HYDROGEOLOGICAL ASSESSMENT REPORT

57 BATTEAUX ROAD

TOWN OF NOTTAWA
TOWNSHIP OF CLEARVIEW

PREPARED FOR:

NOTTAWA LIMITED PARTNERSHIP

PREPARED BY:

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CROZIER
CONSULTING ENGINEERS

Revision Number	Date	Comments
Rev.0	January 2026	Issued for First Submission

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1.0 Introduction

C.F. Crozier & Associates Inc. (Crozier) has been retained by Nottawa Limited Partnership to complete a Hydrogeological Assessment Report to support the Official Plan Amendment, Zoning By-Law Amendment, and Draft Plan Approval for a proposed residential development located at 57 Batteaux Road, in the Village of Nottawa, Township of Clearview. The development lands identified above will henceforth be referred to as the "Subject Property" or "the Site".

The following Report has been prepared to support the regulatory approvals for the Nottawasaga Valley Conservation Authority (NVCA) area and the Township of Clearview (Town). The Report characterizes the geological and hydrogeological regime of the Subject Property and describes the seasonal high groundwater elevation as it relates to the development. The Report also includes findings of the field investigation, discussion of potential impacts to the groundwater resources and mitigation measures aimed at protecting groundwater resources in the Study Area.

1.1 Site Description

The Site is approximately 3.4 ha in the northern limits of the existing Community of Nottawa and is legally described as Part of Lot 36, Concession 8 (Geographic Township of Nottawasaga), Township of Clearview, County of Simcoe. The Site is bounded by existing residential to the west, east and south and Batteaux Road to the north. Please refer to **Figure 1** for the Site Location Plan.

The Site currently consists of single dwelling unit with accessory buildings and a large-grassed area in the rear. Per the Township of Clearview's Zoning By-Law, most of the Subject Lands are zoned as Development Area with a small portion at the north zoned as Residential Dwelling where the existing dwelling lies.

The development Draft Plan prepared by Celeste Phillips Planning Inc. dated January 20, 2026, includes 47 single detached units, a 20 m Right-of-Way and an open space block. The proposed Draft Plan has been included in **Appendix A**.

2.0 Source Protection

The Site is located within the Nottawasaga Valley Source Protection Area which is governed by the Nottawasaga Valley Source Protection Authority (NVSPA). The NVSPA is one of three source protection authorities for the South Georgian Bay Lake Simcoe (SGBLS) Source Protection Region and authorized to act under legislated powers of Ontario's Clean Water Act (2006).

Activities incorporating risk to drinking water sources through impacts to quality within the region's Source Protection Plan are organized into Main and Subcategories. The Main Categories include:

1. The establishment, operation, or maintenance of a waste disposal site within the meaning of Part V of the Environmental Protection Act.
2. The establishment, operation or maintenance of a system that collects, stores, transmits, treats, or disposes of sewage.
3. The application of agricultural source material to land.
4. The storage of agricultural source material.
5. The management of agricultural source material.
6. The application of non-agricultural source material to land.
7. The handling and storage of non-agricultural source material.
8. The application of commercial fertilizer to land.
9. The handling and storage of commercial fertilizer.
10. The application of pesticide to land.
11. The handling and storage of pesticide.
12. The application of road salt.
13. The handling and storage of road salt.
14. The storage of snow.
15. The handling and storage of fuel.
16. The handling and storage of a dense non-aqueous phase liquid.
17. The handling and storage of an organic solvent.
18. The management of runoff that contains chemicals used in the de-icing of aircraft.
19. An activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body.
20. An activity that reduces the recharge of an aquifer.
21. The use of land as livestock grazing or pasturing land, an outdoor confinement area, or a farm-animal yard.
22. Liquid hydrocarbon pipelines.

The NVSPA provides a corresponding set of Tables of Drinking Water Threats that show where in a vulnerable area an activity must be located, and under what circumstances or Subcategory, the activity is to be considered a significant drinking water threat. Drinking water threats associated with proposed activities on the Site should be reviewed with the municipality's Risk Management Official (RMO).

2.1 Current Conditions

According to the Ministry of the Environment, Conservation and Parks' (MECP) Source Protection Information Atlas, it was determined that the Site is not located within any Intake Protection Zones (IPZ), Wellhead Protection Areas A, B, C and D (WHPA-A, WHPA-B, WHPA-C and WHPA-D), and Highly Vulnerable Aquifers (HVA). Additionally, the Site is also not within an Event Based Area (EBA).

The majority of the Site does however include an overlap with a Significant Groundwater Recharge Area (SGRA) with a score of 6. Additionally, there are WHPAs, and a highly vulnerable aquifer associated with the existing McKean Water System located approximately 300 m southwest of the Site Boundary.

The source protection mapping around the Site can be seen in **Appendix B**.

2.2 Future Considerations

Per a review of the proposed Site development and intended land uses, the SGRA does not present impediments to the proposed development with vulnerability index scoring of 6. Though, it should be noted that Best Management Practices (BMP) in these areas should be considered. In this scenario, maintaining pre-development recharge to the aquifer should be considered.

Additionally, a new groundwater supply source is currently required in order to supply drinking water to the proposed Georgian Communities development located southwest of the Site. While the Site will not fall within the new WHPAs, BMPs should still be used to ensure that the Site does not become a significant threat.

3.0 Physical Setting

The following sections describe the regional and local geology of the Site, including the physiography, topography, and drainage of the area.

3.1 Surficial and Bedrock Geology

3.1.1 Regional Context

According to Ontario Geological Survey (OGS) mapping, the surficial geology in the region of the Site consists of course textured glaciolacustrine deposits; sand, gravel, minor silt and clay, foreshore and basinal deposits. Just south of the Site is an area of till. To the east and west of the property exists a strip of modern alluvial deposits. The till in the area is described as stone-poor, sandy silt to silty sand-textured till on Paleozoic terrain.

Based on OGS mapping, bedrock geology on the Site is mapped as the Shadow Lake Formation which is comprised of limestone, dolostone, shale, and arkose sandstone. Local reports of the study area indicate that the bedrock geology of the Nottawa area was found to be underlain by grey and black Whitby shale (Golder Associates, 2006). Other formations found within Clearview Township include Amabel dolostone at the top of the Niagara Escarpment and Manitoulin dolostone at the base of the escarpment. East of the escarpment, formations of Georgian Bay and Whitby shale are commonly found along with Lindsay and Verulam limestone. The bedrock elevation in the area generally follows land surface elevation, declining towards Georgian Bay and the Nottawasaga River. Elevations were found to range from 110 masl to the west up to 180 masl to the northeast (Golder Associates, 2006). Please refer to **Figure 2** for the Bedrock Geology and **Figure 3** for the Surficial Geology.

3.1.2 Local Setting

Based on the local hydrogeological studies and exploratory water well drilling completed by Crozier for the Georgian Communities development located 800 m southwest of the Site, the Site is believed to sit atop a brown limestone of the Georgian Bay formation. Depth to bedrock was typically found to range between 14.94 to 17.98 mbg.

3.2 Physiography, Topography and Drainage

3.2.1 Regional Context

The Site falls within the physiographic region known as the Simcoe Lowlands (Chapman and Putman, 1984). The Simcoe lowlands cover approximately 1,100 square miles. To the west of this region, where the Site is located, the plains drain into the Nottawasaga Bay. Therefore, this region is called the Nottawasaga Basin. These lowlands predominantly consist of lake-deposited sediments of sand including silt and clay. These lowlands extend from the southeastern side of Lake Simcoe up to the northwestern area.

As stated above, the Site is located within the Nottawasaga Basin watershed. The lands found within this watershed are primarily flat floored valleys. The Nottawasaga jurisdiction is 3,600 km^2 and spans from Wasaga Beach to Collingwood in the north, to Barrie and Orangeville in the south.

The watershed is shaped like a bowl. Water drains from areas of high topography to low. The highest areas of the watershed are the Niagara Escarpment to the west, the Oak Ridges Moraine to the south, and the Oro Moraine to the east. At the bottom of the bowl is the Simcoe Lowlands, and Nottawasaga Bay at Wasaga Beach. The main river within this watershed is the Nottawasaga River. It forms west of the Niagara Escarpment in the Dundalk Till Plains and picks up three major rivers; Boyne River, Pine River, and Innisfil Creek. These three rivers and their tributaries flow through the provincially significant Minesing Wetlands. As it flows out of the wetlands, it is captured by the Nottawasaga River Basin and conveyed into the Nottawasaga Bay at Wasaga Beach.

3.2.2 Local Setting

Surface topography ranges from approximately 213 meters above sea-level (masl) to 215 masl. In general, surface water flows from areas of higher topography to areas of lower topography. The Site is mostly flat but surface water flows gently towards the northeast. Please refer to **Figure 4** for Physiography.

4.0 Hydrogeology

The following sections describe the local and regional hydrogeology and hydrostratigraphy of the Subject Property and the surrounding area.

4.1 Hydrostratigraphy

4.1.1 Regional Context

A review of existing well records, test holes, and hydrogeological studies was performed to determine the local hydrostratigraphy. Crozier determined that the regional stratigraphic profile across the Town limits consists of the following units:

- A primary shallow overburden aquifer unit composed of recent sediments overlaying the Newmarket Aquitard. This aquifer is vulnerable to surface water influence, which could result in contamination.

- The Newmarket Aquitard — which is comprised of Newmarket Till and deposits of low permeability material — is a leaky confining layer that provides protection from contamination.

- The Thorncliffe Aquifer Complex underlying the Newmarket Aquitard, consisting of fine to coarse-textured sediments of the Thorncliffe Formation. Local sand and gravel deposits allow for high well yields and create artesian pressure conditions, resulting in flowing wells.

- The Sunnybrook Aquitard separates the Thorncliffe and Scarborough Aquifer Complexes. It generally consists of low permeability material, which allows for some resistance to vertical groundwater movement, protecting the underlying aquifer unit from contamination.

- The Scarborough Aquifer Complex consists of fine to coarse-textured deposits from the Scarborough Formation. Groundwater within the Scarborough Aquifer tends to be under pressure, but only local artesian conditions occur. Due to the depth of the aquifer, and the presence of shallow groundwater and aquifers in the area, the Scarborough Aquifer Complex is not used extensively for private water supplies.

- Finally, underlaying the Scarborough Aquifer Complex, is bedrock comprised of shale, siltstone, or limestone of the Shadow Lake and Georgian Bay Formations.

4.1.2 Local Setting

Based on the hydrogeological study and water supply exploration completed by Crozier for the Georgian Communities development, a more refined hydrostratigraphic profile could be determined in the area. Initially, a shallow unconfined sand aquifer exists at the surface and can extend to depths of up to 3 mbgl. This layer is underlain by a semi-confined layer of 3 to 10 m of fine lacustrine materials. Beneath this, a 5 to 10 m thick municipal water supply aquifer was noted, underlain by thin lacustrine units or resting directly on bedrock. The semi-confining layer, which has been demonstrated through pumping tests during the well exploration to provide a disconnect between the upper more recent surface unit and the lower municipally productive aquifer, is also responsible for a perched water table which, in some areas, can result in seasonal groundwater elevations that exceed the surface and result in surface pooling at wetlands. The municipal water supply aquifer appears to be locally thickest in the vicinity of the McKean Subdivision, where the existing Nottawa Water Supply System resides. This locally productive aquifer is believed to extend west towards the 10th Line.

4.2 MECP Well Records

A review of MECP Well Records Database identified a total of 52 well records within a 500-meter radius of the Subject Property. Well record logs indicated that most of the wells were used for domestic purposes. Two (2) of the wells are used for municipal purposes. Few indicated being abandoned. A summary of key points from the well records is as follows:

- Of the 52 wells, 43 of the wells are domestic wells, 2 are municipal wells, 1 is for public supply, and 6 are abandoned wells.
- Of the well records that indicated depth of the well, depths ranged from 3.7 mbg to 59.7 mbg, with an average depth of 18.2 mbg.
- The majority of the wells are screened in the overburden aquifer and indicate the most common subsurface materials to be brown and grey sand, clay and silt with trace to some gravel. This seems to be representative of local stratigraphy of the area.
- Of the well records that indicated the static water level of the well, static water levels ranged from 0.6 mbg to 11.58 mbg, with an average water level of 3.6 mbg.
- MECP wells 5721305, 5721306, are the 2 wells of the municipal wells that supply the Nottawa area with drinking water. According to the MECP well records, wells were pumped at 170.34 L/min and 151.42 L/min, respectively.

Please refer to **Figure 5** for the MECP Well Plan and **Appendix C** for the MECP Well Record Summary.

4.3 Groundwater Properties

4.3.1 Regional Context

South Georgian Bay-Lake Simcoe Source Protection Region completed an assessment report of the Nottawasaga Valley Source Protection Area, which evaluated the surface water and groundwater conditions of the Nottawasaga Valley watershed. The Approved Assessment Report for Nottawasaga Valley details the groundwater quality in the Township of Clearview. According to the Report, none of the parameters that were commonly found in the municipal water system in the Township of Clearview were identified as drinking water issues, though some exceeded Ontario Drinking Water Quality Standard (ODWQS) values.

