, which will require an environmental compliance application (ECA) and supporting documents/processes for the private on-site sewage treatment system. Refer to Paterson Drawing PH3959 - 1 - Proposed Site Layout Plan in Appendix 2 for further details.

Proposed Interim Water Supply Well Location

The proposed development is to be municipally serviced. However, private servicing options may be required on an interim basis due to potential timing and delivery of the municipal services. If a water supply well is required for an interim period, it is proposed to be located on the west side of the building. The location is outside the minimum required setbacks as per O.Reg. 903 and is located upgradient of the interim sewage system. Refer to Paterson Drawing PH3959 - 1 - Proposed Site Layout Plan in Appendix 2 for the approximate proposed location of the water supply well.



3.0 DEVELOPMENT REQUIREMENTS

The requirement for a hydrogeological study is not necessary under municipal servicing conditions. However, in the event that an interim water supply well is temporarily needed, the available geological mapping and surrounding WWRs were assessed as part of this Desktop Hydrogeological Review.

3.1 **Proposed Interim Well (If Required)**

The proposed interim water supply well (TW1) would be installed as per O.Reg 903 and would be tested in general accordance with Guideline D-5-5. Prior to the commencement of the well installation and testing program, pre-consultation will occur with the City of Ottawa (City). The well construction, monitoring and pumping program will depend on the results of the pre-consultation. The interim well would be designed to accommodate both Phase 1 and Phase 2 of the development. It is expected that the well would be required to be cased through the upper Oxford and would access the March and/or Nepean aquifer. The final depth would be dependent upon the quantity of water encountered during the construction program.

Additionally, aquifers in the area have limited use which minimizes the potential to affect any users. Considering the known capacity and typical quality of the underlying formations, it is expected that the aquifer will be able to provide adequate supply for the proposed development.

3.2 Pumping Test

Proposed Interim Well (If Required)

After the pre-consultation process has been completed with the City of Ottawa, TW1 would be installed and subjected to a minimum 8 hour pumping test. The length of the test, and the rate of pumping for the test would be determined at that time. The pumping test would be designed to accommodate both Phase 1 and Phase 2 of the proposed development. The pumping test rate would be determined in conjunction with the information provided by the mandatory one hour pumping test completed by the certified well installer after the completion of the water supply well installation.

Maximum Daily Water Demand

Phase 1

The proposed Phase 1 development consists of the assembly building, with a maximum daily water supply demand of 6,650 L/day under OBC (2012) sizing.

Phase 2

The proposed Phase 2 development will consist of the office/showroom building and will have a maximum daily water supply demand of approximately 26,350 L/day under OBC (2012) sizing.



4.0 AQUIFER ANALYSIS

4.1 Water Quantity

Proposed Interim Well (If Required)

All the WWRs in the surrounding 500 m buffer of the subject site on the MECP WWR online mapping are decommissioning reports or observation / monitoring wells. A search with a larger radius was performed looking for wells which were able to sustain the pumping rate required by the proposed development.

The upper bedrock aquifer is noted to be the dolostone and limestone of the Oxford Formation. Underlying the Oxford Formation is the sandstone of the March and Nepean Formation. The Oxford Formation, March Formation and Nepean Formation are well known for providing good quality and medium to high yield (dependent upon formation).

The closest water supply well WWR that demonstrated a greater quantity than the proposed requirement and is a feasible construction at the subject site was Well ID 1527822. It was located on the MECP WWR online mapping at 1,300 m towards the west of the subject site and located within the Trail Road site. According to the WWR, the well was subjected to a pumping test which would be more than the rate which would sustain the proposed commercial development. The WWR indicates that limestone bedrock was encountered at 29.9 m depth, and the underlying sandstone was encountered at 86.9 m depth. Steel casing extends down to 61.0 m depth. The well was drilled down to a total depth of 103.6 m below ground surface (bgs). The static water level was recorded to be at 11.0 m bgs. The well was subjected to a 12 hour pumping test at a rate of 225 L/min. The total drawdown over the 12 hour pumping test was 11.9 m. The water well with Well ID 1527822 would theoretically be able to sustain the water requirements of the proposed commercial development. A total volume of 162,000 L was removed from the aquifer during the 12 hour pumping test and is in excess of the theoretical maximum of the proposed development of 33,000 L/day. Based on the ability of the nearby existing well to supply almost 5 times the required volume of the proposed usage, it is anticipated that there would be no issues provided adequate quantity at the subject site. See Appendix 1 for the WWR for the well with ID1527823.

If required, the TW1 construction would be recommended to consist of a water well that is cased to the March Formation and extends to the necessary depth to provide the appropriate quantity. There are no known existing water wells to the east of the property boundary within the existing CDP, and highly limited potential for new or existing potable water supplies to the west. Testing of a new interim well would determine the current quantity of water available on the subject site, however based on a representative WWR in the area, ample water quantity is available. Based upon Procedure D-5-5, the pumping test will require a minimum of 8 hours of pumping to complete the test on the proposed onsite well.

4.2 Groundwater Geochemistry

Proposed Interim Well (If Required)

It is well known that the groundwater aquifer hosted by the sandstone of the Nepean formation has significant quantity and good quality to serve as drinking water.

The future drilled well would be subjected to comprehensive analytical testing during the pumping test program. The testing would comprise of a standard "Subdivision Package" with bacteriological testing (E.Coli and Total Coliform). Additional parameters may be required based on the pre-consultation process. Based on previous experience with the March and Nepean Formations, it is expected that good quality water that is adequate to support the proposed development would be encountered.



Ottawa Kingston

5.0 RECOMMENDATIONS

- 1. A hydrogeological report is not required for a development serviced with municipal services. If the interim TW1 is required, additional consultation with the City of Ottawa should be performed.
- 2. If the timing and delivery of municipal services necessitates an ECA, the MECP should be pre-consulted as soon as possible.
- 3. If the timing and delivery of municipal services necessitates an interim well, it should be constructed and subjected to a minimum 8 hour pumping test in order to adequately assess the quantity and quality of the underlying aquifer.
- 4. Existing on-site wells and test wells should be decommissioned as per O.Reg. 903 if they are not to be maintained for future usage in accordance with O.Reg. 903.
- 5. If an interim water supply well is installed, further analysis would be required subsequent to the completion of a required pumping test and a full hydrogeological analysis/report of the aquifer for quantity and quality would be completed.



6.0 CONCLUSIONS

Based on the information contained within the body of this review, the following preliminary conclusions can be drawn:

- 1. The usage of municipal servicing at the subject site is outside the scope of this report. If the timing and delivery of municipal services necessitates the usage of an interim private water supply well, then further fieldwork is required.
- 2. As per the desktop review of the underlying bedrock aquifer and an adjacent private water supply well, the target aquifer is considered capable of providing the groundwater quantity and quality to support the proposed commercial development.
- 3. If the timing and delivery of municipal services necessitates an interim water supply well, additional testing in compliance with Guideline D-5-5 will be required to determine the adequacy of the underlying aquifer for the proposed development.

In consideration of the limited scope of a desktop hydrogeological study, further testing is recommended if an interim water supply well is needed to service the proposed development.



The present report applies only to the project described in this document. Use of this report for purposes other than those described herein or by person(s) other than Caivan Greenbank North Inc., or their agents, is not authorized without review by Paterson for the applicability of our recommendations to the alternative use of the report.

We trust that this report satisfies your present requirements. Should you have any questions regarding this report, do not hesitate to contact us.

Yours truly,

PATERSON GROUP INC.

les in

Erik Ardley, Bsc. Geology Junior Hydrogeologist

Report Distribution:

Michael S. Killam, P.Eng. *Hydrogeologist*

- Caivan Greenbank North Inc. (2 copies)
- Paterson Group (1 copy)



APPENDIX 1

PUBLISHED MECP WATER WELL RECORDS

PG5155 - SOIL PROFILE AND TEST DATA LOGS



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Instructions for Completing Form

- For use in the Province of Ontario only. This document is a permanent legal document. Please retain for future reference. •
- All Sections must be completed in full to avoid delays in processing. Further instructions and explanations are available on the back of this form. ۲
- Questions regarding completing this application can be directed to the Water Well Management Coordinator at 416-235-6203. ۲
- All metre measurements shall be reported to 1/10th of a metre. ۲
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Well Record

Regulation 903 Ontario Water Resources Act

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- Questions regarding completing this application can be directed to the Water Well Management Coordinator at 416-235-6203.
- All metre measurements shall be reported to 1/10th of a metre.
- Please print clearly in blue or black ink only.

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			5.2	Steel Fibreglass	0.4	0	10.75	Pumping rate - (litres/min)	1		1	
Water found Moter	d Kind	ord 1 of Water		Galvanized		· · ·		hrs + min	2			
Gas	Fresh	Sulphur Minerals	en ann an An An Ann an Ann	Plastic Concrete				Final water level end of pumping metres	3		3	
Other:	Fresh	Sulphur		Steel Fibreglass	· · · · · · · · · · · · · · · · · · ·			Recommended pump type. Shallow Deep Recommended pump	4		4	
Gas Other:	Salty 			Galvanized				depthmetres	5		5	
m	Eroch	Quinhur	5.0 State		Screen			I recommended pump	1 10 /		10	1

| | I COII 10 :0 rate. Gas Salty Minerals 15 Outside 15 (litres/min) Steel Fibreglass Slot No. Other: diam If flowing give rate -20 20 Plastic Concrete 25.01 12.25 After test of well yield, water was 25 (litres/min) 25 6.0 101 Galvanized Clear and sediment free If pumping discontin-ued, give reason. 30-30 Other, specify _ No Casing or Screen 40 40 50 50 Open hole Chlorinated Yes No 60 60 Plugging and Sealing Record Annular space Abandonment Location of Well Volume Placed Depth set at - Metres In diagram below show distances of well from road, lot line, and building. Material and type (bentonite slurry, neat cement slurry) etc. (cubic metres) То From Indicate north by arrow. Sand Back Fill ho bag 5.0 \circ GPS reading taken on MA-1 0.3 6.41 212 banp hole plug 6.9 10.15 F. 1 ter 6 bagp Sand -Site plan endosed 10.15 12.25 Method of Construction Section Contractor P^{ana}ntana ang kan Area map enlosed Cable Tool Rotary (air) Diamond Digging Rotary (conventional) Air percussion Jetting hollowsten augers Driving Rotary (reverse) Boring Water Use Domestic Industrial Public Supply Other SAMPTIMA Stock Commercial Not used Irrigation Cooling & air conditioning Municipal Date Well Completed Audit No. 34860 MM S YYYY **Final Status of Well** 2007 Water Supply Date Delivered Recharge well Unfinished Abandoned, (Other) Was the well owner's information MM YYYY DD

