BURNSIDE

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Appendix F

Groundwater Information

October 2017

SERVICING REPORT GROUNDWATER SUMMARY

The form is to be completed by the Professional that prepared the Servicing Report.
Use of the form by the City of Toronto is not to be construed as verification of engineering/hydrological content.

For City Staff Use Only:	
Name of ECS Case Manager (please print)	
Date Review Summary provided to to TW	

A. SITE INFORMAITON		**Included in SR (reference page number)**	**Report Includes this information City staff (Check)**
Date Servicing Report was prepared:	July 2022 (Revised June 2023)	Title Pg	
Title of Servicing Report:	Functional Servicing and Stormwater Management Report - 895 Lawrence Avenue East	Title Pg	
Name of Consulting Firm that prepared Servicing Report:	R.J. Burnside & Associates Limited	Title Pg	
Site Address	895 Lawrence Avenue East Toronto, Ontario	Section 1.0 pg 1	
Postal Code	M3C 3L2	Section 1.0 pg 1	
Property Owner (identified on planning request for comments memo)	FCHT Holdings (Ontario) Corporation	Section 1.0 pg 1	
Proposed description of the project (ex. number of point towers, number of podiums, etc.)	Proposed residential building with two towers, 22-storey and 17-storey, and one podium.	Section 1.2 Pg 4	
Land Use (ex. commercial, residential, mixed, industrial, institutional) as defined by the Planning Act	Residential	Section 1.2 Pg 4	
Number of below grade levels	Two (2) levels of underground parking	Section 1.2 Pg 4	

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Does the SR include a private water drainage system (PWDS)? **PWDS: Private Water Drainage System:** A subsurface drainage system which may consist of but is not limited to weeping tile(s), foundation drain(s), private water collection sump(s), private water pump or any combination thereof for the disposal of private water on the surface of the ground or to a private sewer connection or drainage system for disposal in a municipal sewer.	If **Yes** continue completing Section B (Information Relating to Groundwater) **ONLY** **If Yes, Number of PWDS?** _____ *(Each of these PWDS may require a separate Toronto Water agreement)* If **No** skip to Sections C (On-site Groundwater Containment) and/or D (Water Tight Requirements) as applicable	◯ YES ⊘ NO Section 6.2 Pg 31	
B. INFORMATION RELATING TO GROUNDWATER		**Included in SR (reference page number)**	**Report Includes this information** **City Staff** **(Check)**
A copy of the pump schedule(s) for **ALL** groundwater sump pump(s) for the development site has been included in the FSR **or** A letter written by a Mechanical Consultant (signed and stamped by a Professional Engineer of Ontario) shall be attached to the SR stating the peak flow rate of the groundwater discharge for the development site for all groundwater sump pump(s). This peak flow rate must be based on the pump schedule(s) that have been designed by the Mechanical Consultant. A template of this letter is attached in Schedule A.		N/A	

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****If there is more than one sump they must ALL be included in the letters along with a combined flow****			
Is it proposed that the groundwater from the development site will be discharged to the sanitary, combined or storm sewer?	◯ Sanitary Sewer ◯ Combined Sewer ◯ Storm Sewer	N/A	
Will the proposed PWDS discharge from the site go to the Western Beaches Tunnel (WBT)? *Reference attached WBT drainage map*	◯ YES ◯ NO **If Yes, private water discharge fees will apply and site requires a sanitary discharge agreement.**		
What is the street name where the receiving sewer is located?			
What is the diameter of the receiving sewer?			
Is there capacity in the proposed local sewer system? ◯ YES ◯ NO	Are there any improvements required to the sewer system? If yes, identify them below and refer to the section and page number of the FSR where this information can be found. If a sewer upgrade is required, the owner is required to enter into an Agreement with the City to improve the infrastructure? ◯ YES		
Total allowable peak flow rate during a 100 year storm event (L/sec) to storm sewer When groundwater is to be discharged to the storm sewer the total groundwater and stormwater discharge shall not exceed the permissible peak flow rate during a 2 year pre development storm event, as per the City's	_____ L/sec		

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Wet Weather Flow Management Guidelines, dated 2006			
Short-Term Groundwater Discharge Provide proposed total flow rate to the sanitary/combined sewer in post-development scenario Total Flow (L/sec) = sanitary flow + peak short-term groundwater flow rate	Total Volume (L/day) = 172,000 L/day or 1.99 L/s *Peak short term groundwater flow rate to be limited to below the total sanitary flows, under post-development conditions, to the 300mm sanitary sewer in The Donway West. < 8.62 L/sec	Section 6.3 pg 31-32	
Long-Tem Groundwater Discharge Provide proposed total flow rate to the sanitary/combined sewer in post-development scenario Total Flow (L/sec) = sanitary flow + peak long-term groundwater flow rate	*No Long-Term Groundwater Discharge *Total Flow (L/sec) = (SAN) 8.62 L/s + (GW Pump Rate) 0 L/s = 8.62 L/s L/sec	Section 4.2.2 pg 19	
Does the water quality meet the receiving sewer Bylaw limits? ☑ YES ◯ NO	If the water quality does not meet the applicable receiving sewer Bylaw limits and the applicant is proposing a treatment system the applicant will need to include a letter stating that a treatment system will be installed and the details of the treatment system will be included in the private water discharge application that will be submitted to TW EM&P.	Section 6.1 pg 31	
C. ON-SITE GROUNDWATER CONTAINMENT		**Included in SR (reference page number)**	**Report Includes this information City Staff (Check)**
How is the site proposing to manage the groundwater discharge on site?		N/A	

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Has the above proposal been approved by:	◯ TW-WIM And ◯ TW-EM&P And ◯ ECS		
If the site is proposing a groundwater infiltration gallery, has it been stated that the groundwater infiltration gallery will not be connected to the municipal sewer? A connection between the infiltration gallery/dry well and the municipal sewer is not permitted Please be advised if an infiltration gallery/dry well on site is not connected to the municipal sewer, the site **must** submit two letters using the templates in Schedule B and Schedule C.	◯ YES ◯ NO	N/A	
Confirm that the infiltration gallery can infiltrate 100% of the expected peak groundwater flow year round, ensure that the top of the infiltration trench is below the frost line (1.8m depth), not less than 5 m from the building foundation, bottom of the trench 1m above the seasonally high water table, and located so that the drainage is away from the building.		N/A	
D. WATER TIGHT REQUIREMENTS		**Included in SR (reference page number)**	**Report Includes this information City Staff**

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			(Check)
If the site is proposing a water tight structure: 1. The owner must submit a letter using the template in Schedule D. 2. A Professional Engineer (Structural), licensed to practice in Ontario and qualified in the subject must submit a letter using the template in Schedule E.	Letter by Owner is provided Letter from Mechanical Engineer and Structural Engineer to be provided at subsequent submission	Appendix F	

Provide a copy of the approved SR to Toronto Water Environmental Monitoring & Protection Unit at pwapplication@toronto.ca.

Consulting Firm that prepared Servicing Report: R.J. Burnside and Associates Limited

Professional Engineer who completed the report summary: Laura Garner
Print Name

Professional Engineer who completed the report summary: _____
Signature Date & Stamp

Schedule A: Template Letter from Mechanical Consultant confirming peak groundwater flow rate

[Mechanical Consultant Company Letterhead]
[Company Name]
[Company Address and Contact Information]

[Date]
Attention: Executive Director, Engineering and Construction Services
c/o Manager, Development Engineering
[ADDRESS]

cc: General Manager, Toronto Water
c/o Manager, Environmental Monitoring and Protection Unit
30 Dee Ave, Toronto ON M9N 1S9

FCHT Holdings (Ontario) Corporation
85 Hanna Ave, Suite 400
Toronto, ON M6K 3S3
Joshua.Butcher@fcr.ca | 416-216-4279

June 28, 2023

Attention: Executive Director, Engineering and Construction Services
c/o Manager, Development Engineering
5100 Yonge Street, 4th Floor. Toronto ON M2N 5V7
cc: General Manager, Toronto Water
c/o Manager, Environmental Monitoring and Protection Unit
30 Dee Ave, Toronto ON M9N 1S9

Dear Sir or Madam,

I Joshua Butcher, confirm and undertake that I will construct and maintain all building(s) on the subject lands 895 Lawrence Ave E in a manner which shall be completely water-tight below grade and resistant to hydrostatic pressure without any necessity for Private Water Drainage System (subsurface drainage system) consisting of but not limited to weeping tile(s), foundation drain(s), private water collection sump(s), private water pump or any combination thereof for the disposal of private water on the surface of the ground or to a private sewer connection directly or indirectly or drainage system for disposal directly or indirectly in a municipal sewer.

Joshua Butcher, Senior Director, Development
Joshua.butcher@fcr.ca

Signature

I, Joshua Butcher, have the authority to bind the corporation.

REPORT

Hydrogeological Assessment

Proposed Redevelopment of 895 Lawrence Avenue East, North York, Ontario

Submitted to:

First Capital Asset Management (FCAM) LP

85 Hanna Avenue, Suite 400
Toronto, ON M6K 3S3

Attn: Ms. Julie Barnard
Development Manager

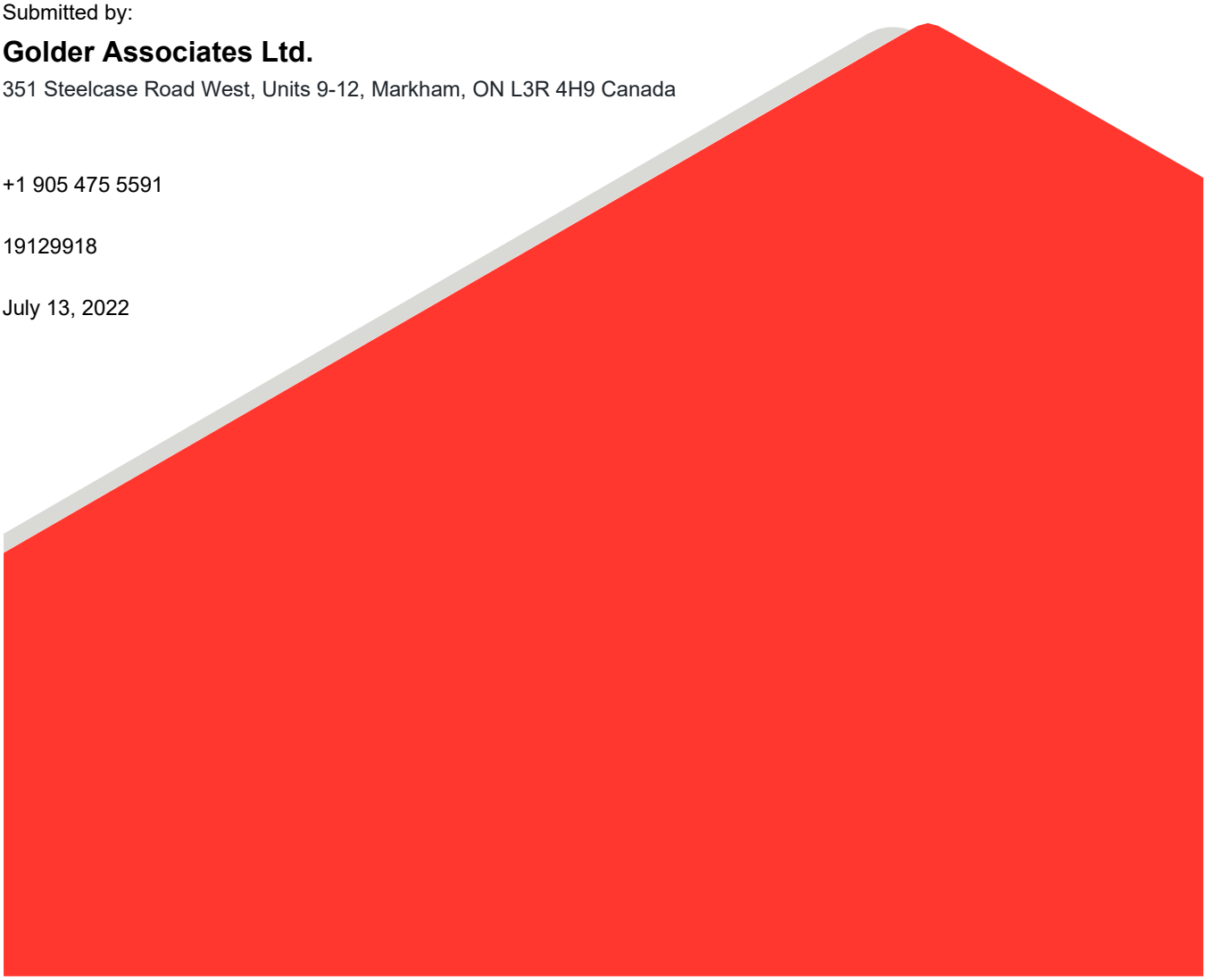
Submitted by:

Golder Associates Ltd.
351 Steelcase Road West, Units 9-12, Markham, ON L3R 4H9 Canada

+1 905 475 5591

19129918

July 13, 2022



Distribution List

eCopy - First Capital Asset Management (FCAM) LP

eCopy - Golder Associates Ltd.

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APPENDICES

1.0 INTRODUCTION

Golder Associates Ltd., a Member of WSP, ("Golder") has been retained by First Capital Asset Management LP ("FCAM" or "Client") to provide geotechnical and hydrogeological consulting services in support of the design for the proposed commercial and residential development (the "project") to be located southwest of the intersection of Lawrence Avenue East and The Donway West (the "Site") in Toronto, Ontario, at the location shown on Figure 1. The terms of reference for the consulting services are included in Golder's proposal No. P19129915 dated October 4, 2019. Authorization to proceed with the investigation was obtained in the form of the signed proposal received on February 25, 2020 from FCAM.

This report provides the results of the geotechnical exploration and testing and should be read in conjunction with the *"Important Information and Limitations of This Report"* in Appendix A which forms an integral part of this document. The reader's attention is specifically drawn to this information, as it is essential for the proper use and interpretation of this report. The data, interpretations and recommendations contained in this report pertain to a specific project as described in the report and are not applicable to any other project or site location. If the project is modified in concept, location or elevation, or if the project is not initiated within eighteen months of the date of the report, Golder should be given an opportunity to confirm that the recommendations in this report are still valid.

1.1 Site and Project Description

The Site is located at 895 Lawrence Avenue East, North York, Ontario (M3C 3L2), at the southwest corner of the intersection of Lawrence Avenue East and The Donway West in Toronto, Ontario, as shown on Figure 2. The site is bordered on the north by Lawrence Avenue East, on the east and south by The Donway West and on the west by four-storey and one-storey commercial buildings. The Site is currently occupied by a one-storey commercial building in the northwest portion of the Site and a paved parking area and access roads in the remainder of the Site. Based on the topographic survey of the Site, the ground surface generally slopes downward from the west to the east with geodetic elevations ranging from approximately 146 metres (m) to 143 m. Along the western boundary of the Site, a retaining wall about 1 m to 1.5 m high separates the property from the neighbouring property, which is at a higher elevation.

At the time of preparing this report, the conceptual drawings provided by FCAM indicated that the proposed development consist of two towers (22 and 17 storeys) connected by a 6-storey podium. The towers will be for residential use and the podium will be mixed-use commercial and residential. All of the buildings will have a common underground parking structure extending to two levels below grade, which will be approximately 6 m below finished grade.

1.1.1 Topography and Drainage

The ground surface at the Site is relatively flat, with ground surface elevations ranging from approximately 143 metres above sea level (masl) in the east to 146 masl in the west. It is assumed that surface water (i.e., rainfall) at the Site discharges to the municipal sewer system. The closest surface water features to the Site are Willet Creek approximately 1 kilometre (km) to the west, and the Don River approximately 1.1 km to the east.

1.1.2 Geology and Physiography

Physiographic mapping in the area indicates that the Site lies within the physiographic region of southern Ontario known as the South Slope (Chapman and Putnam, 2007). The South Slope region slopes gradually downward towards Lake Ontario. The overburden immediately below ground surface within the South Slope generally consists of clayey silt till and silty clay till and at depth consists of alternating deposits of dense lacustrine sands and silts

and over consolidated lacustrine clays and clay tills overlying the bedrock. Geological mapping conducted by the Ontario Geological Survey (OGS) indicates that the surficial geology at the Site consists of stone-poor silty sand to sandy silty till (OGS, 2010).

1.1.3 Groundwater Use

It is expected all the properties within 500 m of the Site are connected to the municipal water supply system. A review was conducted of the Ministry of the Environment, Conservation and Parks (MECP) water well database in the vicinity of the Site (Appendix B). The MECP records indicate 52 water well records are located within approximately 500 m of the Site, and all of the records are associated with monitoring wells (i.e., observation wells) completed at depths of between 2 and 6 mbgs. No water supply well records were noted within 200 m of the Site.

1.2 Scope of Work

The scope of work for the hydrogeological investigation consisted of:

- Assessing the local hydrogeological setting of the site based on a review of published information sources, including topographic and geologic mapping, the MECP Water Well Record database and available site-specific reports;
- Completing a drilling and monitoring well installation program as part of the concurrent geotechnical investigation. Five monitoring wells were installed at the Site;
- Conducting single-well response testing at each monitoring well to estimate the hydraulic conductivity of the material adjacent to the screened intervals;
- Collecting groundwater samples from one of the monitoring wells (plus one QA/QC duplicate sample), for analysis of the City of Toronto sewer use by-law parameters;
- Monitoring groundwater levels at each well on six events over a period of three months (i.e., bi-weekly measurements);
- Assessing adjacent infrastructure and providing comments on potential geotechnical impacts (i.e., settlement) from dewatering on structures within the zone of influence; and,
- Preparing a report summarizing the methods, data and findings of the investigation, including characterization of subsurface conditions based on field findings and a description of the groundwater quality including an assessment of potential groundwater discharge options (i.e., provide a comparison of existing groundwater quality to the sewer discharge limits). The report includes an estimate of short-term dewatering rates for construction purposes and long-term dewatering rates for a permanent sub-grade drainage system based on available designs provided to Golder, an assessment of dewatering impacts to surrounding features, comments on discharge management and comments on the need for water taking permitting from the MECP.

2.0 INVESTIGATION PROCEDURE

2.1 Drilling and Well Installations

The combined drilling investigation for this assignment was carried out from March 19 to 27, 2020, during which time five boreholes (designated as BH20-1 to BH20-5) were advanced. The boreholes for the investigation were drilled using a standard truck-mounted CME75 drill rig supplied and operated by DBW Drilling Limited of Ajax, Ontario, subcontracted to Golder. The approximate borehole locations are shown on the Figure 2. The monitoring wells each consisted of a 50-millimetre (mm) diameter PVC riser pipe, with a slotted screen sealed at a selected depth within the borehole. A sand filter pack was placed around the screen, and above the screen the annular space was backfilled to the surface with bentonite. The borehole logs and well completion details are provided in Appendix C.

The field work for this investigation was observed by members of Golder's technical staff, who located the boreholes in the field, arranged for the clearance of underground utilities, observed the borehole drilling, sampling and in situ testing operations, logged the boreholes as well as examined and took custody of the recovered soil samples.

The geodetic ground surface elevations at the borehole locations were determined from elevation references taken from a survey plan provided by FCAM, titled, "*Topographic Plan of Part of Blocks B and C, Registered Plan 4545, City of Toronto,*" prepared by Schaeffer Dzaldov Bennett Ltd., dated June 26, 2013, and as such, the elevations given on the Record of Borehole sheets and referred to herein should be considered to be approximate.

2.2 Soil Conditions

In general, the subsurface conditions encountered at the boreholes consisted of the existing pavement structure underlain by fill, extending to depths ranging from about 0.3 to 1.0 m below the existing ground surface. The native material at the Site generally consisted of interlayered deposits of silty clay, clayey silt, silt and silty sand till. A deeper silty clay/clayey silt unit was noted at the bottom of each borehole. The soil consistency generally varied from hard to very dense. Table 1 (below) summarizes the general geological conditions at the Site based on the results of the drilling program. Figure 3 illustrates the inferred geologic profile at the Site.

Table 1: Site Geology

Stratigraphic Unit	Approximate Depth (mbgs)
Fill	0.0 – 1.0
Interlayered silt, silty sand, and silty clay till	0.4 – 14.0
Silty clay/clayey silt till	8.5 – 17.0

The Record of Borehole sheets indicate the subsurface conditions at the borehole locations only. The stratigraphic boundaries shown on the borehole records are inferred from non-continuous sampling, observations of drilling progress as well as results of Standard Penetration Tests and, therefore, typically represent transitions between soil types rather than exact planes of geological/stratigraphic change. Subsurface soil conditions will vary between and beyond the borehole locations.

2.3 Groundwater Level Measurements

Water level measurements for the current investigation were collected at the Site starting in May 2020. Water levels were measured at each location with an electronic water level tape, which was cleaned between well locations. Table A (attached) provides a summary of all available water level measurements, including measurements collected to date as part of the current study.

The depth to groundwater at the Site was found to be at depths ranging from approximately 3.3 m below ground surface (bgs) to 4.5 mbgs. The water levels generally declined on the order of 5 to 10 centimetres (cm) over the period of monitoring between May and July, which is generally consistent with seasonal water level fluctuations over the summer months in southern Ontario. The lateral groundwater flow direction in the shallow overburden is to the east (Figure 2). It is expected that depth to groundwater at the Site will vary both on a seasonal and year over year basis.

2.4 Hydraulic Conductivity

Single-well response testing was carried out by Golder on May 13, 2020 at each of the newly installed monitoring wells. This testing was carried out by rapidly purging a known volume of water from each well with a dedicated disposable bailer and monitoring the subsequent water level recovery.

The Bouwer-Rice (1976) method for unconfined conditions was applied to rising head test data. The data was analyzed using the AQTESOLV for Windows version 4.50 Professional software. The single-well response testing AQTESOLV printouts are provided in Appendix C. The hydraulic conductivity values for the various overburden units ranged from about 1 x 10^{-8} to 3 x 10^{-9} m/s in the silty clay till and 1 x 10^{-7} to 3 x 10^{-6} m/s in the silt and silty sand (see Table A, attached).

2.5 Groundwater Quality

Groundwater quality samples were collected from monitoring well BH21-3 on June 27, 2022, according to standard environmental practices. The samples were stored on ice following collection, and were delivered to AGAT Laboratories of Mississauga, Ontario for analysis of the parameters stipulated under the City of Toronto Municipal Code, Chapter 681 by-law. The laboratory analytical data sheets are provided in Appendix D. The sampling results indicate that the concentrations of all the parameters stipulated under the by-law were below their respective by-law limit values for both storm and sanitary sewer discharge.

3.0 DEWATERING EVALUATION

Based on the design information currently available the proposed development consist of two towers (22 and 17 storeys) connected by a 6-storey podium. All of the buildings will have a common underground parking structure extending to two levels below grade, which will be approximately 6 m below finished grade. The geotechnical report (Golder, 2020) indicates that the depths for the shallow foundations will be 1 to 2 m below the finished basement floor and suggests the deepest footing base elevation would be approximately 139.1 masl. The highest measured water table elevation at the Site is approximately 141.3 masl (Table A). As such it is expected that placement of the foundations and bottom building slab would be a maximum of 2.2 m below the water table, and in excavation control of groundwater and incident precipitation will be required. Based on the geological profile (Figure 3) it is expected that groundwater inflow would occur primarily from within the uppermost silty sand/sandy silt till.

F or the purpose of determining dewatering rates and the zone of influence (ZOI), Golder has assumed that dewatering will be carried out as follows:

- The groundwater level will be controlled at no more than 0.5 m below the base on the footing levels (i.e., a minimum of 138.6 masl);
- Surface water runoff will be directed away from any open excavation; and,
- Groundwater should be pumped in a manner to prevent loss of ground.

Regardless of the above assumptions, the method of construction dewatering is to be solely determined by the Contractor based on their own assessment of the Site-specific conditions, and likely by their specialist dewatering contractor.

3.1 Drawdown Estimate

The amount of drawdown in the water table will depend on both the depth to groundwater and depth of the required excavations. The measured depth to groundwater was found to vary across the Site, ranging from about 3.3 to 4.6 m bgs, or from about 138.5 to 141.3 masl. As the water level measurements were collected during the late spring it is expected that the recorded measurements are close to the seasonal high water levels for the Site. Excavations for footing installations would run the length of the proposed building. Based on the conceptual drawings provided by the Client the building footprint will be approximately 100 m long from east to west, and 50 m wide from north to south. As shown on Figure 3, the depth to groundwater will vary over the excavation length, gradually dropping from west to east. To provide a conservative estimate of the required drawdown the highest measured groundwater elevation (141.3 masl) was compared to the lowest required water level (138.6 masl), for a maximum required drawdown of 2.8 m.

3.2 Water Taking Needs

In order to estimate the potential dewatering requirements for utility excavation at the Site the dewatering Zone of Influence (ZOI) must be calculated. The ZOI represents the lateral extent of groundwater drawdown in response to potential dewatering. Applying the Sichart and Kyrieleis empirical relationship, the lateral extent of groundwater level drawdown is estimated as follows:

$$R_0 = 3000s\sqrt{K}$$

Where:

R_0 = distance to zero drawdown (i.e., limit of influence) (m);

s = theoretical drawdown at the excavation wall; and

K = hydraulic conductivity of the material

Using the geometric mean of the measured hydraulic conductivity measurements in the silty and silty sand (1×10^{-6} m/s) and the estimated maximum required drawdown of 2.8 m, the ZOI, which is taken as the distance to zero drawdown, is calculated to be 8 m.

3.3 Construction Dewatering Rates

To assess potential dewatering rates within the surficial deposits to allow excavation of the proposed building footprint, the steady state dewatering rate is estimated for an unenclosed excavation 100 m long by 50 m wide with a maximum drawdown of 2.8 m. The dewatering rate (“Q”) is estimated using a modified version of Jacob’s equation for unconfined aquifer conditions:

$$Q = \left[\frac{xK(H^2 - {h_w}^2)}{2L}\right]$$

Where:

Q = Dewatering rate (m^3/s)
H = initial groundwater level (2.8 m)
x = excavation wall length (300 m)
K = hydraulic conductivity (1 x 10^{-6} m/s)
h = final groundwater level (0 m)
L = zone of influence, ZOI (8 m)

Based on the above information the steady-state dewatering rate for the full excavation footprint is calculated to be 14 m^3/day. Assuming a safety factor of two to provide a conservative estimate, the steady dewatering rate is therefore assumed to be 28 m^3/day.

Additional inflow will occur as a result of pore water storage release from the till material within the ZOI (a soil volume of approximately 1,120 m^3 or 112 m^3 of pore water (assuming a specific yield of 10%). The rate of this storage release is, in part, dependent on the rate of excavation. In this case, we assume that the overall excavation would be completed within a 14-day period, resulting in an additional 8 m^3/day of inflow. Finally, assuming a 30 mm rain event occurs over the excavation area during the higher dewatering rate period, another 150 m^3 of water would require removal. Assuming removal of the incident rainfall within one day, an estimated total water taking of 172 m^3/day would be required for construction dewatering purposes as part of subsurface construction activities. Management and disposal of groundwater and incident rainfall will be required during construction. Options for disposal typically include off-site trucking and disposal or discharge to the municipal sewer system. A temporary discharge permit would be required if discharge the sewer system is to be implemented.

Based on the above calculations the construction dewatering requirements for subsurface construction activities will be below the 400 m^3/day threshold for a Permit to Take Water, and but will be above the 50 m^3/day threshold for an Environmental Activity Sector Register (EASR).

3.4 Long-Term Drainage

It is understood that the current design plans include use of a water-tight (i.e., tanked or bath-tubbed) foundation. As such, there will be no long-term post-construction dewatering activities or water taking/discharge at the Site.

4.0 ASSESSMENT OF POTENTIAL DEWATERING EFFECTS

4.1 Geotechnical Assessment

Section 3.2 discusses the lateral extent of the anticipated groundwater drawdown for the proposal excavation due to temporary construction dewatering. The drawdown curve indicates that:

- The drawdown is zero at approximately 8 m from the pumping source in the fill and native deposits;
- For a drawdown of about 1.0 m in the fill and non-cohesive native deposits, the distance from the pumping source is approximately 5 m; and,
- The maximum anticipated drawdown is 2.8 m at the edge of the planned excavation.

For the purpose of this assessment, the predicted zone of influence due to groundwater dewatering will depend on the depth of excavations, lateral extent (width) of the excavations and most importantly the depth and locations of the dewatering well points (if any) from the structures.

Lowering of the groundwater table by about 1.0 m at the nearest foundations / structures will result in an increase in effective stress of about 10 kPa. As this is a relatively small increase, the impacts of such groundwater lowering are considered to be negligible at distances beyond 5 m from the pumping source. The maximum drawdown of 2.8 m will result in an increase in effective stress of about 28 kPa and, based on the stratigraphy encountered in the boreholes advanced at the Site, this temporary increase in effective stress is estimated to result in settlements of approximately 4 mm immediately adjacent to the point of groundwater extraction.

A review of the Site indicates that along the western boundary two buildings are located about 5 m away from the property line. Settlements induced by dewatering at a distance of 5 m from the pumping source are estimated to be about 1 mm. Along the north, east and south boundaries, the light poles and signs are located along the sidewalk about 3 m from the property boundary. At a distance of 3 m from the property line, an estimated maximum settlement of only about 2.5 mm would be anticipated at the ground surface. Considering the maximum anticipated settlement and the distances of the adjacent structures, buildings, utilities, electrical poles or signs from the property line, the impacts of the dewatering can be considered to be negligible.

4.2 Groundwater Resources

As noted in Section 1.1.3, no private water wells are located within the immediate vicinity of the Site or within the estimated ZOI, and the entire Site is outside of any wellhead protection area for water quantity or quality. Based on the estimated dewatering requirements and dewatering zone of influence (ZOI) (see Section 3.2) as part of the construction activities, it is not anticipated that temporary dewatering activities pose a risk to any water supply wells.

4.3 Surface Water Resources

Disposal options for diverted water are expected to include off-Site trucking or discharge to the sewer system. No watercourse features are located in close proximity to the Site. Based on the small size of the predicted ZOI, and the temporary nature of dewatering and discharge activities, dewatering activities are not expected to have any effect on surface water features or on the natural environment.

5.0 CLOSURE

We trust that this report is suitable for your current requirements. If you have any questions regarding the contents of this report or require additional information, please do not hesitate to contact this office.

Signature Page

Golder Associates Ltd.

David Dillon, P.Geo.
Hydrogeologist

Mark A. Swallow, M.A.Sc., P.E., P.Eng.
Geotechnical Engineer VIII, Fellow

DD/MAS/sat

https://golderassociates-my.sharepoint.com/personal/sttimpano_golder_com/documents/desktop/19129918 fcam rpt 2022'07'13 895 lawrence-finalrev0.docx

REFERENCES

Chapman, L.J., and Putnam, D.F., 2007, *"The Physiography of Southern Ontario"*; 4th Edition, Ontario Geological Survey.

Ontario Geological Survey. 2010. Surficial geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 128-REV.