- Iron, manganese, aluminum, and organic nitrogen were occasionally found to exceed ODWQS aesthetic values but were not considered drinking water issues.
- Sodium concentrations have been found to exceed the guideline of 20 mg/L, and a reduction in sodium use in the contributing watershed would improve water quality, but it is not considered a drinking water issue.
- Coliforms have been detected in raw groundwater samples; however, the inconsistency and infrequency of these events deem the rare detections a non-issue. In addition, the municipal treatment system in Creemore provides adequate filtration and disinfection.
- Trihalomethanes have been detected in as a result of the by-product of disinfection by chlorination, but concentrations have been trace and far below ODWQS. Trihalomethanes are not considered to be a concern to drinking water quality in the area.

Regional groundwater is expected to flow north towards Georgian Bay, and local, shallow groundwater flow patterns are expected to follow local topography.

4.3.2 Local Setting

Local groundwater quality in the regional aquifer was tested during the production well development for the Georgian Communities development located southwest of the Site. A raw water characterization that includes an analysis of all physical, chemical, and microbiological parameters outlined in Tables 1, 2 and 4 of the *Technical Support Document for Ontario Drinking Water Standard, Objective and Guidelines (ODWS)* (2006) was conducted. The exceedances noted during this testing included HPC, total coliforms, hardness, apparent colour, turbidity, iron, and manganese.

Samples collected at this location are in line with the conclusions of the regional study by the NVCA in which iron and manganese were seen to be in exceedance of the ODWS objectives.

5.0 Field Work

5.1 Monitoring Well Installation (Cambium, 2022)

During the period of April 8-11, 2022, Cambium was retained by Georgian Communities for the drilling of 25 boreholes. The boreholes were drilled using standard track-mounted drill rig supplied and operated by Walker Drilling. Of these 25 boreholes, 10 were equipped with shallow monitoring wells. Of the 10 monitoring wells, 3 were installed on the 57 Batteaux Road property.

The purpose of the April 2022 drilling program was to develop an understanding of the local shallow stratigraphy and hydrostratigraphy on-site. Monitoring was completed to establish hydrogeological conditions across the Site and to assess the potential requirement for construction dewatering and/or long-term dewatering.

The 3 monitoring wells installed were drilled to a depth of 6.7 mbg and screened within the interval between 3.7 to 6.7 mbg. The primary noted formations encountered included silt, silty sand, and sandy silt. All wells constructed were installed with a 50 mm diameter Schedule 40 PVC pipe with #10 slot PVC screens complete with a sand pack at the screened interval and bentonite plug to the ground surface.

Table 1: Monitoring Well Construction Details (Cambium, 2022)

Monitoring Well	Total Depth (mbg)	Screened Interval (mbg)	Material (* Denotes Secondary Unit)
122-22	6.7	3.7-6.7	Silty-sand, silt, some sand.
124-22	6.7	3.7-6.7	Silt, some sand.
125-22	6.7	3.7-6.7	Silt, some sand.

Please refer to **Appendix D** for the borehole logs prepared by Cambium.

6.0 Results

6.1 Groundwater Monitoring

Following the installation and development of the wells installed by Cambium in 2022, automatic level loggers were installed, and periodic manual measurements were collected. **Table 2** and **Table 3** below present the manual groundwater elevations collected to date.

Table 2: Manual Groundwater Levels (mbg)

Monitoring Well	Ground Elevation[1]	22-05-06	22-06-08	22-07-08	22-08-17	23-01-20	23-04-06
122-22	215.60	0.169	0.599	1.259	1.499	0.149	0.129
124-22	215.15	0.537	0.897	1.307	1.527	0.417	0.197
125-22	214.90	1.137	1.317	1.507	1.677	1.227	0.887

[1] Ground elevations were estimated from topographic mapping received from J.D Barnes Limited dated Sept 27, 2022.

Table 3: Manual Groundwater Levels (masl)

Monitoring Well	Ground Elevation[1]	22-05-06	22-06-08	22-07-08	22-08-17	23-01-20	23-04-06
122-22	215.60	215.43	215.00	214.34	214.10	215.45	215.47
124-22	215.15	214.61	214.25	213.84	213.62	214.73	214.95
125-22	214.90	213.76	213.58	213.39	213.22	213.67	214.01

[1] Ground elevations were estimated from topographic mapping received from J.D Barnes Limited dated Sept 27, 2022.

6.1.1 Seasonally High Groundwater

A summary of recorded data through the deployed loggers is provided in **Table 4** below. Seasonally recorded ranges are provided.

Table 4: Seasonally Recorded Range (mbg)

Monitoring Well	Seasonally Recorded Low		Seasonally Recorded High	
	Date	W/L (mbg)	Date	W/L (mbg)
122-22	2022-07-20	1.737	2023-01-07	**-0.072**
124-22	2022-09-26	1.733	2023-03-21	0.050
125-22	2022-09-26	1.987	2023-04-06	0.886

Please refer to **Figure 6** for Well Location Plan. Please refer to **Appendix E** Monitoring Well Hydrographs for continuous groundwater level data collected through automatic loggers. Data generated through manual measurements and automatic loggers was used to provide the Crozier civil design team with conservative seasonal groundwater highs in the form of a groundwater surface.

The seasonal high groundwater elevations on the Site range from -0.072 mbg to 0.886 mbg, at MW122-22 and MW125-22, respectively. In general, seasonal high groundwater was within 1.0 m of ground level or above ground at certain periods. It is believed that the increased groundwater elevations are as a result of periods of increased precipitation and slow deep infiltration which holds the groundwater atop the lower confining layer.

6.1.2 Groundwater Recharge

The groundwater level response to precipitation events in all wells appeared to be quick, suggesting that the assumption of an unconfined surface aquifer is accurate. In addition, the infiltration response to precipitation events appeared to be slow, with the groundwater levels sustaining for days to weeks at a time following significant precipitation events. It is believed that the aquitard existing beneath the upper unconfined unit is leaky and allows for slow recharge into the lower regional aquifer.

6.1.3 Groundwater Flow Direction

Based on recorded data and manual measurements collected, the inferred groundwater flow direction at the Site is generally from south end of the Site to the north end of the Site. This follows the topography of the site. The total groundwater gradient across the site was calculated using April 2023 manual groundwater elevations (i.e. 214.01 and 215.47 masl at MW122-22 and MW125-22, respectively). The groundwater gradient is considered to be minor at 0.0081 from the maximum groundwater elevation (MW122-22) to the minimum (MW125-22). Please see **Figure 7** for the estimated groundwater flow direction.

6.1.4 Groundwater Quality (Water Table)

While no groundwater sample was collected on-site, in addition to the regional aquifer groundwater sampling described in Section 4.3.2, a monitoring well groundwater quality sample was collected by Crozier at the Georgian Communities development located southwest of the Site. The groundwater sample was collected at MW103-22 on September 25, 2023. MW103-22 is located approximately 700 m southwest of the Site boundary and is assumed to be located within the same stratigraphy at the Site. The water quality results for MW103-22 were compared against the Provincial Water Quality Objectives (PWQO) to determine any water quality exceedances in the water table.

The only exceedance noted was for total phosphorus. Currently, scientific evidence is insufficient to develop a firm guideline, yet the province provides general guidelines regarding phosphorus within water bodies. The level in MW103-22 was equal to the limit set in place to avoid nuisance concentrations of algae in lakes at 0.02 mg/L. Phosphorus levels should be monitored to prevent excess algae yet are not considered an impedance to the design.

Parameters of note include cadmium, cobalt, and silver, which all have guidelines that are below the reported detection limit from AGAT labs. While it cannot be confirmed that these parameters are below PWQO, it is assumed that these parameters were not detected within the groundwater and therefore are not considered impedances to the current development concept.

Other than the above-mentioned parameters, there were no exceedances noted within the water table groundwater sample. Results are located within **Appendix F**.

7.0 Impact Assessment and Mitigation

The development Draft Plan prepared by Celeste Phillips Planning Inc. dated January 20, 2026, includes 47 single detached units, a 20 m Right-of-Way and an open space block.

Discussion on the potential for dewatering is based on the interaction between the groundwater surface and proposed design elements for the Subject Property. Discharge of any dewatering flows should be analyzed against Provincial Water Quality Objectives prior to discharge to ensure effluent is within the guidelines.

7.1 Dewatering Considerations

7.1.1 Short-Term Dewatering

During monitoring, groundwater seasonal highs have ranged from -0.072 mbg to 0.886 mbg at MW122-22 and MW125-22, respectively. Due to these elevated levels, water seepage is expected during excavation.

Therefore, it is predicted that temporary construction dewatering will be required for the proper installation of inground services, SWM infrastructure, and floor & basement slabs. The quantity of water to be discharged on a daily basis will be dependent on the final proposed excavation depths and excavated area, along with the groundwater elevation and hydraulic conductivity of the soils. The requirement for an Environmental Activity and Sector Registry Application (EASR) or Permit to Take Water (PTTW) will be dependent on the level of inherent risk to the surrounding environment and daily dewatering quantities exceeding rates 50,000 L/day and 400,000 L/day, respectively. Ground settlement as a result of temporary construction dewatering is not considered to be an issue on the Subject Property as no permanent structures exist in the immediate vicinity of features that will require temporary dewatering.

7.1.2 Long-Term Dewatering

Based on the Township of Clearview Lot Grading and Drainage Policy, the bottom of floor or basement slab elevations must be a minimum of 0.4 m above the seasonal high groundwater table elevation. Seasonal high groundwater elevations and a groundwater contour will be supplied to the civil design team during detailed design to ensure a minimum 0.4 m separation for the residential units is achieved.

Additionally, at this time, stormwater management facilities are proposed to mitigate the reduction of infiltration in post-development. These facilities will require a minimum of 1 m clearance from the seasonal high groundwater elevation.

7.2 Groundwater Impacts

Impacts on both private and municipal water supplies in the area are predicted to be minimal based on the relatively shallow depth of potentially required dewatering when compared to the depths of drinking water wells in the area. Additionally, there are unevaluated wetlands located approximately 200 m southeast of the southern Site boundary. Due to the distance from the wetlands, it is anticipated that the impact from the dewatering activities will be minimal.

It is recommended that a pre-construction dewatering assessment be undertaken prior to breaking ground to determine the radius of influence of the dewatering activities and dewatering rates to analyze impact to any natural features or water supplies.

7.3 Water Balance

Please refer to Section 10.0 of the Functional Servicing and Stormwater Management Report submitted by Crozier (January 2026) under a separate cover for further details regarding the water balance analysis.

In order to mitigate the reduction in infiltration in the post-development scenario, low impact development (LID) features such as infiltration trenches and enhanced swales will be investigated during the detailed design stages of development.

8.0 Conclusions and Recommendations

In summary, at the time of this report, Crozier is prepared to make the following conclusions:

- The soils encountered on the Site are primarily brown silty sand and sand. Based on boreholes conducted on-site and in the surrounding area:
    - A shallow unconfined sand aquifer exists from surface up to 3 m.
    - A semi-confined aquifer exists from 3 m to 10 m made up of fine lacustrine materials.
    - A 5 to 10 m thick municipal water supply aquifer was noted, underlain by a thin lacustrine unit or directly on bedrock.

- In consideration of the Drinking Water Source Protection, the SGRA located onsite with a Vulnerability Index scoring of 6 does not present impediments to the proposed development. Though, it should be noted that Best Management Practices in these areas should be considered.

- Three (3) monitoring wells were installed on-site and monitored from May 2022 to May 2023. Seasonally high groundwater levels have been recorded from -0.072 mbg to 0.886 mbg at MW122-22 and MW125-22, respectively.

- The inferred groundwater flow direction at the Site is generally from south end of the Site to the north end of the Site. This follows Site topography.

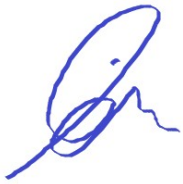
- The only exceedance noted in groundwater quality was for total phosphorus. Phosphorus levels should be monitored to prevent excess algae yet are not considered an impedance to the design.

- Due to high groundwater levels observed, temporary dewatering is anticipated to be required during the installation of inground services, SWM infrastructure and basements. Additionally, a minimum of 0.4 m separation of seasonally high groundwater levels from the underside of floor or basement slabs will be required to avoid long-term dewatering.

- A dewatering investigation is recommended prior to construction and following the finalization of accepted designs. This will allow for the determination of potential dewatering requirements and the necessary permits to be put in place prior to the initialization of construction.

Respectfully submitted,

C.F. CROZIER & ASSOCIATES INC.