Observation well Abandoned, insufficient supply De Test Hole Abandoned, poor quality Re	watering	package delivered?]No 2-002 10 10					
Well Contractor/Technician Inf	formation	Ministry Use Only						
Name of Well Contractor	Well Contractor's Licence No.	Data Source	Contractor					
Business Address (street name, number, city etc.) SSV9 A de lon Side Lond Almon Name of Well Technician (last name, first name)	Le Out KOALAO Well Technician's Licence No.	Date Received YYYY MM E	DD Date of Inspection YYYY MM DD Well Record Number					
Signature of Technician/Contractor X	Date Submitted							
0506E (09/03) Contractor's Cop	y Ministry's Copy - Well Ow	mer's Copy	Cette formule est disponible en français					

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Dillon Consulting Ltd, Suite 200, 5310 Cenotek Road Ottawa, ON K1J 9N5 (613) 745-2213

Page	1	oí	1

M4-1

Client:	City of Ottawa	Project: Trail Road Landfill Site								
Projec	t No.: 07-7490-0800	Loca	ition: <u>T</u>	rail Road Lan	ndfill	0.470				
Drilling	Co.: OGS Inc.	Data	ng Mell Starter	100: <u>Hollow</u> 4- 0/10/07	-stem auger	mala	tani-	Q	100	 7
Superv	1580 DY: <u>EG</u>					Pare completed, 8710/01				r
Depih Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Con	istruction	Method	Number	N Value	Rec %	Depth Scale (m)
1.0- 2.0- 3.0- 4.0-	Medium to oparaa sand, some silt, grey, wel.						ş		80	-1.0 -2.0 -3.0 -4.0
6.0-	Coarse sand, grey, wet		6.1			(E)	2		85	-6.0
7.0- 8.0-	Ctay, grey, moist, very plastic, some silt.		6.71							-7.0
0.01 WAX13 020	Medium to coarse sand, grey, wet.		9.75				3		90	-10.0
11.0- 11.0- 12.0-			terre former that the second recorder for the							-
DOV ON - WW NO LIN			12,8				4		80	-
enversen Diministra		i Çlay	7.77.25179.000000000		SA	MPLE TYPE	Ū] Sp	11 Spoo	n
		С	696	>4	OCT 1 2 20	07	Zä	34	86	0

Well Tag No. for Master Well (Place Sticker and/or Print Below) <u>A 087279</u>

Master Well Record for **Cluster Well Construction** Regulation 903 Ontario Water Resources Act

Ø	Ontario	Ministry of the Environment
	AO	87279

Address of	f Well Location (Stree	et Number/Name, RF	:)	Township			· · · ·	Lot	Conces	sion
County/Dis	strict/Municipality	1 ///	**************************************	City/Town/Vi	llage				Province	Postal Code
UTM Coord	tinates Zone Easti	ng Northi		PS Unit Make	212Q		Mode of C	Doeration:	Ontario	d fil Arornand
NAD	18 3 1 8 44	10181313 5701	09191110	sormin	Etr	ex	Differen	ntiated, specify	Undmerentialed	
Overb	ourden and Bedroc	k Materials <i>(see in:</i>	structions on the	e back of this	s form)	Denth	Motoci	Hole	Details	
Colour	Material	Materials	Descripti	ion Froi	n To	From	To		Centim	eter ietres)
Brn	Sand	5:17	5024 0	1-4 0	4.27	$ \circ$	4.27	8.25		
										· ·
									· · · · · · · · · · · · · · · · · · ·	
								Wat	erUse	
	****			11/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1			etic 🔲 la	ndustrial	Not used	Pother, specify
								Aunicipal	Monitoring	
								Method of	Construction	sholdoning
						Cable	Tool	Air Per	cussion 🔲 🛛	Digging
	MARANANAN TUTU TUTU TUTU TUTU TUTU TUTU TUT					Rotan Rotan	/ (Conventio / (Reverse)	nal) [] Diamol		3gring Other, specify
······		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4			······································	Rotan	/ (Air)	Driving	Direct	Push
		η η το το ποιοιογία το το ποιοιογία το ποιοιογία το ποιοιογία το ποιοιογία το ποιοιογία το ποιοιογία το ποιοιογία η ποιοιογία το ποιοιογία τ				Test -	lole	Status	ned. Insufficient	Supply
IAV70=VV/WIFFILL/MARAAV71///V						Repla	cement Well	Aband	oned, Poor Wate	r Quality
		An 1998 1997 1997 1997 1997 1997 1997 1997				Altera	tion (Constr.	uction) 🗌 Aband	specily <u>rank</u> r oned, other, spe	1
		**************************************	** ***			No Cas	sing and s	creen Used	Static W	ater Level Test
		Commission and the set				Open Hol	e]Yes []]	No		Metres
Inside Diar	meter	Material	POLGIAD	Wall Dep	th (Metres)		nimed (11)	Sc.	reen	ana ku
2 4	$\frac{1}{1}$ $\frac{1}{2}$ $\frac{1}{2}$	noregiass, concrete,	garvanizecij mi	23 \wedge	230	Outside D	Nameter (Co	antimetros)	Slot No.	(1.1.2.1.0) (1.1.0
~10	1 100			<u>>0</u> ()		2	.34			
		annan da an				Water for	und at Dep	Water De th Kind o	tails Water	
, ,			******				Metres	Gas Fre	sh []]Salty []	Sulphur [Minerals
	Annular	Space/Abandoom	ent Sealing Reci	ord	<u> </u>	Water to	Metres	Gas Frei	r water sh []]Salty []]Sulphur []]Minerals
Depth Set a	at (Metres)	Type of Sealan	t Used	Vol	ume Used	Water fo	und at Dep	th Kind o	f Water	Gulabur (Minorale
0	21	Benseal	,pe)		no menesj	Disinfecte	d Tyes	I Gas ILLI I I I	de reason: Date	Master Well Completed
31	4.27	Sand					·	,,, p,	(997) 27	y/mm/dd)
~			New York And Charles Control of Co			Cluster	Informatio	n (Please also i	ill out the addi	tional Cluster Well
		99999999999999999999999999999999999999				Informa Total We	<i>tion for We</i>	Construction	for each parce	el of land and cluster.)
	**************************************						4		Information Lo	g Sheets Submitted
		·			*****		ells on this F	Property		
			·····		****	Detailed	Map muct h	Location of	Well Cluster	a larger then legal size
·····	<u> </u>					(8.5" x 14	1"). Sketche	s are not allowe	d.	
						Censort	to release	additional info	ip is provided a	s per Section 11.1 (3)
						th				
	Well Conti	ractor and Well Te	chnician Inform	iation						
Business Na	ame of Well Contract	Sanding	W	ell Contractor's	Licence No.	M				
Jusiness Ac	ddress (Street No ₁ /Na	me, number, RR)	Municí	pality						
	4 WR	SCAUL US	RH KU	nmanc	(h	Audit Ma	i successione	Ministry	Use Only	
(ONIMA		101 /001000				₩ 02	588	**INL LAN MERCHOF	R ROLAN
Bus.Telepho	No. (inc. area code)	Name of Well Techn	ician (Last Name,	First Name)		Date Rec	eived (yyyy//	nm/dd) NO	Date of Inspection	on (yyyy/mm/3d)
Vell Technic	ian's Licence No. Sign	ature of Technician		te Submitted	(yyyy/mm/dd)	Remarks	<u>6 6 63</u>	6 0		
31	1514			<u>009/09</u>	HOY					- Departure of the second
1992 (102006	-)		122	1796	10 2 Con 2 on 8 on 10	on i ⁿ anana			19 Quee	mis Primer for Untario, 2006





Cluster Well Information for Cluster Well Construction Regulation 903 Ontario Water Resources Act

666 Page 2 of 3

Address of Well Location (Street Number/Name, RR)		Lot	Co	ncession	Township			Count	v/District/Mun	nicipality	upon request	
4375 TRail Rd	.,								,		Signature of Technician/Contract	ior Date (yyyy/mm/dd)
City/Town/Village Prov	rince Po	stal Code	GF	S Unit Make	Model	Unit Mo	de of Oper	ation 🗍 Un	differentiated	Averaged		
ottawy On	tario		6	armin	Etrex	Diffe	rentiated, s	pecify:				
Well # UTM Coordinates on Sketch Zone Easting Northing	Full Depth of Hole (metres)	Hole Diameter (cm)	Method of Construction	Casing Materia	al Casing Length (metres)	Screen In From	lerval (metres)	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	Date of Completion (yyyy/mm/dd)
2 184407485009219	3.1	3.25	Direct	PUL	2.13	2.13	3.1	Benseul				2009/08/2
3 18 44 068 4 50 09 402	3,66	8.25	Direct Push	PUL	2.74	2.74	3.60	Benjeal				2009 /08 /:
4 18440616 50091555	23.1	8.25	Prish	PUL	2.13	2.13	3.1	Benseul				2209/08/27
									_			
						-						
						-						
Well Contractor and Well Technician In Business Name of Well Contractor	formation	Busi	ness Address (S	treet Number/N	lame BB)		Municina	lity		Province	Date 1st Well in Cluster Constructed	Date Last Well in Cluster Constructed
Stata Sol Samplin	L.		2-1471	Ref Ron	NRC (TP	ell	RIC	awand	1/11	đŇ	Ministry Use Only	
Postal Code Business Telephone No. (inc. area code) Well Contractor's Licence No. Business E-mail Address Date Received (yyy/n								Date Received (yyyy/mm/dd)	Date Inspected (yyyy/mm/dd)			
Name of Well Technician (First Name, Last Name)			Well Technician's	s Licence No. Da	ate Submitted (yyyy/mm/dd	Signature	e of Technician		$\overline{}$	Audit No:	Remarks 7 644
1991 (11/2006)			01	01716	COTOTA	24_			×		000020	Queen's Brieter for Optaria 2006
Mar (Tursood)					l	Ministry'	s Copy	BB-	-1296			Gueen's Finite for Oritano, 200