Table A

Table A
Groundwater Level Measurements

Well ID	Borehole Depth (mbgs)	Ground Surface (masl)	Stick-up (m)	Measurement Date	Water Level (mbtoc)	Water Level (mbgs)	Water Level (masl)	Hydraulic Conductivity (m/s)	Primary Unit
BH20-1	12.20	142.90	-0.10	13-May-20	4.30	4.40	138.50	1.0E-07	silty clay/silty sand
				21-May-20	4.29	4.39	138.51		
				5-Jun-20	4.25	4.35	138.55		
				16-Jun-20	4.26	4.36	138.54		
				7-Jul-20	4.31	4.41	138.49		
				22-Jul-20	4.34	4.44	138.46		
BH20-2	17.80	144.00	-0.10	13-May-20	3.44	3.54	140.46	3.5E-09	silty clay/clayey silt till
				21-May-20	3.79	3.89	140.11		
				5-Jun-20	3.68	3.78	140.22		
				16-Jun-20	3.57	3.67	140.33		
				7-Jul-20	3.58	3.68	140.32		
				22-Jul-20	3.57	3.67	140.33		
BH20-3	12.20	145.80	-0.10	13-May-20	4.36	4.46	141.34	3.4E-06	silt
				21-May-20	4.37	4.47	141.33		
				5-Jun-20	4.40	4.50	141.30		
				16-Jun-20	4.38	4.48	141.32		
				7-Jul-20	4.40	4.50	141.30		
				22-Jul-20	4.52	4.62	141.18		
BH20-4	11.70	143.60	-0.10	13-May-20	3.21	3.31	140.29	3.6E-06	silty sand/silt
				21-May-20	3.23	3.33	140.27		
				5-Jun-20	3.24	3.34	140.26		
				16-Jun-20	3.25	3.35	140.25		
				7-Jul-20	3.26	3.36	140.24		
				22-Jul-20	3.26	3.36	140.24		

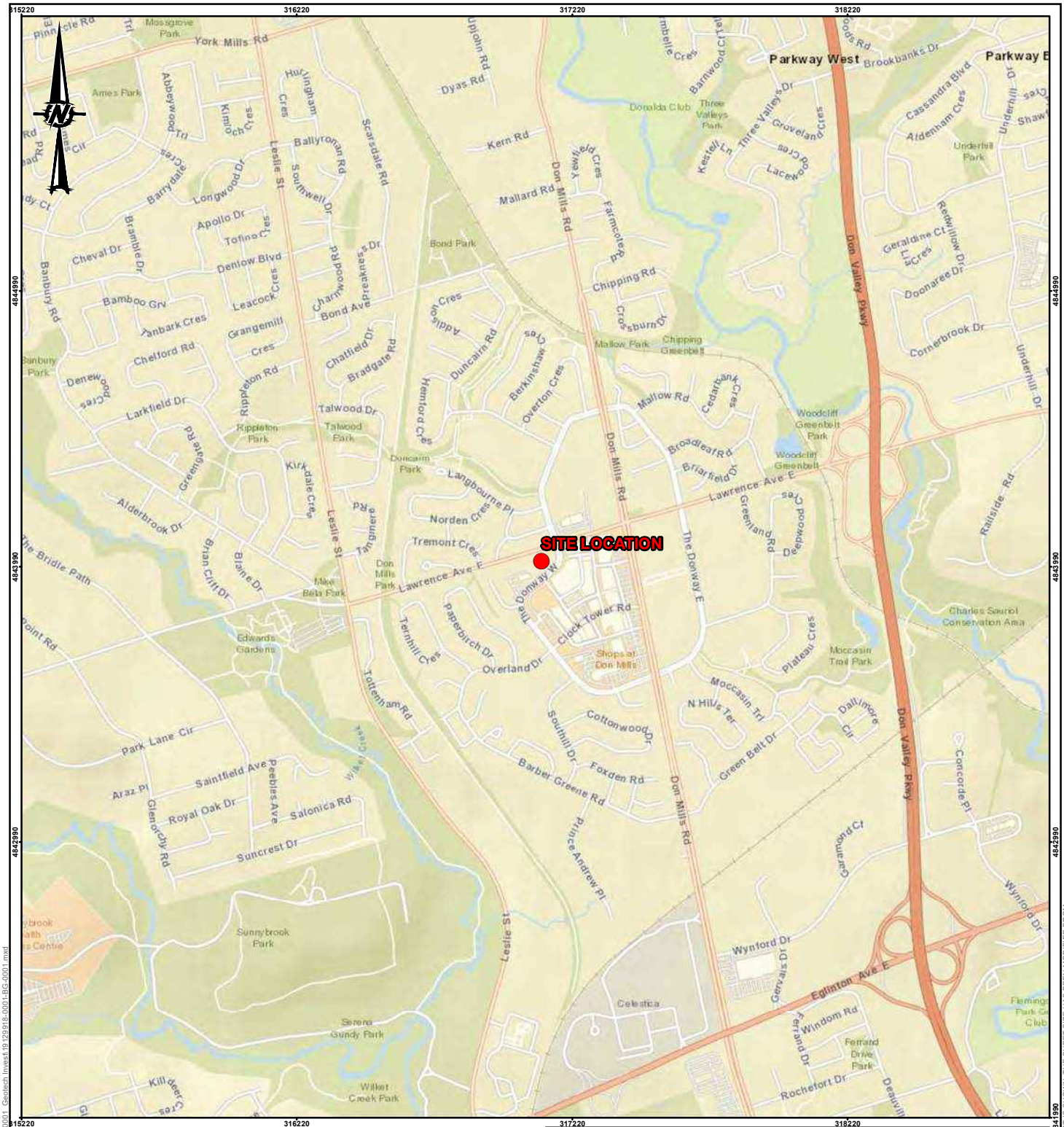
Table A
Groundwater Level Measurements

Well ID	Borehole Depth (mbgs)	Ground Surface (masl)	Stick-up (m)	Measurement Date	Water Level (mbtoc)	Water Level (mbgs)	Water Level (masl)	Hydraulic Conductivity (m/s)	Primary Unit
BH20-5	16.8	144.6	-0.06	13-May-20	3.53	3.59	141.01	1.1E-08	silty clay/clayey silt till
				21-May-20	3.47	3.53	141.07		
				5-Jun-20	3.50	3.56	141.04		
				16-Jun-20	3.50	3.56	141.04		
				7-Jul-20	3.56	3.62	140.98		
				22-Jul-20	3.60	3.66	140.94		

Notes:

1. m toc meters below top of casing
2. masl meters above sea level
3. m bgs meters below ground surface
4. Table to be read in conjunction with accompanying report
5. Superscript [1] denotes approximate stickups

Figures



0 500 1,000

1:20,000 METRES

REFERENCE(S)

SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, USGS, INTERMAP, INCREMENT P, NRCAN, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), ESRI KOREA, ESRI (THAILAND), NGCC, (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17N

CLIENT
FIRST CAPITAL ASSET MANAGEMENT (FCAM) LP

PROJECT
HYDROGEOLOGICAL ASSESSMENT
PROPOSED REDEVELOPMENT OF 895 LAWRENCE AVENUE EAST, NORTH YORK, ONTARIO

TITLE
KEY PLAN

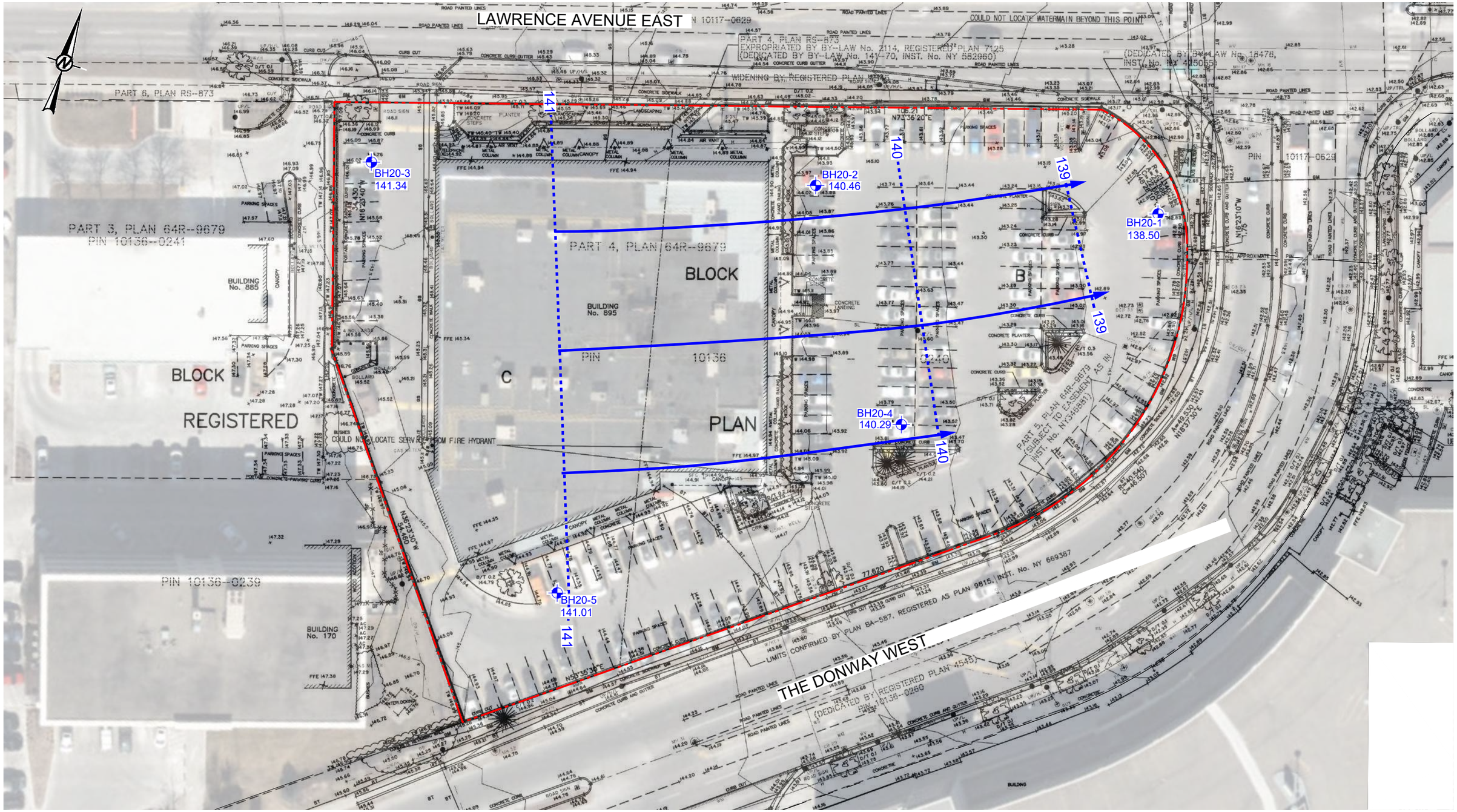
CONSULTANT
GOLDER

YYYY-MM-DD	2020-04-08
DESIGNED	
PREPARED	MK / JPR
REVIEWED	DPD
APPROVED	-

PROJECT NO. 19129918 CONTROL REV. FIGURE **1**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm 0

Path: S:\Clients\First Capital\Toronto Lawrence Ave E 895\96 PRO\19129918\40 PROD\0001 Geotech Invest\19129918-0001-BG-0001.mxd



LEGEND

- BOREHOLE LOCATION
- 141.01 STATIC WATER ELEVATION 31 MAY 2020 (masl)
- GROUNDWATER CONTOUR (masl)
- INFERRED DIRECTION OF GROUNDWATER FLOW

0 10 20
1:500 METRES

REFERENCE(S)
BASE MAP TAKEN FROM SCHAEFFER DZALDOV BENNETT LTD., DATED JUNE, 2013, DELIVERED IN FORMAT PDF

NOTE
EXISTING ORTHOGRAPHIC IMAGE UNDERLAIN PROPOSED REDEVELOPMENT SURVEY PLAN

CLIENT
FIRST CAPITAL ASSET MANAGEMENT (FCAM) LP

CONSULTANT
GOLDER

YYYY-MM-DD	2020-09-03
DESIGNED	
PREPARED	JPR
REVIEWED	DPD
APPROVED	

PROJECT
HYDROGEOLOGICAL ASSESSMENT
PROPOSED REDEVELOPMENT OF 895 LAWRENCE AVE EAST
NORTH YORK, ONTARIO

TITLE
BOREHOLE LOCATION PLAN
GROUNDWATER FLOW 31 MAY 2020

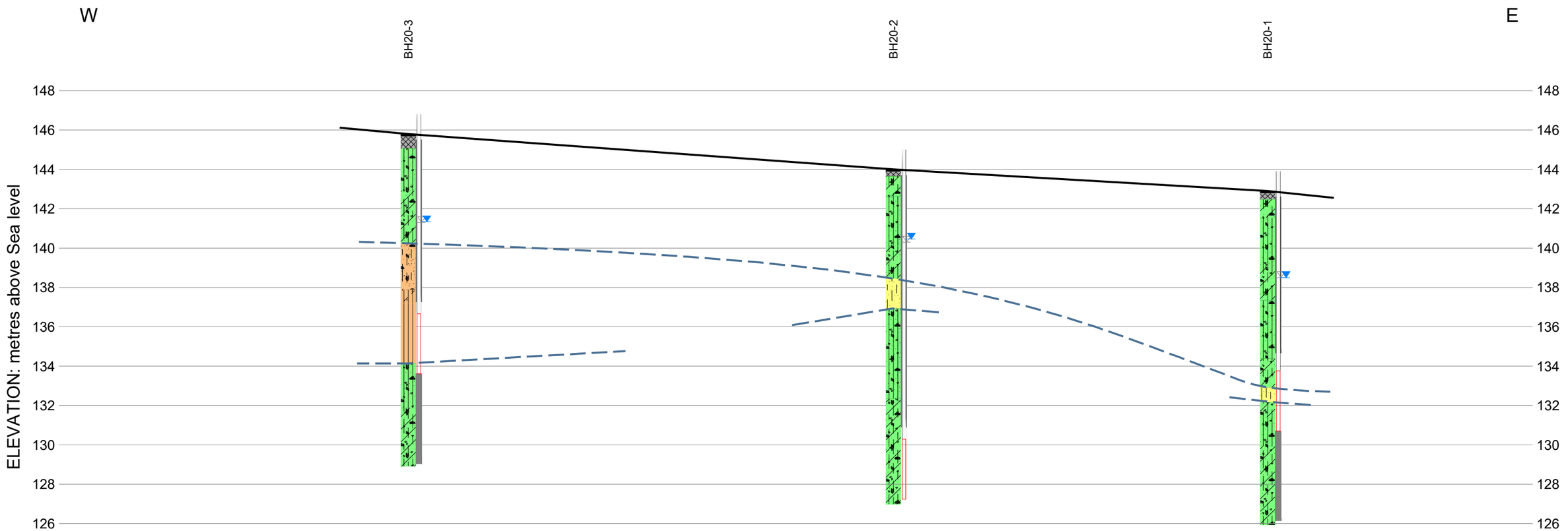
PROJECT NO.	CONTROL	REV.	FIGURE
19129918	0002	----	2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25 mm

W

E



SOIL PATTERN LEGEND AND GENERIC SHADING

- ORGANICS / TOPSOIL
- FILL
- SAND
- SAND TRACE SILT
- SILTY SAND
- SILTY GRAVELLY SAND
- SILT
- SANDY SILT
- GRANULAR TILL
- SILT TILL
- SILTY CLAY TILL
- SILTY SAND / SANDY SILT TILL

PLAN LEGEND

- Borehole With Monitoring Well
- Borehole

SECTION WELL SYMBOLS

- BH1 — Borehole ID
- Recorded Static Water Level
- Screen
- 10 — 'N Value

NOTES:

TO BE READ IN CONJUNCTION WITH REPORTING WITHIN WHICH ILLUSTRATION IS BOUND. LOCATION AND ELEVATIONS OF FIELD VERIFIED WELLS ARE SUBJECT TO REVISION.

BOUNDARIES BETWEEN SOIL STRATA HAVE BEEN DETERMINED ONLY AT WELL AND TEST WELL LOCATIONS. BETWEEN THE WELLS AND TEST WELLS, BOUNDARIES ARE NOT PROVEN BUT ARE ASSUMED FROM GEOLOGICAL EVIDENCE.

0 10 20 30 m
1:500

CLIENT
FIRST CAPITAL ASSET MANAGEMENT (FCAM) LP

CONSULTANT
GOLDER

YYYY-MM-DD	2020-09-03
DESIGNED	
PREPARED	JPR
REVIEWED	DPD
APPROVED	

PROJECT
HYDROGEOLOGICAL ASSESSMENT
PROPOSED REDEVELOPMENT OF 895 LAWRENCE AVE EAST
NORTH YORK, ONTARIO

TITLE
STRATIGRAPHIC CROSS-SECTION

PROJECT NO.	CONTROL	REV.	FIGURE
19129918	0002	----	3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25 mm

APPENDIX A

Important Information and Limitations

IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

Standard of Care: Golder Associates Ltd. (Golder) has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering and science professions currently practising under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made.

Basis and Use of the Report: This report has been prepared for the specific site, design objective, development and purpose described to Golder by the Client. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location. Any change of site conditions, purpose, development plans or if the project is not initiated within eighteen months of the date of the report may alter the validity of the report. Golder cannot be responsible for use of this report, or portions thereof, unless Golder is requested to review and, if necessary, revise the report.

The information, recommendations and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without Golder's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the client, Golder may authorize in writing the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to Golder. The report, all plans, data, drawings and other documents as well as all electronic media prepared by Golder are considered its professional work product and shall remain the copyright property of Golder, who authorizes only the Client and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report by those parties. The Client and Approved Users may not give, lend, sell, or otherwise make available the report or any portion thereof to any other party without the express written permission of Golder. The Client acknowledges that electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore the Client can not rely upon the electronic media versions of Golder's report or other work products.

The report is of a summary nature and is not intended to stand alone without reference to the instructions given to Golder by the Client, communications between Golder and the Client, and to any other reports prepared by Golder for the Client relative to the specific site described in the report. In order to properly understand the suggestions, recommendations and opinions expressed in this report, reference must be made to the whole of the report. Golder can not be responsible for use of portions of the report without reference to the entire report.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the Client in the design of the specific project. The extent and detail of investigations, including the number of test holes, necessary to determine all of the relevant conditions which may affect construction costs would normally be greater than has been carried out for design purposes. Contractors bidding on, or undertaking the work, should rely on their own investigations, as well as their own interpretations of the factual data presented in the report, as to how subsurface conditions may affect their work, including but not limited to proposed construction techniques, schedule, safety and equipment capabilities.

Soil, Rock and Ground Water Conditions: Classification and identification of soils, rocks, and geologic units have been based on commonly accepted methods employed in the practice of geotechnical engineering and related disciplines. Classification and identification of the type and condition of these materials or units involves judgment, and boundaries between different soil, rock or geologic types or units may be transitional rather than abrupt. Accordingly, Golder does not warrant or guarantee the exactness of the descriptions.

Special risks occur whenever engineering or related disciplines are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain subsurface conditions. The environmental, geologic, geotechnical, geochemical and hydrogeologic conditions that Golder interprets to exist between and beyond sampling points may differ from those that actually exist. In addition to soil variability, fill of variable physical and chemical composition can be present over portions of the site or on adjacent properties. The professional services retained for this project include only the geotechnical aspects of the subsurface conditions at the site, unless otherwise specifically stated and identified in the report. The presence or implication(s) of possible surface and/or subsurface contamination resulting from previous activities or uses of the site and/or resulting from the introduction onto the site of materials from off-site sources are outside the terms of reference for this project and have not been investigated or addressed.

Soil and groundwater conditions shown in the factual data and described in the report are the observed conditions at the time of their determination or measurement. Unless otherwise noted, those conditions form the basis of the recommendations in the report. Groundwater conditions may vary between and beyond reported locations and can be affected by annual, seasonal and meteorological conditions. The condition of the soil, rock and groundwater may be significantly altered by construction activities (traffic, excavation, groundwater level lowering, pile driving, blasting, etc.) on the site or on adjacent sites. Excavation may expose the soils to changes due to wetting, drying or frost. Unless otherwise indicated the soil must be protected from these changes during construction.

Sample Disposal: Golder will dispose of all uncontaminated soil and/or rock samples 90 days following issue of this report or, upon written request of the Client, will store uncontaminated samples and materials at the Client's expense. In the event that actual contaminated soils, fills or groundwater are encountered or are inferred to be present, all contaminated samples shall remain the property and responsibility of the Client for proper disposal.

Follow-Up and Construction Services: All details of the design were not known at the time of submission of Golder's report. Golder should be retained to review the final design, project plans and documents prior to construction, to confirm that they are consistent with the intent of Golder's report.

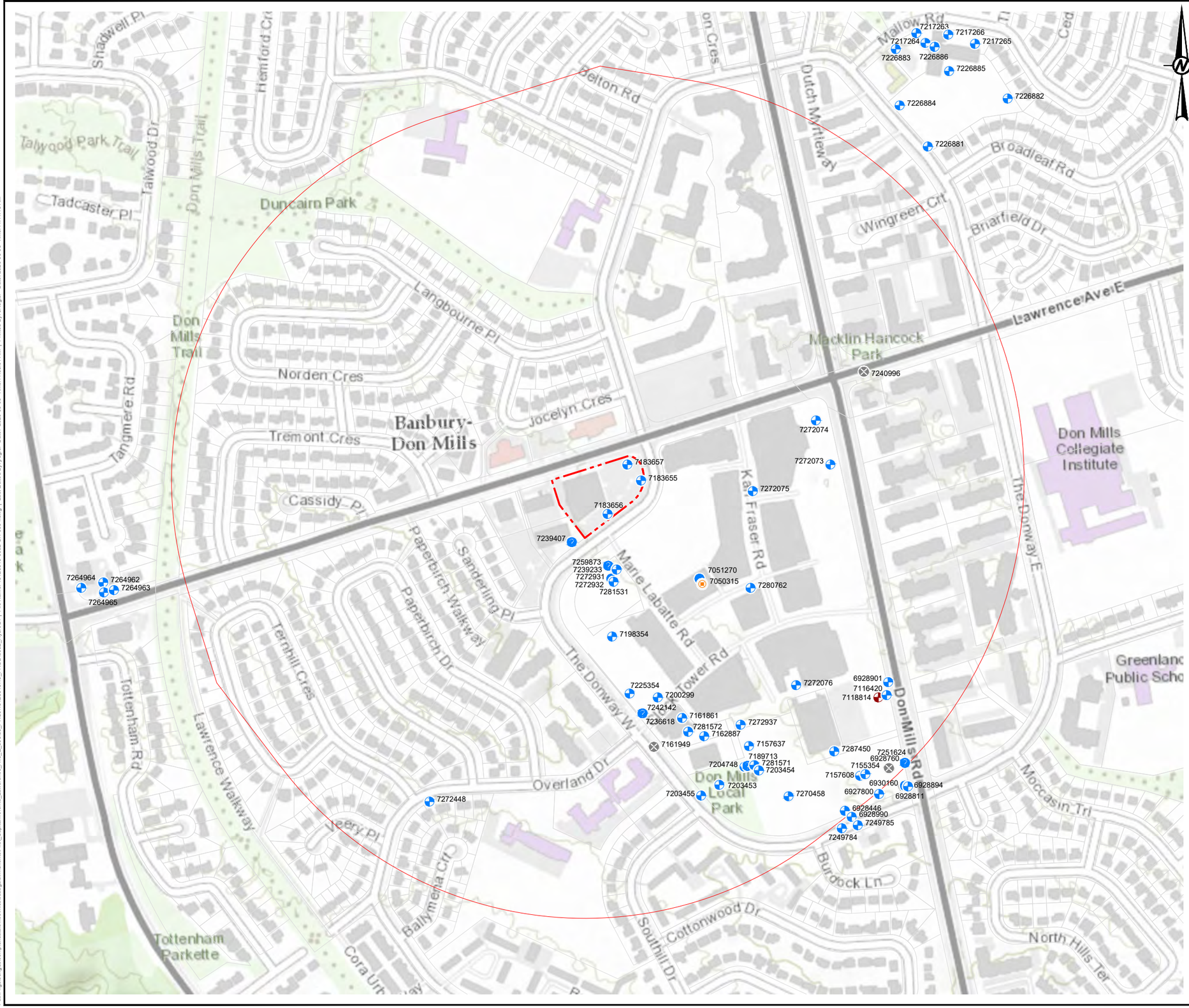
During construction, Golder should be retained to perform sufficient and timely observations of encountered conditions to confirm and document that the subsurface conditions do not materially differ from those interpreted conditions considered in the preparation of Golder's report and to confirm and document that construction activities do not adversely affect the suggestions, recommendations and opinions contained in Golder's report. Adequate field review, observation and testing during construction are necessary for Golder to be able to provide letters of assurance, in accordance with the requirements of many regulatory authorities. In cases where this recommendation is not followed, Golder's responsibility is limited to interpreting accurately the information encountered at the borehole locations, at the time of their initial determination or measurement during the preparation of the Report.

Changed Conditions and Drainage: Where conditions encountered at the site differ significantly from those anticipated in this report, either due to natural variability of subsurface conditions or construction activities, it is a condition of this report that Golder be notified of any changes and be provided with an opportunity to review or revise the recommendations within this report. Recognition of changed soil and rock conditions requires experience and it is recommended that Golder be employed to visit the site with sufficient frequency to detect if conditions have changed significantly.

Drainage of subsurface water is commonly required either for temporary or permanent installations for the project. Improper design or construction of drainage or dewatering can have serious consequences. Golder takes no responsibility for the effects of drainage unless specifically involved in the detailed design and construction monitoring of the system.

APPENDIX B

Water Well Database Records



MAP KEY

PLAN LEGEND

- DEVELOPMENT BOUNDARY WITH 500 m OFFSET
- SANDPOINT / DEWATERING PIEZOMETER
- DRILLED OVERBURDEN WELL
- TEST OR OBSERVATION WELL
- MONITORING NEST CENTROID

REFERENCES & DISCLAIMERS

MINISTRY OF ENVIRONMENT WATER WELL INFORMATION SYSTEM, QUEEN'S PRINTER. LOCATION AND ELEVATIONS OF MAPPED WELLS ARE SUBJECT TO REVISION BASED ON DRILL RECORD OR FIELD VERIFICATION.

ALIGNMENT OF ORTHOGRAPHIC IMAGERY IS APPROXIMATED TO SELECT FEATURES ON DATUM. AWAY FROM POINTS OF ALIGNMENT THE ORTHOGRAPHIC IMAGE MAY BE DIMENSIONALLY SKEWED OR PROJECTED OFF THE MAP DATUM PLANE.

0 100 200 300 m

1:5000

PLOTTED 11X17" TABLOID PROJECTION IS UTM NAD 83 ZONE 17

CLIENT
FIRST CAPITAL ASSET MANAGEMENT (FCAM) LP

PROJECT
HYDROGEOLOGICAL AND GEOTECHNICAL EXPLORATION
PROPOSED REDEVELOPMENT OF 895 LAWRENCE AVE EAST
NORTH YORK, ONTARIO

TITLE
MINISTRY RECORDED WELLS

CONSULTANT
GOLDER

YYYY-MM-DD	2020-09-03
DESIGNED	
PREPARED	JPR
REVIEWED	DPD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
19129918	0002	----	4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25 mm

LABEL	CON LOT	DATE mmm-yr	EASTING NORTHING	ELEV masl	WTR FND mbgl	Qu	SCR TOP mbgl	LEN m	SWL mbgl	RATE L/min	TIME min	PL mbgl	DRILLER METHOD	TYPE STAT	WELL NAME DESCRIPTION OF MATERIALS
6927800		Mar-04	633460 4843470	127.1			4.9	-3.0	NR				6607 -	OW -	**MOE# 6927800 TAG#A010211** 0.0 BRWN SAND GRVL FILL 3.0 BRWN SAND 7.9
6928446		Jun-04	633415 4843448	146.3			13.1	-6.1	NR				6809 OTH	OW -	**MOE# 6928446 TAG#A011041** 0.0 BRWN SAND SILT 2.1 BRWN SILT SAND 4.9 GREY SILT 7.9 BRWN SAND 18.0 GREY SILT 19.5
6928760		Feb-05	633473 4843504	143.3					NR				6607 BR	AB NU	**MOE# 6928760** 0.0
6928811		Feb-05	633498 4843480	89.6	12.2	Un	16.8	-1.5	NR				6607 -	OW -	**MOE# 6928811 TAG#A021364** 0.0 BRWN SILT SAND 1.5 BRWN SAND 13.7 GREY SILT CLAY 18.3
6928894		Mar-05	633494 4843481	144.2	12.5	Fr	11.6	-6.4	NR				6607 BR	- -	**MOE# 6928894 TAG#A021364** 0.0 BRWN SAND 17.7 GREY CLAY SILT 18.0
6928901		Feb-05	633472 4843617	140.5	7.0	Fr	5.2	-3.0	NR				6607 -	OW -	**MOE# 6928901 TAG#A021374** 0.0 BRWN SAND DRY 7.0 BRWN SAND WBRG 7.6 GREY CLAY SILT DNSE 8.2
6928990		Apr-05	633424 4843440	146.6			11.9	-6.1	NR				1129 OTH	OW -	**MOE# 6928990 TAG#A025755** 0.0 BRWN SAND SILT WBRG 15.8 BRWN SAND LOOS DNSE 17.4 GREY SILT DNSE 18.0
6930160		Apr-06	633492 4843480	144.2			16.5	-1.5	NR				6607 BR	AB -	**MOE# 6930160 TAG#A021364** 0.0
7050315		Sep-07	633224 4843753	143.0	0.9	Fr			NR				6926 OTH	- DW	**MOE# 7050315 TAG#A058475** 0.0 GREY SILT SAND DRY 2.1 GREY SILT SAND SLTY 7.0
7051270		Sep-07	633224 4843753	143.0					NR				6926 -	- -	**MOE# 7051270 TAG#A058475** 0.0 GREY SILT TILL SAND 2.1 GREY SILT TILL SAND 7.0
7116420		Oct-08	633470 4843600	140.8			5.2	-3.4	NR				6032 BR	OW MO	**MOE# 7116420 TAG#A021374** 0.0 WHTE HARD 0.3 BRWN SILT CLAY DNSE 5.8 BRWN SAND CSND SOFT 7.6 GREY SILT CLAY DNSE 8.5
7118814		Sep-08	633459 4843597	141.4	7.9	Fr			NR				6607 -	TH MO	**MOE# 7118814 TAG#A078548** 0.0 BRWN SAND GRVL CLAY 1.5 BRWN MSND DNSE 9.1 GREY SILT CLAY DNSE 9.4
7155354		Oct-10	633442 4843496	143.6			9.8	-3.0	NR				6032 -	OW MO	**MOE# 7155354 TAG#A093909** 0.0 BRWN SAND GRVL PCKD 0.9 BRWN SAND SILT HARD 12.8
7157608		Dec-10	633435 4843494	143.9			11.0	0.0	NR				7215 RC	TH TH	**MOE# 7157608 TAG#A108050** 0.0 BRWN FILL 0.6 BRWN SAND SLTY 11.0
7157637		Nov-10	633289 4843533	146.3			10.7	0.0	NR				7215 RC	TH TH	**MOE# 7157637 TAG#A108048** 0.0 BRWN FILL CGVL SAND 0.9 BRWN SAND 1.8 BRWN TILL SILT GRVL 4.3 GREY TILL SILT GRVL 7.6 GREY TILL SILT GRVL 9.1 GREY SILT SAND WBRG 10.7
7161861		Feb-11	633201 4843570	146.3	6.1	Un	9.1	-3.0	NR				6607 BR	OW MO	**MOE# 7161861 TAG#A110331** 0.0 BRWN SAND GRVL FILL 0.6 GREY SILT CLAY DNSE 4.6 GREY SILT SAND DNSE 6.1 GREY SAND LOOS 12.2

LABEL	CON LOT	DATE mmm-yr	EASTING NORTHING	ELEV masl	WTR FND mbgl Qu	SCR TOP LEN mbgl m	SWL mbgl	RATE L/min	TIME min	PL mbgl	DRILLER METHOD	TYPE STAT	WELL NAME DESCRIPTION OF MATERIALS
7161949		Mar-11	633164 4843532	147.5			NR				7215 -	AB -	**MOE# 7161949** 0.0
7162887		Nov-11	633230 4843546	146.3		11.6 -3.4	NR				7247 BR	OW MO	**MOE# 7162887 TAG#A095122** 0.0 BLCK WSTE 7.9 BRWN GRNT PCKD 25.0 BRWN FILL SILT GRVL 4.6 GREY SILT GRVL SNDY 6.1 BRWN MSND SILT DNSE 10.7 GREY SILT SAND DNSE 14.9
7183655		Jun-12	633147 4843882	143.6		1.8 -1.5	NR				7241 OTH	TH TH	**MOE# 7183655 TAG#A133618** 0.0 BRWN SAND GRVL LOOS 0.3 BRWN SAND SILT LOOS 3.0 GREY SILT CLAY DNSE 3.4
7183656		Jun-12	633103 4843838	144.2		2.4 -3.0	NR				7241 OTH	TH TH	**MOE# 7183656 TAG#A133617** 0.0 BRWN SAND GRVL LOOS 0.3 BRWN SILT SAND LOOS 2.4 GREY SILT SAND LOOS 5.5
7183657		Jun-12	633129 4843903	143.6		3.0 -3.0	NR				7241 OTH	TH TH	**MOE# 7183657 TAG#A133467** 0.0 BRWN SAND GRVL LOOS 0.3 BRWN SILT CLAY DNSE 3.4 GREY SILT CLAY DNSE 6.1
7189713		Jul-12	633287 4843507	146.6			NR				6607 -	- -	**MOE# 7189713 TAG#A132975** 0.0
7198354		Feb-13	633109 4843677	146.9	8.5 Un	7.6 -3.0	NR				7501 RC	TH TH	**MOE# 7198354 TAG#A143121** 0.0 BRWN SILT SAND LOOS 4.6 BRWN SILT SAND DNSE 7.6 GREY SAND SILT DNSE 10.7
7200299		Mar-13	633169 4843597	146.6	10.7 Un	10.7 -3.0	NR				7501 RC	TH TH	**MOE# 7200299 TAG#A143176** 0.0 BRWN CLAY SILT SAND 10.7 BRWN SAND SILT LOOS 13.7
7203453		Jun-13	633250 4843482	146.9		10.7 -3.0	NR				7238 BR	OW TH	**MOE# 7203453 TAG#A146066** 0.0 BRWN FILL GRVL PCKD 1.5 BRWN CLAY SILT HARD 4.6 GREY SILT SAND HARD 9.1 GREY SILT HARD CLAY 13.7
7203454		Jun-13	633302 4843501	146.6		15.2 -1.5	NR				7238 BR	OW TH	**MOE# 7203454 TAG#A146056** 0.0 BRWN FILL GRVL PCKD 1.5 BRWN CLAY HARD GRVL 6.1 BRWN SILT SAND DNSE 10.7 GREY SILT CSND SOFT 13.7 GREY SAND SILT SOFT 16.8
7203455		Jun-13	633226 4843468	147.5		10.7 -3.0	NR				7238 BR	OW TH	**MOE# 7203455 TAG#A146067** 0.0 BRWN FILL GRVL PCKD 1.5 BRWN CLAY SILT HARD 4.6 GREY SILT SAND HARD 9.1 GREY SILT CLAY HARD 13.7
7204748		Jul-13	633283 4843506	146.6	12.2 Un	24.4 -1.5	NR				7238 OTH	OW TH	**MOE# 7204748 TAG#A146062** 0.0 GREY SAND SILT 10.7 GREY SAND SILT 23.2 GREY SILT CLAY 25.3 GREY SAND SILT 25.9
7225354		Jun-14	633132 4843602	147.2		7.6 -1.5	7.9	5	7	8.8	1663 RC	TH TH	**MOE# 7225354 TAG#A146978** 0.0 BRWN TPSL 0.3 BRWN FILL 1.5 BRWN CLAY GRVL 5.5 GREY CLAY GRVL SILT 7.0 BRWN SILT SAND GRVL 9.1
7236618		Nov-14	633149 4843576	147.2			NR				6926 -	- -	**MOE# 7236618 TAG#A162886** 0.0
7239233		Oct-14	633103 4843770	145.7			NR				7230 -	- -	**MOE# 7239233 TAG#A170981** 0.0

LABEL	CON LOT	DATE mmm-yr	EASTING NORTHING	ELEV masl	WTR FND mbgl Qu	SCR TOP LEN mbgl m	SWL mbgl	RATE L/min	TIME min	PL mbgl	DRILLER METHOD	TYPE STAT	WELL NAME DESCRIPTION OF MATERIALS
7239407		Apr-14	633056 4843801	146.0			NR				6809 -	- -	**MOE# 7239407 TAG#A152289** 0.0
7240996		Feb-15	633440 4844025	139.6	1.5 Un		NR				7247 -	AB -	**MOE# 7240996** 0.0
7242142		Apr-15	633149 4843576	147.2			NR				6926 -	- -	**MOE# 7242142 TAG#A162886** 0.0
7249784		Jul-15	633411 4843425	147.2	14.3 Un	13.7 -3.0	NR				6607 BR	OW TH	**MOE# 7249784 TAG#A179876** 0.0 0.3 SAND TILL 2.1 SAND 16.8
7249785		Jul-15	633432 4843429	146.9	13.7 Un	13.7 -3.0	NR				6607 BR	OW TH	**MOE# 7249785 TAG#A179875** 0.0 0.3 SAND TILL 2.1 SAND 16.8
7251624		Oct-15	633494 4843511	143.0			NR				6607 -	- -	**MOE# 7251624 TAG#A192859** 0.0
7259873		Nov-15	633104 4843770	145.7			NR				7230 -	- -	**MOE# 7259873 TAG#A199749** 0.0
7270458		May-16	633341 4843467	146.9		9.1 -3.0	NR				6032 BR	OW MO	**MOE# 7270458 TAG#A194307** 0.0 BRWN SAND SILT DNSE 4.6 GREY SILT SAND DNSE 10.4 GREY SILT SAND DNSE 12.2
7272073		Aug-16	633396 4843903	142.0		5.2 -3.0	NR				7241 RC	- -	**MOE# 7272073 TAG#A205727** 0.0 BRWN CLAY 3.7 GREY CLAY 8.2
7272074		Aug-16	633377 4843961	141.7		1.5 -3.0	NR				7241 RC	- -	**MOE# 7272074 TAG#A205728** 0.0 BRWN SAND GRVL WBRG 4.6
7272075		Aug-16	633294 4843868	142.3		4.9 -3.0	NR				7241 RC	- -	**MOE# 7272075 TAG#A205729** 0.0 BRWN SAND GRVL WBRG 3.7 GREY SAND SILT WBRG 7.6 GREY SAND SILT TILL 7.9
7272076		Aug-16	633351 4843613	142.3		5.2 -3.0	NR				7241 RC	- -	**MOE# 7272076 TAG#A205731** 0.0 BRWN TILL SILT CLAY 6.1 GREY TILL SILT SAND 8.2
7272448		Sep-16	632869 4843460	144.2		1.5 -1.5	NR				6902 -	OW MO	**MOE# 7272448 TAG#A184387** 0.0
7272931		Jul-16	633115 4843765	145.7	4.3 Un	5.5 -3.0	NR				6875 RC	OW MO	**MOE# 7272931 TAG#A199861** 0.0 BLCK WSTE GRVL 0.3 GREY TPSL SAND LOOS 1.8 GREY SILT FSND HARD 3.4 BRWN CSND FSND WBRG 7.0 GREY SILT CLAY DNSE 8.5
7272932		Jul-16	633108 4843753	146.0	7.6 Un	21.6 -1.5	NR				6875 RC	- -	**MOE# 7272932 TAG#A199862** 0.0 GREY GRVL WSTE 0.3 GREY TPSL SILT SAND 1.8 GREY SILT FSND HARD 3.4 BRWN CSND FSND SILT 7.0 GREY SILT CLAY SAND 11.6 GREY CLAY SILT FSND 22.9
7272937		Jul-16	633278 4843561	146.0	7.6 Un	9.1 -3.0	NR				6875 RC	OW MO	**MOE# 7272937 TAG#A199863** 0.0 BRWN TPSL SAND CLAY 1.8 BRWN SILT CLAY FSND 4.6 BRWN FSND SILT DNSE 8.8 BRWN SAND GRVL SILT 11.6 GREY CLAY SILT SOFT 11.9
7280762		Aug-16	633291 4843741	141.7		6.1 -3.0	NR				7241 RC	- -	**MOE# 7280762 TAG#A205730** 0.0 BRWN SAND GRVL 6.1 GREY SAND SILT 9.1
7281531		Jun-16	633111 4843749	146.0		6.1 -3.0	NR				6032 BR	OW MO	**MOE# 7281531 TAG#A202410** 0.0 BRWN SAND GRVL SOFT 2.4 BRWN SILT SAND DNSE 6.1 GREY SAND SILT DNSE 9.1

LABEL	CON LOT	DATE mmm-yr	EASTING NORTHING	ELEV masl	WTR mbgl	FND Qu	SCR TOP mbgl	LEN m	SWL mbgl	RATE L/min	TIME min	PL mbgl	DRILLER METHOD	TYPE STAT	WELL NAME DESCRIPTION OF MATERIALS
7281571		Jun-16	633296 4843508	146.6			18.3	-3.0	NR				6032 BR	OW MO	**MOE# 7281571 TAG#A202433** 0.0 GREY SILT GRVL DNSE 16.8 BRWN SAND SILT WBRG 21.3
7281572		NR	633209 4843552	146.3			10.7	-3.0	NR				6032 BR	OW MO	**MOE# 7281572 TAG#A202410** 0.0 GREY SILT SAND DNSE 10.7 BRWN SAND WBRG 13.7
7287450		Aug-16	633401 4843526	144.2			18.3	-3.0	NR				6032 BR	OW MO	**MOE# 7287450 TAG#A202384** 0.0 BRWN SAND SILT DNSE 16.8 BRWN SAND DNSE 21.3

QUALITY:		TYPE:		USE:				METHOD :	
Fr	Fresh	WS	Water Supply	CO	Comercial	NU	Not Used	CT	Cable Tool
Mn	Mineral	AQ	Abandoned Quality	DO	Domestic	IR	Irrigation	JT	Jetting
Sa	Salty	AS	Abandoned Supply	MU	Municipal	AL	Alteration	RC	Rotary Conventional
Su	Sulphur	AB	Abandonment Record	PU	Public	MO	Monitoring	RA	Rotary Air
--	Unrecorded	TH	Test Hole or Observation	ST	Stock	-	Not Recorded	BR	Boring

Easting and Northings UTM NAD 83 Zone 17, Translated from Recorded UTM NAD, subject to Field Verified Location or Improved Location Accuracy.