Evan Finbow, P.Geo.
Project Manager (Hydrogeology)

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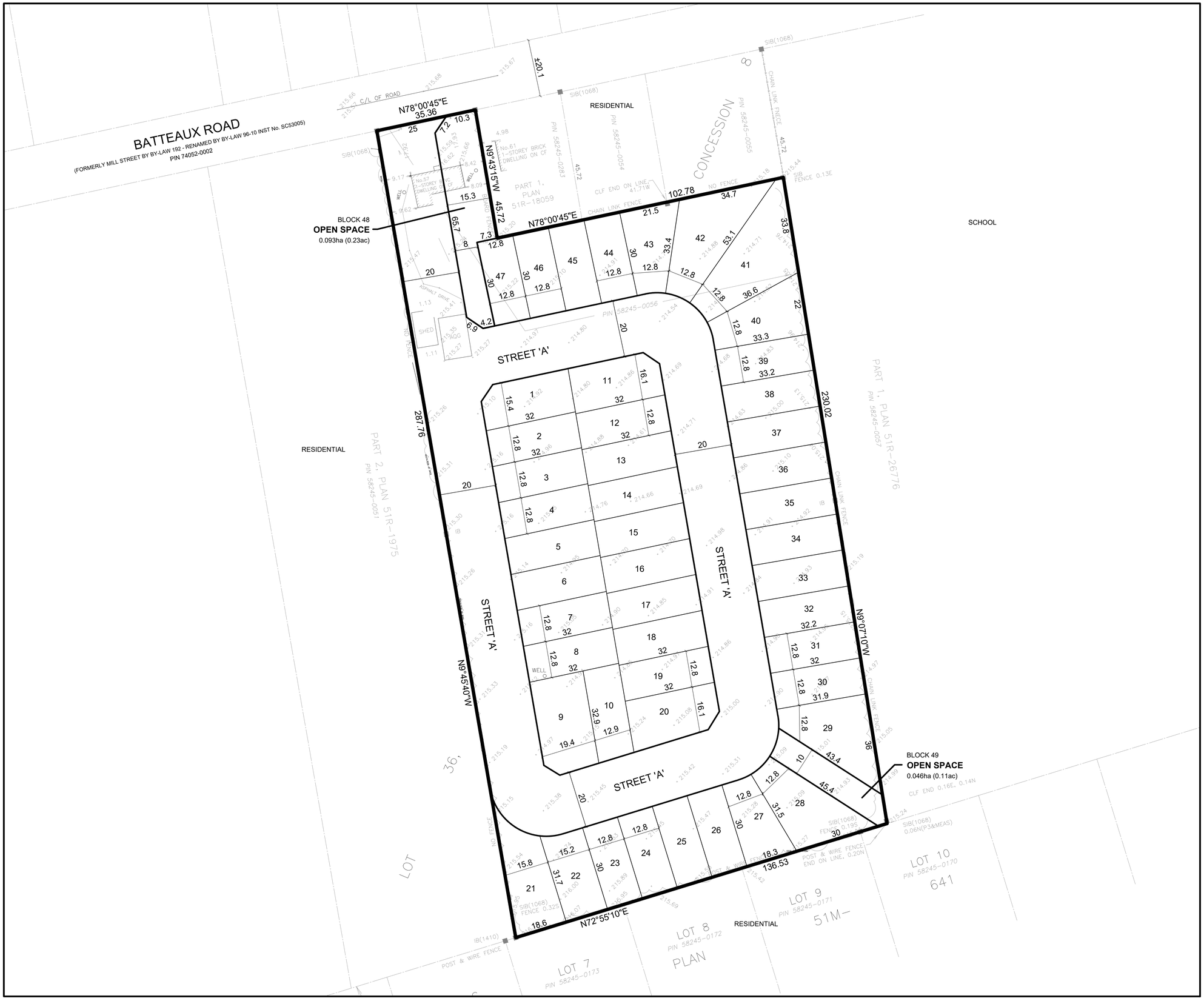
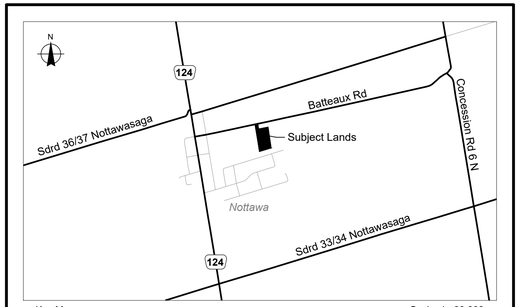
APPENDIX A

Draft Plan of Subdivision





Key Map — Scale 1 : 30,000

DRAFT PLAN OF SUBDIVISION

PART 1, PLAN 51R-1975
PART OF LOT 36, CONCESSION 8
(FORMER GEOGRAPHIC TOWNSHIP OF NOTTAWASAGA)
TOWNSHIP OF CLEARVIEW, COUNTY OF SIMCOE

LAND USE SCHEDULE

LAND USE	LOT/BLOCK	UNITS	AREA ha	AREA ac	%
RESIDENTIAL	1 - 47	47	2.148	5.31	63.5
OPEN SPACE	48 & 49		0.139	0.34	4.1
STREET 'A'			1.097	2.71	32.4
TOTAL	**49**	**47**	**3.384**	**8.36**	**100.0**

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT

a) AS SHOWN
b) AS SHOWN
c) AS SHOWN
d) AS SHOWN
e) AS SHOWN
f) AS SHOWN
f1) NONE
g) AS SHOWN
h) MUNICIPAL WATER
i) TIOGA SANDY LOAM
j) AS SHOWN
f) AS SHOWN
k) FULL MUNICIPAL SERVICES
l) AS SHOWN

TOWNSHIP OF CLEARVIEW APPROVAL

APPROVED IN ACCORDANCE WITH SECTION 51(31) OF THE *PLANNING ACT*, RSO, 1990, CHAPTER P.13, AS AMENDED,

THIS _____ DAY OF _____, 20_____.

OWNER'S CERTIFICATE

NOTTAWA LIMITED PARTNERSHIP, BEING THE REGISTERED OWNER OF THE SUBJECT LANDS, HEREBY AUTHORIZES CELESTE PHILLIPS PLANNING INC. TO PREPARE AND SUBMIT A DRAFT PLAN OF SUBDIVISION FOR APPROVAL.

DATE: _____

DAVID BUNSTON, PRESIDENT
NOTTAWA LIMITED PARTNERSHIP

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN ON THIS PLAN.

DATE: JANUARY 20, 2026

PIER DE ROSA,O.L.S.
J.D. BARNES LIMITED

No.	DATE	REVISION	BY

STAMP

0 10 20 30 40 50m
Scale 1 : 600

Date: January 20, 2026
Drawn By: AM
Checked By: CP

N

celeste PHILLIPS PLANNING INC.
85 Bayfield Street, Suite 300
Barrie, ON L4M 3A7
T: 705 797 8977
C: 705 730 8850
celeste@cplan.ca

APPENDIX B

Source Protection Mapping (MECP, 2025)