2°	Minis Minis And (try of the Environment Climate Change	Well Ta	Tag#:/	190843	Developie		Well R	ecord
Measurem	ients recorded in:	Metric 🗌 Imperial	F	+19084	5	< 10	UQN	Page	of
Well Ow	ner's Information		Na ana an			<u>ا ا خد ا</u>	-100		
	a of a	DHCL/G	on		E-mail Address			D Well C by We	Constructed
Mailing Add	dress (Street Number/	Tame)	FL	Municipality	Province	Postal Gode	Telep	ohone No. (inc.	area code)
	ation	<u>riur west, sin</u>	HOU !!	<u> </u>	ON				
Address of	Well Location (Street N	Number/Name)		ſownship		Lot	Con	cession	<u></u>
County/Dis	KOG L	[andfil]					Province	Postal	Code
				ÕHa	NA		Ontario)	
	linates Zone Easting	17144 CDID 9	359	Municipal Plan and Suble	ot Number		Other	······································	
Overburd	en and Bedrock Mate	erials/Abandonment S	aling Reco	rd (see instructions on the	back of this form)				
General C	colour Most Co	mmon Material	Oth	ner Materials	Gene	ral Description		Dep From	th (<i>m/ft)</i> ↓ <u>To</u>
<u>131r</u>	7 4	ifsqil		Scin d		<u>Soft</u>		\mathcal{O}	.31
Bir	1 5	and		st, gravel		sol/f		131	3,35
						·			40 77
	·····								
	 	·····							
<u></u>									
		Annular Space	1785 Coleman and	Receiver and a second strain and second		20011150 of 184		otina	150,52803,52855,528,559,552
Depth Se	et at (<i>m/ft)</i>	Type of Sealant Used		Volume Placed	After test of well yield, y	vater was:	Draw D	isting Iown Re	ecovery
	.31 ma	(Material and Type)		(m³/it³)	Clear and sand fr	ee	(<i>min</i>)	er Level Time (m/ft) (min)	Water Level (m/ft)
21		Tymer + Can	Te FC		If pumping discontinue	d, give reason:	Static Level		
121	200	Bencany	FC				1	1	
1.57	5, 35	Band			Pump intake set at (n	1∕ft)	2	2	
					Pumping rate (I/min /	GPM)	3	3	
	ool Diamo	ond		rcial 🗌 Not used			4	4	
Rotary (Conventional) Usetting			al Dewatering	Duration of pumping hrs + n	าเก	5	5	
Boring	Diggir	ng Irrigation	Cooling	& Air Conditioning	Final water level end o	f pumping (m/ft)	10	10	
L_IAir percu □ Other, s	ussion pecify	Industrial Other, specify			If flowing give rate (1/a	nin (CRM)	15	15	
	Construction	Record - Casing		Status of Well		un orwij	20	20	·
Inside Diameter	Open Hole OR Materia (Galvanized, Fibreglass	Wall Dep	th (<i>m/ñ</i>)	Water Supply Replacement Well	Recommended pump	depth <i>(m/ft)</i>	25	25	
	Concrete, Plastic, Steel		10	Test Hole	Recommended pump	rate	30	30	-
2120	tuc	1390 0	1.83	- Dewatering Well	(I/min / GPM)		40		
				Observation and/or Monitoring Hole	Well production (I/min	/ GPM)	40 E0	40	
				Alteration (Construction)	Disinfected?			50	·
				Abandoned, Insufficient Supply	Yes No			60	
Outside	Construction Material	Record - Screen Dep	th (<i>m/ft</i>)	Abandoned, Poor Water Quality	Please provide a map	belonv following	en Locatio instructions (n on the back.	·
Diameter (cm/in)	(Plastic, Galvanized, Stee	el) Slot No. From	То	Abandoned, other, specify					TN
6.03	FUC	10 183	3.35	·		411			
				Uther, specify		TI	Q -	- 5	
	Water D	Petails	ŀ	lole Diameter					140
Water foun	nd at Depth Kind of Wa	iter: Fresh Untester	d Dep From	th (<i>m/ft)</i> Diameter To (<i>cm/in</i>)		XIE			ahu
Water foun	id at Depth Kind of Wa	ter: Fresh Untester	\mathcal{O}	3,35 15,24		13/2	1-		<i>∓</i>
(m. Water four	n/ft) ☐ Gas ☐ Other, s	pecify		, , , , , , , , , , , , , , , , , , ,		2ml	10/		2
mater ioun (m	1/t Gas Other, s	pecify			FUX		167		51
Ducio	Well Contrac	tor and Well Technici	an Informa	tion	The	1		Ary you want and a second s	
	rata Dall	he Gran		12 4 1	Red	Th	/	The second s	
Business A	ddress (Street Number/	Name)	ML	inicipality	Comments:		N	<u>L</u>	
	Shields Poetal Codo	Business E-mail Ad	dress	riurichan					
On	+ LBRE	VB WVECORD	SQG	Intersoileon	Well owner's Date Pa	ackage Delivere	d 🛛	Ministry Use	Only
	one No. (inc. area code)	Name of Well Technician	(Last Name,	First Name	package	Y [Y M M	Aud	it No. Z 23	8155
	ian's Licence No. Signatu	In GUT & Id	ontractor Da	G YI C te-Submitted	Yes Date W	ork Completed		ner 23	2015
159	35	Kan' Katt	$\bigcirc 8$	DIFINDS	$\square NO KO$	10/10/10	KS Rece	الله المحالية المراجعة (1990) Sived	
0506E (2014/	11)	11 44		Ministry's Copy			C	Queen's Printer for	Ontario, 2014

Well ID

Well ID Number: 7249988 Well Audit Number: *Z199790* Well Tag Number:

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	4475 TRAIL ROAD
Township	NEPEAN TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	Ottawa
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 440490.00
Municipal Plan and Sublot Number	Northing: 5009568.00
Other	

Overburden and Bedrock Materials Interval

Conorol Colour	Most Common Material	Other Materials	Conorol Description	Depth	Depth
General Coloui	Wost Common Wrateria	Other Wrater lais	General Description	From	То

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	40 ft	BENTONITE GROUT	
0 ft	40 ft	BENTONITE GRAVEL	

Method of Construction & Well Use

Method of Construction Well Use

H.S.A.

Monitoring

Status of Well

Abandoned-Other

Construction Record - Casing

Inside Diameter Open Hole or material Depth Depth From To

Construction Record - Screen

Outside Diameter Material Depth Depth From To

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7238

Results of Well Yield Testing

After test of well yield, water was If pumping discontinued, give reason Pump intake set at Pumping Rate Duration of Pumping Final water level If flowing give rate Recommended pump depth Recommended pump rate Well Production Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	

15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth Kind

Hole Diameter

Depth Depth From To		Diameter	
0 ft	40 ft	8 inch	

Audit Number: Z199790

Date Well Completed: August 28, 2015

Date Well Record Received by MOE: October 14, 2015

Well ID

Well ID Number: 7249990 Well Audit Number: *Z199792* Well Tag Number: *A175298*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	4475 TRAIL ROAD
Township	NEPEAN TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	Ottawa
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 440483.00 Northing: 5009564.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	SAND	SILT	LOOS	0 ft	2 ft
GREY	SAND	SILT	LOOS	2 ft	17 ft
GREY	GRVL	SAND	LOOS	17 ft	20 ft
GREY	CLAY	SILT	SOFT	20 ft	37 ft
GREY	SAND	GRVL	LOOS	37 ft	50 ft

Annular Space/Abandonment Sealing Record

Depth	Depth	Type of Sealant Used	Volume
From	To	(Material and Type)	Placed
0 ft	39 ft	BENTONITE GROUT	

Method of Construction & Well Use

Method of Construction Well Use

Rotary (Convent.)

Monitoring

Status of Well

Observation Wells

Construction Record - Casing

Inside	Open Hole or material	Depth	Depth
Diameter		From	To
2 inch	PLASTIC	3 ft	40 ft

Construction Record - Screen

Outside
DiameterMaterialDepth Depth
From To2 inchPLASTIC 40 ft50 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7238

Results of Well Yield Testing

After test of well yield, water wasIf pumping discontinued, give reasonPump intake set atPumping RateDuration of PumpingFinal water levelIf flowing give rateRecommended pump depthRecommended pump rateWell ProductionDisinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	

3	3
4	4
5	5
10	10
15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	29 ft	6 inch
29 ft	50 ft	4 inch

Audit Number: Z199792

Date Well Completed: August 27, 2015

Date Well Record Received by MOE: October 14, 2015

Well ID

Well ID Number: 7277726 Well Audit Number: *Z238154* Well Tag Number: *A190844*

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	TRAIL ROAD LANDFILL
Township	NEPEAN TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	Ottawa
Province	ON
Postal Code	n/a
	NAD83 — Zone 18
UTM Coordinates	Easting: 440681.00
	Northing: 5009540.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	LOAM		SOFT	0 m	.31 m
BRWN	SAND	GRVL	LOOS	.31 m	3.35 m

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 m	.31 m	CONCRETE	
.31 m	1.52 m	BENTONITE	
1.52 m	3.35 m	FILTER SAND	

Method of Construction & Well Use

Method of Construction	Well Use

Boring

Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside	Open Hole or material	Depth	Depth
Diameter		From	To
5.2 cm	PLASTIC	0 m	1.83 m

Construction Record - Screen

Outside Material Depth Depth Diameter Material From To 6.03 cm PLASTIC 1.83 m 3.35 m

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water wasIf pumping discontinued, give reasonPump intake set atPumping RateDuration of PumpingFinal water levelIf flowing give rateRecommended pump depthRecommended pump rateWell ProductionDisinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	

5	5
10	10
15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth Kind

Hole Diameter

Depth From	Depth To	Diameter
0 m	3.35 m	15.24 cm

Audit Number: Z238154

Date Well Completed: November 23, 2016

Date Well Record Received by MOE: December 23, 2016

patersongroup

SOIL PROFILE AND TEST DATA

▲ Undisturbed

△ Remoulded

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

DATUM Geodetic									FILE	NO. PG	5155	
REMARKS BOBINGS BY CME 55 Power Auger				г		2019 Nov	ember 1	4	HOLE	E NO. BH S	9-19	
SOIL DESCRIPTION	LOT		SAN	/PLE		DEPTH	ELEV.	Pen. R	esist. 0 mm	Blows/0.3 Dia. Cone	ßm	. =
	RATA P	TPE	MBER	°° ∶OVERY	VALUE ROD	(m)	(m)	Su mm Dia. Cone Water Content %				ezomete onstructic
GROUND SURFACE	L'S	F	й	REC	Z O		10105	20	40	60 8	0	Cor
		Å AU	1			0-	+104.25					
FILL: Brown silty clay with sand and gravel, trace asphalt and organics		ss	2	79	29	1-	103.25					
5 ;		ss	3	50	65	2-	102.25		· · · · · · · · · · · · · · · · · · ·			
2.97	,	ss	4	46	7	3-	-101 25		· · · · · · · · · · · · · · · · · · ·			
FILL: Brown sand with gravel, trace clay		ss	5	17	5							
<u>4.5</u> 0		ss	6	25	5	4-	100.25					™
		ss	7	38	3	5-	-99.25					
FILL: Brown silty clay, some sand, gravel, trace organics		× SS	8	75	5							
6.70		ss	9	58	9	6-	-98.25					
End of Borehole												
(GWL @ 4.01m - Nov. 29, 219)												
								20 Shea	40 ar Stre	60 80 ength (kPa) 10	00