APPENDIX C

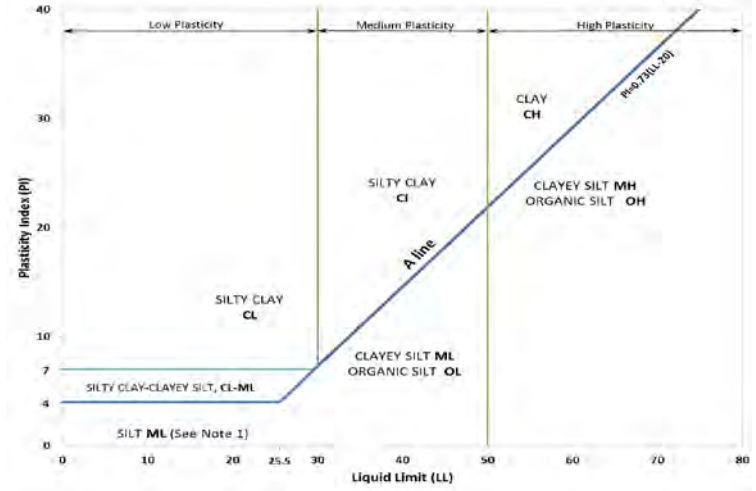
Borehole Logs

METHOD OF SOIL CLASSIFICATION

The Golder Associates Ltd. Soil Classification System is based on the Unified Soil Classification System (USCS)

Organic or Inorganic	Soil Group	Type of Soil		Gradation or Plasticity	$Cu = \frac{D_{60}}{D_{10}}$	$Cc = \frac{(D_{30})^2}{D_{10} x D_{60}}$	Organic Content	USCS Group Symbol	Group Name
INORGANIC (Organic Content ≤30% by mass)	COARSE-GRAINED SOILS (>50% by mass is larger than 0.075 mm)	GRAVELS (>50% by mass of coarse fraction is larger than 4.75 mm)	Gravels with ≤12% fines (by mass)	Poorly Graded	<4	≤1 or ≥3	≤30%	GP	GRAVEL
				Well Graded	≥4	1 to 3		GW	GRAVEL
			Gravels with >12% fines (by mass)	Below A Line	n/a			GM	SILTY GRAVEL
				Above A Line	n/a			GC	CLAYEY GRAVEL
		SANDS (≥50% by mass of coarse fraction is smaller than 4.75 mm)	Sands with ≤12% fines (by mass)	Poorly Graded	<6	≤1 or ≥3		SP	SAND
				Well Graded	≥6	1 to 3		SW	SAND
			Sands with >12% fines (by mass)	Below A Line	n/a			SM	SILTY SAND
				Above A Line	n/a			SC	CLAYEY SAND

Organic or Inorganic	Soil Group	Type of Soil	Laboratory Tests	Field Indicators					Organic Content	USCS Group Symbol	Primary Name
				Dilatancy	Dry Strength	Shine Test	Thread Diameter	Toughness (of 3 mm thread)			
INORGANIC (Organic Content ≤30% by mass)	FINE-GRAINED SOILS (≥50% by mass is smaller than 0.075 mm)	SILTS (Non-Plastic or PI and LL plot below A-Line on Plasticity Chart below)	Liquid Limit <50	Rapid	None	None	>6 mm	N/A (can't roll 3 mm thread)	<5%	ML	SILT
				Slow	None to Low	Dull	3mm to 6 mm	None to low	<5%	ML	CLAYEY SILT
				Slow to very slow	Low to medium	Dull to slight	3mm to 6 mm	Low	5% to 30%	OL	ORGANIC SILT
			Liquid Limit ≥50	Slow to very slow	Low to medium	Slight	3mm to 6 mm	Low to medium	<5%	MH	CLAYEY SILT
				None	Medium to high	Dull to slight	1 mm to 3 mm	Medium to high	5% to 30%	OH	ORGANIC SILT
		CLAYS (PI and LL plot above A-Line on Plasticity Chart below)	Liquid Limit <30	None	Low to medium	Slight to shiny	~ 3 mm	Low to medium	0% to 30% **(see Note 2)**	CL	SILTY CLAY
			Liquid Limit 30 to 50	None	Medium to high	Slight to shiny	1 mm to 3 mm	Medium		CI	SILTY CLAY
			Liquid Limit ≥50	None	High	Shiny	<1 mm	High		CH	CLAY
HIGHLY ORGANIC SOILS (Organic Content >30% by mass)		Peat and mineral soil mixtures							30% to 75%	PT	SILTY PEAT, SANDY PEAT
		Predominantly peat, may contain some mineral soil, fibrous or amorphous peat							75% to 100%		PEAT



Note 1 – Fine grained materials with PI and LL that plot in this area are named (ML) SILT with slight plasticity. Fine-grained materials which are non-plastic (i.e. a PL cannot be measured) are named SILT.
Note 2 – For soils with <5% organic content, include the descriptor "trace organics" for soils with between 5% and 30% organic content include the prefix "organic" before the Primary name.

Dual Symbol — A dual symbol is two symbols separated by a hyphen, for example, GP-GM, SW-SC and CL-ML.
For non-cohesive soils, the dual symbols must be used when the soil has between 5% and 12% fines (i.e. to identify transitional material between "clean" and "dirty" sand or gravel.
For cohesive soils, the dual symbol must be used when the liquid limit and plasticity index values plot in the CL-ML area of the plasticity chart (see Plasticity Chart at left).

Borderline Symbol — A borderline symbol is two symbols separated by a slash, for example, CL/CI, GM/SM, CL/ML.
A borderline symbol should be used to indicate that the soil has been identified as having properties that are on the transition between similar materials. In addition, a borderline symbol may be used to indicate a range of similar soil types within a stratum.

ABBREVIATIONS AND TERMS USED ON RECORDS OF BOREHOLES AND TEST PITS

PARTICLE SIZES OF CONSTITUENTS

Soil Constituent	Particle Size Description	Millimetres	Inches (US Std. Sieve Size)
BOULDERS	Not Applicable	>300	>12
COBBLES	Not Applicable	75 to 300	3 to 12
GRAVEL	Coarse Fine	19 to 75 4.75 to 19	0.75 to 3 (4) to 0.75
SAND	Coarse Medium Fine	2.00 to 4.75 0.425 to 2.00 0.075 to 0.425	(10) to (4) (40) to (10) (200) to (40)
SILT/CLAY	Classified by plasticity	<0.075	< (200)

MODIFIERS FOR SECONDARY AND MINOR CONSTITUENTS

Percentage by Mass	Modifier
>35	Use 'and' to combine major constituents (*i.e.,* SAND and GRAVEL)
> 12 to 35	Primary soil name prefixed with "gravelly, sandy, SILTY, CLAYEY" as applicable
> 5 to 12	some
≤ 5	trace

PENETRATION RESISTANCE

Standard Penetration Resistance (SPT), N:

The number of blows by a 63.5 kg (140 lb) hammer dropped 760 mm (30 in.) required to drive a 50 mm (2 in.) split-spoon sampler for a distance of 300 mm (12 in.). Values reported are as recorded in the field and are uncorrected.

Cone Penetration Test (CPT)

An electronic cone penetrometer with a 60° conical tip and a project end area of 10 cm^2 pushed through ground at a penetration rate of 2 cm/s. Measurements of tip resistance (q_t), porewater pressure (u) and sleeve frictions are recorded electronically at 25 mm penetration intervals.

Dynamic Cone Penetration Resistance (DCPT); N_d:

The number of blows by a 63.5 kg (140 lb) hammer dropped 760 mm (30 in.) to drive uncased a 50 mm (2 in.) diameter, 60° cone attached to "A" size drill rods for a distance of 300 mm (12 in.).

PH: Sampler advanced by hydraulic pressure
PM: Sampler advanced by manual pressure
WH: Sampler advanced by static weight of hammer
WR: Sampler advanced by weight of sampler and rod

SAMPLES

AS	Auger sample
BS	Block sample
CS	Chunk sample
DD	Diamond Drilling
DO or DP	Seamless open ended, driven or pushed tube sampler – note size
DS	Denison type sample
GS	Grab Sample
MC	Modified California Samples
MS	Modified Shelby (for frozen soil)
RC	Rock core
SC	Soil core
SS	Split spoon sampler – note size
ST	Slotted tube
TO	Thin-walled, open – note size (Shelby tube)
TP	Thin-walled, piston – note size (Shelby tube)
WS	Wash sample

SOIL TESTS

w	water content
PL , w_p	plastic limit
LL , w_L	liquid limit
C	consolidation (oedometer) test
CHEM	chemical analysis (refer to text)
CID	consolidated isotropically drained triaxial test[1]
CIU	consolidated isotropically undrained triaxial test with porewater pressure measurement[1]
D_R	relative density (specific gravity, Gs)
DS	direct shear test
GS	specific gravity
M	sieve analysis for particle size
MH	combined sieve and hydrometer (H) analysis
MPC	Modified Proctor compaction test
SPC	Standard Proctor compaction test
OC	organic content test
SO_4	concentration of water-soluble sulphates
UC	unconfined compression test
UU	unconsolidated undrained triaxial test
V (FV)	field vane (LV-laboratory vane test)
γ	unit weight

1. Tests anisotropically consolidated prior to shear are shown as CAD, CAU.

NON-COHESIVE (COHESIONLESS) SOILS

Compactness[2]

Term	SPT 'N' (blows/0.3m)[1]
Very Loose	0 to 4
Loose	4 to 10
Compact	10 to 30
Dense	30 to 50
Very Dense	>50

1. SPT 'N' in accordance with ASTM D1586, uncorrected for the effects of overburden pressure.
2. Definition of compactness terms are based on SPT 'N' ranges as provided in Terzaghi, Peck and Mesri (1996). Many factors affect the recorded SPT 'N' value, including hammer efficiency (which may be greater than 60% in automatic trip hammers), overburden pressure, groundwater conditions, and grainsize. As such, the recorded SPT 'N' value(s) should be considered only an approximate guide to the soil compactness. These factors need to be considered when evaluating the results, and the stated compactness terms should not be relied upon for design or construction.

Field Moisture Condition

Term	Description
Dry	Soil flows freely through fingers.
Moist	Soils are darker than in the dry condition and may feel cool.
Wet	As moist, but with free water forming on hands when handled.

COHESIVE SOILS

Consistency

Term	Undrained Shear Strength (kPa)	SPT 'N'[1,2] (blows/0.3m)
Very Soft	<12	0 to 2
Soft	12 to 25	2 to 4
Firm	25 to 50	4 to 8
Stiff	50 to 100	8 to 15
Very Stiff	100 to 200	15 to 30
Hard	>200	>30

1. SPT 'N' in accordance with ASTM D1586, uncorrected for overburden pressure effects; approximate only.
2. SPT 'N' values should be considered ONLY an approximate guide to consistency; for sensitive clays (e.g., Champlain Sea clays), the N-value approximation for consistency terms does NOT apply. Rely on direct measurement of undrained shear strength or other manual observations.

Water Content

Term	Description
w < PL	Material is estimated to be drier than the Plastic Limit.
w ~ PL	Material is estimated to be close to the Plastic Limit.
w > PL	Material is estimated to be wetter than the Plastic Limit.

LIST OF SYMBOLS

Unless otherwise stated, the symbols employed in the report are as follows:

I. GENERAL

π	3.1416
ln x	natural logarithm of x
$\log_{10}$	x or log x, logarithm of x to base 10
g	acceleration due to gravity
t	time

II. STRESS AND STRAIN

γ	shear strain
Δ	change in, e.g. in stress: $\Delta\sigma$
ε	linear strain
ε_v	volumetric strain
η	coefficient of viscosity
υ	Poisson's ratio
σ	total stress
σ'	effective stress ($\sigma' = \sigma - u$)
σ'_{vo}	initial effective overburden stress
$\sigma_1, \sigma_2, \sigma_3$	principal stress (major, intermediate, minor)
σ_{oct}	mean stress or octahedral stress $= (\sigma_1 + \sigma_2 + \sigma_3)/3$
τ	shear stress
u	porewater pressure
E	modulus of deformation
G	shear modulus of deformation
K	bulk modulus of compressibility

III. SOIL PROPERTIES

(a) Index Properties

$\rho(\gamma)$	bulk density (bulk unit weight)*
$\rho_d(\gamma_d)$	dry density (dry unit weight)
$\rho_w(\gamma_w)$	density (unit weight) of water
$\rho_s(\gamma_s)$	density (unit weight) of solid particles
γ'	unit weight of submerged soil ($\gamma' = \gamma - \gamma_w$)
D_R	relative density (specific gravity) of solid particles ($D_R = \rho_s / \rho_w$) (formerly G_s)
e	void ratio
n	porosity
S	degree of saturation

* Density symbol is ρ. Unit weight symbol is γ where $\gamma = \rho g$ (i.e. mass density multiplied by acceleration due to gravity)

(a) Index Properties (continued)

w	water content
w_l or LL	liquid limit
w_p or PL	plastic limit
I_p or PI	plasticity index = $(w_l - w_p)$
NP	non-plastic
w_s	shrinkage limit
I_L	liquidity index = $(w - w_p) / I_p$
I_C	consistency index = $(w_l - w) / I_p$
e_{max}	void ratio in loosest state
e_{min}	void ratio in densest state
I_D	density index = $(e_{max} - e) / (e_{max} - e_{min})$ (formerly relative density)

(b) Hydraulic Properties

h	hydraulic head or potential
q	rate of flow
v	velocity of flow
i	hydraulic gradient
k	hydraulic conductivity (coefficient of permeability)
j	seepage force per unit volume

(c) Consolidation (one-dimensional)

C_c	compression index (normally consolidated range)
C_r	recompression index (over-consolidated range)
C_s	swelling index
C_α	secondary compression index
m_v	coefficient of volume change
c_v	coefficient of consolidation (vertical direction)
c_h	coefficient of consolidation (horizontal direction)
T_v	time factor (vertical direction)
U	degree of consolidation
σ'_p	pre-consolidation stress
OCR	over-consolidation ratio = σ'_p / σ'_{vo}

(d) Shear Strength

τ_p, τ_r	peak and residual shear strength
ϕ'	effective angle of internal friction
δ	angle of interface friction
μ	coefficient of friction = tan δ
c′	effective cohesion
c_u, s_u	undrained shear strength ($\phi = 0$ analysis)
p	mean total stress $(\sigma_1 + \sigma_3)/2$
p′	mean effective stress $(\sigma'_1 + \sigma'_3)/2$
q	$(\sigma_1 - \sigma_3)/2$ or $(\sigma'_1 - \sigma'_3)/2$
q_u	compressive strength $(\sigma_1 - \sigma_3)$
S_t	sensitivity

Notes: 1 $\tau = c' + \sigma' \tan \phi'$

2 shear strength = (compressive strength)/2

PROJECT: 19129918 (1000)

LOCATION: See Figure 2

RECORD OF BOREHOLE: BH20-1

BORING DATE: March 19, 2020

SHEET 1 OF 2

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 63kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m; SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○)	HYDRAULIC CONDUCTIVITY, k, cm/s; WATER CONTENT PERCENT (Wp, W, Wl)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		142.90							
		ASPHALT (~130 mm thick)		0.00							Concrete
		FILL - (SP/GP) SAND and GRAVEL, some fines; brown; non-cohesive, moist		0.13							
				142.47	1	SS	12				
		(CL) SILTY CLAY, some sand, trace gravel; brown (TILL); oxidation stains; cohesive, w<PL, very stiff		0.43							
1					2	SS	18				50 mm Diameter Monitoring Well
				141.53							
		(ML) sandy SILT, trace gravel; brown to grey (TILL); non-cohesive, moist, dense to very dense		1.37							
					3	SS	30				
2					4	SS	57				
3					5	SS	50/ 0.1				
		- Becomes grey at a depth of about 3.3 m									
				138.96							
4		(CL-ML) SILTY CLAY to CLAYEY SILT, trace sand, trace gravel; grey (TILL); cohesive, w<PL, hard		3.94							Bentonite Seal ▽ June 16, 2020
					6	SS	46				
5											
				137.34							
		(ML) sandy SILT, trace gravel; grey (TILL); non-cohesive, moist, very dense		5.56							
6					7	SS	50/ 0.13				
7											
					8	SS	50/ 0.13				
8											
				134.37							
		(CL-ML) SILTY CLAY to CLAYEY SILT, trace sand, trace gravel; grey (TILL); cohesive, w<PL, hard		8.53							Sand
9					9	SS	50/ 0.07				
											Silica Sand Filter and Screen
				132.90							
10		*CONTINUED NEXT PAGE*									

CME 75 Truck Mounted Rig
140 mm Solid Stem Augers

DEPTH SCALE
1 : 50

GOLDER

LOGGED: AD/SS
CHECKED: RA

GTA-BHS 001 S:\CLIENTS\FIRST_CAPITAL\TORONTO_LAWERENCE_AVE_E_895\02_DATA\GINT\TORONTO_LAWERENCE_AVE_E_895.GPJ GAL-MIS.GDT 6/18/20

PROJECT: 19129918 (1000)

RECORD OF BOREHOLE: BH20-1

SHEET 2 OF 2

LOCATION: See Figure 2

BORING DATE: March 19, 2020

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 63kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
10		*--- CONTINUED FROM PREVIOUS PAGE ---*									
	CME 75 Truck Mounted Rig / 140 mm Solid Stem Augers	(SM) SILTY SAND, some gravel; grey; non-cohesive, moist, very dense		10.00							
				132.16	10A / ~~10B~~	SS	50/ 0.13				
11		(CL-ML) SILTY CLAY to CLAYEY SILT, some sand, some gravel; grey (TILL); cohesive, w<PL, hard		10.74							Silica Sand Filter and Screen
				131.39							
		(ML) sandy SILT, some gravel; grey (TILL); non-cohesive, moist, very dense		11.51							
12					11	SS	50/ 0.05				
				129.92							
13		(CL-ML) SILTY CLAY to CLAYEY SILT, trace to some sand, trace gravel; grey (TILL); cohesive, w<PL, hard		12.98							
					12	SS	50/ 0.07				
14											Cave/Bentonite
15											
					13	SS	50/ 0.13				
16											
					14	SS	50/ 0.05				
17		END OF BOREHOLE		125.93 16.97							
		NOTES:									
		1. Borehole caved at a depth of about 11.3 mbgs upon completion of drilling.									
18		2. Groundwater level measured in monitoring well as follows:									
		Date / Depth(m) / Elev. (m) 13/05/2020 / 4.4 / 138.5 21/05/2020 / 4.4 / 138.5 05/06/2020 / 4.4 / 138.5 16/06/2020 / 4.4 / 138.5									
19											
20											

DEPTH SCALE

1 : 50

GOLDER

LOGGED: AD/SS

CHECKED: RA

GTA-BHS 001 S:\CLIENTS\FIRST_CAPITAL\TORONTO_LAWERENCE_AVE_E_895\02_DATA\GINT\TORONTO_LAWERENCE_AVE_E_895.GPJ GAL-MIS.GDT 6/18/20

PROJECT: 19129918 (1000)

RECORD OF BOREHOLE: BH20-2

SHEET 1 OF 2

LOCATION: See Figure 2

BORING DATE: March 19 to 24, 2020

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 63kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		144.00							
0	140 mm I.D. Hollow Stem Augers	ASPHALT (~130mm thick)		0.00							Concrete
		FILL - (SP/GP) SAND and GRAVEL, some fines; brown; non-cohesive, moist, loose		0.13 143.64 0.36	1	SS	6				
1		(CL) SILTY CLAY, some sand, trace gravel; brown (TILL); oxidation stains, cohesive, w<PL, firm to stiff			2	SS	10				50 mm Diameter Monitoring Well
				142.63							
		(ML) sandy SILT, trace gravel; brown (TILL), oxidation stains; non-cohesive, moist, very dense		1.37	3	SS	65				
2					4	SS	50/ 0.07				
3					5	SS	50/ 0.13				▽ June 16, 2020
				140.11							
4	CME 75 Truck Mounted Rig	(CL) SILTY CLAY, some sand, trace gravel; grey (TILL); cohesive, w<PL, hard		3.89	6	SS	42				
5											Bentonite Seal
				138.44							
		(SM) SILTY SAND, some gravel; grey; non-cohesive, moist, very dense		5.56							
6	98 mm Dia Tricone - Mud Rotary Drilling				7	SS	80			M	
7				136.91							
		(ML) sandy SILT, trace gravel; grey (TILL); non-cohesive, moist, very dense		7.09							
					8	SS	56				
8											
9					9	SS	54				
10		*CONTINUED NEXT PAGE*									

DEPTH SCALE

1 : 50

GOLDER

LOGGED: AD/SS

CHECKED: RA

GTA-BHS 001 S:\CLIENTS\FIRST_CAPITAL\TORONTO_LAWERENCE_AVE_E_895\02_DATA\GINT\TORONTO_LAWERENCE_AVE_E_895.GPJ GAL-MIS.GDT 6/18/20

PROJECT: 19129918 (1000)

RECORD OF BOREHOLE: BH20-2

SHEET 2 OF 2

LOCATION: See Figure 2

BORING DATE: March 19 to 24, 2020

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 63kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●, rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
10	CME 75 Truck Mounted Rig 98 mm Dia Tricone - Mud Rotary Drilling	*--- CONTINUED FROM PREVIOUS PAGE ---*									
10		(ML) sandy SILT, trace gravel; grey (TILL); non-cohesive, moist, very dense									
11					10	SS	51				
				132.34							Bentonite Seal
		(CL-ML) SILTY CLAY to CLAYEY SILT, trace to some sand, trace to some gravel; grey (TILL); cohesive, w<PL, hard		11.66							
12					11	SS	74				
13											Sand
14					12	SS	50/0.1				
15											
					13	SS	50/0.1				Silica Sand Filter and Screen
16											
17				126.98	14	SS	50/0.1				
		END OF BOREHOLE		17.02							
18		NOTE: 1. Groundwater level measured in monitoring well as follows: Date / Depth(m) / Elev. (m) 13/05/2020 / 3.5 / 140.5 21/05/2020 / 3.9 / 140.1 05/06/2020 / 3.8 / 140.2 16/06/2020 / 3.7 / 140.3									
19											
20											

DEPTH SCALE

1 : 50

GOLDER

LOGGED: AD/SS

CHECKED: RA

GTA-BHS 001 S:\CLIENTS\FIRST_CAPITAL\TORONTO_LAWERENCE_AVE_E_895\02_DATA\GINT\TORONTO_LAWERENCE_AVE_E_895.GPJ GAL-MIS.GDT 6/18/20

PROJECT: 19129918 (1000)

LOCATION: See Figure 2

RECORD OF BOREHOLE: BH20-3

BORING DATE: March 27, 2020

SHEET 1 OF 2

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 63kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		145.80							
0	140 mm I.D. Hollow Stem Augers	ASPHALT (~130 mm thick)		0.00							Concrete
		FILL - (SP/GP) SAND and GRAVEL, trace fines; brown; non-cohesive, moist, compact		0.13	1	SS	23				
				145.06							
1		(ML) sandy SILT, trace gravel; brown (TILL), oxidation stains; non-cohesive, moist, compact to dense		0.74	2	SS	18				50 mm Diameter Monitoring Well
2					3	SS	37				
					4	SS	44				
				142.90							
3		(CL-ML) SILTY CLAY to CLAYEY SILT, some sand, trace gravel; grey (TILL); cohesive, w<PL, cohesive, w<PL, hard		2.90	5	SS	31				
4											Bentonite Seal ▽ June 16, 2020
					6	SS	30				
5	CME 75 Truck Mounted Rig										
				140.24							
		(SM/ML) SILTY SAND to sandy SILT, some gravel; grey (TILL); non-cohesive, moist, dense to very dense		5.56							
6					7	SS	31				
7	98 mm Dia Tricone - Mud Rotary Drilling										
					8A	SS	76				
				137.88							
8		(ML) sandy SILT, grey; non-cohesive, wet, very dense		7.92	8B						
				137.19							
		(ML) SILT, trace to some sand, trace gravel; grey; slight plasticity; non-cohesive, moist, dense		8.61							Sand
9					9	SS	40				Silica Sand Filter and Screen
10		*CONTINUED NEXT PAGE*									

DEPTH SCALE

1 : 50

GOLDER

LOGGED: AD/SS

CHECKED: RA

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PROJECT: 19129918 (1000)

RECORD OF BOREHOLE: BH20-3

SHEET 2 OF 2

LOCATION: See Figure 2

BORING DATE: March 27, 2020

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 63kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
10		*--- CONTINUED FROM PREVIOUS PAGE ---*									
10	CME 75 Truck Mounted Rig 98 mm Dia Tricone - Mud Rotary Drilling	(ML) SILT, trace to some sand, trace gravel; grey; slight plasticity; non-cohesive, moist, dense									
11					10	SS	38				Silica Sand Filter and Screen
				134.14							
		(ML) sandy SILT, trace gravel; grey (TILL); non-cohesive, moist, very dense		11.66							
12					11	SS	50/ 0.13				
13											
				131.86	12A						
14		(CL-ML) SILTY CLAY to CLAYEY SILT, trace to some sand, trace gravel; grey (TILL); cohesive, w<PL, hard		13.94	12B	SS	57				Bentonite
15											
16					13	SS	91/ 0.25				
				128.91	14	SS	50/ 0.13				
17		END OF BOREHOLE		16.89							
		NOTE: 1. Groundwater level measured in monitoring well as follows: Date / Depth(m) / Elev. (m) 13/05/2020 / 4.5 / 141.3 21/05/2020 / 4.5 / 141.3 05/06/2020 / 4.5 / 141.3 16/06/2020 / 4.5 / 141.3									
18											
19											
20											

DEPTH SCALE

1 : 50

GOLDER

LOGGED: AD/SS

CHECKED: RA

GTA-BHS 001 S:\CLIENTS\FIRST_CAPITAL\TORONTO_LAWERENCE_AVE_E_895\02_DATA\GINT\TORONTO_LAWERENCE_AVE_E_895.GPJ GAL-MIS.GDT 6/18/20

PROJECT: 19129918 (1000)

RECORD OF BOREHOLE: BH20-4

SHEET 1 OF 2

LOCATION: See Figure 2

BORING DATE: March 25, 2020

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 63kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		143.60							
	140 mm I.D. Hollow Stem Augers	ASPHALT (~130 mm thick)		0.00							Concrete
		FILL - (SP/GP) SAND and GRAVEL, some fines; brown; non-cohesive, moist, loose		0.13 143.22	1	SS	9				
		FILL - (ML) sandy CLAYEY SILT, trace gravel; black, trace organic matter; cohesive, w~PL, stiff		0.38 142.61							
1		(ML) sandy SILT, trace gravel; brown (TILL), oxidation stains; non-cohesive, moist, compact to very dense		0.99	2	SS	14				50 mm Diameter Monitoring Well
					3	SS	30				
2					4	SS	58				
		(CL-ML) SILTY CLAY to CLAYEY SILT, some sand, trace gravel; grey (TILL); cohesive, w<PL, very stiff		140.70 2.90	5	SS	25				June 16, 2020
3											
4		(ML) sandy SILT, some gravel; grey (TILL); non-cohesive, moist, dense to very dense		139.56 4.04	6	SS	46				Bentonite Seal
5	CME 75 Truck Mounted Rig										
6	98 mm Dia Tricone - Mud Rotary Drilling				7	SS	67				
7		- Gravelly between the depths of about 7.6 m and 7.9 m			8	SS	50/0.1				
8											
		(SM) SILTY SAND, some gravel; grey; non-cohesive, wet, very dense		135.07 8.53							Sand
9					9	SS	74				Silica Sand Filter and Screen
10		*CONTINUED NEXT PAGE*									

DEPTH SCALE

1 : 50

GOLDER

LOGGED: AD/SS

CHECKED: RA

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PROJECT: 19129918 (1000)

LOCATION: See Figure 2

RECORD OF BOREHOLE: BH20-4

SHEET 2 OF 2

BORING DATE: March 25, 2020

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 63kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		--- CONTINUED FROM PREVIOUS PAGE ---									
10	CME 75 Truck Mounted Rig 98 mm Dia Tricone - Mud Rotary Drilling	(ML) sandy SILT, some gravel; grey (TILL); non-cohesive, moist to wet, very dense		133.47 10.13	10	SS	50/ 0.13		○		Silica Sand Filter and Screen
11											
				132.09							
12		(CL-ML) SILTY CLAY to CLAYEY SILT, trace to some sand, trace gravel; grey (TILL); cohesive, w<PL, hard		11.51	11	SS	50/ 0.07		○		
13											
14					12	SS	50/ 0.13		○		Bentonite
15											
					13	SS	50/ 0.13		○		
16											
17					14	SS	98/ 0.25		○		
				126.43							
		END OF BOREHOLE		17.17							
18		NOTE: 1. Groundwater level measured in monitoring well as follows: Date / Depth(m) / Elev. (m) 13/05/2020 / 3.3 / 140.3 21/05/2020 / 3.3 / 140.3 05/06/2020 / 3.3 / 140.3 16/06/2020 / 3.3 / 140.3									
19											
20											

DEPTH SCALE

1 : 50

GOLDER

LOGGED: AD/SS

CHECKED: RA

GTA-BHS 001 S:\CLIENTS\FIRST_CAPITAL\TORONTO_LAWERENCE_AVE_E_895\02_DATA\GINT\TORONTO_LAWERENCE_AVE_E_895.GPJ GAL-MIS.GDT 6/18/20

PROJECT: 19129918 (1000)

RECORD OF BOREHOLE: BH20-5

SHEET 1 OF 2

LOCATION: See Figure 2

BORING DATE: March 26, 2020

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 63kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		144.60							
0	140 mm I.D. Hollow Stem Augers / 98 mm Dia Tricone - Mud Rotary Drilling	ASPHALT (~130 mm thick)		0.00							Concrete
		FILL - (SP/GP) SAND and GRAVEL, some fines; brown; non-cohesive, moist, compact		0.13 144.27							
		(ML) sandy SILT, trace to some gravel; brown (TILL), oxidation stains, non-cohesive, moist, compact to very dense		0.33	1	SS	23				
1					2	SS	31				50 mm Diameter Monitoring Well
					3	SS	61				
2		- Boulders encountered between the depths of about 2.2 m and 2.3 m			4	SS	100/ 0.15				
				141.86							
		(SM/ML) SILTY SAND to sandy SILT, trace to some gravel; brown to grey; non-cohesive, moist to wet, dense to very dense		2.74	5	SS	48				
3											June 16, 2020
4											
					6	SS	89/ 0.28				
5											Bentonite Seal
6					7	SS	50/ 0.13				
7		- Grey at a depth of about 7.0 m									
		- Gravelly seam between the depths of about 7.6 m and 7.8 m			8	SS	50/ 0.13			M	
8				136.07							
		(CL-ML) SILTY CLAY to CLAYEY SILT, trace to some sand, trace gravel; grey (TILL); cohesive, w<PL, hard		8.53							
9					9	SS	50/ 0.13				
10		*CONTINUED NEXT PAGE*									

