



Groundwater Environmental Management Services

Hydrogeological Report

**2400 – 2440 Dundas Street West,
Toronto, Ontario
M6P 1W9**

Project: 22-1465

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Prepared For:
Fora Developments
2440 Dundas Street West
Toronto, ON, M6P 1W9

Prepared By:
Groundwater Environmental
Management Services Inc.
150 Rivermede Road, Unit 9
Concord, ON, L4K 3M8



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1.0 Introduction

Groundwater Environmental Management Services Inc. (GEMS) was retained by Fora Developments to evaluate the hydrogeological conditions for the proposed development at 2400 – 2440 Dundas Street West, Toronto, Ontario (the Site). The regional location of the Site is illustrated in **Figure 1**.

The Site area is approximately 11,000 square metres (m²) (GPA 2023) and currently contains two single-story commercial buildings separated by a large parking lot. Two new buildings with a total of three (3) towers are proposed for the Site. The buildings will share a common one (1) level underground parking structure (GPA 2023). The proposed architectural drawings are provided in **Appendix A**.

GEMS has reviewed the available relevant hydrogeological, environmental, and geotechnical information and has prepared this Hydrogeological Report in support of the proposed development by assessing the short and long-term dewatering requirements.

GEMS' scope of work includes:

- A review of hydrogeological conditions and environmental information based on previous reports prepared for the Site;
- A review of subsurface soils conditions;
- Groundwater level monitoring;
- Hydraulic conductivity testing;
- Water quality analysis;
- Calculation of maximum radius of influence;
- Calculation of maximum probable short and long-term dewatering rates;
- Assessment of potential adverse environmental effects; and,
- Assessment MECP well records within 500 m of the Site.

2.0 Site Conditions

2.1 Location and Land Usage

The Site is trapezoid-shaped, and located on the east side of Dundas St W, approximately 550 m west of Lansdowne Avenue, 200 m north of Bloor Street West, and approximately 750 m south of Dupont Street (Google Earth, 2022). The Site is currently zoned as employment residential (COT, 2020) and designated for mixed uses (COT, 2019).

Lands within 500 metres (m) of the Site are urban, and predominately consist of residential, commercial residential, and open space, including Perth Avenue Parkette and Chelsea Avenue Playground, and Utility and Transportation-zoned properties consisting of Go Transit, Dundas West Subway Station, and Keele Yard (COT, 2020).

North: Go Transit, Commercial Residential and Residential

East: Go Transit, Residential and Perth Avenue Parkette

South: Residential and Commercial Residential

West: Residential, Chelsea Avenue Playground, Dundas West Subway Station, and Keele Yard

2.2 Proposed Development

The Site Plan outlines a total Site area of approximately 11,000 m². The proposed development consists of two separate buildings with a total of three towers that will encompass an area of approximately 8,700 m² footprint. The north building will consist of two mixed commercial and residential towers (18 and 25-storey) separated by a three (3) storey podium containing a mix of commercial, office, residential and retail space (GPA, 2023). The south building will be constructed as a single, thirty-six (36) storey residential tower with commercial and office uses in lower levels. The proposed underground structure will consist of a single parking level that will extend beneath both buildings.

According to the building east-west sections drawings showing the P1 Garage Level (**Appendix A**), the Finished Floor Elevation (FFE) of the parking garage level will be 4 m below ground surface (bgs). Assuming the deepest excavation will extend 1 m below the base of the underground structure, the anticipated excavation invert elevation used for the dewatering calculations is 108.0 masl (based on a ground surface elevation of 114.0 masl derived from the site survey in **Appendix A**).

3.0 Methodology

The methodologies followed to complete the field investigation are outlined in this section.

3.1 Drilling Program

From June 2022 to July 2022, Terrapex Environmental Ltd. (Terrapex) carried out a field investigation that included the advancement of fifteen (15) boreholes, which were all converted to monitoring wells: MW101, MW101S, MW102, MW102S, MW103, MW103S, MW104, MW104S, MW105, MW106, MW106S, MW107, MW107S, MW108, MW109.

All monitoring wells were equipped with a 50-millimetre (mm) diameter, schedule-40, Polyvinyl chloride (PVC) monitoring wells, with screened intervals of 3.05 m length at their base. The wells were installed to evaluate static groundwater elevations, conduct hydraulic testing, and obtain water quality samples. All monitoring wells were developed prior to sampling activities using a Waterra inertial lift pump by purging at least three well volumes or until the monitoring well was purged dry. Borehole logs produced by Terrapex are provided in **Appendix B**, and a detailed Site Plan showing the borehole locations is presented in **Figure 2**.

3.2 Hydraulic Testing

On 28 September 2022, GEMS personnel visited the Site to complete Single Well Response Tests (SWRTs) on monitoring wells MW102, MW104, and MW105.

The SWRTs consisted of rising head testing performed by ‘instantaneously’ removing a pre-determined volume of water (a slug). Water level recovery back to static conditions was monitored using an automated water level logging device and validated with manual measurements. A dedicated barologger was set above the water table to allow the data to compensate for changes in atmospheric pressure.

3.3 Water Quality Sampling

On 2 September 2022, GEMS personnel were on Site to collect one (1) groundwater sample for water quality analysis. The sample was taken from monitoring well MW102 using a new dedicated bailer and

sterile nitrile gloves to preserve sample integrity and ensure that the results represent in-situ groundwater conditions. The sample collection was not filtered.

The sample was packed with ice in a cooler to maintain sample temperature, and the cooler was sealed and transported for analysis to Bureau Veritas, a Canadian laboratory accredited and licensed by the Standards Council of Canada and/or the Canadian Association for Laboratory Accreditation (CALA). The sample was tested for all parameters denoted in The City of Toronto Sanitary and Storm Sewer By-law criteria.

4.0 Geology and Hydrogeological Setting

The Site is situated in the physiographic region known as the Iroquois Plains. The Plain is made up of a band of beach deposits formed at the shoreline of the ancestral lake and a lacustrine plain extending to Lake Ontario that represents lake bottom deposits smoothed by wave action (Chapman & Putnam, 2007). Surficial soils in the area are mapped as coarse-textured glaciolacustrine deposits composed of sand, gravel, minor silt, and clay (OGS, 1991a).

Bedrock in the area is mapped as Upper Ordovician deposits of shale and limestone belonging to the Georgian Bay Formation (OGS, 1991b).

4.1 Subsurface Investigation

Monitoring wells MW101 to MW109 were evaluated for this report. These boreholes were advanced to depths ranging from 5.5 metres below ground surface (mbgs) to 37.4 mbgs, and the monitoring wells were installed at depths ranging from 5.5 mbgs to 15.9 mbgs.

The details of borehole advancement are summarized below in **Table 4.1A**, their locations are presented in **Figure 2**, and their corresponding borehole logs are provided in **Appendix B**.

Table 4.1A Borehole Details

Well ID	Date Installed	Ground Elevation (masl)	Borehole Depth (mbgs)	Borehole Depth (masl)	Monitoring Well Depth (mbgs)	Monitoring Well Depth (masl)
MW101	2022-06-14	113.39	32.2	81.2	15.9	97.5
MW101S	2022-06-14	113.39	5.5	107.9	5.5	107.9
MW102	2022-06-15	113.65	23.5	90.2	7.9	105.7
MW102S	2022-06-15	113.65	5.5	108.2	5.5	108.2
MW103	2022-06-16	113.66	23.5	90.2	7.9	105.8
MW103S	2022-06-20	113.66	5.5	108.2	5.5	108.2
MW104	2022-06-21	114.02	30.6	83.4	7.9	106.1
MW104S	2022-06-22	114.02	5.5	108.5	5.5	108.5
MW105	2022-06-27	114.17	30.6	83.6	5.5	108.7
MW106	2022-07-06	113.98	36.0	78.0	7.9	106.1
MW106S	2022-07-06	113.98	5.5	108.5	5.5	108.5
MW107	2022-07-11	113.74	37.4	76.3	7.2	105.9
MW107S	2022-07-11	113.74	5.5	108.3	5.5	108.3
MW108	2022-07-13	113.84	32.1	81.8	5.5	108.3
MW109	2022-07-14	113.92	6.7	107.2	5.5	108.4

Note: Ground elevation obtained from Terrapex borehole log 2017

GEMS characterized the site stratigraphy based on overburden soils encountered during drilling, in descending order from the surface, as shown in **Table 4.1B**:

Table 4.1B Site Stratigraphy

Asphalt	The Site is overlain by a parking lot composed of approximately 20 cm of asphaltic concrete.
Fill	In all boreholes, approximately 0.6 to 2.0 metres of fill was encountered at 113.2 masl comprised of compact, moist, brown gravelly sand and trace brick.
Sand	A shallow moist, compact sand layer was encountered in MW101 from 112.6 masl to 111.1 masl. This sand was observed slightly lower in MW108 from 111.1 to 108.1 masl
Silty Sand / Sandy Silt	A continuous layer of Silty Sand / Silty Sand was encountered in all wells with depths ranging from approximately 112.69 masl to 100.29 masl. This layer was consistently described as compact to very dense, except for MW104 and MW107, where sections appeared loose and soft. This layer was often intersected by the silt layer described below
Silt	A silt layer was encountered in MW102, MW103, MW104, MW105, MW106 and MW108. The depth is variable across the Site and appears to exist as three distinct, discontinuous layers. The shallowest instance is at a depth of 108.1 masl in wells MW102, MW106 and 109.6 masl at MW104. An intermediate silt layer was observed at 106.4 masl in MW103 and MW105. A deep silt layer was observed at 103.29 in MW104 and MW108. The silt was described as either compact to dense or very loose to loose.
Clayey Silt / Silt Till	A continuous layer of Clayey Silt Till or Silt Till was encountered in boreholes MW101 through MW108. The top depth of this unit ranges from approximately 101.2 to 81.5 masl and has a thickness of roughly 20 metres.
Bedrock	Bedrock was encountered in boreholes MW101, MW106, MW107, and MW108 at approximately 81.5 masl. It was described as moderately slightly to heavily weathered grey shale with limestone interbeds.

This characterization is consistent with what was expected from the available published literature and mapping information.

4.2 Stratigraphy and Hydrogeological Conditions

Across the Site, beneath the asphalt/fill materials, the native soils consist of clayey silt/silt till, silty sand/sandy silt, silt, and sand. The clayey silt till / silt till is interpreted to be part of the Sunnybrook Drift Formation while the shallower silty sand, sandy silt, silt, and clay materials are interpreted to be part of the Thorncliffe Formation as shown in the site geologic cross-section provided in **Appendix C**.

It is interpreted that most of the dewatering for the proposed development will occur within the silty sand, sandy silt, silt, and clay materials of the Thorncliffe formation with some dewatering extending into the lower, less conductive till soils of the Sunnybrook Formation. Grey weathered shale bedrock was encountered at an elevation of approximately 81.5 masl. No dewatering of the bedrock is anticipated.

The nearest surface water feature is Grenadier Pond situated approximately 1.9 km to the southeast of the Site within High Park. Lake Ontario is located 2.4 km south of the Site (**Figure 1**).

Local groundwater flow has been interpreted from site water levels to be roughly southward, aligned with the regional groundwater flow towards Lake Ontario.

4.3 Groundwater Level/Elevation Monitoring

From 02 June 2022 to 19 November 2022, GEMS carried out six (6) bi-weekly Site visits to obtain water level measurements from the following fifteen (15) monitoring wells installed on the Site: MW-101S, MW-101D, MW-102S, MW-102D, MW-103S, MW-103D, MW-104S, MW-104D, MW-105, MW-106S, MW-106D, MW-107S, MW-107D, MW-108, and MW-109.

The locations of these monitoring wells are shown in **Figure 2**, and the well installation details and groundwater monitoring results are summarized in **Table 4.3**.

Table 4.3 Monitoring Well Summary and Groundwater Elevations

Well ID	Screened Unit and Screen Depth (masl)	Ground Elevation (masl)	Static Water Level Measurements			
			Date (YYYY-MM-DD)	Water Level (mbgs)	Water Elevation (masl)	Average (masl)
MW101D	Clayey Silt 100.5 – 97.5	113.39	2022-09-02	18.41	94.98	100.84
			2022-09-15	12.90	100.50	
			2022-09-28	9.34	104.05	
			2022-10-14	9.55	103.84	
			2022-10-26	6.11	107.28	
			2022-11-08	5.55	107.84	
MW101S	Silty Sand 110.9 – 107.9	113.39	2022-09-02	3.17	110.22	110.21
			2022-09-15	3.21	110.19	
			2022-09-28	3.18	110.22	
			2022-10-14	3.19	110.20	
			2022-10-26	3.25	110.15	
			2022-11-08	3.27	110.12	
MW102D	Sandy Silt, Silt and Silty Sand 108.7 – 105.7	113.65	2022-09-02	3.72	109.93	109.98
			2022-09-15	3.73	109.92	
			2022-09-28	3.56	110.10	
			2022-10-14	3.68	109.96	
			2022-10-26	3.67	109.99	
			2022-11-08	3.70	109.95	

Table 4.3 Monitoring Well Summary and Groundwater Elevations

Well ID	Screened Unit and Screen Depth (masl)	Ground Elevation (masl)	Static Water Level Measurements			
			Date (YYYY-MM-DD)	Water Level (mbgs)	Water Elevation (masl)	Average (masl)
MW102S	Silty Sand and Sandy Silt 111.2 – 108.2	113.65	2022-09-02	2.98	110.67	110.50
			2022-09-15	3.43	110.22	
			2022-09-28	3.03	110.63	
			2022-10-14	3.15	110.50	
			2022-10-26	3.15	110.51	
			2022-11-08	3.19	110.46	
MW103D	Silty Sand, Sandy Silt and Sand 108.8 – 106.8	113.66	2022-09-02	3.82	109.84	109.88
			2022-09-15	3.81	109.85	
			2022-09-28	3.74	109.93	
			2022-10-14	3.75	109.92	
			2022-10-26	3.78	109.88	
			2022-11-08	3.77	109.89	
MW103S	Sandy Silt and Silty Sand 111.2 – 108.2	113.66	2022-09-02	3.20	110.46	110.41
			2022-09-15	3.26	110.41	
			2022-09-28	3.27	110.39	
			2022-10-14	3.29	110.37	
			2022-10-26	3.24	110.42	
			2022-11-08	3.36	110.31	
MW104D	Silty Sand 109.1 – 106.1	114.02	2022-09-02	4.09	109.93	109.92
			2022-09-15	4.15	109.87	
			2022-09-28	4.14	109.89	
			2022-10-14	4.03	109.99	
			2022-10-26	4.02	110.00	
			2022-11-08	4.02	110.01	
MW104S	Silty Sand, Silt and Silty Sand 111.6 – 108.6	114.02	2022-09-02	3.01	111.01	110.54
			2022-09-15	3.85	110.17	
			2022-09-28	3.97	110.055	
			2022-10-14	3.11	110.91	
			2022-10-26	3.15	110.88	
			2022-11-08	3.19	110.83	

Table 4.3 Monitoring Well Summary and Groundwater Elevations

Well ID	Screened Unit and Screen Depth (masl)	Ground Elevation (masl)	Static Water Level Measurements			
			Date (YYYY-MM-DD)	Water Level (mbgs)	Water Elevation (masl)	Average (masl)
MW105	Silty Sand and Sandy Silt 111.7 – 108.7	114.17	2022-09-02	3.26	110.91	110.86
			2022-09-15	3.54	110.64	
			2022-09-28	3.12	111.05	
			2022-10-14	3.34	110.83	
			2022-10-26	3.44	110.73	
			2022-11-08	3.45	110.73	
MW106D	Sand 109.1 – 106.1	113.98	2022-09-02	4.22	109.76	109.87
			2022-09-15	4.10	109.88	
			2022-09-28	4.13	109.86	
			2022-10-14	3.99	109.10	
			2022-10-26	4.07	109.92	
			2022-11-08	3.94	110.05	
MW106S	Silty Sand and Sandy Silt 111.5 – 108.5	113.98	2022-09-02	3.10	110.88	110.82
			2022-09-15	3.18	110.8	
			2022-09-28	3.16	110.82	
			2022-10-14	3.20	110.78	
			2022-10-26	3.22	110.76	
			2022-11-08	3.20	110.79	
MW107D	Silty Sand and Sandy Silt 108.8 – 105.8	113.74	2022-09-02	3.78	109.96	109.98
			2022-09-15	3.76	109.98	
			2022-09-28	3.77	109.98	
			2022-10-14	3.76	109.99	
			2022-10-26	3.77	109.97	
			2022-11-08	3.76	109.99	
MW107S	Silty Clay Till 111.3 – 108.3	113.74	2022-09-02	3.03	110.71	110.66
			2022-09-15	3.09	110.65	
			2022-09-28	3.06	110.68	
			2022-10-14	3.15	110.59	
			2022-10-26	3.14	110.6	
			2022-11-08	3.14	110.61	

Table 4.3 Monitoring Well Summary and Groundwater Elevations

Well ID	Screened Unit and Screen Depth (masl)	Ground Elevation (masl)	Static Water Level Measurements			
			Date (YYYY-MM-DD)	Water Level (mbgs)	Water Elevation (masl)	Average (masl)
MW108	Sand 111.4 – 108.4	113.84	2022-09-02	3.11	110.73	110.71
			2022-09-15	3.15	110.69	
			2022-09-28	3.14	110.70	
			2022-10-14	3.13	110.71	
			2022-10-26	3.21	110.63	
			2022-11-08	3.24	110.60	
MW109	Sand 111.5 – 108.4	113.92	2022-09-02	3.01	110.91	110.54
			2022-09-15	3.95	109.97	
			2022-09-28	3.45	110.47	
			2022-10-14	3.11	110.81	
			2022-10-26	3.15	110.77	
			2022-11-08	3.21	110.71	

Note: Ground elevations obtained from Terrapex borehole logs (Appendix B)

During the monitoring period, groundwater elevations at the Site ranged from 107.28 masl to 111.05 masl, with the highest observed in MW104S on 15 September 2022. Based on a review of the Oak Ridges Moraine Groundwater Program Data, the groundwater table generally ranges from 109.43 masl to 107.94 masl sloping downward to the south (ORMGP, 2022). The large water level variability observed in MW-101D is not considered a reflection of site conditions as it is likely a result of poor well development or issues with the well construction. Values from the last two measurement events are considered “true” based on a comparison to off-site wells and were used to inform site conditions.

The approximately 3-metre difference in water levels observed between wells screened in the Sunnybrook Drift formation (MW101D) and the wells screened in the upper Thorncliffe formation (MW101S though MW109) suggests that these two geologic units are not hydraulically connected and are therefore separate hydrogeologic units. It also shows that the Sunnybrook Drift, composed predominantly of Clayey Silt tills, may act as an aquitard across the Site. However, this is based on observations at only one location (MW101D) and data from this well may be compromised for reasons described earlier. Therefore, additional data would be needed to confirm the hydrogeologic characteristics of the Sunnybrook Drift at the site. Wells screened in the Thorncliffe formation are considered hydrologically connected, and groundwater elevations in this unit show the local groundwater flow at the Site as southward towards Lake Ontario.

Based on the preliminary architectural drawings (GPA, 2023) the proposed one level of underground parking and associated excavation activities will occur within the Thorncliffe formation to a maximum depth of approximately 109.0 masl.

4.4 Single Well Response Tests

On 28 September 2022, GEMS was on-Site to complete single well response tests (SWRTs) in three (3) monitoring wells: MW102D, MW104D, and MW105.

For each SWRT, a 'slug' of water was removed from the well, and the water level recovery was monitored for 30 minutes thereafter, or until the well returned to its static level. Estimations of hydraulic conductivity were made in AQTESOLV Aquifer Test Analysis Software using the Hvorslev Method (Hvorslev, 1951) based on the rate of recovery. Hydraulic Conductivity analysis graphs for each SWRT are provided in **Appendix D**.

The Hvorslev Method was chosen for its versatility and is based on the following assumptions:

- Water-bearing unit has infinite areal extent;
- Water-bearing unit is homogeneous and of uniform thickness;
- Water bearing unit is confined or unconfined;
- Water table is initially horizontal before testing;
- The well is fully or partially penetrating into the water-bearing unit;
- The slug is instantaneously removed from the well; and
- Groundwater flow is steady.

The estimated hydraulic conductivity results for all SWRTs are presented in **Table 4.4**.

Table 4.4: Hydraulic Conductivity Results from Single Well Response Tests

Well ID	Screened Unit	Screen Interval (masl)	SWRT	Hydraulic Conductivity (m/s)	Geometric Mean (m/s)
MW102D	Sandy Silt, Silt and Silty Sand	108.7 – 105.7	1	1.9×10^{-6}	1.3×10^{-6}
			2	2.1×10^{-6}	
			3	2.2×10^{-6}	
MW104D	Silty Sand	109.1 – 106.1	1	1.8×10^{-6}	1.8×10^{-6}
			2	1.8×10^{-6}	
			3	1.9×10^{-6}	
MW105	Silty Sand and Sandy Silt	111.7 – 108.7	1	3.1×10^{-6}	3.2×10^{-6}
			2	3.2×10^{-6}	
			3	3.5×10^{-6}	
Geometric Mean Hydraulic Conductivity (m/s) for all SWRTs					2.3×10^{-6}
Highest Hydraulic Conductivity (m/s) for all SWRTs					3.5×10^{-6}

The hydraulic conductivity results ranged from 1.8×10^{-6} m/s to 3.5×10^{-6} m/s, with an overall geometric mean of 2.3×10^{-6} m/s.

The borehole records (**Appendix B**) indicate that all tested wells are screened across the same water-bearing unit (Thornccliffe Formation) in materials, including silty sand, sandy silt, and silt. The geometric

mean of hydraulic conductivity estimates observed is approximately 10^{-6} m/s and is within the textbook range for silty sand materials denoted by Freeze & Cherry (1979).

As a conservative estimate, GEMS recommends using the highest hydraulic conductivity result of 3.5×10^{-6} m/s to forecast the overburden dewatering rate.

4.5 Groundwater Quality

The water quality discharged by the dewatering system during construction is expected to be similar to in-situ groundwater quality.

On 2 September 2022, a groundwater sample was collected from borehole MW102D to characterize the in-situ groundwater quality at the Site. The water quality analysis results are included in **Appendix E**.

Water quality results were compared to the following criteria:

- City of Toronto Storm Sewer Discharge Use By-Law
- City of Toronto Sanitary and Combined Sewers Discharge Guidelines

The water quality met the City of Toronto Sanitary and Combined Sewers Discharge Guidelines for all parameters. It exceeded the City of Toronto Storm Sewer Discharge Use By-law criteria for Total Suspended Solids (TSS) and Total Manganese (Mn).

Exceedances to these criteria were identified and are summarized in **Table 4.5**, with the criteria exceeded in bold.

Table 4.5: Water Quality Results Exceeding Discharge Criteria

Water Quality Parameters	Units	MW102D Results	Storm Criteria	Sanitary Criteria
Total Suspended Solids (TSS)	mg/L	41	15	350
Total Manganese (Mn)	ug/L	170	50	5000

Groundwater quality should be expected to change over time during active construction dewatering. A dewatering contractor should assess the groundwater quality before any water-taking and discharging activities.

5.0 Short and Long-Term Discharge Rates

5.1 Short-Term Construction Dewatering

A construction dewatering system design may include well points, several sump pumps, and a network of gravity drains. Implementing a dewatering system is the responsibility of the property owner, and a qualified dewatering contractor with experience in construction dewatering should be retained to design and outline the methodology of the dewatering system. Construction will require that the groundwater level be lowered to a depth of at least 1.0 m below the excavation invert.

Table 5.1: Dewatering Estimate Assumptions

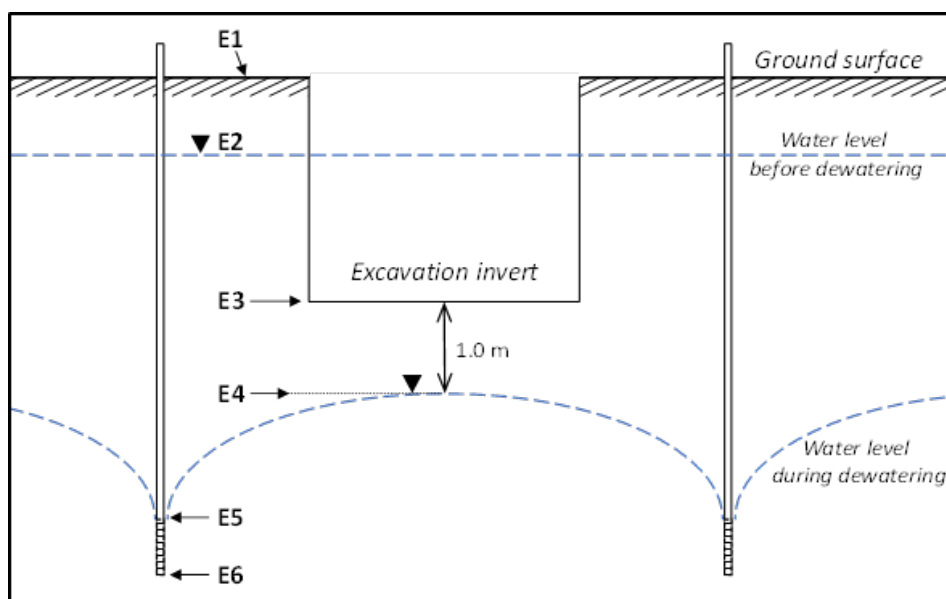
Input Parameter	Value	Notes
Ground Surface Elevation	114.0 masl	Highest surface elevation based on provided geotechnical borehole logs (Appendix B).
Finished Floor Elevation (FFE)	110.0 masl	The lowest finished floor elevation was based on the depth of the P1 underground as presented in the provided building cross sections (Appendix A).
Excavation Invert	109.0 masl	Assumed 1 metre below FFE for raft slab.
Dewatering Target Elevation	108.0 masl	Assumed to be 1.0 metre below the excavation invert.
Excavation Area	85 m x 128 m	Simplified “rectangular” dimensions of the excavation, with an area equal to the proposed dimensions.
Max. Anticipated Groundwater Elevation	111.01 masl	Highest measured groundwater elevation at the Site (MW103 09/15/2022)
Base of Aquifer	52.0 masl	Bedrock depth based on borehole logs (Appendix B).
Hydraulic Conductivity (K)	3.5×10^{-6} m/s	Highest K value estimated from SWRT tests (MW105).

Dewatering estimates have been calculated assuming an excavation invert of 109.0 masl. On-Site water level measurements show the water table ranges between approximately 109.8 and 111.01 masl. The maximum anticipated groundwater level was 111.01, based on the highest measured water levels throughout the monitoring period (MW103, 09/15/2022). The maximum anticipated groundwater elevation is 4.6 meters above the assumed excavation invert, and therefore, short-term construction dewatering is anticipated.

A conceptual well-point dewatering model has been used to forecast the dewatering rates. As such, a greater drawdown would be required at the pumping wells themselves to achieve the target level in the central area of the base of the excavation. For calculations, the bottom tips of dewatering wells have been assumed to be located 3.0 m deeper than the excavation invert, with water levels in those dewatering wells 2.0 m below the excavation invert.