patersongroup

SOIL PROFILE AND TEST DATA

154 Colonnade Road South, Ottawa, Ontario K2E 7J5 Prop.

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

DATUM Geodetic									FILE	NO.	PG	5155		
REMARKS	HOLE NO. BH10-19													
	F		SAN					Pen. R	esist.	Blo	ws/0.:	3m		
SOIL DESCRIPTION	PLO			 א		DEPTH (m)	ELEV. (m)	• 5	0 mm	Dia.	Cone)	er.	
	RATA	КРЕ	MBER	over.	ROD			• •	Vater	Cont	ent %		omet	SILUC
GROUND SURFACE	L S	Ĥ	Ю N	REC	N N		10100	20	40	60	8	0	Piez	
		au		1		0-	-104.36							X
FILL: Brown silty sand with gravel		ss	2	50	20	1-	103.36		· · · · · · · · · · · · · · · · · · ·					
1.45					20									Ŷ
		∦ ss	3	58	27	2-	102.36		·····		· · · · · · · · · · · · · · · · · · ·	······································		
FILL: Brown sand, some gravel, trace clay, asphalt and cobbles		ss	4	46	13						• • • • • • • • • • •	•••••••••••••••••••••••••••••••••••••••		Ŷ
		ss	5	58	18	3-	-101.36					······································		8
		∐ V oo		00		4-	-100.36							8
		1 22	6	29	14		100.00				• • • • • • • • •	•••••••••••••••••••••••••••••••••••••••		8
		ss	7	33	5	5-	-99.36					······································		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
		ss	8	42	19									XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
FILL: Brown silty clay, some sand			0	50	5	6-	-98.36							×
organics			9	50	5	7	07.26							
		ss	10	38	5		-97.30							
8 23		ss	11	58	11	8-	-96.36							
Dynamic Cone Penetration Test								•				•••••••••••••••••••••••••••••••••••••••		
						9-	-95.36		· · · · · · · · · · · · · · · · · · ·					
										<u> </u>	`	•••••••••••••••••••••••••••••••••••••••		
						10-	-94.36				/			
						11-	-93 36				· · · · · · · · · ·	•••••••••••••••••••••••••••••••••••••••	-	
							00.00					· · · · · · · · · · · · · · · · · · ·		
12.17		_				12-	-92.36							
End of Borehole Practical DCPT refusal at 12.17m														
(Biogeneter dru/blocked at 4 50m														
depth - Nov. 29, 2019)														
								20 Shea	40 ar Stre	60 enath	9 1 (kPa	0 1(1)	00	
								▲ Undist	urbed	 ∆	Remou	, Ided		
SOIL PROFILE AND TEST DATA

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

DATUM Geodetic					•				FILE N	o. PG	5155					
REMARKS				_		0040 N			HOLE	NO. BH1	1-19					
BORINGS BY GME 55 Power Auger			C 4 1		DATE	2019 100	ember I	4 Dam D								
SOIL DESCRIPTION	PLOT		SAN			DEPTH	ELEV.	Pen. R ● 5	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone							
	LATA	ЪЕ	IBER	% VERY	ALUE RQD				Votor C	ontont %		omete				
GROUND SURFACE	STF	Τ	NUN	RECO	N OF			20	40	60 8	0	Piezo				
FILL: Brown sand with gravel and cobbles, trace clay and organics		au	1			0-	-104.17				· · · · · · · · · · · · · · · · · · ·					
FILL: Brown silty clay, some sand, gravel and organics		ss	2	54	31	1-	-103.17									
FILL: Brown sand, some gravel,		ss	3	46	14	2-	-102.17									
trace clay, gravel, organics and asphalt 2.97		ss	4	29	13											
		ss	5	29	7	3-	+101.17									
FILL: Brown silty clay, some sand		ss	6	62	8	4-	100.17				· · · · · · · · · · · · · · · · · · ·	₩ ¥				
and gravel, trace organics and asphalt		ss	7	33	10	5-	-99.17									
6.01		ss	8	58	11	6-	-08 17									
		ss	9	42	12		50.17									
and gravel, trace asphalt and construction debris		ss	10	0	10	7-	-97.17		· · · · · · · · · · · · · · · · · · ·							
8. <u>3</u> 0		ss	11	8	12	8-	-96.17									
Brown SILTY CLAY to SILTY		ss	12	71	4	9-	-95.17									
SAND , some graver, trace organics		ss	13	75	2											
commenced at 9.75m depth.						10-	-94.17									
						11-	-93.17			L.						
11.99									•							
End of Borehole																
Practical DCPT refusal at 11.99m depth.																
(GWL @ 3.90m - Nov. 29, 219)																
								20 Shea ▲ Undist	40 ar Stren urbed	60 8 I gth (kPa △ Remou	0 1(1) Ided)0				

SOIL PROFILE AND TEST DATA

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

REMARKS BORINGS BY CME 55 Power Auger DATE 2019 November 14 BORINGS BY CME 55 Power Auger DATE 2019 November 14 SOIL DESCRIPTION Image: Colspan="6">Image: Colspan="6" Image: Colspan="1" Image: Colspan="6" Image: Colspan="1" Im	Construction
BORINGS BY Civile 35 Power Adger BORINGS BY Civile 35 Power Adger BORINGS BY Civile 35 Power Adger SOIL DESCRIPTION SAMPLE Ball SAMPLE Ball Ball Ball Ball	Construction
SOIL DESCRIPTION SAMPLE DEPTH ELEV. (m) Perit. Resist. Biows/0.3m GROUND SURFACE Image: Same content of the second	Construction
GROUND SURFACE Image: Second strate gravel and organics Image: Second strate graveli and organics Im	Constructi
GROUND SURFACE Group of the second	Cons
FILL: Brown sand, trace gravel and organics 0 = 0 = 0 = 105.09	
	1 IXX
FILL: Brown silty clay, some sand and gravel, trace organics and	
asphalt 2 21 SS 3 12 13 2 103.09	
clay and organics SS 6 88 31 4-101.09	
sand and gravel SS 9 100 2	
- grev by 6.0m depth SS 10 100 2 7 98.09	
brown/black by 6.8m depth8.31 SS 11 100 2 8 97.09	
Grey SILTY CLAY, trace sand	
Loose, brown SAND	
Dynamic Cone Penetration Test	<u> </u>
11-94.09	
Shear Strength (kPa)	

SOIL PROFILE AND TEST DATA

FILE NO.

HOLE NO.

PG5155

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

DATUM	Geodetic

BORINGS BY	CME	55	Power	Auge

BORINGS BY CME 55 Power Auger		DATE 2019 November 14 BH12-19								2-19			
SOIL DESCRIPTION	PLOT		SAN	IPLE		DEPTH	ELEV.	Pen	Pen. Resist. Blows/0.3m • 50 mm Dia. Cone				r u
	TRATA	ТҮРЕ	UMBER	% COVERY	VALUE r rod	(m)	(m)	0	Wat	er Cor	ntent %		ezomete instructio
GROUND SURFACE	ω		z	RE	z °	1/-	41 00	20) 4	ο 6	60 80		ë o
						14	31.03			•			
						15-	90.09		ý				
						16-	-89.09					· · · · · · · · · · · · · · · · · · ·	
						17-	-88.09						
17.30		-							<u> </u>			<u> </u>	
Practical DCPT refusal at 17.30m depth.													
(Piezometer dry/blocked at 2.84m depth - Nov. 29, 2019)													
								20 S ▲ Un) 4 hear \$ disturb	o 6 Streng ed △	60 80 th (kPa) Remould	1(ded	00

SOIL PROFILE AND TEST DATA

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

DATUM Geodetic

REMARKS

FILE NO.	
	PG5155

HOLE NO. BH13-19

BORINGS BY CME 55 Power Auger				D	DATE	2019 Nov	/ember 1	5	BH13-19				
SOIL DESCRIPTION	РГОТ		SAN	IPLE		DEPTH	ELEV.	Pen. F	Resist. E 50 mm D	lows/0.3m ia. Cone	- u		
	TRATA	ТҮРЕ	UMBER	% COVERY	VALUE r RQD	(11)	(11)	0	Water Co	ontent %	szomete nstructió		
GROUND SURFACE	S		Z	E E	z °		105 10	20	40	60 80	¦≞ လိ		
			1			- 0-	-105.43						
		∦ ss ⊽	2	42	24	1-	+104.43						
FILL: Brown and, some gravel, trace		∦ ss ⊽ ss	3	54	15	2-	103.43						
		∦ss Voc	4	75	22	3-	-102.43						
		∑ 22 ∏ 22	5	75 54	48	4-	-101.43						
		∑ ss	7	29	16	F	100.40						
<u>5.26</u>		ss	8	100	2	5	100.43						
sand 6 70		ss	9	100	2	6-	-99.43						
End of Borehole													
(Piezometer dry/blocked at 5.04m depth - Nov. 29, 2019)													
								20 She ▲ Undis	40 ear Stren sturbed	60 80 1 gth (kPa) △ Remoulded	100		

SOIL PROFILE AND TEST DATA

FILE NO.

HOLE NO.

PG5155

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

REMARKS

DATUM

BORINGS BY	CME 55 Power Auger

Geodetic

BORINGS BY CME 55 Power Auger				D	DATE 2019 January 15				BH14-19			
SOIL DESCRIPTION	гол		SAN	IPLE		DEPTH	ELEV.	Pen. R • 5	Pen. Resist. Blows/0.3m • 50 mm Dia. Cone			
GROUND SURFACE	STRATA	ЭДҮТ	NUMBER	% RECOVERY	N VALUE or ROD	(m)	(m)	0 V 20	/ater C	ontent % 60 80	 Piezomete Constructio	
FILL: Brown sand, some gravel.		× AU	1			0-	-104.42					
some to trace clay		ss	2	58	50	1-	-103.42					
<u>I.4</u> 2_		ss	3	96	13	2-	-102.42					
		ss	4	54	6	3-	-101 42		· · · · · · · · · · · · · · · · · · ·			
FILL: Brown silty clay with sand and		ss	5	42	4		101.42					
gravel, trace organics		ss	6	54	4	4-	-100.42			· · · · · · · · · · · · · · · · · · ·		
		ss	7	46	2	5-	-99.42					
6.02		ss	8	25	3	6-	-98.42					
FILL: Brown sand with clay, some gravel, trace organics		ss	9	50	15	7.	-07 42					
7.54		ss	10	0	13		97.42					
FILL: Brown silty clay with sand, some gravel and organics		ss 7	11	54	15	8-	-96.42					
FILL: Brown sand with gravel 9.07		ss	12	25	7	9-	-95.42					
Brown SILTY CLAY with sand, trace gravel		ss	13	21	8	10-	-01 12					
10.59		ss	14		13	10	J4.42					
		ss	15	654	14	11-	-93.42					
Compact to dense, brown SAND		ss	16	79	37	12-	-92.42					
- some silt by 12.1m depth		x ss	17	62	40	13-	-91.42		· · · · · · · · · · · · · · · · · · ·			
- trace clay by 13.6m depth		∦ ss ⊽	18	71	42		_					
		~				14-	-90.42	20 Shea ▲ Undist	40 ar Strer	60 80 ngth (kPa) △ Remoulded	XXX IXXX 100	

SOIL PROFILE AND TEST DATA

FILE NO.