Source Protection Mapping - Significant Groundwater Recharge Area

Legend

Significant Groundwater Recharge Area

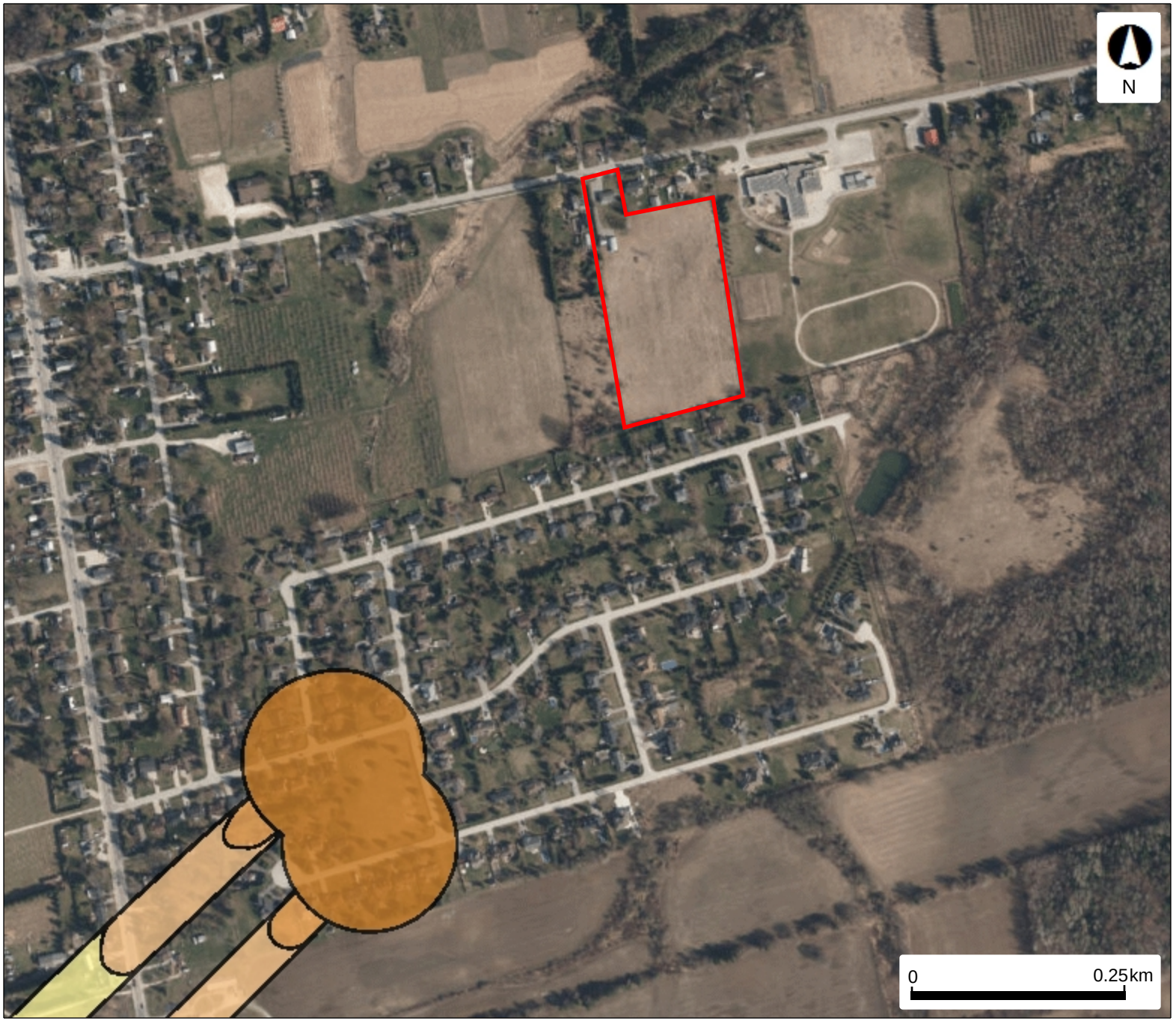
- N/A
- 0
- 2
- 4
- 6

Site Boundary

CROZIER

Date: June 26, 2025
Created By: KR

Source Protection Mapping - Wellhead Protection Areas



Legend

Wellhead Protection Area

- A
- B
- C
- C1
- D
- F

Site Boundary

CROZIER

Date: June 26, 2025
Created By: KR

Source Protection Mapping - Highly Vulnerable Aquifers

Legend

- Highly Vulnerable Aquifers
- Site Boundary

CROZIER

Date: June 26, 2025
Created By: KR

APPENDIX C

MECP Well Record Summary

MECP WATER WELL RECORDS

Project Number: 1953-6180
Prepared by: Kelly Reid

Address: 57 Batteaux Road
Date completed: June 25, 2025

Well ID	Diameter (cm)	Depth (m)	Static Level (m)	Quantity (lpm)	Quality	Material / Notes	Aquifer[1]	Use	Date Completed
5702519	10.2	13.7	3.05	18.18	Clear	Sandy clay, sand, silty clay, silty gravel, black sand, shale	BR	Domestic	08/23/1967
5706151	76.2	3.7	1.83	9.09	Clear	Sand	OB	Domestic	01/28/1969
5706224	10.2	25.9	3.05	9.09	Unknown	Topsoil, clay, silty sand, brown and grey shale	BR	Domestic	03/10/1969
5708098	10.2	45.4	2.44	18.18	Clear	Brown sand, grey clay, grey silty clay, blue clay, brown gravel, brown and grey rock	OB	Domestic	06/25/1971
5709755	12.7	15.8	3.05	45.46	Clear	Brown sand, grey silty clay, brown clay with stone and gravel, grey gravel	OB	Domestic	04/19/1973
5710409	12.7	14.0	8.53	22.73	Unknown	Brown sand with silt, grey clay, grey silt, brown sand, brown gravel	OB	Domestic	09/24/1973
5710995	12.7	14.3	5.49	45.46	Clear	Brown sand, black clay with sand, grey clay, brown sand with gravel, brown gravel with sand	OB	Domestic	06/19/1974
5712536	10.2	12.8	1.22	68.19	Clear	Brown sand, grey clay, hardpan, brown sand	OB	Domestic	09/18/1975
5712561	12.7	21.3	1.22	11.37	Cloudy	Brown topsoil, brown sand, grey clay, brown silt with sand and gravel, black and grey shale	BR	Domestic	07/24/1975
5712737	N/A	30.5	N/A	N/A	N/A	Brown topsoil, brown sand and clay, grey shale	BR	Abandoned	12/01/1975
5714644	15.2	12.5	4.27	36.37	Cloudy	Brown topsoil, brown sand, grey clay, grey clay with stones, black gravel with sand	OB	Domestic	09/22/1977
5716703	15.2	12.2	1.83	22.73	Clear	Brown clay with sand, grey clay, black shale	OB	Domestic	05/16/1980
5717072	12.7	12.2	1.83	18.18	Clear	Black topsoil, brown sand, grey silt with clay, brown sand with silt, black shale	OB	Domestic	9/28/1983
5717481	12.7	16.5	10.67	27.28	Unknown	Black topsoil, brown clay, brown silt with sand and clay, grey clay, grey clay with stones, grey silt and sand, black shale	OB	Domestic	05/08/1981
5721301	N/A	24.4	N/A	N/A	Unknown	Sandy clay, grey clay, grey clay with gravel, brown limestone	BR	Domestic, Not Used	11/25/1986
5721305	15.9	15.8	0.61	170.34	Clear	Topsoil, brown sand, clay, sand	OB	Municipal	10/12/1986
5721306	15.9	14.3	0.61	151.42	Clear	Topsoil, brown sand, clay, sand and gravel, silt and clay, sand	OB	Municipal	10/14/1986
5721657	15.6	24.1	11.58	36.37	Cloudy	Brown topsoil, brown sand, grey clay, black shale	OB	Domestic	04/21/1987
5723334	15.6	24.4	6.71	Unknown	Unknown	Brown sand, grey clay, black shale	BR	Domestic	05/12/1988
5724294	91.4	6.7	1.22	9.09	Unknown	Brown topsoil, brown sand, grey silt & sand, grey clay	OB	Domestic	11/22/1988
5724295	91.4	7.0	2.13	170.34	Unknown	Brown topsoil, brown sand, grey sand, blue clay	OB	Domestic	11/24/1988
5724908	91.4	8.2	1.52	151.42	Unknown	Topsoil, brown sand, grey sand, grey clay	OB	Domestic	04/04/1989
5724909	91.4	8.2	1.52	9.09	Fresh	Topsoil, brown sand, grey sandy clay	OB	Domestic	04/06/1989
5724911	91.4	7.0	2.44	9.09	Fresh	Topsoil, brown sand	OB	Domestic	04/07/1989
5727325	91.4	7.3	2.44	13.64	Fresh	Topsoil, brown sand, blue clay	OB	Domestic	09/24/1990
5728656	15.9	14.3	0.84	11.37	Clear	Brown sand, brown clay, grey silt, grey sand, grey clay, black limestone	OB	Domestic	11/04/1991
5728657	15.9	48.8	8.53	1.14	Cloudy	Brown sand, grey clay with silt, black limestone	BR	Domestic	10/04/1991
5728658	15.9	15.8	9.45	37.73	Clear	Brown sand, brown silt, grey silt, grey clay, grey sand, black limestone	OB	Domestic	10/04/1991
5728659	15.9	36.6	7.01	1.14	Cloudy	Brown clay with sand, grey clay with silt, grey clay with stones, black limestone, grey limestone	BR	Domestic	10/04/1991
5729715	91.4	7.6	3.05	4.55	Fresh	Brown topsoil, brown sand, grey silt and clay	OB	Domestic	10/07/1992
5730918	15.2	11.0	3.66	13.64	Clear	Brown sand, grey clay	OB	Domestic	09/22/1994
5731852	N/A	N/A	N/A	N/A	Abandoned				10/30/1995
5731853	15.9	11.0	2.74	22.73	Clear	Topsoil, clay with sand, grey clay, sand	OB	Domestic	10/30/1995
5731960	15.6	29.0	5.49	18.18	Clear	Black topsoil, brown sand, grey clay, grey limestone	BR	Domestic	10/03/1995
5732168	15.6	21.3	2.13	90.92	Clear	Brown sand, grey clay, grey shale, brown limestone	BR	Domestic	05/24/1996
5732842	15.9	13.1	0.83	68.19	Clear	Topsoil, brown sand and silt, grey sand and silt, grey clay, grey sand	OB	Public Supply	05/27/1997
5732921	15.9	13.7	1.83	27.28	Clear	Topsoil, clay, sand and gravel, shale rock	OB	Domestic	07/08/1997
5733126	15.2	16.5	1.22	68.19	Clear	Topsoil, brown sand, brown sand with gravel, grey silt, black limestone	BR	Domestic	10/14/1997
5733275	15.9	43.3	5.18	22.73	Clear	Brown sand with clay, grey clay, clay and gravel, black shale, brown limestone	BR	Domestic	02/03/1998
5734701	16.5	11.3	8.53	22.73	Clear	Brown clay with sand, brown clay, sand with gravel	OB	Domestic	07/07/1999
5736590	15.6	30.5	4.57	4.55	Clear	Brown sand, brown clay with stones, grey clay with stones, grey sand, grey clay, grey shale, brown and grey limestone	BR	Abandoned	11/27/2001
5736647	91.4	10.4	2.44	13.64	Unknown	Brown topsoil, brown sand, grey sand, blue clay with silt, blue clay with stones	OB	Domestic	01/08/2002
5737844	91.4	12.8	2.74	13.64	Unknown	Brown topsoil, brown sand, grey silt, grey clay, grey sand	OB	Domestic	05/28/2003
5739459	121.9	11.6	N/A	N/A	Unknown	Brown topsoil, brown sand, grey sand, grey clay	OB	Domestic	12/10/2004
5740907	15.9	10.4	1.96	22.75	Clear	Tospoil, brown sandy clay, grey silty clay, grey silty sand, grey sand with gravel	OB	Domestic	07/18/2006
7113476	15.2	13.7	4.57	27.28	Clear	Topsoil, brown sand, grey silty clay and gravel, grey gravel, brown limestone, black limestone	OB	Domestic	09/23/2008
7123130	15.9	10.4	2.65	13.65	Unknown	Brown topsoil, brown sand, grey silt, grey clay, grey silt and sand, black shale	OB	Domestic	04/22/2009
7188395	N/A	N/A	N/A	N/A	Abandoned				08/30/2012
7234968	15.2	59.7	1.83	6.00	Clear	Grey gravel, brown sand and gravel, brown silty clay, grey clay, black limestone, dark brown limestone, grey limestone / shale	BR	Domestic	12/22/2014
7255754	15.2	35.4	3.05	4.55	Cloudy	Topsoil, brown sand, grey silty clay with gravel, grey silt with gravel, grey limestone	OB	Domestic	07/31/2015
7301495	91.4	6.9	2.38	13.64	Clear	Topsoil, brown sand, grey fine sand	OB	Domestic	08/21/2017
7327703	N/A	N/A	N/A	N/A	Abandoned				08/15/2018

Data Source: Ministry of the Environment, Conservation, and Parks, retrieved June 25, 2025.
1. OB = Overburden Aquifer, BR = Bedrock Aquifer

APPENDIX D

Borehole Logs

GEOTECHNICAL INVESTIGATION

GEORGIAN COMMUNITIES
Nottawa Lands Development
57 Batteaux Road
Nottawa, Ontario

LEGEND

- Borehole
- Monitoring Well
- Site (approximate)

Notes:
- Site is approximate and was obtained from the Simcoe County online GIS.
- 2019 imagery was obtained from the Simcoe County online GIS.
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
- Cambium Inc. makes every effort to ensure this map is free from errors but cannot be held responsible for any damages due to error or omissions. This map should not be used for navigation or legal purposes. It is intended for general reference use only.

CAMBIUM
194 Sophia Street
Peterborough, Ontario, K9H 1E5
Tel: (705) 742.7900 Fax: (705) 742.7907
www.cambium-inc.com

BOREHOLE LOCATION PLAN

Project No.:	14768-001	Date:	May 2022
		Rev.:	
Scale:	1:2,000	Projection:	NAD 1983 UTM Zone 17N
Created by:	TLC	Checked by:	RG
Figure:	2		

O:\GIS\MXDs\14700-14799\14768-001 Georgian Communities - Geo - Nottawa Lands\2022-04-24 FIG 2- Borehole Location Plan - Bateaux.mxd

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Oshawa
Kingston
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Log of Borehole: BH121-22

Client:	Georgian Communities	**Project Name:**	Nottawa Lands Development	**Project No.:**	14768-001
Contractor:	Walker Drilling	**Method:**	Hollow Stem Auger	**Date Completed:**	April 8, 2022
Location:	57 Batteaux Road, Nottawa, ON	**UTM:**	17T, 4923240 m N, 563728 m E	**Elevation:**	98.89 m Rel. El.

SUBSURFACE PROFILE			SAMPLE							
Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
0 / 98		TOPSOIL: (~ 150 mm thick)	1A							
		SILTY SAND: brown, disturbed native; non-cohesive, moist, very loose, (SM)	1B	SS	50	2				
1 / 97		SILTY SAND to SAND: fine to medium; brown to grey; non-cohesive, wet, compact, (SM/SP)	2	SS	85	18				
2 / 96			3	SS	100	15				
3 / 95		-becomes grey at 2.7 mbgs	4	SS	85	12				
4 / 94		sandy SILT: grey; non-cohesive, wet, compact, (ML)	5	SS	90	15				
5 / 93			6	SS	80	21				
6 / 92		SILTY CLAY: trace sand; grey; cohesive, w > PL, stiff to very stiff, (CL)	7	SS	100	15				
7 / 91		Borehole terminated at 6.7 mbgs due to exploration depth achieved								Borehole caved to a depth of about 0.9 mbgs on completion of drilling. Groundwater level measured in borehole at a depth of about 0.8 mbgs upon completion of drilling.
8 / 90										
9										

Logged By: CM **Input By:** CM

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Log of Borehole: BH122-22

Client:	Georgian Communities	**Project Name:**	Nottawa Lands Development	**Project No.:**	14768-001
Contractor:	Walker Drilling	**Method:**	Hollow Stem Auger	**Date Completed:**	April 8, 2022
Location:	57 Batteaux Road, Nottawa, ON	**UTM:**	17T, 4923252 m N, 563660 m E	**Elevation:**	98.94 m Rel. El.

Elevation (m)	Depth	Description	Number	Type	% Recovery	SPT (N) / DCPT	Well Installation	Remarks
98	0	TOPSOIL: (~ 200 mm thick)	1A				Monument	50 mm Diameter Monitoring Well with a 3.0 m screen. Groundwater level measured in monitoring well at a depth of about 0.17 mbgs on May 5 and 0.60 mbgs on June 8
		SILTY SAND: brown, disturbed native; non-cohesive, moist, very loose, (SM)	1B	SS	80	4	Cap	
	1	sandy SILT: brown to grey; non-cohesive, wet, compact, (ML)	2	SS	90	27	Bentonite Plug	
		-becomes grey at about 1.5 mbgs	3	SS	85	50/ 255 mm	PVC Standpipe	
97	2	SILTY SAND: grey; non-cohesive, wet, compact to very dense, (SM)	4	SS	60	16		
			5	SS	75	11		GSA SS5: 3% Gravel 83% Sand 12% Silt 2% Clay
96	3							
95	4							
		-sandy silt seams from about 4.6 mbgs	6	SS	90	50/ 280 mm	Sand Pack	
94	5						PVC Screen	
		SILT: some sand; grey, slight plasticity; non-cohesive, wet, compact, (ML)	7	SS	90	29		
93	6						Cap	
92	7	Borehole terminated at 6.7 mbgs due to exploration depth achieved						
91	8							
90	9							

% Moisture: 25 50 75

SPT (N) / DCPT: 10 20 30 40

Logged By: CM **Input By:** CM

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Log of Borehole: BH123-22

Client:	Georgian Communities	**Project Name:**	Nottawa Lands Development	**Project No.:**	14768-001
Contractor:	Walker Drilling	**Method:**	Hollow Stem Auger	**Date Completed:**	April 8, 2022
Location:	57 Batteaux Road, Nottawa, ON	**UTM:**	17T, 4923336 m N, 563646 m E	**Elevation:**	98.82 m Rel. El.