DEPTH SCALE

1 : 50

GOLDER

LOGGED: AD/SS

CHECKED: RA

GTA-BHS 001 S:\CLIENTS\FIRST_CAPITAL\TORONTO_LAWERENCE_AVE_E_895\02_DATA\GINT\TORONTO_LAWERENCE_AVE_E_895.GPJ GAL-MIS.GDT 6/18/20

PROJECT: 19129918 (1000)

RECORD OF BOREHOLE: BH20-5

SHEET 2 OF 2

LOCATION: See Figure 2

BORING DATE: March 26, 2020

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 63kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●, rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		--- CONTINUED FROM PREVIOUS PAGE ---									
10	CME 75 Truck Mounted Rig 98 mm Dia Tricone - Mud Rotary Drilling	(CL-ML) SILTY CLAY to CLAYEY SILT, trace to some sand, trace gravel; grey (TILL); cohesive, w<PL, hard									Bentonite Seal
10					10	SS	50/ 0.1				
11											
12					11	SS	50/ 0.13				Sand
13											
14					12	SS	50/ 0.13				
15					13	SS	50/ 0.05				Silica Sand Filter and Screen
16											
17				127.58	14	SS	50/ 0.1				
		END OF BOREHOLE		17.02							
18		NOTE: 1. Groundwater level measured in monitoring well as follows: Date / Depth(m) / Elev. (m) 13/05/2020 / 3.6 / 141.0 21/05/2020 / 3.5 / 141.1 05/06/2020 / 3.6 / 141.0 16/06/2020 / 3.6 / 141.0									
19											
20											

DEPTH SCALE

1 : 50

GOLDER

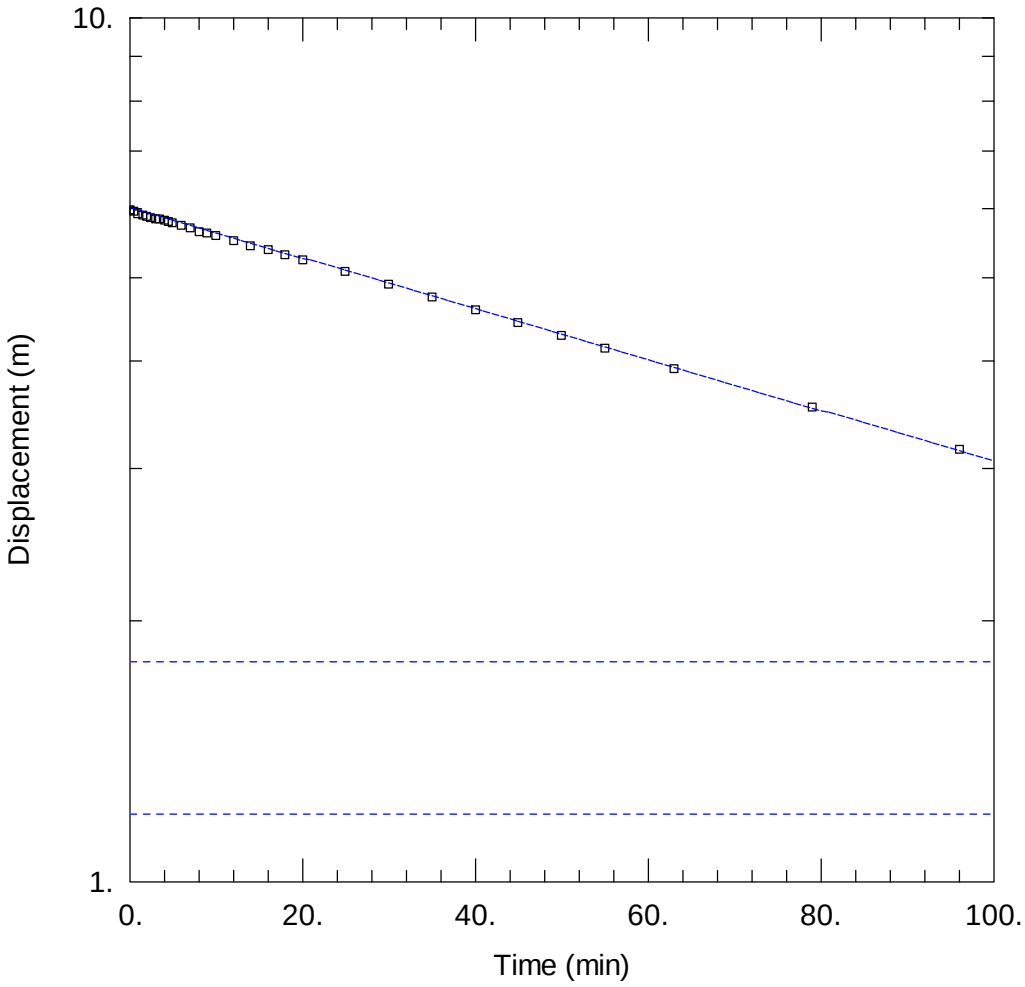
LOGGED: AD/SS

CHECKED: RA

GTA-BHS 001 S:\CLIENTS\FIRST_CAPITAL\TORONTO_LAWERENCE_AVE_E_895\02_DATA\GINT\TORONTO_LAWERENCE_AVE_E_895.GPJ GAL-MIS.GDT 6/18/20

APPENDIX D

K-Tests



WELL TEST ANALYSIS

Data Set: \...\895 Lawrence BH20-1.aqt
Date: 09/15/20 Time: 18:24:07

PROJECT INFORMATION

Company: Golder
Project: 19129918
Location: 895 Lawrence
Test Well: BH20-1
Test Date: May 13, 2020

AQUIFER DATA

Saturated Thickness: 10. m Anisotropy Ratio (Kz/Kr): 1.

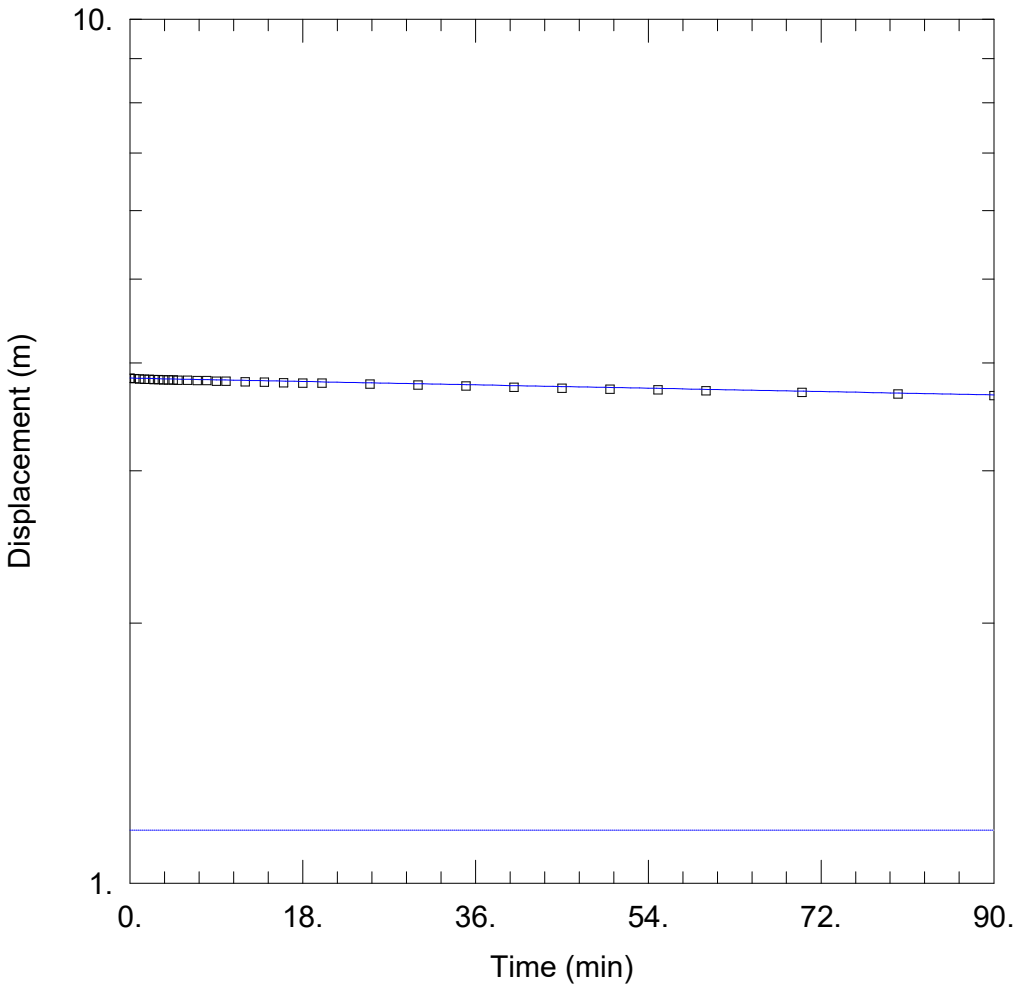
WELL DATA (BH20-1)

Initial Displacement: 5.98 m
Total Well Penetration Depth: 7.8 m
Casing Radius: 0.025 m
Static Water Column Height: 7.8 m
Screen Length: 3. m
Well Radius: 0.07 m
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 1.064E-7 m/sec y0 = 6.029 m



WELL TEST ANALYSIS

Data Set: \...\895 Lawrence BH20-2.aqt
Date: 09/03/20 Time: 08:06:25

PROJECT INFORMATION

Company: Golder
Project: 19129918
Location: 895 Lawrence
Test Well: BH20-2
Test Date: May 13, 2020

AQUIFER DATA

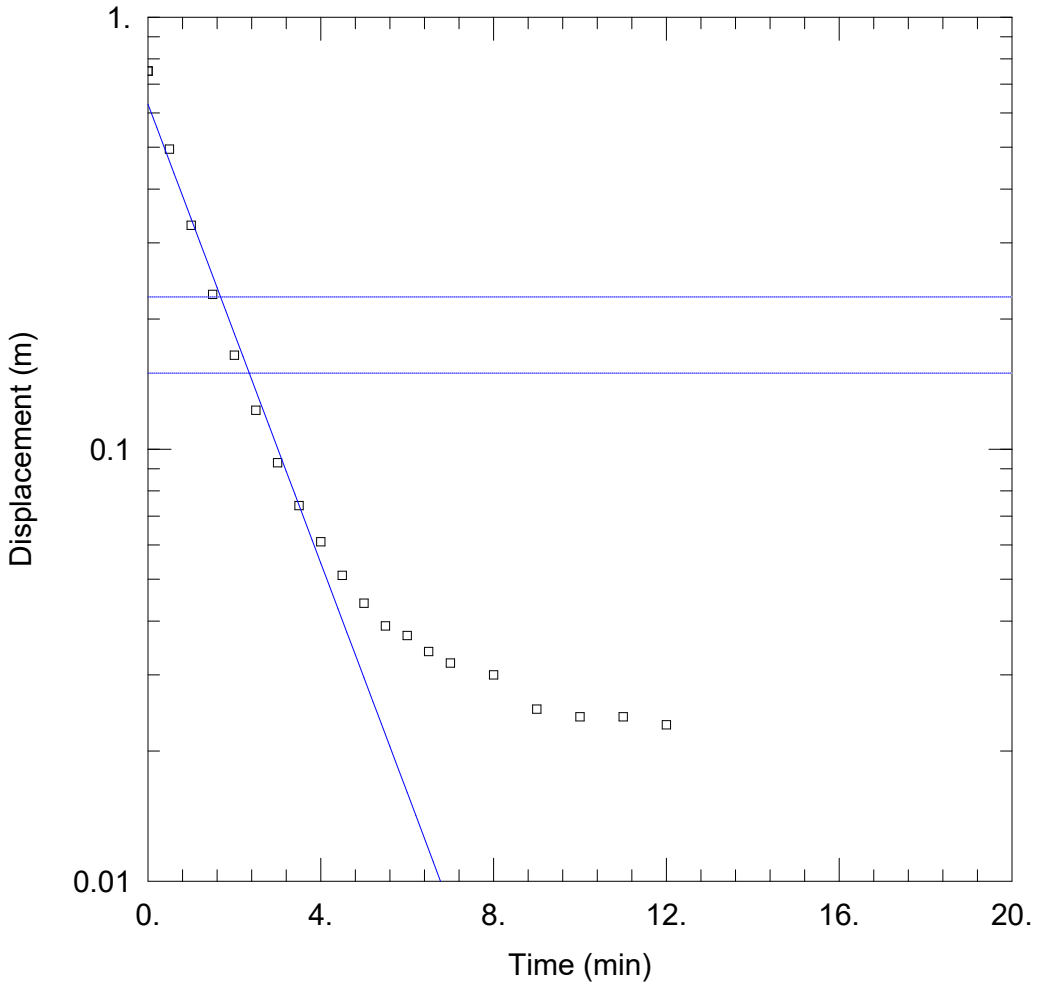
Saturated Thickness: 10. m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH20-2)

Initial Displacement: 3.84 m
Total Well Penetration Depth: 13.26 m
Casing Radius: 0.025 m
Static Water Column Height: 13.26 m
Screen Length: 3. m
Well Radius: 0.05 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 3.493E-9 m/sec
y0 = 3.841 m



WELL TEST ANALYSIS

Data Set: \...\895 Lawrence BH20-3.aqt
Date: 09/03/20 Time: 08:06:42

PROJECT INFORMATION

Company: Golder
Project: 19129918
Location: 895 Lawrence
Test Well: BH20-1
Test Date: May 13, 2020

AQUIFER DATA

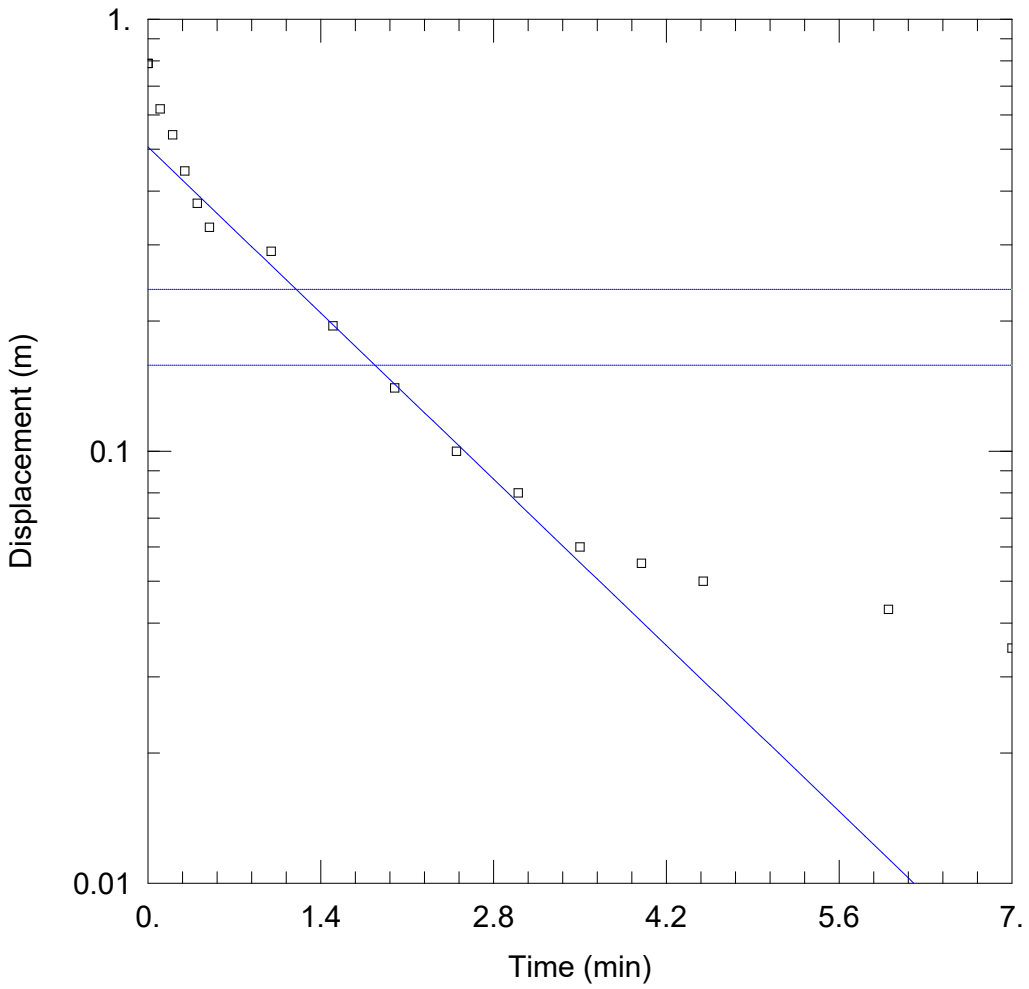
Saturated Thickness: 10. m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH20-3)

Initial Displacement: 0.75 m
Total Well Penetration Depth: 7.74 m
Casing Radius: 0.025 m
Static Water Column Height: 7.74 m
Screen Length: 3. m
Well Radius: 0.05 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 3.439E-6 m/sec
y0 = 0.6287 m



WELL TEST ANALYSIS

Data Set: \...\895 Lawrence BH20-4.aqt
Date: 09/03/20 Time: 08:06:57

PROJECT INFORMATION

Company: Golder
Project: 19129918
Location: 895 Lawrence
Test Well: BH20-1
Test Date: May 13, 2020

AQUIFER DATA

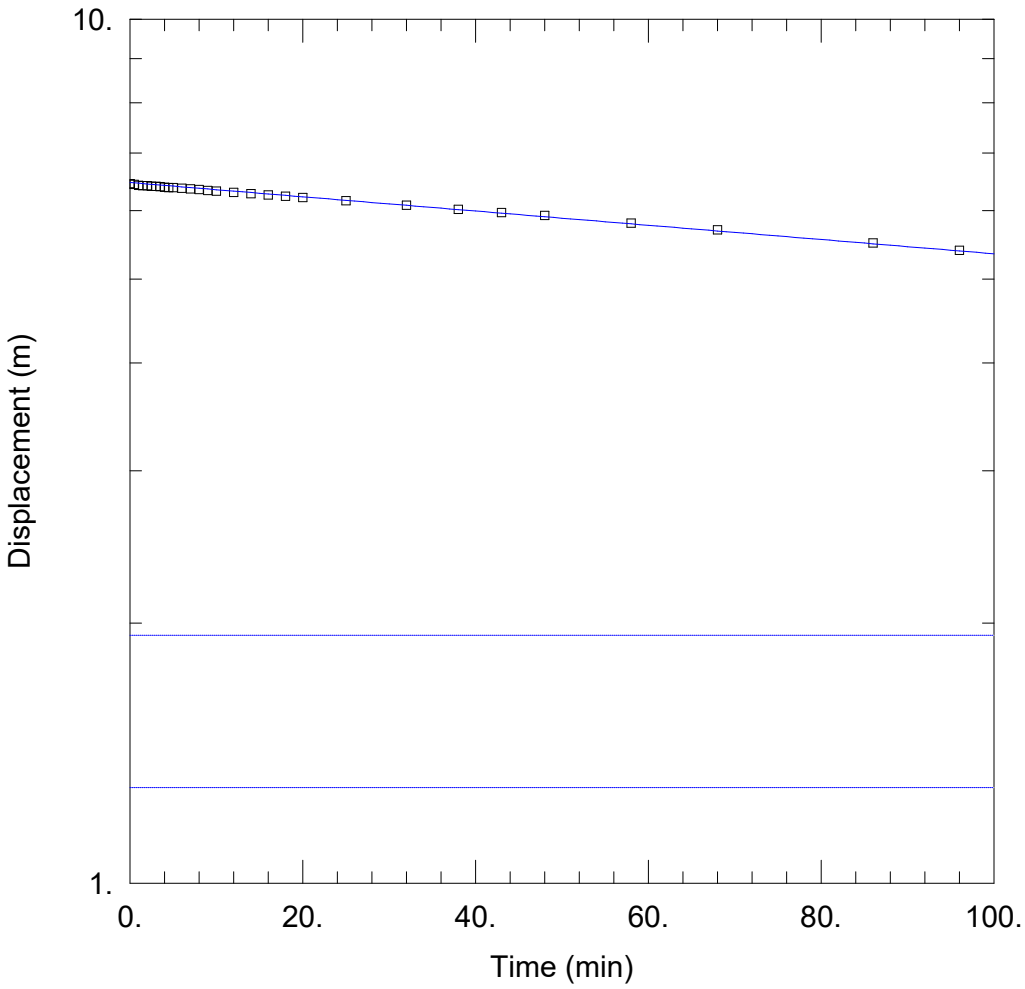
Saturated Thickness: 10. m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH20-4)

Initial Displacement: 0.79 m Static Water Column Height: 8.49 m
Total Well Penetration Depth: 8.49 m Screen Length: 3. m
Casing Radius: 0.025 m Well Radius: 0.05 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 3.645E-6 m/sec y0 = 0.5058 m



WELL TEST ANALYSIS

Data Set: \...\895 Lawrence BH20-5.aqt
Date: 09/03/20 Time: 08:07:11

PROJECT INFORMATION

Company: Golder
Project: 19129918
Location: 895 Lawrence
Test Well: BH20-5
Test Date: May 13, 2020

AQUIFER DATA

Saturated Thickness: 15. m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH20-5)

Initial Displacement: 6.45 m Static Water Column Height: 13.21 m
Total Well Penetration Depth: 13.21 m Screen Length: 3. m
Casing Radius: 0.025 m Well Radius: 0.05 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 1.153E-8 m/sec y0 = 6.469 m

APPENDIX E

Laboratory Data

AGAT Laboratories

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

CLIENT NAME: GOLDER ASSOCIATES LTD.
100 SCOTIA COURT
WHITBY, ON L1N8Y6
(905) 723-2727
ATTENTION TO: Aaron Beard
PROJECT: 19129918
AGAT WORK ORDER: 22T913504
MICROBIOLOGY ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer
TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor
WATER ANALYSIS REVIEWED BY: Amanjot Bhela, Inorganic Lab Manager
DATE REPORTED: Jul 13, 2022
PAGES (INCLUDING COVER): 14
VERSION*: 3

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

*Notes

VERSION 3:Version 3 supersedes work order 22T913504 , Version 2, issued July 12, 2022. Filtered samples removed.

AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 22T913504

PROJECT: 19129918

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Aaron Beard

SAMPLING SITE:895 Lawrence Ave E

SAMPLED BY:A. Beard

E. Coli (Using MI Agar)

DATE RECEIVED: 2022-06-27

DATE REPORTED: 2022-07-13

			SAMPLE DESCRIPTION:	**21-3**
			SAMPLE TYPE:	**Water**
			DATE SAMPLED:	**2022-06-27 13:00**
Parameter	**Unit**	**G / S**	**RDL**	**4029462**
Escherichia coli	CFU/100mL	200		0

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CIty of Toronto Storm Sewer Discharge
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

4029462 Escherichia coli RDL = 1 CFU/100mL.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
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Certificate of Analysis

AGAT WORK ORDER: 22T913504

PROJECT: 19129918

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Aaron Beard

SAMPLING SITE:895 Lawrence Ave E

SAMPLED BY:A. Beard

Sewer Use - Toronto Sanitary and Combined Sewer Use By-law - Organic

DATE RECEIVED: 2022-06-27

DATE REPORTED: 2022-07-13

					SAMPLE DESCRIPTION:	21-3
					SAMPLE TYPE:	Water
					DATE SAMPLED:	2022-06-27 13:00
Parameter	Unit	G / S: A	G / S: B	RDL	4029462	
Oil and Grease (animal/vegetable) in water	mg/L	150		0.5	<0.5[<A]	
Oil and Grease (mineral) in water	mg/L	15		0.5	<0.5[<A]	
Methylene Chloride	mg/L	2	0.0052	0.0003	<0.0003[<B]	
trans-1,3-Dichloropropylene	mg/L	0.14	0.0056	0.0003	<0.0003[<B]	
cis- 1,2-Dichloroethylene	mg/L	4	0.0056	0.0002	<0.0002[<B]	
Chloroform	mg/L	0.04	0.002	0.0002	<0.0002[<B]	
Benzene	mg/L	0.01	0.002	0.0002	<0.0002[<B]	
Trichloroethylene	mg/L	0.4	0.0076	0.0002	<0.0002[<B]	
Toluene	mg/L	0.016	0.002	0.0002	<0.0002[<B]	
Tetrachloroethylene	mg/L	1	0.0044	0.0001	<0.0001[<B]	
Ethylbenzene	mg/L	0.16	0.002	0.0002	<0.0002[<B]	
1,1,2,2-Tetrachloroethane	mg/L	1.4	0.017	0.0002	<0.0002[<B]	
1,2-Dichlorobenzene	mg/L	0.05	0.0056	0.0002	<0.0002[<B]	
1,4-Dichlorobenzene	mg/L	0.08	0.0068	0.0002	<0.0002[<B]	
Xylenes (Total)	mg/L	1.4	0.0044	0.0002	<0.0002[<B]	
PCBs	mg/L	0.001	0.0004	0.0002	<0.0002[<B]	
Pentachlorophenol	mg/L	0.005	0.002	0.0005	<0.0005[<B]	
Di-n-butyl phthalate	mg/L	0.08	0.015	0.0005	<0.0005[<B]	
3,3'-Dichlorobenzidine	mg/L	0.002	0.0008	0.0001	<0.0001[<B]	
Bis(2-Ethylhexyl)phthalate	mg/L	0.012	0.0088	0.0005	<0.0005[<B]	
Total PAHs	mg/L	0.005	0.002	0.0003	<0.0003[<B]	
Nonylphenols	mg/L	0.02	0.001	0.001	<0.001[<B]	
Nonylphenol Ethoxylates	mg/L	0.2	0.01	0.01	<0.01[<B]	

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Certificate of Analysis

AGAT WORK ORDER: 22T913504

PROJECT: 19129918

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Aaron Beard

SAMPLING SITE:895 Lawrence Ave E

SAMPLED BY:A. Beard

Sewer Use - Toronto Sanitary and Combined Sewer Use By-law - Organic

DATE RECEIVED: 2022-06-27

DATE REPORTED: 2022-07-13

		SAMPLE DESCRIPTION:	**21-3**
		SAMPLE TYPE:	**Water**
		DATE SAMPLED:	**2022-06-27 13:00**
Surrogate	**Unit**	**Acceptable Limits**	**4029462**
Toluene-d8	% Recovery	50-140	98
4-Bromofluorobenzene	% Recovery	50-140	77
Decachlorobiphenyl	%	50-140	82
2,4,6-Tribromophenol	%	50-140	79
2-Fluorophenol	%	50-140	85
Chrysene-d12	%	50-140	84
phenol-d6 surrogate	%	50-140	79

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to City of Toronto Sanitary and Combined Sewers Discharge, B Refers to CIty of Toronto Storm Sewer Discharge
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

4029462 Oil and Grease animal/vegetable is a calculated parameter. The calculated value is the difference between Total O&G and Mineral O&G.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
Note: The result for Benzo(b+j)Flouranthene is the total of the Benzo(b)&(j)Flouranthene isomers because the isomers co-elute on the GC column.
Total PAHs is calculated as sum of Anthracene, Benzo(a)pyrene, Benzo(a)anthracene, Benzo(e)pyrene*, Benzo(b+j)fluoranthene, Benzo(k)fluoranthene, Benzo(g,h,i)perylene, Chrysene, Dibenz(a,h)anthracene, Dibenzo(a,i)pyrene*, Dibenzo(a,j) Acridine*, 7H-Dibenzo(c,g)carbazole*, Fluoranthene, Indeno(1,2,3-cd)pyrene, Perylene, Phenanthrene and Pyrene.
*-not accredited parameters.
Nonylphenols is a calculated parameter. The calculated value is the sum of Nonylphenol (NP) and 4n-Nonylphenol (4n-NP).
Nonylphenol Ethoxylates is a calculated parameter. The calculated value is the sum of Nonylphenol Monoethoxylate (NP1EO) and Nonylphenol Diethoxylate (NP2EO).
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

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Certificate of Analysis

AGAT WORK ORDER: 22T913504

PROJECT: 19129918

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Aaron Beard

SAMPLING SITE:895 Lawrence Ave E

SAMPLED BY:A. Beard

BOD5

DATE RECEIVED: 2022-06-27

DATE REPORTED: 2022-07-13

				SAMPLE DESCRIPTION:	**21-3**
				SAMPLE TYPE:	**Water**
				DATE SAMPLED:	**2022-06-27 13:00**
Parameter	**Unit**	**G / S: A**	**G / S: B**	**RDL**	**4029462**
Biochemical Oxygen Demand, Total	mg/L	15	300	2	<2[<A]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to CIty of Toronto Storm Sewer Discharge, B Refers to City of Toronto Sanitary and Combined Sewers Discharge
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 22T913504

PROJECT: 19129918

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Aaron Beard

SAMPLING SITE:895 Lawrence Ave E

SAMPLED BY:A. Beard

Sewer Use - Toronto Sanitary and Combined Sewer Use By-law - Inorganics

DATE RECEIVED: 2022-06-27

DATE REPORTED: 2022-07-13

					SAMPLE DESCRIPTION:	21-3
					SAMPLE TYPE:	Water
					DATE SAMPLED:	2022-06-27 13:00
Parameter	**Unit**	**G / S: A**	**G / S: B**	**RDL**		**4029462**
pH	pH Units	6.0-11.5	6.0-9.5	NA		7.87
Fluoride	mg/L	10		0.05		<0.05[<A]
Total Phosphorus	mg/L	10	0.4	0.02		0.05[<B]
Cyanide, SAD	mg/L	2	0.02	0.002		<0.002[<B]
Phenols	mg/L	1.0	0.008	0.001		0.005[<B]
Chromium VI	mg/L	2	0.04	0.002		<0.002[<B]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to City of Toronto Sanitary and Combined Sewers Discharge, B Refers to CIty of Toronto Storm Sewer Discharge
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 22T913504

PROJECT: 19129918

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Aaron Beard

SAMPLING SITE:895 Lawrence Ave E

SAMPLED BY:A. Beard

Sewer Use - Toronto Sanitary and Combined Sewer Use By-law - Inorganics (Filtered)

DATE RECEIVED: 2022-06-27

DATE REPORTED: 2022-07-13

					SAMPLE DESCRIPTION:	21-3
					SAMPLE TYPE:	Water
					DATE SAMPLED:	2022-06-27 13:00
Parameter	**Unit**	**G / S: A**	**G / S: B**	**RDL**		**4029514**
Total Phosphorus	mg/L	10	0.4	0.02		0.02[<B]
Total Suspended Solids	mg/L	350	15	10		<10[<B]
Total Aluminum	mg/L	50		0.010		<0.010[<A]
Total Antimony	mg/L	5		0.020		<0.020[<A]
Total Arsenic	mg/L	1	0.02	0.015		<0.015[<B]
Total Cadmium	mg/L	0.7	0.008	0.005		<0.005[<B]
Total Chromium	mg/L	4	0.08	0.020		<0.020[<B]
Total Cobalt	mg/L	5		0.010		<0.010[<A]
Total Copper	mg/L	2	0.04	0.020		<0.020[<B]
Total Lead	mg/L	1	0.12	0.020		<0.020[<B]
Total Manganese	mg/L	5	0.05	0.020		<0.020[<B]
Total Molybdenum	mg/L	5		0.020		<0.020[<A]
Total Nickel	mg/L	2	0.08	0.030		<0.030[<B]
Total Selenium	mg/L	1	0.02	0.002		0.003[<B]
Total Silver	mg/L	5	0.12	0.020		<0.020[<B]
Total Tin	mg/L	5		0.020		<0.020[<A]
Total Titanium	mg/L	5		0.010		<0.010[<A]
Total Zinc	mg/L	2	0.04	0.020		<0.020[<B]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to City of Toronto Sanitary and Combined Sewers Discharge, B Refers to CIty of Toronto Storm Sewer Discharge
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Toronto (unless marked by *)

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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD.
AGAT WORK ORDER: 22T913504
PROJECT: 19129918
ATTENTION TO: Aaron Beard
SAMPLING SITE:895 Lawrence Ave E
SAMPLED BY:A. Beard

Microbiology Analysis

RPT Date: Jul 13, 2022			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
E. Coli (Using MI Agar)															
Escherichia coli	4029410		0	0	NA										

Comments: NA - % RPD Not Applicable.