PG5155

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

Geodetic DATUM

REMARKS

DATE 2019 January 15									BH14-19					
Pen. R ● 5	Pen. R ● 5	Res 50	sist mn	st. E m D	Blo [.] Dia.	ows 1. Co	s/0.3 one	3m Ə						
0 V	0 V	Wa	ater	er Co	ont	ten	nt %	 >						
20	20		40		60	0	8	.0						
					· · · · · · · · · · · · · · · · · · ·									
		· · · · · · · · ·												
						· · · · · · · · · · · · · · · · · · ·								
		· · · · · · · · · · · · · · · · · · ·												
						· · · · · · ·								
		······································												
20	20		40	· · · · · · ·	60	0	8		11					
		20 Sh Jnd	20 Sheai Jndistu	20 40 Shear Si Jndisturbe	20 40 Shear Strer Jndisturbed	20 40 6 Shear Strengt Jndisturbed △	20 40 60 Shear Strength (Jndisturbed △ Re	20 40 60 8 Shear Strength (kPa Jndisturbed △ Remou	20 40 60 80 Shear Strength (kPa) Jndisturbed △ Remoulded					

SOIL PROFILE AND TEST DATA

Shear Strength (kPa)

△ Remoulded

▲ Undisturbed

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa. Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

DATUM Geodetic										FILI	e no.	PG	5155	
REMARKS									ŀ	но	LE NO	· - · ·	5155	
BORINGS BY CME 55 Power Auger				D	ATE 2	2019 Jan	uary 15					BH1	4-19	
SOIL DESCRIPTION	H SAMPLE DEPTH ELEV. 0 0 0 0 0 0									sist mn	: Blo n Dia	ows/0.: . Cone	3m Ə	er ion
	FRATA	ΓΥΡΕ	JMBER	% COVER3	VALUE r RQD		()	C	w	ater	Con	tent %	>	zomet
GROUND SURFACE	S.	L ·	IN	REC	z ö	20	76 40	2	0	40	6	08	0	Pie Col
						20-	-70.42	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·					
		ss	32	50	50+	29-	-75.42							
GLACIAL TILL: Very dense, grey sand, some clay, gravel, cobbles and		RC	1	100		30-	-71 12					•••••••••••••••••••••••••••••••••••••••	•••••••••••••••••••••••••••••••••••••••	
boulders		-					77.72							
a		RC	2	27		31-	-73.42							
31./2_ End of Borehole	` <u>^^</u> ^^^													
(Piezometer dry/blocked at 2.07m depth - Nov. 29, 2019)														
								2	0	40	6	0 8	0 10	bo

SOIL PROFILE AND TEST DATA

FILE NO.

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

Geodetic DATUM

DEMARKS											PG5155	
				_		но	HOLE NO. BH15-19					
BORINGS BY CME 55 Power Auger				D	DATE 2			DIIIJ-IJ				
SOIL DESCRIPTION	LOT		SAN	IPLE		DEPTH	ELEV.	Pen.	Resis 50 m	st. Blo m Dia	ows/0.3m Cone	. 5
	A P		Я	RY	۲ ۲ ۲	(m)	(m)					eter
	STRAT	птре	NUMBE		VALI DE RQ			0	Wate	r Con	tent %	ezom onstru
GROUND SURFACE	01		Ч	R	z	0	105.00	20	40	6	0 80	ΞŎ
TOPSOIL0.1	8	aU 🕅	1			0-	105.02		· · · · · · ·			
FILL: Brown sand, some gravel, trace silty clay			0	20	10	1-	-104 02					
1.4	5	1 22	2	29	12		104.02					
		ss	3	44	50+							
FILL: Brown silty clay, some sand		×				2-	-103.02		.;.;			
and gravel, trace organcis		G	4									
<u>2.9</u>	7					3-	-102.02			· · · · · · · · · ·		
		🛛 ss	5	100	11					• • • • • • • • • •	•••••••••••••••••••••••••••••••••••••••	
FILL: Brown silty sand, some sand												
4 6		∦ ss	6	100	2	4-	-101.02					-
4.:		$\overline{\nabla}$										
		∦ ss	7	79	40	5-	100.02					
FILL: Brown sand			0	74	0.1							
		1 22	8		31	6-	-00.02					
 trace gravel by 6.0m depth 		1 00	٩	67	20	0	99.02					
6.7	0	100	5	07	25				. <u></u>	· · · · · · · · · ·		
								20 Sh	40 20 S	6 trongt	0 80 10 b (kBc)	00
								Jundi ▲	sturbe	d ∆	Remoulded	

SOIL PROFILE AND TEST DATA

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

DATUM Geodetic					·				FILE	NO. PO	35155	
REMARKS				_				0	HOLE	E NO. BH	16-19	
BORINGS BY CME 55 Power Auger	_		0.41		8		DI					
SOIL DESCRIPTION	PLOT		SAN			DEPTH (m)	Pen. Re ● 5	esist. 0 mm	Blows/0 Dia. Con	.3m e	er ion	
	LATA	ЪE	IBER	% VERY	ALUE ROD	(,	(,		latar (Contont		omete
GROUND SUBFACE	STE	Т.	NUN	RECO	N OF			20	40	60 60	'° 80	Piezo
		× • • •	1			0-	105.31					
FILL: Brown silty clay with sand and .69			1									
		ss	2	79	42	1-	104.31					
FILL: Brown and, some clay and			_									
	\bigotimes	ss	3	54	15	2-	103.31					
FILL: Brown silty clay with sand,		ss	4	71	5							
FILL: Brown sand, some clay, and						3-	102.31					
gravel, trace organics		∦ ss	5	58	21							
FILL: Brown silty clay with sand,		٨	6	67	11	4-	101.31					
trace gravel		N 22	0	07								
		ss	7	96	14	5-	-100.31					
Brown SILTY CLAY, some sand, trace gravel			_				100101					
6.02		∦ ss	8	100	4	6-	00.21					
		ss	9	75	19	0	33.31					
		Δ	-			-	00.01					
		X ss	10	71	29	/-	-98.31					
Compact, brown SAND, trace silt			11	67	26							
		A 33	11	07	30	8-	-97.31					
		ss	12	83	20							
		∇				9-	-96.31		· · · · · · · · ·			
9.75		∦ ss	13	0	13							
Dynamic Cone Penetration Test commenced at 9.75m depth.						10-	-95.31			•		
						11-	-94.31					
						12-	-93.31					
										\langle		
						13-	-92.31			2		
											•	
						14-	-91.31		•••••		<u> </u>	
								20 Shea	40 ar Stre	60 ength (kP	80 10 a))0
								▲ Undist	urbed	∆ Remo	ulded	

SOIL PROFILE AND TEST DATA

FILE NO.

PG5155

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

REMARKS

BORINGS BY	CME 5	5 Power	Auge

BORINGS BY CME 55 Power Auger				D	HOLE NO. BH16-19					
SOIL DESCRIPTION	LOT		SAN	IPLE	1	DEPTH	ELEV.	Pen. R	esist. Blows/0.3m 0 mm Dia. Cone	<u>ب ہ</u>
GROUND SURFACE	STRATA I	ТҮРЕ	NUMBER	* RECOVERY	N VALUE or ROD	(m)	(m)	0 V 20	Vater Content % 40 60 80	Piezometer Constructic
						14-	-91.31 -90.31			
						16-	-89.31			
						17-	-88.31			
						18-	-87.31			
						19-	-86.31			
						20-	-85.31			
End of Borehole	. <u>56</u>	-				21-	-84.31			
Practical DCPT refusal at 21.56m depth.										
(GWL @ 6.02m - Nov. 29, 219)										

: : :	: :			::									
2	0	40	6	0	80	100							
Shear Strength (kPa)													
▲ U	ndist	urbed	\triangle	Rem	ouldec	l							
▲ U	ndist	urbed	Δ	I									

SOIL PROFILE AND TEST DATA

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

DATUM Geodetic					•				FILE	e no.	PG	5155		
REMARKS						2010 No.	ombor 1	0	HOL	LE NO.	BH	17-19		
	E		SAN			2019100		Pen. R	esist	Blo	ws/0.:	3m	_	
SOIL DESCRIPTION	PLO					• 5	0 mn	n Dia.	Cone	9	g We	tion		
	RATA	ΥΡΕ	MBER	over.	ALUE ROD			0 V	Vater	Con	ent %	<u></u>	itorin	struct
GROUND SURFACE	ST	Ĥ	IUN	REC	N OF			20	40	60) 8	80	Mon	Sol
FILL: Brown silty sand with gravel and cobbles, trace brick and organics		au 🕅	1			- 0-	-105.30							
<u>1.07</u>						1-	104.30				· · · · · · · · · · · · · · · · · · ·			111111
FILL Brown sand with gravel trace		4 47												
cobbles		ss	2	46	17	2-	103.30				· · · · · · · · · · · · · · · · · · ·			111111
<u>2.59</u>														11111
FILL: Brown silty clay, some sand		V ss	3	96	9	3-	102.30							
and gravel							101.00				· · · · · · · · · · · · · · · · · · ·			
						4-	101.30							111111
		ss	4	58	20	5-	100.30				• • • • • • •			111111
		ss	5	67	22									111111
		<u>И</u> П				6-	-99.30				· · · · · · · · · · · ·			
Compact, brown SAND, trace gravel		ss	6	50	19									
		ss	7	54	13	7-	-98.30							
		ss	8	67	14	8-	-97.30				• • • • • • • • • • • •			
				75			07.00				•			
		N SS	9	/5	4	9-	96.30							
9.75		ss	10	100	11									
End of Borehole														
(GWL @ 6.73m - Nov. 29, 219)														
								20	40	60	8	<u>:::</u> 0, 1	⊣ 00	
								Shea	ar Str turbed	rengtl △	n (KPa Remou	a) Ilded		

SOIL PROFILE AND TEST DATA

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

DATUM Geodetic					ľ				FILE N	o. PG5155	
REMARKS									HOLE	NO. BH18-10	
BORINGS BY CME 55 Power Auger				D	ATE 2	2019 Nov	ember 1	9		DITIO-13	'
SOIL DESCRIPTION	PLOT		SAN			DEPTH (m)	ELEV. (m)	Pen. Re ● 5	esist. I 0 mm [Blows/0.3m Dia. Cone	ion
	RATA	КРЕ	MBER	°° OVER)	'ALUE RQD	(,	()	O W	Vater C	ontent %	ometo
GROUND SURFACE	ST	H	IÚN	REC	N N N N			20	40	60 80	Piez
FILL: Brown silty sand, some gravel,		X AU	1			0-	-103.24				
		« «				1-	-102.24				
FILL: Brown silty clay, some sand and gravel, trace organics		ss	2	54	6	2-	-101.24				
2. <u>59</u>		ss	3	88	11	3-	-100.24				<u>ինընդերը։</u> Իրդերիներ
Compact to loose, brown SAND, trace gravel						4-	-99.24				
5.26		ss	4	58	9	5-	-98.24				
		ss	5	88	12						
		ss	6	54	12	6-	-97.24				
Grey SILTY CLAY, some sand		ss	7	48	16	7-	-96.24				
		ss	8	96	1	8-	-95.24				
9.07		ss	9	96	1	9-	-94.24				
		ss	10	96	2						
Very loose, grey SAND, trace clay		ss	11	92	2	10-	-93.24				
End of Borehole	<u></u>	+									
(GWL @ 4.03m - Nov. 29, 219)											
								20 Shea ▲ Undist	40 ar Strer urbed	60 80 1 ngth (kPa) △ Remoulded	00