A schematic diagram of a section of loop dewatering is shown below in **Drawing 1**. The values for indicated parameters are as follows:

E1 =	Approximate ground level	114.00 masl
E2 =	Maximum hydraulic head	111.01 masl
E3 =	Lowest point of excavation	109.00 masl
E4 =	Target water level below excavation	108.00 masl
E5 =	Target water level in wellpoints	107.00 masl
E6 =	Dewatering wellpoint tips	106.00 masl



Drawing 5.1 Schematic diagram showing a cross-section of loop dewatering at two well points on opposite sides of the property.

5.2 Radius of Influence

Calculations for dewatering effects require an estimation of the radius of influence (ROI). Estimates of ROI for a rectangular excavation are calculated using the following formula adapted from the Jacob equation without recharge (Cooper, 1946).

$$R_o = r_w + \sqrt{\frac{T \cdot t}{C_4 \cdot C_s}}$$

Where:

- t = Duration of Dewatering

- T = Transmissivity in m²/sec
- C_s = Storage Coefficient (no units)
- C_4 = Constant (4790) (no units)
- r_w = Effective well radius of open excavation in metres.

The effective radius of the open rectangular excavation has dimensions of a and b :

$$r_w = \frac{a + b}{\pi}$$

Because the analytical solutions used to estimate dewatering volumes are based on a rectangular excavation, the Site's irregular shape was simplified for the purpose of the calculations. This was achieved by using a rectangle with an area equal to that of the proposed excavation (11,000 m²).

Simplified dimensions:

- Dewatering Area: 85 m x 128 m

Assuming 40 days of pumping for the steady-state drawdown, the ROI extending outward from the perimeter of the excavation is estimated to be 94 m. This ROI is depicted by the Zone of Influence (ZOI) shown in **Figure 4**. This is the maximum possible ROI assuming:

- I. No recharge;
- II. Wells are located around the perimeter of the rectangular excavation; and,
- III. The bottom tips of wells are approximately 3.0 m deeper than the assumed foundation invert depth.

It should be noted that ROI estimates are based on simplified standard textbook modelling and are approximations of complex geological conditions that do not account for recharge effects. Based on observations and the documented Site condition, a typical recharge effect is anticipated. Subsurface materials are variable in structure, soil texture, thickness, and other factors, and thus conditions affecting the extent of the ROI may be present which were not identified by Site boreholes.

A conservative approach to forecasting the maximum pumping rates and associated ROI was taken to account for uncertainties associated with varying subsurface soil conditions and fluctuations in groundwater elevations. The value inputs to the equation were conservatively biased to predict the maximum pumping rates of dewatering required to draw down groundwater to the target levels. This conservative approach reduces the possibility of unforeseen hydrogeological conditions encountered, which may require a higher dewatering rate.

5.3 Pumping Rate Calculations

The calculation for a rectangular excavation is based on a scenario that models radial flow into a well with a calculated equivalent radius reflective of the area to be dewatered. Dewatering was simulated by analyzing radial flow to a well in an unconfined aquifer. Flows toward the well were simulated using the following formula (J.P.Powers, 2007):

$$Q = \frac{\pi \cdot K (H^2 - h^2)}{\ln\left(\frac{R_o}{r_w}\right)}$$

Where the symbols and input values are as follows:

- Q = Discharge flow (L/min)
- K = Hydraulic conductivity = 3.5×10^{-6} m/s
- H = Pre-construction static water level = 111.0 masl
- h = Target water level = 108.0 masl
- R_o = Radius of influence
- r_w = Effective well radius of open excavation

The simplified shape of the excavation used for the pumping rate calculations is assumed to account for the full dimensions of the underground structure, as displayed in **Figure 4**.

5.4 Construction Dewatering Rates

Assuming the dewatering wells are installed to elevations of 106.0 masl, the estimated maximum dewatering rate for initial drawdown (7 days) is 337,481 L/day (234 L/min), and during steady-state drawdown (40 days) is 154,559 L/day (107 L/min). The dewatering calculations are provided in **Appendix E**.

For the purpose of permitting applications for dewatering, GEMS recommends using the forecasted 7-day pumping rate with the application of a 1.5 safety factor. The resulting pumping rate after applying the safety factor is 506,222 L/day (351 L/min). This forecasted dewatering pumping rate will allow for uncertainties and variability in the range of hydraulic conductivity.

Additionally, it is necessary to account for contributions to the dewatering volume from significant precipitation events. Assuming a rectangular excavation with dimensions of 85 m x 128 m for underground parking, the total surface area of the excavation will be 10,880 m². Anticipating a 15 mm daily rainfall event, the volume of rainwater contributed to this area would be 163,200 L.

After applying the safety factor, adding the rainfall contribution to the dewatering rate brings the forecast maximum pumping rate to 751,022 L/day (521.5 L/min).

A dewatering contractor should be retained to evaluate the dewatering methods. If dewatering wells deeper than 3.0 m below the assumed excavation invert depth are required, the discharge rates should be re-evaluated by GEMS.

A summary of the construction dewatering rates is outlined in **Table 5.3**.

Table 5.3 Summary of Construction Dewatering Rates

Dewatering	Excavation Area	
	Dewatering Rate	1.5 Safety Factor
15 mm Rainfall Contribution	163,200 L/day (113 L/min)	-
Initial Drawdown for Excavation	337,481 L/day (234 L/min)	506,222 L/day (351.5 L/min)
Maximum with safety factor	751,022 L/day* (521.5 L/min)	

**Rounded for permitting*

Based on the above estimate, a Permit to take Water is required for water taking during the dewatering and construction of the proposed development, as the forecast dewatering rate is greater than 400,000 L/day.

A short-term discharge agreement with the City of Toronto will be required before discharging water into any sewers owned by the City.

5.5 Long-Term Seepage Rates

The base of the foundation will be constructed an estimated 3.1 meters below the water level after the addition of a 2.3 m November water table fluctuation allowance based on the City of Toronto foundation drainage guidelines (COT, 2021). However, it has been communicated with GEMS that the foundation will be constructed as water-tight, therefore no long-term discharge of groundwater is anticipated at the Site. The elimination of groundwater taking over the lifetime of the building will not adversely impact the aquifer over the long-term. The design and implementation of the water-tight structure is the responsibility of the construction team.

6.0 Potential for Adverse Effects

The following section identifies the potential for adverse environmental effects resulting from the proposed construction dewatering program.

6.1 Regulated and Sensitive Areas

According to The Ministry of Environment, Conservation and Parks' (MECP) Source Protection Information Atlas (MECP, 2021), the Site is not located in an area of development control as defined by the Niagara Escarpment Planning & Development Act. The Site is also not located in the Oak Ridges Moraine Conservation Area as defined by the Oak Moraine Conservation Plan.

There is no Toronto and Region Conservation Authority (TRCA) regulated areas within the zone of influence of the Site.

6.2 MECP Well Records and Groundwater Resources

The area within 500 m of the Site is serviced by the City of Toronto municipal water. The City of Toronto obtains its water supply from Lake Ontario. Therefore, there is no potential for groundwater interference complaints during construction dewatering activities.

A copy of the Ministry of Environment, Conservation and Parks (MECP) well listings within 500 m of the Site are provided in **Appendix E**. The wells within 500 m of the Site are displayed in **Figure 3**.

There are seventy-nine (79) wells identified within the 500 m area surrounding the Site. There are seventeen (17) monitoring wells, nineteen (19) monitoring and test holes, nine (9) test holes, and one (1) municipal well used as an observation well. The remaining thirty-three (33) wells are not available or not used. Therefore, no water supply wells or domestic wells are expected to be impacted by construction dewatering. Water-taking activities related to construction dewatering are not expected to impact any wells near the Site, and no monitoring is recommended.

An MECP-licensed drill contractor should properly decommission all monitoring wells at the Site prior to the demolition of the existing building.

6.3 Settlement

Expectations regarding settlement are to be addressed in a separate report provided by Terrapex Environmental Ltd.

6.4 Recommended Additional Fieldwork and Monitoring

The proposed monitoring and additional fieldwork are recommended during temporary construction dewatering:

If dewatering discharge is directed to the City of Toronto sanitary or storm sewer, GEMS recommends the following monitoring for water quality:

<i>Location:</i>	Discharge outlet pipe or sampling port of the dewatering system.
<i>Parameters:</i>	City of Toronto sewer use By-Law
<i>Schedule:</i>	First sample is recommended to be obtained within the first two (2) days of discharge start. Routine samples are recommended to be obtained monthly thereafter.
<i>Trigger:</i>	If one or more parameters have a concentration above the By-Law.
<i>Mitigation:</i>	Filtration/treatment approaches would be reviewed on a specific basis. Upon installation of a filtration/treatment system, an additional sample should be performed to ensure compliance with the criteria.
<i>Reporting:</i>	As required, all results are reported to the Project supervisor for submission to the City of Toronto or the MECP.

Monitoring of the discharge water quantity is required to ensure compliance with the discharge agreement and/or EASR conditions. GEMS recommends the following program for monitoring the groundwater taking and discharge volumes:

<i>Location:</i>	A flow meter attached to the discharge pipe of the dewatering system.
<i>Parameter:</i>	Total volume of discharge, date, and time of measurement.
<i>Schedule:</i>	Minimum of daily recording by on-Site personnel, with values reported to the Project supervisor weekly for submission to the City, Region and/or MECP.
<i>Trigger:</i>	Discharge volume exceeds the maximum rate of dewatering specified in the discharge agreement and/or the EASR.
<i>Mitigation:</i>	Immediately reduce the pumping rate so that discharge is within permitted limit.
<i>Reporting:</i>	Values reported to the Project supervisor weekly for submission to the City, Region and/or MECP.

Additional Fieldwork

Well decommissioning is required before construction. A licensed well contractor should decommission any inactive wells within the Site, according to Ontario Regulation 903. This regulation applies to any existing monitoring wells.

7.0 Conclusion

Based on the above analysis, the following conclusions and recommendations are offered for the proposed reconstruction of 2400-2440 Dundas Avenue West, Toronto, Ontario:

- The geology at the Site is composed of coarse to fine-textured glaciolacustrine deposits of sand to clayey silt. Excavation and dewatering activities will occur in predominately Silty Sand and Sandy Silt materials.
- Hydraulic conductivity tests for the water-bearing unit ranges from 1.8×10^{-6} m/s to 3.5×10^{-6} m/s, with a geometric mean of 2.3×10^{-6} m/s.
- The groundwater elevation at the Site ranged between 94.98 – 111.01 masl over the monitoring period (September to November 2022). Groundwater elevations taken from MW101D reflect that the piezometric head in the underlying Thorncliffe formation is not representative of the water table at the Site.
- The water quality met the City of Toronto Sanitary and Combined Sewers Discharge Guidelines for all parameters. It exceeded the City of Toronto Storm Sewer Discharge Use By-law criteria for:
 - Total Suspended Solids (TSS)
 - Total Manganese (Mn)
- The maximum construction dewatering rate to maintain water levels below the estimated maximum depth of excavation is 506,222 L/day (351.5 L/min), including a safety factor of 1.5.
- The estimated maximum dewatering rate for 15 mm rainfall event is 163,200 L/day (113.3 L/min).
- With the application of a safety factor of 1.5, the total maximum forecasted dewatering rate is 751,022 L/day (521.5 L/min) for groundwater and precipitation entering the excavation area.
- The zone of influence for construction dewatering is estimated to extend 94 metres from the edge of the excavation area.

- The maximum finished floor elevation is roughly 3.1 metres below the water table (after the application of a 2.3 m seasonal fluctuation allowance for November), but the foundation is to be constructed as water-tight and therefore long term discharge of groundwater is not anticipated.
- Well decommissioning will be required before construction. A licensed well contractor should decommission any inactive wells within the Site, according to Ontario Regulations.

Groundwater Environmental Management Services Inc. (GEMS) has prepared this report for our client and its agents exclusively. GEMS accepts no responsibility for any damages that third parties may suffer resulting from decisions or actions based on this report.

The findings and conclusions are site-specific and were developed in a manner consistent with the level of care and skill normally exercised by environmental professionals currently practicing under similar conditions in the area. Changing assessment techniques, regulations, and site conditions mean that environmental investigations and their conclusions can quickly become dated, so this report is current up to two years from the published date. The report should not be used after that without GEMS' review/approval.

The Project has been conducted according to our instructions and work program. Additional conditions and limitations on our liability are outlined in our work program/contract. No warranty, expressed or implied, is made.

8.0 References

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9.0 Closing

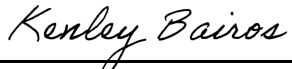
We trust this information meets your current requirements. Please do not hesitate to contact the undersigned should you have any questions or require additional information.

Yours truly,

Groundwater Environmental Management Services Inc.

Prepared By:

Reviewed By:



Kenley Bairos, M.Sc., GIT,

Hydrogeologist

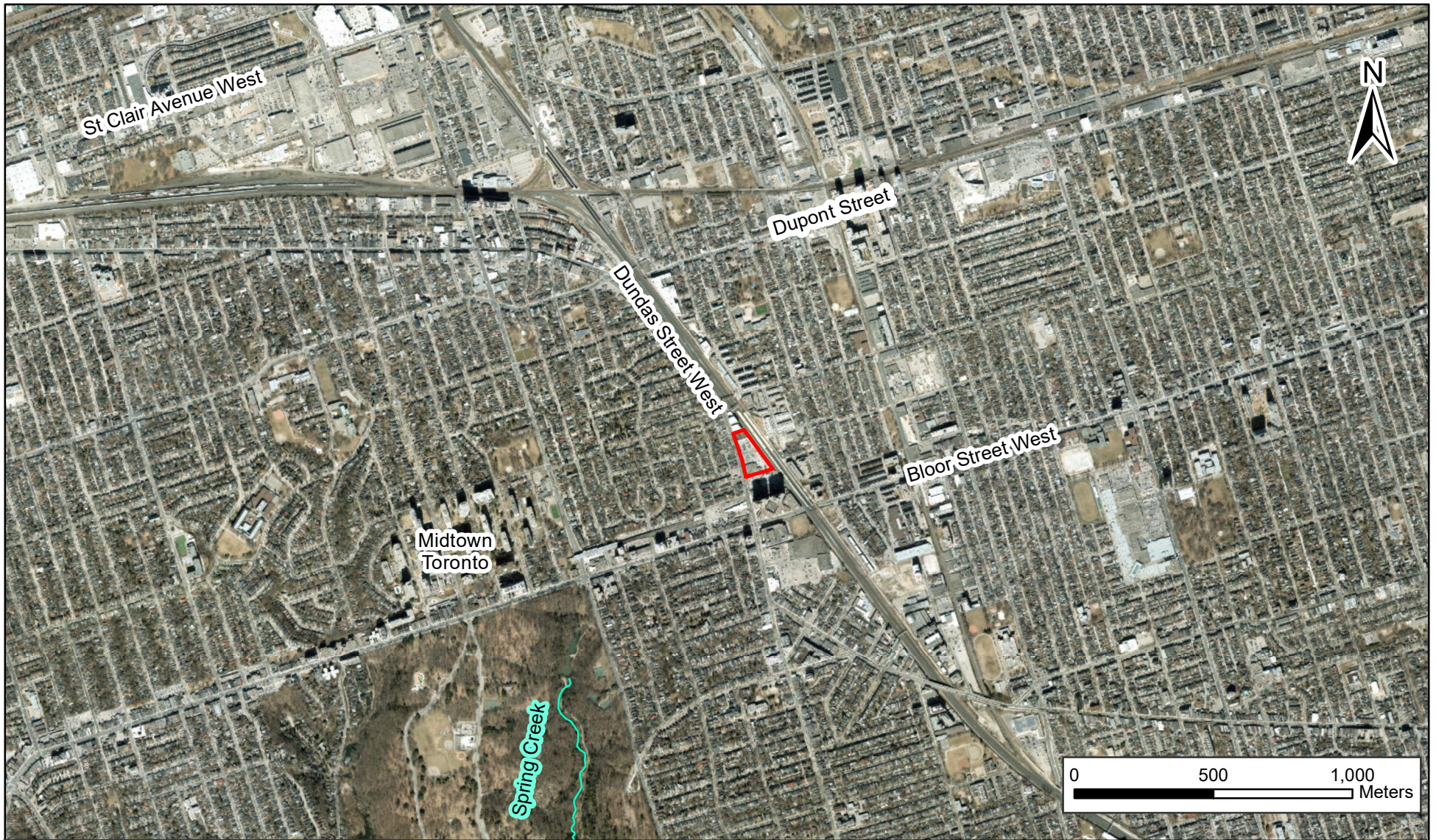
Mike Francis, B.Sc., C.Tech, P.Geo

Hydrogeologist

Figures

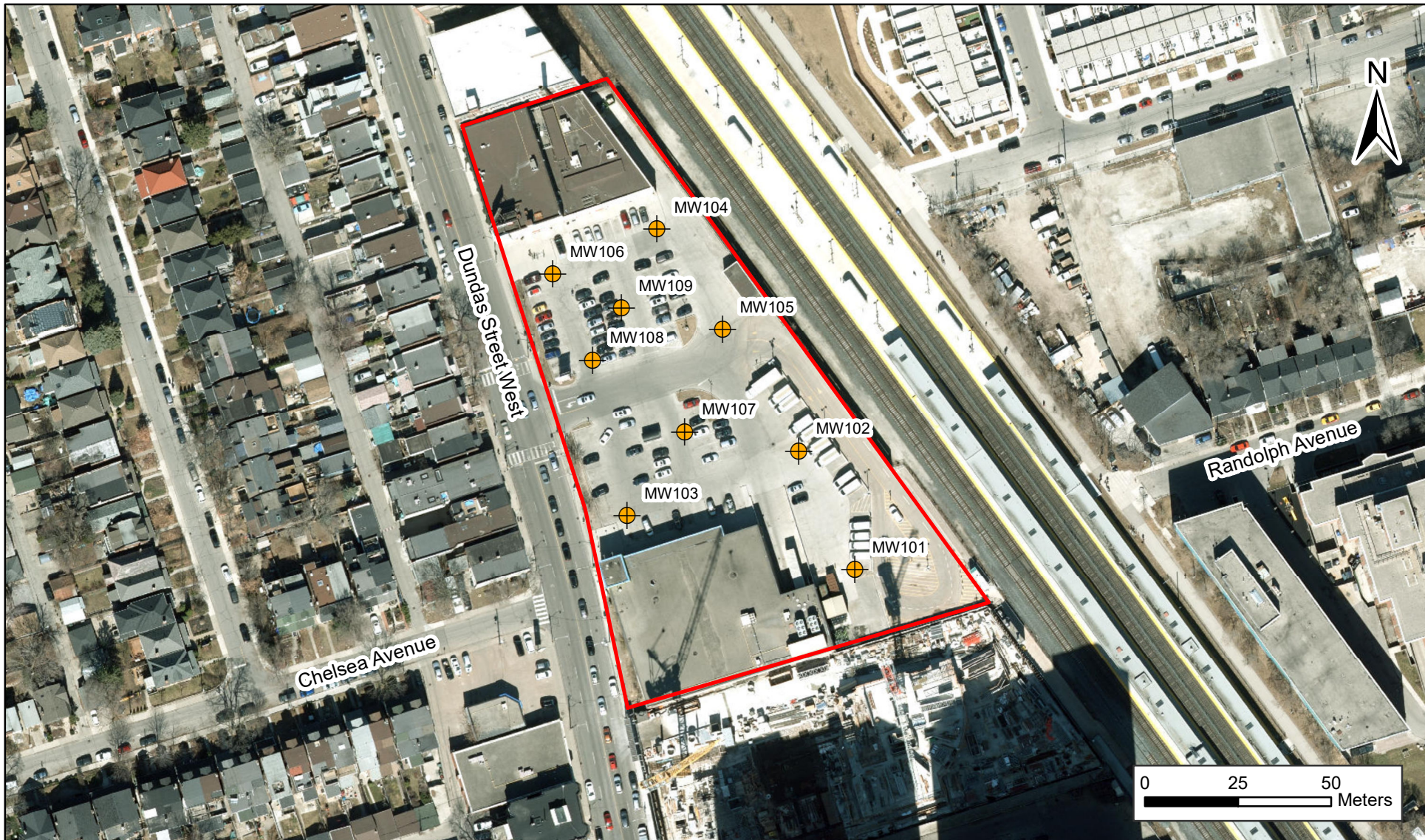
Figure 1

Regional Location Plan



<div>Legend</div> <div><div></div>Site: 2400-2440 Dundas Street West</div> <div><div></div>Watercourses</div>	<div><div>GEMS</div><div>Groundwater Environmental Management Services</div></div>		<div>Client:</div> <div>Fora Developments</div>		<div>Date:</div> <div>October 2022</div>
					<div>Scale:</div> <div>1:20,000</div>
	<div>Title:</div> <div>Regional Location Plan</div>	<div>Figure No.</div> <div>1</div>	<div>Project No.</div> <div>22-1465</div>	<div>Drawn By:</div> <div>JP</div>	<div>Source:</div> <div>ESRI Basemap WGS1984 UTM Zone 17N</div>

Figure 2
Detailed Site Plan



Legend

- Site: 2400-2440 Dundas Street West
- ⊕ Monitoring well



Client:

Fora Developments

Date:

October 2022

Scale:

1:1,500

Title:

Detailed
Site Plan

Figure No.

2

Project No.

22-1465

Drawn By:

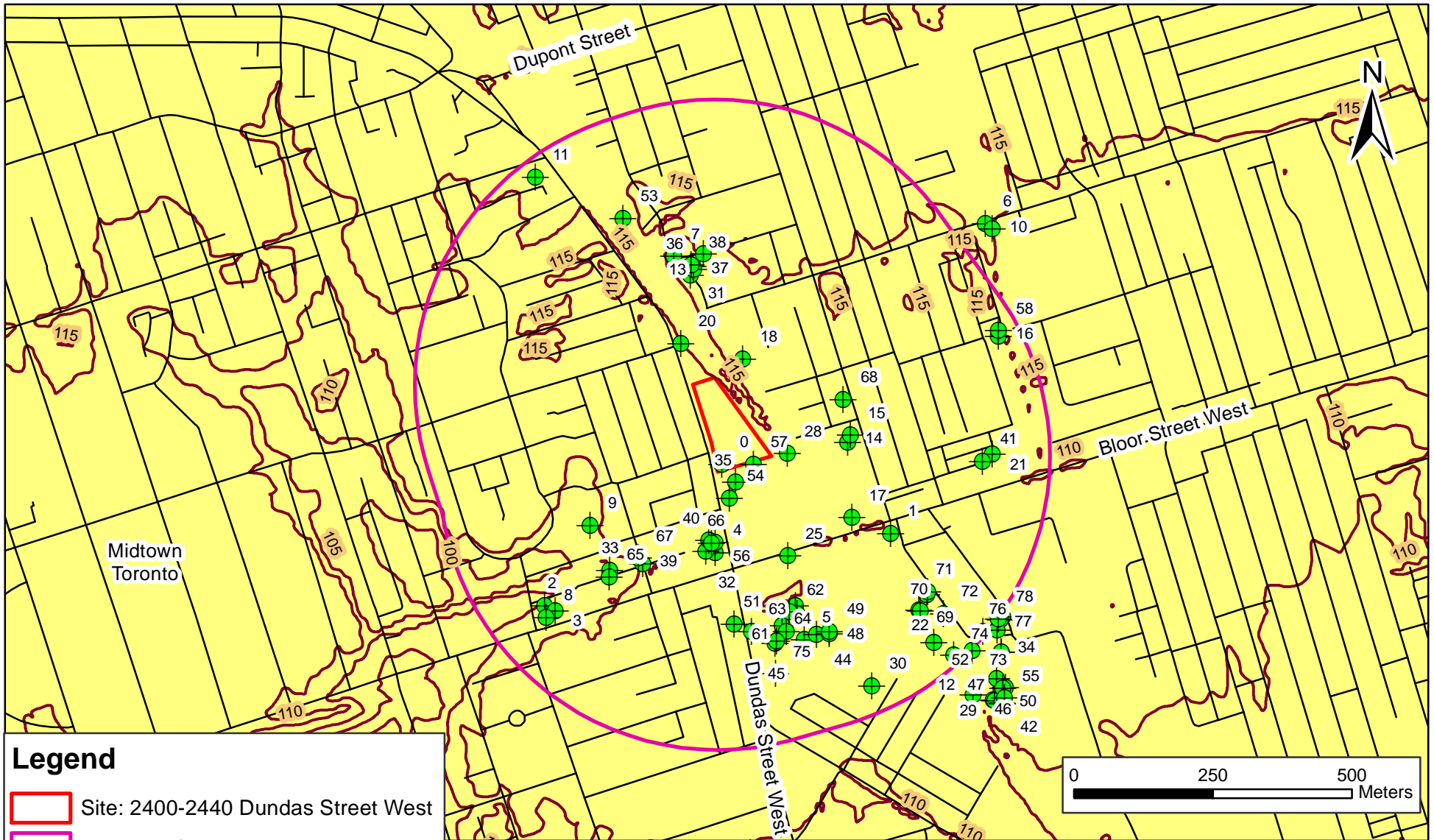
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Source:

ESRI Basemap
WGS1984 UTM Zone 17N

Figure 3

Surface Geology and MECP Wells



Legend

Site: 2400-2440 Dundas Street West

500m MECP buffer

● MECP well

— Streets

— 5m contours

Surface Geology

Sand and silty sand

GEMS
Groundwater Environmental Management Services

Client:

Fora Developments

Date:

October 2022

Scale:

1:10,000

Title:

Surface Geology
and MECP Wells

Figure No.

3

Project No.