Certified By:

AGAT Laboratories

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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 22T913504

PROJECT: 19129918

ATTENTION TO: Aaron Beard

SAMPLING SITE:895 Lawrence Ave E

SAMPLED BY:A. Beard

Trace Organics Analysis

RPT Date: Jul 13, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Sewer Use - Toronto Sanitary and Combined Sewer Use By-law - Organic															
Methylene Chloride	4020287		<0.0003	<0.0003	NA	< 0.0003	105%	50%	140%	102%	60%	130%	87%	50%	140%
trans-1,3-Dichloropropylene	4020287		<0.0003	<0.0003	NA	< 0.0003	100%	50%	140%	97%	60%	130%	105%	50%	140%
cis- 1,2-Dichloroethylene	4020287		<0.0002	<0.0002	NA	< 0.0002	112%	60%	130%	85%	60%	130%	119%	60%	130%
Chloroform	4020287		<0.0002	<0.0002	NA	< 0.0002	103%	50%	140%	85%	60%	130%	97%	50%	140%
Benzene	4020287		<0.0002	<0.0002	NA	< 0.0002	88%	50%	140%	71%	60%	130%	100%	50%	140%
Trichloroethylene	4020287		<0.0002	<0.0002	NA	< 0.0002	106%	50%	140%	94%	60%	130%	75%	50%	140%
Toluene	4020287		<0.0002	<0.0002	NA	< 0.0002	70%	50%	140%	83%	60%	130%	89%	50%	140%
Tetrachloroethylene	4020287		<0.0001	<0.0001	NA	< 0.0001	75%	50%	140%	73%	60%	130%	100%	50%	140%
Ethylbenzene	4020287		<0.0002	<0.0002	NA	< 0.0002	85%	50%	140%	89%	60%	130%	89%	50%	140%
1,1,2,2-Tetrachloroethane	4020287		<0.0002	<0.0002	NA	< 0.0002	106%	50%	140%	92%	60%	130%	111%	50%	140%
1,2-Dichlorobenzene	4020287		<0.0002	<0.0002	NA	< 0.0002	97%	50%	140%	92%	60%	130%	94%	50%	140%
1,4-Dichlorobenzene	4020287		<0.0002	<0.0002	NA	< 0.0002	98%	50%	140%	92%	60%	130%	101%	50%	140%
PCBs	4038015		< 0.0002	< 0.0002	NA	< 0.0002	104%	50%	140%	98%	50%	140%	77%	50%	140%
Pentachlorophenol	3983715		< 0.0005	< 0.0005	NA	< 0.0005	85%	50%	140%	79%	50%	140%	84%	50%	140%
Di-n-butyl phthalate	3983715		< 0.0005	< 0.0005	NA	< 0.0005	74%	50%	140%	85%	50%	140%	79%	50%	140%
3,3'-Dichlorobenzidine	3983715		< 0.0001	< 0.0001	NA	< 0.0001	79%	30%	130%	89%	30%	130%	86%	30%	130%
Bis(2-Ethylhexyl)phthalate	3983715		< 0.0005	< 0.0005	NA	< 0.0005	85%	50%	140%	78%	50%	140%	85%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 22T913504

PROJECT: 19129918

ATTENTION TO: Aaron Beard

SAMPLING SITE:895 Lawrence Ave E

SAMPLED BY:A. Beard

Water Analysis

RPT Date: Jul 13, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Sewer Use - Toronto Sanitary and Combined Sewer Use By-law - Inorganics															
pH	4028923		7.58	7.71	1.7%	NA	101%	90%	110%						
Fluoride	4036006		<0.05	<0.05	NA	< 0.05	113%	70%	130%	108%	80%	120%	94%	70%	130%
Total Phosphorus	4037272		0.10	0.10	0.0%	< 0.02	99%	70%	130%	98%	80%	120%	NA	70%	130%
Cyanide, SAD	4029462	4029462	<0.002	<0.002	NA	< 0.002	102%	70%	130%	105%	80%	120%	106%	70%	130%
Phenols	4033548		0.001	<0.001	NA	< 0.001	102%	90%	110%	102%	90%	110%	107%	80%	120%
Chromium VI	4026830		<0.002	<0.002	NA	< 0.002	102%	70%	130%	105%	80%	120%	107%	70%	130%
Sewer Use - Toronto Sanitary and Combined Sewer Use By-law - Inorganics (Filtered)															
Total Phosphorus	4037272		0.10	0.10	0.0%	< 0.02	99%	70%	130%	98%	80%	120%	NA	70%	130%
Total Suspended Solids	4032212		25	24	NA	< 10	102%	80%	120%						
Total Aluminum	4029823		0.056	0.051	NA	0.012	109%	70%	130%	101%	80%	120%	116%	70%	130%
Total Antimony	4029823		<0.020	<0.020	NA	< 0.020	100%	70%	130%	94%	80%	120%	101%	70%	130%
Total Arsenic	4029823		<0.015	<0.015	NA	< 0.015	95%	70%	130%	86%	80%	120%	91%	70%	130%
Total Cadmium	4029823		<0.005	<0.005	NA	< 0.005	100%	70%	130%	95%	80%	120%	97%	70%	130%
Total Chromium	4029823		<0.020	<0.020	NA	< 0.020	102%	70%	130%	93%	80%	120%	96%	70%	130%
Total Cobalt	4029823		<0.010	<0.010	NA	< 0.010	101%	70%	130%	87%	80%	120%	97%	70%	130%
Total Copper	4029823		0.024	0.025	NA	< 0.020	102%	70%	130%	91%	80%	120%	95%	70%	130%
Total Lead	4029823		<0.020	<0.020	NA	< 0.020	107%	70%	130%	95%	80%	120%	100%	70%	130%
Total Manganese	4029823		<0.020	<0.020	NA	< 0.020	101%	70%	130%	89%	80%	120%	98%	70%	130%
Total Molybdenum	4029823		0.034	0.039	NA	< 0.020	100%	70%	130%	99%	80%	120%	103%	70%	130%
Total Nickel	4029823		<0.030	<0.030	NA	< 0.030	102%	70%	130%	86%	80%	120%	95%	70%	130%
Total Selenium	4029823		<0.002	<0.002	NA	< 0.002	98%	70%	130%	94%	80%	120%	94%	70%	130%
Total Silver	4029823		<0.020	<0.020	NA	< 0.020	98%	70%	130%	86%	80%	120%	94%	70%	130%
Total Tin	4029823		<0.020	<0.020	NA	< 0.020	101%	70%	130%	92%	80%	120%	99%	70%	130%
Total Titanium	4029823		<0.010	<0.010	NA	< 0.010	107%	70%	130%	84%	80%	120%	89%	70%	130%
Total Zinc	4029823		<0.020	<0.020	NA	< 0.020	100%	70%	130%	94%	80%	120%	92%	70%	130%

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

Matrix spike NA: Spike level < native concentration. Matrix spike acceptance limits do not apply and are not calculated.

BOD5

Biochemical Oxygen Demand, Total	4029462	<2	<2	NA	< 2	88%	70%	130%	

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By:

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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 22T913504

PROJECT: 19129918

ATTENTION TO: Aaron Beard

SAMPLING SITE:895 Lawrence Ave E

SAMPLED BY:A. Beard

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Microbiology Analysis			
Escherichia coli	MIC-93-7010	EPA 1604	Membrane Filtration

AGAT Laboratories

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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 22T913504

PROJECT: 19129918

ATTENTION TO: Aaron Beard

SAMPLING SITE:895 Lawrence Ave E

SAMPLED BY:A. Beard

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Oil and Grease (animal/vegetable) in water	VOL-91-5011	EPA SW-846 1664A & SM 5520	GRAVIMETRIC
Oil and Grease (mineral) in water	VOL-91-5011	EPA SW-846 1664A & SM 5520	GRAVIMETRIC
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans-1,3-Dichloropropylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	CALCULATION
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
PCBs	ORG-91-5112	modified from EPA SW-846 3510C & 8082A	GC/ECD
Decachlorobiphenyl	ORG-91-5112	modified from EPA SW846 3510C & 8082A	GC/ECD
Pentachlorophenol	ORG-91-5114	modified from EPA 3510C and EPA 8270E	GC/MS
Di-n-butyl phthalate	ORG-91-5114	modified from EPA 3510C and EPA 8270E	GC/MS
3,3'-Dichlorobenzidine	ORG-91-5114	modified from EPA 3510C and EPA 8270E	GC/MS
Bis(2-Ethylhexyl)phthalate	ORG-91-5114	modified from EPA 3510C and EPA 8270E	GC/MS
Total PAHs	ORG-91-5114	modified from EPA 3510C and EPA 8270E	CALCULATION
2,4,6-Tribromophenol	ORG-91-5114	modified from EPA 3510C and EPA 8270E	GC/MS
2-Fluorophenol	ORG-91-5114	modified from EPA 3510C and EPA 8270E	GC/MS
Chrysene-d12	ORG-91-5114	modified from EPA 3510C and EPA 8270E	GC/MS
phenol-d6 surrogate	ORG-91-5114	modified from EPA 3510C and EPA 8270E	GC/MS
Nonylphenols	ORG-91-5122	modified ASTM D7485-16	CALCULATION

AGAT Laboratories

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

Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 22T913504

PROJECT: 19129918

ATTENTION TO: Aaron Beard

SAMPLING SITE:895 Lawrence Ave E

SAMPLED BY:A. Beard

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Nonylphenol Ethoxylates	ORG-91-5122	modified ASTM D7485-16	CALCULATION
Water Analysis			
Biochemical Oxygen Demand, Total	INOR-121-6023	SM 5210 B	INCUBATOR
pH	INOR-93-6000	modified from SM 4500-H+ B	PC TITRATE
Fluoride	INOR-93-6004	modified from SM 4110 B	ION CHROMATOGRAPH
Total Phosphorus	INOR-93-6022	modified from SM 4500-P B and SM 4500-P E	SPECTROPHOTOMETER
Cyanide, SAD	INOR-93-6051	modified from MOECC E3015; SM 4500-CN- A, B, & C	TECHNICON AUTO ANALYZER
Phenols	INOR-93-6072	modified from SM 5530 D	LACHAT FIA
Chromium VI	INOR-93-6073	modified from SM 3500-CR B	LACHAT FIA
Total Suspended Solids	INOR-93-6028	modified from EPA 1684,ON MOECC E3139,SM 2540C,D	BALANCE
Total Aluminum	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Antimony	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Arsenic	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Cadmium	MET -93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Chromium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Cobalt	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Copper	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Lead	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Manganese	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Molybdenum	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Nickel	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Selenium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Silver	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Tin	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Titanium	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS
Total Zinc	MET-93-6103	modified from EPA 200.8, 3005A, 3010A & 6020B	ICP-MS

AGAT Laboratories

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Laboratory Use Only
Work Order #: 22T913504
Cooler Quantity: 1 large
Arrival Temperatures: 5.0 | 5.7 | 4.6
Custody Seal Intact: ☐Yes ☐No ☐N/A
Notes: loose ice

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:
Company: Golder WSP
Contact: Aaron Beard
Address: 100 Scotia Crt
Phone: 226-220-7520 Fax:
Reports to be sent to:
1. Email: Aaron_Beard@golder.com
2. Email: Syed_Ali@golder.com

Regulatory Requirements:
(Please check all applicable boxes)

☐ Regulation 153/04 — Table ___ (Indicate One) ☐Ind/Com ☐Res/Park ☐Agriculture
Soil Texture (Check One) ☐Coarse ☐Fine
☐ Excess Soils R406 — Table ___ (Indicate One)
☐ Regulation 558
☐ CCME
☒ Sewer Use ☐Sanitary ☐Storm — City Toronto (Region)
☐ Prov. Water Quality Objectives (PWQO)
☐ Other ___ (Indicate One)

Is this submission for a Record of Site Condition? ☐ Yes ☒ No
Report Guideline on Certificate of Analysis ☐ Yes ☒ No

Turnaround Time (TAT) Required:
Regular TAT ☒ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply) ☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day
OR Date Required (Rush Surcharges May Apply): ___
Please provide prior notification for rush TAT
*TAT is exclusive of weekends and statutory holidays
For 'Same Day' analysis, please contact your AGAT CPM

Project Information:
Project: 19129918
Site Location: 895 Lawrence Ave E
Sampled By: A. Beard
AGAT Quote #: ___ PO: ___
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:
Bill To Same: Yes ☒ No ☐
Company: Golder
Contact: Syed Ali
Address: 100 Scotia crt
Email: Syed_Ali@golder.com

Sample Matrix Legend
- **B** Biota
- **GW** Ground Water
- **O** Oil
- **P** Paint
- **S** Soil
- **SD** Sediment
- **SW** Surface Water

Analysis columns: Field Filtered - Metals, Hg, CrVI, DOC (Y/N); O. Reg 153: Metals & Inorganics; Metals - ☐ CrVI, ☐ Hg, ☐ HWSB; BTEX, F1-F4 PHCs; PAHs; PCBs; VOC; Aroclors; O. Reg 558: Landfill Disposal Characterization TCLP: TCLP: ☐ M&I ☐VOCs ☐ABNs ☐B(a)P ☐PCBs; O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs; Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4; Corrosivity: Include Moisture ☐ Sulphide ☐; SUBL - City Toronto; TSS - Filtered; Metals - Filtered; Tot Phosphorus - Filtered; Potentially Hazardous or High Concentration (Y/N)

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Y/N	SUBL - City Toronto	TSS - Filtered	Metals - Filtered	Tot Phosphorus - Filtered
BH 21-3	27/06/22	1:00 PM	27	GW	Filtered 3 bottles		X	X	X	X
		AM PM								
		AM PM								
		AM PM								
		AM PM								
		AM PM								
		AM PM								
		AM PM								
		AM PM								
		AM PM								
		AM PM								

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Aaron Beard	27/06/22	19:00	Amber D. [signature]		

'22 JUN 27 7:07 PM

Page 1 of 1
Nº: T-133672

golder.com

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HYDROLOGICAL REVIEW SUMMARY

The form is to be completed by the Professional that prepared the Hydrological Review.
Use of the form by the City of Toronto is not to be construed as verification of engineering/hydrological content.

Refer to the Terms of Reference, Hydrological Review:
Link to Terms of Reference Hydrological Review

For City Staff Use Only:	
Name of ECS Case Manager (Please print)	
Date Review Summary provided to to TW, EM&P	

IF ANY OF THE REQUIREMENTS LISTED BELOW HAVE NOT BEEN INLCUDED IN THE HYDROLOGICAL REVIEW, THE REVIEW WILL BE CONSIDERED INCOMPLETE.
THE GREY SHADED BOXES WILL REQUIRE A CONSISTANCY CHECK BY THE ECS CASE MANAGER.

Summary of Key Information:

SITE INFORMATION		**Page # & Section # of Review**	**Review Includes this Information City Staff (Check)**
Site Address	895 Lawrence Avenue East, North York, Ontario	Page 1	
Postal Code	M3C 3L2		
Property Owner (on request for comments memo)	First Capital Asset Management LP	Page 1, Sec 1	
Proposed description of the project (if applicable) (point towers, number of podiums)	Two towers (22 and 17 storeys) connected by a 6-storey podium	Page 1, Sec 1.1	
Land Use (ex. commercial, residential, mixed, institutional, industrial)	Commercial and residental	Page 1, Sec 1.1	
Number of below grade levels for the proposed structure	2	Page 1, Sec 1.1	
HYDROLOGICAL REVIEW INFORMATION			
Date Hydrological Review was prepared:	July 13, 2022		
Who Performed the Hydrological Review (Consulting Firm)	Golder Associates Ltd.	Page 1	
Name of Author of Hydrological Review	David Dillon and Mark Swallow	Page 8	

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HYDROLOGICAL REVIEW SUMMARY

SITE INFORMATION		Page # & Section # of Review	Review Includes this Information City Staff (Check)
Check the directories on the website for Professional Geoscientists and/or Professional Engineers of Ontario been checked to ensure that the Hydrological Report has been prepared by a qualified person who is a licensed Professional Geoscientist as set out in the Professional Geoscientist Act of Ontario or a Professional Engineer? PEO: Professional Engineers of Ontario APGO: Association of Professional Geoscientists of Ontario		N/A	
Has the Hydrological Review been prepared in accordance with all the following: • Ontario Water Resources Act • Ontario Regulation 387/04 • Toronto Municipal Code Chapter 681-Sewers	Yes		
		Page # & Section # of every occurrence in the Review	**Review Includes this Information City Staff (Check)**

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HYDROLOGICAL REVIEW SUMMARY

SITE INFORMATION		Page # & Section # of Review	Review Includes this Information City Staff (Check)
Total Volume (L/day) Short Term Discharge of groundwater (construction dewatering) **with safety factor included**	172 m^3/day What safety factor was used? 2 (applied to groundwater influx)	Page 6, Sect 3.3	
Total Volume (L/day) Short Term Discharge of groundwater (construction dewatering) **without safety factor included**	158 m^3/day	Page 6, Sect 3.3	
Total Volume (L/day) Long Term drainage of groundwater (from foundation drainage, weeping tiles, sub slab drainage) **with safety factor included** If the development is part of a multiple tower complex, include total volume for each separate tower	**0 m^3/day** What safety factor was used? 0	Page 6, Sect 3.4	
List the nearest surface water (river, creek, lake)	Willet Creek, 1km west	Page 1, Sect 1.1.1	

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HYDROLOGICAL REVIEW SUMMARY

SITE INFORMATION		Page # & Section # of Review	Review Includes this Information City Staff (Check)
Lowest basement elevation	2 basement levels, elevations not available	Page 4, Sect 3	
Foundation elevation	1391. masl	Page 4, Sect 3	
Ground elevation	143 to 146 masl	Page 1, Section 1.1.1	
STUDY AREA MAP		**Page # & Section # of every occurrence in the Review**	**Review Includes this Information City Staff (Check)**
Study area map(s) have been included in the report.	**x Yes**	Figures	N/A
Study area map(s) been prepared according to the Hydrological Review Terms of Reference.	**x Yes**	Figures	N/A
WATER LEVEL AND WELLS		**Page # & Section # of every occurrence**	**Review Includes this Information (City Staff Initial)**

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HYDROLOGICAL REVIEW SUMMARY

SITE INFORMATION		Page # & Section # of Review	Review Includes this Information City Staff (Check)
		in the Review	
The groundwater level has been monitored using all wells located on site (within property boundary).	Yes	Table A	
The static water level measurements have been monitored at all monitoring wells for a minimum of 3 months with samples taken every 2 weeks for a minimum of 6 samples. The intent is for the qualified professional to use professional judgement to estimate the seasonally high groundwater level.	Yes	Table A	
All water levels in the wells have been measured with respect to masl.	Yes	Table A	
A table of geology/soil stratigraphy for the property has been included.	Yes	Page 3, Table 1	
GEOLOGY AND PHYSICAL HYDROLOGY		**Page # & Section # of every occurrence in the Review**	**Review Includes this Information (City Staff Initial)**
The review has made reference to the soil materials including thickness, composition and texture, and bedrock environments.	Yes	Page 3, Sect 2.2	
Key aquifers and the site's proximity to nearby surface water has been identified.	◯ **Yes**	Page 1, Sect 1.1.1 Page 3, Sect 2.2	N/A

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HYDROLOGICAL REVIEW SUMMARY

SITE INFORMATION		Page # & Section # of Review	Review Includes this Information City Staff (Check)
PUMP TEST/SLUG TEST/DRAWDOWN ANALYSIS		**Page # & Section # of every occurrence in the Review**	**Review Includes this Information City Staff (Check)**
A summary of the pumping test data and analysis is included in the review.	n/a		
The pump test been carried out for at least 24 hours if possible. If not, has a slug test been conducted?	Yes	Page 4, Sect 2.4	
Have the monitoring well(s) have been monitored using digital devices? If yes how frequently?	No		
If a slug or pump test has been conducted has the static groundwater level been monitored at all monitoring well(s) multiple times to measure recovery? -prior to the slug or pumping test(s)? -post slug or pumping test(s)?	◯ **Yes**	Appendix C	N/A
The above noted slug or pump tests have been included in the report.	◯ **Yes**	Appendix C	
WATER QUALITY		**Page # & Section # of every occurrence in the Review**	**Review Includes this Information City Staff (Check)**

August 2018

HYDROLOGICAL REVIEW SUMMARY

SITE INFORMATION		Page # & Section # of Review	Review Includes this Information City Staff (Check)
The report includes baseline water quality samples from a laboratory. The water quality must be analyzed for all parameters listed in Tables 1 and 2 of Chapter 681 Sewers of the Toronto Municipal Code (found in Appendix A) and the samples must have to be taken unfiltered within 9 months of the date of submission.	Yes	Appendix D	
The water quality data templates in Appendix A have been completed for each sample taken for both sanitary/combined and storm sewer limits.	For sanitary discharge- See the sanitary/combined sewer parameter limit template For storm discharge- See the storm sewer parameter limit template		
Qualified professional to list all sample parameters that have violated the Bylaw limits for each sample taken for the sanitary/combined Bylaw limits **If there are any sample parameter Exceedances the groundwater can't be discharged as is.**		Page 4, Sect 2.5	
Qualified professional to list all sample parameters that have violated the Bylaw limits for each sample taken for the storm Bylaw limits. **If there are any sample parameter exceedances the groundwater can't be discharged as is.**			
The water quality samples have been analyzed by a Canadian laboratory accredited and licensed by Standards Council of Canada and/or Canadian Association for Laboratory Accreditation.	◯ **Yes**	Appendix D	N/A

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HYDROLOGICAL REVIEW SUMMARY

SITE INFORMATION		Page # & Section # of Review	Review Includes this Information City Staff (Check)
List of Canadian accredited laboratories: Standards Council of Canada			
A chain of custody record for the samples is included with the report.	Yes	Appendix D	
Has the chain of custody reference any filtered sample? If yes, the report has to be amended and re-submitted to include only non-filtered samples.		Appendix D	
List any of the sample parameters that exceed the Bylaw limits with the reporting detection limit (RDL) included.		Appendix D	
A true copy of the Certificate of Analysis report, is included with the report.		Appendix D	
EVALUATION OF IMPACT		**Page # & Section # of every occurrence in the Review**	**Review Includes this Information City Staff (Check)**
Does the report recommend a back-up system or relief safety valve(s)?	◯ Yes x **No**		
Does the associated Geotechnical report recommend a back-up system or relief safety valve(s)?	◯ Yes x **No**		

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HYDROLOGICAL REVIEW SUMMARY

The taking and discharging of groundwater on site has been analyzed to ensure that no negative	**x Yes**		N/A

HYDROLOGICAL REVIEW SUMMARY

SITE INFORMATION		Page # & Section # of Review	Review Includes this Information City Staff (Check)
impacts will occur to: the City sewage works in terms of quality and quantity (including existing infrastructure), the natural environment, and settlement issues.		Page 7, Sect 4	
Has it been determined that there will be a negative impact to the natural environment, City sewage works, or surrounding properties has the study identified the following: the extent of the negative impact, the detail of the precondition state of all the infrastructure, City sewage works, and natural environment within the effected zone and the proposed remediation and monitoring plan?	◯ **Yes** **If yes, identify impact:** ◯ **No**		N/A

Summary of Additional Information and Key Items (if applicable):

Appendix A:

SANITARY/COMBINED **Sample Location:**

Inorganics		Sample Result	Sample Result with upper RDL included	
Parameter	mg/L			ug/L
BOD	300	<2	2	300,000
Fluoride	10	<0.05	<0.05, 0.05	10,000
TKN	100	0.37	0.37, 0.10	100,000
pH	6.0 - 11.5	7.87	7.87, NA	6.0 - 11.5
Phenolics 4AAP	1	0.005	0.005, 0.001	1,000
TSS	350	<10	<10, 10	350,000
Total Cyanide	2	<0.002	<0.002, 0.002	2,000
Metals				
Chromium Hexavalent	2	<0.002	<0.002, 0.002	2,000
Mercury	0.01	<0.0002	<0.0002, 0.0002	10
Total Aluminum	50	<0.010	<0.010, 0.010	50,000
Total Antimony	5	<0.020	<0.020, 0.020	5,000
Total Arsenic	1	<0.015	<0.015, 0.015	1,000
Total Cadmium	0.7	<0.005	<0.005, 0.005	700
Total Chromium	4	<0.020	<0.020, 0.020	4,000
Total Cobalt	5	<0.010	0.010, 0.010	5,000
Total Copper	2	<0.020	<0.020, 0.020	2,000
Total Lead	1	<0.020	<0.020, 0.020	1,000
Total Manganese	5	<0.020	<0.020, 0.020	5,000
Total Molybdenum	5	<0.020	<0.020, 0.020	5,000
Total Nickel	2	<0.030	<0.030, 0.030	2,000
Total Phosphorus	10	0.02	0.02, 0.02	10,000
Total Selenium	1	0.003	0.003, 0.002	1,000
Total Silver	5	<0.020	<0.020, 0.020	5,000
Total Tin	5	<0.020	<0.020, 0.020	5,000
Total Titanium	5	<0.010	0.010, 0.010	5,000
Total Zinc	2	<0.020	<0.020, 0.020	2,000
Petroleum Hydrocarbons				
Animal/Vegetable Oil & Grease	150	<0.5	<0.5, 0.5	150,000
Mineral/Synthetic Oil & Grease	15	<0.5	<0.5, 0.5	15,000

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HYDROLOGICAL REVIEW SUMMARY

Volatile Organics		**Sample Result**	**Sample Result with upper RDL included**	
Parameter	**mg/L**			**ug/L**
Benzene	0.01	<0.0002	<0.0002, 0.0002	10
Chloroform	0.04	<0.0002	<0.0002, 0.0002	40
1,2-Dichlorobenzene	0.05	<0.0002	<0.0002, 0.0002	50
1,4-Dichlorobenzene	0.08	<0.0002	<0.0002, 0.0001	80
Cis-1,2-Dichloroethylene	4	<0.0002	<0.0002, 0.0002	4,000
Trans-1,3-Dichloropropylene	0.14	<0.0003	<0.0003, 0.0003	140
Ethyl Benzene	0.16	<0.0002	<0.0002, 0.0001	160
Methylene Chloride	2	<0.0003	<0.0003, 0.0003	2,000
1,1,2,2-Tetrachloroethane	1.4	<0.0002	<0.0002, 0.0002	1,400
Tetrachloroethylene	1	<0.0001	<0.0001, 0.0001	1,000
Toluene	0.016	<0.0002	<0.0002, 0.0002	16
Trichloroethylene	0.4	<0.0002	<0.0002, 0.0002	400
Total Xylenes	1.4	0.0002	0.0002, 0.0002	1,400
Semi-Volatile **Organics**				
Di-n-butyl Phthalate	0.08	<0.0005	<0.0005, 0.0005	80
Bis (2-ethylhexyl) Phthalate	0.012	<0.0005	<0.0005, 0.0005	12
3,3'-Dichlorobenzidine	0.002	<0.0005	<0.0005, 0.0005	2
Pentachlorophenol	0.005	<0.0005	<0.0005, 0.0005	5
Total PAHs	0.005	<0.0003	<0.0003, 0.0003	5
Misc **Parameters**				
Nonylphenols	0.02	<0.001	<0.001, 0.001	20
Nonylphenol Ethoxylates	0.2	<0.01	<0.01, 0.01	200

Sample Collected:
Temperature:

August 2018

HYDROLOGICAL REVIEW SUMMARY

STORM **Sample Location:**

Inorganics		Sample Result	Sample Result with upper RDL included	
Parameter	mg/L			ug/L
pH	6.0 - 9.5	7.87	7.87, NA	
BOD	15	<2	<2, 2	15,000
Phenolics 4AAP	0.008	0.005	0.005, 0.001	8
TSS	15	<10	<10, 10	15,000
Total Cyanide	0.02	<0.002	<0.002, 0.002	20
Metals				
Total Arsenic	0.02	<0.015	<0.015, 0.015	20
Total Cadmium	0.008	<0.005	<0.005, 0.005	8
Total Chromium	0.08	<0.020	<0.020, 0.020	80
Chromium Hexavalent	0.04	<0.002	<0.002, 0.002	40
Total Copper	0.04	<0.020	<0.020, 0.020	40
Total Lead	0.12	<0.020	<0.020, 0.020	120
Total Manganese	0.05	<0.20	<0.20, 0.020	50
Total Mercury	0.0004	<0.0002	<0.0002, 0.0002	0.4
Total Nickel	0.08	<0.030	<0.030, 0.030	80
Total Phosphorus	0.4	0.05	0.05, 0.02	400
Total Selenium	0.02	<0.003	<0.003, 0.002	20
Total Silver	0.12	<0.020	<0.020, 0.020	120
Total Zinc	0.04	<0.020	<0.020, 0.020	40
Microbiology				
E.coli	200		0	200,000
Volatile Organics				
Parameter	mg/L			ug/L
Benzene	0.002	<0.0002	<0.0002, 0.0002	2
Chloroform	0.002	<0.0002	<0.0002, 0.0002	2
1,2-Dichlorobenzene	0.0056	<0.0002	<0.0002, 0.0002	6
1,4-Dichlorobenzene	0.0068	<0.0002	<0.0002, 0.0002	7
Cis-1,2-Dichloroethylene	0.0056	<0.0002	<0.0002, 0.0002	6
Trans-1,3-Dichloropropylene	0.0056	<0.0003	<0.0003, 0.0003	6
Ethyl Benzene	0.002	<0.0002	<0.0002, 0.0001	2
Methylene Chloride	0.0052	<0.0003	<0.0003, 0.0003	5
1,1,2,2-Tetrachloroethane	0.017	<0.0002	<0.0002, 0.0002	17
Tetrachloroethylene	0.0044	<0.0001	<0.0001, 0.0001	4
Toluene	0.002	<0.0002	<0.0002, 0.0002	2
Trichloroethylene	0.0076	<0.0002	<0.0002, 0.0002	8
Total Xylenes	0.0044	<0.0002	0.0002, 0.0002	4

HYDROLOGICAL REVIEW SUMMARY

Semi-Volatile Organics		Sample Result	Sample Result with upper RDL included	
Di-n-butyl Phthalate	0.015	<0.0005	<0.0005, 0.0005	5
Bis (2-ethylhexyl) Phthalate	0.0088	<0.0005	<0.0005, 0.0005	8.8
3,3'-Dichlorobenzidine	0.0008	<0.0001	<0.0001, 0.0001	0.8
Pentachlorophenol	0.002	<0.0005	<0.0005, 0.0005	2
Total PAHs	0.002	<0.0003	<0.0003, 0.0003	2
PCBs	0.0004	<0.0002	<0.0002, 0.0002	0.4
Misc Parameters				
Nonylphenols	0.001	<0.001	<0.001, 0.001	1
Nonylphenol Ethoxylates	0.01	<0.001	<0.001, 0.001	10

Sample Collected:
Temperature:

Consulting Firm that prepared Hydrological Report: Golder Associates Ltd.

Qualified Professional who completed the report summary: David Dillon, P.Geo

Print Name

Qualified Professional who completed the report summary:

PROFESSIONAL GEOSCIENTIST
October 2, 2020
DAVID H. P. DILLON
PRACTISING MEMBER
2261
ONTARIO

Signature Date & Stamp

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Drawings

GENERAL NOTES

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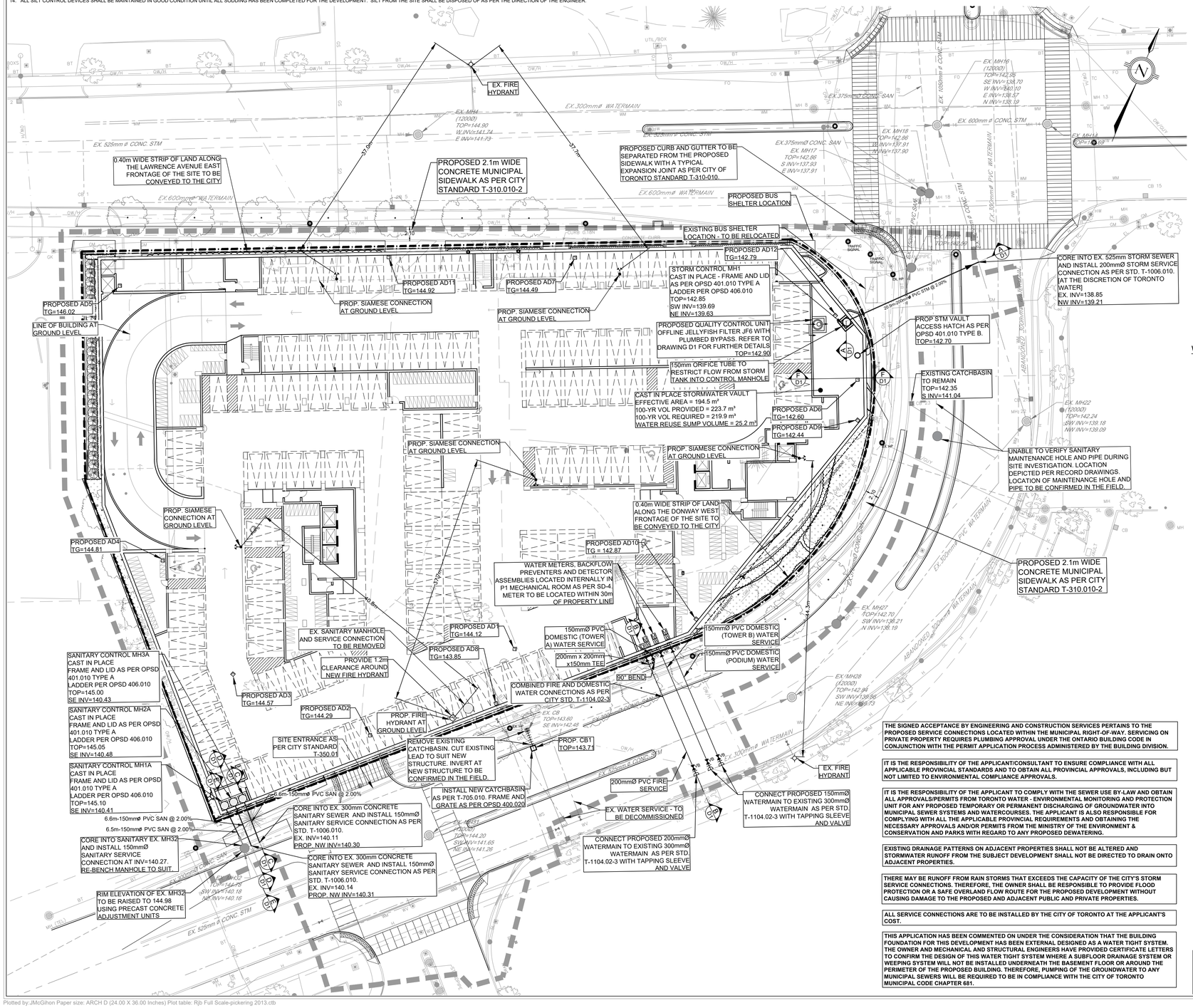
1. COMPLETED AND PASSING WATERMAIN PRESSURE AND CHLORINATION TEST RESULTS IN ACCORDANCE WITH LOCAL MUNICIPAL STANDARDS;
2. CCTV VIDEOS OF ALL STORM AND SANITARY PIPES INCLUDING CATCHBASIN LEADS IN GOOD WORKING ORDER;
3. AN ACCEPTANCE/CONFORMANCE/APPROVAL SUMMARY LETTER FROM THE GEOTECHNICAL ENGINEER OF RECORD STATING THAT THEY HAVE REVIEWED THE SITE DURING THE WORKS AND FIND THE FOLLOWING ITEMS TO MEET PROJECT GEOTECHNICAL REQUIREMENTS: PIPE BEDDING, COVER AND BACKFILL, GRANULAR, ASPHALT AND CONCRETE MATERIALS, ETC.;
4. STRUCTURAL AND GEOTECHNICAL ACCEPTANCE/CONFORMANCE/APPROVAL SUMMARY LETTER FOR ALL RETAINING WALLS AND STRUCTURAL COMPONENTS OF THE PROJECT (IF APPLICABLE);
5. A DETAILED AS BUILT SURVEY INCLUDING BUT IS NOT LIMITED TO: STORM & SANITARY STRUCTURE LOCATIONS/ELEVATIONS, PIPE INVERTS/LOCATION AND RIM ELEVATIONS, HYDRANT FLANGE ELEVATIONS, WATERMAIN VALVE LOCATIONS, WATERMAIN PIPE LOCATION/ELEVATIONS, HYDRO AND GAS LOCATIONS/ELEVATIONS, SURFACE ELEVATIONS THROUGHOUT THE SITE INCLUDING ALL HIGH AND LOW POINTS INDICATED ON THE GRADING PLAN, PARKING AREA AND DRIVE AISLE ELEVATIONS AT 5 METER INTERVALS, ACCESSIBLE RAMP LOCATIONS, TOP AND BOTTOM OF RETAINING WALL ELEVATIONS, CURB CUT LOCATIONS AND SWALE/DITCH LOCATION/ELEVATIONS, ETC.