SUBSURFACE PROFILE			SAMPLE							
Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
98 / 0		TOPSOIL: (~ 150 mm thick)	1A							
		SILTY SAND: brown, disturbed native; non-cohesive, moist, very loose, (SM)	1B	SS	75	1				
98 / 1		SILTY SAND to SAND: fine, brown; non-cohesive, wet, compact, (SM/SP)	2	SS	80	24				
97 / 2			3A	SS	100	18				
		SILT: some sand to sandy; brown to grey; non-cohesive, wet, compact, (ML)	3B							
96 / 3			4	SS	30	19				
		-becomes grey at about 3.1 mbgs	5	SS	55	14				
95 / 4										
94 / 5			6	SS	90	28				
		Borehole terminated at 5.2 mbgs due to exploration depth achieved								
93 / 6										
92 / 7										
91 / 8										Borehole caved to a depth of about 1.5 mbgs on completion of drilling. Groundwater level measured in borehole at a depth of about 1.2 mbgs upon completion of drilling.
90 / 9										

Logged By: CM **Input By:** CM

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Log of Borehole: BH124-22

Client:	Georgian Communities	**Project Name:**	Nottawa Lands Development	**Project No.:**	14768-001
Contractor:	Walker Drilling	**Method:**	Hollow Stem Auger	**Date Completed:**	April 11, 2022
Location:	57 Batteaux Road, Nottawa, ON	**UTM:**	17T, 4923340 m N, 563739 m E	**Elevation:**	98.97 m Rel. El.

SUBSURFACE PROFILE			SAMPLE							
Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
0		TOPSOIL: (~ 150 mm thick)	1A						Monument	50 mm Diameter Monitoring Well with a 3.0 m screen. Groundwater level measured in monitoring well at a depth of about 0.54 mbgs on May 5 and 0.90 mbgs on June 8
		SILTY SAND: brown, disturbed native; non-cohesive, moist, very loose to loose, (SM)	1B	SS	70	3			Cap	
98 — 1			2	SS	80	4			Bentonite Plug	
		SILTY SAND: brown, non-cohesive, wet, compact, (SM)	3	SS	65	23			PVC Standpipe	
97 — 2			4	SS	85	26				
96 — 3		SILT: some sand to sandy; grey; non-cohesive, wet, compact to dense, (ML)	5	SS	90	28			Sand Pack	
95 — 4									PVC Screen	GSA SS6: 0% Gravel 26% Sand 67% Silt 7% Clay
94 — 5			6	SS	90	20				
93 — 6			7	SS	75	38			Cap	
92 — 7		Borehole terminated at 6.7 mbgs due to exploration depth achieved								
91 — 8										
90 — 9										

Logged By: CM **Input By:** CM

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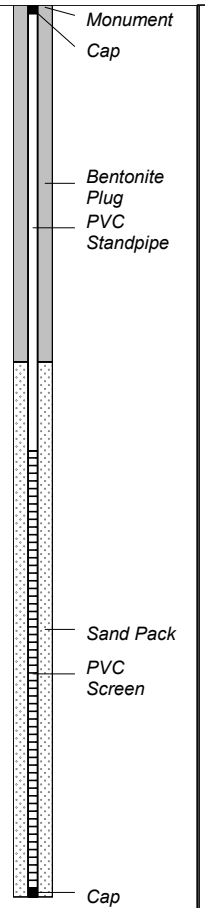
Log of Borehole: BH125-22

Client:	Georgian Communities	**Project Name:**	Nottawa Lands Development	**Project No.:**	14768-001
Contractor:	Walker Drilling	**Method:**	Hollow Stem Auger	**Date Completed:**	April 11, 2022
Location:	57 Batteaux Road, Nottawa, ON	**UTM:**	17T, 4923431 m N, 563632 m E	**Elevation:**	99.25 m Rel. El.

Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	Well Installation	Remarks
99	0		TOPSOIL: (~ 175 mm thick)	1A					
			SILTY SAND: trace gravel; brown, disturbed native; non-cohesive, moist, very loose to compact, (SM)	1B	SS	50	3		
98	1			2	SS	75	12		
			SILTY SAND to sandy SILT: brown to grey; non-cohesive; wet, compact to very dense, (SM/ML)	3	SS	75	29		
97	2		-becomes grey at about 2.3 mbgs	4	SS	45	50/ 205 mm		
96	3		SILT: some sand to sandy; grey; non-cohesive, wet, dense to compact, (ML)	5	SS	90	45		
95	4								
94	5			6	SS	75	32		
93	6			7	SS	85	21		
92	7		Borehole terminated at 6.7 mbgs due to exploration depth achieved						
91	8								
	9								



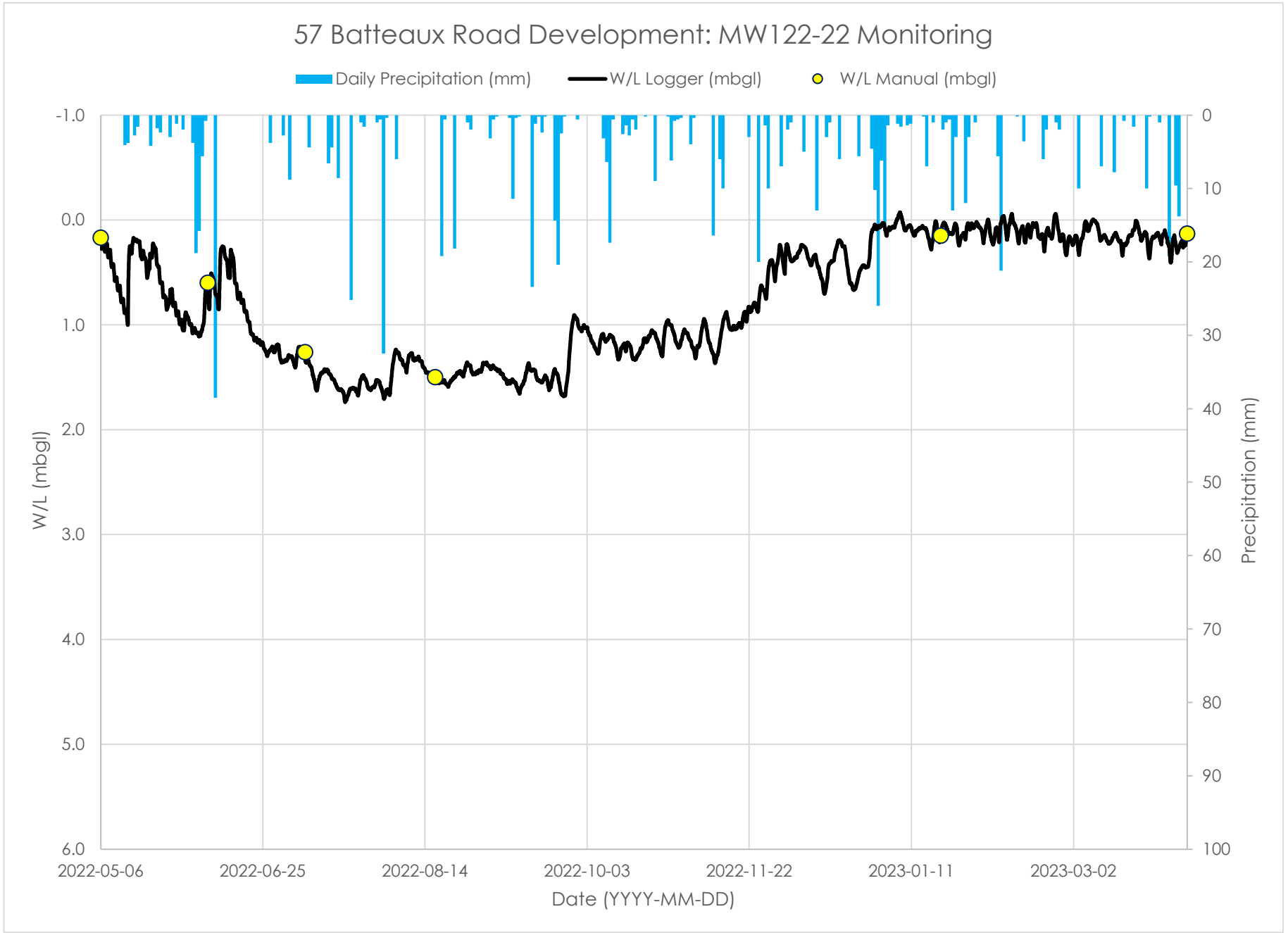
50 mm Diameter Monitoring Well with a 3.0 m screen. Groundwater level measured in monitoring well at a depth of about 1.14 mbgs on May 5 and 1.32 mbgs on June 8

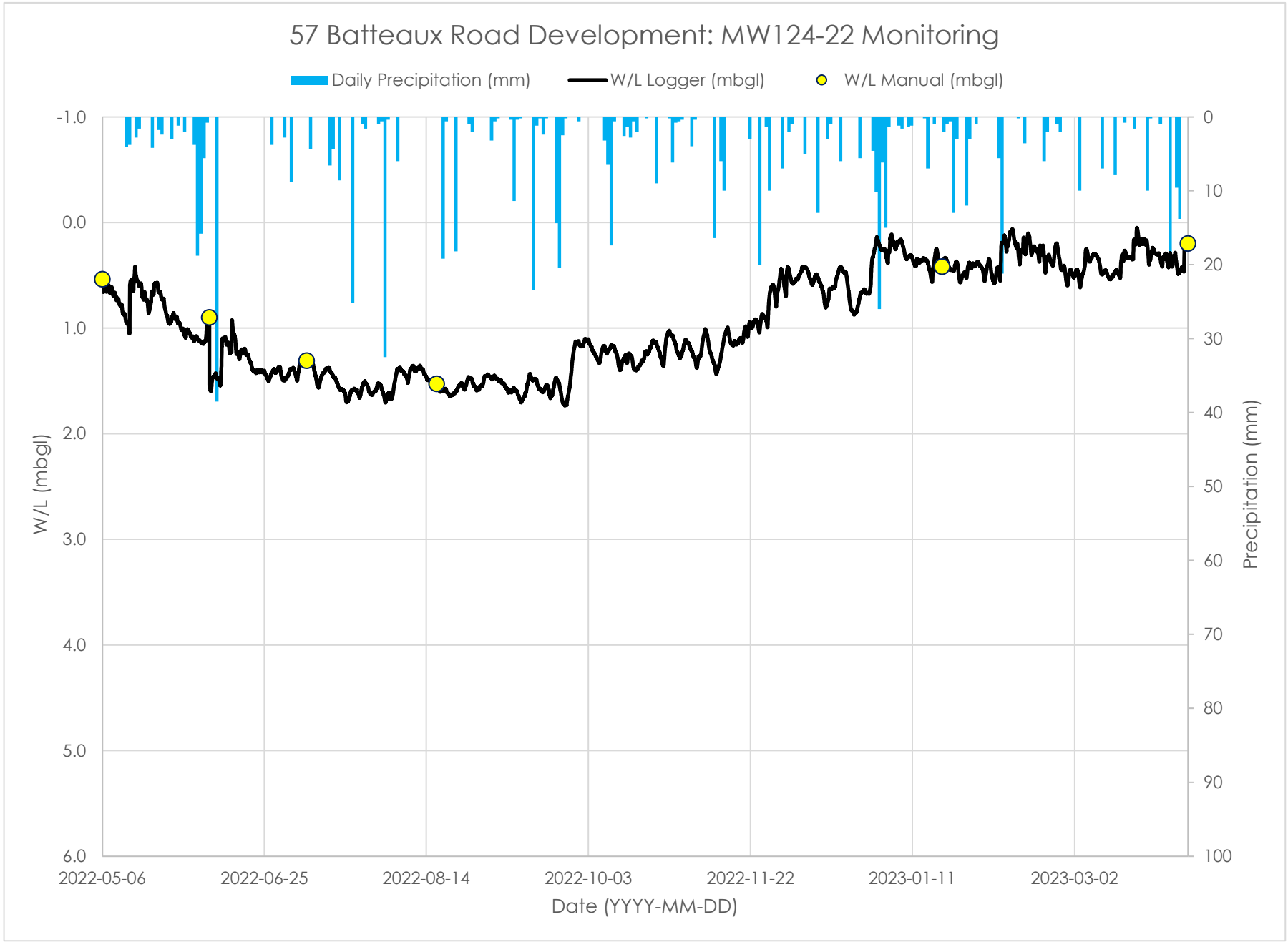
GSA SS6:
0% Gravel
20% Sand
74% Silt
6% Clay