22-1465

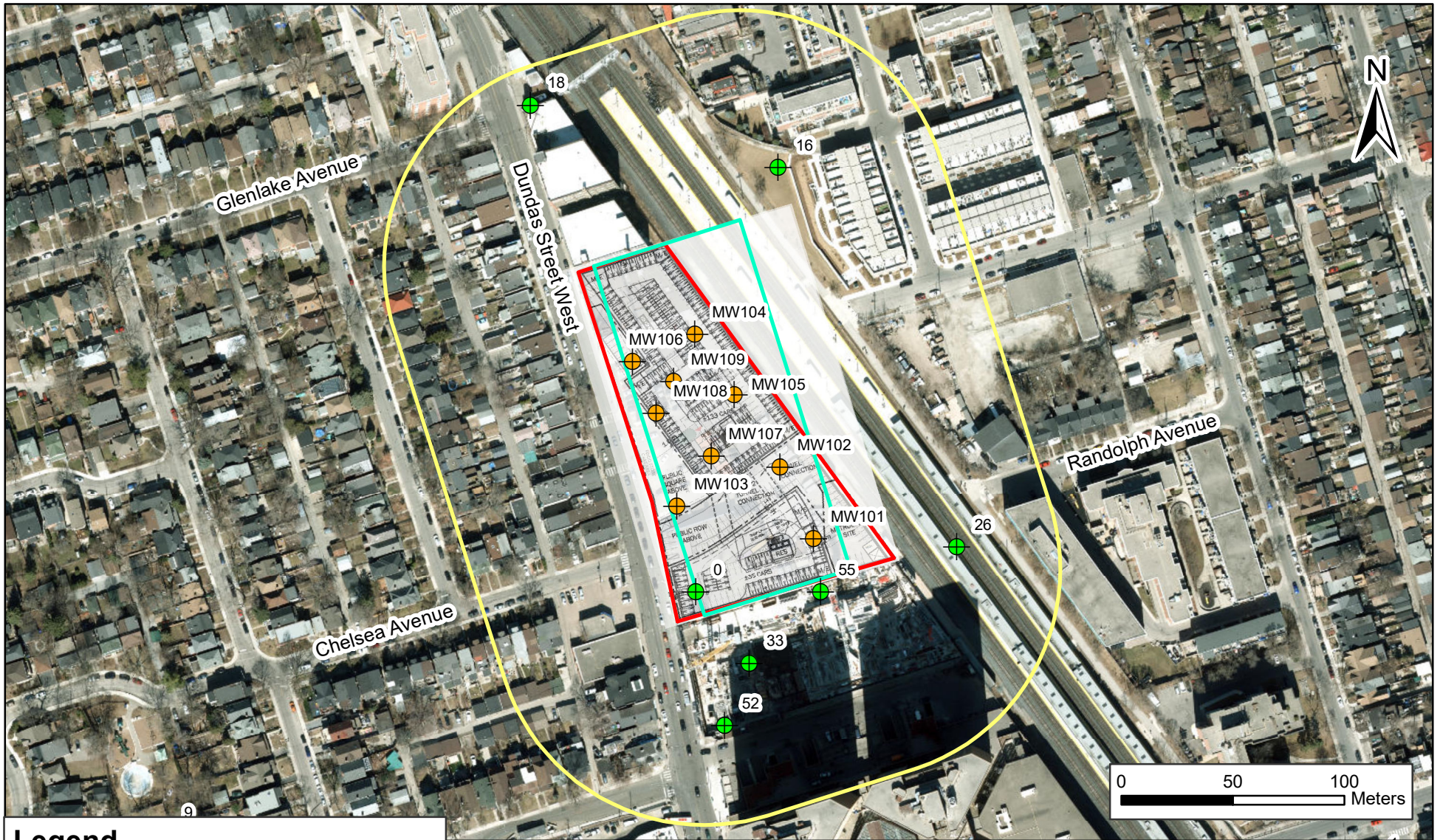
Drawn By:

JP

Source:

ESRI Basemap
WGS1984 UTM Zone 17N

Figure 4
Dewatering Area Plan



Legend

- Site: 2400-2440 Dundas Street West
- Radius of influence (94m)
- Dewatering area
- MECP well
- Monitoring well

GEMS
Groundwater Environmental Management Services

Client:

Fora Developments

Date:

October 2022

Scale:

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Source:

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WGS1984 UTM Zone 17N

Title:

Dewatering
Area

Figure No.

4

Project No.

22-1465

Drawn By:

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Appendix A

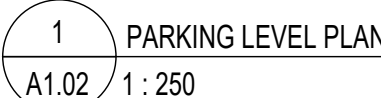
Architectural Drawings

Figure 10 illustrates six typical parking space configurations with their dimensions in millimeters (mm). Each diagram includes a 100mm wide white pavement marking.

- Typical parking space, no obstructed:** Dimensions are 5600mm (length) and 2600mm (width).
- Typical parking space, obstructed one side:** Dimensions are 5600mm (length), 2600mm (width), and 300mm (obstruction).
- Typical parking space, obstructed two sides:** Dimensions are 5600mm (length), 2600mm (width), and 300mm (obstruction on both sides).
- Typical parking space, barrier free - type 'A':** Dimensions are 5600mm (length), 3400mm (width), and 1500mm (obstruction).
- Typical parking space, barrier free - type 'B':** Dimensions are 5600mm (length), 3400mm (width), and 1500mm (obstruction).
- Typical parking space, barrier free - type 'C':** Dimensions are 5600mm (length), 3400mm (width), and 1500mm (obstruction).

NOTE:
- ALL PARKING SPACES MARKED WITH BARRIER FREE
SYMBOL MEET THE ABOVE DIMENSION
- PROVIDE 300MM CLEARANCE IF OBSTRUCTED

1 : 100



Date _____

PRELIMINARY

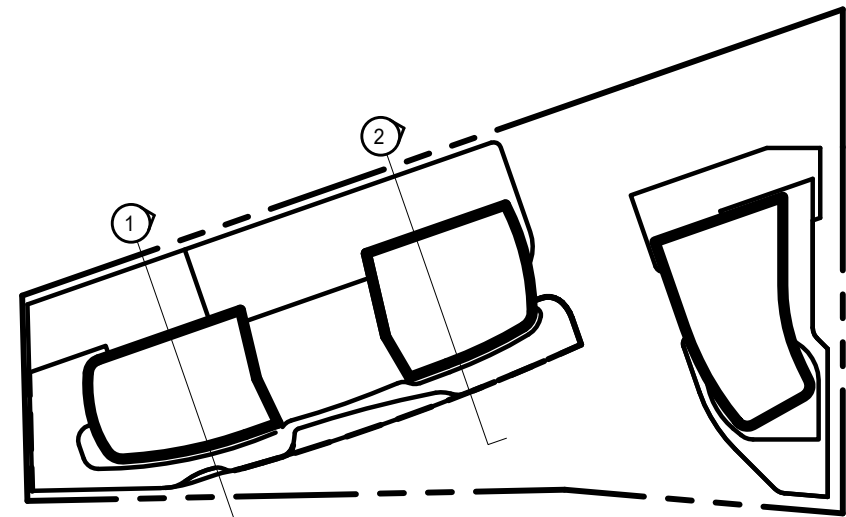
Giannone Petricone Associates Inc. Architects
96 Spadina Avenue, Toronto, Canada M5V 2J6
T 416.591.7788 F 416.591.1293 E mail@gpaia.com

Fora Developments
200 - 2440 Dundas St. W., Toronto, ON, M6P 1W9
T 416.536.3600 info@foradevelopments.com

SHEET TITLE

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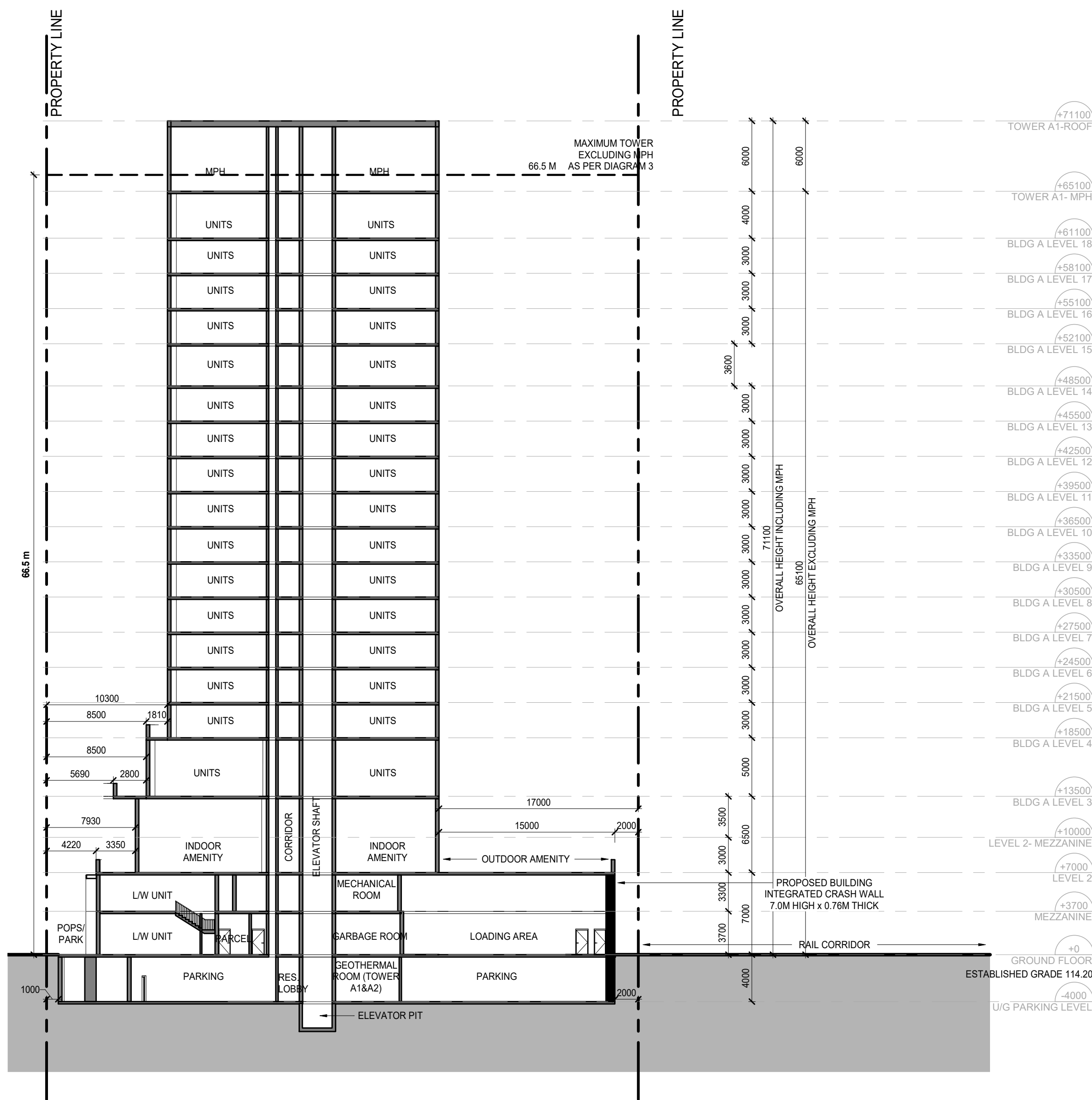
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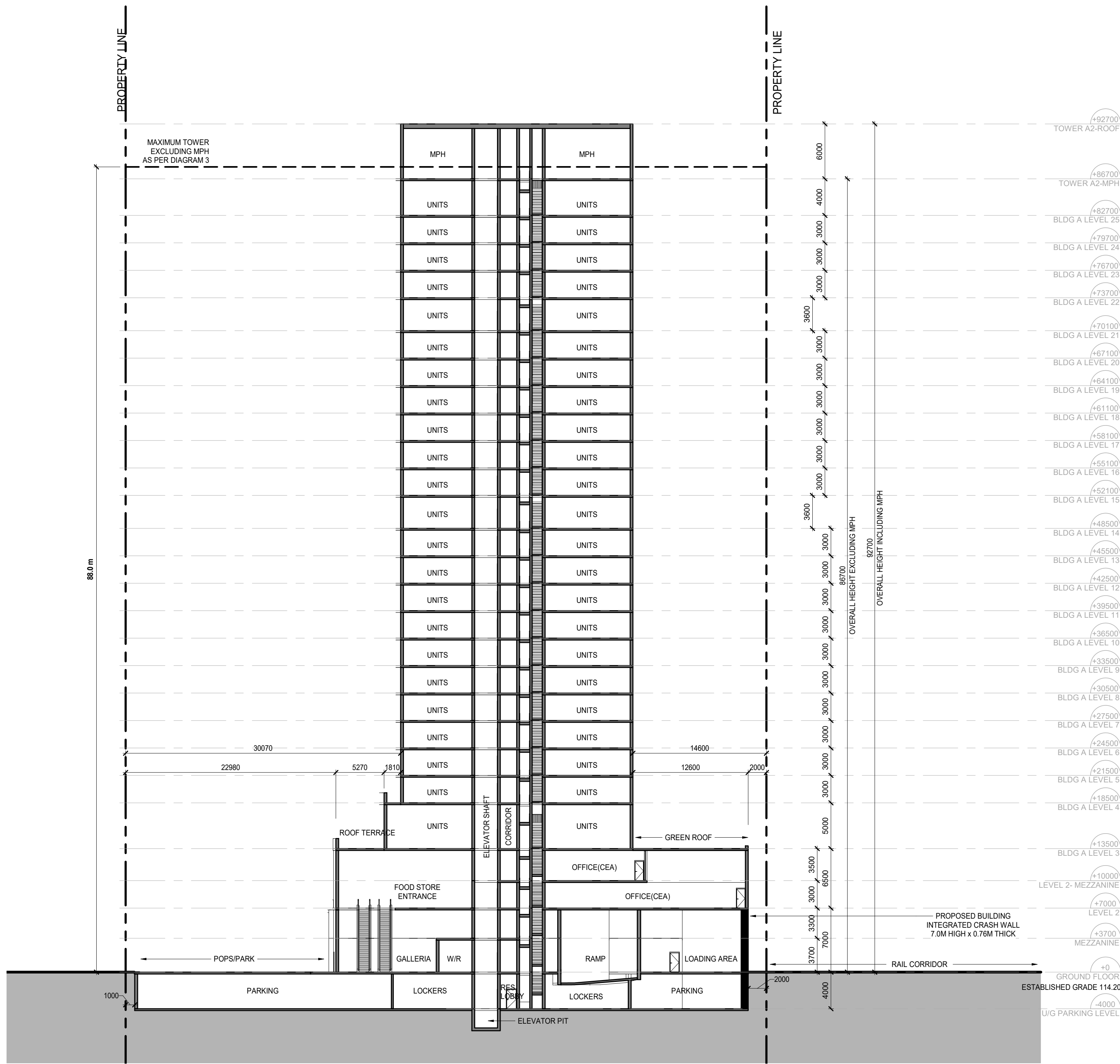
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1 BUILDING A EAST WEST SECTION - TOWER A1
A3.01 / 1: 300



2 BUILDING A EAST WEST SECTION - TOWER A2
A3.01 / 1: 300

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giannone
petricone
associates

Giannone Petricone Associates Inc. Architects
96 Spadina Avenue, Toronto, Canada M5V 2J6
T 416.591.7788 F 416.591.1293 E mail@gpia.com

FORA

Fora Developments
200 - 2440 Dundas St. W., Toronto, ON, M6P 1W9
T 416.536.3600 info@foradevelopments.com

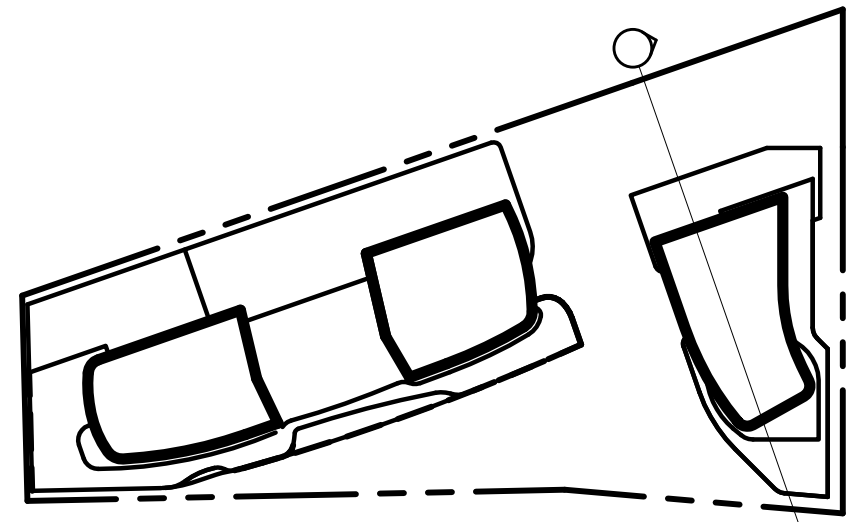
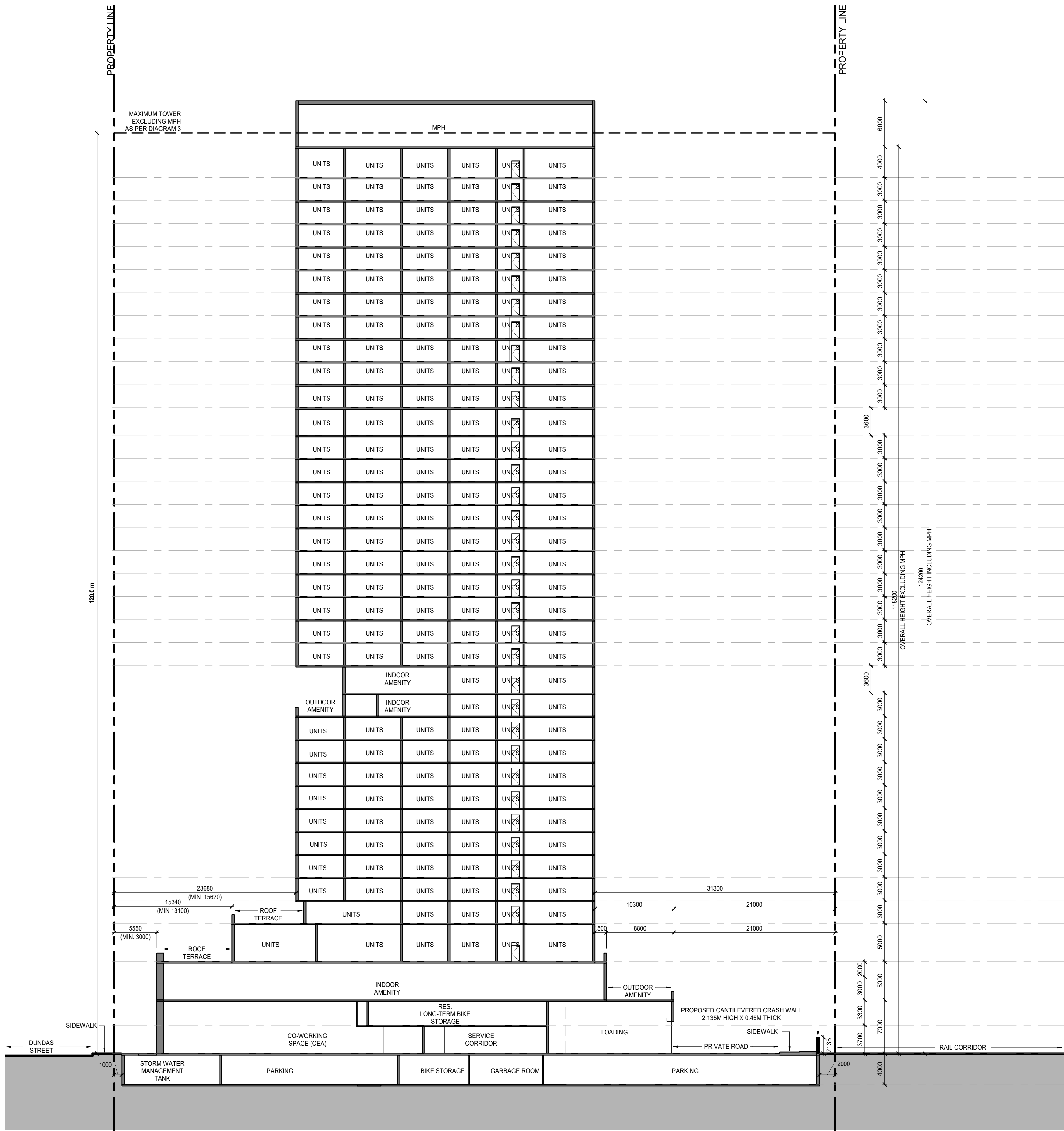
2400-2440 DUNDAS STREET WEST
TORONTO, ONTARIO, CANADA

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BUILDING A EAST WEST
SECTION

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PROJECT NO.: 21115
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Giannone Petricone Associates Inc. Architects
96 Spadina Avenue, Toronto, Canada M5V 2J6
T 416.591.7788 F 416.591.1293 E mail@gpia.com

FORA

Fora Developments
200 - 2440 Dundas St. W., Toronto, ON, M6P 1W9
T 416.536.3600 info@foradevelopments.com

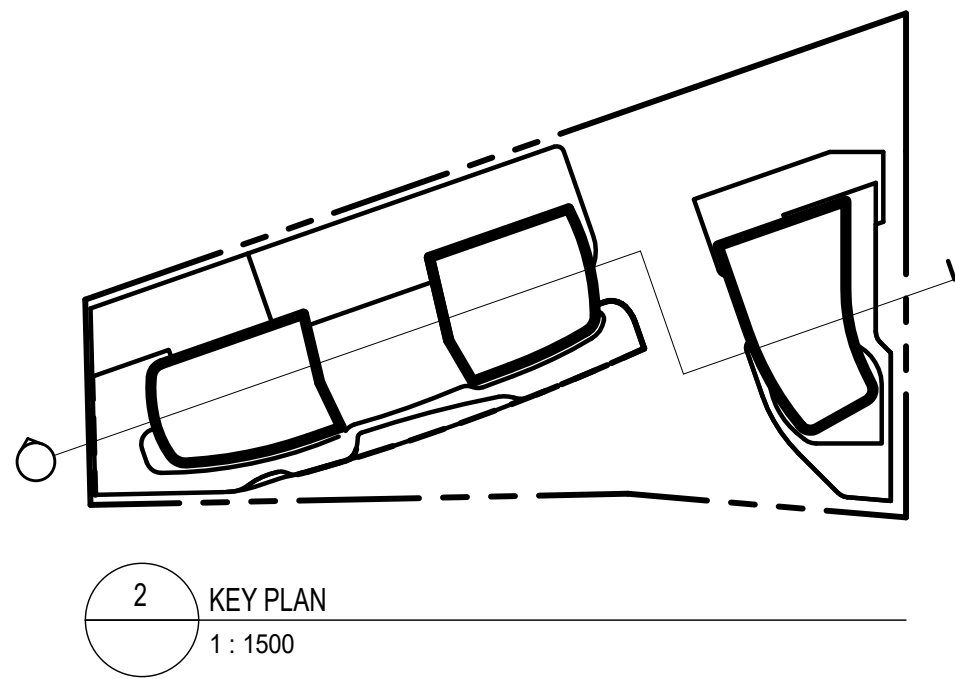
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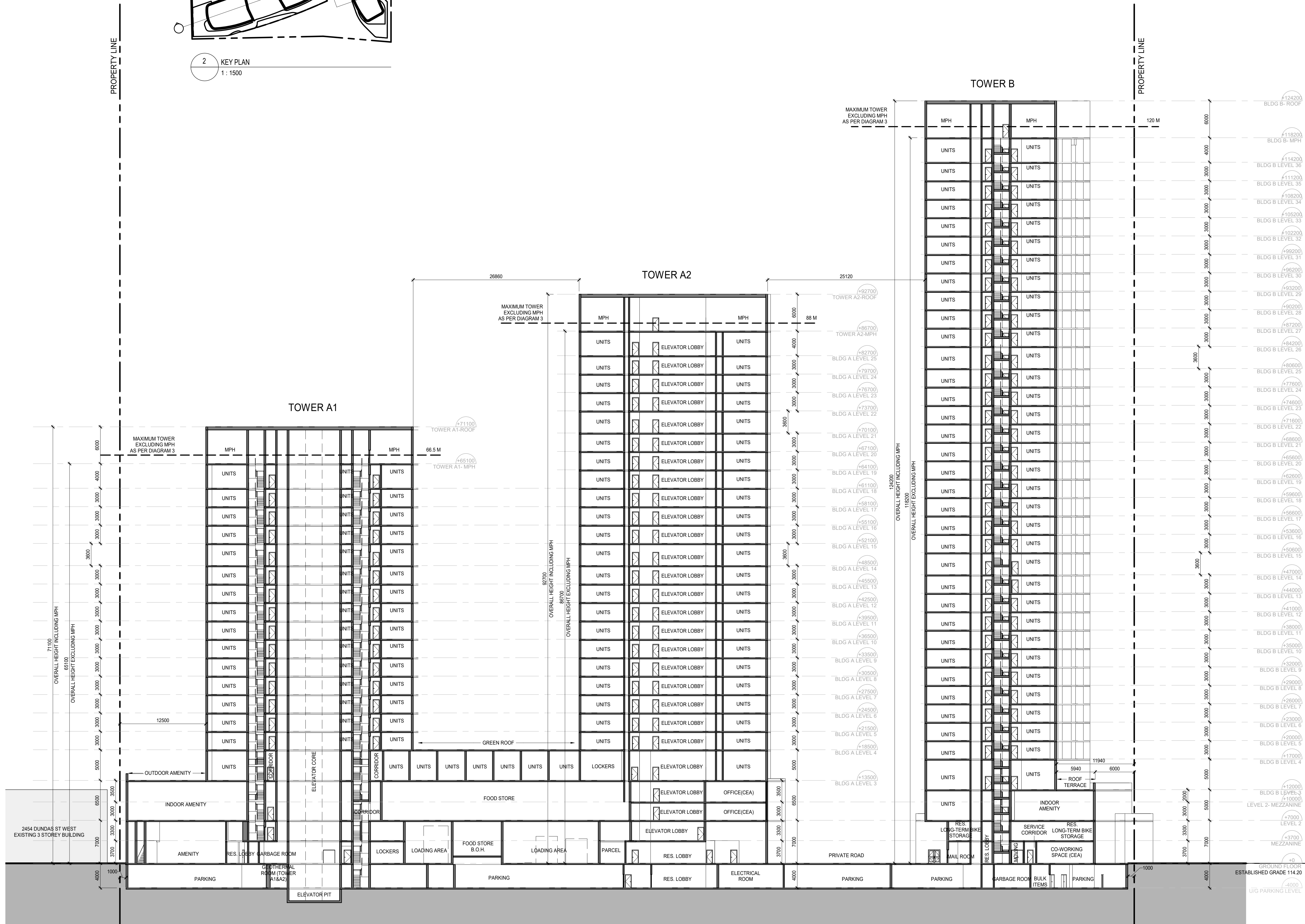
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2 KEY PLAN
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1 NORTH SOUTH SECTION
A3.03 1: 300

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**giannone
petricone
associates**

Giannone Petricone Associates Inc. Architects
96 Spadina Avenue, Toronto, Canada M5V 2J6
T 416.591.7788 F 416.591.1293 E mail@gaia.com

FORA

Fora Developments

200 - 2440 Dundas St. W., Toronto, ON, M6P 1W9

T 416.536.3600 info@foradevelopments.com

2400-2440 DUNDAS STREET WEST

TORONTO, ONTARIO, CANADA

SHEET TITLE

NORTH SOUTH SECTION

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PROJECT NO.: 21115
SHEET NUMBER

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PLOT DATE: 2023-03-07 3:28:46 PM

Appendix B

Borehole Logs and Well Installation Details

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW101			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835076.33		EASTING (m): 624822.64		ELEV. (m) 113.39			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling + PMT							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)				PL W.C. LL										
					40	80	120	160	20	40	60	80							
		Asphaltic concrete (60mm)	0																
		compact, moist, brown gravelly sand trace brick (FILL)	0.5	113	18								1		0	<5			Bentonite 50 mm monitoring well was installed. water level measured on ?????, 2022: ????? mbg
		compact, moist, brown SAND trace silt	1	112.5	11								2		50	<5			
			1.5	112															
			2	111.5	12								3		63	<5			
			2.5	111															
			3	110.5	19								4		67	50			
			3.5	110	21								5		88	50			
			4	109.5															
			4.5	109															
			5	108.5															
			5.5	108															
			6	107.5															
			6.5	107															
			7	106.5															
			7.5	106															
			8	105.5															
			8.5	105															
			9	104.5															