SOIL PROFILE AND TEST DATA

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

DATUM Geodetic

REMARKS BORINGS BY CME 55 Power Auger

FILE NO.	
	PG5155

HOLE NO. BH19-19

BORINGS BY CME 55 Power Auger				DATE 2019 November 19						БП19-19				
SOIL DESCRIPTION	LOT		SAN	IPLE	1	DEPTH	ELEV.	Pen. F ● {	Resist. B 50 mm D	lows/0. ia. Cone	3m Ə	25		
	STRATA	ТҮРЕ	TYPE NUMBER «COVERY		I VALUE or RQD	(m)	(m)	• Water Content %				iezomete		
GROUND SURFACE		_		R	4	0-	104 14	20	40	60 8	0	<u>а</u> 0		
FILL: Brown silty sand, some gravel, trace organics0.5	I	S AU	1				104.14							
and gravel		ss	2	47	50+	1-	-103.14							
<u>_</u>		ss	3	50	9	2-	-102.14							
		ss	4	4	7		101 14							
FILL: Brown sand with silty clay		ss	5	46	6	3-	-101.14							
some gravel, trace organics		ss	6	42	7	4-	-100.14			· · · · · · · · · · · · · · · · · · ·				
		ss	7	21	4	5-	-99.14							
<u>6.0</u> 2	2	ss	8	42	6	6-	-98.14							
and gravel	3	ss	9	88	21									
		ss	10	83	4	7-	-97.14			· · · · · · · · · · · · · · · · · · ·				
Loose to compact, brown SAND,		ss	11	46	16	8-	-96.14			••••••				
trace gravel		ss	12	38	21	9-	-95.14							
9.7	5	ss	13	54	18									
commenced at 9.75m depth.						10-	+94.14		2			-		
						11-	-93.14					-		
						12-	-92.14							
						13-	-91.14		2)				
						14-	-90.14		•					
								20 She ▲ Undis	40 ar Strens turbed	60 8 gth (kPa △ Remou	0 1(1) Ided	JO		

SOIL PROFILE AND TEST DATA

FILE NO.

PG5155

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

DATUM	Geodetic
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REMARKS

REMARKS	HKS HOLE NO. BH19-19												
BORINGS BY CME 55 Power Auger				D	DATE	2019 Nov	/ember 1	9		D1113-13			
SOIL DESCRIPTION	PLOT		SAN			DEPTH ELEV.		Pen. Resist. Blows/0.3m • 50 mm Dia. Cone			er on		
	RATA	ЗŢ	MBER	% OVERY	VALUE ROD			• V	Vater Co	ntent %	zomete		
GROUND SURFACE	LS		NC	REC	N O			20	40	60 80	Cor		
						14-	-90.14			·····			
						15-	89.14				-		
									Λ				
						16-	-88 14		<u>.</u>				
							00.14						
						17-	-87.14						
						18-	86.14						
									P:::::::::::::::::::::::::::::::::::::				
						19-	-85 14	· · · · · · · · · •		· · · · · · · · · · · · · · · · · · ·			
						20-	-84.14		7	· · · · · · · · · · · · · · · · · · ·			
						21-	83.14		•				
22.1	5					22-	-82.14						
End of Borehole	<u> </u>	-									•		
Practical DCPT refusal at 22.15m													
depth.													
(GWL @ 3.69m - Nov. 29, 219)													
								20 Shea ▲ Undist	40 0 ar Streng urbed 2	60 80 1 th (kPa) ⊾ Remoulded	00		
				1									

SOIL PROFILE AND TEST DATA

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

DATUM Geodetic									FILE	NO. PO	35155	
REMARKS BORINGS BY CME 55 Power Auger				D	ATE 2	2019 Nov	vember 1	9	HOLE	NO. BH	20-19	
	FO		SAN	IPLE		DEPTH	ELEV.	Pen. R	esist.	Blows/0	.3m	Vell
SOIL DESCRIPTION	STRATA PI	(m) (m) TYPE TYPE TYPE NUMBER NUMBER NUMBER NUMBER O C C C C C C C C C C C C C	• 5 • V	0 mm Vater C	Dia. Con	e %	Ionitoring V onstruction					
GROUND SURFACE		×		×	4	0-	100.24	20	40	60 	80	o≤ _l Ete
FILL: Brown silty sand, trace gravel and organics		S AU	1			1-	-99.24					
2.5	9	ss	2	42	12	2-	-98.24					<u>իրիիիիիի</u> հերհերի
		ss	3	58	5	3-	-97.24					<u> </u>
FILL: Brown sand, trace gravel		ss	4	79	7	4- 5-	-96.24 -95.24					
<u>6.0</u>	2	ss	5	54	15	6-	-94.24					
Compact, brown SAND , trace gravel and clay seams		∦ss ∦ss	6 7	58 54	19 12	7-	-93.24					<u>իրիիիիի</u> Որիրիսիս
Compact, grey SILTY SAND with gravel and clay 8.3	4 0	ss	6	50	8	8-	-92.24					
Grey-brown SILTY CLAY, trace sand		ss	9	71	2	9-	-91.24					
10.0		ss	11	92 100	1	10-	-90.24					
												µН.
(GWL @ 3.83m - Nov. 29, 219)												
								20 Shea ▲ Undis	40 ar Stre turbed	60 ngth (kP △ Remo	80 10 a) ulded)0

SOIL PROFILE AND TEST DATA

FILE NO.

PG5155

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geodetic

								HOLE NO.	
· · · ·			D	ATE 2	2019 Nov	ember 1	1	TP32	
PLOT		SAN	IPLE			ELEV.	Pen. R • 5	esist. Blows/0.3m 0 mm Dia. Cone	on
FRATA	IYPE	JMBER	% COVERY	VALUE c RQD	(11)	(11)	• v	Vater Content %	zomete
ι. Δ	L .	IN	REC	N O			20	40 60 80	Co Bie
	= G	1			0-	-102.23			
					1-	-101.23			
					2-	-100.23			
					3-	-99.23			
	= G	2			4-	-98.23			
	= G	3			5-	-97.23			¥
	-								
							20 Shea	40 60 80 10 ar Strength (kPa)	00
			LIOTA ELEVALS G 1 G 1 = G 2 = G 3	$ \begin{array}{ c c c c } $	DATE 2 SAMPLE SAMPLE $ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Date 2019 Nov	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Date 2019 November 11	HOLE NO. TP32 DATE 2019 November 11 Pen. Resist. Blows/0.3m st st <th< td=""></th<>

SOIL PROFILE AND TEST DATA

FILE NO.

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geodetic

										PG5155	
REMARKS									HOLE NO).	
BORINGS BY Excavator				D	ATE 2	2019 Nov	rember 1	1		1933	
SOIL DESCRIPTION	PLOT		SAN	IPLE		DEPTH	ELEV.	Pen. R • 5	esist. Bl 0 mm Dia	ows/0.3m a. Cone	r n
	RATA	ЪE	MBER			• V	Vater Cor	ntent %	zomete		
GROUND SURFACE	LS	H	NN N	REC	N			20	40 6	60 80	Piez Cor
FILL: Brown sand with gravel, cobbles, trace organics0.	30	= G	1			0-	-103.94		·····		
FILL: Brown sand, trace gravel		= G	2			1-	-102.94				
						2-	-101.94				
<u>3</u> .	30					3-	-100.94				
Grey SILTY CLAY, trace sand		= G	3			4-	-99.94				
5. End of Test Pit	00	-				5-	-98.94				
(Groundwater infiltration at 3.1m depth)								20 Shea	40 Gar Streng	50 80 1 th (kPa)	00

SOIL PROFILE AND TEST DATA

FILE NO.

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geodetic

										PG5155	
REMARKS									HOLE	ENO. TOO 4	
BORINGS BY Excavator				D	ATE 2	2019 Nov	ember 1	1		1P34	
	ЦОЛ		SAN	IPLE		DEPTH	ELEV.	Pen. R	esist.	Blows/0.3m	
SOIL DESCRIPTION	A P.		ж	RY	Що	(m)	(m)	• 5	u mm	Dia. Cone	eter ctior
	TRAT	ТУРЕ	UMBE	COVE %	VALU r RQ			• v	ater (Content %	ezome
GROUND SURFACE	N		N	RE	z ^o	0	102.04	20	40	60 80	ĕ°
FILL: Brown sand, trace gravel and organics		= G	1			0-	- 103.24				
FILL: Brown silty clay, some sand, gravel, organics and topsoil		= G	2			1-	-102.24				
FILL: Brown sand, trace gravel						2-	-101.24				
<u>3.6</u> (= G	3			3-	-100.24				
Loose to compact, brown SAND		- 0				4-	-99.24				
5.20)	- G	4			5-	-98.24				
(Groundwater infiltration at 3.15m depth)								20	40	60 80 14	00
								Shea ▲ Undist	ar Stre	angth (kPa) △ Remoulded	

SOIL PROFILE AND TEST DATA

FILE NO.

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geodetic

										PG5155	
REMARKS									HOLE NO). TD25	
BORINGS BY Excavator				D	ATE 2	2019 Nov	ember 1	1		1833	
SOIL DESCRIPTION	гот		SAN	IPLE		DEPTH	ELEV.	Pen. Re ● 50	esist. Blo 0 mm Dia	ows/0.3m a. Cone	
	RATA	ХРЕ	MBER	% OVERY	VALUE ROD	(11)	(11)	0 W	ntent %	zomete istructi	
GROUND SURFACE	5 IS	н	NN	REC	N N			20	40 (50 80	Cor Cor
FILL: Topsoil, trace organics, 0.15	$\times\!\!\times\!\!\times$	= G	1			0-	-10530.0	0			
gravel and sand						1-	-10529.0	0			
	\bigotimes					0	10500.0				
<u>3.10</u>		= G	2			3-	- 10528.0	0 0			
Loose, brown SAND		= G	3			4- 5-	- 10526.0 - 10525.0	0 0 0			
End of Test Pit (TP dry upon completion)		-				6-	- 10524.0	0 20 Shea ▲ Undist	40 € ar Streng urbed △	50 80 10 th (kPa)	00

SOIL PROFILE AND TEST DATA

▲ Undisturbed △ Remoulded

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

DATUM Geodetic									FILE NO.	PG5155	
REMARKS									HOLE NO. T	D36	
BORINGS BY Excavator				D	ATE 2	2019 Nov	rember 1	1		1 30	
SOIL DESCRIPTION	PLOT		SAN	NPLE 것	비수	DEPTH ELEV. (m) (m)		Pen. Resist. Blows/0.3m50 mm Dia. Cone			ter ction
	STRATA	ТҮРЕ	NUMBER	* ECOVER	I VALUI or RQD			0 V	Vater Conten	t %	ezome onstruc
GROUND SURFACE	•1		-	RI	ZŬ	0-	-105 10	20	40 60	80	ΞÖ
0.15		G	1			1-	-104.10				
FILL: Brown sand, some topsoil, gravel, cobbles						2-	-103.10				
2.7m depth		= G	2			3-	-102.10				
4.50		_				4-	-101.10				
GLACIAL TILL: Loose, brown sand, some gravel, cobbles and clay						5-	-100.10				
End of Test Pit (GWL @ 5.95m depth based on field observations)		= G	3			6-	-99.10				
								20 Shea	40 60 ar Strength (I	80 1((Pa)	00

SOIL PROFILE AND TEST DATA

FILE NO.

