FUNCTIONAL SERVICING AND STORMWATER MANAGEMENT REPORT

17 & 19 Ann Street, 84 & 90 High Street

City of Mississauga

Prepared for

10 WEST GO GP INC.
Project #: 19-241

First Submission: December 2021
Second Submission: October 2022

Third Submission: August 2023

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1. INTRODUCTION

Urbantech Consulting has been retained as consulting engineers by 10 WEST GO GP INC. to complete a Functional Servicing Report (FSR) in support of zoning bylaw amendment and draft plan approval applications for the proposed 0.32 ha re-development located at 17 & 19 Ann Street in the City of Mississauga with 84 & 90 High Street consisting of heritage buildings that will be preserved.

The subject lands are bounded by the following:

- To the north by Park Street East
- To the south by High Street East
- To the east by Hurontario Street
- To the west by Ann Street

The subject development lies within the limits of the Credit River – Norval to Port Credit subwatershed, under the Credit Valley Conservation Authority (CVC) jurisdiction. The site falls within the City of Mississauga Hurontario/Main Street Corridor Master Plan and the Port Credit GO Station Southeast Area Master Plan Study.

1.1. Study Purpose

The purpose of this report is to outline the servicing details for the proposed storm drainage, sanitary and water distribution systems required to service the subject development in support of the rezoning application.

The recommended servicing plans have been prepared in accordance with design criteria and requirements of the City of Mississauga and Region of Peel. The information in this report is intended to assist the regulatory agencies in their review of the application for the proposed development.

1.2. Planning Context

A Development Application Review Committee (DARC) pre-application meeting was conducted in May 2021 (DARC-21-161). Following the meeting, a submission requirements checklist and comments from Region of Peel, Metrolinx and City of Mississauga departments were provided in the Project Status Report.

Preliminary water and sanitary demand calculations have been provided to the Region of Peel development services department on August 9th, 2021, and hydrant flow test results on August 31st 2021. Updated calculations based on the latest site plan were provided on December 8th, 2021.

The submission requirements checklist and Project Status Report from the City of Mississauga has been provided in **Appendix E**.

1.3. Development Concept

Refer to the site development concept plan prepared by Core. The development consists of:

1. 413 residential units in the 26-storey apartment building,
2. Heritage homes at 84 and 90 High Street East to be preserved,
3. North and South Public Parks, and
4. Underground parking.

1.4. Background Studies

The servicing and development concept presented within this report are an extension of the information contained in the following reports:

1. Development Requirements Manual (November 2020) City of Mississauga
2. Linear Infrastructure Watermain Design Criteria (June 2010) by Region of Peel
3. Linear Infrastructure Sanitary Sewer Design Criteria (March 2017) by Region of Peel
4. Stormwater Management Criteria (August 2012) Credit Valley Conservation
5. Stormwater management Planning and Design Manual (March 2003) by Ministry of the Environment

2. EXISTING CONDITIONS

2.1. Land Use

The site currently consists of two single residential dwellings at 17 and 19 Ann Street. The portion of the property not being developed consist of park in the northeast corner of the site and the south portion of the property consisting of two heritage buildings (84 and 90 High Street East).

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3. GRADING DESIGN

3.1. Design Standards

A grading plan for the subject property has been prepared in conjunction with the storm, sanitary, and water servicing system design for the development. The grading information for the development is provided on the enclosed **Drawing 201**, included in **Appendix A**.

The site grading plan has been prepared with a consideration of the following:

1. Conforms to the Ontario Building Code and City of Mississauga design criteria,
2. Matches existing boundary conditions,
3. Provides safe overland flow conveyance for major storm conditions,
4. Ensure no depth of potential ponding greater than 0.25 m, and
5. Provides appropriate cover on proposed servicing.

4. STORM DRAINAGE AND STORMWATER MANAGEMENT

4.1. Drainage Criteria

In accordance with the City of Mississauga, Region of Peel and CVC standards, the design criteria for the site is as follows:

1. As shown in the CVC stormwater management criteria Table 3-1, no quantity control is required for all storms for the Credit River – Norval to Port Credit subwatershed area.
2. Ensure MECP enhanced (Level 1) stormwater quality treatment of runoff is provided.
3. Retain 5 mm of runoff on site for reuse.
4. Storm sewers are designed to convey the 10-year storm.

4.2. Existing Conditions

The existing stormwater / combined sewer network in the vicinity of the site includes:

1. A 375 mm storm sewer on Park Street East (near north-west corner of site)
2. A 300 mm storm sewer on Ann Street (near south-west corner of the development), and
3. A 525 mm storm sewer on Hurontario Street.

The locations of these sewers are shown on **Drawing 101**.

Under existing conditions, the development area drains to Ann Street with the park to the east side of the development and the heritage homes draining south.

The City of Mississauga standards indicate at a runoff coefficient cannot exceed 0.5 for sites that are already developed. The 10-year design storm event flows were calculated using the rainfall intensity equation: $I\ (mm / hr) = A / (T+B)^C$, where T is the Time of Concentration in minutes. The values for the A, B and C parameters for the various storms were obtained from the latest Engineering Design Criteria from the City of Mississauga, with an initial time of concentration set at 15 minutes.

Table 1 provides flows leaving the site under existing conditions during the 10-year storm.

Table 4-1: Existing Flows

Outlet Street	Drainage Area (ha)	Storm Event	Runoff Coefficient	10-Year Flow (m^3/s)
Ann Street	0.33	10-Year	0.5	0.046
		100-Year	0.5 *	0.081

* Per City of Mississauga guidelines, a 1.25 adjustment factor was used for the 100-year runoff
Refer to **Appendix B** for the allowable release rate calculations.