LOGGED BY: AD	DRILLING DATE: 09 to 14-June-2022
INPUT BY: EMZ	MONITORING DATE:
REVIEWED BY: VN	PAGE 1 OF 4

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW101			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835076.33		EASTING (m): 624822.64		ELEV. (m) 113.39			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling + PMT							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)	WATER CONTENT (%)	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)	PL W.C. LL							
					40 80 120 160	20 40 60 80							
		dense, wet, grey SANDY SILT	9.5	104									
			10	103.5				P2					
			10.5	103									
			11	102.5	45			11	70	<5			
			11.5	102									
			12	101.5									
		grey, moist CLAYEY SILT trace gravel	12.5	101									
			13	100.5				P3					Sand
			13.5	100									Screen + Sand
		soft	14	99.5	3			12	100				
			14.5	99									
			15	98.5									
			15.5	98									
			16	97.5				P4					
			16.5	97									
		firm	17	96.5	6			13	42				
			17.5	96									
			18	95.5									
			18.5	95									

	LOGGED BY: AD		DRILLING DATE: 09 to 14-June-2022	
	INPUT BY: EMZ		MONITORING DATE:	
	REVIEWED BY: VN		PAGE 2 OF 4	

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW101			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835076.33		EASTING (m): 624822.64		ELEV. (m) 113.39			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling + PMT							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS	
					N-VALUE (Blows/300mm)				PL W.C. LL											
					40	80	120	160	20	40	60	80								
		stiff, grey, moist CLAYEY SILT trace gravel	19	94.5																
			19.5	94									P5							
			20	93.5									14		58					
			20.5	93																
			21	92.5																
			21.5	92																
		hard, moist, grey CLAYEY SILT trace gravel, trace sand (TILL)	22	91.5																
			22.5	91									P6							
			23	90.5									15		28					
			23.5	90																
			24	89.5																
			24.5	89																
			25	88.5																
			25.5	88									P7							
			26	87.5									16		33					
			26.5	87																
			27	86.5																
			27.5	86																

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DRILLING DATE: 09 to 14-June-2022

MONITORING DATE:

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CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW101											
ADDRESS: 2400-2440 Dundas Street West, Toronto																			
CITY/PROVINCE: ON				NORTHING (m): 4835076.33		EASTING (m): 624822.64		ELEV. (m) 113.39											
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling + PMT															
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2											
SAMPLE TYPE		<input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON							
GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)				PL W.C. LL										
					40	80	120	160	20	40	60	80							
		hard, moist, grey CLAYEY SILT trace gravel, trace sand (TILL)	28	85.5											P8				
			28.5	85															
			29	84.5															
			29.5	84															
			30	83.5															
			30.5	83															
			31	82.5															
			31.5	82											P9				
			32	81.5															
		grey weathered SHALE																	
		END OF BOREHOLE																	
										LOGGED BY: AD		DRILLING DATE: 09 to 14-June-2022							
										INPUT BY: EMZ		MONITORING DATE:							
										REVIEWED BY: VN		PAGE 4 OF 4							

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF:											
ADDRESS: 2400-2440 Dundas Street West, Toronto								MW101S											
CITY/PROVINCE: ON				NORTHING (m):		EASTING (m):		ELEV. (m) 113.39											
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger															
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2											
SAMPLE TYPE		<input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON							
GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	(new title)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)				PL W.C. LL										
			0																
		Straight drilled to 5.5mbg to install the monitoring well	0.5	113															Bentonite 50 mm monitoring well was installed. water level measured on ?????, 2022: ????? mbg Sand Screen + Sand
			1	112.5															
			1.5	112															
			2	111.5															
			2.5	111															
			3	110.5															
			3.5	110															
			4	109.5															
			4.5	109															
			5	108.5															
		END OF BOREHOLE		108															
					LOGGED BY: AD				DRILLING DATE: 14-June-2022										
					INPUT BY: EMZ				MONITORING DATE:										
					REVIEWED BY: VN				PAGE 1 OF 1										


CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW102			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835110.99		EASTING (m): 624806.00		ELEV. (m) 113.65			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)				PL W.C. LL										
					40	80	120	160	20	40	60	80							
		asphaltic concrete (100mm)	0	113.5	17									1	46	40			Bentonite 50 mm monitoring well was installed. water level measured on ?????, 2022: ????? mbg
	compact	moist, brown sand trace gravel, trace brick trace wood (FILL)	0.5	113										2	42	35			
	dense		1	112.5	35									3	50	25			
	compact		2	111.5	8														
			2.5	111															
		compact, wet, grey SILTY SAND	3	110.5	27									4	67	65			
			3.5	110															
		compact to dense, wet, grey SANDY SILT	4	109.5	24									5	42	35			
			4.5	109															
			5	108.5	44									6	83	105		Sand	
			5.5	108	6									7	13	5		Screen + Sand	
		loose, wet, grey SILT trace sand, trace clay	6	107.5															
			6.5	107	22									8	42	55			
		compact to dense, wet, grey SILTY SAND	7	106.5															
			7.5	106															
			8	105.5	45									9	42	15			
			8.5	105															
		very dense, wet, grey SANDY SILT	9	104.5															

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CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW102			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835110.99		EASTING (m): 624806.00		ELEV. (m) 113.65			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS	
					N-VALUE (Blows/300mm)				PL W.C. LL											
					40	80	120	160	20	40	60	80								
		very dense, wet, grey SANDY SILT	9.5	104				72						10		58	<5			
		hard, moist, grey CLAYEY SILT trace sand	10	103.5																
			10.5	103																
			11	102.5				30						11		89				
			11.5	102																
			12	101.5																
			12.5	101				88/275						12		59				
			13	100.5																
		moist, grey CLAYEY SILT trace gravel, trace sand (TILL)	13.5	100																
			14	99.5				6						13		78				
			14.5	99																
			15	98.5																
			15.5	98				5						14		78				
			16	97.5																
			16.5	97																
			17	96.5				5						15		89				
			17.5	96																
			18	95.5																
			18.5																	



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DRILLING DATE: 14&15-June-2022

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CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW102			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835110.99		EASTING (m): 624806.00		ELEV. (m) 113.65			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS	
					N-VALUE (Blows/300mm)				PL W.C. LL											
					40	80	120	160	20	40	60	80								
	soft	moist, grey CLAYEY SILT trace gravel, trace sand (TILL)		95	2															
	-----		19	94.5																
	-----		19.5	94																
	very stiff		20	93.5	18									17		78				
	-----		20.5	93																
			21	92.5																
			21.5	92	13									18		89				
			22	91.5																
	-----		22.5	91																
	hard		23	90.5	36									19		58				
		END OF BOREHOLE																		

LOGGED BY: AD/AH

DRILLING DATE: 14&15-June-2022


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MONITORING DATE:

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CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF:													
ADDRESS: 2400-2440 Dundas Street West, Toronto								MW102S													
CITY/PROVINCE: ON				NORTHING (m):		EASTING (m):		ELEV. (m) 113.65													
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger																	
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2													
SAMPLE TYPE		<input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON									
GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	(new title)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS	
					N-VALUE (Blows/300mm)				PL W.C. LL												
			0	113.5																	
		Straight drilled to 5.5mbg to install the monitoring well	0.5	113																	50 mm monitoring well was installed. water level measured on ???, 2022: ????? mbg
			1	112.5																	
			1.5	112																	
			2	111.5																	
			2.5	111																	
			3	110.5																	
			3.5	110																	
			4	109.5																	
			4.5	109																	
			5	108.5																	
		END OF BOREHOLE																			



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CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW103			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835093.36		EASTING (m): 624760.23		ELEV. (m) 113.66			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)				PL W.C. LL										
					40	80	120	160	20	40	60	80							
		asphaltic concrete (100mm)	0	113.5	13														Bentonite
		loose to compact, moist, brown sand trace silt, trace brick (FILL)	0.5	113															50 mm monitoring well was installed. water level measured on ?????, 2022: ????? mbg
			1	112.5	6								2	21	35				
			1.5	112									3	50	25				
		dense, moist, brown SANDY SILT	2	111.5	38								4	67					
			2.5	111	34								5	58	65				
			3	110.5	15								6	67	35				
		compact, wet, grey SILTY SAND	3.5	110									7	58	105				
			4	109.5	18								8	67	5				
			4.5	109	22								9	58	55				
			5	108.5	39								10	67	15				
		dense, moist, grey SANDY SILT	5.5	108														Sand	
			6	107.5														Screen + Sand	
		dense, moist, grey SILTY SAND	6.5	107	38														
			7	106.5															
		compact, moist, grey SILT some clay	7.5	106															
			8	105.5	18														
			8.5	105															
		dense, moist, grey SILTY SAND	9	104.5															

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CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW103			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835093.36		EASTING (m): 624760.23		ELEV. (m) 113.66			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)			SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS	
					N-VALUE (Blows/300mm)				PL W.C. LL										
					40	80	120	160	20	40	60								80
		dense, moist, grey SILTY SAND	9.5	104	42								11		58	<5			
		dense, moist, grey SILT trace clay	10	103.5															
			10.5	103															
			11	102.5	39								12		50				
		soft to firm, moist, grey CLAYEY SILT trace gravel, trace sand (TILL)	11.5	102															
			12	101.5															
			12.5	101	4								13		89				
			13	100.5															
			13.5	100															
			14	99.5	4								14		78				
			14.5	99															
			15	98.5															
			15.5	98	3								15		89				
			16	97.5															
			16.5	97															
			17	96.5	4								16		89				
			17.5	96															
			18	95.5															
			18.5																

	LOGGED BY: AH		DRILLING DATE: 16-June-2022	
	INPUT BY: EMZ		MONITORING DATE:	
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CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW103												
ADDRESS: 2400-2440 Dundas Street West, Toronto																				
CITY/PROVINCE: ON				NORTHING (m): 4835093.36		EASTING (m): 624760.23		ELEV. (m) 113.66												
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling																
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2												
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON										
GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS	
					N-VALUE (Blows/300mm)				PL W.C. LL											
					20	40	60	80	20	40	60	80								
		very stiff to hard, moist, grey CLAYEY SILT trace gravel, trace sand (TILL)		95	3									17		78				
19			94.5																	
19.5			94																	
20			93.5	51/275											18		82			
20.5			93																	
21			92.5																	
21.5			92	16											19		89			
22			91.5																	
22.5			91																	
23			90.5	32											20		50			
		END OF BOREHOLE																		

LOGGED BY: AH

INPUT BY: EMZ


REVIEWED BY: VN

DRILLING DATE: 16-June-2022

MONITORING DATE:

PAGE 3 OF 3

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF:												
ADDRESS: 2400-2440 Dundas Street West, Toronto								MW103S												
CITY/PROVINCE: ON				NORTHING (m):		EASTING (m):		ELEV. (m) 113.66												
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger																
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2												
SAMPLE TYPE		<input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON								
GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	(new title)	LABORATORY TESTING	WELL INSTALLATION	REMARKS	
					N-VALUE (Blows/300mm)				PL W.C. LL											
			0	113.5																
		Straight drilled to 5.5mbg to install the monitoring well	0.5	113																50 mm monitoring well was installed. water level measured on ?????, 2022: ????? mbg
			1	112.5																
			1.5	112																
			2	111.5																
			2.5	111																
			3	110.5																
			3.5	110																
			4	109.5																
			4.5	109																
			5	108.5																
		END OF BOREHOLE																		



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DRILLING DATE: 20-June-2022

MONITORING DATE:

PAGE 1 OF 1

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW104			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835169.44		EASTING (m): 624768.51		ELEV. (m) 114.02			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	


GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)		WATER CONTENT (%)			SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	(new title) SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS	
					N-VALUE (Blows/300mm)		PL	W.C.	LL								
					40	80	120	160	20								40
		asphaltic concrete (120mm)	0	114													Bentonite 50 mm monitoring well was installed. water level measured on ?????, 2022: ????? mbg
		compact to very dense, moist, brown sand and silt some gravel, trace brick (FILL)	0.5	113.5	15					9							
			1	113			60/225			2							
		moist SILTY SAND	1.5	112.5													
		loose	2	112	8					7							
		brown	2.5	111.5						16							
		compact	3	111													
		grey	3.5	110.5						17							
		compact, wet, grey SILT trace sand	4	110						16							
		grey, moist SILTY SAND	4.5	109.5													
		very dense	5	109						15							Sand Screen + Sand
			5.5	108.5	8					18							
		loose	6	108													
			6.5	107.5						20							
		compact	7	107													
			7.5	106.5													
			8	106						18							
		very dense	8.5	105.5													
			9	105													

LOGGED BY: AH	DRILLING DATE: 20&21-June-2022
INPUT BY: EMZ	MONITORING DATE:
REVIEWED BY: VN	PAGE 1 OF 4

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW104			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835169.44		EASTING (m): 624768.51		ELEV. (m) 114.02			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	


GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)	WATER CONTENT (%)	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)	PL W.C. LL							
					40 80 120 160	20 40 60 80							
		very dense, grey, moist SILTY SAND	9.5	104.5	59 ▲	19 ■	11		42	<5			
		compact, moist, grey SILT trace sand, some clay	10	104									
			10.5	103.5									
		compact, moist, grey SANDY SILT	11	103	12 ▲	18 ■	12		42				
			11.5	102.5									
			12	102									
			12.5	101.5	19 ▲	14 ■	13		33				
			13	101									
		firm, moist, grey CLAYEY SILT trace gravel, trace to some sand (TILL)	13.5	100.5									
			14	100	4 ▲	14 ■	14		78				
			14.5	99.5									
			15	99									
			15.5	98.5	8 ▲	15 ■	15		33				
			16	98									
			16.5	97.5									
			17	97	6 ▲	15 ■	16		89				
			17.5	96.5									
			18	96									
			18.5										

	LOGGED BY: AH		DRILLING DATE: 20&21-June-2022	
	INPUT BY: EMZ		MONITORING DATE:	
	REVIEWED BY: VN		PAGE 2 OF 4	

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW104											
ADDRESS: 2400-2440 Dundas Street West, Toronto																			
CITY/PROVINCE: ON				NORTHING (m): 4835169.44		EASTING (m): 624768.51		ELEV. (m) 114.02											
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling															
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2											
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON									
GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)				PL W.C. LL										
					40 80 120 160	20 40 60 80	20 40 60 80	20 40 60 80	20 40 60 80	20 40 60 80	20 40 60 80	20 40 60 80							
		moist, grey CLAYEY SILT trace gravel, trace sand (TILL)	19.5	94.5	5				15				17	44					
		firm	20	94	7				15				18	89					
		stiff	21	93															
			21.5	92.5	12				17				19	78					
			23	91	41				10				20	44					
			24.5	89.5	32				12				21	44					
		hard	25	89															
			26	88	40				11				22	56					
			27.5	86.5	55				11				23	56					
					LOGGED BY: AH				DRILLING DATE: 20&21-June-2022										
					INPUT BY: EMZ				MONITORING DATE:										
					REVIEWED BY: VN				PAGE 3 OF 4										

CLIENT: Fora Developments						PROJECT NO.: CT3488.00						RECORD OF:											
ADDRESS: 2400-2440 Dundas Street West, Toronto												MW104											
CITY/PROVINCE: ON						NORTHING (m): 4835169.44						EASTING (m): 624768.51											
						ELEV. (m) 114.02																	
CONTRACTOR: Profile Drilling Inc.						METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling																	
BOREHOLE DIAMETER (cm): 15				WELL DIAMETER (cm): 5				SCREEN SLOT #: 10				SAND TYPE: 2				SEALANT TYPE: 2							
SAMPLE TYPE <input type="checkbox"/> AUGER				<input checked="" type="checkbox"/> DRIVEN				<input checked="" type="checkbox"/> CORING				<input type="checkbox"/> DYNAMIC CONE				<input type="checkbox"/> SHELBY				<input type="checkbox"/> SPLIT SPOON			
GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/OV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS										
		hard, moist, grey CLAYEY SILT trace gravel, trace sand (TILL)	28	86																			
			28.5	85.5																			
			29	85	53 ▲	10 ■	24		56														
			29.5	84.5																			
			30	84																			
			30.5	83.5	50/75 ▲	4 ■	25		67														
		grey weathered SHALE END OF BOREHOLE																					
						LOGGED BY: AH				DRILLING DATE: 20&21-June-2022													
						INPUT BY: EMZ				MONITORING DATE:													
						REVIEWED BY: VN				PAGE 4 OF 4													

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF:												
ADDRESS: 2400-2440 Dundas Street West, Toronto								MW104S												
CITY/PROVINCE: ON				NORTHING (m):		EASTING (m):		ELEV. (m) 114.02												
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger																
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2												
SAMPLE TYPE		<input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON								
GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS	
					40	80	120	160	PL	W.C.	LL	20								40
		Straight drilled to 5.5mbg to install the monitoring well	0	114																
			0.5	113.5																
			1	113																
			1.5	112.5																
			2	112																
			2.5	111.5																
			3	111																
			3.5	110.5																
			4	110																
			4.5	109.5																
			5	109																
		END OF BOREHOLE																		



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DRILLING DATE: 22-June-2022

MONITORING DATE:

PAGE 1 OF 1

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW105							
ADDRESS: 2400-2440 Dundas Street West, Toronto															
CITY/PROVINCE: ON				NORTHING (m): 4835142.61		EASTING (m): 624790.94		ELEV. (m) 114.17							
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling											
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2							
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON					
GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)	WATER CONTENT (%)			SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					40 80 120 160 N-VALUE (Blows/300mm)	PL	W.C.	LL							
		asphaltic concrete (120mm) moist, brown sand and gravel trace asphalt, trace wood (FILL)	0	114	69					1	42	<5			Bentonite
		dense to very dense	0.5	113.5	34					2	21	<5			50 mm monitoring well was installed. water level measured on ?????, 2022: ????? mbg
		loose	2	112.5	4					3	21	<5			
		SILTY SAND	2.5	112	22					4	42	65			Sand
		compact moist brown	3	111.5											Screen + Sand
		dense wet	3.5	111	49					5	58	200			
		compact grey	4.5	110	27					6	67	230			
		very dense, moist, grey SANDY SILT	5.5	109.5	10					7	67	110			
		loose, moist, grey SILTY SAND	6.5	108.5	56					8	58	<5			
		dense, moist, grey SILT trace sand, trace clay	7.5	107.5	5					9	33	50			
			8	107	40					10	50	55			
			8.5	106.5											
			9	106											
			9.5	105.5											
			10	105											
						LOGGED BY: AH		DRILLING DATE: 23&24&27-June-2022							
						INPUT BY: EMZ		MONITORING DATE:							
						REVIEWED BY: VN		PAGE 1 OF 4							

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW105			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835142.61		EASTING (m): 624790.94		ELEV. (m) 114.17			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)	WATER CONTENT (%)	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)	PL W.C. LL							
					40 80 120 160	20 40 60 80							
		very dense, moist, grey SILT trace sand, trace clay	9.5	104.5	50 ▲		11		58	<5			
		very dense, moist, grey SANDY SILT	10	104									
			10.5	103.5									
			11	103	53 ▲		12		78				
		compact, moist, grey SILT trace sand	11.5	102.5									
			12	102									
			12.5	101.5	26 ▲		13		42				
			13	101									
		firm, moist, grey CLAYEY SILT trace gravel, trace sand (TILL)	13.5	100.5									
			14	100	5 ▲		14		67				
			14.5	99.5									
			15	99									
			15.5	98.5	8 ▲		15		89				
			16	98									
			16.5	97.5									
			17	97	6 ▲		16		100				
			17.5	96.5									
			18	96									
			18.5										

	LOGGED BY: AH		DRILLING DATE: 23&24&27-June-2022	
	INPUT BY: EMZ		MONITORING DATE:	
	REVIEWED BY: VN		PAGE 2 OF 4	

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW105			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835142.61		EASTING (m): 624790.94		ELEV. (m) 114.17			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)	WATER CONTENT (%)	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)	PL W.C. LL							
					20 40 60 80	20 40 60 80							
		moist, grey CLAYEY SILT trace gravel, trace sand (TILL)		95.5	16		17		78				
			19	95									
			19.5	94.5									
			20	94	5		18		89				
		firm to very stiff	20.5	93.5									
			21	93									
			21.5	92.5	13		19		78				
			22	92									
			22.5	91.5									
			23	91	41		20		56				
			23.5	90.5									
			24	90									
			24.5	89.5	38		21		44				
		hard	25	89									
			25.5	88.5									
			26	88	70/275		22		24				
			26.5	87.5									
			27	87									
			27.5	86.5	64		23		28				

LOGGED BY: AH

DRILLING DATE: 23&24&27-June-2022

INPUT BY: EMZ

MONITORING DATE:

REVIEWED BY: VN

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CLIENT: Fora Developments						PROJECT NO.: CT3488.00						RECORD OF:					
ADDRESS: 2400-2440 Dundas Street West, Toronto												MW105					
CITY/PROVINCE: ON						NORTHING (m): 4835142.61						EASTING (m): 624790.94					
CONTRACTOR: Profile Drilling Inc.						METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling											
BOREHOLE DIAMETER (cm): 15						WELL DIAMETER (cm): 5						SCREEN SLOT #: 10					
						SAND TYPE: 2						SEALANT TYPE: 2					
SAMPLE TYPE						AUGER						DRIVEN					
						CORING						DYNAMIC CONE					
						SHELBY						SPLIT SPOON					
GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS				
		hard, moist, grey CLAYEY SILT trace gravel, trace sand (TILL)	28	86													
			28.5	85.5													
			29	85	57		24		44								
			29.5	84.5													
			30	84													
			30.5	83.5	50/75		25		67								
		grey weathered SHALE END OF BOREHOLE															
						LOGGED BY: AH						DRILLING DATE: 23&24&27-June-2022					
						INPUT BY: EMZ						MONITORING DATE:					
						REVIEWED BY: VN						PAGE 4 OF 4					

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW106			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835158.35		EASTING (m): 624741.80		ELEV. (m) 113.98			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling + Rock							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS	
					N-VALUE (Blows/300mm)				PL W.C. LL											
					40	80	120	160	20	40	60	80								
		asphaltic concrete (120mm)	0																	
		compact, moist, brown gravelly sand trace asphalt (FILL)	0.5	113.5									1		33	30				
		compact, moist, brown silty sand trace gravel, trace wood trace brick (FILL)	1	113									2		33	70				
		compact to dense, brown SILTY SAND	2	112									3		33	<5				
		moist	2.5	111.5									4		50	65				
		wet	3	111																
			3.5	110.5									5		58	200				
		compact, wet, grey SANDY SILT	4	110									6		50	230				
			4.5	109.5																
			5	109									7		50	110				
		very loose, moist, grey SILT trace sand, trace clay	5.5	108.5									8		42	<5				
		dense, moist, grey SILTY SAND	6	108																
			6.5	107.5									9		33	50				
		very dense, moist, grey SANDY SILT	7	107																
			7.5	106.5																
			8	106									10		71	55				
			8.5	105.5																
			9	105																

LOGGED BY: AH	DRILLING DATE: 29 June to 6 July-2022
INPUT BY: EMZ	MONITORING DATE:
REVIEWED BY: VN	PAGE 1 OF 4

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW106			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835158.35		EASTING (m): 624741.80		ELEV. (m) 113.98			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling + Rock							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	


GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)			SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS	
					N-VALUE (Blows/300mm)				PL W.C. LL										
					40	80	120	160	20	40	60								80
		grey SANDY SILT	9.5	104.5				83					11		72	<5			
		very dense																	
			10	104															
		dense	10.5	103.5															
			11	103			49						12		58				
			11.5	102.5															
		wet	12	102															
		compact	12.5	101.5			19						13		44				
			13	101															
		grey, moist CLAYEY SILT trace gravel, trace sand (TILL)	13.5	100.5															
			14	100			5						14		67				
			14.5	99.5															
		firm	15	99															
			15.5	98.5			4						15		67				
			16	98															
			16.5	97.5															
			17	97			5						16		78				
			17.5	96.5															
		stiff	18	96															
			18.5	95.5															

LOGGED BY: AH	DRILLING DATE: 29 June to 6 July-2022
INPUT BY: EMZ	MONITORING DATE:
REVIEWED BY: VN	PAGE 2 OF 4


CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW106			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835158.35		EASTING (m): 624741.80		ELEV. (m) 113.98			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling + Rock							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)	WATER CONTENT (%)	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)	PL W.C. LL							
					20 40 60 80	20 40 60 80							
		grey, moist CLAYEY SILT trace gravel, trace sand (TILL) <div style="display: flex; justify-content: space-between; padding: 0 10px;"> stiff very stiff to hard </div>	19	95			17		78				
	19.5		94.5										
	20		94	▲ 9			18		56				
	20.5		93.5										
	21		93										
	21.5		92.5	▲ 9			19		67				
	22		92										
	22.5		91.5										
	23		91	52 ▲			20		67				
	23.5		90.5										
	24		90										
	24.5		89.5	41 ▲			21		33				
	25		89										
	25.5		88.5										
	26		88	▲ 18			22		78				
	26.5	87.5											
	27	87											
	27.5	86.5					23		22				

LOGGED BY: AH	DRILLING DATE: 29 June to 6 July-2022
INPUT BY: EMZ	MONITORING DATE:
REVIEWED BY: VN	PAGE 3 OF 4

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW106											
ADDRESS: 2400-2440 Dundas Street West, Toronto																			
CITY/PROVINCE: ON				NORTHING (m): 4835158.35		EASTING (m): 624741.80		ELEV. (m) 113.98											
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling + Rock															
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2											
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON									
GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					40	80	120	160	PL	W.C.	LL	20							
		hard, moist, grey CLAYEY SILT trace gravel, trace sand (TILL)	28	86															
			28.5	85.5															
			29	85															
			29.5	84.5															
			30	84															
			30.5	83.5															
			31	83															
			31.5	82.5															
		grey weathered SHALE	32	82															
			32.5	81.5															
		grey SHALE with 5-18cm limestone interbeds moderately weathered intensely to moderately fractured moderately hard	33	81															
			33.5	80.5															
			34	80															
		grey SHALE with 5-18cm limestone interbeds moderately weathered intensely fractured moderately hard intermittent 5-8cm clay layers at 34.5 35.5mbg	34.5	79.5															
			35	79															
			35.5	78.5															
		END OF BOREHOLE																	
										LOGGED BY: AH		DRILLING DATE: 29 June to 6 July-2022							
										INPUT BY: EMZ		MONITORING DATE:							
										REVIEWED BY: VN		PAGE 4 OF 4							