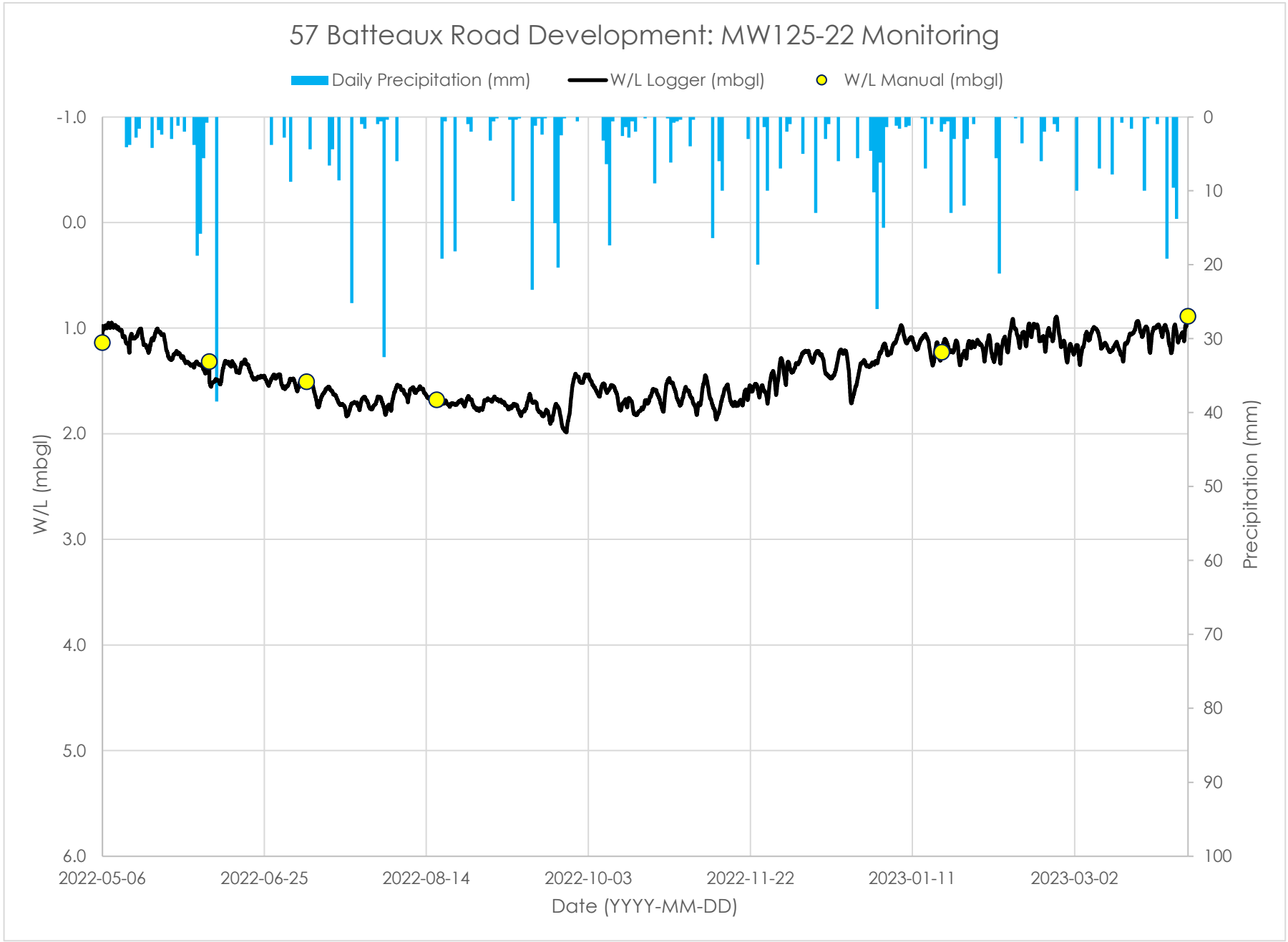
Logged By: CM **Input By:** CM

APPENDIX E

Monitoring Well Hydrographs


57 Batteaux Road Development: MW122-22 Monitoring
Daily Precipitation (mm)
W/L Logger (mbgl)
W/L Manual (mbgl)
-1.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
W/L (mbgl)
0
10
20
30
40
50
60
70
80
90
100
Precipitation (mm)
2022-05-06
2022-06-25
2022-08-14
2022-10-03
2022-11-22
2023-01-11
2023-03-02
Date (YYYY-MM-DD)


57 Batteaux Road Development: MW124-22 Monitoring
Daily Precipitation (mm)
W/L Logger (mbgl)
W/L Manual (mbgl)
-1.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
W/L (mbgl)
0
10
20
30
40
50
60
70
80
90
100
Precipitation (mm)
2022-05-06
2022-06-25
2022-08-14
2022-10-03
2022-11-22
2023-01-11
2023-03-02
Date (YYYY-MM-DD)


57 Batteaux Road Development: MW125-22 Monitoring
Daily Precipitation (mm)
W/L Logger (mbgl)
W/L Manual (mbgl)
-1.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
W/L (mbgl)
0
10
20
30
40
50
60
70
80
90
100
Precipitation (mm)
2022-05-06
2022-06-25
2022-08-14
2022-10-03
2022-11-22
2023-01-11
2023-03-02
Date (YYYY-MM-DD)

APPENDIX F

Groundwater Quality Results

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: CROZIER & ASSOCIATES
301-40 HURON STREET
COLLINGWOOD, ON L9Y4R3
905-875-0026
ATTENTION TO: Evan Finbow
PROJECT:
AGAT WORK ORDER: 23T073336
MICROBIOLOGY ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer
WATER ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer
DATE REPORTED: Oct 03, 2023
PAGES (INCLUDING COVER): 15
VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
- *All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.*
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AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 23T073336

PROJECT:

CLIENT NAME: CROZIER & ASSOCIATES

ATTENTION TO: Evan Finbow

SAMPLING SITE:

SAMPLED BY:Evan Finbow

Heterotrophic Plate Count in Water

DATE RECEIVED: 2023-09-26

DATE REPORTED: 2023-10-03

				SAMPLE DESCRIPTION:	PW1-1	PW1-2	PW1-3
				SAMPLE TYPE:	Water	Water	Water
				DATE SAMPLED:	2023-09-25 09:00	2023-09-25 17:00	2023-09-26 09:00
Parameter	Unit	G / S	RDL		5317682	5317705	5317706
Heterotrophic Plate Count	CFU/1ml				870	0	0

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5317682-5317706 Heterotrophic Plate Count RDL = 5 CFU/mL

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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AGAT WORK ORDER: 23T073336

PROJECT:

CLIENT NAME: CROZIER & ASSOCIATES

SAMPLING SITE:

ATTENTION TO: Evan Finbow

SAMPLED BY:Evan Finbow

Total Coliforms & E.Coli (MI-Agar)

DATE RECEIVED: 2023-09-26

DATE REPORTED: 2023-10-03

				SAMPLE DESCRIPTION:	**PW1-1**	**PW1-2**	**PW1-3**
				SAMPLE TYPE:	**Water**	**Water**	**Water**
				DATE SAMPLED:	**2023-09-25 09:00**	**2023-09-25 17:00**	**2023-09-26 09:00**
Parameter	**Unit**	**G / S: A**	**G / S: B**	**RDL**	**5317682**	**5317705**	**5317706**
Escherichia coli	CFU/100mL	0	0		0[A]	0[A]	0[A]
Total Coliforms	CFU/100mL	0	0		63[>B]	0[A]	0[A]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to O. Reg 169/03 - Ontario Drinking Water Quality Standards. Na value derived from O. Reg 248, B Refers to ON SDWA-Microbiology
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5317682-5317706 Escherichia coli, Total Coliforms RDL = 1 CFU/100mL.

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AGAT WORK ORDER: 23T073336

PROJECT:

CLIENT NAME: CROZIER & ASSOCIATES

SAMPLING SITE:

ATTENTION TO: Evan Finbow

SAMPLED BY:Evan Finbow

DRINKING WATER - Water Quality Assessment (mg/L)

DATE RECEIVED: 2023-09-26

DATE REPORTED: 2023-10-03

		SAMPLE DESCRIPTION:		PW1-1	MW103	SW	TW2-22	PW1-2	PW1-3
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		2023-09-25 09:00	2023-09-25 09:00	2023-09-25 09:30	2023-09-25 10:00	2023-09-25 17:00	2023-09-26 09:00
Parameter	**Unit**	**G / S**	**RDL**	**5317682**	**5317702**	**5317703**	**5317704**	**5317705**	**5317706**
Electrical Conductivity	µS/cm		2	680	500	367	494	650	597
pH	pH Units		NA	7.38	7.73	8.02	7.51	7.57	7.59
Hardness (as CaCO3) (Calculated)	mg/L		0.5	368	333	243	277	358	369
Total Dissolved Solids	mg/L		10	404	316	200	260	388	394
Alkalinity (as CaCO3)	mg/L		5	279	285	238	200	278	276
Fluoride	mg/L	1.5	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chloride	mg/L		0.10	19.3	22.5	9.04	12.3	20.8	22.6
Nitrate as N	mg/L	10.0	0.05	<0.05	0.49	0.28	<0.05	<0.05	<0.05
Nitrite as N	mg/L	1.0	0.05	0.08	<0.05	<0.05	<0.05	<0.05	<0.05
Bromide	mg/L		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L		0.10	77.6	17.8	6.92	66.2	74.9	75.1
Ortho Phosphate as P	mg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ammonia as N	mg/L		0.02	0.02	<0.02	<0.02	0.14	<0.02	<0.02
Total Phosphorus	mg/L		0.02	<0.02	0.02	<0.02	<0.02	<0.02	0.02
Total Organic Carbon	mg/L		0.5	2.4	1.0	1.4	1.5	2.0	2.2
Apparent Colour	TCU		2.50	59.9	4.83	11.3	<2.50	61.9	76.0
Turbidity	NTU		0.5	12.7	1.8	2.3	86.4	15.1	14.8
Total Calcium	mg/L		0.20	120	111	59.1	82.7	116	119
Total Magnesium	mg/L		0.10	16.7	13.6	23.2	17.2	16.7	17.4
Total Potassium	mg/L		0.50	22.7	7.45	1.25	1.96	22.1	21.0
Total Sodium	mg/L	20	0.10	7.51	11.7	5.46	5.98	8.40	9.46
Total Aluminum	mg/L		0.010	<0.010	0.150	0.056	<0.010	<0.010	<0.010
Total Antimony	mg/L	0.006	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Total Arsenic	mg/L	0.01	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Total Barium	mg/L	1.0	0.002	0.212	0.053	0.028	0.077	0.212	0.211
Total Beryllium	mg/L		0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Boron	mg/L	5.0	0.010	0.029	0.031	0.027	0.049	0.036	0.038
Total Cadmium	mg/L	0.005	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Chromium	mg/L	0.05	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003

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Certificate of Analysis

AGAT WORK ORDER: 23T073336

PROJECT:

CLIENT NAME: CROZIER & ASSOCIATES

SAMPLING SITE:

ATTENTION TO: Evan Finbow

SAMPLED BY:Evan Finbow

DRINKING WATER - Water Quality Assessment (mg/L)

DATE RECEIVED: 2023-09-26

DATE REPORTED: 2023-10-03

				SAMPLE DESCRIPTION:	PW1-1	MW103	SW	TW2-22	PW1-2	PW1-3
				SAMPLE TYPE:	Water	Water	Water	Water	Water	Water
				DATE SAMPLED:	2023-09-25 09:00	2023-09-25 09:00	2023-09-25 09:30	2023-09-25 10:00	2023-09-25 17:00	2023-09-26 09:00
Parameter	**Unit**	**G / S**	**RDL**		**5317682**	**5317702**	**5317703**	**5317704**	**5317705**	**5317706**
Total Cobalt	mg/L		0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Copper	mg/L		0.003		<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Total Iron	mg/L		0.010		1.50	0.280	0.096	12.3	1.39	1.43
Total Lead	mg/L	0.010	0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Manganese	mg/L		0.002		0.070	0.117	0.014	0.259	0.063	0.064
Total Mercury	mg/L	0.001	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Molybdenum	mg/L		0.002		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Total Nickel	mg/L		0.003		<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Total Selenium	mg/L	0.01	0.002		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Total Silver	mg/L		0.002		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Total Strontium	mg/L		0.005		0.309	0.185	0.169	0.350	0.270	0.299
Total Thallium	mg/L		0.006		<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Total Tin	mg/L		0.002		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Total Titanium	mg/L		0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Tungsten	mg/L		0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Uranium	mg/L	0.02	0.002		<0.002	0.003	<0.002	<0.002	<0.002	<0.002
Total Vanadium	mg/L		0.002		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Total Zinc	mg/L		0.020		0.056	<0.020	<0.020	<0.020	<0.020	<0.020
Total Zirconium	mg/L		0.004		<0.004	<0.004	<0.004	<0.004	<0.004	<0.004

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg 169/03 - Ontario Drinking Water Quality Standards. Na value derived from O. Reg 248
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Toronto (unless marked by *)

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Exceedance Summary

AGAT WORK ORDER: 23T073336

PROJECT:

CLIENT NAME: CROZIER & ASSOCIATES

ATTENTION TO: Evan Finbow

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
5317682	PW1-1	ON 169/03 MAC/IMAC	Total Coliforms & E.Coli (MI-Agar)	Total Coliforms	CFU/100mL	0	63
5317682	PW1-1	ON SDWA-Microbiology	Total Coliforms & E.Coli (MI-Agar)	Total Coliforms	CFU/100mL	0	63

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Quality Assurance

CLIENT NAME: CROZIER & ASSOCIATES

AGAT WORK ORDER: 23T073336

PROJECT:

ATTENTION TO: Evan Finbow

SAMPLING SITE:

SAMPLED BY:Evan Finbow

Microbiology Analysis

RPT Date: Oct 03, 2023			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Heterotrophic Plate Count in Water															
Heterotrophic Plate Count	5317475		5	5	0.0%										
Total Coliforms & E.Coli (MI-Agar)															
Escherichia coli	5316776		0	0	NA										
Total Coliforms	5316776		96	95	1.0%										

Comments: NA - % RPD Not Applicable.