4.3. Storm Sewer Design

The storm drainage concept for the site has been designed to maintain flows and contributing drainage areas to the existing outlets on the site and meet the existing targets established in the preceding section. A new 300 mm storm sewer connection to EX.MH82 will be provided for the site from the existing sewers on Ann Street. An underground storage tank located within the parking garage of the development is proposed to control the post development flows to acceptable rates such that the existing 10-year flow rate is not exceeded.

Refer to **Appendix B** for the storm design sheet.

4.4. Quality Control

Enhanced (Level 1) water quality control through the removal of a minimum of 80% of total suspended solids (TSS) will be provided through the use of an OGS. An EFO4 Stormceptor OGS (or equivalent) will be located downstream of the storage tank within the parking garage. The OGS will provide a minimum of 80% TSS removal. The sizes of the devices will be specified at detailed design. Note that equivalent OGS products can be used subject to approval from Urbantech and the City. Refer to **Appendix B** for the Stormceptor Sizing Report.

As the site is draining directly to existing infrastructure, which are not at risk of erosion, no extended detention has been provided.

4.5. Quantity Control

Although the site does not require quantity control as it is located within the Credit River – Norval to Port Credit subwatershed the release rate to the municipal storm system from the development is based on the existing 10-year peak flow rate. This target was chosen as the municipal sewers are sized to convey the flows from the 10-year storm. This was found to be 46 L/s. Under proposed conditions, flows from the subject lands will be captured at low points within the site and conveyed through the underground parking lot to a storage tank.

As indicated in the July 2023 Hydrogeological Investigation by EXP, a long term groundwater dewatering rate was determined to be 37,400 L/day (0.00043 m^3/s). This dewatering rate has been consider in the required volume and storage calculations for the subject development.

The required storage control volumes were determined based on controlling the 100-year post development storm event flow to the 10-year pre-development storm event target. The rational method was used to determine the required storage volume in the storage tank and a runoff coefficient of 0.9 was used for all post development drainage areas. **Table 2** summarizes the flow and storage values required based on the rational method.

Table 4-2: Flow and Required Storage Volume Results

Area	Drainage Area (ha)	Runoff Coefficient*	100-Year Post Development Flow (m^3/s)	Required Volume (m^3)
To Tank	0.28	0.9	0.026	80.64
Uncontrolled	0.05	0.9	0.02	-
Groundwater Dewatering	-	-	0.00043	-

* Per City of Mississauga guidelines, a 1.25 adjustment factor was used for the 100-year runoff

As shown in **Table 2**, the post development flows meet the 10-year pre-development target of 0.046 m^3/s. A 100 mm orifice tube is proposed to provide the quantity control. The tank size is to be optimized based on downstream capacity or multiple staged orifices/pumps at detailed design.

Refer to the SWM Design Calculations provided in **Appendix B** and **Drawing 302** for storm drainage plan.

4.6. Water Balance / Recharge

The City of Mississauga requires retention of the first 5 mm of runoff to promote water balance and erosion control. Based on the site area of 0.33 ha, approximately 16.5 m^3 should be retained on site. As the majority of the site plan is a full coverage building there are limited/nil opportunities for infiltration on site as landscaped areas not above the parking garage are too close to the building to allow infiltration in accordance with the Ontario building code. Reusing the stormwater onsite is permitted where retention via infiltration is not feasible. **Table 3-5** outlines various measures that could be implemented for the subject development. Details of the design will be provided during site plan approvals.

Table 4-3: Potential 5 mm Retention Options

LID Measure	Notes
Landscaped Areas	The planting media (including landscape above parking garage and planting boxes) within the proposed development will retain the first 5 mm of rainwater and provide the opportunity for evapotranspiration.
Green Roofs	Approximately 217.5 m^2 of green roof is incorporated on the roofs of the proposed building. The benefits of green roofs could be attenuation of flows, filtration and increased water available for evapotranspiration. This would be an additional element including the stormwater tank and OGS.
Rainwater Harvesting - Irrigation	Rainwater not captured by the landscaped area or green roofs is collected in the sump of the storage tank and used for irrigation for the proposed landscaped areas and planters.
Rainwater Harvesting – Mechanical Uses	Water that is not able to be used for irrigation could be used for other mechanical re-use measures.

5. WASTEWATER SERVICING

5.1. Design Criteria

The wastewater design criteria used in this report is in accordance with the Region of Peel Linear Infrastructure Sanitary Sewer Design Criteria:

The following criteria were used when calculating the sanitary flow:

- Unit sewage flow = 302.8 L/person/d
- Infiltration = 0.2 L/s/ha
- From DARC*:
    - Apartment (2 or more bedroom) – 2.54 people/unit
    - Apartment (1 bedroom) – 1.8 people/unit

*Although DARC comment 83 from the Region of Peel provided population density parameters the Development Services, Public Works department requested that a 2.7 population per unit be used in the calculations provided in the Multi-Use Demand Table to be conservative.

5.2. Existing Conditions

The proposed development lies within the east trunk sewer wastewater catchment which ultimately goes to the G.E. Booth Wastewater Treatment Plant.

The existing sanitary sewers in the vicinity of the site are as follows:

1. 200 mm sanitary sewer on Hurontario Street,
2. 250 mm sanitary sewer on High Street East,
3. 250 mm sanitary sewer on Ann Street, and
4. 250 mm sanitary sewer on Park Street East.

The locations of these sewers are shown on **Drawing 101**.

5.3. Local Wastewater

The property is proposed to connect to the existing 250 mm sanitary sewer on Ann Street at Ex.MH531. An asphalt saw cut is proposed in Ann Street to construct MH2A and ~11 m of 250 mm of PVC sanitary sewer to service the property. **Table 3** below outlines the proposed sanitary flows from the development.