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF:											
ADDRESS: 2400-2440 Dundas Street West, Toronto								MW106S											
CITY/PROVINCE: ON				NORTHING (m):		EASTING (m):		ELEV. (m) 113.98											
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger															
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2											
SAMPLE TYPE		<input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON							
GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)				PL W.C. LL										
			0																
		Straight drilled to 5.5mbg to install the monitoring well	0.5	113.5															50 mm monitoring well was installed. water level measured on ?????, 2022: ????? mbg
	1		113																
	1.5		112.5																
	2		112																
	2.5		111.5																
	3		111																
	3.5		110.5																
	4		110																
	4.5		109.5																
	5		109																
			5	109															
				108.5															
		END OF BOREHOLE																	



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DRILLING DATE: 06-July-2022
 MONITORING DATE:
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CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW107			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835115.20		EASTING (m): 624776.88		ELEV. (m) 113.74			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling + Rock							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)	WATER CONTENT (%)	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)	PL W.C. LL							
					40 80 120 160	20 40 60 80							
		asphaltic concrete (120mm)	0	113.5	24	5	1A		50				Bentonite 50 mm monitoring well was installed. water level measured on ?????, 2022: ????? mbg
		compact, moist, brown gravelly sand (FILL)	0.5	113			1B		70				
		SILTY SAND	1	112.5	11	0.3	2		33				
		loose to compact moist brown	1.5	112	6	9	3		50				
		dense to very dense grey	2	111.5		8	4		50				
		wet	2.5	111	18		5		50				
		dense to very dense grey	3	110.5	47	18	6		58				
		dense to very dense grey	3.5	110		16	7		58				
		compact to very dense, moist, grey SANDY SILT	4	109.5	45		8		58				
		compact to very dense, moist, grey SANDY SILT	4.5	109	68	14	9		50				
		compact to very dense, moist, grey SANDY SILT	5	108.5		13	10		42				Sand
		compact to very dense, moist, grey SANDY SILT	5.5	108	44	18							Screen + Sand
		compact to very dense, moist, grey SANDY SILT	6	107.5	23								
		compact to very dense, moist, grey SANDY SILT	6.5	107		21							
		compact to very dense, moist, grey SANDY SILT	7	106.5									
		compact to very dense, moist, grey SANDY SILT	7.5	106									
		compact to very dense, moist, grey SANDY SILT	8	105.5	74								
		compact to very dense, moist, grey SANDY SILT	8.5	105									
		compact to very dense, moist, grey SANDY SILT	9	104.5									

LOGGED BY: AH	DRILLING DATE: 5 to 11 July-2022
INPUT BY: EMZ	MONITORING DATE:
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CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW107			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835115.20		EASTING (m): 624776.88		ELEV. (m) 113.74			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling + Rock							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)	WATER CONTENT (%)	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)	PL W.C. LL							
					40 80 120 160	20 40 60 80							
		very dense, moist, grey SANDY SILT	9.5	104	53 ▲	17 ■	11		58	75			
		soft, moist, grey CLAYEY SILT	10	103.5									
			10.5	103									
			11	102.5	3 ▲	17 ■	12		50	<5			
		soft to firm, moist, grey CLAYEY SILT trace gravel, trace sand (TILL)	11.5	102									
			12	101.5	3 ▲	17 ■	13		100				
			12.5	101									
			13	100.5									
			13.5	100									
			14	99.5	6 ▲	18 ■	14		56				
			14.5	99									
			15	98.5									
			15.5	98	4 ▲	17 ■	15		89				
			16	97.5									
			16.5	97									
			17	96.5	3 ▲	16 ■	16		67				
			17.5	96									
			18	95.5									
			18.5										

	LOGGED BY: AH		DRILLING DATE: 5 to 11 July-2022	
	INPUT BY: EMZ		MONITORING DATE:	
	REVIEWED BY: VN		PAGE 2 OF 5	

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW107			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835115.20		EASTING (m): 624776.88		ELEV. (m) 113.74			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling + Rock							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)	WATER CONTENT (%)	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)	PL W.C. LL							
					40 80 120 160	20 40 60 80							
		stiff to hard, moist, grey CLAYEY SILT trace gravel, trace sand (TILL)		95	7	15	17		100				
19			94.5										
19.5			94										
20			93.5	14			18		78				
20.5			93										
21			92.5										
21.5			92	13	13	19		67					
22			91.5										
22.5			91										
23			90.5	40	12	20		56					
23.5			90										
24			89.5										
24.5			89	35	12	21		67					
25			88.5										
25.5			88										
26			87.5	52	15	22		28					
26.5			87										
27			86.5										
27.5			86	46	13	23		56					

	LOGGED BY: AH		DRILLING DATE: 5 to 11 July-2022	
	INPUT BY: EMZ		MONITORING DATE:	
	REVIEWED BY: VN		PAGE 3 OF 5	

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW107			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835115.20		EASTING (m): 624776.88		ELEV. (m) 113.74			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling + Rock							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)				PL W.C. LL										
					40	80	120	160	20	40	60	80							
		hard, moist, grey CLAYEY SILT trace gravel, trace sand (TILL)	28	85.5															
			28.5	85															
			29	84.5									24		67				
			29.5	84															
			30	83.5															
			30.5	83									25		58				
			31	82.5															
		grey weathered SHALE	31.5	82									26		38				
		grey SHALE with 3-19cm limestone interbeds highly weathered very intensely fractured moderately hard	32	81.5															
			32.5	81															
		grey SHALE with 3-19cm limestone interbeds moderately weathered intensely fractured moderately hard	33	80.5															
			33.5	80															
			34	79.5															
		grey SHALE with 3-19cm limestone interbeds slightly weathered intensely to moderately fractured hard	34.5	79															
			35	78.5															
			35.5	78															
		grey SHALE with 3-19cm limestone interbeds slightly weathered intensely to moderately fractured hard	36	77.5															
			36.5	77															
			37																

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INPUT BY: EMZ	MONITORING DATE:
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UCS at 35.71 mbg: 36.0 MPa

 UCS at 36.17 mbg: 20.5 MPa
 UCS at 36.35 mbg: 69.6 MPa

 UCS at 36.55 mbg: 36.2 MPa

CLIENT: Fora Developments						PROJECT NO.: CT3488.00						RECORD OF:							
ADDRESS: 2400-2440 Dundas Street West, Toronto												MW107							
CITY/PROVINCE: ON						NORTHING (m): 4835115.20						EASTING (m): 624776.88							
												ELEV. (m) 113.74							
CONTRACTOR: Profile Drilling Inc.						METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling + Rock													
BOREHOLE DIAMETER (cm): 15				WELL DIAMETER (cm): 5				SCREEN SLOT #: 10				SAND TYPE: 2				SEALANT TYPE: 2			
SAMPLE TYPE		<input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input checked="" type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON							
GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 N-VALUE (Blows/300mm)	WATER CONTENT (%) ▲ PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL) (new title)	LABORATORY TESTING	WELL INSTALLATION	REMARKS						
		grey SHALE with 3-19cm limestone interbeds slightly weathered intensely to moderately fractured hard END OF BOREHOLE	76.5 37.5																
<div style="display: flex; justify-content: space-between;"> LOGGED BY: AH DRILLING DATE: 5 to 11 July-2022 </div> <div style="display: flex; justify-content: space-between;"> INPUT BY: EMZ MONITORING DATE: </div> <div style="display: flex; justify-content: space-between;"> REVIEWED BY: VN PAGE 5 OF 5 </div>																			

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF:												
ADDRESS: 2400-2440 Dundas Street West, Toronto								MW107S												
CITY/PROVINCE: ON				NORTHING (m):		EASTING (m):		ELEV. (m) 113.74												
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger																
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2												
SAMPLE TYPE		<input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON								
GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS	
					N-VALUE (Blows/300mm)				PL W.C. LL											
			0	113.5																
		Straight drilled to 5.5mbg to install the monitoring well	0.5	113																50 mm monitoring well was installed. water level measured on ?????, 2022: ????? mbg
	1																			
	1.5																			
	2																			
	2.5																			
	3																			
	3.5																			
	4																			
	4.5																			
	5																			
		END OF BOREHOLE																		



LOGGED BY: AH
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DRILLING DATE: 11-July-2022
 MONITORING DATE:
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CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW108			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835134.68		EASTING (m): 624751.79		ELEV. (m) 113.84			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)		WATER CONTENT (%)			SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)		PL W.C. LL									
					40	80	20	40	60							
		asphaltic concrete (110mm)	0													Bentonite
		compact to very dense, moist, brown gravelly sand trace asphalt (FILL)	0.5	113.5	24		7			1		50	100			50 mm monitoring well was installed. water level measured on ?????, 2022: ????? mbg
			1	113	52/200		5			2		33	95			
		compact, moist, brown SANDY SILT	1.5	112.5												
			2	112	15		12			3		50	145			
		SAND some silt, trace clay moist brown	2.5	111.5			19									
		compact	3	111						4		50	250			
			3.5	110.5	20		19			5		50	510			
			4	110						6		58	380			
		dense to very dense grey	4.5	109.5	46		18									
			5	109			17			7		58	750			
		dense to very dense, moist, grey SILT trace sand, some clay	5.5	108.5			12			8		58	260			
			6	108	50											
			6.5	107.5	49		16			9		50				
		firm, wet, grey CLAYEY SILT trace sand	7	107												
			7.5	106.5												
			8	106	6		23			10		42	70			
		very dense, moist, grey SILTY SAND	8.5	105.5												
			9	105												

LOGGED BY: AH	DRILLING DATE: 12&13&14-July-2022
INPUT BY: EMZ	MONITORING DATE:
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CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW108			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835134.68		EASTING (m): 624751.79		ELEV. (m) 113.84			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)	WATER CONTENT (%)	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)	PL W.C. LL							
					40 80 120 160	20 40 60 80							
		very dense, moist, grey SILTY SAND	9.5	104.5	63 ▲	15 ■	11		58	55			
		compact, moist, grey SILT trace sand, some clay	10	104									
			10.5	103.5									
			11	103	23 ▲	15 ■	12		50	<5			
		moist, grey CLAYEY SILT trace gravel, trace to some sand (TILL)	11.5	102.5									
			12	102									
			12.5	101.5	9 ▲	16 ■	13		100				
			13	101									
		firm to stiff	13.5	100.5									
			14	100	4 ▲	17 ■	14		56				
			14.5	99.5									
			15	99									
		soft	15.5	98.5	3 ▲	17 ■	15		89				
			16	98									
			16.5	97.5									
			17	97	10 ▲	16 ■	16		67				
			17.5	96.5									
		stiff	18	96									
			18.5	95.5									

	LOGGED BY: AH		DRILLING DATE: 12&13&14-July-2022	
	INPUT BY: EMZ		MONITORING DATE:	
	REVIEWED BY: VN		PAGE 2 OF 4	

CLIENT: Fora Developments				PROJECT NO.: CT3488.00				RECORD OF: MW108			
ADDRESS: 2400-2440 Dundas Street West, Toronto											
CITY/PROVINCE: ON				NORTHING (m): 4835134.68		EASTING (m): 624751.79		ELEV. (m) 113.84			
CONTRACTOR: Profile Drilling Inc.				METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling							
BOREHOLE DIAMETER (cm): 15		WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2		SEALANT TYPE: 2			
SAMPLE TYPE <input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON	

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)	WATER CONTENT (%)	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)	PL W.C. LL							
					20 40 60 80	20 40 60 80							
		firm to hard, moist, grey CLAYEY SILT trace gravel, trace sand (TILL)		95	8	17	17		100				
19	94.5												
19.5	94		9	16	18		78						
20	93.5												
20.5	93												
21	92.5		7	13	19		67						
21.5	92												
22	91.5												
22.5	91		29	11	20		56						
23	90.5												
23.5	90												
24	89.5		49	10	21		67						
24.5	89												
25	88.5												
25.5	88												
26	87.5		29	10	22		28						
26.5	87												
27	86.5												
27.5			40	9	23		56						

	LOGGED BY: AH		DRILLING DATE: 12&13&14-July-2022	
	INPUT BY: EMZ		MONITORING DATE:	
	REVIEWED BY: VN		PAGE 3 OF 4	

CLIENT: Fora Developments						PROJECT NO.: CT3488.00							RECORD OF:						
ADDRESS: 2400-2440 Dundas Street West, Toronto						MW108													
CITY/PROVINCE: ON						NORTHING (m): 4835134.68					EASTING (m): 624751.79				ELEV. (m) 113.84				
CONTRACTOR: Profile Drilling Inc.						METHOD: Hollow Stem Auger + Mud Rotary + Split Spoon Sampling													
BOREHOLE DIAMETER (cm): 15			WELL DIAMETER (cm): 5			SCREEN SLOT #: 10			SAND TYPE: 2				SEALANT TYPE: 2						
SAMPLE TYPE		<input type="checkbox"/> AUGER		<input checked="" type="checkbox"/> DRIVEN		<input checked="" type="checkbox"/> CORING		<input type="checkbox"/> DYNAMIC CONE		<input checked="" type="checkbox"/> SHELBY		<input type="checkbox"/> SPLIT SPOON							
GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION		DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) ▲ N-VALUE (Blows/300mm)			WATER CONTENT (%) PL W.C. LL			SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	(new title) SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS	
		hard, moist, grey CLAYEY SILT trace gravel, trace sand (TILL)		28	86	40	80	120	160	20	40	60	80						
				28.5	85.5														
				29	85														
				29.5	84.5	68				7				24		67			
				30	84														
				30.5	83.5														
				31	83	76				9				25		58			
				31.5	82.5														
				32	82														
		grey weathered SHALE END OF BOREHOLE				50/50				1				26		38			
						LOGGED BY: AH						DRILLING DATE: 12&13&14-July-2022							
						INPUT BY: EMZ						MONITORING DATE:							
						REVIEWED BY: VN						PAGE 4 OF 4							

CLIENT: Fora Developments					PROJECT NO.: CT3488.00					RECORD OF: MW109									
ADDRESS: 2400-2440 Dundas Street West, Toronto																			
CITY/PROVINCE: ON				NORTHING (m): 4835148.20			EASTING (m): 624759.59			ELEV. (m) 113.92									
CONTRACTOR: Profile Drilling Inc.					METHOD: Hollow Stem Auger + Split Spoon Sampling														
BOREHOLE DIAMETER (cm): 15			WELL DIAMETER (cm): 5		SCREEN SLOT #: 10		SAND TYPE: 2			SEALANT TYPE: 2									
SAMPLE TYPE		AUGER		DRIVEN		CORING		DYNAMIC CONE		SHELBY		SPLIT SPOON							
GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa)				WATER CONTENT (%)				SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
					N-VALUE (Blows/300mm)				PL W.C. LL										
		asphaltic concrete (120mm) compact, moist, brown silty sand trace gravel, trace asphalt (FILL)	0	113.5	23									1	58	55			Bentonite
		loose to compact, brown SILTY SAND	0.5	113	14									2	50	75			50 mm monitoring well was installed. water level measured on ??, 2022: ????? mbg
			1	112.5	17									3	50	115			
			1.5	112															
			2	111.5	27									4	58	360			Sand
			2.5	111															Screen + Sand
			3	110.5	9									5	50	165			
			3.5	110															
		compact to dense, moist, grey SANDY SILT	4	109.5	43									6	58	270			
			4.5	109	32									7	50	210			
			5	108.5	13									8	50	90			
			5.5	108															
			6	107.5	36									9	50	115			
			6.5																
END OF BOREHOLE																			
LOGGED BY: AH										DRILLING DATE: 14-July-2022									
INPUT BY: EMZ										MONITORING DATE:									
REVIEWED BY: VN										PAGE 1 OF 1									

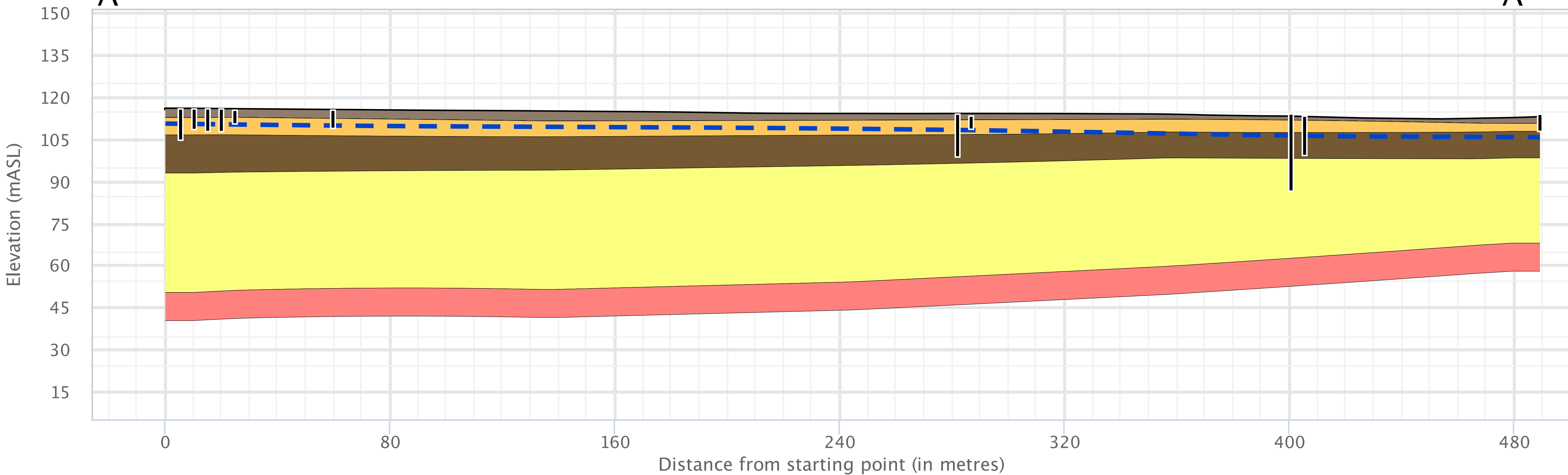
Appendix C

ORMGP Cross Section

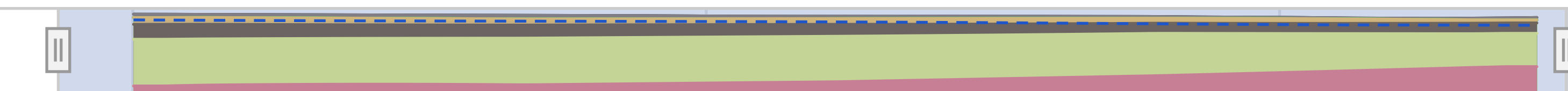
Cross Section

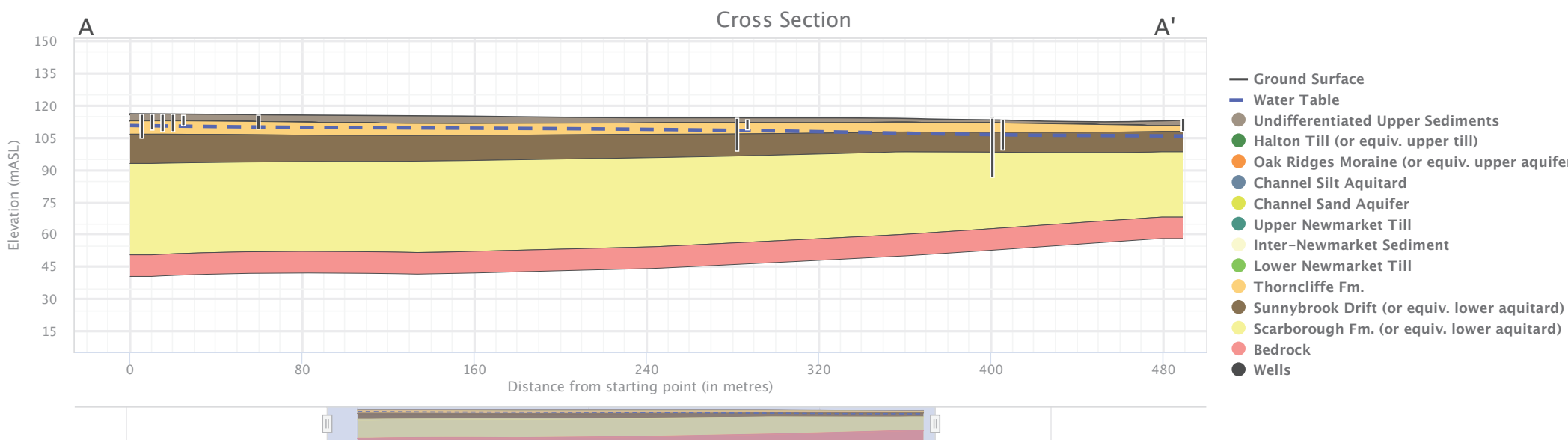
A

A'



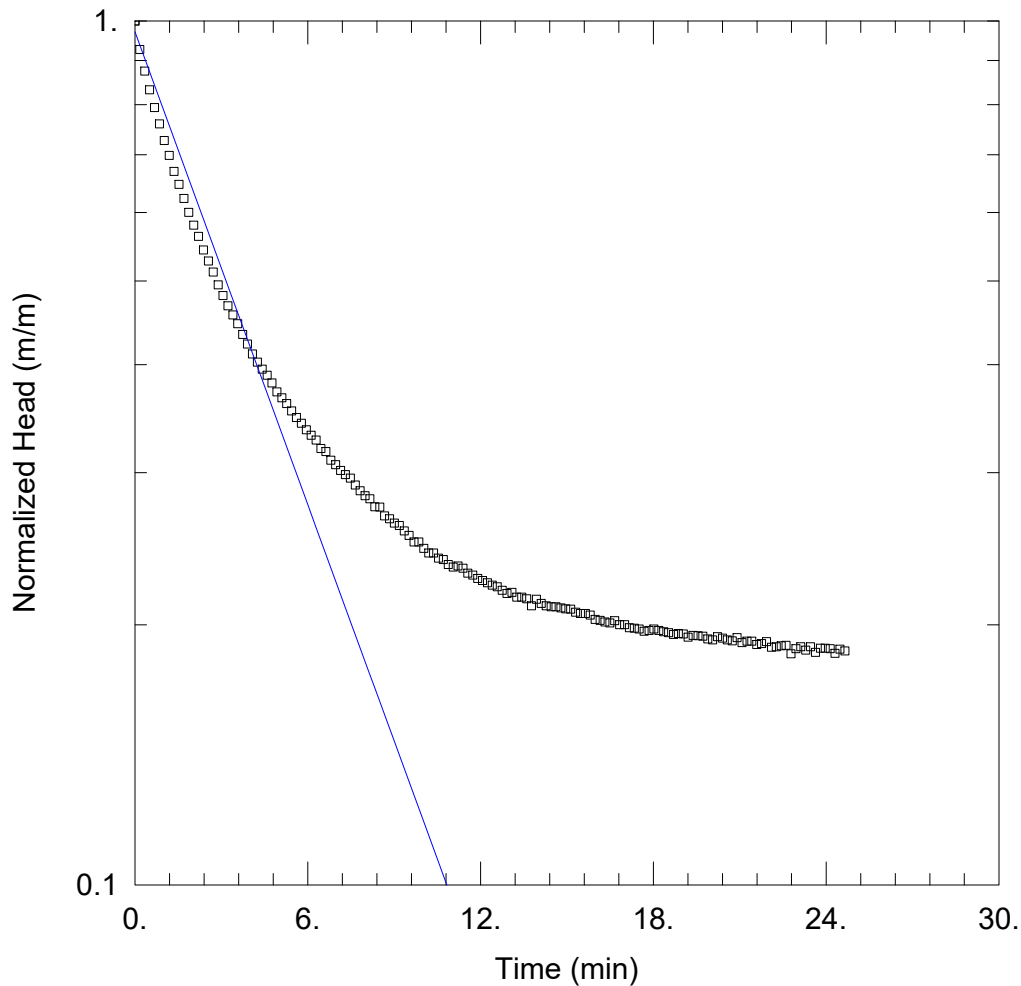
- Ground Surface
- Water Table
- Undifferentiated Upper Sediments
- Halton Till (or equiv. upper till)
- Oak Ridges Moraine (or equiv. upper aquifer)
- Channel Silt Aquitard
- Channel Sand Aquifer
- Upper Newmarket Till
- Inter-Newmarket Sediment
- Lower Newmarket Till
- Thorncliffe Fm.
- Sunnybrook Drift (or equiv. lower aquitard)
- Scarborough Fm. (or equiv. lower aquitard)
- Bedrock
- Wells





Appendix D

Hydraulic Conductivity Analysis



WELL TEST ANALYSIS

Data Set: C:\...\MW102Test1.aqt
 Date: 09/30/22

Time: 14:36:14

PROJECT INFORMATION

Company: GEMS
 Project: 22-1465
 Location: 2400 Dundas
 Test Well: MW-102
 Test Date: 22/09/28

AQUIFER DATA

Saturated Thickness: 29.02 m

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-102)

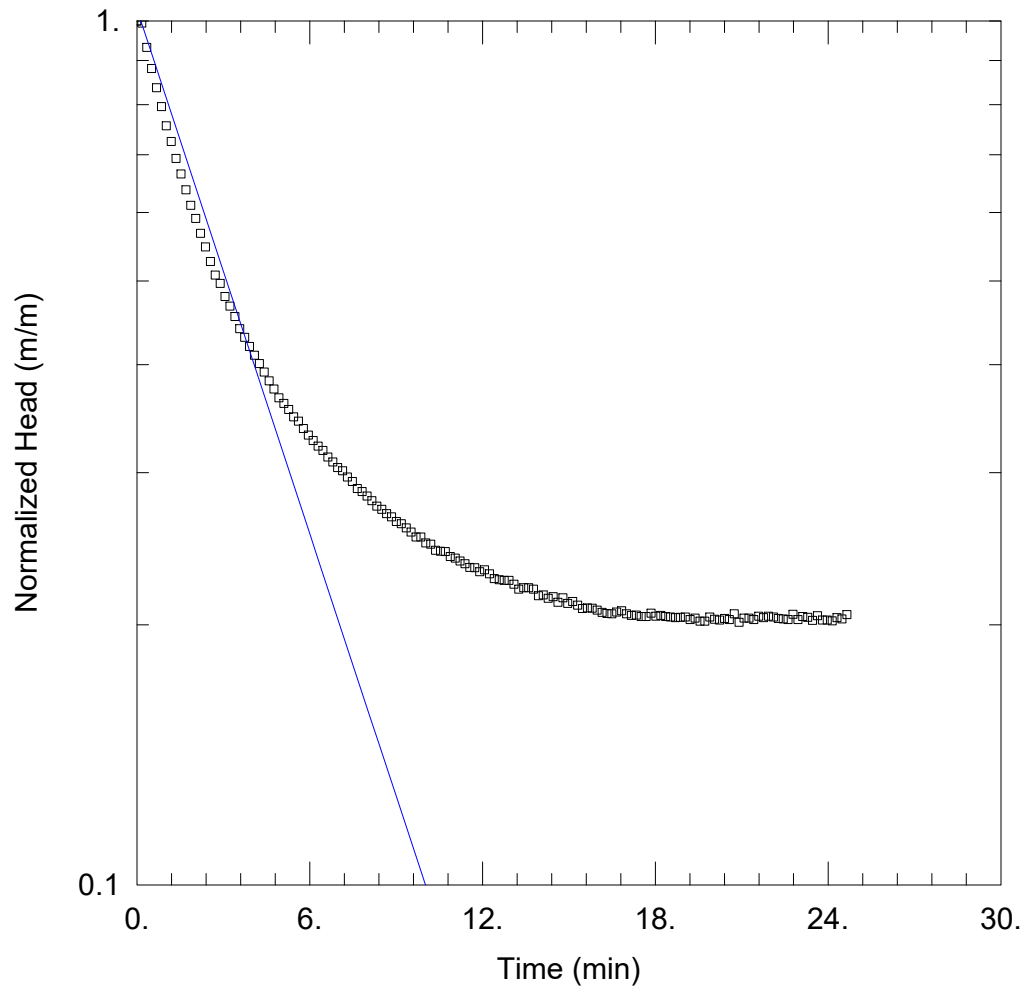
Initial Displacement: 0.4278 m
 Total Well Penetration Depth: 4.025 m
 Casing Radius: 0.026 m