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geodetic

									_	PG5155	
REMARKS									HOLE NO). TD27	
BORINGS BY Excavator				D	ATE 2	2019 Nov	rember 1	1		1531	
SOIL DESCRIPTION	РІОТ		SAMPLE			DEPTH (m)	ELEV.	Pen. Resist. Blows/0.3m • 50 mm Dia. Cone			er
	TRATA	TYPE		UMBER % COVER		()	()	0 N	/ater Cor	ntent %	zomete
GROUND SURFACE	Ñ	-	N	Ë	zö			20	40 6	60 80	ы В В В В В
FILL: Brown sand with topsoil, 0.15		= G	1			0-	-105.02				
FILL: Brown sand, some gravel and cobbles, trace asphalt						1-	-104.02				
						2-	-103.02				
<u>3.10</u>		_ G	2			3-	-102.02				
Loose to compact, brown SAND		= G	3			4-	-101.02				
<u>5.00</u> Stiff, grey SILTY CLAY, trace sand <u>5.70</u>		- = G	4			5-	-100.02				
End of Test Pit											
(TP dry upon completion)								20 Shea ▲ Undistr	40 € ar Streng urbed △	50 80 10 th (kPa) . Remoulded	00

SOIL PROFILE AND TEST DATA

FILE NO.

PG5155

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geodetic

DEMADKO

REMARKS									HOLE NO.	
BORINGS BY Excavator				D	ATE 2	2019 Nov	ember 1	1	TP38	
SOIL DESCRIPTION	ргот		SAN	IPLE	1	DEPTH	ELEV.	Pen. Ro ● 50	esist. Blows/0.3m 0 mm Dia. Cone	÷ 5
	RATA	ЭДХ	MBER	% OVERY	VALUE ROD	(m)	(m)	• v	Vater Content %	zomete istructic
GROUND SURFACE	S	REO N		N N			20	40 60 80	Cor	
FILL: Brown silty clay, some sand, 0.15		G	1			0-	-106.11			
						1-	-105.11			
		= G	2			2-	-104.11			
Fir, brown SILTY CLAY, trace sand and gravel						3-	-103.11			
						4-	-102.11			
5.50		= G	3			5-	-101.11			
End of Test Pit										
(TP dry upon completion)								20 Shea ▲ Undist	40 60 80 ar Strength (kPa) turbed △ Remoulded	100

SOIL PROFILE AND TEST DATA

FILE NO.

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geodetic

										PG515	5
REMARKS									HOLE	NO. TD20	
BORINGS BY Excavator	1			D	ATE	2019 Nov	ember 1	2		1239	
SOIL DESCRIPTION	PLOT		SAN	IPLE	1	DEPTH	ELEV.	Pen. R	esist. 0 mm l	Blows/0.3m Dia. Cone	L. L.
	TRATA	ЗYPE	JMBER	% OVERY	VALUE ROD		(11)	0 V	• Water Content %		
GROUND SURFACE	LS	н	NC	REC	Z O			20	40	60 80	Die Die Die
FILL: Brown silty clay, some gravel,0.15		G	1			- 0-	-105.29				
		= G	2			1-	-104.29				
						2-	-103.29				
FILL: Brown sand, some clay, gravel, construction debris						3-	-102.29				
						4-	-101.29				
		= G	3			5-	-100.29				
5 50											
End of Test Pit		-									
(TP dry upon completion)											
								20 Shea ▲ Undis	40 ar Strei turbed	60 80 ngth (kPa) △ Remoulded	⊣ 100

SOIL PROFILE AND TEST DATA

FILE NO.

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

_	-		_	 ~	

DATUM Geodetic										^{0.} PG5155	
REMARKS				_		0010 No.		0	HOLE	^{NO.} TP40	
BORINGS BY Excavator	.		CAN					2 Don B		Plaws/0.2m	
SOIL DESCRIPTION	PLOI		JAN			DEPTH (m)	ELEV. (m)	• 5	Dia. Cone	tion	
	TRATA	ТҮРЕ	UMBER	~ ~ COVER	VALUE r RQD			• Water Content %			
GROUND SURFACE	ũ	-	ž	RE	zö	0	100.40	20	40	60 80	မီပိ
FILL: Brown sand, some gravel, 0.1	5	G	1			0-	-106.46				
FILL: Brown sand, some gravel, cobbles, trace brick						1-	-105.46				
							104.40				-
		= G	2			3-	- 103.46				
- trace clay by 3.2m depth							100.40				
5.20		= G	3			5-	-101.46				
End of Test Pit		-									
(Groundwater infiltration at 5.1m depth)								20 Shea ▲ Undist	40 ar Stren turbed	60 80 1 10 11 11 12 13 14 14 14 14 14 14 14 14 14 14	00

SOIL PROFILE AND TEST DATA

FILE NO.

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geodetic

										PG5155	
REMARKS									HOLE NO). TD41	
BORINGS BY Excavator	1			D	ATE 2	2019 Nov	ember 12	2		1241	1
SOIL DESCRIPTION	гол		SAN	IPLE				Pen. Resist. Blows/0.3m • 50 mm Dia. Cone			- 5
	ATA I	ΡE	BER	VERY	ALUE RQD	(m)	(m)			- 1 1 O/	mete
	STR	ΤΥ	MUN	о В С С С С	N VZ			0 V	ater Cor	iezo	
		_		Ř	4	0-	-105.10	20	40 6	50 80	чo
FILL: Brown sand, some clay, gravel, cobbles, organics 0.25		= G	1								
<u> </u>						1	104 10				
FILL: Brown silty clay, some gravel,							104.10				
						2-	-103.10				-
		= G	2			3-	-102.10				-
Compact, brown SAND, some						4-	-101.10				
gravei		= G	3			5-	-100.10				
End of Test Pit)										
(TP dry upon completion)								20 Shea	40 (ar Streng	50 80 11 th (kPa)	00

SOIL PROFILE AND TEST DATA

FILE NO.

PG5155

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

REMARKS

DATUM

BORINGS BY	Excavato

Geodetic

BORINGS BY Excavator				D	ATE 2	2019 Nov	vember 1	2	HOLE	^{E NO.} TP 4	2	
SOIL DESCRIPTION	PLOT	SAMPLE				DEPTH (m)	ELEV.	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone			3m e	er ion
	STRATA	ТҮРЕ	NUMBER	% ECOVER	N VALUE or RQD			• V	Vater (Content %		Piezomet
GROUND SURFACE		- 6	1	щ		0-	104.51	20	40	60 8		
		- G										
						1-	-103.51					
FILL: Brown silty clay, some sand, gravel, cobbles, trace organics and construction debris												
		= G	2			2-	-102.51					
						3-	-101.51					
3.40		-										
		= G	3			4-	-100.51					
Stff, brown SILTY CLAY, some sand, trace cobbles												
5.40		_				5-	-99.51					
End of Test Pit												
(Groundwater infiltration at 5.0m depth)												
								20 Shea ▲ Undist	40 ar Stre turbed	60 8 ength (kPa ∆ Remou	60 100 a) Ilded)

SOIL PROFILE AND TEST DATA

FILE NO.

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geodetic

										PG51	55	
REMARKS									но			
BORINGS BY Excavator				D	ATE 2	2019 Nov	ember 12	2		1643		
SOIL DESCRIPTION	РГОТ		SAN			DEPTH	ELEV.	Pen. Resist. Blows/0.3m • 50 mm Dia. Cone			÷ 5	
	RATA	ХРЕ	MBER	° overy	/ALUE ROD	(11)	(11)	O Water Content %				
GROUND SURFACE	L S	H	NU	REC	N OF			20	40	60 80	Piez	
FILL: Brown silty clay, some topsoil		= G	1			0-	-104.67					
FILL: Brown silty clay, some sand, gravel, cobbles, trace construction debris		-				1-	-103.67					
			•			2	102.67					
2.90		- G	2			3-	-102.67					
FILL: Gry silty clay, some sand, gravel, cobbles		= G	3			4- 5-	-100.67 -99.67					
5.20		-										
(Groundwater infiltration at 4.9m depth)								20 Shea ▲ Undist	40 ar Sti turbed	60 80 rength (kPa) I △ Remoulder	100 d	

SOIL PROFILE AND TEST DATA

FILE NO.

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

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DATUM	Geodetic

										PG51	55
REMARKS								•	HOL	E NO. TP44	
BORINGS BY Excavator					DATE	2019 Nov	vember 1	2			
SOIL DESCRIPTION	PLOT		SAN		_	DEPTH (m)	ELEV. (m)	Pen. F	lesist. 50 mm	Blows/0.3m Dia. Cone	er
	TRATA	гуре	UMBER	°° COVER1	VALUE c RQD			0	Nater (Content %	zomet
GROUND SURFACE	Ω		Ĩ	RE	zö	0	100.05	20	40	60 80	Pie
FILL: Brown silty clay, some sand, 0.1	5	= G	1			- 0-	103.85				
FILL: Brown sand, some gravel, cobbles, trace construction debris		= G	2			1- 2- 3-	-102.85 -101.85 -100.85				
FILL: Brown sand, some gravel, cobbles, trace clay 5.2 End of Test Pit		= G	3			4- 5-	-99.85 -98.85				
(Groundwater infiltration at 4.6m depth)								20 She ▲ Undis	40 ar Stre turbed	60 80 ength (kPa) △ Remoulder	100

SOIL PROFILE AND TEST DATA

FILE NO.

PG5155

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geodetic

REMARKS

				_		010 Nov	ambar 1	0	HOLE	^{NO.} TP45	
BORINGS BY Excavator	DATE 2019 November 12										
SOIL DESCRIPTION	PLOT		SAMPLE			DEPTH (m)	ELEV. (m)	Pen. R • 5	esist. 0 mm [Blows/0.3m Dia. Cone	ter tion
	STRATA	TYPE	NUMBER	* COVER	VALUI Dr RQD			0 V	Vater C	ontent %	ezome: onstruc
GROUND SURFACE			4	R	zv	0-	-104 14	20	40	60 80	ΞŎ
		= G	1								
FILL: Brown sand, some gravel,						1-	-103.14				
cobbles, clay, trace organics						2-	-102.14	······································			
<u>3.50</u>		= G	2			3-	-101.14				
FILL: Brown silty clay, some sand, gravel, trace cobbles						4-	-100.14				
		= G	3			5-	-99.14	·····			
5.70		-									
(TP dry upon completion)											
									40		
								Shea ▲ Undist	ar Strer	ou 80 10 ngth (kPa) △ Remoulded	JU

SOIL PROFILE AND TEST DATA

FILE NO.