Table 5-1: Proposed Sanitary Flows

Outlet Street	Drainage Area (ha)	Population	Infiltration (L/s)	Sanitary Flow (based on population) (L/s)
Ann Street	0.32	1116	0.06	14.80

A Multi-Use Demand Table has been provided to the Region of Peel so ensure that there is adequate capacity in the Region's sanitary infrastructure.

Refer to **Drawings 101** and **301** for the sanitary drainage areas, locations of proposed on-site sanitary sewers and connections to public sewers and **Appendix C** for the sanitary design sheet and sanitary demand calculations.

6. WATER SERVICING

6.1. Design Criteria

The water design criteria used in this report is in accordance with the Region of Peel Linear Infrastructure Watermain Design Criteria:

- Average Consumption Rate = 280 L/person/day
- From DARC*:
  - Apartment (2 or more bedroom) – 2.54 people/unit
  - Apartment (1 bedroom) – 1.8 people/unit

*Although DARC comment 83 from the Region of Peel provided population density parameters the Development Services, Public Works department requested that a 2.7 population per unit be used in the calculations provided in the Multi-Use Demand Table to be conservative.

- Max day = 2
- Peak Hour = 3.0
- Minimum operation pressure = 40 PSI
- Maximum operating pressure = 100 PSI

6.2. Existing Conditions

The existing water network in the vicinity of the site includes:

1. A 300 mm diameter watermain along Hurontario Street,
2. A 200 mm diameter watermain along High Street East,
3. A 200 mm diameter watermain along Ann Street, and
4. A 300 mm diameter watermain along Park Street East.

The locations of these sewers are shown on **Drawing 101**.

Hydrant flow tests were undertaken on Hurontario Street and High Street East, results have been provided in **Appendix D**.

6.3. Local Watermains

The property is proposed to connect to the existing 300 mm watermain on Park Street east for domestic and fire servicing. A second fire connection is proposed to the 200 mm watermain on Ann Street. Hydrant flow tests were undertaken on Hurontario Street and High Street East, results have been provided in **Appendix D**. **Table 4** below outlines the proposed water demand from the development.

Table 6-1: Proposed Water Demand

Fire Flow (L/s)	Population	Average day Demand (L/s)	Maximum Daily Demand (L/s)	Peak Hour Demand (L/s)
83.3	1116	3.6	7.2	10.9

A Multi-Use Demand Table has been provided to the Region of Peel so ensure that there is adequate capacity in the Region's water infrastructure.

Refer to **Drawing 101** for the locations of proposed on-site watermains and connections to public sewers and **Appendix D** for the water demand calculations.

7. EROSION AND SEDIMENT CONTROL

Erosion and sediment controls for the subject lands have been designed in conformance with the City of Mississauga. Erosion and sediment controls will be implemented during all site construction works including but not limited to topsoil stripping, bulk earthworks, foundation excavation, site servicing and stockpiling of materials and will conform to ESC guidelines (2006). The following erosion and sediment control measures are proposed to be implemented during construction:

1. Installing heavy duty silt control fencing along the perimeter of the site at strategic locations.
2. Wrapping the tops of all inlet structures with filter fabric and using install silt sacks.
3. Tree preservation fencing in accordance with the tree preservation plan.
4. Pumping of stormwater from the parking garage excavation will be discharged via a sediment filter bag.
5. Gravel mud mat at the construction vehicle access point to minimize off-site tracking of sediments.
6. Inspection of all sediment and erosion control measures regularly or after major rain fall event, until such time as the Engineer or the City approves their removal.

Refer to **Drawings 1001** and **1002** for site-specific measures.

8. CONCLUSIONS

This report has demonstrated that:

- The proposed site can be graded to match to existing elevations at all property lines while adhering to Ontario Building Code and City of Mississauga design criteria.
- 10-year capture and conveyance in the storm sewers is assumed for these lands.
- Storm sewers are sized based on the 10-year City IDF parameters.
- Water quality and quantity targets are accomplished through the use of the proposed storage tank and OGS device.
- Wastewater servicing to the site will be provided by connecting to existing infrastructure on Ann Street.
- Water servicing connections to existing sewers on Ann Street and Park Street East.
- Erosion and sediment control measures will be implemented during all construction works and will be maintained and inspected regularly.

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APPENDIX A
Drawings and Figures

GENERAL NOTES

STORM SEWERS:

1. ALL CONCRETE PIPE SMALLER THAN 450mm DIAMETER SHALL BE C-14, CLASS 2, CONCRETE PIPE 450mm DIAMETER AND LARGER SHALL BE C-76, CLASS 65-D, UNLESS OTHERWISE NOTED.
2. ALL POLYVINYL CHLORIDE (PVC.) PIPE SHALL MEET THE C.S.A. REQUIREMENTS AS NOTED WITHIN OPSS. 1841. THE PIPE MATERIAL SHALL HAVE A CELL CLASSIFICATION OF 12454-B OR 12454-C OR ASTM. STD. D-3034 & OPSS. 1841.
3. ALL CONCRETE SEWER PIPES SHALL HAVE RUBBER GASKET JOINTS.
4. CLASS "B" BEDDING IS TO BE USED AS PER CITY STANDARD 2112.08 SEWER BEDDING AND COVER MATERIAL SHALL CONFIRM WITH CITY STANDARDS 2112.09 AND 2112.10. IF WATER IS PRESENT IN THE TRENCH EXCAVATION THEN 19mm. CLEAR STONE IS TO BE USED FOR BEDDING IN ACCORDANCE WITH CITY STANDARD 2112.11 AND 2112.14 RESPECTIVELY. WHERE WET OR SOFT TRENCH SUBGRADE CONDITIONS ARE ENCOUNTERED, FURTHER ON-SITE GEOTECHNICAL ASSESSMENT MAY BE REQUIRED TO DETERMINE THE APPROPRIATE BEDDING IN ORDER TO STABILIZE THE SUBGRADE FOR SEWER CONSTRUCTION.
5. MANHOLE STEPS SHALL BE AS PER OPSD. 405.010.
6. MANHOLE COVERS AND FRAMES SHALL BE AS PER OPSD. 401.010.
7. SINGLE CATCHBASINS WITHIN ROAD ALLOWANCES SHALL BE AS PER OPSD. 705.010, WITH A 250mm DIAMETER LEAD, DOUBLE CATCHBASINS WITHIN ROAD ALLOWANCES SHALL BE AS PER OPSD. 705.020, WITH A 300mm DIAMETER LEAD.
8. ALL CATCHBASIN FRAME AND GRATES SHALL BE AS PER OPSD. 400.020.
9. THE TRENCH WIDTH AT THE TOP OF PIPE SHALL BE AS PER STD. 2112.08. IF THE MAXIMUM TRENCH WIDTH IS EXCEEDED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING EXTRA BEDDING AND/OR STRONGER PIPE AS REQUIRED.
10. ALL STORM SEWER AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF MISSISSAUGA STANDARDS AND SPECIFICATIONS.
11. STORM SERVICE CONNECTION IS TO BE ON THE LEFT OF SANITARY SERVICE FACING THE HOUSE. (EXCEPT AS NOTED)
12. SERVICE CONNECTION AT THE STREET LINE IS TO BE HIGHER THAN THE SANITARY CONNECTION AT THAT POINT.
13. ALL CATCHBASINS ARE TO BE PLACED ON GRANULAR BEDDING (MINIMUM DEPTH 150mm).
14. TRENCH BACKFILLING ON PROPOSED ROADS SHALL WITH CITY'S ENGINEERING POLICY STATEMENT AS PROVIDED IN THE "DEVELOPMENT REQUIREMENTS MANUAL" (SECTION 4.02.06-TRENCH BACKFILLING ON ROADS). TRENCH BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 95% S.P.D. WITHIN 2.0% OF THE OPTIMUM CONTENT.
15. SAND BACKFILLING IS REQUIRED ADJACENT TO MANHOLES, CATCHBASINS AND SERVICE CROSSING.

GENERAL:

1. ANY RELOCATION OF EXISTING UTILITIES REQUIRED BY THE DEVELOPMENT OF THE SUBJECT LANDS, IS TO BE UNDERTAKEN AT DEVELOPER'S EXPENSE.
2. ALL UNDERGROUND SERVICE CONNECTIONS WITHIN PAVED PORTION OF ANY EXISTING ROAD TO BE BACKFILLED WITH UNSHRINKABLE FILL TO THE LATEST CITY OF MISSISSAUGA OR REGION OF PEEL SPECIFICATIONS.
3. SNOW FENCE AND SEDIMENT TRAP CONTROL FENCE ARE TO BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE CONSTRUCTION AND SHALL REMAIN IN PLACE AND IN GOOD REPAIR THROUGHOUT THE CONSTRUCTION AND GRADING PHASES.
4. PRIOR TO THE START OF CONSTRUCTION, SNOW FENCING IS TO BE ERECTED ALONG THE PROPERTY BOUNDARIES ADJACENT TO ALL EXISTING RESIDENTIAL LOTS, PARKS AND ALL EXISTING SCHOOL BLOCKS.
5. THE LOCATION AND ELEVATION OF ALL EXISTING SERVICES AND UTILITIES ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION TO THE REPAIR OF EXISTING UTILITIES DISTURBED DURING CONSTRUCTION.
6. ALL AREAS BEYOND THE PLAN OF SUBDIVISION WHICH ARE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION AT THE CONTRACTOR'S EXPENSE.
7. ALL CONSTRUCTION SIGNING MUST CONFORM TO THE M.T.O. MANUAL OF "UNIFORM TRAFFIC CONTROL DEVICES".
8. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE "OCCUPATIONAL HEALTH AND SAFETY ACT". THE GENERAL CONTRACTOR SHALL BE DEEMED TO BE THE CONSTRUCTOR AS DEFINED IN THE ACT.

BOREHOLES:

1. BOREHOLE LOGS SHOWN ARE FOR GENERAL INFORMATION ONLY AND LOCATIONS ARE APPROXIMATE. CONTRACTOR IS TO VERIFY AND SATISFY HIMSELF AS TO THE NATURE OF THE SUBSURFACE CONDITIONS.

ROADWORKS:

1. ALL FILL WITHIN ROAD ALLOWANCE TO BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY. THE SUITABILITY AND COMPACTION OF ALL FILL MATERIALS ARE TO BE CONFIRMED BY A RECOGNIZED SOIL CONSULTANT TO THE CITY ENGINEER PRIOR TO THE INSTALLATION OF ANY ROAD BASE MATERIALS.
2. ALL CONNECTIONS WITHIN PAVED PORTION OF ANY EXISTING ROAD TO BE BACKFILLED WITH GRANULAR MATERIAL AND/OR UNSHRINKABLE FILL AS PER THE LATEST OF CITY OF MISSISSAUGA STANDARDS AND SPECIFICATIONS.
3.
   a. TRENCH BACKFILLING ON PROPOSED ROADS SHALL COMPLY WITH THE CITY'S ENGINEERING POLICY STATEMENTS PROVIDED IN THE "DEVELOPMENT REQUIREMENTS MANUAL" (SECTION 4.02.06 - TRENCH BACKFILLING ON ROADS).
   b. ALL BACKFILL FOR SEWERS, WATERMAINS AND UTILITIES WITHIN ROAD ALLOWANCE SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT.
   c. THE TOP 1000mm OF THE SUB-GRADE IS TO BE COMPACTED TO A MINIMUM 98% STANDARD PROCTOR DENSITY WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT.
4. ALL ROADWORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF MISSISSAUGA STANDARDS AND SPECIFICATIONS.
5. ALL INTERSECTING ROADS SHALL BE PROVIDED WITH AN ADDITIONAL 150mm THICKNESS OF OPSS. GRANULAR "B". THIS EXTRA DEPTH SHALL EXTEND FOR A MINIMUM OF 15m BEYOND PROPERTY LINE OF INTERSECTING STREET , AS NOTED.
6. SUB-DRAINS ARE TO BE INSTALLED AS PER CITY STANDARD 2220.04 ALONG THE ENTIRE LENGTH OF THE ROAD.
7. PAVEMENT THICKNESS AND COMPOSITION TO BE AS SHOWN ON INDIVIDUAL PLAN AND PROFILE DRAWINGS.
8. CONCRETE CURB & GUTTER OPSD. 600.070.
9. SAND BACKFILL IS TO BE USED ADJACENT TO MANHOLES, CATCHBASINS AND SERVICE CROSSINGS.

EXISTING WATERCOURSE/GREENBELT:

1. PRIOR TO COMMENCEMENT OF ANY GRADING OR CONSTRUCTION, TEMPORARY SNOW FENCE AND SILT FENCE TO BE ERECTED ALONG ALL LOTS AND BLOCKS ADJACENT TO THE EXISTING WATERCOURSE/GREENBELT, PARKS AND MAINTAINED UNTIL COMPLETION OF CONSTRUCTION.
2. NO STOCKPILES OF FILL MATERIAL ARE TO BE PLACED WITHIN 10.0m OF THE EXISTING WATERCOURSE BLOCK.

TOPSOIL STOCKPILE PROTECTION:

ALL TOPSOIL STOCKPILE CONTAINING MORE THAN 100m³ OF MATERIAL SHALL BE LOCATED A MINIMUM OF 10m AWAY FROM A ROADWAY, DRAINAGE CHANNEL OR AN OCCUPIED RESIDENTIAL LOT. THE MAXIMUM SIDE SLOPES FOR TOPSOIL STOCKPILES SHALL BE 1.5 HORIZONTAL TO 1.0 VERTICAL.

RUNOFF FROM ALL TOPSOIL STOCKPILES SHALL BE CONTROLLED BY A SEDIMENT CONTROL FENCE OR OTHER APPROVED DEVICES. IF REMAINING FOR MORE THAN 30 DAYS, TOPSOIL STOCKPILES SHALL BE STABILIZED BY VEGETATIVE COVER, OR OTHER MEANS.

REGION OF PEEL

GENERAL NOTES:

1. THE APPLICANT, APPLICANT'S REPRESENTATIVE, CONSULTANT, CONTRACTOR AND SUB CONTRACTORS ARE RESPONSIBLE TO ENSURE THAT THEIR DESIGN MATERIALS AND CONSTRUCTION PRACTICES CONFORM TO THE LATEST REGION OF PEEL'S WEBSITE (www.peelregion.ca/pw/standards). IN THE ABSENCE OF REGION SPECIFICATIONS, THE ONTARIO PROVINCIAL STANDARDS SPECIFICATIONS (OPSS) SHALL APPLY.
2. ALL WORKS SHALL BE COMPLETED IN ACCORDANCE WITH THE "OCCUPATIONAL HEALTH AND SAFETY ACT". THE GENERAL CONTRACTOR SHALL BE DEEMED TO BE THE CONSTRUCTOR AS DEFINED IN THE ACT.
3. THE CONTRACTOR AT THEIR EXPENSE SHALL VERIFY THE LOCATION, DIMENSION AND ELEVATION OF ALL EXISTING SERVICES AND UTILITIES IN THE FIELD.
4. PRIOR TO EXCAVATION OR BORING CONTRACTOR AT THEIR EXPENSE SHALL EXPOSE AND VERIFY THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES AND SERVICES TO BE CROSSED AND MUST NOTIFY THE DESIGN ENGINEER AND THE AGENCY FIELD INSPECTOR AND/OR PROJECT MANAGER IMMEDIATELY, IN WRITING, OF ANY CONFLICTS OR DISCREPANCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR EXPOSING THE EXISTING UTILITIES FAR ENOUGH IN ADVANCE OF CONSTRUCTION TO MAKE NECESSARY DESIGN MODIFICATIONS FOR REVIEW AND APPROVAL, IF REQUIRED, WITHOUT DELAYING THE WORK.
5. THE CONTRACTOR, AT THEIR EXPENSE AND TO THE SATISFACTION OF THE REGION OF PEEL, SHALL BE RESPONSIBLE FOR THE RESTORATION AND THE REPAIR OF THE EXISTING UTILITIES AND ALL AREAS BEYOND THE PLAN OF SUBDIVISION DISTURBED DURING CONSTRUCTION.
6. THE SUPPORT OF ALL UTILITIES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
7. ALL BACKFILL FOR SEWERS, WATERMAINS AND UTILITIES ON THE ROAD ALLOWANCE MUST BE MECHANICALLY COMPACTED.
8. ALL BOREHOLES SHOWN ON DRAWING ARE FOR INFORMATION ONLY. REFER TO GEOTECHNICAL REPORT.
9. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.