SANITARY AND STORM SEWER NOTES:

1. MAIN LINE PVC PIPE SHALL BE DR 35.
2. SANITARY SERVICE CONNECTIONS SHALL BE SINGLE, 150 mm DIAMETER MINIMUM, PVC DR 28 INSTALLED AT 2 PERCENT AND THE COLOUR SHALL BE GREEN, FOR SINGLE RESIDENTIAL DWELLINGS.
3. EMBEDMENT MATERIAL FOR FLEXIBLE PIPE SHALL BE ACCORDING TO OPSD 802.010 AND USING GRANULAR A NATIVE OR GRANULAR A RCM ACCORDING TO TS 1010 AND COMPACTED TO MINIMUM 98% OF MAXIMUM DRY DENSITY.
4. BEDDING FOR RIGID PIPE SHALL BE CLASS B BEDDING MATERIAL ACCORDING TO OPSD 802.031 AND USING GRANULAR A NATIVE OR GRANULAR A RCM BEDDING MATERIAL ACCORDING TO TS 1010 AND COMPACTED TO MINIMUM 98% OF MAXIMUM DRY DENSITY.
5. ULTRA-RIB PIPE IS NOT PERMITTED WITHIN THE MUNICIPAL RIGHT-OF-WAY.
6. MAINTENANCE HOLES SHALL BE ACCORDING TO T-701.010 (1200 mm), T-710.011 (1500 mm), T-701.012-1 (1800 mm) OR T-701.013 (2400 mm). FRAME AND COVER SHALL BE ACCORDING TO OPSD 401.010 TYPE A CLOSED (SANITARY AND STORM).
7. MAINTENANCE HOLE CHAMBER OPENINGS MUST BE LOCATED ON THE UPSTREAM SIDE OF THE MAINTENANCE HOLE.
8. BENCHING DETAILS SHALL BE ACCORDING TO T-701.021 OR AS SHOWN ON THE DRAWINGS.
9. DROP STRUCTURES SHALL BE ACCORDING TO T-1003.01 (EXTERNAL) AND T-1003.01-2 (INTERNAL)
10. SANITARY MAINTENANCE HOLES SHALL HAVE WATERTIGHT FRAMES AND COVERS IN PONDING AREAS ACCORDING TO OPSD 401.030.
11. REINFORCED CONCRETE PIPE SHALL BE MINIMUM 65-D. HEIGHT OF FILL TO BE VERIFIED USING OPSD TABLES 807.010 AND 807.030.
12. NON-REINFORCED CONCRETE PIPE 150 mm TO 250 mm SHALL BE CLASS 3. HEIGHT OF FILL TO BE VERIFIED USING OPSD TABLES 807.040.
13. THE CONTRACTOR IS TO PROVIDE CCTV CAMERA INSPECTIONS OF ALL SANITARY SEWERS, INCLUDING PICTORIAL REPORT, TWO (2) CD COPIES IN A FORMAT SATISFACTORY TO THE ENGINEER. ALL SEWERS ARE TO BE FLUSHED PRIOR TO CAMERA INSPECTION.

WATERMAIN NOTES:

1. PVC WATERMAINS SHALL BE MINIMUM DR 18 CLASS 235 (AWWA) C900-07 OR MOLECULARLY ORIENTED POLYVINYL CHLORIDE (PVCO) PIPES RANGING IN SIZE FROM 100 mm TO 300 mm IN DIAMETER PRESSURE CLASS 235 AWWA C909-09. PVC PIPES RANGINS IN SIZE FROM PRESSURE RATING 235, DR 18, ACCORDING TO AWWA C905-10
2. EMBEDMENT MATERIAL FOR FLEXIBLE PIPE SHALL BE ACCORDING TO OPSD 802.010 AND USING GRANULAR A ACCORDING TO TS 1010 AND COMPACTED TO MINIMUM 98% OF MAXIMUM DRY DENSITY.
3. MINIMUM COVER ON WATERMAINS SHALL BE 1.8 m.
4. ALL HYDRANTS SHALL BE CONSTRUCTED ACCORDING TO T-1105.01.
5. HYDRANT LEADS SHALL BE MINIMUM DR 18 CLASS 235 (AWWA) C900-07 OR PRESSURE CLASS 235 AWWA C909-09.
6. ALL SERVICE CONNECTION SHALL BE CONSTRUCTED ACCORDING TO T-1104.01, T-1104.02-1, T-1104.02-3, T-1105.02-1 AND T-1105.02-2.
7. SINGLE WATER SERVICE CONNECTIONS SHALL BE A MINIMUM OF 19 mm DIA. TYPE "K" SOFT COPPER ACCORDING TO T-1104.01. WHEN SERVICE LENGTH EXCEEDS 30 m, THE DIAMETER SHALL BE 25 mm DIA.
8. ALL CURB AND VALVE BOXES TO BE LOCATED AT STREET LINE.
9. MECHANICAL THRUST RESTRAINTS SHALL BE INSTALLED AT ALL FITTINGS, BENDS, TEES, CROSSES, REDUCERS AND VALVES FOR ALL WATERMAIN SIZES. MECHANICAL RESTRAINTS AT JOINTS SHALL BE INSTALLED AT EVERY PIPE JOINT 6.1 m OF EITHER SIDE OF THE VALVE FOR WATERMAINS 100 mm DIAMETER OR LARGER.
10. ALL TEES, PLUGS, HORIZONTAL, VERTICAL BENDS, REDUCERS AND HYDRANTS TO HAVE CONCRETE THRUST BLOCKS ACCORDING TO T-1103.01 AND T-1103.020.
11. WATERMAINS MUST FOLLOW THE ONTARIO MINISTRY OF THE ENVIRONMENT PROCEDURE F-6-1 THAT GOVERN THE SEPARATION OF SEWERS AND WATERMAINS. A MINIMUM VERTICAL CLEARANCE OF 0.30 m WHEN CROSSING OVER AND 0.5 m WHEN CROSSING UNDER SEWER AND ALL OTHER UTILITIES IS REQUIRED. MUST ALSO MAINTAIN 2.5 m HORIZONTAL SEPARATIONS WITH SEWERS.
12. ALL VALVES LESS THAN 400 mm WILL BE IN A VALVE AND BOX ACCORDING TO T-1101.02-2. ALL VALVES 400 mm AND LARGER SHALL BE IN A CHAMBER.
13. SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL METALLIC PIPES AND APPURTENANCES, WATER SERVICES AND FITTINGS ACCORDING TO T-1106.04, T-1106.05, T-1106.06 AND TS 7.22.
14. TRACER WIRE INSTALLATION SHALL BE ACCORDING TO TS 7.40.
15. HYDROSTATIC PRESSURE TEST AND LEAKAGE TESTING OF THE WATERMAIN SHALL BE ACCORDING TO TS 441.
16. THE NEW WATERMAIN SHALL BE ISOLATED ACCORDING TO T-1104.03-4 UNTIL BACTERIOLOGICAL TESTS ARE SATISFACTORILY COMPLETED.
17. PROVISIONS FOR FLUSHING THE WATER MAIN PRIOR TO TESTING AND SO FORTH MUST BE PROVIDED WITH AT LEAST A 50 mm OUTLET ON 100 mm AND LARGER LINES ACCORDING TO T-1104.03-1. COPPER WATER SERVICES SHALL HAVE FLUSHING POINTS AT THE END, THE SAME SIZE AS THE LINE. ON FIRE LINES, FLUSHING OUTLET TO BE 50 mm DIAMETER MINIMUM OR A HYDRANT.
18. DISINFECTION OF THE WATERMAIN SHALL BE ACCORDING TO TS 7.30 AND SHALL INCLUDE ALL NEW WATER SERVICES 100 mm DIA AND LARGER.
19. TORONTO WATER REQUIRES THAT THE NEW DISTRIBUTION SYSTEM REMAIN ISOLATED UNTIL SATISFACTORY BACTERIOLOGICAL SAMPLE RESULTS ARE RECEIVED. ECS CONTRACT ADMINISTRATOR SHALL NOTIFY TORONTO WATER WHEN SAMPLE RESULTS HAVE PASSED IN ORDER TO PROCEED WITH REMOVAL OF THE BLOW-OFF AND BACK FILLING OF THE ACCESS PIT.
20. AFTER SATISFACTORY DISINFECTION OF THE NEW WATERMAIN IS ACHIEVED, PERMANENT CONNECTIONS TO THE EXISTING WATERMAIN(S) WITH A FILTER PIECE SHALL BE MADE ACCORDING TO TS 7.70.
21. CITY IN-SERVICE WATER VALVES, CURB STOPS, FIRE HYDRANTS CAN ONLY BE OPERATED BY TORONTO WATER STAFF.
22. ALL NEW WATERMAINS SHALL BE INSULATED WHERE THE COVER IS LESS THAN 1.65 m ACCORDING TO T-708.01-4.
23. THE OWNER IS REQUIRED TO INSTALL AND MAINTAIN A PREMISE ISOLATION DEVICE FOR ALL APPLICABLE WATER SERVICES IN ACCORDANCE WITH TORONTO MUNICIPAL CODE, CHAPTER 851 WATER SUPPLY, THE BUILDING CODE, AND CSA B64 SERIES STANDARDS.
24. THE LOCATION OF THE WATER METER SHALL BE TO TORONTO WATER'S SATISFACTION.

THE SIGNED ACCEPTANCE BY ENGINEERING AND CONSTRUCTION SERVICES PERTAINS TO THE PROPOSED SERVICE CONNECTIONS LOCATED WITHIN THE MUNICIPAL RIGHT-OF-WAY. SERVICING ON PRIVATE PROPERTY REQUIRES PLUMBING APPROVAL UNDER THE ONTARIO BUILDING CODE IN CONJUNCTION WITH THE PERMIT APPLICATION PROCESS ADMINISTERED BY THE BUILDING DIVISION.

IT IS THE RESPONSIBILITY OF THE APPLICANT/CONSULTANT TO ENSURE COMPLIANCE WITH ALL APPLICABLE PROVINCIAL STANDARDS AND TO OBTAIN ALL PROVINCIAL APPROVALS, INCLUDING BUT NOT LIMITED TO ENVIRONMENTAL COMPLIANCE APPROVALS.

IT IS THE RESPONSIBILITY OF THE APPLICANT TO COMPLY WITH THE SEWER USE BY-LAW AND OBTAIN ALL APPROVALS/PERMITS FROM TORONTO WATER - ENVIRONMENTAL MONITORING AND PROTECTION UNIT FOR ANY PROPOSED TEMPORARY OR PERMANENT DISCHARGING OF GROUNDWATER INTO MUNICIPAL SEWER SYSTEMS AND WATERCOURSES. THE APPLICANT IS ALSO RESPONSIBLE FOR COMPLYING WITH ALL THE APPLICABLE PROVINCIAL REQUIREMENTS AND OBTAINING THE NECESSARY APPROVALS AND/OR PERMITS FROM THE MINISTRY OF THE ENVIRONMENT & CONSERVATION AND PARKS WITH REGARD TO ANY PROPOSED DEWATERING.

EXISTING DRAINAGE PATTERNS ON ADJACENT PROPERTIES SHALL NOT BE ALTERED AND STORMWATER RUNOFF FROM THE SUBJECT DEVELOPMENT SHALL NOT BE DIRECTED TO DRAIN ONTO ADJACENT PROPERTIES.

THERE MAY BE RUNOFF FROM RAIN STORMS THAT EXCEEDS THE CAPACITY OF THE CITY'S STORM SERVICE CONNECTIONS. THEREFORE, THE OWNER SHALL BE RESPONSIBLE TO PROVIDE FLOOD PROTECTION OR A SAFE OVERLAND FLOW ROUTE FOR THE PROPOSED DEVELOPMENT WITHOUT CAUSING DAMAGE TO THE PROPOSED AND ADJACENT PUBLIC AND PRIVATE PROPERTIES.

ALL SERVICE CONNECTIONS ARE TO BE INSTALLED BY THE CITY OF TORONTO AT THE APPLICANT'S COST.

THIS APPLICATION HAS BEEN COMMENTED ON UNDER THE CONSIDERATION THAT THE BUILDING FOUNDATION FOR THIS DEVELOPMENT HAS BEEN EXTERNAL DESIGNED AS A WATER TIGHT SYSTEM. THE OWNER AND MECHANICAL AND STRUCTURAL ENGINEERS HAVE PROVIDED CERTIFICATE LETTERS TO CONFIRM THE DESIGN OF THIS WATER TIGHT SYSTEM WHERE A SUBFLOOR DRAINAGE SYSTEM OR WEEPING SYSTEM WILL NOT BE INSTALLED UNDERNEATH THE BASEMENT FLOOR OR AROUND THE PERIMETER OF THE PROPOSED BUILDING. THEREFORE, PUMPING OF THE GROUNDWATER TO ANY MUNICIPAL SEWERS WILL BE REQUIRED TO BE IN COMPLIANCE WITH THE CITY OF TORONTO MUNICIPAL CODE CHAPTER 681.

BE ADVISED THAT SHOULD ANY PARTY, INCLUDING THE APPLICANT OR ANY SUBSEQUENT OWNER, APPLY FOR MORE THAN ONE CONDOMINIUM CORPORATION ENCOMPASSING ANY OR ALL OF THIS DEVELOPMENT OR MAKE AN APPLICATION THAT RESULTS IN A LAND DIVISION, STAFF MAY REQUIRE LEGAL ASSURANCES, INCLUDING BUT NOT LIMITED TO EASEMENTS, WITH RESPECT TO THE APPROVED SERVICES. SUCH ASSURANCES WILL BE DETERMINED AT THE TIME OF APPLICATION FOR CONDOMINIUM APPROVAL.

KEY PLAN
SCALE: N.T.S.

LEGEND:

- SITE PROPERTY LINE
- LIMIT OF CONSTRUCTION
- BUILDING ABOVE
- BUILDING AT GROUND LEVEL
- STORM SEWER AND MANHOLE
- SANITARY SEWER AND MANHOLE
- WATERMAIN
- EXISTING STORM SEWER AND MANHOLE
- EXISTING SANITARY SEWER AND MANHOLE
- CATCHBASIN / DOUBLE CATCHBASIN
- HYD — HYDRANT AND VALVE
- VB — VALVE & BOX
- M — WATER METER
- B — BACKFLOW PREVENTOR
- D — DETECTOR ASSEMBLY
- SIAMESE CONNECTION

SITE PLAN

PREPARED BY: WZMH ARCHITECTS
DATE: MAY 12, 2023

TOPOGRAPHIC & LEGAL

PREPARED BY: SCHAEFFER DZALDOV BENNETT LTD.
DATE: JUNE 26, 2013

BENCHMARK NOTES

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE REFERRED TO CITY OF TORONTO BENCHMARK No. NY9046 HAVING A PUBLISHED ELEVATION OF 143.162 METRES.

Notes

1. This drawing is the exclusive property of R. J. Burnside & Associates Limited. The reproduction of any part without prior written consent of this office is strictly prohibited.
2. The contractor shall verify all dimensions, levels, and datums on site and report any discrepancies or omissions to this office prior to construction.
3. This drawing is to be read and understood in conjunction with all other plans and documents applicable to this project.

No.	Issue / Revision	Date	Auth.
0	ISSUED FOR ZBA	7/15/2022	LG
1	RE-ISSUED FOR ZBA	2/7/2023	LG
2	RE-ISSUED FOR ZBA	4/5/2023	LG
3	2nd ZBA SUBMISSION	6/30/2023	LG

LICENSED PROFESSIONAL ENGINEER — L. J. GARNER — 100171979 — JUNE 30, 2023 — PROVINCE OF ONTARIO

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web www.rjburnside.com

Client
FCHT HOLDINGS (ONTARIO) CORPORATION
85 HANNA AVENUE, SUITE 400
TORONTO, ONTARIO
M6K 3S3

FIRST CAPITAL — Real Estate Investment Trust

Project Name
895 LAWRENCE AVENUE EAST
NORTH YORK, ON M3C 3L2

Drawing Title
SERVICING PLAN

Drawn	Checked	Designed	Checked	Date	Drawing No.
CL	GP	LG	JM	20/12/23	**S1**
Project No.		Contract No.		Revision No.	
300051428.0000					
Scale	0	6.0	12.0	18.0m	
1:300					

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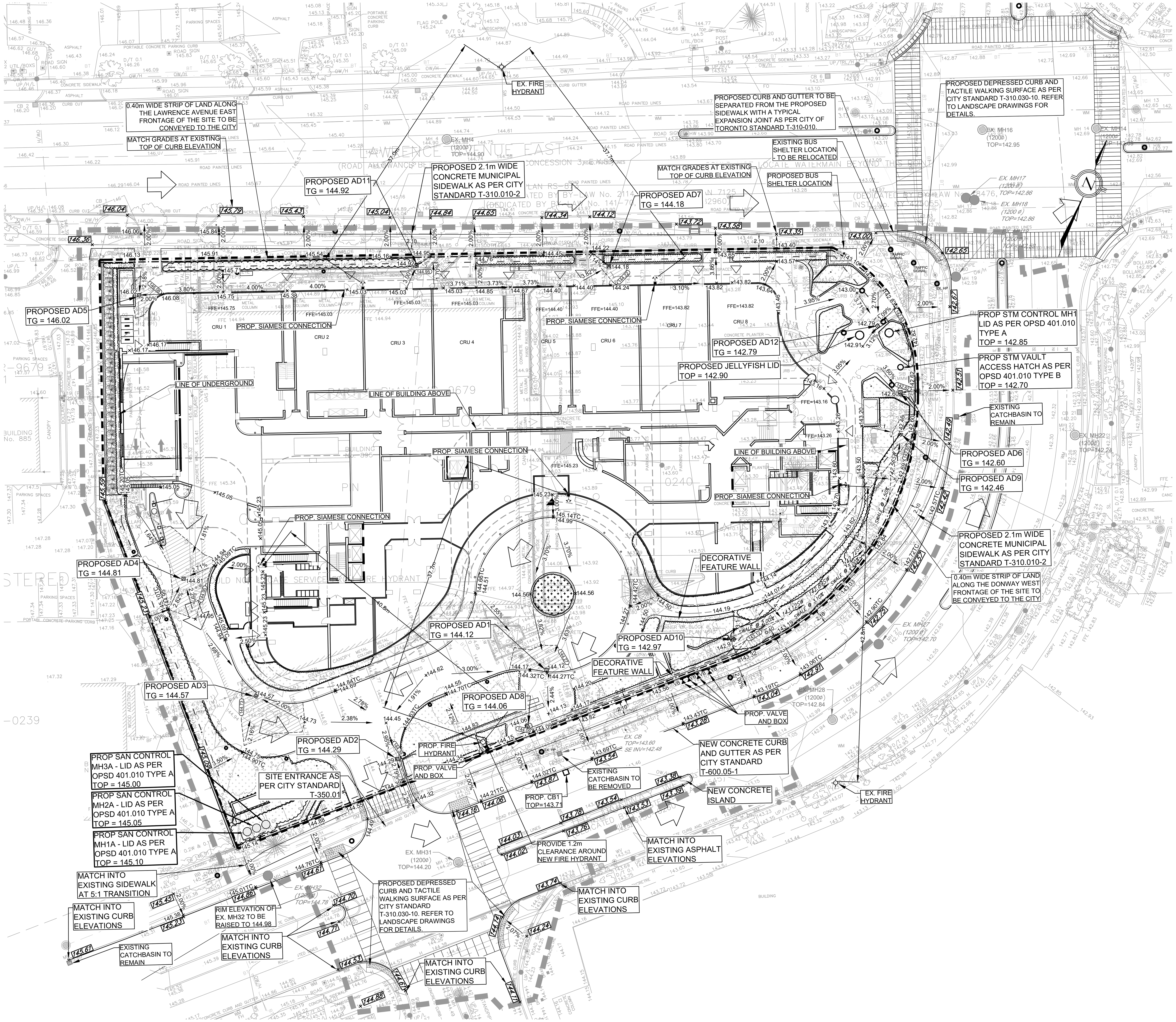


GRADING NOTES

1. ALL AREA GRADING AND RESULTING DRAINAGE PATTERNS SHALL NOT ADVERSELY AFFECT ADJACENT LANDS.
2. THE STORM DRAINAGE SHALL BE SELF CONTAINED WITHIN THE SUBJECT PROPERTY UNTIL IT CAN BE DISCHARGED, REUSED, INFILTRATED AND/OR EVAPOTRANSPIRED IN A MANNER ACCEPTABLE TO THE CITY.
3. MINIMUM GENERALLY ACCEPTED GRADIENT - 2.0%, MAXIMUM GENERALLY ACCEPTABLE GRADIENT - 4.0%.
4. MAXIMUM ACCEPTABLE SLOPE 3 PARTS HORIZONTAL TO 1 PART VERTICAL.
5. NO ALTERATIONS TO EXISTING BOUNDARY ELEVATIONS OR ADJACENT LANDS SHALL BE UNDERTAKEN UNLESS WRITTEN AGREEMENT WITH THE ADJACENT PROPERTY OWNER IS OBTAINED AND SUBMITTED IN A FORMAT ACCEPTABLE TO THE CITY.
6. THE MINIMUM GRADIENT ON ANY DRIVEWAY SHALL BE 2.0%. THE MAXIMUM DRIVEWAY GRADIENT IS 8.0%.
7. RETAINING WALLS SHALL BE CONSTRUCTED ENTIRELY ON THE UPPER PROPERTY SO THAT TIE BACKS (IF REQUIRED) DO NOT CROSS PROPERTY BOUNDARIES.
8. MAXIMUM PONDING DEPTH 0.3M.
9. PROPOSED SPOT ELEVATIONS SHOWN ARE ON ASPHALT, LANDSCAPE OR CONCRETE AREAS. UNLESS OTHERWISE NOTED TOP OF CURB ELEVATIONS ARE 0.15M ABOVE ASPHALT ELEVATIONS EXCEPT AT CURB DEPRESSIONS AND WHEEL CHAIR RAMPS.
10. MINIMUM SWALE GRADIENT - 2.0%
11. MINIMUM SWALE DEPTH- 150MM
12. ALL SWALES OR DITCHES HAVING A VELOCITY IN EXCESS OF 1.5 M/S SHALL BE DESIGNED TO INCORPORATE EROSION PROTECTION.
13. WHERE NEW ASPHALT MATCHES EXISTING ASPHALT, GRIND EXISTING ASPHALT A MINIMUM OF 300MM WIDE AND 40MM DEEP FOR KEYING. APPLY HOT RUBBER SEALING COMPOUND IN ACCORDANCE WITH OPSS 1212. ALL SURFACES TO BE TACK COATED WITH SS-1.
14. STEP JOINTS ARE TO BE USED WHERE PROPOSED ASPHALT MEETS EXISTING ASPHALT AS PER DETAIL ON THIS DRAWING. ALL JOINTS MUST BE SEALED AS PER DETAIL.
15. THE CONCRETE CURB, CONCRETE SIDEWALK AND ALL RESTORATION ALONG FRONTING ROADWAYS TO THE SITE WILL BE CONSTRUCTED AND CARRIED OUT IN ACCORDANCE WITH CITY OF TORONTO STANDARDS, INCLUDING BUT NOT LIMITED TO:
    - T-350.01 - URBAN ENTRANCES;
    - T-310.050-8 - DRIVEWAY THICKNESS;
    - T-310.010-2 - CONCRETE SIDEWALK WITH BOULEVARD;
    - T-600.11-1 - CONCRETE CURB (BORDERING DRIVEWAY ENTRANCE);
    - T-600.05-1 - CONCRETE CURB AND GUTTER.

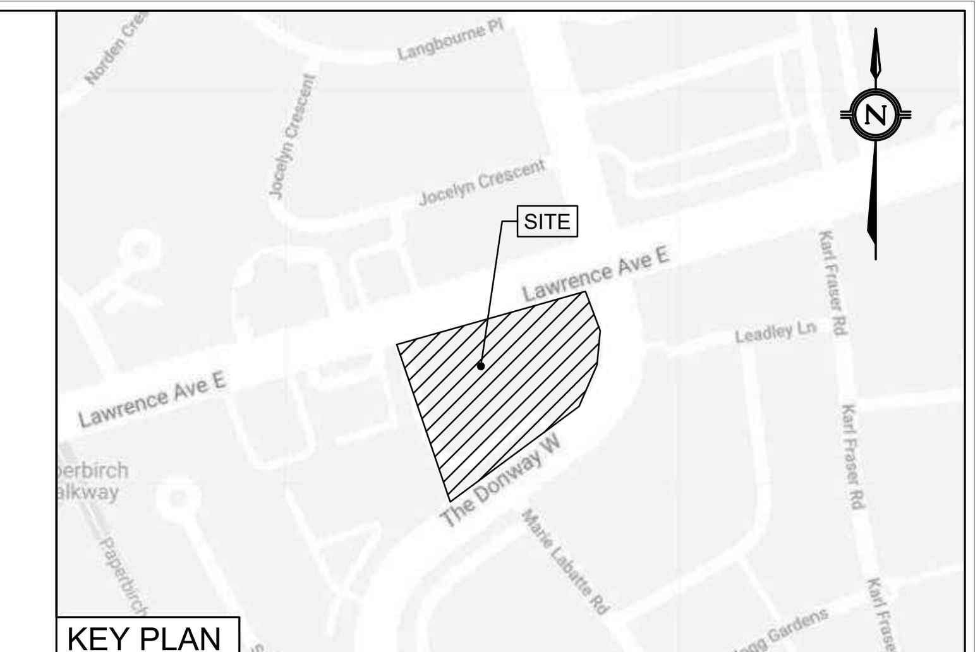
    REFER TO DETAIL DRAWING D1 FOR STANDARD DETAILS
16. UNLESS INDICATED OTHERWISE, ALL WORK WITHIN THE CITY RIGHT-OF-WAY SHALL BE UNDERTAKEN IN ACCORDANCE WITH CITY OF TORONTO DESIGN STANDARDS AND SPECIFICATION AND THE UNDERTAKING. ONTARIO PROVINCIAL STANDARDS MAY, SUBJECT TO THE APPROVAL OF THE CITY OF TORONTO, BE USED WHERE NO STANDARD OR SPECIFICATION IS NOTED.
17. NO PORTION OF THE WORK SHALL BE CARRIED OUT WITHOUT FIRST HAVING OBTAINED APPROVED CONSTRUCTION DRAWINGS, APPROVED PROJECT SCHEDULE(S), APPROVED TRAFFIC STAGING PLANS AND PERMITS FOR SUCH PORTION OF THE INFRASTRUCTURE WORK IN ACCORDANCE WITH THE PROVISIONS HEREOF AND GIVING 10 WORKING DAYS PRIOR WRITTEN NOTICE TO THE EXECUTIVE DIRECTOR OF ENGINEERING AND CONSTRUCTION SERVICES THAT SUCH WORK IS TO BE CARRIED OUT WITH SUCH NOTICE TO SPECIFY THE ANTICIPATED DATE OF COMMENCEMENT OF THE WORK. A PRE-CONSTRUCTION COORDINATION MEETING WITH CITY STAFF IS TO BE HELD A MINIMUM OF 5 WORKING DAYS PRIOR TO THE COMMENCEMENT OF ANY OF THE WORK.
18. THE REMOVAL OF TREES REQUIRES THE APPROVAL OF PARKS, FORESTRY & RECREATION DIVISION (CONTACT SUPERVISOR URBAN FORESTRY).
19. ALL AREAS DISTURBED DURING CONSTRUCTION WITHIN THE CITY'S RIGHT-OF-WAY SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION. GRASSED AREAS SHALL BE PROVIDED WITH 100MM OF TOPSOIL AND SHALL BE SODDED AS PER T.S. 5.00 & T.S. 5.10.
20. ANY DAMAGE TO PROPERTY ADJACENT TO THE CONSTRUCTION SITE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
21. CONCRETE SIDEWALK TO BE COMPLETE WITH 150MM GRANULAR BASE AS OUTLINE IN CITY OF TORONTO SPECIFICATION T.S. 3.70 OR AS DIRECTED BY THE CITY INSPECTOR.
22. SUBGRADE SHALL BE GRADED AND COMPACTED TO 98 % STD. PROCTOR DENSITY FREE OF DEPRESSIONS.
23. MINIMUM HEAVY DUTY PAVEMENT STRUCTURE THICKNESSES TO BE AS PER CITY OF TORONTO STANDARD T-216.02-6. REFER TO DRAWING G1 FOR HEAVY DUTY ASPHALT PAVEMENT AREAS.
24. ALL ASPHALT PAVEMENT AND CONCRETE SIDEWALK AND CURB TO BE SAW CUT PRIOR TO REMOVAL.
25. ALL DISTURBED ASPHALT PAVEMENT SHALL BE RESTORED WITH HOT LAID ASPHALT MATCHING THE EXISTING LAYERS AND DEPTHS USING HL8 FOR THE BASE AND HL3 FOR THE TOP LIFT. THE EXISTING ASPHALT SHALL BE SAW CUT AND REMOVED (FULL DEPTH) A MIN. DISTANCE OF 300mm FROM THE FACE OF THE TRENCH.
26. MUNICIPAL ROADWAY SUBDRAINS AS PER CITY STANDARD T-216.02-8.
27. A ROAD OCCUPANCY PERMIT MUST BE OBTAINED 48 HOURS PRIOR TO COMMENCING ANY WORKS WITHIN THE MUNICIPAL RIGHT OF WAY.

BE ADVISED THAT SHOULD ANY PARTY, INCLUDING THE APPLICANT OR ANY SUBSEQUENT OWNER, APPLY FOR MORE THAN ONE CONDOMINIUM CORPORATION ENCOMPASSING ANY OR ALL OF THIS DEVELOPMENT OR MAKE AN APPLICATION THAT RESULTS IN A LAND DIVISION, STAFF MAY REQUIRE LEGAL ASSURANCES, INCLUDING BUT NOT LIMITED TO EASEMENTS, WITH RESPECT TO THE APPROVED SERVICES. SUCH ASSURANCES WILL BE DETERMINED AT THE TIME OF APPLICATION FOR CONDOMINIUM APPROVAL.

IT IS THE RESPONSIBILITY OF THE APPLICANT/CONSULTANT TO ENSURE COMPLIANCE WITH ALL APPLICABLE PROVINCIAL STANDARDS AND TO OBTAIN ALL PROVINCIAL APPROVALS, INCLUDING BUT NOT LIMITED TO ENVIRONMENTAL COMPLIANCE APPROVALS.

EXISTING DRAINAGE PATTERNS ON ADJACENT PROPERTIES SHALL NOT BE ALTERED AND STORMWATER RUNOFF FROM THE SUBJECT DEVELOPMENT SHALL NOT BE DIRECTED TO DRAIN ONTO ADJACENT PROPERTIES.

THERE MAY BE RUNOFF FROM RAIN STORMS THAT EXCEEDS THE CAPACITY OF THE CITY'S STORM SERVICE CONNECTIONS. THEREFORE, THE OWNER SHALL BE RESPONSIBLE TO PROVIDE FLOOD PROTECTION OR A SAFE OVERLAND FLOW ROUTE FOR THE PROPOSED DEVELOPMENT WITHOUT CAUSING DAMAGE TO THE PROPOSED AND ADJACENT PUBLIC AND PRIVATE PROPERTIES.



KEY PLAN
SCALE: N.T.S.

LEGEND:

- SITE PROPERTY LINE
- LIMIT OF CONSTRUCTION
- BUILDING ABOVE
- UNDERGROUND LIMIT
- 48.79 EXISTING ELEVATIONS
- 48.79 EXISTING ELEVATIONS TO MATCH
- 48.21 FINISHED GROUND ELEVATION
- 48.29TC TOP OF CURB ELEVATION
- 48.29TW TOP OF WALL ELEVATION
- 48.96SW SWALE ELEVATION
- OVERLAND FLOW ROUTE
- 2.00% PROPOSED SLOPES
- CATCHBASIN / DOUBLE CATCHBASIN
- AREA DRAIN
- TRENCH DRAIN
- HYD HYDRANT AND VALVE
- VB VALVE & BOX
- SIAMESE CONNECTION
- 48.23 PONDING AREA

SITE PLAN
PREPARED BY: WZMH ARCHITECTS
DATE: MAY 12, 2023

TOPOGRAPHIC & LEGAL
PREPARED BY: SCHAEFFER DZALDOV BENNETT LTD.
DATE: JUNE 26, 2013

BENCHMARK NOTES
ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE REFERRED TO CITY OF TORONTO BENCHMARK No. NY9046 HAVING A PUBLISHED ELEVATION OF 143.162 METRES.