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Quality Assurance

CLIENT NAME: CROZIER & ASSOCIATES

AGAT WORK ORDER: 23T073336

PROJECT:

ATTENTION TO: Evan Finbow

SAMPLING SITE:

SAMPLED BY:Evan Finbow

Water Analysis

RPT Date: Oct 03, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
DRINKING WATER - Water Quality Assessment (mg/L)															
Electrical Conductivity	5317682	5317682	680	665	2.2%	< 2	98%	90%	110%						
pH	5317682	5317682	7.38	7.50	1.6%	NA	100%	90%	110%						
Total Dissolved Solids	5318239		332	332	0.0%	< 10	92%	80%	120%						
Alkalinity (as CaCO3)	5317682	5317682	279	276	1.1%	< 5	106%	80%	120%						
Fluoride	5317703	5317703	<0.05	<0.05	NA	< 0.05	102%	70%	130%	104%	80%	120%	96%	70%	130%
Chloride	5317703	5317703	9.04	9.07	0.3%	< 0.10	96%	70%	130%	100%	80%	120%	107%	70%	130%
Nitrate as N	5317703	5317703	0.28	0.28	0.0%	< 0.05	100%	70%	130%	96%	80%	120%	106%	70%	130%
Nitrite as N	5317703	5317703	<0.05	<0.05	NA	< 0.05	95%	70%	130%	91%	80%	120%	94%	70%	130%
Bromide	5317703	5317703	<0.05	<0.05	NA	< 0.05	103%	70%	130%	102%	80%	120%	103%	70%	130%
Sulphate	5317703	5317703	6.92	6.96	0.6%	< 0.10	96%	70%	130%	98%	80%	120%	102%	70%	130%
Ortho Phosphate as P	5317703	5317703	<0.10	<0.10	NA	< 0.10	101%	70%	130%	101%	80%	120%	97%	70%	130%
Ammonia as N	5317682	5317682	0.02	0.02	NA	< 0.02	99%	70%	130%	100%	80%	120%	103%	70%	130%
Total Phosphorus	5320464		<0.02	0.02	NA	< 0.02	100%	70%	130%	98%	80%	120%	100%	70%	130%
Total Organic Carbon	5316963		1.9	1.9	NA	< 0.5	100%	90%	110%	99%	90%	110%	87%	80%	120%
Apparent Colour	5317682	5317682	59.9	57.6	3.9%	< 2.5	98%	90%	110%						
Turbidity	5317682	5317682	12.7	12.6	0.8%	< 0.5	91%	80%	120%						
Total Calcium	5317682	5317682	120	118	1.7%	< 0.20	101%	70%	130%	101%	80%	120%	100%	70%	130%
Total Magnesium	5317682	5317682	16.7	16.4	1.8%	< 0.10	102%	70%	130%	102%	80%	120%	101%	70%	130%
Total Potassium	5317682	5317682	22.7	22.5	0.9%	< 0.50	102%	70%	130%	102%	80%	120%	102%	70%	130%
Total Sodium	5317682	5317682	7.51	7.44	0.9%	< 0.10	102%	70%	130%	102%	80%	120%	101%	70%	130%
Total Aluminum	5317682	5317682	<0.010	<0.010	NA	< 0.010	94%	70%	130%	89%	80%	120%	102%	70%	130%
Total Antimony	5317682	5317682	<0.003	<0.003	NA	< 0.003	106%	70%	130%	110%	80%	120%	120%	70%	130%
Total Arsenic	5317682	5317682	<0.003	<0.003	NA	< 0.003	106%	70%	130%	108%	80%	120%	109%	70%	130%
Total Barium	5317682	5317682	0.212	0.215	1.4%	< 0.002	101%	70%	130%	105%	80%	120%	120%	70%	130%
Total Beryllium	5317682	5317682	<0.001	<0.001	NA	< 0.001	101%	70%	130%	102%	80%	120%	113%	70%	130%
Total Boron	5317682	5317682	0.029	0.031	NA	< 0.010	103%	70%	130%	99%	80%	120%	114%	70%	130%
Total Cadmium	5317682	5317682	<0.001	<0.001	NA	< 0.001	100%	70%	130%	105%	80%	120%	101%	70%	130%
Total Chromium	5317682	5317682	<0.003	<0.003	NA	< 0.003	100%	70%	130%	97%	80%	120%	99%	70%	130%
Total Cobalt	5317682	5317682	<0.001	<0.001	NA	< 0.001	96%	70%	130%	95%	80%	120%	97%	70%	130%
Total Copper	5317682	5317682	<0.003	<0.003	NA	< 0.003	99%	70%	130%	95%	80%	120%	93%	70%	130%
Total Iron	5317682	5317682	1.50	1.33	12.0%	< 0.010	92%	70%	130%	94%	80%	120%	94%	70%	130%
Total Lead	5317682	5317682	<0.001	<0.001	NA	< 0.001	95%	70%	130%	93%	80%	120%	99%	70%	130%
Total Manganese	5317682	5317682	0.070	0.063	10.5%	< 0.002	98%	70%	130%	99%	80%	120%	96%	70%	130%
Total Mercury	5317682	5317682	<0.0001	<0.0001	NA	< 0.0001	103%	70%	130%	98%	80%	120%	100%	70%	130%
Total Molybdenum	5317682	5317682	<0.002	<0.002	NA	< 0.002	101%	70%	130%	106%	80%	120%	106%	70%	130%
Total Nickel	5317682	5317682	<0.003	<0.003	NA	< 0.003	97%	70%	130%	99%	80%	120%	95%	70%	130%
Total Selenium	5317682	5317682	<0.002	<0.002	NA	< 0.002	91%	70%	130%	96%	80%	120%	96%	70%	130%
Total Silver	5317682	5317682	<0.002	<0.002	NA	< 0.002	97%	70%	130%	101%	80%	120%	99%	70%	130%
Total Strontium	5317682	5317682	0.309	0.268	14.2%	< 0.005	100%	70%	130%	104%	80%	120%	111%	70%	130%

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Quality Assurance

CLIENT NAME: CROZIER & ASSOCIATES

AGAT WORK ORDER: 23T073336

PROJECT:

ATTENTION TO: Evan Finbow

SAMPLING SITE:

SAMPLED BY:Evan Finbow

Water Analysis (Continued)

RPT Date: Oct 03, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Total Thallium	5317682	5317682	<0.006	<0.006	NA	< 0.006	93%	70%	130%	100%	80%	120%	106%	70%	130%
Total Tin	5317682	5317682	<0.002	<0.002	NA	< 0.002	103%	70%	130%	107%	80%	120%	115%	70%	130%
Total Titanium	5317682	5317682	<0.010	<0.010	NA	< 0.010	103%	70%	130%	102%	80%	120%	106%	70%	130%
Total Tungsten	5317682	5317682	<0.010	<0.010	NA	< 0.010	101%	70%	130%	102%	80%	120%	109%	70%	130%
Total Uranium	5317682	5317682	<0.002	<0.002	NA	< 0.002	88%	70%	130%	99%	80%	120%	108%	70%	130%
Total Vanadium	5317682	5317682	<0.002	<0.002	NA	< 0.002	100%	70%	130%	100%	80%	120%	104%	70%	130%
Total Zinc	5317682	5317682	0.056	0.051	NA	< 0.020	100%	70%	130%	97%	80%	120%	94%	70%	130%
Total Zirconium	5317682	5317682	<0.004	<0.004	NA	< 0.004	90%	70%	130%	99%	80%	120%	92%	70%	130%
DRINKING WATER - Water Quality Assessment (mg/L)															
Apparent Colour	5317705	5317705	61.9	60.8	1.8%	< 2.5	99%	90%	110%						

Comments: NA Signifies Not Applicable
Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:

AGAT Laboratories

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Method Summary

CLIENT NAME: CROZIER & ASSOCIATES

AGAT WORK ORDER: 23T073336

PROJECT:

ATTENTION TO: Evan Finbow

SAMPLING SITE:

SAMPLED BY:Evan Finbow

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Microbiology Analysis			
Heterotrophic Plate Count	MIC-93- 7020	SM 9215 C	INCUBATOR
Escherichia coli	MIC-93-7010	EPA 1604	Membrane Filtration
Total Coliforms	MIC-93-7010	EPA 1604	Membrane Filtration

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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Water Analysis			
Electrical Conductivity	INOR-93-6000	modified from SM 2510 B	PC TITRATE
pH	INOR-93-6000	modified from SM 4500-H+ B	PC TITRATE
Hardness (as CaCO3) (Calculated)	MET-93-6105	modified from EPA SW-846 6010C & 200.7 & SM 2340 B	CALCULATION
Total Dissolved Solids	INOR-93-6028	modified from EPA 1684,ON MOECC E3139,SM 2540C,D	BALANCE
Alkalinity (as CaCO3)	INOR-93-6000	Modified from SM 2320 B	PC TITRATE
Fluoride	INOR-93-6004	modified from SM 4110 B	ION CHROMATOGRAPH
Chloride	INOR-93-6004	modified from SM 4110 B	ION CHROMATOGRAPH
Nitrate as N	INOR-93-6004	modified from SM 4110 B	ION CHROMATOGRAPH
Nitrite as N	INOR-93-6004	modified from SM 4110 B	ION CHROMATOGRAPH
Bromide	INOR-93-6004	modified from SM 4110 B	ION CHROMATOGRAPH
Sulphate	INOR-93-6004	modified from SM 4110 B	ION CHROMATOGRAPH
Ortho Phosphate as P	INOR-93-6004	modified from SM 4110 B	ION CHROMATOGRAPH
Ammonia as N	INOR-93-6059	modified from SM 4500-NH3 H	LACHAT FIA
Total Phosphorus	INOR-93-6022	modified from SM 4500-P B and SM 4500-P E	SPECTROPHOTOMETER
Total Organic Carbon	INOR-93-6049	modified from SM 5310 B	SHIMADZU CARBON ANALYZER
Apparent Colour	INOR-93-6074	modified from SM 2120 B	LACHAT FIA
Turbidity	INOR-93-6000	modified from SM 2130 B	PC TITRATE
Total Calcium	MET-93-6105	modified from EPA 6010D	ICP/OES
Total Magnesium	MET-93-6105	modified from EPA 6010D	ICP/OES
Total Potassium	MET-93-6105	modified from EPA 6010D	ICP/OES
Total Sodium	MET-93-6105	modified from EPA 6010D	ICP/OES
Total Aluminum	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Antimony	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Arsenic	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Barium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Beryllium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Boron	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Cadmium	MET -93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Chromium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Cobalt	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Copper	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Iron	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Lead	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Manganese	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Mercury	MET-93-6100	modified from EPA 245.2 and SM 3112 B	CVAAS

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Total Molybdenum	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Nickel	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Selenium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Silver	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Strontium	INOR-93-6003	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Thallium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Tin	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Titanium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Tungsten	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Uranium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Vanadium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Zinc	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Zirconium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS

AGAT Laboratories

5835 Coopers Avenue
Mississauga, ON
L4Z 1Y2

P: 905.712.5100 • F: 905.712.5122 • TF: 1.800.856.6261

Drinking Water Chain of Custody Record

Laboratory Use Only

Arrival Condition: ☐ Good ☐ Poor (complete notes)
Arrival Temperature: 5.0, 5.9, 5.2
AGAT Job Number: Z3T073336
Notes: ice (bagged), 1 large

Client Information

Company: Crozier Consulting Engineers
Contact: Evan Finbow
Address: 1 First St., Suite 200
Collingwood ON L9Y 2L5
Phone: 705 434 3436 Fax:
PO #:
Client Project #:
AGAT Quotation #:

Report Information

1. Name: Evan Finbow
Email: efinbow@gmail.com
2. Name:
Email: efinbow@cfcrozier.ca

Report Format

☑ Single Sample per page
☐ Multiple Samples per page

Facility Type *(Check all that are applicable)*

☐ Large OR ☐ Small
☐ Residential OR ☐ Non-Residential
☐ Municipal OR ☐ Non-Municipal

+ Water Type

(Specify in column below)
Raw (R), Treated (TR), Distribution (D), Tap (TP) Private Well (P)

Turnaround Time Required (TAT) *

Regular TAT	7 to 14 business days	☑	Sch 23/24 only
	5 to 7 business days	☐	
Rush TAT (please provide prior notification)	3 to 4 business days	☐	**Rush surcharges apply**
	2 business days	☐	
	1 business days	☐	

Date Required (Rush surcharges may apply):

Requirements *(Check one)*

☐ O. Regulation 170 ☐ Not Applicable
☐ O. Regulation 243 ☐ Federal
☐ O. Regulation 318/319 ☑ Other ODWS

IS THIS WATER BEING CONSUMED BY HUMANS? ☐ Yes ☑ No
DO THE RESULTS REQUIRE REPORTING TO THE MECP OR LOCAL PUBLIC HEALTH UNIT? ☐ Yes ☑ No
FOR RAW WATER (E.G. UNTREATED), IS THE SAMPLE COLLECTED FROM A POINT OF HUMAN CONSUMPTION? ☐ Yes ☑ No

CLIENT IS RESPONSIBLE TO COMPLETE AND SUBMIT LAB SERVICE NOTIFICATION (LSN) FORM TO THE MOECC/PHU. FAILURE TO DO SO MAY DELAY REPORTING.
NOTIFICATION INFORMATION MUST BE COMPLETE BELOW UPON SUBMISSION OF SAMPLES. LABORATORY ANALYSIS WILL NOT COMMENCE UNTIL ALL INFORMATION HAS BEEN PROVIDED.