WATERMAIN NOTES:

1. THE REGION OF PEEL SHALL CONDUCT THE OPERATION OF EXISTING VALVES AND HYDRANTS IF REQUIRED.
2. CONTRACTOR MUST USE BATTER BOARD OR ROD-AND-LEVEL METHOD FOR WATERMAIN INSTALLATION.
3. ALL WATERMAINS SHALL HAVE 1.70m MINIMUM COVER FOR URBAN ROAD DESIGN AND 2.1m MINIMUM COVER FOR RURAL ROAD DESIGN.
4. ALL WATERMAINS SHALL MAINTAIN A MINIMUM 1.5m CLEARANCE FROM ALL MANHOLES AND CATCH BASINS, WHERE APPLICABLE.
5. FOR WATERMAIN CROSSING OVER OR UNDER SEWERS A MINIMUM 0.5m VERTICAL CLEARANCE SHALL BE PROVIDED.
6. FOR WATERMAIN CROSSING A SANITARY SEWER, WATERMAIN JOINTS ARE TO BE OFFSET A MINIMUM OF 2.5m HORIZONTALLY FROM THE CENTERLINE OF THE SANITARY SEWER.
7. WATERMAIN BEDDING SHOULD BE AS PER TRENCH DETAIL ON THE PLAN AND PROFILE DRAWING AND COMPACTED TO 100% SPD.
8. WATERMAINS TO BE INSTALLED TO GRADES AS SHOWN ON APPROVED PLANS, COPY OF GRADE SHEET MUST BE SUPPLIED TO THE REGION OF PEEL INSPECTOR PRIOR TO COMMENCEMENT OF WORK.
9. ANY JOINT DEFLECTION SHALL BE 50% OF MANUFACTURER'S SPECIFICATIONS. PIPE BARREL DEFLECTION IS PROHIBITED.
10. FIRE HYDRANTS TO BE INSTALLED AS PER REGION STD. DWG. 1-6-1 AND 1-6-2 WITH FLANGE SET BETWEEN 50mm AND 150mm ABOVE FINISHED GRADE.
11. ALL HYDRANTS SHALL HAVE 1.2m MINIMUM HORIZONTAL CLEARANCE FROM ALL OTHER UTILITIES AND STRUCTURES MEASURED FROM THE NEAREST POINT OF THE STRUCTURE.
12. MECHANICAL RESTRAINERS ARE REQUIRED FOR ALL FITTINGS, VALVES, DEAD ENDS, CAPS AND HYDRANTS ON ALL PVC WATERMAINS; MINIMUM RESTRAINED PIPE LENGTH AS PER REGION'S STANDARD DRAWING 1-5-9.
13. STAINLESS STEEL NUTS AND BOLTS ARE TO BE USED ON ALL METALLIC FITTINGS AND JOINT RESTRAINTS.
14. ALL METALLIC VALVES, FITTINGS, THROUGH WALL METAL PIPING AND JOINT RESTRAINTS TO BE C/W. DENSO PASTE, DENSO MASTIC & DENSO TAPE OR APPROVED EQUAL APPLIED TO MANUFACTURER'S RECOMMENDATIONS.
15. WHERE PLASTIC PIPE IS USED, INSTALL A 12 GAUGE TWU STRANDED COPPER, LIGHT COLOURED, PLASTIC COATED TRACER WIRE ATTACHED TO THE PIPE WITH APPROVED WIRE SPLICE. THE WIRE SHOULD BE BROUGHT TO THE SURFACE AT EACH SERVICE & VALVE BOX AND HYDRANT VALVES.
16. 50mm DIAMETER WATERMAIN SHALL BE TYPE K SOFT COPPER. WATERMAIN INSTALLATION IN CUL-DE-SACS TO BE INSTALLED AS PER REGION STD. DWG. 1-7-4.
17. A PHYSICAL SEPARATION MUST BE MAINTAINED AT ALL CONNECTION POINTS OF NEW WATERMAIN TO THE EXISTING SYSTEM UNTIL BACTERIOLOGICAL TESTS HAVE PASSED, AS PER STD. DWG. 1-7-7 AND 1-7-8.
18. PROVISION FOR FLUSHING OF NEW WATERMAINS PRIOR TO TESTING MUST BE PROVIDED WITH AT LEAST A 50mm OUTLET ON WATERMAINS SMALLER THAN 300mm IN DIAMETER,AND MINIMUM 100mm OUTLET ON WATERMAINS 300mm AND LARGER. COPPER WATERMAINS ARE TO HAVE FLUSHING POINTS AT THE END, THE SAME SIZE AS THE WATERMAIN, AS PER STD. DWG. 1-7-7 AND 1-7-8.
19. ALL SERVICE CONNECTIONS TO PVC PIPES ARE TO BE MADE USING APPROVED WIDE BAND SERVICE SADDLE. DIRECT TAPPING IS NOT ALLOWED.
20. ALL WATER SERVICES SHALL BE MINIMUM 25mm DIA.NOMINAL COPPER PIPE SIZE OR 32mm DIA. POLYETHYLENE PIPE. IN GENERAL, NON METALLIC SERVICES SHALL BE ONE SIZE LARGER THAN THE NOMINAL COPPER PIPE SIZE AS PER LATEST APPROVED REGIONAL PRODUCT LIST AND SIZES C/W. TRACER WIRE.
21. THE MINIMUM LATERAL DISTANCE BETWEEN WATER SERVICES AND OTHER UTILITIES SHALL BE 1.2m.
22. ALL RESIDENTIAL WATER SERVICE BOXES/CURB STOPS SHALL BE INSTALLED WITHIN SODDED AREAS WITH MINIMUM DISTANCE OF 1.0 METRES FROM THE EDGE OF THE DRIVEWAY, BE FLUSH WITH GRADE AND ACCESSIBLE AT ALL TIME.
23. VALVE AND BOXES SHALL BE CAST IRON SLIDING TYPE, COMPLETED WITH VALVE GUIDE PLATES INSTALLED AS PER REGION STD. 1-3-8.AND BOXES SHALL BE INSTALLED AS PER REGION STD. 1-3-8. MAINLINE VALVES TO BE RESTRAINED AS PER REGION STD. 1-3-3A. VALVES SHALL OPEN TO THE LEFT (COUNTER-CLOCKWISE).
24. ALL WATER SERVICES BOXES SHOULD BE "LEAD FREE" AS PER REGION'S MATERIAL SPECIFICATIONS.
25. THE REGION WILL COMPLETE THE NECESSARY WATER TESTING (PRESSURE TEST, FLUSHING, CHLORINATION AND SAMPLING). CONTRACTOR MAY PROCEED WITH HIS OWN PRESSURE TEST AND FLUSHING PRIOR TO REGION'S TESTING.
26. ALL METALLIC WATER PIPES INCLUDING 'K' COPPER WATER SERVICES, INSTALLED OR REPAIRED, SHALL HAVE ZINC ANODE AS PER REGION OF PEEL STANDARD 1-7-1, OPSS422 AND OPSD 1109.011 AND TO CONFORM TO ASTM B-418 TYPE.
27. WATERMAIN PIPES SHALL BE BROUGHT ON SITE WITH MANUFACTURER'S PLUGS AND STORED SO NO DEBRIS ENTER THE PIPE. THE CONTRACTOR IS NOT ALLOWED TO INSTALL ANY WATERMAIN UNTIL HE HAS A NIGHT PLUG ON SITE. THE NIGHT PLUG IS TO BE USED EVERY TIME WHEN WORK IS STOPPED.