Static Water Column Height: 4.025 m
 Screen Length: 3. m
 Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined
 $K = 1.881E-6$ m/sec

Solution Method: Hvorslev
 $y_0 = 0.4156$ m



WELL TEST ANALYSIS

Data Set: C:\...\MW102Test2.aqt

Date: 09/30/22

Time: 14:37:07

PROJECT INFORMATION

Company: GEMS

Project: 22-1465

Location: 2400 Dundas

Test Well: MW-102

Test Date: 22/09/28

AQUIFER DATA

Saturated Thickness: 29.02 m

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-102)

Initial Displacement: 0.4788 m

Static Water Column Height: 4.025 m

Total Well Penetration Depth: 4.025 m

Screen Length: 3. m

Casing Radius: 0.026 m

Well Radius: 0.0254 m

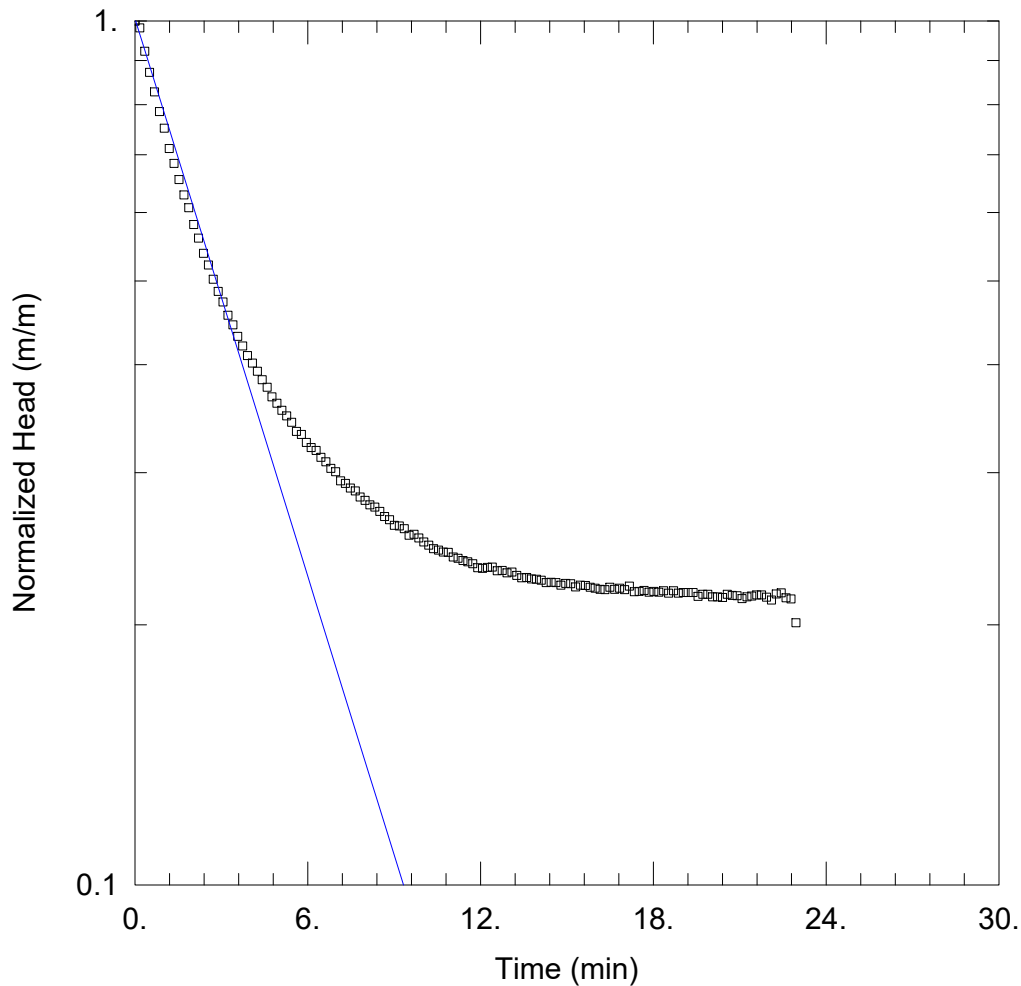
SOLUTION

Aquifer Model: Unconfined

Solution Method: Hvorslev

$K = 2.087E-6$ m/sec

$y_0 = 0.4942$ m



WELL TEST ANALYSIS

Data Set: C:\...\MW102Test3.aqt

Date: 09/30/22

Time: 14:38:58

PROJECT INFORMATION

Company: GEMS

Project: 22-1465

Location: 2400 Dundas

Test Well: MW-102

Test Date: 22/09/28

AQUIFER DATA

Saturated Thickness: 29.02 m

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-102)

Initial Displacement: 0.4844 m

Static Water Column Height: 4.025 m

Total Well Penetration Depth: 4.025 m

Screen Length: 3. m

Casing Radius: 0.026 m

Well Radius: 0.0254 m

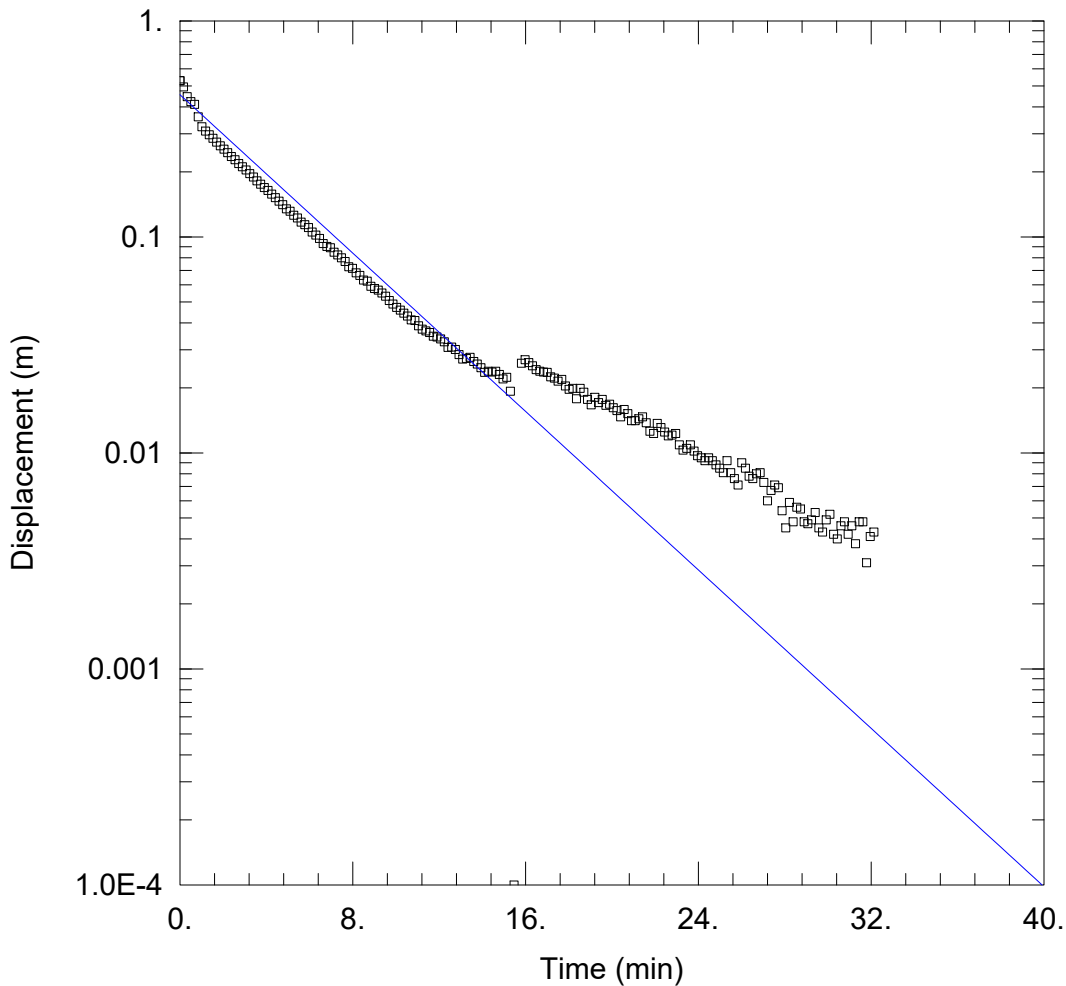
SOLUTION

Aquifer Model: Unconfined

Solution Method: Hvorslev

$K = 2.219E-6$ m/sec

$y_0 = 0.4875$ m



WELL TEST ANALYSIS

Data Set: C:\...\MW104Test1.aqt
 Date: 09/30/22

Time: 14:39:17

PROJECT INFORMATION

Company: GEMS
 Project: 22-1465
 Location: 2400 Dundas
 Test Well: MW-104
 Test Date: 22/09/28

AQUIFER DATA

Saturated Thickness: 28.85 m

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-104)

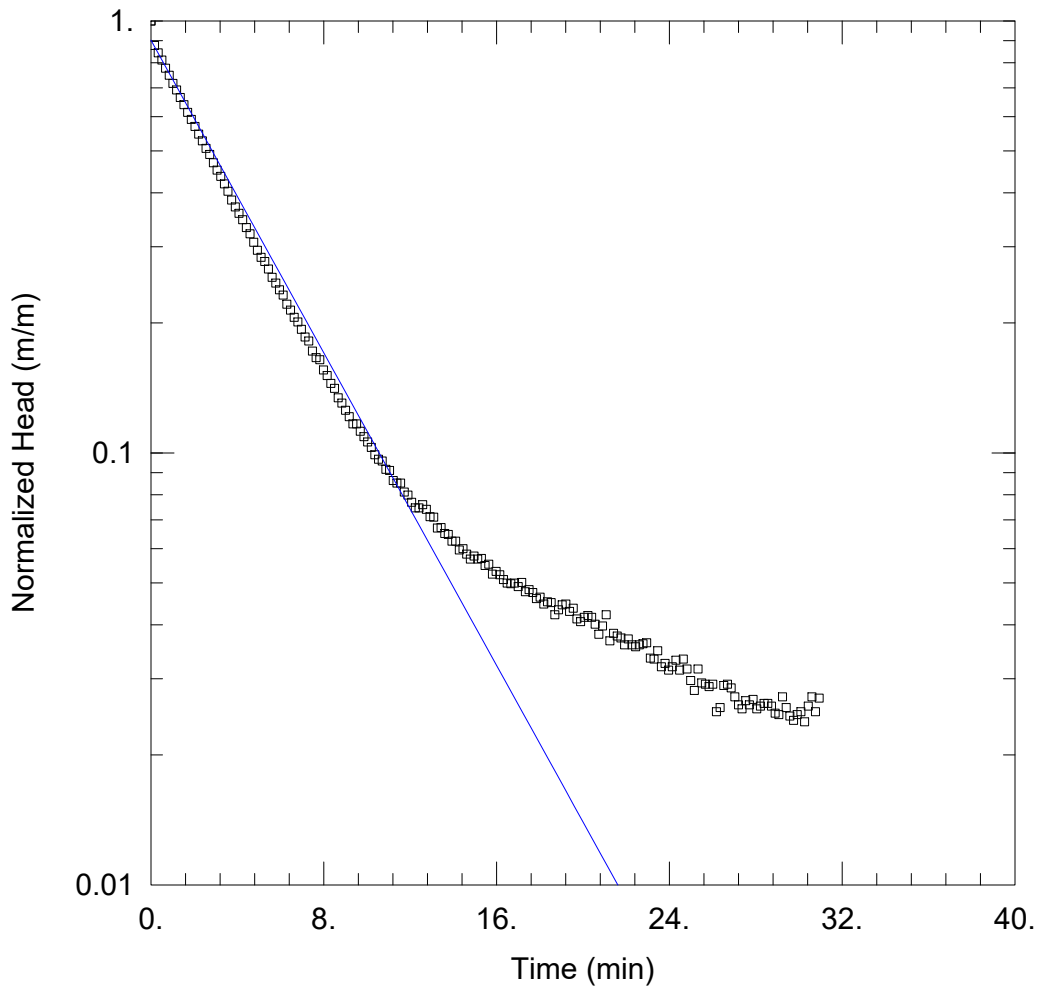
Initial Displacement: 0.5292 m
 Total Well Penetration Depth: 3.93 m
 Casing Radius: 0.026 m

Static Water Column Height: 3.93 m
 Screen Length: 3.1 m
 Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined
 $K = 1.842E-6$ m/sec

Solution Method: Hvorslev
 $y_0 = 0.4553$ m



WELL TEST ANALYSIS

Data Set: C:\...\MW104Test2.aqt
 Date: 09/30/22

Time: 14:39:36

PROJECT INFORMATION

Company: GEMS
 Project: 22-1465
 Location: 2400 Dundas
 Test Well: MW-104
 Test Date: 22/09/28

AQUIFER DATA

Saturated Thickness: 28.85 m

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-104)

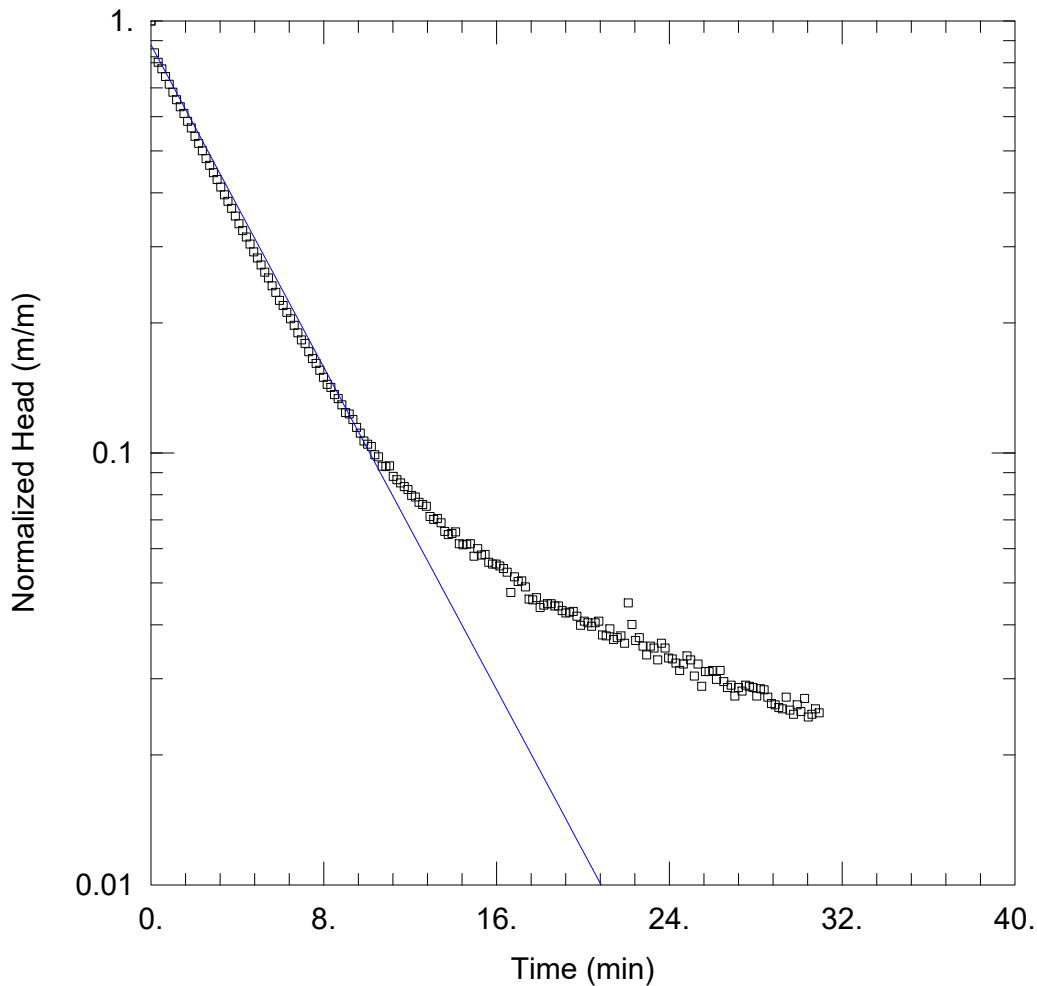
Initial Displacement: 0.5283 m
 Total Well Penetration Depth: 3.93 m
 Casing Radius: 0.026 m

Static Water Column Height: 3.93 m
 Screen Length: 3.1 m
 Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined
 $K = 1.818E-6$ m/sec

Solution Method: Hvorslev
 $y_0 = 0.4766$ m



WELL TEST ANALYSIS

Data Set: C:\...\MW104Test3.aqt
 Date: 09/30/22

Time: 14:39:54

PROJECT INFORMATION

Company: GEMS
 Project: 22-1465
 Location: 2400 Dundas
 Test Well: MW-104
 Test Date: 22/09/28

AQUIFER DATA

Saturated Thickness: 28.85 m

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-104)

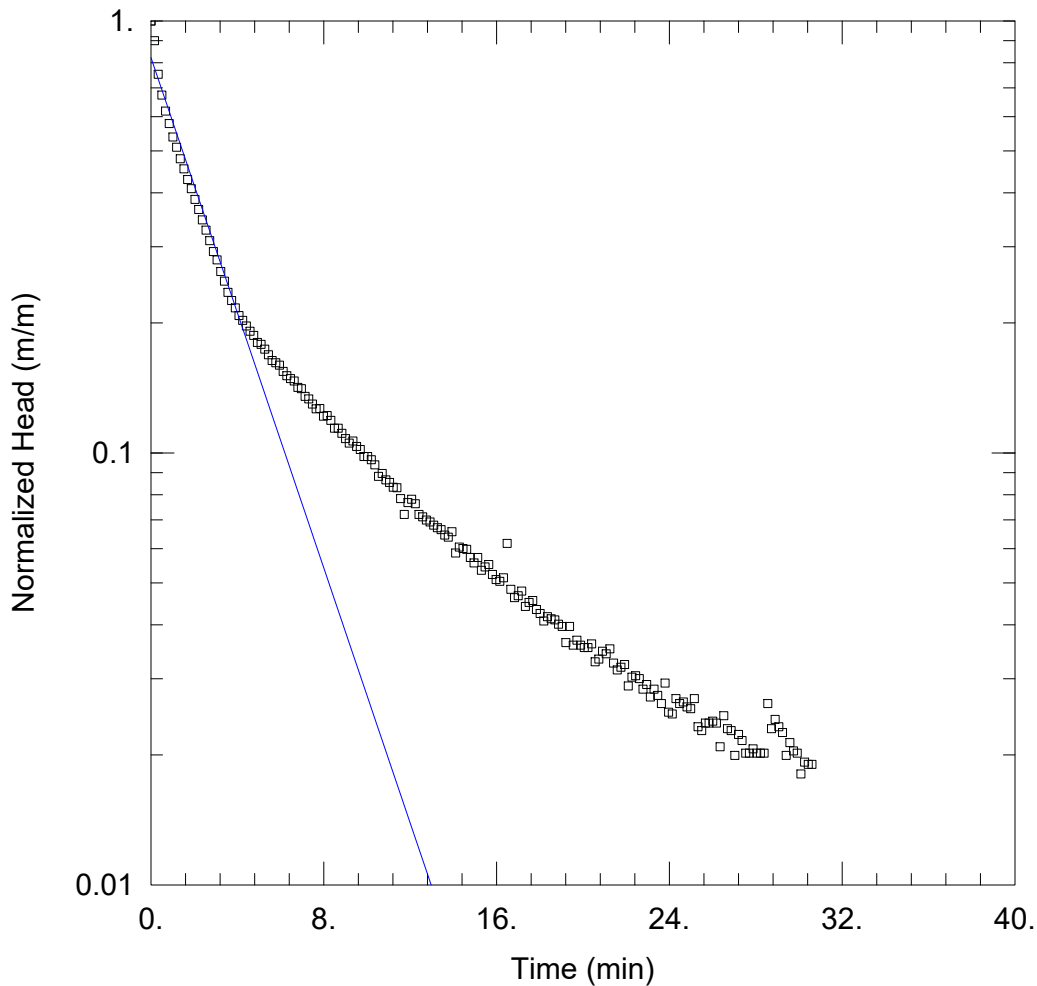
Initial Displacement: 0.5516 m
 Total Well Penetration Depth: 3.93 m
 Casing Radius: 0.026 m

Static Water Column Height: 3.93 m
 Screen Length: 3.1 m
 Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined
 $K = 1.875E-6$ m/sec

Solution Method: Hvorslev
 $y_0 = 0.4853$ m



WELL TEST ANALYSIS

Data Set: C:\...\MW105Test1.aqt
 Date: 09/30/22

Time: 14:40:18

PROJECT INFORMATION

Company: GEMS
 Project: 22-1465
 Location: 2400 Dundas
 Test Well: MW-105
 Test Date: 22/09/28

AQUIFER DATA

Saturated Thickness: 8.915 m

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-105)

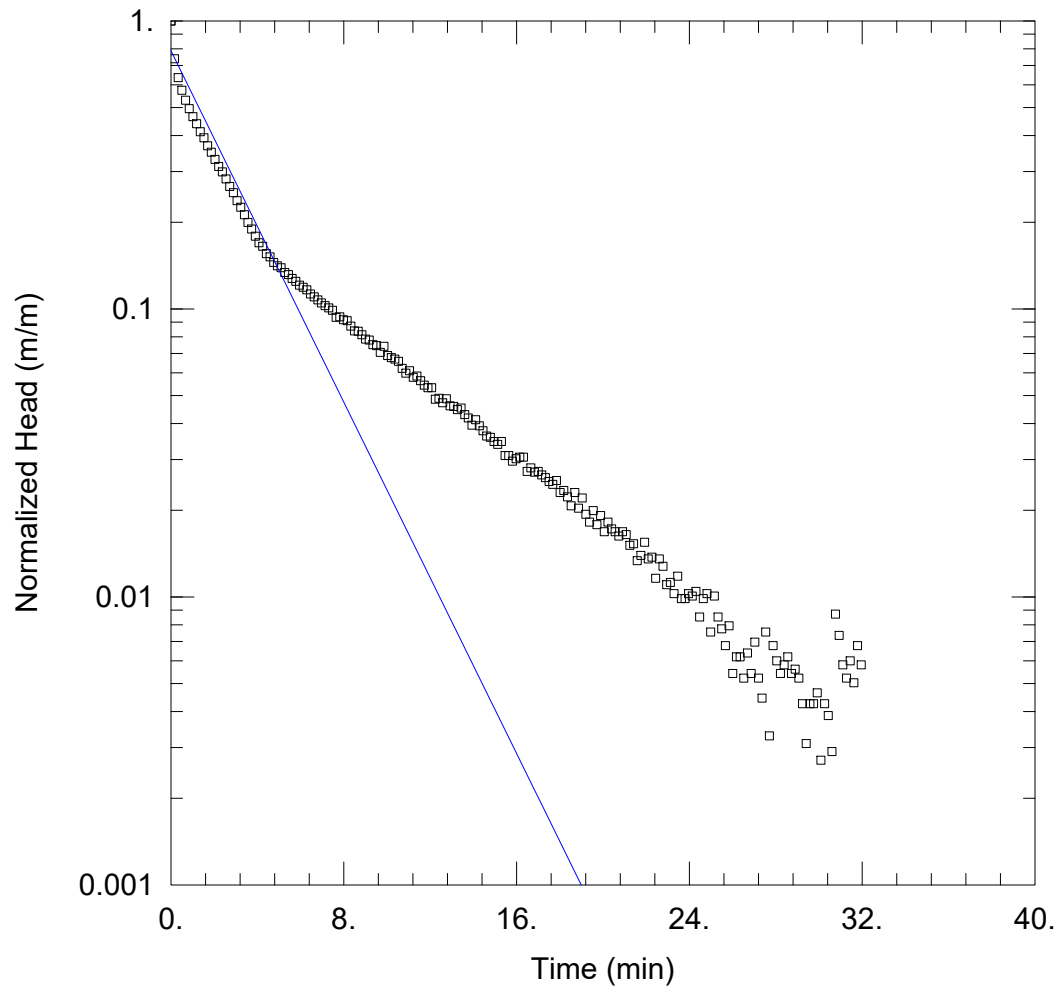
Initial Displacement: 0.4261 m
 Total Well Penetration Depth: 3. m
 Casing Radius: 0.026 m

Static Water Column Height: 2.285 m
 Screen Length: 3. m
 Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined
 $K = 3.045E-6$ m/sec

Solution Method: Hvorslev
 $y_0 = 0.3503$ m



WELL TEST ANALYSIS

Data Set: C:\...\MW105Test2.aqt
 Date: 09/30/22

Time: 14:40:56

PROJECT INFORMATION

Company: GEMS
 Project: 22-1465
 Location: 2400 Dundas
 Test Well: MW-105
 Test Date: 22/09/28

AQUIFER DATA

Saturated Thickness: 8.915 m

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-105)