Notes

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No.	Issue / Revision	Date	Auth.
0	ISSUED FOR ZBA	7/15/2022	LG
1	RE-ISSUED FOR ZBA	2/7/2023	LG
2	RE-ISSUED FOR ZBA	4/5/2023	LG
3	2nd ZBA SUBMISSION	6/30/2023	LG

LICENSED PROFESSIONAL ENGINEER
L. J. GARNER
100171979
JUNE 30, 2023
PROVINCE OF ONTARIO

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1465 Pickering Parkway
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Fax: (905) 420-5247
web www.rjburnside.com

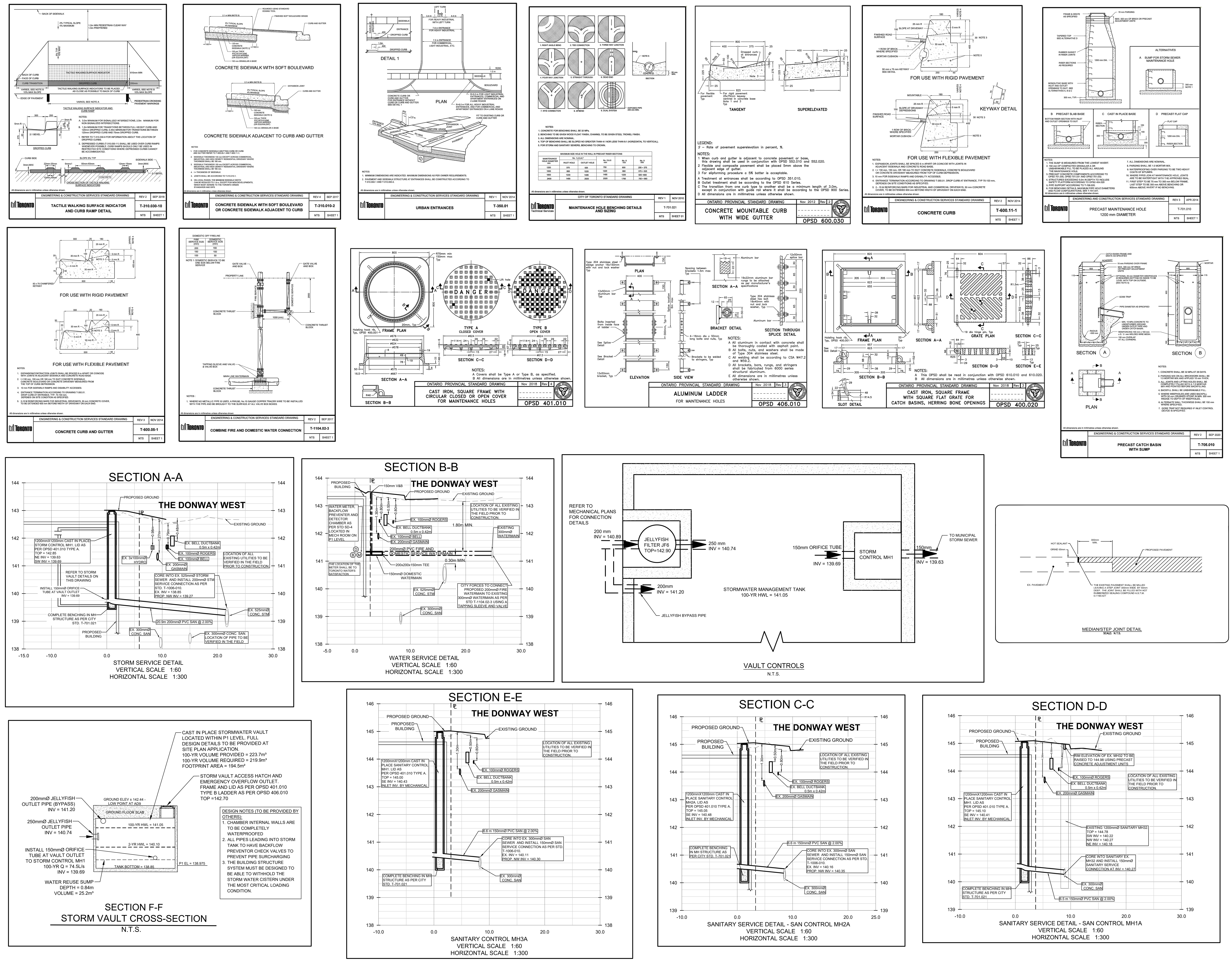
Client
FCHT HOLDINGS (ONTARIO) CORPORATION
85 HANNA AVENUE, SUITE 400
TORONTO, ONTARIO
M6K 3S3

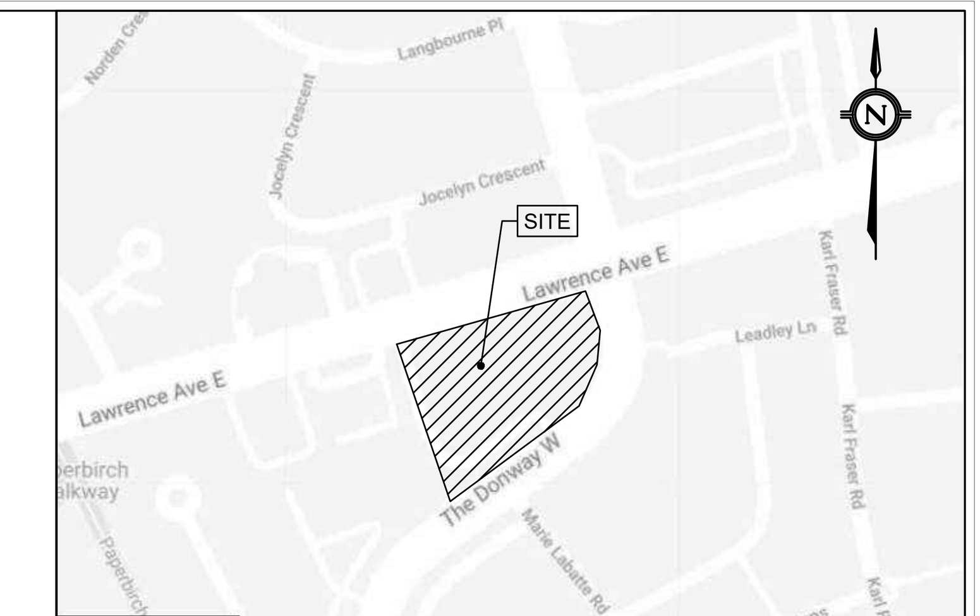
Project Name
895 LAWRENCE AVENUE EAST
NORTH YORK, ON M3C 3L2

Drawing Title
GRADING PLAN

Drawn	Checked	Designed	Checked	Date	Drawing No.
CL	GP	JM	LG	20/12/23	G1
Project No. 300051428.0000		Contract No.		Revision No.	
Scale 1:300		0 6.0 12.0 18.0m			

File: \\pops\Shared Work Areas\051428 - 895 Lawrence\03_ProductionDwg\051428 - G1.dwg Date Plotted: June 28, 2023 - 4:45 PM
Plotted by: JMcGihon Paper size: ARCH D (24.00 X 36.00 Inches) Plot table: Rjb Full Scale-pickering 2013.ctb





KEY PLAN
SCALE: N.T.S.

LEGEND:

SITE PLAN
PREPARED BY: WZMH ARCHITECTS
DATE: MAY 12, 2023

TOPOGRAPHIC & LEGAL
PREPARED BY: SCHAEFFER DZALDOV BENNETT LTD.
DATE: JUNE 26, 2013

BENCHMARK NOTES
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JUNE 30, 2023
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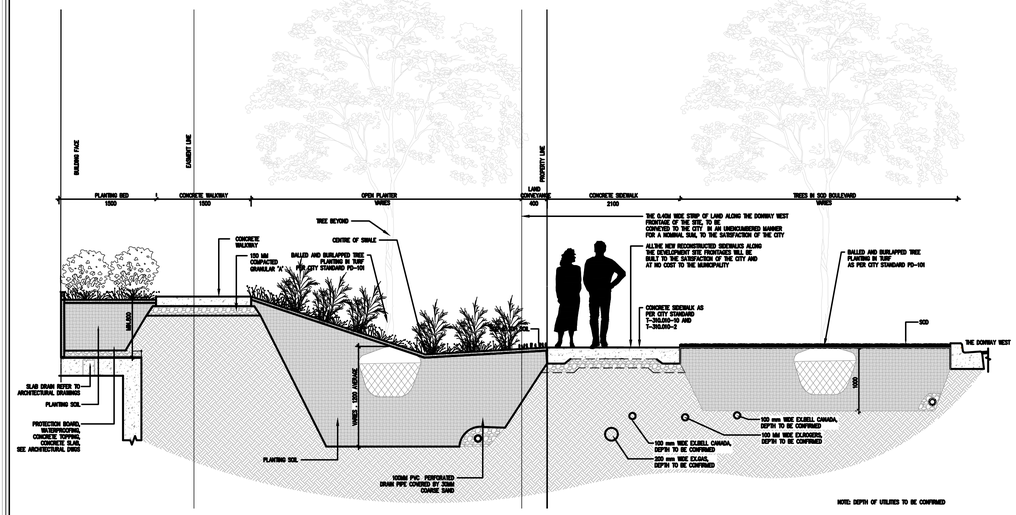
Client
FCHT HOLDINGS (ONTARIO) CORPORATION
85 HANNA AVENUE, SUITE 400
TORONTO, ONTARIO
M6K 3S3

FIRST CAPITAL
Creating thriving urban neighbourhoods

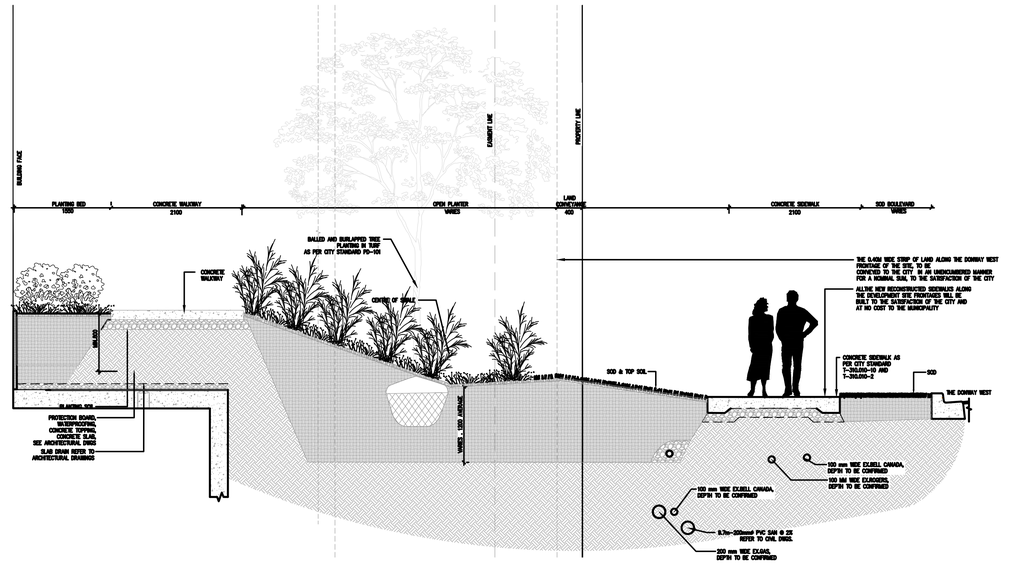
Project Name
895 LAWRENCE AVENUE EAST
NORTH YORK, ON M3C 3L2

Drawing Title
DETAILS

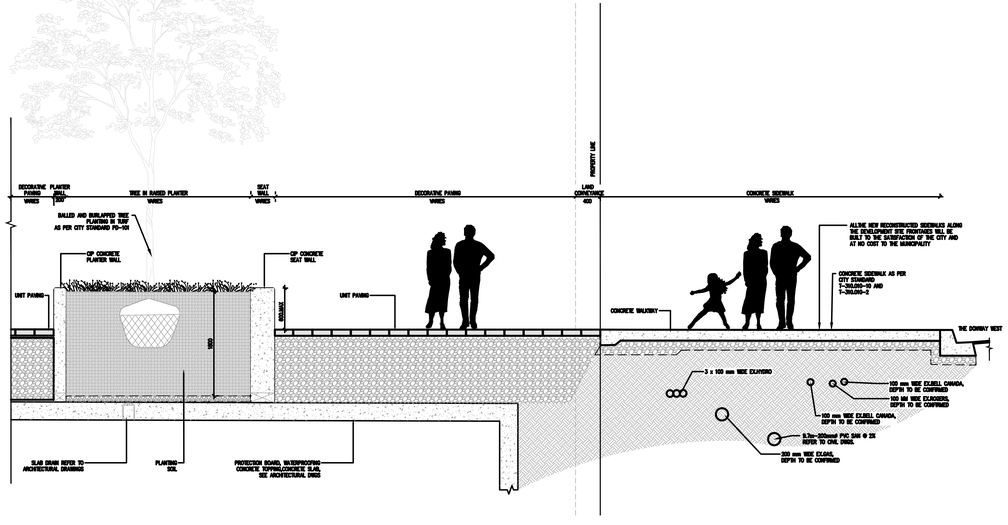
Drawn	Checked	Designed	Checked	Date	Drawing No.
GP	JM	LG	JM	20/12/23	D1
Project No. 300051428.0000		Contract No.		Revision No.	
Scale AS NOTED					



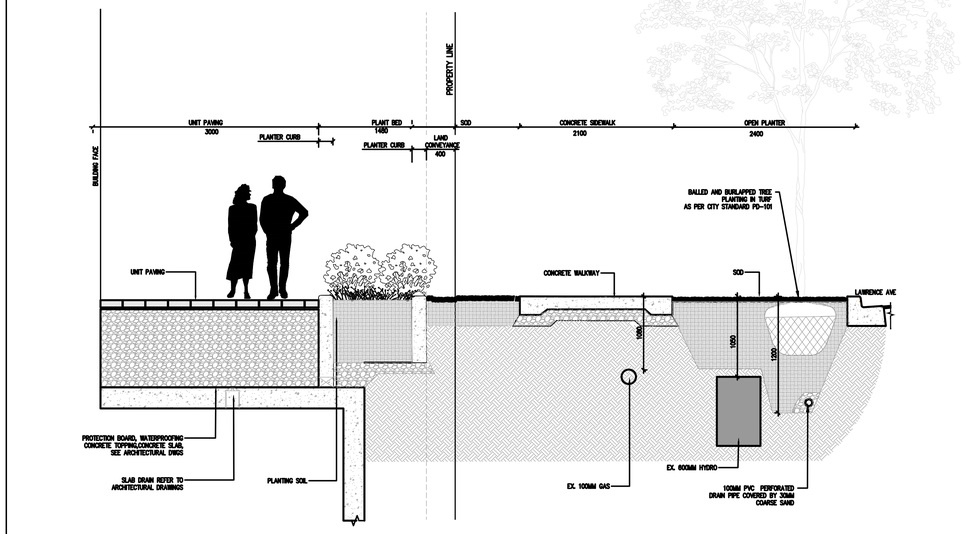
SECTION 1-1
AS PER DRAWING L3.0 - SECTION 1-L3.0
SCALE: N.T.S.



SECTION 2-2
AS PER DRAWING L3.0 - SECTION 2-L3.0
SCALE: N.T.S.



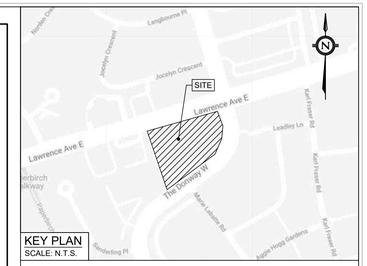
SECTION 3-3
AS PER DRAWING L3.1 - SECTION 1-L3.1
SCALE: N.T.S.



SECTION 4-4
AS PER DRAWING L3.1 - SECTION 2-L3.1
SCALE: N.T.S.

UTILITY INFORMATION PROVIDED ON THIS PLAN WHERE TREE PLANTING IS PROPOSED HAS BEEN PROVIDED AS PER QUALITY LEVEL 'A'.

SECTIONS AS PER DRAWINGS L3.0 AND L3.1. REFER TO THE LANDSCAPE DRAWINGS FOR ALL DETAILS RELATED TO TREE PLANTING AND SURFACE WORKS.



KEY PLAN
SCALE: N.T.S.

LEGEND:

SITE PLAN
PREPARED BY: WZMH ARCHITECTS
DATE: JULY 6, 2022

TOPOGRAPHIC & LEGAL
PREPARED BY: SCHAEFFER DZALDOV BENNETT LTD.
DATE: JUNE 26, 2013

BENCHMARK NOTES
ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE REFERRED TO CITY OF TORONTO BENCHMARK No. NY9046 HAVING A PUBLISHED ELEVATION OF 143.162 METRES.

Notes

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No.	Issue / Revision	Date	Auth.
0	ISSUED FOR ZBA	4/5/2023	LG
1	2nd ZBA SUBMISSION	6/30/2023	LG

LICENSED PROFESSIONAL ENGINEER
L. J. GARNER
100171979
JUNE 30, 2023
PROVINCE OF ONTARIO

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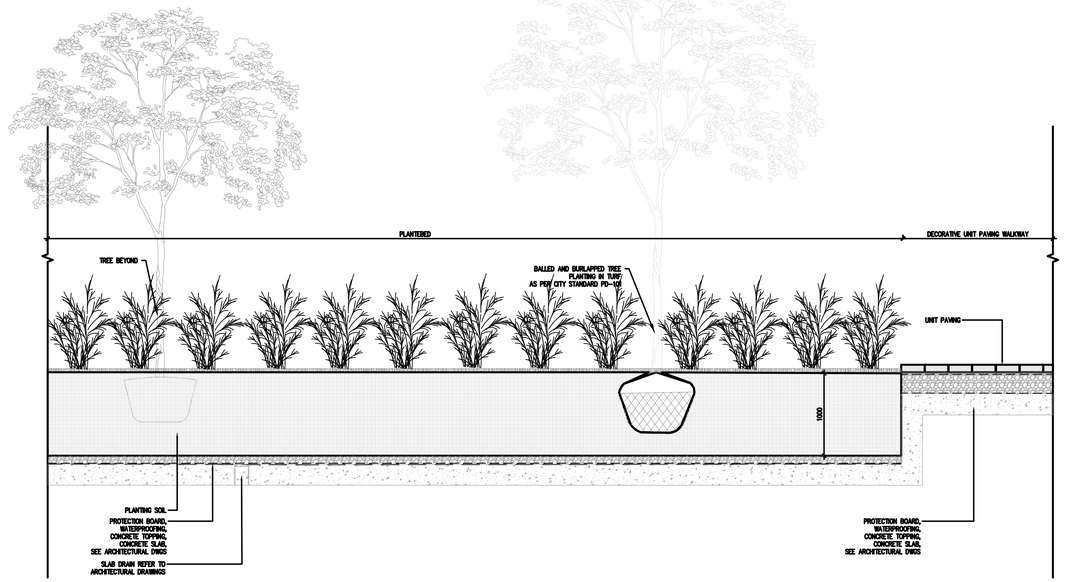
85 HANNA AVENUE, SUITE 400
TORONTO, ONTARIO
M6K 3S3

FIRST CAPITAL
Investing in Exciting Urban Neighbourhoods

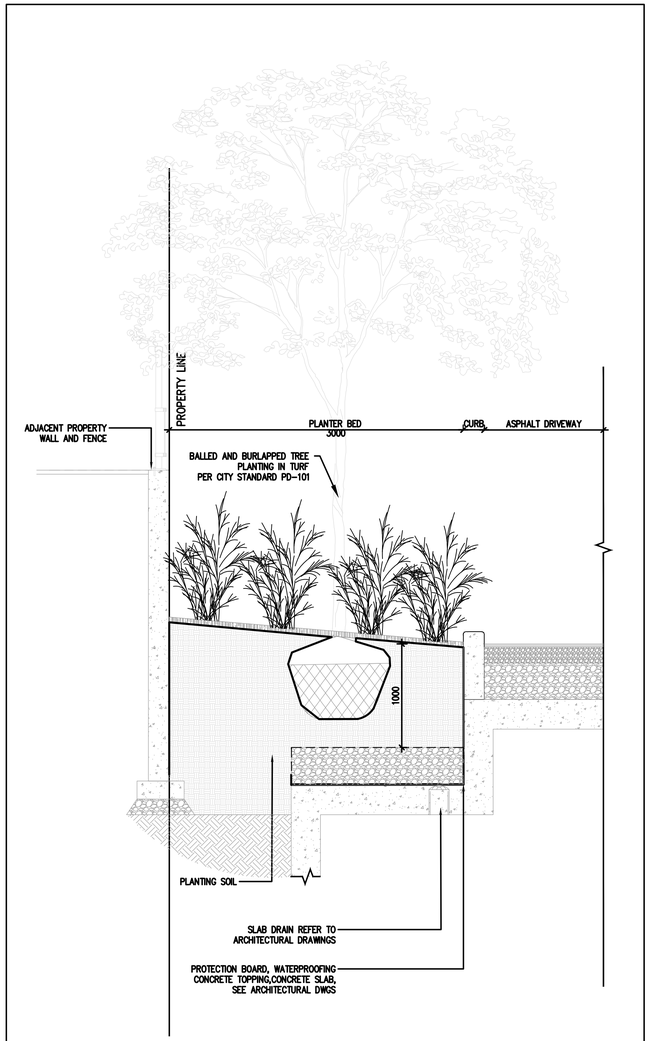
Project Name
895 LAWRENCE AVENUE EAST
NORTH YORK, ON M3C 3L2

Drawing Title
DETAILS

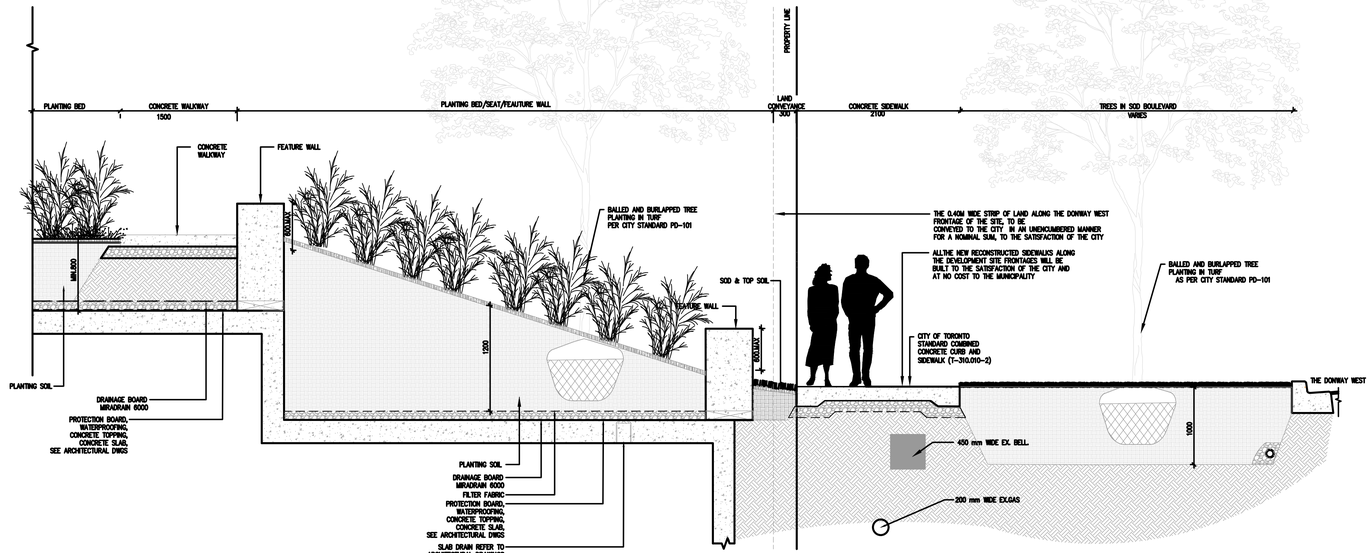
Drawn	Checked	Designed	Checked	Date	Drawing No.
JM	LG	JM	LG	23/03/16	**D2**
Project No. 30005142	8.0000	Contract No.		Revision No.	
Scale AS NOTED					



SECTION 6-6
AS PER DRAWING L3.2 - SECTION 2-L3.2
SCALE: N.T.S.



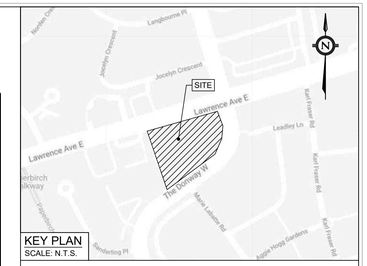
SECTION 5-5
AS PER DRAWING L3.2 - SECTION 1-L3.2
SCALE: N.T.S.



SECTION 7-7
AS PER DRAWING L3.3 - SECTION 1-L3.3
SCALE: N.T.S.

UTILITY INFORMATION PROVIDED ON THIS PLAN WHERE TREE PLANTING IS PROPOSED HAS BEEN PROVIDED AS PER QUALITY LEVEL 'A'.

SECTIONS AS PER DRAWINGS L3.2 AND L3.3. REFER TO THE LANDSCAPE DRAWINGS FOR ALL DETAILS RELATED TO TREE PLANTING AND SURFACE WORKS.



KEY PLAN
SCALE: N.T.S.

LEGEND:

SITE PLAN
PREPARED BY: WZMH ARCHITECTS
DATE: JULY 6, 2022

TOPOGRAPHIC & LEGAL
PREPARED BY: SCHAEFFER DZALDOV BENNETT LTD.
DATE: JUNE 26, 2013

BENCHMARK NOTES
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No.	Issue / Revision	Date	Auth.
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1	2nd ZBA SUBMISSION	6/30/2023	LG

LICENSED PROFESSIONAL ENGINEER
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JUNE 30, 2023
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FIRST CAPITAL

Project Name
895 LAWRENCE AVENUE EAST
NORTH YORK, ON M3C 3L2

Drawing Title
DETAILS

Drawn	Checked	Designed	Checked	Date	Drawing No.
JM	LG	JM	LG	23/04/05	D3
Project No. 300051428.0000		Contract No.		Revision No.	
Scale AS NOTED					

EROSION & SEDIMENT CONTROL NOTES:

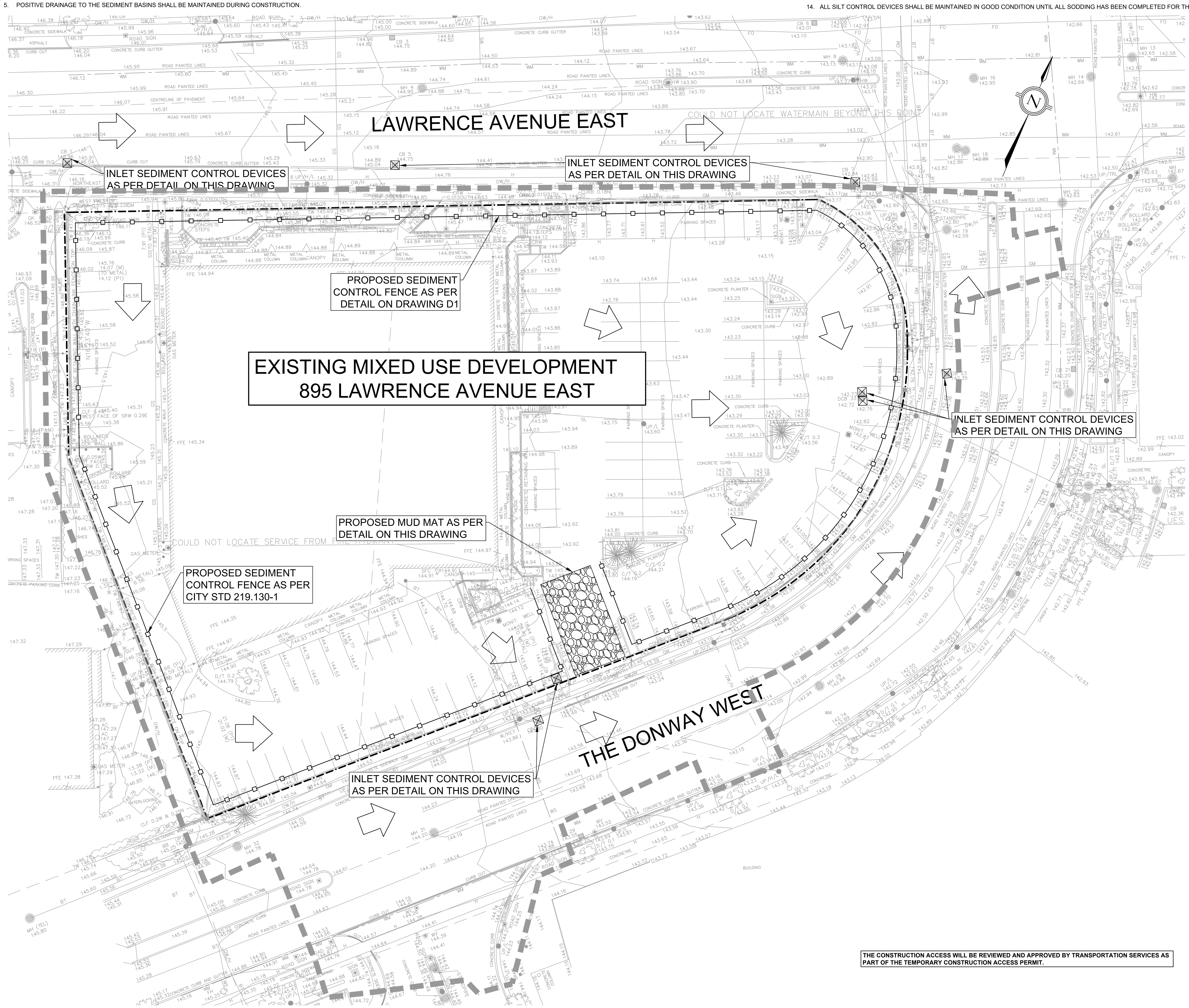
1. ALL NEW AND EXISTING CATCHBASINS AND CATCHBASIN MANHOLES ON-SITE OR IN ADJACENT STREETS SHALL HAVE THE UNDERSIDE OF THE GRATE COVERED WITH TERRAFIX 240R NON-WOVEN GEOTEXTILE DURING CONSTRUCTION AND SHALL BE MONITORED ON A WEEKLY BASIS DURING CONSTRUCTION AND REPLACED AS NEEDED. CONTRACTOR SHALL REGULARLY CLEAN SEDIMENT AND DEBRIS FROM THESE GEOTEXTILE PIECES. CONTRACTOR SHALL DISPOSE WITH THESE PIECES AT THE END OF CONSTRUCTION OR AS DIRECTED BY THE ENGINEER.
2. CONTRACTOR SHALL MAINTAIN ADJACENT STREETS AND PROPERTIES FREE OF DUST, MUD, AND OTHER REFUSE THROUGHOUT DURATION OF CONSTRUCTION. ANY CLEANING OF ADJACENT AREAS DURING CONSTRUCTION SHALL BE PAID BY THE CONTRACTOR.
3. ALL SEDIMENT AND EROSION CONTROL WORKS WILL BE INSPECTED AFTER EACH RAINFALL, AND REPAIRED / MAINTAINED TO THE SATISFACTION OF THE CITY ENGINEERS.
4. HOARDING OR SNOW FENCING SHALL BE ERECTED AND MAINTAINED PRIOR TO ANY GRADING OR CONSTRUCTION AND SHALL REMAIN IN PLACE AND IN GOOD REPAIR THROUGHOUT THE CONSTRUCTION AND GRADING PHASE.
5. FILTER FABRIC SHALL BE PLACED UNDER ALL STREET CATCHBASINS GRATES. SILT TRAPS ARE TO BE CLEANED REGULARLY AND ARE NOT TO BE REMOVED UNTIL CURBS ARE CONSTRUCTED AND BOULEVARDS AND BACKYARDS ARE GRADED AND SODDED. FILTER FABRIC USED FOR SEDIMENT CONTROL SHALL BE TERRA FIX 240R AN APPROVED EQUIVALENT.
6. MUD TRACKING AND DUST MUST BE CONTROLLED ON ALL ROADWAYS TO THE SATISFACTION OF THE CITY.

SEDIMENT CONTROL INSTRUCTIONS:

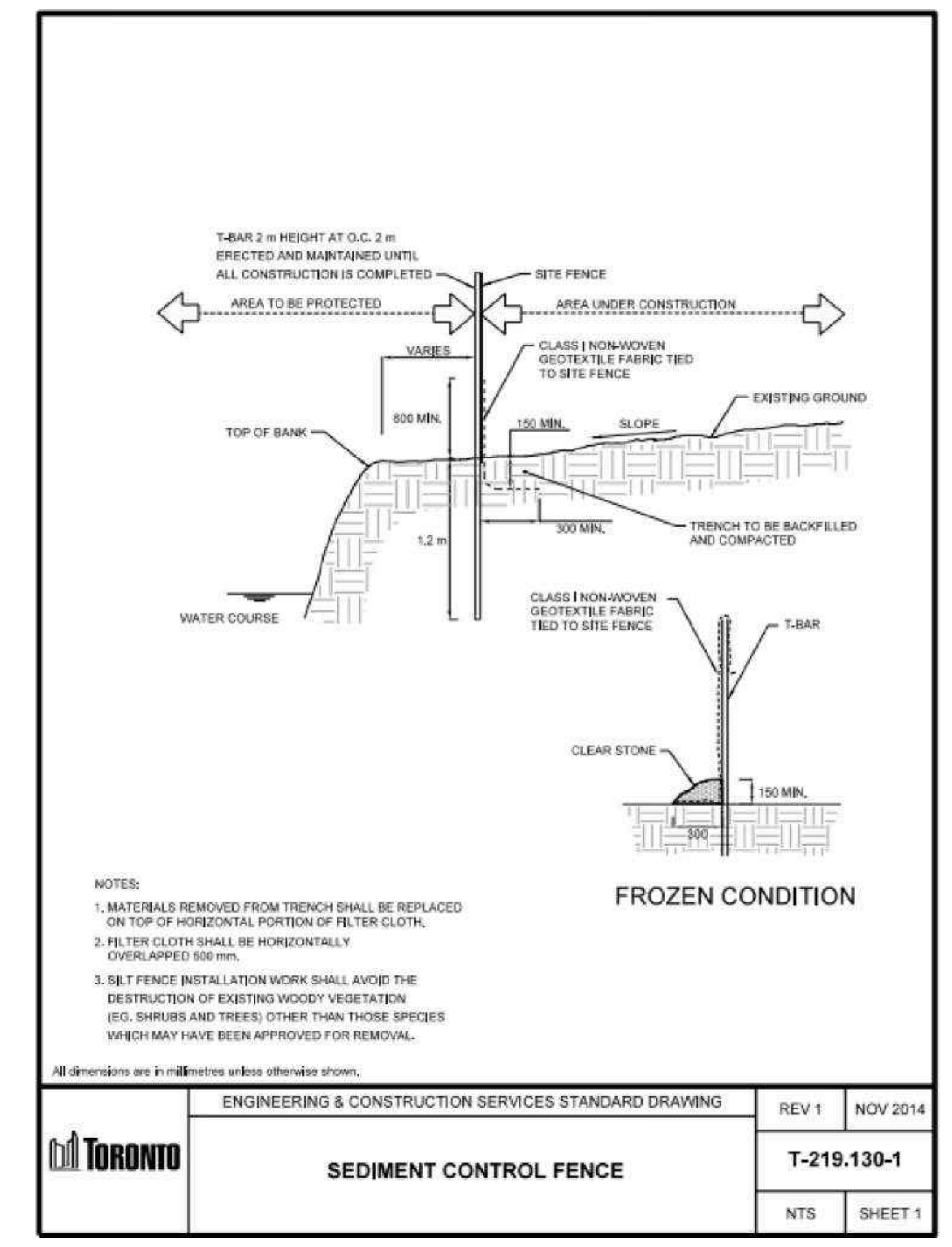
1. THE CONTRACTOR SHALL MAINTAIN A SUPPLY OF SEDIMENT FENCE, CLEAR STONE AND FILTER FABRIC ON SITE FOR EMERGENCY USE.
2. SITE INSPECTOR SHALL VERIFY THAT THE SEDIMENTATION CONTROLS ARE INTACT ON WEEKLY BASIS AND AFTER ALL RAINFALL EVENTS. DEFICIENCIES SHALL BE REPORTED TO THE CONTRACTOR AND REPAIRED IMMEDIATELY.
3. MONTHLY INSPECTION REPORTS SHALL BE PREPARED BY THE INSPECTOR.
4. UPON IMPLEMENTATION OF EROSION SEDIMENT CONTROL THE CONTRACTOR IS TO CONFIRM WITH THE INSPECTOR THAT THE CONTROLS ARE OPERATING TO THEIR SATISFACTION. ADDITIONAL MEASURES MAY BE REQUIRED AT THE RECOMMENDATIONS OF THE ENGINEER AND/OR INSPECTOR.
5. POSITIVE DRAINAGE TO THE SEDIMENT BASINS SHALL BE MAINTAINED DURING CONSTRUCTION.