WATERMAIN IN FILL AREA NOTES:

1. NO WATERMAIN TO BE LAID ON FILL UNTIL THE FIELD DENSITY TEST REPORTS HAVE BEEN SUBMITTED TO AND APPROVED BY THE REGION OF PEEL OR THE CONSULTING ENGINEER.
2. PIPE JOINTS DEFLECTIONS ARE NOT ALLOWED IN FILL AREA.
3. JOINTS SHALL BE MECHANICALLY RESTRAINED THE WHOLE LENGTH.
4. ALL HYDRANTS, TEE BRANCH VALVES AND HORIZONTAL BENDS ARE TO BE MECHANICALLY RESTRAINED WITH TIE RODS.
5. IN EXISTING MUNICIPAL RIGHT-OF-WAY OR EASEMENT, FILL TO BE PLACED TO 600mm MINIMUM ABOVE THE OBVERT OF THE WATERMAIN AND TO 300mm LIFTS; AND THEREAFTER, FOR EVERY 300mm LIFT ALONG THE CENTERLINE, AND 1.5m TO EITHER SIDE, OF WATERMAIN AT MAXIMUM INTERVAL OF 30.0m. TEST RESULTS MUST BE SUBMITTED TO AND APPROVED BY THE CONSULTANT OR AGENCY.

SANITARY SEWER NOTES:

1. ALL SANITARY SEWER BEDDING AS PER STD. 2-3-1.
2. MAINLINE SANITARY SEWER PIPE SIZE SHALL BE MINIMUM 250mm DIAMETER INSTALLED AT THE APPROVED DESIGN GRADE. PIPE CLASS AND APPURTENANCES AS PER REGION'S SPECIFICATIONS.
3. ALL SEWERS CONSTRUCTED WITH GRADES 0.5% OR LESS SHALL BE APPROVED BY THE ENGINEER AND THE AGENCY PROJECT MANAGER OR DESIGNATED AND BE INSTALLED WITH LASER AND CHECKED PRIOR TO BACKFILL.
4. MINIMUM SANITARY SEWER PIPE SLOPE FOR LAST LEG SHALL BE 1% AND DESIRABLE SLOPE 2%.
5. ALL MANHOLES SHALL BE AS PER REGION STD. DWG. 2-5-2, 2-5-3, 2-5-4, 2-5-5 AND 2-5-6 AND BENCHING AS PER STD. DWG. 2-5-20.
6. FRAME AND COVERS SHALL BE AS PER REGION STD. DWG. 2-5-13, 2-6-1 TO 2-6-8.
7. MANHOLE STEPS OR LADDERS TO BE AS PER REGION STD. DWG. 2-6-9 TO 2-6-11.
8. MANHOLES DEEPER THAN 5.0m MUST BE EQUIPPED WITH SAFETY PLATFORMS, AS PER STD. 2-6-13 AND 2-6-14.
9. MANHOLE DROP STRUCTURES SHALL BE AS PER REGION STD. DWG. 2-5-26 AND 2-5-27.
10. SANITARY SERVICE LATERALS SHALL BE MINIMUM 125mm DIAMETER.
    a. SANITARY SERVICE SHALL BE LOWER THAN AND TO THE RIGHT OF THE STORM SERVICE AT THE PROPERTY LINE WHEN FACING THE LOT FROM THE STREET.
    b. CONNECTIONS TO SEWERS SHALL BE MADE WITH MANUFACTURED TEES OR WYES WHERE APPLICABLE AND SHALL BE COLOUR CODED AS NON-WHITE, AS PER STD. DWG. 2-4-1, TO 2-4-7.