SAMPLE IDENTIFICATION/LOCATION	DATE SAMPLED	TIME SAMPLED	WATER TYPE *	# OF CONTAINERS	CHLORINE RESIDUAL (incl. Units)	STANDING	FLUSHED	COMMENTS/STANDING TIME (IN MINUTES)	Inorganics (Sch. 23)	Organics (Sch. 24)	Lead	Fluoride	Sodium	Turbidity	Nitrate, Nitrite	Trihalomethanes / HAAs	E.coli, Total Coliforms	Water Quality Assessment Package	HPC
PW1-1	9/25/23	9:00 PM	R, P				✓										>	>	>
MW103	9/25/23	9:00 PM	R, P				✓											✓	
SW - Pretty River	9/25/23	9:30 PM	R				✓											✓	
~~TW3-22~~ TW2-22	9/25/23	10:00 PM	R, P				✓											✓	
PW1-2	9/25/23	5:00 AM	R, P				✓										✓	✓	✓
~~PW#-3~~ PW1-3	9/26/23	9:00 PM	R, P				✓										✓	✓	✓
		AM PM																	

Samples Taken By (Print Name and Sign):

* TAT is exclusive of weekends and statutory holidays. Prior arrangements must be made with the laboratory in order to submit Microbiology samples on Fridays

NOTIFICATION INFORMATION - (required to report adverse results as per the *Safe Drinking Water Act*) - **Laboratory analysis will not commence until all information is received.**

INFORMATION FOR ADVERSE REPORTING			MEDICAL OFFICER OF HEALTH (MOH)	
Waterworks Name:	Phone:	Fax:	Region:	
MOECC# (ie: Waterworks #):	After Hours Phone:		PHU Contact:	
Contact:	Address/Location (if different from client above):		Phone:	Fax:
Email:			Email:	

Samples Relinquished By (Print Name and Sign): Evan Finbow	Date/Time: 9/26/23	Samples Received By (Print Name and Sign):	Date/Time: Sept 26 10:55	Pink - Client; Yellow/Golden Copy - AGAT; White Copy - AGAT
Samples Relinquished By (Print Name and Sign):	Date/Time	Samples Received By (Print Name and Sign):	Date/Time	
Samples Relinquished By (Print Name and Sign):	Date/Time	Samples Received By (Print Name and Sign):	Date/Time	

Page 1 of 1

N°: DW 08068

AGAT Laboratories

Non-Reportable Drinking Water Sample Inquiry Form

This form is to ensure your water is tested and reported in accordance with Ontario Regulation 248/03 for testing of Drinking Water under the Safe Drinking Water Act. We require the information below to help uphold our high standard of regulatory compliance, for both AGAT as a laboratory and you, as our valued customer. Please ensure all information is filled out completely and accurately. If you have any questions, please do not hesitate to contact your AGAT Client Project Manager at 905-712-5100.

(1) What is the purpose for your testing? Please provide details below.

preliminary quality, treatment req's.

(2) Please answer the following questions.

(a) Is there a request from a Public Health Inspector or a Ministry of Environment Drinking Water Inspector to complete this testing? ☐ Yes ☑ No
If Yes, please contact an AGAT Client Project Manager at 905-712-5100

(b) Is there a provincial order in effect for your water system? ☐ Yes ☑ No
If Yes, please provide details below including limit for the test parameter if not listed with a standard under O.Reg.169/03

(c) Does your facility have a drinking water system (DWS) number provided by either MECP or MOHLTC? ☐ Yes ☑ No

(i) If yes, why is the sample not reportable to either MECP or MOHLTC? Please provide details below.

(ii) If yes, is the test for sodium and/or fluoride? ☐ Yes ☑ No

- If the test is for sodium and/or fluoride, was sodium and/or fluoride testing completed and reported to the ***MECP*** in the last 57 months or ***MOHLTC*** in the last 60 months?
  ☐ Yes ☑ No

As per the SWDA, Sodium and fluoride (if required by DWS) are required to be tested every 5 years (60 months) by the operator. The sodium and/or fluoride adverse are not required to be reported if two samples are less than 5 years apart.

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(d) Is the water collected from a Federally owned, operated or regulated property or water source? ☐ Yes ☑ No

If Yes, please indicate this on the COC under Requirements

(3) If you are private home owner looking to test your drinking water, please answer the following questions:

(i) Are you consuming this water from the point of sample collection? ☐ Yes ☑ No

(ii) Do you have a water treatment unit installed in your system? ☐ Yes ☑ No

(iii) Is your water collected before or after treatment?

☐ Before ☐ After ☑ Not Applicable

(iv) Are you testing your water due to concerns regarding your plumbing?

☐ Yes ☑ No

If Yes, have you done any improvements to your plumbing recently? Please provide details below.

N/A

For further assistance, please contact the MECP at the following phone and email:

(1) For inquiries related to O.Reg.170 or O.Reg.318/319

Email: waterforms@ontario.ca

Phone Number: 1-866-793-2588

(2) For inquiries related to O.Reg.243 (Schools and Daycares)

Phone Number: 1-855-515-1331.

Company Name: Crozier Consulting DWCOC#: 08068 (if applicable)

Name: Evan Firnbow (please print name) Date: 2023-09-25 (yyyy-mm-dd)

Signature:

AGAT WorkOrder #: (To be entered by AGAT CPM)

FIGURES

LEGEND

Site Boundary

Watercourse

0 30 60 120 Metres

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA, NRCan, Grey County, Maxar, Microsoft

57 BATTEAUX ROAD

FIGURE 1: SITE LOCATION PLAN

CROZIER

LEGEND

Site Boundary

Watercourse

Physiography

35, Simcoe Lowlands

0 30 60 120 Metres

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA, NRCan, Maxar

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FIGURE 2: PHYSIOGRAPHY

CROZIER

LEGEND

Site Boundary

Watercourse

Bedrock Geology

11: Lindsay

0 30 60 120 Metres

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, © OpenStreetMap contributors, HERE, Garmin, USGS, EPA, NPS, NRCan, Grey County, Maxar, Microsoft

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FIGURE 3: BEDROCK GEOLOGY

CROZIER

LEGEND

Site Boundary

Watercourse

Surficial Geology

9c: Foreshore-basinal deposits

0 30 60 120 Metres

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA, NRCan, Grey County, Maxar, Microsoft

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FIGURE 4: SURFICIAL GEOLOGY

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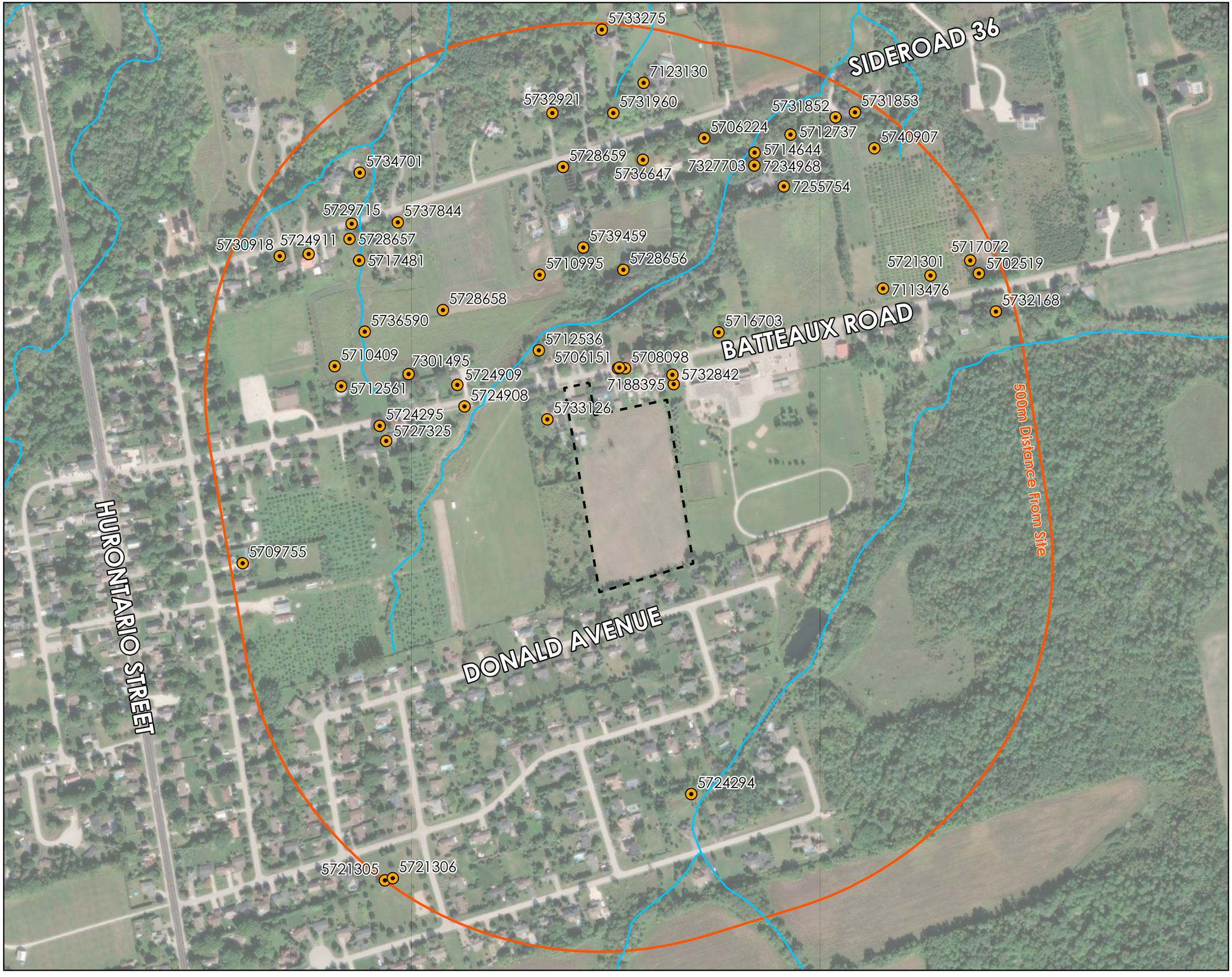

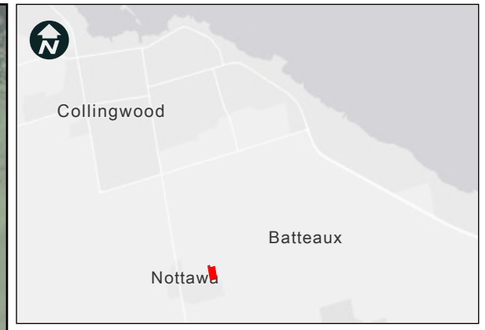

LEGEND

- MECP Wells (Within 500m)
- 500M BUFFER
- Site Boundary
- Watercourse

0 75 150 300 Metres

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, © OpenStreetMap contributors, HERE, Garmin, USGS, EPA, NPS, NRCan, Maxar

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FIGURE 5: MECP WELL LOCATIONS

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LEGEND

- Monitoring Well
- Site Boundary
- Watercourse

0 30 60 120 Metres

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA, NRCan, Grey County, Maxar, Microsoft

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FIGURE 6: MONITORING WELL LOCATION PLAN

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LEGEND

- Monitoring Well
- Site Boundary
- Watercourse
- Groundwater Flow Direction
- XXX.XX masl — Estimated Groundwater Elevation (April 2023)

Seasonal High Manual Groundwater Elevations

BH ID	Groundwater Elevation (masl)
BH122-22	215.47
BH124-22	214.95
BH125-22	214.01

0 30 60 120 Metres

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA, NRCan, Grey County, Maxar, Microsoft

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FIGURE 7: GROUNDWATER FLOW DIRECTION

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