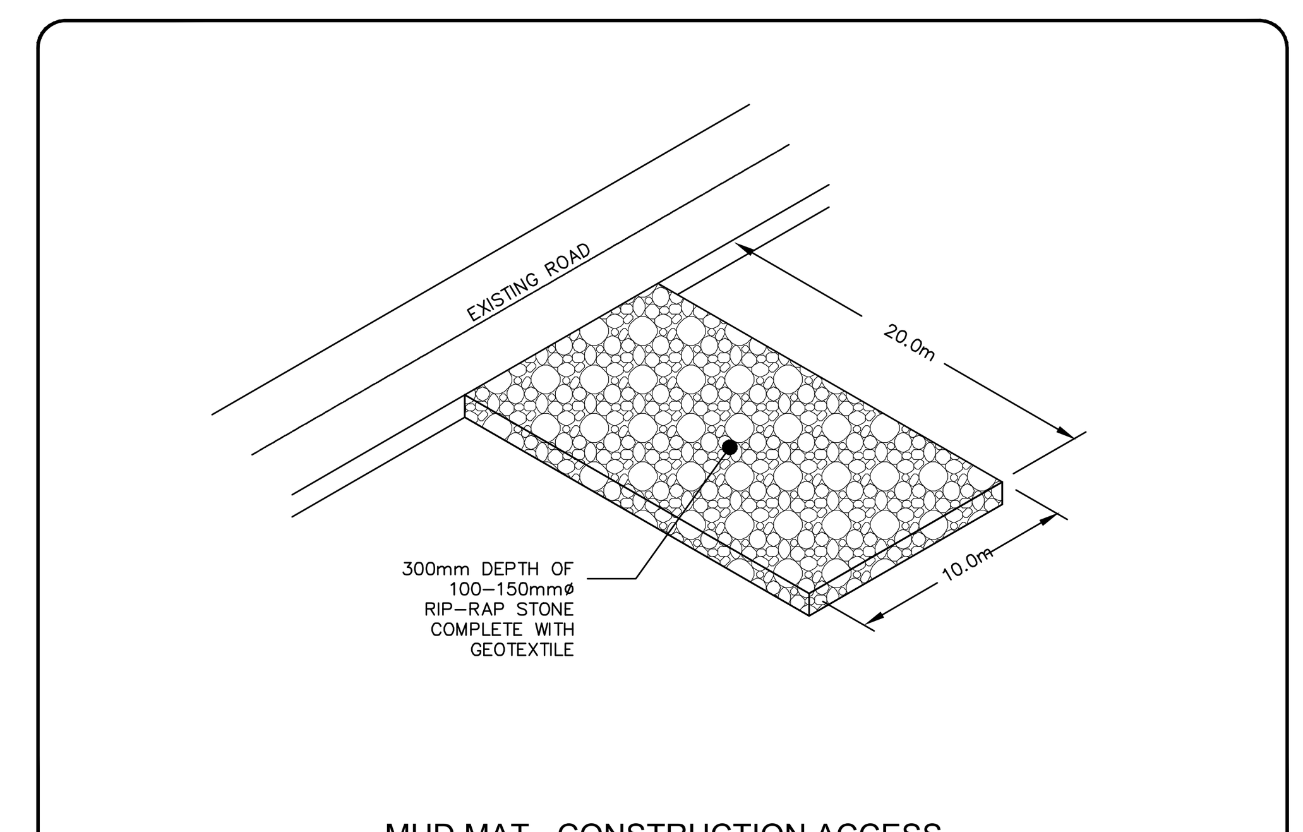
GENERAL NOTES

1. ALL MUNICIPAL REMOVAL WORKS SHALL CONFORM TO THE LATEST CITY'S SPEC TS 510. ALL REMOVED FACILITIES SHALL BE PROPERLY DISPOSED OFF-SITE.
2. THE CONTRACTOR IS HELD RESPONSIBLE BY THE CITY FOR ANY DAMAGE CAUSED BY THE CONTRACTOR'S WORK TO UTILITIES, PROPERTIES, STRUCTURES, ETC. NEAR TO OR IN THE GENERAL AREA OF THE WORK BY THE CONTRACTOR OR THE SUBCONTRACTORS AS A RESULT OF INTENTIONAL OR NEGLIGENT ACTION, OMISSION, SETTLEMENT OF GROUND, VIBRATION, ETC. PERTAINING TO THE WORK PERFORMED UNDER THE CONTRACT.
3. THE CONTRACTOR IS RESPONSIBLE TO PROPERLY FIX, REPAIR AND REINSTATE, AT THEIR OWN EXPENSE, ALL OF SUCH DAMAGES.
4. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH FUNCTIONAL SERVICING AND STORMWATER MANAGEMENT REPORT PREPARED BY R.J. BURNSIDE AND ASSOCIATES LTD.
5. ALL WORK TO CONFORM TO THE LATEST CITY OF TORONTO STANDARD DRAWINGS AND SPECIFICATIONS AS WELL AS THE LATEST ADOPTED ONTARIO PROVINCIAL STANDARD DRAWINGS AND SPECIFICATIONS.
6. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE CURRENT "OCCUPATIONAL HEALTH AND SAFETY ACT". THE GENERAL CONTRACTOR SHALL BE DEEMED TO BE THE CONSTRUCTOR AS DEFINED IN THE ACT.
7. ALL TEMPORARY TRAFFIC CONTROL AND SIGNAGE DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT ONTARIO TRAFFIC MANUAL BOOK 7 TEMPORARY CONDITIONS FIELD EDITION.
8. ALL TRENCHES WITHIN EXISTING RIGHT OF WAY SHALL BE BACKFILLED WITH UNSHRINKABLE FILL.
9. THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO THE ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE EXECUTIVE DIRECTOR OF TECHNICAL SERVICES.
10. PRIOR TO COMMENCING ANY WORK WITHIN THE MUNICIPAL RIGHT OF WAY, THE CONTRACTOR OR DEVELOPER OR CONSULTANT WILL OBTAIN ALL NECESSARY ROAD OCCUPANCY PERMITS FROM THE CITY'S RIGHT-OF-WAY MANAGEMENT SECTION. CONTACT 416-394-8422.
11. ALL DIMENSIONS AND ELEVATIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION AND HE SHALL REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER (DETAILS ARE NOT TO BE SCALED FROM THE DRAWINGS).
12. ALL CONSTRUCTION SIGNING MUST CONFORM TO THE M.T.O. MANUAL "UNIFORM TRAFFIC CONTROL DEVICES" LATEST EDITION.
13. REFERENCE TO STANDARD DRAWINGS SHALL MEAN THE STANDARD DRAWINGS OF THE CITY OF TORONTO UNLESS NOTED OTHERWISE AND THESE SHALL BE THE REVISION IN EFFECT AS OF THE DATE OF THE CITY'S APPROVAL OF THE CONSTRUCTION DRAWINGS.
14. ALL SILT CONTROL DEVICES SHALL BE MAINTAINED IN GOOD CONDITION UNTIL ALL SODDING HAS BEEN COMPLETED FOR THE DEVELOPMENT. SILT FROM THE SITE SHALL BE DISPOSED OF AS PER THE DIRECTION OF THE ENGINEER.

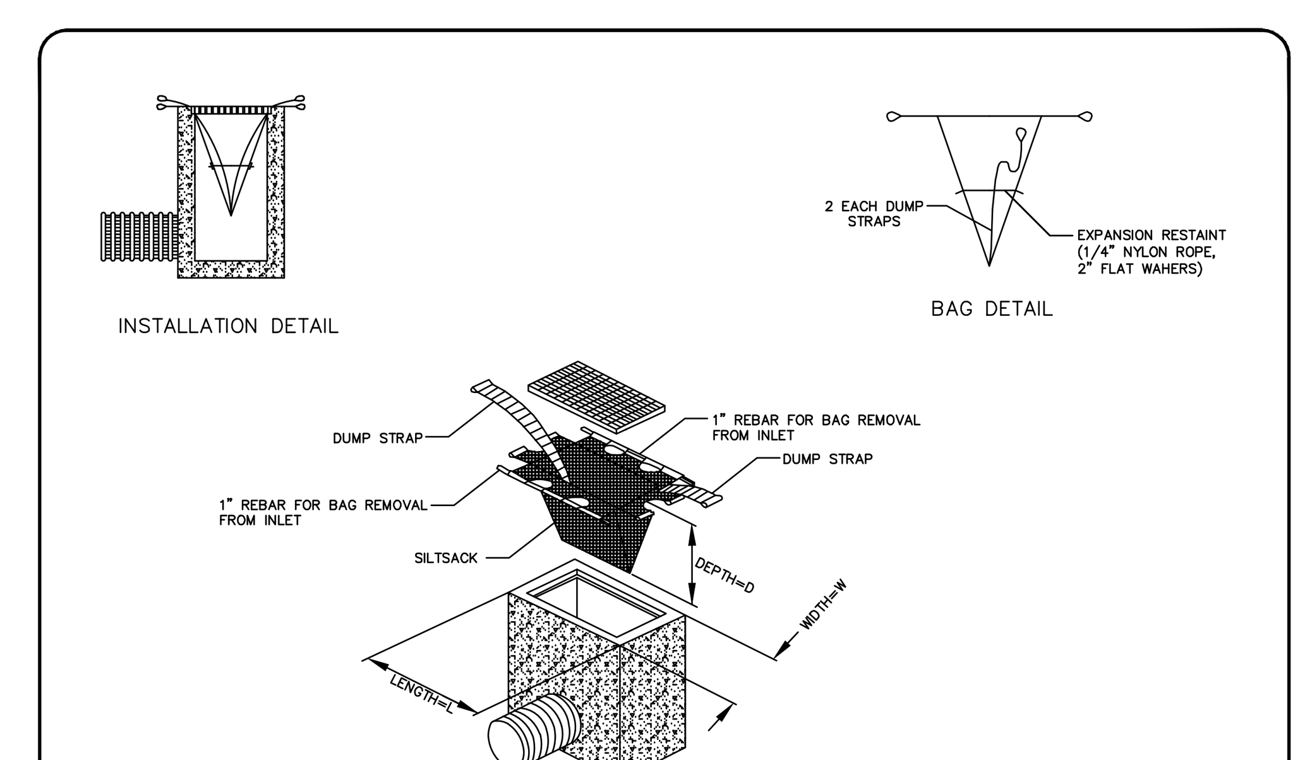


THE CONSTRUCTION ACCESS WILL BE REVIEWED AND APPROVED BY TRANSPORTATION SERVICES AS PART OF THE TEMPORARY CONSTRUCTION ACCESS PERMIT.

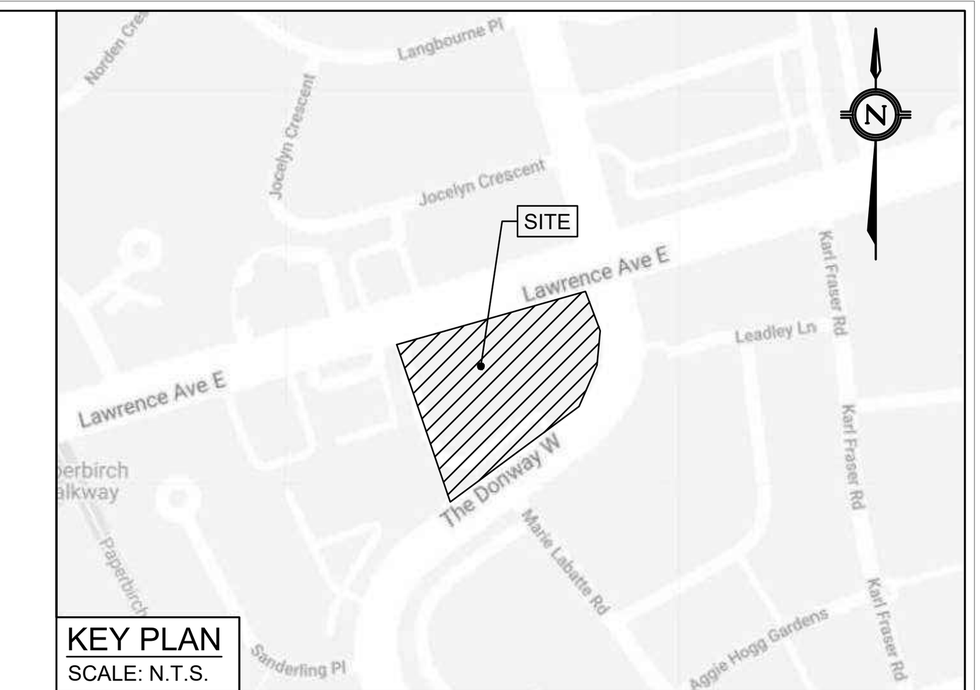




MUD MAT - CONSTRUCTION ACCESS
SCALE: N.T.S.



SILTSACK SEDIMENT CONTROL DEVICE
SCALE: N.T.S.



KEY PLAN
SCALE: N.T.S.

LEGEND:

- SITE PROPERTY LINE
- LIMIT OF CONSTRUCTION
- MODULAR CONSTRUCTION FENCE
- CONSTRUCTION ACCESS / MUD MAT
- EXISTING OVERLAND FLOW ROUTE
- CATCH BASIN SEDIMENT CONTROL DEVICE
- 144.06 EXISTING TOPOGRAPHIC ELEVATIONS

SITE PLAN
PREPARED BY: WZMH ARCHITECTS
DATE: MAY 12, 2023

TOPOGRAPHIC & LEGAL
PREPARED BY: SCHAEFFER DZALDOV BENNETT LTD.
DATE: JUNE 26, 2013

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Notes

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1	RE-ISSUED FOR ZBA	2/7/2023	LG
2	RE-ISSUED FOR ZBA	4/5/2023	LG
3	2nd ZBA SUBMISSION	6/30/2023	LG

LICENSED PROFESSIONAL ENGINEER
L. J. GARNER
100171979
JUNE 30, 2023
PROVINCE OF ONTARIO

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Client
FCHT HOLDINGS (ONTARIO) CORPORATION
85 HANNA AVENUE, SUITE 400
TORONTO, ONTARIO
M6K 3S3
FIRST CAPITAL

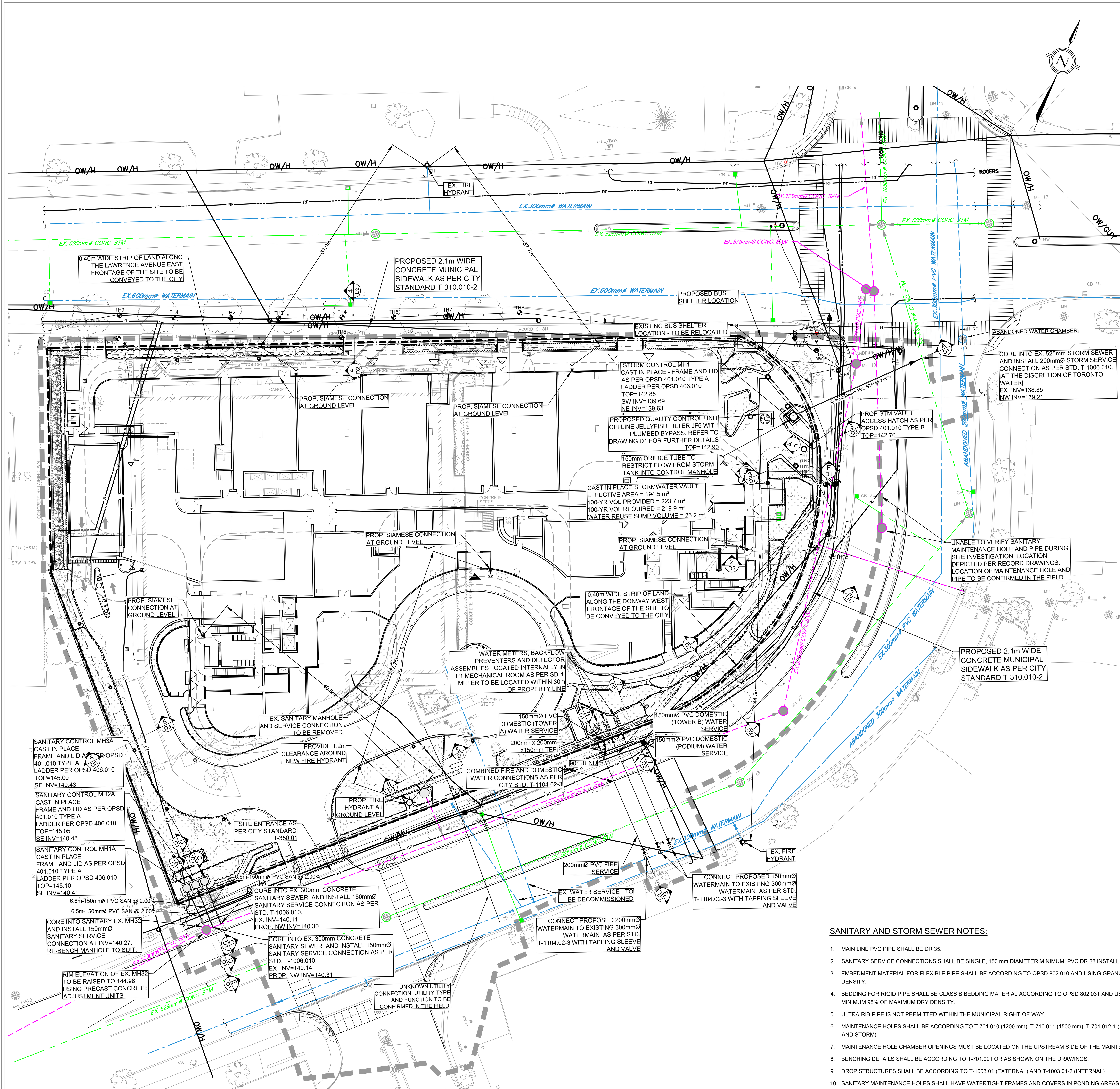
Project Name
895 LAWRENCE AVENUE EAST
NORTH YORK, ON M3C 3L2

Drawing Title
EROSION SEDIMENT CONTROL PLAN

Drawn	Checked	Designed	Checked	Date	Drawing No.
CL	GP	LG	JM	20/12/23	ESC1
Project No. 300051428.0000		Contract No.		Revision No.	
Scale 1:300		0 6.0 12.0 18.0m			

File: \\pops\Shared Work Areas\051428 - 895 Lawrence\03_ProductionDwg\051428 - ESC1.dwg Date Plotted: June 29, 2023 - 10:11 AM

Plotted by:JMcGihon Paper size: ARCH D (24.00 X 36.00 Inches) Plot table: Rjb Full Scale-pickering 2013.ctb



WATERMAIN NOTES:

1. PVC WATERMAINS SHALL BE MINIMUM DR 18 CLASS 235 (AWWA) C900-07 OR MOLECULARLY ORIENTED POLYVINYL CHLORIDE (PVCO) PIPES RANGING IN SIZE FROM 100 mm TO 300 mm IN DIAMETER PRESSURE CLASS 235 AWWA C909-09. PVC PIPES RANGINS IN SIZE FROM PRESSURE RATING 235, DR 18, ACCORDING TO AWWA C905-10
2. EMBEDMENT MATERIAL FOR FLEXIBLE PIPE SHALL BE ACCORDING TO OPSD 802.010 AND USING GRANULAR A ACCORDING TO TS 1010 AND COMPACTED TO MINIMUM 98% OF MAXIMUM DRY DENSITY.
3. MINIMUM COVER ON WATERMAINS SHALL BE 1.8 m.
4. ALL HYDRANTS SHALL BE CONSTRUCTED ACCORDING TO T-1105.01.
5. HYDRANT LEADS SHALL BE MINIMUM DR 18 CLASS 235 (AWWA) C900-07 OR PRESSURE CLASS 235 AWWA C909-09.
6. ALL SERVICE CONNECTION SHALL BE CONSTRUCTED ACCORDING TO T-1104.01, T-1104.02-1, T-1104.02-3, T-1105.02-1 AND T-1105.02-2.
7. SINGLE WATER SERVICE CONNECTIONS SHALL BE A MINIMUM OF 19 mm DIA. TYPE "K" SOFT COPPER ACCORDING TO T-1104.01. WHEN SERVICE LENGTH EXCEEDS 30 m, THE DIAMETER SHALL BE 25 mm DIA.
8. ALL CURB AND VALVE BOXES TO BE LOCATED AT STREET LINE.
9. MECHANICAL THRUST RESTRAINTS SHALL BE INSTALLED AT ALL FITTINGS, BENDS, TEES, CROSSES, REDUCERS AND VALVES FOR ALL WATERMAIN SIZES. MECHANICAL RESTRAINTS AT JOINTS SHALL BE INSTALLED AT EVERY PIPE JOINT 6.1 m OF EITHER SIDE OF THE VALVE FOR WATERMAINS 100 mm DIAMETER OR LARGER.
10. ALL TEES, PLUGS, HORIZONTAL, VERTICAL BENDS, REDUCERS AND HYDRANTS TO HAVE CONCRETE THRUST BLOCKS ACCORDING TO T-1103.01 AND T-1103.020.
11. WATERMAINS MUST FOLLOW THE ONTARIO MINISTRY OF THE ENVIRONMENT PROCEDURE F-6-1 THAT GOVERN THE SEPARATION OF SEWERS AND WATERMAINS. A MINIMUM VERTICAL CLEARANCE OF 0.30 m WHEN CROSSING OVER AND 0.5 m WHEN CROSSING UNDER SEWER AND ALL OTHER UTILITIES IS REQUIRED. MUST ALSO MAINTAIN 2.5 m HORIZONTAL SEPARATIONS WITH SEWERS.
12. ALL VALVES LESS THAN 400 mm WILL BE IN A VALVE AND BOX ACCORDING TO T-1101.02-2. ALL VALVES 400 mm AND LARGER SHALL BE IN A CHAMBER.
13. SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL METALLIC PIPES AND APPURTENANCES, WATER SERVICES AND FITTINGS ACCORDING TO T-1106.04, T-1106.05, T-1106.06 AND TS 7.22.
14. TRACER WIRE INSTALLATION SHALL BE ACCORDING TO TS 7.40.
15. HYDROSTATIC PRESSURE TEST AND LEAKAGE TESTING OF THE WATERMAIN SHALL BE ACCORDING TO TS 441.
16. THE NEW WATERMAIN SHALL BE ISOLATED ACCORDING TO T-1104.03-4 UNTIL BACTERIOLOGICAL TESTS ARE SATISFACTORILY COMPLETED.
17. PROVISIONS FOR FLUSHING THE WATER MAIN PRIOR TO TESTING AND SO FORTH MUST BE PROVIDED WITH AT LEAST A 50 mm OUTLET ON 100 mm AND LARGER LINES ACCORDING TO T-1104.03-1. COPPER WATER SERVICES SHALL HAVE FLUSHING POINTS AT THE END, THE SAME SIZE AS THE LINE. ON FIRE LINES, FLUSHING OUTLET TO BE 50 mm DIAMETER MINIMUM OR A HYDRANT.
18. DISINFECTION OF THE WATERMAIN SHALL BE ACCORDING TO TS 7.30 AND SHALL INCLUDE ALL NEW WATER SERVICES 100 mm DIA AND LARGER.
19. TORONTO WATER REQUIRES THAT THE NEW DISTRIBUTION SYSTEM REMAIN ISOLATED UNTIL SATISFACTORY BACTERIOLOGICAL SAMPLE RESULTS ARE RECEIVED. ECS CONTRACT ADMINISTRATOR SHALL NOTIFY TORONTO WATER WHEN SAMPLE RESULTS HAVE PASSED IN ORDER TO PROCEED WITH REMOVAL OF THE BLOW-OFF AND BACK FILLING OF THE ACCESS PIT.
20. AFTER SATISFACTORY DISINFECTION OF THE NEW WATERMAIN IS ACHIEVED, PERMANENT CONNECTIONS TO THE EXISTING WATERMAIN(S) WITH A FILTER PIECE SHALL BE MADE ACCORDING TO TS 7.70.
21. CITY IN-SERVICE WATER VALVES, CURB STOPS, FIRE HYDRANTS CAN ONLY BE OPERATED BY TORONTO WATER STAFF.
22. ALL NEW WATERMAINS SHALL BE INSULATED WHERE THE COVER IS LESS THAN 1.65 m ACCORDING TO T-708.01-4.
23. THE OWNER IS REQUIRED TO INSTALL AND MAINTAIN A PREMISE ISOLATION DEVICE FOR ALL APPLICABLE WATER SERVICES IN ACCORDANCE WITH TORONTO MUNICIPAL CODE, CHAPTER 851 WATER SUPPLY, THE BUILDING CODE, AND CSA B64 SERIES STANDARDS.
24. THE LOCATION OF THE WATER METER SHALL BE TO TORONTO WATER'S SATISFACTION.

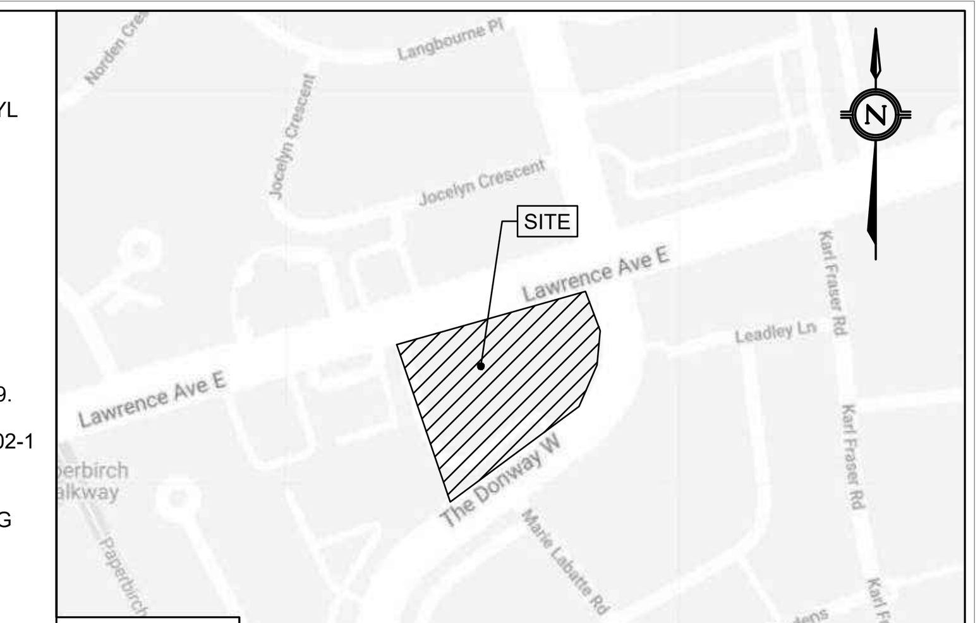
GENERAL NOTES

1. ALL MUNICIPAL REMOVAL WORKS SHALL CONFORM TO THE LATEST CITY'S SPEC TS 510. ALL REMOVED FACILITIES SHALL BE PROPERLY DISPOSED OFF-SITE.
2. THE CONTRACTOR IS HELD RESPONSIBLE BY THE CITY FOR ANY DAMAGE CAUSED BY THE CONTRACTOR'S WORK TO UTILITIES, PROPERTIES, STRUCTURES, ETC. NEAR TO OR IN THE GENERAL AREA OF THE WORK BY THE CONTRACTOR OR THE SUBCONTRACTORS AS A RESULT OF INTENTIONAL OR NEGLIGENT ACTION, OMISSION, SETTLEMENT OF GROUND, VIBRATION, ETC. PERTAINING TO THE WORK PERFORMED UNDER THE CONTRACT.
3. THE CONTRACTOR IS RESPONSIBLE TO PROPERLY FIX, REPAIR AND REINSTATE, AT THEIR OWN EXPENSE, ALL OF SUCH DAMAGES.
4. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH FUNCTIONAL SERVICING AND STORMWATER MANAGEMENT REPORT PREPARED BY R.J. BURNSIDE AND ASSOCIATES LTD.
5. ALL WORK TO CONFORM TO THE LATEST CITY OF TORONTO STANDARD DRAWINGS AND SPECIFICATIONS AS WELL AS THE LATEST ADOPTED ONTARIO PROVINCIAL STANDARD DRAWINGS AND SPECIFICATIONS.
6. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE CURRENT "OCCUPATIONAL HEALTH AND SAFETY ACT". THE GENERAL CONTRACTOR SHALL BE DEEMED TO BE THE CONSTRUCTOR AS DEFINED IN THE ACT.
7. ALL TEMPORARY TRAFFIC CONTROL AND SIGNAGE DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT ONTARIO TRAFFIC MANUAL BOOK 7 TEMPORARY CONDITIONS FIELD EDITION.
8. ALL TRENCHES WITHIN EXISTING RIGHT OF WAY SHALL BE BACKFILLED WITH UNSHRINKABLE FILL.
9. THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO THE ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE EXECUTIVE DIRECTOR OF TECHNICAL SERVICES.
10. PRIOR TO COMMENCING ANY WORK WITHIN THE MUNICIPAL RIGHT OF WAY, THE CONTRACTOR OR DEVELOPER OR CONSULTANT WILL OBTAIN ALL NECESSARY ROAD OCCUPANCY PERMITS FROM THE CITY'S RIGHT-OF-WAY MANAGEMENT SECTION. CONTACT 416-394-8422.
11. ALL DIMENSIONS AND ELEVATIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION AND HE SHALL REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER (DETAILS ARE NOT TO BE SCALED FROM THE DRAWINGS).
12. ALL CONSTRUCTION SIGNING MUST CONFORM TO THE M.T.O. MANUAL "UNIFORM TRAFFIC CONTROL DEVICES" LATEST EDITION.
13. REFERENCE TO STANDARD DRAWINGS SHALL MEAN THE STANDARD DRAWINGS OF THE CITY OF TORONTO UNLESS NOTED OTHERWISE AND THESE SHALL BE THE REVISION IN EFFECT AS OF THE DATE OF THE CITY'S APPROVAL OF THE CONSTRUCTION DRAWINGS.
14. ALL SILT CONTROL DEVICES SHALL BE MAINTAINED IN GOOD CONDITION UNTIL ALL SODDING HAS BEEN COMPLETED FOR THE DEVELOPMENT. SILT FROM THE SITE SHALL BE DISPOSED OF AS PER THE DIRECTION OF THE ENGINEER.
15. ALL EXISTING UTILITIES SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION.

UTILITY INFORMATION PROVIDED ON THIS PLAN HAS BEEN PROVIDED AS PER QUALITY LEVEL 'B'. WHERE TREE PLANTING IS PROPOSED, A QUALITY LEVEL 'A' INVESTIGATION HAS BEEN COMPLETED. TEST HOLE LOCATIONS ARE INDICATED ON THIS PLAN.

SANITARY AND STORM SEWER NOTES:

1. MAIN LINE PVC PIPE SHALL BE DR 35.
2. SANITARY SERVICE CONNECTIONS SHALL BE SINGLE, 150 mm DIAMETER MINIMUM, PVC DR 28 INSTALLED AT 2 PERCENT AND THE COLOUR SHALL BE GREEN, FOR SINGLE RESIDENTIAL DWELLINGS.
3. EMBEDMENT MATERIAL FOR FLEXIBLE PIPE SHALL BE ACCORDING TO OPSD 802.010 AND USING GRANULAR A NATIVE OR GRANULAR A RCM ACCORDING TO TS 1010 AND COMPACTED TO MINIMUM 98% OF MAXIMUM DRY DENSITY.
4. BEDDING FOR RIGID PIPE SHALL BE CLASS B BEDDING MATERIAL ACCORDING TO OPSD 802.031 AND USING GRANULAR A NATIVE OR GRANULAR A RCM BEDDING MATERIAL ACCORDING TO TS 1010 AND COMPACTED TO MINIMUM 98% OF MAXIMUM DRY DENSITY.
5. ULTRA-RIB PIPE IS NOT PERMITTED WITHIN THE MUNICIPAL RIGHT-OF-WAY.
6. MAINTENANCE HOLES SHALL BE ACCORDING TO T-701.010 (1200 mm), T-710.011 (1500 mm), T-701.012-1 (1800 mm) OR T-701.013 (2400 mm). FRAME AND COVER SHALL BE ACCORDING TO OPSD 401.010 TYPE A CLOSED (SANITARY AND STORM).
7. MAINTENANCE HOLE CHAMBER OPENINGS MUST BE LOCATED ON THE UPSTREAM SIDE OF THE MAINTENANCE HOLE.
8. BENCHING DETAILS SHALL BE ACCORDING TO T-701.021 OR AS SHOWN ON THE DRAWINGS.
9. DROP STRUCTURES SHALL BE ACCORDING TO T-1003.01 (EXTERNAL) AND T-1003.01-2 (INTERNAL)
10. SANITARY MAINTENANCE HOLES SHALL HAVE WATERTIGHT FRAMES AND COVERS IN PONDING AREAS ACCORDING TO OPSD 401.030.
11. REINFORCED CONCRETE PIPE SHALL BE MINIMUM 65-D. HEIGHT OF FILL TO BE VERIFIED USING OPSD TABLES 807.010 AND 807.030.
12. NON-REINFORCED CONCRETE PIPE 150 mm TO 250 mm SHALL BE CLASS 3. HEIGHT OF FILL TO BE VERIFIED USING OPSD TABLES 807.040.
13. THE CONTRACTOR IS TO PROVIDE CCTV CAMERA INSPECTIONS OF ALL SANITARY SEWERS, INCLUDING PICTORIAL REPORT, TWO (2) CD COPIES IN A FORMAT SATISFACTORY TO THE ENGINEER. ALL SEWERS ARE TO BE FLUSHED PRIOR TO CAMERA INSPECTION.



KEY PLAN
SCALE: N.T.S.

LEGEND:

- SITE PROPERTY LINE
- LIMIT OF CONSTRUCTION
- BUILDING ABOVE
- STORM SEWER AND MANHOLE
- SANITARY SEWER AND MANHOLE
- WATERMAIN
- EXISTING STORM SEWER AND MANHOLE
- EXISTING SANITARY SEWER AND MANHOLE
- EXISTING WATERMAIN
- EXISTING WATER VALVE
- CATCHBASIN / DOUBLE CATCHBASIN
- HYD — HYDRANT AND VALVE
- VB — VALVE & BOX
- M — WATER METER
- B — BACKFLOW PREVENTOR
- D — DETECTOR ASSEMBLY
- B — BELL TELECOMMUNICATIONS
- TV — ROGERS COAXIAL
- RF — ROGERS FIBER OPTIC
- H — HYDRO
- G — GAS
- CONTINUES OUT OF LIMITS
- TH — TEST HOLE
- OW/H — OVERHEAD WIRE/HYDRO

SITE PLAN
PREPARED BY: WZMH ARCHITECTS
DATE: MAY 12, 2023

TOPOGRAPHIC & LEGAL
PREPARED BY: SCHAEFFER DZALDOV BENNETT LTD.
DATE: JUNE 26, 2013

BENCHMARK NOTES
ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE REFERRED TO CITY OF TORONTO BENCHMARK No. NY9046 HAVING A PUBLISHED ELEVATION OF 143.162 METRES.

Notes

2. The contractor shall verify all dimensions, levels, and datums on site and report any discrepancies or omissions to this office prior to construction.
3. This drawing is to be read and understood in conjunction with all other plans and documents applicable to this project.

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TORONTO, ONTARIO
M6K 3S3

Project Name
895 LAWRENCE AVENUE EAST
NORTH YORK, ON M3C 3L2

Drawing Title
PUBLIC UTILITY PLAN

Drawn	Checked	Designed	Checked	Date	Drawing No.
CL	JM	LG	JM	20/12/23	PUP1
Project No. 300051428.0000		Contract No.		Revision No.	
Scale 1:300					

R.J. Burnside & Associates Limited