HOLE NO.

Pen. Resist. Blows/0.3m

• 50 mm Dia. Cone

Water Content %

PG5155

TP46

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

Ο

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

DATUM Geodetic								
REMARKS								
BORINGS BY Excavator				D	ATE 2	2019 Nov	ember 1	1
SOIL DESCRIPTION	LOT		SAN	IPLE		DEPTH	ELEV.	
	TA P	Fi	IR	ERY	ЗD	(m)	(m)	
	TRA	ттрі	UMBI	°∿ COVI	VAL r R(
GROUND SURFACE	N N		z	RE	z ^o	0-	102 74	
		= G	1				102.74	
						1-	101.74	-
FILL: Brown sand, some gravel,								
trace organics								
						2-	100.74	-



SOIL PROFILE AND TEST DATA

Geotechnical Investigation
 Prop. Residential Development - Borrisokane Rd.
 Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

DATUM Geodetic									FILE	i no. F	PG5155	5
REMARKS									HOL	.е NO. т	D/17	
BORINGS BY Excavator				D	1			F 4/				
SOIL DESCRIPTION	A PLOT		SAN œ	/IPLE	Що	DEPTH (m)	ELEV. (m)	Pen. R	esist. Blows/0.3m 0 mm Dia. Cone			
	TRAT	ТҮРЕ	UMBEI	COVE!	VALU F RQI			• v	Vater	Conten	it %	ezome
GROUND SURFACE	o o		z	RE	z ^o	0-	-101 19	20	40	60	80	je o
FILL: Brown sand and gravel	0	= G	1									
FILL: Grey silty clay, some sand and						1-	-100.19					· · ·
graver						2-	-99.19					
<u>3.1</u>	0	G	2			3-	-98.19					
Loose, brown SAND, trace silt						4-	-97.19					
5.4	5	= G	3			5-	-96.19					· · · · · · · · · · · · · · · · · · ·
End of Test Pit												
(Groundwater infiltration at 5.3m depth)								20 Shea ▲ Undist	40 ar Str	60 ength (I △ Rer	80 1 k Pa) moulded	000

SOIL PROFILE AND TEST DATA

FILE NO.

PG5155

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geodetic

REMARKS

RODINGS BY Exceluator				п	ATE (2019 Nov	ombor 1	9	HOLEN	^{ю.} ТР48			
	OT	SAMPLE DEPTH FLEV Pen. Resist. Blows/0.3m											
SOIL DESCRIPTION	TA PL	Э	ER	ERY	D D D	(m)	(m)	• 5	0 mm D	m Dia. Cone			
	STRA	ТУР	NUMB	ECOV	VA OF R			• v	later Co	iezor			
GROUND SURFACE		- 0	-	Ř	4	0-	102.61	20	40	60 80	L 0		
		ŭ	I										
						1-	-101.61						
FILL: Brown sand with some to trace gravel													
						2-	-100.61						
		= G	2			3-99.61	-99.61				-		
3.50		-											
Loose to dense, brown SAND						4-	-98.61				-		
		= G	3										
5.30 End of Test Pit		-				5-	-97.61						
(Groundwater infiltration at 4.9m depth)													
								20 Shea ▲ Undist	40 ar Stren urbed	60 80 1 gth (kPa) △ Remoulded	00		

SOIL PROFILE AND TEST DATA

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

DATUM	Geodetic

DATUM Geodetic									FILE NO. PG5155		
REMARKS									HOLE NO. TD 40		
BORINGS BY Excavator				D	ATE 2	2019 Nov	ember 1	1	1P49		
SOIL DESCRIPTION	гот		SAN	IPLE		DEPTH	ELEV.	Pen. R ● 5	esist. Blows/0.3m 0 mm Dia. Cone		
	RATA I	ЯРЕ	MBER	° ∂VERY	'ALUE ROD	(m)	(m)	O Water Content %			
GROUND SURFACE	S E	Ĥ	IÚ N	REC	N O				20	40 60 80 Z	
FILL: Brown sand and gravel, some cobbles, trace clay		= G	1			- 0-	-103.49				
1.10		= G -	2			1-	-102.49				
						2-	-101.49				
Loose, brown SAND						3-	-100.49				
						4-	-99.49				
5.30		= G	3			5-	-98.49				
End of Test Pit		-									
(TP dry upon completion)								20 Shea ▲ Undist	40 60 80 100 ar Strength (kPa)		

SOIL PROFILE AND TEST DATA

FILE NO.

PG5155

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geodetic

REMARKS

				_	ATE /		ombor 1	4	HOLE	NO. TP5	0	
BORINGS BY Excavator				D	ATE 2	2019 NOV	ember 1	1				
SOIL DESCRIPTION	A PLOT		SAN ~		Що	DEPTH (m)	ELEV. (m)	Pen. Re • 5	esist. I 0 mm D	3m Ə	ster ction	
	STRAT?	ТҮРЕ	NUMBEI	ECOVEI	I VALU or RQI			0 V	/ater C	ontent %		iezome onstruc
GROUND SURFACE			-	R	ZŸ	0-	103 62	20	40	60 8	0	ΞŎ
		= G	1									
						1-	-102.62					
FILL: Brown sand and gravel, trace cobbles, organics						2-	101.62					
						2	101.02					
						3-10	-100.62					
<u>3.95</u>		= G	2				00.62					
FILL: Brown sandy clay to clayey sand with gravel, some cobbles						4-	-99.02					
5.20		= G	3			5-	-98.62		······································			
End of Test Pit												
(GWL @ 4.9m depth based on field observations)												
								20 Shea ▲ Undist	40 ar Stren urbed	60 8 1933 60 8 1935	0 10 a) Ilded	00

SOIL PROFILE AND TEST DATA

FILE NO.

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geodetic

										PO	35155	
REMARKS									HOL		54	
BORINGS BY Excavator				D	ATE	2019 Nov	vember 12	2		IP) 	
SOIL DESCRIPTION	РГОТ		SAN	IPLE		DEPTH	ELEV.	Pen. Re 5	esist. 0 mm	Blows/0 Dia. Con	.3m e	r on
	RATA	TYPE	MBER	% OVERY	VALUE ROD		(11)	0 V	Vater	Content %	6	zomete istructi
GROUND SURFACE	LS		NC			20	40	80	Cor Die Die Die			
FILL: Brown sand, some gravel, cobbles, trace clay	0.20	G	1			0-	-103.92					
·						1-	-102.92					
FILL: Brown sand, trace gravel						2-	-101.92		· · · · · · · · · · · · · · · · · · ·			
		= G	2			3-	-100.92					
						4-	-99.92					
End of Test Pit	5.10	G	3			5-	-98.92					
(Groundwater infiltration at 5.0m depth								20 Shea ▲ Undist	40 ar Stre urbed	60 ength (kP △ Remo	80 10 80 10 8)	00

SOIL PROFILE AND TEST DATA

20

▲ Undisturbed

40

Shear Strength (kPa)

60

80

 \triangle Remoulded

100

Piezometer Construction

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd.

15

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154 Colonnade Road South, Ottawa, C	intario i		15		Ot	tawa, Or	ntario	-				
DATUM Geodetic					·				FILE NO.	PG5155		
REMARKS												
BORINGS BY Excavator		i		D	ATE 2	2019 Nov	ember 1	2		TP52		
SOIL DESCRIPTION	LOT		SAN	IPLE		DEPTH	ELEV.	Pen. R	esist. Blo	ws/0.3m Cone		
	ATA P	E	BER	ÆRY	SD EUE	(m)	(m)					
	STR2	ТYF	NUME	ECO ¹⁰	N VA OF F			0 V	Water Content %			
				<u> </u>	-	0-	104.04	20	40 60	80		
FILL: Brown sand, some gravel	40	G	1									
		× ×										
		× ×				1-	-103.04					
		× ×										
		×				2-	-102.04					
		× ×				2	102.04					
FILL: Brown sand, some gravel, cobbles, trace clay and organics		× ×										
		⊨ G	2			0 101 0						
						3-	-101.04					
		×										
		⊨ G	3									
		× ×				4-	-100.04					
4 6	30	×										
End of Test Pit		1										
(TP dry upon completion)												
patersongroup

SOIL PROFILE AND TEST DATA

FILE NO.

Geotechnical Investigation Prop. Residential Development - Borrisokane Rd. Ottawa, Ontario

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

Geodetic

DATUM

										PG5155	
REMARKS									HOLE N	^{0.} TD52	
BORINGS BY Excavator	1			D	ATE 2	2019 Nov	rember 1	1		1953	
SOIL DESCRIPTION	PLOT	SAMPLE			DEPTH	ELEV.	Pen. R ● 5	esist. B 0 mm Di	- 5		
	RATA	ХРЕ	MBER	% OVERY	/ALUE ROD	(ጠ)	(m)	o v	Vater Co	ntent %	zomete istructio
GROUND SURFACE	LS	H	NN	REC	N OL			20	40	60 80	Cor Cor
FILL: Brown sand and gravel, trace		= G	1			0-	-102.16				
		-				1-	-101.16				
							100.10				
FILL: Brown sand, trace gravel		= G	2			3-	-99.16				
End of Test Pit		-				5-	-97.10				
(GWL @ 4.6m depth based on field observations)								20 Shea ▲ Undis	40 ar Strenç turbed 2	60 80 10 11 11 (kPa) △ Remoulded	00

APPENDIX 2

PH3959 - 1 - PROPOSED SITE LAYOUT PLAN

PH3959 - 2 - MECP WATER WELL LOCATION PLAN

PH3959 - 4 - SURFICIAL GEOLOGY

PH3959 - 6 - BEDROCK GEOLOGY

PG5155 - 1 - TEST HOLE LOCATION PLAN

		Records and a second and a seco						
natorconcroup			CAIVAN GREENBANK NORTH INC.		Scale:	1.2000	Date:	11/2019
patersongroup			GROUNDWATER IMPACT ASSESSMEN	т	Drawn by:	1:2000	Report No.:	11/2019
consulting engineers		3713 BOR	RISOKANE - PROPOSED COMMERCIAL D	EVELOPMENT		RCG		PH3959-1
154 Colonnade Road South Ottawa, Ontario K2E 7J5	0	Title:	PROPOSED SITE I AYOUT	ONTARIO -	Checked by: Approved by:	EA	PH3	959-1
161: (613) 226-7381 Fax: (613) 226-6344	NO. REVISIONS DAT	TE INITIAL				МК	Revision No.:	



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o patersongroup consulting engineers 154 Colonnade Road South Ottawa, Ontario K2E 7J5 Tel: (613) 226-7381 Fax: (613) 226-6344				CAIVAN GREENBANK NORTH INC. GROUNDWATER IMPACT ASSESSMENT 3713 BORRISOKANE - PROPOSED COMMERCIAL DEVELOPME OTTAWA, Title: MECP WATER WELL LOCATION PLAN
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	Checked by:	RCG	PH3959-1
	Approved by:	EA	PH3959-4
	Approved by.	МК	Revision No.:



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