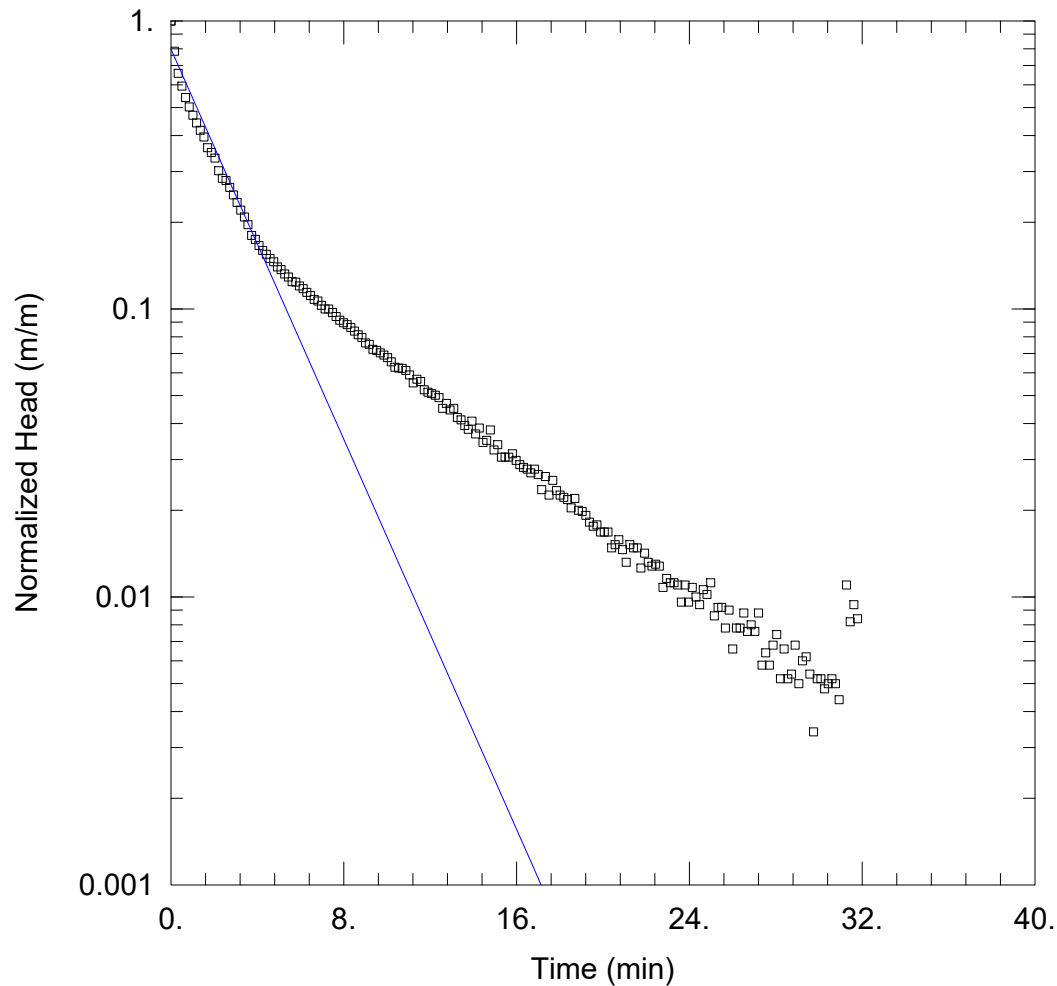
Initial Displacement: 0.5166 m
 Total Well Penetration Depth: 3. m
 Casing Radius: 0.026 m

Static Water Column Height: 2.285 m
 Screen Length: 3. m
 Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined
 $K = 3.145E-6$ m/sec

Solution Method: Hvorslev
 $y_0 = 0.4069$ m



WELL TEST ANALYSIS

Data Set: C:\...\MW105Test3.aqt
 Date: 09/30/22

Time: 14:41:40

PROJECT INFORMATION

Company: GEMS
 Project: 22-1465
 Location: 2400 Dundas
 Test Well: MW-105
 Test Date: 22/09/28

AQUIFER DATA

Saturated Thickness: 8.915 m

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-105)

Initial Displacement: 0.5003 m
 Total Well Penetration Depth: 3. m
 Casing Radius: 0.026 m

Static Water Column Height: 2.285 m
 Screen Length: 3. m
 Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined
 $K = 3.492E-6$ m/sec

Solution Method: Hvorslev
 $y_0 = 0.399$ m

Appendix E

Water Quality Analysis



Your Project #: 22-1465
Site Location: 2400-2440 DUNDAS STREET WEST
Your C.O.C. #: 891383-02-01

Attention: Mike Francis

Groundwater Environmental Management Services Inc.
8800 Dufferin St
Suite 303
Concord, ON
CANADA L4K 0C5

Report Date: 2022/09/13
Report #: R7294025
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2P3082

Received: 2022/09/02, 16:02

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Sewer Use By-Law Semivolatile Organics	1	2022/09/08	2022/09/09	CAM SOP 00301	EPA 8270 m
Biochemical Oxygen Demand (BOD)	1	2022/09/03	2022/09/08	CAM SOP-00427	SM 23 5210B m
Chromium (VI) in Water	1	N/A	2022/09/06	CAM SOP-00436	EPA 7199 m
Total Cyanide	1	2022/09/06	2022/09/06	CAM SOP-00457	OMOE E3015 5 m
Fluoride	1	2022/09/06	2022/09/07	CAM SOP-00449	SM 23 4500-F C m
Mercury in Water by CVAA	1	2022/09/07	2022/09/07	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by ICPMS	1	N/A	2022/09/07	CAM SOP-00447	EPA 6020B m
E.coli, (CFU/100mL)	1	N/A	2022/09/02	CAM SOP-00552	
Total Nonylphenol in Liquids by HPLC	1	2022/09/08	2022/09/09	CAM SOP-00313	In-house Method
Nonylphenol Ethoxylates in Liquids: HPLC	1	2022/09/08	2022/09/09	CAM SOP-00313	In-house Method
Animal and Vegetable Oil and Grease	1	N/A	2022/09/06	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2022/09/06	2022/09/06	CAM SOP-00326	EPA1664B m,SM5520B m
Polychlorinated Biphenyl in Water	1	2022/09/06	2022/09/07	CAM SOP-00309	EPA 8082A m
pH	1	2022/09/06	2022/09/07	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2022/09/07	CAM SOP-00444	OMOE E3179 m
Total Kjeldahl Nitrogen in Water	1	2022/09/06	2022/09/08	CAM SOP-00938	OMOE E3516 m
Total PAHs (1)	1	N/A	2022/09/12	CAM SOP - 00301	
Mineral/Synthetic O & G (TPH Heavy Oil) (2)	1	2022/09/06	2022/09/06	CAM SOP-00326	EPA1664B m,SM5520F m
Total Suspended Solids	1	2022/09/07	2022/09/08	CAM SOP-00428	SM 23 2540D m
Volatile Organic Compounds in Water	1	N/A	2022/09/06	CAM SOP-00228	EPA 8260C m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.



Your Project #: 22-1465
Site Location: 2400-2440 DUNDAS STREET WEST
Your C.O.C. #: 891383-02-01

Attention: Mike Francis

Groundwater Environmental Management Services Inc.
8800 Dufferin St
Suite 303
Concord, ON
CANADA L4K 0C5

Report Date: 2022/09/13
Report #: R7294025
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2P3082

Received: 2022/09/02, 16:02

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Total PAHs include only those PAHs specified in the sewer use by-law.

(2) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Jolanta Goralczyk, Project Manager

Email: Jolanta.Goralczyk@bureauveritas.com

Phone# (905)817-5751

=====

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



BUREAU
VERITAS

Bureau Veritas Job #: C2P3082

Report Date: 2022/09/13

Groundwater Environmental Management Services Inc.

Client Project #: 22-1465

Site Location: 2400-2440 DUNDAS STREET WEST

Sampler Initials: KIM

TORONTO SANITARY&STORM SEWER (100-2016)

Bureau Veritas ID				TQC848		
Sampling Date				2022/09/02 10:00		
	UNITS	Criteria	Criteria-2	DS MW101 2400-2440 DUNDAS STREET WEST	RDL	QC Batch
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	-	150	ND	0.50	8204360
Inorganics						
Total BOD	mg/L	15	300	ND	2	8205870
Fluoride (F-)	mg/L	-	10	0.12	0.10	8208618
Total Kjeldahl Nitrogen (TKN)	mg/L	-	100	0.20	0.10	8207784
pH	pH	6.0:9.5	6.0:11.5	7.67		8208640
Phenols-4AAP	mg/L	0.008	1.0	0.0012	0.0010	8209974
Total Suspended Solids	mg/L	15	350	41	10	8207336
Total Cyanide (CN)	mg/L	0.02	2	ND	0.0050	8207114
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	-	-	ND	0.50	8208309
Total Oil & Grease Mineral/Synthetic	mg/L	-	15	ND	0.50	8208304
Miscellaneous Parameters						
Nonylphenol Ethoxylate (Total)	mg/L	0.01	0.2	ND	0.005	8213253
Nonylphenol (Total)	mg/L	0.001	0.02	ND	0.001	8213242
Metals						
Chromium (VI)	ug/L	40	2000	0.76	0.50	8204578
Mercury (Hg)	mg/L	0.0004	0.01	ND	0.00010	8209297
Total Aluminum (Al)	ug/L	-	50000	460	4.9	8209357
Total Antimony (Sb)	ug/L	-	5000	ND	0.50	8209357
Total Arsenic (As)	ug/L	20	1000	1.3	1.0	8209357
Total Cadmium (Cd)	ug/L	8	700	ND	0.090	8209357
Total Chromium (Cr)	ug/L	80	4000	ND	5.0	8209357
Total Cobalt (Co)	ug/L	-	5000	ND	0.50	8209357
Total Copper (Cu)	ug/L	40	2000	1.8	0.90	8209357
No Fill	No Exceedance					
Grey	Exceeds 1 criteria policy/level					
Black	Exceeds both criteria/levels					
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
Criteria: Toronto Storm Sewer Discharge Use By-Law						
Criteria-2: Toronto Sanitary and Combined Sewers Discharge Guidelines. Referenced to the Chapter 681.						
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.						



TORONTO SANITARY&STORM SEWER (100-2016)

Bureau Veritas ID				TQC848		
Sampling Date				2022/09/02 10:00		
	UNITS	Criteria	Criteria-2	DS MW101 2400-2440 DUNDAS STREET WEST	RDL	QC Batch
Total Lead (Pb)	ug/L	120	1000	0.62	0.50	8209357
Total Manganese (Mn)	ug/L	50	5000	170	2.0	8209357
Total Molybdenum (Mo)	ug/L	-	5000	1.9	0.50	8209357
Total Nickel (Ni)	ug/L	80	2000	3.4	1.0	8209357
Total Phosphorus (P)	ug/L	400	10000	ND	100	8209357
Total Selenium (Se)	ug/L	20	1000	ND	2.0	8209357
Total Silver (Ag)	ug/L	120	5000	ND	0.090	8209357
Total Tin (Sn)	ug/L	-	5000	2.2	1.0	8209357
Total Titanium (Ti)	ug/L	-	5000	15	5.0	8209357
Total Zinc (Zn)	ug/L	40	2000	21	5.0	8209357
Semivolatile Organics						
Di-N-butyl phthalate	ug/L	15	80	ND	2	8212908
Bis(2-ethylhexyl)phthalate	ug/L	8.8	12	3	2	8212908
3,3'-Dichlorobenzidine	ug/L	0.8	2	ND	0.8	8212908
Pentachlorophenol	ug/L	2	5	ND	1	8212908
Phenanthrene	ug/L	-	-	ND	0.2	8212908
Anthracene	ug/L	-	-	ND	0.2	8212908
Fluoranthene	ug/L	-	-	0.2	0.2	8212908
Pyrene	ug/L	-	-	ND	0.2	8212908
Benzo(a)anthracene	ug/L	-	-	ND	0.2	8212908
Chrysene	ug/L	-	-	ND	0.2	8212908
Benzo(b/j)fluoranthene	ug/L	-	-	ND	0.2	8212908
Benzo(k)fluoranthene	ug/L	-	-	ND	0.2	8212908
Benzo(a)pyrene	ug/L	-	-	ND	0.2	8212908
Indeno(1,2,3-cd)pyrene	ug/L	-	-	ND	0.2	8212908
Dibenzo(a,h)anthracene	ug/L	-	-	ND	0.2	8212908
No Fill	No Exceedance					
Grey	Exceeds 1 criteria policy/level					
Black	Exceeds both criteria/levels					
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
Criteria: Toronto Storm Sewer Discharge Use By-Law						
Criteria-2: Toronto Sanitary and Combined Sewers Discharge Guidelines. Referenced to the Chapter 681.						
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.						



TORONTO SANITARY&STORM SEWER (100-2016)

Bureau Veritas ID				TQC848		
Sampling Date				2022/09/02 10:00		
	UNITS	Criteria	Criteria-2	DS MW101 2400-2440 DUNDAS STREET WEST	RDL	QC Batch
Benzo(g,h,i)perylene	ug/L	-	-	ND	0.2	8212908
Dibenzo(a,i)pyrene	ug/L	-	-	ND	0.2	8212908
Benzo(e)pyrene	ug/L	-	-	ND	0.2	8212908
Perylene	ug/L	-	-	ND	0.2	8212908
Dibenzo(a,j) acridine	ug/L	-	-	ND	0.4	8212908
7H-Dibenzo(c,g) Carbazole	ug/L	-	-	ND	0.4	8212908
1,6-Dinitropyrene	ug/L	-	-	ND	0.4	8212908
1,3-Dinitropyrene	ug/L	-	-	ND	0.4	8212908
1,8-Dinitropyrene	ug/L	-	-	ND	0.4	8212908
Calculated Parameters						
Total PAHs (18 PAHs)	ug/L	2	5	ND	1	8203651
Volatile Organics						
Benzene	ug/L	2	10	ND	0.40	8202941
Chloroform	ug/L	2	40	ND	0.40	8202941
1,2-Dichlorobenzene	ug/L	5.6	50	ND	0.80	8202941
1,4-Dichlorobenzene	ug/L	6.8	80	ND	0.80	8202941
cis-1,2-Dichloroethylene	ug/L	5.6	4000	ND	1.0	8202941
trans-1,3-Dichloropropene	ug/L	5.6	140	ND	0.80	8202941
Ethylbenzene	ug/L	2	160	ND	0.40	8202941
Methylene Chloride(Dichloromethane)	ug/L	5.2	2000	ND	4.0	8202941
1,1,2,2-Tetrachloroethane	ug/L	17	1400	ND	0.80	8202941
Tetrachloroethylene	ug/L	4.4	1000	ND	0.40	8202941
Toluene	ug/L	2	16	ND	0.40	8202941
Trichloroethylene	ug/L	7.6	400	ND	0.40	8202941
p+m-Xylene	ug/L	-	-	ND	0.40	8202941
o-Xylene	ug/L	-	-	ND	0.40	8202941
No Fill	No Exceedance					
Grey	Exceeds 1 criteria policy/level					
Black	Exceeds both criteria/levels					
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
Criteria: Toronto Storm Sewer Discharge Use By-Law						
Criteria-2: Toronto Sanitary and Combined Sewers Discharge Guidelines. Referenced to the Chapter 681.						
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.						



TORONTO SANITARY&STORM SEWER (100-2016)

Bureau Veritas ID				TQC848		
Sampling Date				2022/09/02 10:00		
	UNITS	Criteria	Criteria-2	DS MW101 2400-2440 DUNDAS STREET WEST	RDL	QC Batch
Total Xylenes	ug/L	4.4	1400	ND	0.40	8202941
PCBs						
Total PCB	ug/L	0.4	1	ND	0.05	8207384
Microbiological						
Escherichia coli	CFU/100mL	200	-	<10	10	8205480
Surrogate Recovery (%)						
2,4,6-Tribromophenol	%	-	-	99		8212908
2-Fluorobiphenyl	%	-	-	81		8212908
D14-Terphenyl (FS)	%	-	-	95		8212908
D5-Nitrobenzene	%	-	-	94		8212908
D8-Acenaphthylene	%	-	-	86		8212908
Decachlorobiphenyl	%	-	-	79		8207384
4-Bromofluorobenzene	%	-	-	85		8202941
D4-1,2-Dichloroethane	%	-	-	123		8202941
D8-Toluene	%	-	-	100		8202941
No Fill	No Exceedance					
Grey	Exceeds 1 criteria policy/level					
Black	Exceeds both criteria/levels					
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
Criteria: Toronto Storm Sewer Discharge Use By-Law						
Criteria-2: Toronto Sanitary and Combined Sewers Discharge Guidelines. Referenced to the Chapter 681.						
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.						



TORONTO SANITARY&STORM SEWER (100-2016)

Bureau Veritas ID					TQC848		
Sampling Date					2022/09/02 10:00		
		UNITS	Criteria	Criteria-2	DS MW101 2400-2440 DUNDAS STREET WEST Lab-Dup	RDL	QC Batch
Semivolatile Organics							
Di-N-butyl phthalate		ug/L	15	80	ND	2	8212908
Bis(2-ethylhexyl)phthalate		ug/L	8.8	12	2	2	8212908
3,3'-Dichlorobenzidine		ug/L	0.8	2	ND	0.8	8212908
Pentachlorophenol		ug/L	2	5	ND	1	8212908
Phenanthrene		ug/L	-	-	ND	0.2	8212908
Anthracene		ug/L	-	-	ND	0.2	8212908
Fluoranthene		ug/L	-	-	ND	0.2	8212908
Pyrene		ug/L	-	-	ND	0.2	8212908
Benzo(a)anthracene		ug/L	-	-	ND	0.2	8212908
Chrysene		ug/L	-	-	ND	0.2	8212908
Benzo(b/j)fluoranthene		ug/L	-	-	ND	0.2	8212908
Benzo(k)fluoranthene		ug/L	-	-	ND	0.2	8212908
Benzo(a)pyrene		ug/L	-	-	ND	0.2	8212908
Indeno(1,2,3-cd)pyrene		ug/L	-	-	ND	0.2	8212908
Dibenzo(a,h)anthracene		ug/L	-	-	ND	0.2	8212908
Benzo(g,h,i)perylene		ug/L	-	-	ND	0.2	8212908
Dibenzo(a,i)pyrene		ug/L	-	-	ND	0.2	8212908
Benzo(e)pyrene		ug/L	-	-	ND	0.2	8212908
Perylene		ug/L	-	-	ND	0.2	8212908
No Fill		No Exceedance					
Grey		Exceeds 1 criteria policy/level					
Black		Exceeds both criteria/levels					
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Lab-Dup = Laboratory Initiated Duplicate							
Criteria: Toronto Storm Sewer Discharge Use By-Law							
Criteria-2: Toronto Sanitary and Combined Sewers Discharge Guidelines. Referenced to the Chapter 681.							
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.							



TORONTO SANITARY&STORM SEWER (100-2016)

Bureau Veritas ID				TQC848		
Sampling Date				2022/09/02 10:00		
	UNITS	Criteria	Criteria-2	DS MW101 2400-2440 DUNDAS STREET WEST Lab-Dup	RDL	QC Batch
Dibenzo(a,j) acridine	ug/L	-	-	ND	0.4	8212908
7H-Dibenzo(c,g) Carbazole	ug/L	-	-	ND	0.4	8212908
1,6-Dinitropyrene	ug/L	-	-	ND	0.4	8212908
1,3-Dinitropyrene	ug/L	-	-	ND	0.4	8212908
1,8-Dinitropyrene	ug/L	-	-	ND	0.4	8212908
Surrogate Recovery (%)						
2,4,6-Tribromophenol	%	-	-	59		8212908
2-Fluorobiphenyl	%	-	-	69		8212908
D14-Terphenyl (FS)	%	-	-	90		8212908
D5-Nitrobenzene	%	-	-	79		8212908
D8-Acenaphthylene	%	-	-	76		8212908
No Fill	No Exceedance					
Grey	Exceeds 1 criteria policy/level					
Black	Exceeds both criteria/levels					
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
Lab-Dup = Laboratory Initiated Duplicate						
Criteria: Toronto Storm Sewer Discharge Use By-Law						
Criteria-2: Toronto Sanitary and Combined Sewers Discharge Guidelines. Referenced to the Chapter 681.						
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.						



**BUREAU
VERITAS**

Bureau Veritas Job #: C2P3082
Report Date: 2022/09/13

Groundwater Environmental Management Services Inc.
Client Project #: 22-1465
Site Location: 2400-2440 DUNDAS STREET WEST
Sampler Initials: KIM

TEST SUMMARY

Bureau Veritas ID: TQC848
Sample ID: DS MW101 2400-2440 DUNDAS STREET WEST
Matrix: Water

Collected: 2022/09/02
Shipped:
Received: 2022/09/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sewer Use By-Law Semivolatile Organics	GC/MS	8212908	2022/09/08	2022/09/09	Adriana Zurita
Biochemical Oxygen Demand (BOD)	DO	8205870	2022/09/03	2022/09/08	Gurjot Kaur
Chromium (VI) in Water	IC	8204578	N/A	2022/09/06	Theodora Luck
Total Cyanide	SKAL/CN	8207114	2022/09/06	2022/09/06	Prgya Panchal
Fluoride	ISE	8208618	2022/09/06	2022/09/07	Surinder Rai
Mercury in Water by CVAA	CV/AA	8209297	2022/09/07	2022/09/07	Japneet Gill
Total Metals Analysis by ICPMS	ICP/MS	8209357	N/A	2022/09/07	Azita Fazaeli
E.coli, (CFU/100mL)	PL	8205480	N/A	2022/09/02	Rayane Gama Santos
Total Nonylphenol in Liquids by HPLC	LC/FLU	8213242	2022/09/08	2022/09/09	Dennis Boodram
Nonylphenol Ethoxylates in Liquids: HPLC	LC/FLU	8213253	2022/09/08	2022/09/09	Dennis Boodram
Animal and Vegetable Oil and Grease	BAL	8204360	N/A	2022/09/06	Automated Statchk
Total Oil and Grease	BAL	8208309	2022/09/06	2022/09/06	Navneet Singh
Polychlorinated Biphenyl in Water	GC/ECD	8207384	2022/09/06	2022/09/07	Svitlana Shaula
pH	AT	8208640	2022/09/06	2022/09/07	Surinder Rai
Phenols (4AAP)	TECH/PHEN	8209974	N/A	2022/09/07	Mandeep Kaur
Total Kjeldahl Nitrogen in Water	SKAL	8207784	2022/09/06	2022/09/08	Rajni Tyagi
Total PAHs	CALC	8203651	N/A	2022/09/12	Automated Statchk
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	8208304	2022/09/06	2022/09/06	Navneet Singh
Total Suspended Solids	BAL	8207336	2022/09/07	2022/09/08	Masood Siddiqui
Volatile Organic Compounds in Water	GC/MS	8202941	N/A	2022/09/06	Narayan Ghimire

Bureau Veritas ID: TQC848 Dup
Sample ID: DS MW101 2400-2440 DUNDAS STREET WEST
Matrix: Water

Collected: 2022/09/02
Shipped:
Received: 2022/09/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sewer Use By-Law Semivolatile Organics	GC/MS	8212908	2022/09/08	2022/09/09	Adriana Zurita



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	11.3°C
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Sample TQC848 [DS MW101 2400-2440 DUNDAS STREET WEST] : VOC Analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Results relate only to the items tested.



**BUREAU
VERITAS**

Bureau Veritas Job #: C2P3082
Report Date: 2022/09/13

Groundwater Environmental Management Services Inc.
Client Project #: 22-1465
Site Location: 2400-2440 DUNDAS STREET WEST
Sampler Initials: KIM

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8202941	NGH	Matrix Spike	4-Bromofluorobenzene	2022/09/06		92	%	70 - 130
			D4-1,2-Dichloroethane	2022/09/06		122	%	70 - 130
			D8-Toluene	2022/09/06		105	%	70 - 130
			Benzene	2022/09/06		93	%	70 - 130
			Chloroform	2022/09/06		101	%	70 - 130
			1,2-Dichlorobenzene	2022/09/06		99	%	70 - 130
			1,4-Dichlorobenzene	2022/09/06		109	%	70 - 130
			cis-1,2-Dichloroethylene	2022/09/06		110	%	70 - 130
			trans-1,3-Dichloropropene	2022/09/06		126	%	70 - 130
			Ethylbenzene	2022/09/06		87	%	70 - 130
			Methylene Chloride(Dichloromethane)	2022/09/06		103	%	70 - 130
			1,1,2,2-Tetrachloroethane	2022/09/06		102	%	70 - 130
			Tetrachloroethylene	2022/09/06		86	%	70 - 130
			Toluene	2022/09/06		95	%	70 - 130
			Trichloroethylene	2022/09/06		93	%	70 - 130
			p+m-Xylene	2022/09/06		91	%	70 - 130
			o-Xylene	2022/09/06		87	%	70 - 130
8202941	NGH	Spiked Blank	4-Bromofluorobenzene	2022/09/06		95	%	70 - 130
			D4-1,2-Dichloroethane	2022/09/06		115	%	70 - 130
			D8-Toluene	2022/09/06		107	%	70 - 130
			Benzene	2022/09/06		95	%	70 - 130
			Chloroform	2022/09/06		104	%	70 - 130
			1,2-Dichlorobenzene	2022/09/06		97	%	70 - 130
			1,4-Dichlorobenzene	2022/09/06		109	%	70 - 130
			cis-1,2-Dichloroethylene	2022/09/06		112	%	70 - 130
			trans-1,3-Dichloropropene	2022/09/06		107	%	70 - 130
			Ethylbenzene	2022/09/06		92	%	70 - 130
			Methylene Chloride(Dichloromethane)	2022/09/06		103	%	70 - 130
			1,1,2,2-Tetrachloroethane	2022/09/06		98	%	70 - 130
			Tetrachloroethylene	2022/09/06		91	%	70 - 130
			Toluene	2022/09/06		100	%	70 - 130
			Trichloroethylene	2022/09/06		98	%	70 - 130
			p+m-Xylene	2022/09/06		97	%	70 - 130
			o-Xylene	2022/09/06		94	%	70 - 130
8202941	NGH	Method Blank	4-Bromofluorobenzene	2022/09/06		87	%	70 - 130
			D4-1,2-Dichloroethane	2022/09/06		118	%	70 - 130
			D8-Toluene	2022/09/06		101	%	70 - 130
			Benzene	2022/09/06	ND, RDL=0.20		ug/L	
			Chloroform	2022/09/06	ND, RDL=0.20		ug/L	
			1,2-Dichlorobenzene	2022/09/06	ND, RDL=0.40		ug/L	
			1,4-Dichlorobenzene	2022/09/06	ND, RDL=0.40		ug/L	
			cis-1,2-Dichloroethylene	2022/09/06	ND, RDL=0.50		ug/L	
			trans-1,3-Dichloropropene	2022/09/06	ND, RDL=0.40		ug/L	
			Ethylbenzene	2022/09/06	ND, RDL=0.20		ug/L	



BUREAU
VERITAS

Bureau Veritas Job #: C2P3082
Report Date: 2022/09/13

Groundwater Environmental Management Services Inc.
Client Project #: 22-1465
Site Location: 2400-2440 DUNDAS STREET WEST
Sampler Initials: KIM

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8202941	NGH	RPD	Methylene Chloride(Dichloromethane)	2022/09/06	ND, RDL=2.0		ug/L	
			1,1,2,2-Tetrachloroethane	2022/09/06	ND, RDL=0.40		ug/L	
			Tetrachloroethylene	2022/09/06	ND, RDL=0.20		ug/L	
			Toluene	2022/09/06	ND, RDL=0.20		ug/L	
			Trichloroethylene	2022/09/06	ND, RDL=0.20		ug/L	
			p+m-Xylene	2022/09/06	ND, RDL=0.20		ug/L	
			o-Xylene	2022/09/06	ND, RDL=0.20		ug/L	
			Total Xylenes	2022/09/06	ND, RDL=0.20		ug/L	
			Benzene	2022/09/06	NC		%	30
			1,2-Dichlorobenzene	2022/09/06	NC		%	30
			1,4-Dichlorobenzene	2022/09/06	NC		%	30
			cis-1,2-Dichloroethylene	2022/09/06	NC		%	30
			trans-1,3-Dichloropropene	2022/09/06	NC		%	30
			Ethylbenzene	2022/09/06	NC		%	30
			Methylene Chloride(Dichloromethane)	2022/09/06	NC		%	30
			1,1,2,2-Tetrachloroethane	2022/09/06	NC		%	30
			Tetrachloroethylene	2022/09/06	NC		%	30
			Toluene	2022/09/06	NC		%	30
			Trichloroethylene	2022/09/06	NC		%	30
			p+m-Xylene	2022/09/06	NC		%	30
			o-Xylene	2022/09/06	NC		%	30
8204578	TL2	Matrix Spike	Chromium (VI)	2022/09/06		99	%	80 - 120
8204578	TL2	Spiked Blank	Chromium (VI)	2022/09/06		104	%	80 - 120
8204578	TL2	Method Blank	Chromium (VI)	2022/09/06	ND, RDL=0.50		ug/L	
8204578	TL2	RPD	Chromium (VI)	2022/09/06	NC		%	20
8205870	GUJ	QC Standard	Total BOD	2022/09/08		91	%	80 - 120
8205870	GUJ	Method Blank	Total BOD	2022/09/08	ND,RDL=2		mg/L	
8205870	GUJ	RPD	Total BOD	2022/09/08	NC		%	30
8207114	GYA	Matrix Spike	Total Cyanide (CN)	2022/09/06		89	%	80 - 120
8207114	GYA	Spiked Blank	Total Cyanide (CN)	2022/09/06		91	%	80 - 120
8207114	GYA	Method Blank	Total Cyanide (CN)	2022/09/06	ND, RDL=0.0050		mg/L	
8207114	GYA	RPD	Total Cyanide (CN)	2022/09/06	0.55		%	20
8207336	MSQ	QC Standard	Total Suspended Solids	2022/09/08		95	%	85 - 115
8207336	MSQ	Method Blank	Total Suspended Solids	2022/09/08	ND, RDL=10		mg/L	
8207336	MSQ	RPD	Total Suspended Solids	2022/09/08	NC		%	25
8207384	SVS	Matrix Spike	Decachlorobiphenyl	2022/09/07		81	%	60 - 130
			Total PCB	2022/09/07		79	%	60 - 130
8207384	SVS	Spiked Blank	Decachlorobiphenyl	2022/09/07		75	%	60 - 130
			Total PCB	2022/09/07		75	%	60 - 130
8207384	SVS	Method Blank	Decachlorobiphenyl	2022/09/07		82	%	60 - 130



**BUREAU
VERITAS**

Bureau Veritas Job #: C2P3082
Report Date: 2022/09/13

Groundwater Environmental Management Services Inc.
Client Project #: 22-1465
Site Location: 2400-2440 DUNDAS STREET WEST
Sampler Initials: KIM

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total PCB	2022/09/07	ND, RDL=0.05		ug/L	
8207384	SVS	RPD	Total PCB	2022/09/07	NC		%	40
8207784	RTY	Matrix Spike	Total Kjeldahl Nitrogen (TKN)	2022/09/08		96	%	80 - 120
8207784	RTY	QC Standard	Total Kjeldahl Nitrogen (TKN)	2022/09/08		94	%	80 - 120
8207784	RTY	Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2022/09/08		98	%	80 - 120
8207784	RTY	Method Blank	Total Kjeldahl Nitrogen (TKN)	2022/09/08	ND, RDL=0.10		mg/L	
8207784	RTY	RPD	Total Kjeldahl Nitrogen (TKN)	2022/09/08	NC (1)		%	20
8208304	NSG	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2022/09/06		97	%	85 - 115
8208304	NSG	RPD	Total Oil & Grease Mineral/Synthetic	2022/09/06	0.52		%	25
8208304	NSG	Method Blank	Total Oil & Grease Mineral/Synthetic	2022/09/06	ND, RDL=0.50		mg/L	
8208309	NSG	Spiked Blank	Total Oil & Grease	2022/09/06		99	%	85 - 115
8208309	NSG	RPD	Total Oil & Grease	2022/09/06	0.25		%	25
8208309	NSG	Method Blank	Total Oil & Grease	2022/09/06	ND, RDL=0.50		mg/L	
8208618	SAU	Matrix Spike	Fluoride (F-)	2022/09/07		48 (2)	%	80 - 120
8208618	SAU	Spiked Blank	Fluoride (F-)	2022/09/07		101	%	80 - 120
8208618	SAU	Method Blank	Fluoride (F-)	2022/09/07	ND, RDL=0.10		mg/L	
8208618	SAU	RPD	Fluoride (F-)	2022/09/07	0.47		%	20
8208640	SAU	Spiked Blank	pH	2022/09/07		102	%	98 - 103
8208640	SAU	RPD	pH	2022/09/07	0.54		%	N/A
8209297	JGC	Matrix Spike	Mercury (Hg)	2022/09/07		101	%	75 - 125
8209297	JGC	Spiked Blank	Mercury (Hg)	2022/09/07		104	%	80 - 120
8209297	JGC	Method Blank	Mercury (Hg)	2022/09/07	ND, RDL=0.00010		mg/L	
8209297	JGC	RPD	Mercury (Hg)	2022/09/07	NC		%	20
8209357	AFZ	Matrix Spike	Total Aluminum (Al)	2022/09/07		132 (3)	%	80 - 120
			Total Antimony (Sb)	2022/09/07		106	%	80 - 120
			Total Arsenic (As)	2022/09/07		103	%	80 - 120
			Total Cadmium (Cd)	2022/09/07		103	%	80 - 120
			Total Chromium (Cr)	2022/09/07		101	%	80 - 120
			Total Cobalt (Co)	2022/09/07		99	%	80 - 120
			Total Copper (Cu)	2022/09/07		98	%	80 - 120
			Total Lead (Pb)	2022/09/07		95	%	80 - 120
			Total Manganese (Mn)	2022/09/07		101	%	80 - 120
			Total Molybdenum (Mo)	2022/09/07		104	%	80 - 120
			Total Nickel (Ni)	2022/09/07		100	%	80 - 120
			Total Phosphorus (P)	2022/09/07		108	%	80 - 120
			Total Selenium (Se)	2022/09/07		111	%	80 - 120
			Total Silver (Ag)	2022/09/07		102	%	80 - 120
			Total Tin (Sn)	2022/09/07		103	%	80 - 120
			Total Titanium (Ti)	2022/09/07		102	%	80 - 120
			Total Zinc (Zn)	2022/09/07		102	%	80 - 120
8209357	AFZ	Spiked Blank	Total Aluminum (Al)	2022/09/07		106	%	80 - 120
			Total Antimony (Sb)	2022/09/07		105	%	80 - 120
			Total Arsenic (As)	2022/09/07		103	%	80 - 120
			Total Cadmium (Cd)	2022/09/07		102	%	80 - 120
			Total Chromium (Cr)	2022/09/07		100	%	80 - 120



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Bureau Veritas Job #: C2P3082

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Groundwater Environmental Management Services Inc.

Client Project #: 22-1465

Site Location: 2400-2440 DUNDAS STREET WEST

Sampler Initials: KIM

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8209357	AFZ	Method Blank	Total Cobalt (Co)	2022/09/07		98	%	80 - 120
			Total Copper (Cu)	2022/09/07		99	%	80 - 120
			Total Lead (Pb)	2022/09/07		97	%	80 - 120
			Total Manganese (Mn)	2022/09/07		99	%	80 - 120
			Total Molybdenum (Mo)	2022/09/07		101	%	80 - 120
			Total Nickel (Ni)	2022/09/07		100	%	80 - 120
			Total Phosphorus (P)	2022/09/07		107	%	80 - 120
			Total Selenium (Se)	2022/09/07		111	%	80 - 120
			Total Silver (Ag)	2022/09/07		101	%	80 - 120
			Total Tin (Sn)	2022/09/07		102	%	80 - 120
			Total Titanium (Ti)	2022/09/07		102	%	80 - 120
			Total Zinc (Zn)	2022/09/07		103	%	80 - 120
			Total Aluminum (Al)	2022/09/07	ND, RDL=4.9		ug/L	
			Total Antimony (Sb)	2022/09/07	ND, RDL=0.50		ug/L	
			Total Arsenic (As)	2022/09/07	ND, RDL=1.0		ug/L	
			Total Cadmium (Cd)	2022/09/07	ND, RDL=0.090		ug/L	
			Total Chromium (Cr)	2022/09/07	ND, RDL=5.0		ug/L	
			Total Cobalt (Co)	2022/09/07	ND, RDL=0.50		ug/L	
			Total Copper (Cu)	2022/09/07	ND, RDL=0.90		ug/L	
			Total Lead (Pb)	2022/09/07	ND, RDL=0.50		ug/L	
			Total Manganese (Mn)	2022/09/07	ND, RDL=2.0		ug/L	
			Total Molybdenum (Mo)	2022/09/07	ND, RDL=0.50		ug/L	
			Total Nickel (Ni)	2022/09/07	ND, RDL=1.0		ug/L	
			Total Phosphorus (P)	2022/09/07	ND, RDL=100		ug/L	
			Total Selenium (Se)	2022/09/07	ND, RDL=2.0		ug/L	
			Total Silver (Ag)	2022/09/07	ND, RDL=0.090		ug/L	
			Total Tin (Sn)	2022/09/07	ND, RDL=1.0		ug/L	
			Total Titanium (Ti)	2022/09/07	ND, RDL=5.0		ug/L	
			Total Zinc (Zn)	2022/09/07	ND, RDL=5.0		ug/L	
8209357	AFZ	RPD	Total Aluminum (Al)	2022/09/07	2.8		%	20
			Total Antimony (Sb)	2022/09/07	NC		%	20
			Total Arsenic (As)	2022/09/07	NC		%	20
			Total Cadmium (Cd)	2022/09/07	NC		%	20
			Total Chromium (Cr)	2022/09/07	NC		%	20
			Total Cobalt (Co)	2022/09/07	NC		%	20



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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Copper (Cu)	2022/09/07	NC		%	20
			Total Lead (Pb)	2022/09/07	1.2		%	20
			Total Manganese (Mn)	2022/09/07	0.20		%	20
			Total Molybdenum (Mo)	2022/09/07	6.4		%	20
			Total Nickel (Ni)	2022/09/07	NC		%	20
			Total Phosphorus (P)	2022/09/07	NC		%	20
			Total Selenium (Se)	2022/09/07	NC		%	20
			Total Silver (Ag)	2022/09/07	NC		%	20
			Total Tin (Sn)	2022/09/07	NC		%	20
			Total Titanium (Ti)	2022/09/07	18		%	20
			Total Zinc (Zn)	2022/09/07	NC		%	20
8209974	MKX	Matrix Spike	Phenols-4AAP	2022/09/07		NC	%	80 - 120
8209974	MKX	Spiked Blank	Phenols-4AAP	2022/09/07		103	%	80 - 120
8209974	MKX	Method Blank	Phenols-4AAP	2022/09/07	ND, RDL=0.0010		mg/L	
8209974	MKX	RPD	Phenols-4AAP	2022/09/07	2.3		%	20
8212908	AZ	Matrix Spike	2,4,6-Tribromophenol	2022/09/09		112	%	10 - 130
			2-Fluorobiphenyl	2022/09/09		86	%	30 - 130
			D14-Terphenyl (FS)	2022/09/09		96	%	30 - 130
			D5-Nitrobenzene	2022/09/09		101	%	30 - 130
			D8-Acenaphthylene	2022/09/09		88	%	30 - 130
			Di-N-butyl phthalate	2022/09/09		112	%	30 - 130
			Bis(2-ethylhexyl)phthalate	2022/09/09		94	%	30 - 130
			3,3'-Dichlorobenzidine	2022/09/09		0.20 (4)	%	30 - 130
			Pentachlorophenol	2022/09/09		100	%	30 - 130
			Phenanthrene	2022/09/09		101	%	30 - 130
			Anthracene	2022/09/09		100	%	30 - 130
			Fluoranthene	2022/09/09		110	%	30 - 130
			Pyrene	2022/09/09		111	%	30 - 130
			Benzo(a)anthracene	2022/09/09		105	%	30 - 130
			Chrysene	2022/09/09		107	%	30 - 130
			Benzo(b,j)fluoranthene	2022/09/09		104	%	30 - 130
			Benzo(k)fluoranthene	2022/09/09		94	%	30 - 130
			Benzo(a)pyrene	2022/09/09		106	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2022/09/09		102	%	30 - 130
			Dibenzo(a,h)anthracene	2022/09/09		101	%	30 - 130
			Benzo(g,h,i)perylene	2022/09/09		102	%	30 - 130
			Dibenzo(a,i)pyrene	2022/09/09		85	%	30 - 130
			Benzo(e)pyrene	2022/09/09		102	%	30 - 130
			Perylene	2022/09/09		101	%	30 - 130
			Dibenzo(a,j) acridine	2022/09/09		108	%	30 - 130
			7H-Dibenzo(c,g) Carbazole	2022/09/09		103	%	30 - 130
			1,6-Dinitropyrene	2022/09/09		59	%	30 - 130
			1,3-Dinitropyrene	2022/09/09		45	%	30 - 130
			1,8-Dinitropyrene	2022/09/09		46	%	30 - 130
8212908	AZ	Spiked Blank	2,4,6-Tribromophenol	2022/09/09		94	%	10 - 130
			2-Fluorobiphenyl	2022/09/09		86	%	30 - 130
			D14-Terphenyl (FS)	2022/09/09		92	%	30 - 130
			D5-Nitrobenzene	2022/09/09		94	%	30 - 130
			D8-Acenaphthylene	2022/09/09		85	%	30 - 130
			Di-N-butyl phthalate	2022/09/09		96	%	30 - 130



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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8212908	AZ	Method Blank	Bis(2-ethylhexyl)phthalate	2022/09/09		87	%	30 - 130
			3,3'-Dichlorobenzidine	2022/09/09		102	%	30 - 130
			Pentachlorophenol	2022/09/09		45	%	30 - 130
			Phenanthrene	2022/09/09		97	%	30 - 130
			Anthracene	2022/09/09		98	%	30 - 130
			Fluoranthene	2022/09/09		104	%	30 - 130
			Pyrene	2022/09/09		104	%	30 - 130
			Benzo(a)anthracene	2022/09/09		100	%	30 - 130
			Chrysene	2022/09/09		105	%	30 - 130
			Benzo(b/j)fluoranthene	2022/09/09		98	%	30 - 130
			Benzo(k)fluoranthene	2022/09/09		106	%	30 - 130
			Benzo(a)pyrene	2022/09/09		105	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2022/09/09		94	%	30 - 130
			Dibenzo(a,h)anthracene	2022/09/09		93	%	30 - 130
			Benzo(g,h,i)perylene	2022/09/09		93	%	30 - 130
			Dibenzo(a,i)pyrene	2022/09/09		76	%	30 - 130
			Benzo(e)pyrene	2022/09/09		102	%	30 - 130
			Perylene	2022/09/09		99	%	30 - 130
			Dibenzo(a,j) acridine	2022/09/09		98	%	30 - 130
			7H-Dibenzo(c,g) Carbazole	2022/09/09		114	%	30 - 130
			1,6-Dinitropyrene	2022/09/09		107	%	30 - 130
			1,3-Dinitropyrene	2022/09/09		104	%	30 - 130
			1,8-Dinitropyrene	2022/09/09		84	%	30 - 130
			2,4,6-Tribromophenol	2022/09/09		90	%	10 - 130
			2-Fluorobiphenyl	2022/09/09		78	%	30 - 130
			D14-Terphenyl (FS)	2022/09/09		98	%	30 - 130
			D5-Nitrobenzene	2022/09/09		93	%	30 - 130
			D8-Acenaphthylene	2022/09/09		80	%	30 - 130
			Di-N-butyl phthalate	2022/09/09	ND,RDL=2		ug/L	
			Bis(2-ethylhexyl)phthalate	2022/09/09	ND,RDL=2		ug/L	
			3,3'-Dichlorobenzidine	2022/09/09	ND, RDL=0.8		ug/L	
			Pentachlorophenol	2022/09/09	ND,RDL=1		ug/L	
			Phenanthrene	2022/09/09	ND, RDL=0.2		ug/L	
			Anthracene	2022/09/09	ND, RDL=0.2		ug/L	
			Fluoranthene	2022/09/09	ND, RDL=0.2		ug/L	
			Pyrene	2022/09/09	ND, RDL=0.2		ug/L	
			Benzo(a)anthracene	2022/09/09	ND, RDL=0.2		ug/L	
			Chrysene	2022/09/09	ND, RDL=0.2		ug/L	
			Benzo(b/j)fluoranthene	2022/09/09	ND, RDL=0.2		ug/L	
			Benzo(k)fluoranthene	2022/09/09	ND, RDL=0.2		ug/L	
			Benzo(a)pyrene	2022/09/09	ND, RDL=0.2		ug/L	



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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Indeno(1,2,3-cd)pyrene	2022/09/09	ND, RDL=0.2		ug/L	
			Dibenzo(a,h)anthracene	2022/09/09	ND, RDL=0.2		ug/L	
			Benzo(g,h,i)perylene	2022/09/09	ND, RDL=0.2		ug/L	
			Dibenzo(a,i)pyrene	2022/09/09	ND, RDL=0.2		ug/L	
			Benzo(e)pyrene	2022/09/09	ND, RDL=0.2		ug/L	
			Perylene	2022/09/09	ND, RDL=0.2		ug/L	
			Dibenzo(a,j) acridine	2022/09/09	ND, RDL=0.4		ug/L	
			7H-Dibenzo(c,g) Carbazole	2022/09/09	ND, RDL=0.4		ug/L	
			1,6-Dinitropyrene	2022/09/09	ND, RDL=0.4		ug/L	
			1,3-Dinitropyrene	2022/09/09	ND, RDL=0.4		ug/L	
			1,8-Dinitropyrene	2022/09/09	ND, RDL=0.4		ug/L	
8212908	AZ	RPD [TQC848-01]	Di-N-butyl phthalate	2022/09/09	NC		%	40
			Bis(2-ethylhexyl)phthalate	2022/09/09	21		%	40
			3,3'-Dichlorobenzidine	2022/09/09	NC		%	40
			Pentachlorophenol	2022/09/09	NC		%	40
			Phenanthrene	2022/09/09	NC		%	40
			Anthracene	2022/09/09	NC		%	40
			Fluoranthene	2022/09/09	3.1		%	40
			Pyrene	2022/09/09	NC		%	40
			Benzo(a)anthracene	2022/09/09	NC		%	40
			Chrysene	2022/09/09	NC		%	40
			Benzo(b,j)fluoranthene	2022/09/09	NC		%	40
			Benzo(k)fluoranthene	2022/09/09	NC		%	40
			Benzo(a)pyrene	2022/09/09	NC		%	40
			Indeno(1,2,3-cd)pyrene	2022/09/09	NC		%	40
			Dibenzo(a,h)anthracene	2022/09/09	NC		%	40
			Benzo(g,h,i)perylene	2022/09/09	NC		%	40
			Dibenzo(a,i)pyrene	2022/09/09	NC		%	40
			Benzo(e)pyrene	2022/09/09	NC		%	40
			Perylene	2022/09/09	NC		%	40
			Dibenzo(a,j) acridine	2022/09/09	NC		%	40
			7H-Dibenzo(c,g) Carbazole	2022/09/09	NC		%	40
			1,6-Dinitropyrene	2022/09/09	NC		%	40
			1,3-Dinitropyrene	2022/09/09	NC		%	40
			1,8-Dinitropyrene	2022/09/09	NC		%	40
8213242	DEO	Matrix Spike	Nonylphenol (Total)	2022/09/09		103	%	50 - 130
8213242	DEO	Spiked Blank	Nonylphenol (Total)	2022/09/09		94	%	50 - 130
8213242	DEO	Method Blank	Nonylphenol (Total)	2022/09/09	ND, RDL=0.001		mg/L	
8213242	DEO	RPD	Nonylphenol (Total)	2022/09/09	NC		%	40
8213253	DEO	Matrix Spike	Nonylphenol Ethoxylate (Total)	2022/09/09		110	%	50 - 130



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8213253	DEO	Spiked Blank	Nonylphenol Ethoxylate (Total)	2022/09/09		101	%	50 - 130
8213253	DEO	Method Blank	Nonylphenol Ethoxylate (Total)	2022/09/09	ND, RDL=0.005		mg/L	
8213253	DEO	RPD	Nonylphenol Ethoxylate (Total)	2022/09/09	NC		%	40

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times$ RDL).

(1) Due to a high concentration of NO_x, the sample required dilution. The detection limit was adjusted accordingly.

(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(3) Matrix Spike exceeds acceptance limits, probable matrix interference.

(4) The recovery was below the lower control limit. This may represent a low bias in some results for this specific analyte.



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Bureau Veritas Job #: C2P3082
Report Date: 2022/09/13

Groundwater Environmental Management Services Inc.
Client Project #: 22-1465
Site Location: 2400-2440 DUNDAS STREET WEST
Sampler Initials: KIM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Anastassia Hamanov, Scientific Specialist

Cristina Carriere, Senior Scientific Specialist

Rayane Gama Santos, Lab Technician

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Exceedance Summary Table – Toronto Storm Sewer
Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
DS MW101 2400-2440 DUNDAS STREET WEST	TQC848-10	Total Manganese (Mn)	50	170	2.0	ug/L
DS MW101 2400-2440 DUNDAS STREET WEST	TQC848-07	Total Suspended Solids	15	41	10	mg/L
The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.						

Exceedance Summary Table – Toronto Sanitary Sewer
Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						
The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.						

Appendix F

Dewatering Calculations

Table 1

Short-Term Dewatering Rate Calculations
Proposed Development: 2400 Dundas Street West

Project No. 22-1465

Symbol	Description	Value 7 Days	Value 40 Days	Unit	Comment
Dewatering target heights and elevations					
$E_{\text{Target}} = E_{\text{Invert}} - 1$	Dewatering target elevation	108.00	108.00	masl	
$E_{\text{wp}} = E_{\text{Target}} - 1$	Target water level	107.00	107.00	masl	
$H = E_{\text{GW}} - E_{\text{wp}}$	Initial height of groundwater	7.31	7.31	m	
$h = E_{\text{Target}} - E_{\text{wp}}$	Target height of groundwater	1.00	1.00	m	
$H - h$	Drawdown required	6.31	6.31	m	
t	Duration of Dewatering	7	40	days	
K	Hydraulic Conductivity	3.5E-06	3.5E-06	m/s	
T	Transmissivity	2.6E-05	2.6E-05	m ² /sec	$T = K \cdot (H - h)$
Cs	Storage Coefficient	0.30	0.30	no units	
C ₄	Constant	4790	4790	no units	
a	Dewatered Area Length	85.0	85.0	m	
b	Dewatered Area Width	128.0	128.0	m	
r _w	Effective Well Radius of Open Excavation	67.8	67.8	m	$r_w = \frac{a + b}{\pi}$
R _o	Radius of influence	78.6	93.5	m	$R_o = r_w + \sqrt{\frac{T \cdot t}{C_4 \cdot C_s}}$
Q	Predicted Pumping Rate	234.4	107.3	L/min	<i>Unconfined Conditions</i>
		337,481	154,559	L/day	$Q = \frac{\pi \cdot K (H^2 - h^2)}{\ln\left(\frac{R_o}{r_w}\right)}$
(Powers et al., 2008)					

Appendix G

MECP Wells

Table 1: MECP Summary Table

2400 - 2440 Dundas Street West, Toronto, ON

Well ID	FID	Easting	Northing	Well Usage
6928879	0	624769	4835054	N/A
6929043	1	625072	4834931	N/A
6929537	2	624450	4834800	N/A
6930758	3	624469	4834791	Not Used
6930780	4	624757	4834896	Not Used
6931105	5	624917	4834740	Not Used
7041293	6	625242	4835487	N/A
7042849	7	624682	4835429	Not Used
7043241	8	624453	4834779	N/A
7050788	9	624532	4834945	Not Used
7052463	10	625255	4835478	Municipal
7101083	11	624433	4835571	Monitoring
7112527	12	625220	4834640	Test Hole
7117830	13	624736	4835433	Test Hole
7122872	14	624995	4835094	Test Hole
7122873	15	625000	4835107	Test Hole
7126912	16	625266	4835285	Test Hole
7127688	17	625002	4834959	Monitoring
7149491	18	624806	4835244	Monitoring
7155583	19	625256	4834631	Monitoring
7157289	20	624695	4835272	Test Hole
7157738	21	625255	4835073	Test Hole
7162496	22	625137	4834820	Monitoring and Test Hole
7166964	23	624877	4834765	Test Hole
7167063	24	625273	4834781	Monitoring
7172366	25	624887	4834890	N/A
7172385	26	625271	4834717	N/A
7173973	27	625271	4834717	N/A
7177602	28	624886	4835074	N/A
7179746	29	625259	4834630	Monitoring
7183441	30	625038	4834656	N/A
7185178	31	624712	4835395	Monitoring
7187966	32	624740	4834898	Monitoring and Test Hole
7190852	33	624567	4834864	Monitoring
7191897	34	625269	4834775	N/A
7200478	35	624793	4835022	N/A
7201384	36	624717	4835411	Monitoring
7201385	37	624718	4835405	Monitoring
7201386	38	624714	4835413	Monitoring
7203750	39	624626	4834876	Monitoring
7203751	40	624745	4834918	Monitoring
7212979	41	625237	4835060	N/A
7213478	42	625273	4834624	Monitoring and Test Hole
7222845	43	625278	4834653	Monitoring and Test Hole

7223351	44	624939	4834749	N/A
7226140	45	624864	4834733	N/A
7227806	46	625262	4834669	Monitoring and Test Hole
7227807	47	625273	4834652	Monitoring and Test Hole
7228359	48	624962	4834750	Monitoring and Test Hole
7228360	49	624962	4834755	Monitoring and Test Hole
7228454	50	625272	4834626	N/A
7234126	51	624791	4834767	N/A
7238174	52	625150	4834734	Monitoring and Test Hole
7238181	53	624591	4835496	Monitoring and Test Hole
7239675	54	624782	4834994	Monitoring and Test Hole
7241100	55	625277	4834634	N/A
7244496	56	624757	4834914	Monitoring and Test Hole
7245849	57	624825	4835054	N/A
7253055	58	625266	4835295	N/A
7277850	59	624901	4834800	Monitoring and Test Hole
7277851	60	624904	4834786	Monitoring and Test Hole
7277852	61	624885	4834755	Monitoring and Test Hole
7277853	62	624890	4834789	Monitoring and Test Hole
7277854	63	624822	4834755	Monitoring and Test Hole
7277855	64	624867	4834737	Monitoring and Test Hole
7280055	65	624566	4834852	Monitoring and Test Hole
7281566	66	624750	4834913	N/A
7281567	67	624619	4834886	Monitoring
7283305	68	624986	4835171	N/A
7288740	69	625123	4834792	N/A
7288744	70	625125	4834791	N/A
7290050	71	625139	4834826	N/A
7290051	72	625167	4834786	N/A
7290052	73	625218	4834720	N/A
7290053	74	625185	4834712	N/A
7291150	75	624865	4834678	Test Hole
7292326	76	625238	4834755	Monitoring
7292327	77	625263	4834756	Monitoring
7292328	78	625266	4834777	Monitoring