REGIONAL ROADS NOTES:

1. CONSTRUCTION AND DETOUR SIGNAGE MUST CONFORM TO "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" AND LATEST REVISION OF THE ONTARIO MINISTRY OF TRANSPORTATION "TRAFFIC CONTROL MANUAL FOR ROADWAY WORK OPERATIONS".
2. ALL TEMPORARY SIGNAGE AND TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF ONTARIO TRAFFIC MANUAL, BOOK 7 "TEMPORARY CONDITIONS" AND OPS SPECIFICATIONS AND STANDARD DRAWINGS.
3. PAVEMENT MARKINGS MUST BE IN ACCORDANCE WITH THE ONTARIO TRAFFIC MANUAL, BOOK II "PAVEMENT HAZARD AND DELINEATION MARKINGS".
4. THE CONTRACTOR SHALL NOTIFY IN ADVANCE, AS REQUIRED, THE APPROPRIATE AUTHORITY HAVING JURISDICTION FOR THE ROAD PRIOR TO COMMENCING ANY WORK AND SHALL ACQUIRE AND SATISFY THE REQUIREMENTS OF APPROPRIATE PERMITS (FEES, INSPECTIONS, SIGNAGE, TRAFFIC, MAINTENANCE, DIVERSION, ETC...).
5. REGIONAL ROAD CLOSURE IS NOT PERMITTED AT ANY TIME UNLESS APPROVAL FROM REGIONAL COUNCIL WAS OBTAINED FOR THE WORKS, WHERE A MINIMUM TWO MONTH LEAD TIME IS REQUIRED, AS PER REGIONAL POLICY W30-12.
6. WORK OPERATIONS THAT REQUIRE DIVERTING TRAFFIC TO ONE LANE ARE SUBJECT TO TIME RESTRICTIONS AND /OR NIGHT TIME OPERATIONS AS SPECIFIED IN ROAD OCCUPANCY PERMIT. THROUGH LANES MUST BE MINIMUM 3.5m, UNLESS OTHERWISE APPROVED.
7. FOR TEMPORARY DELINEATION OF TRAFFIC IN OPPOSITE DIRECTIONS A YELLOW CENTRE LINE ON PAVEMENT MUST BE PAINTED. TRAFFIC CONTROL BARRELS (CONES) ARE NOT PERMITTED FOR THIS USE ON REGIONAL ROADS.
8. NEW JERSEY BARRIERS (NJB) WITH CRASH ATTENUATION DEVICES MUST BE USED ON LONG TERM PROJECTS AS OPPOSED TO TRAFFIC CONTROL DELINEATORS (BARRELS).
9. ACCESS TO EXISTING ENTRANCES AND SIDE STREETS, INCLUDING PEDESTRIAN ACCESS, SHALL BE MAINTAINED. ACCESS REQUIREMENTS MUST COMPLY WITH REGION OF PEEL CONTROLLED ACCESS BY-LAW.
10. LOCATION OF EXISTING UTILITIES TO BE ESTABLISHED BY THE CONTRACTOR. ALL EXISTING UTILITY ELEVATIONS (SANITARY AND WATERMAIN) INCLUDING CENTRE LINE OF THE ROAD ELEVATIONS HAVE TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCING ANY WORK ON SITE. ANY DISCREPANCIES SHALL BE REPORTED TO THE REGION IMMEDIATELY.
11. THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE FOR LOCATING, SUPPORTING AND PROTECTING ALL UNDERGROUND AND OVERHEAD UTILITIES AND STRUCTURES EXISTING AT THE TIME OF CONSTRUCTION IN THE AREA OF HIS WORK, WHETHER SHOWN ON THE PLANS OR NOT, AND FOR ALL REPAIRS AND CONSEQUENCES RESULTING FROM DAMAGE TO SAME.
12. THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE TO GIVE 72 HOURS WRITTEN NOTICE TO UTILITY AUTHORITY PRIOR TO CROSSING SUCH UTILITIES FOR THE PURPOSE OF INSPECTION. THIS INSPECTION WILL BE FOR THE DURATION OF CONSTRUCTION WITH THE CONTRACTOR RESPONSIBLE FOR ALL COSTS ARISING FROM SUCH INSPECTIONS.
13. ALL ROAD BASE SHALL BE AS PER REGION OF PEEL STD. DWG. 5-1-1 AND 5-1-2.
14. ASPHALT PRESERVATIVE SEALER SUCH AS RE-CLIMATE OR APPROVED EQUIVALENT SHALL BE APPLIED AFTER THE ONE-YEAR MAINTENANCE PERIOD FOR THE TOP COURSE ASPHALT.
15. ALL EXISTING PAVEMENTS, CURBS, SIDEWALKS AND BOULEVARDS, AND OTHER AREAS DISTURBED BY THE WORK, TO BE REINSTATED EQUAL TO EXISTING AND TO THE SATISFACTION OF APPLICABLE AUTHORITY HAVING JURISDICTION OVER THE ROAD ALLOWANCE. EXISTING PAVEMENT AND CURBS TO BE SAW- CUT TO PROVIDE A SMOOTH JOINT.
16. EROSION CONTROL MEASURES TO BE IMPLEMENTED AS REQUIRED.
17. FOR ROAD PROJECTS THAT WILL NOT BE COMPLETED PRIOR TO THE END OF THE CONSTRUCTION SEASON, THE FOLLOWING WILL NEED TO BE CONSIDERED IN ORDER TO WINTERIZE THE CONSTRUCTION PROJECT TO ENSURE SAFE CONDITIONS DURING WINTER:
    a. WHERE APPLICABLE, CURB AND GUTTER SECTIONS ARE TO BE COMPLETED, THE BASE COURSE ASPHALT SHALL BE IN PLACE.
    b. CATCH BASINS AND MAINTENANCE HOLES SET TO EXISTING BASE GRADE.
    c. STEEL PLATING NOT PERMITTED.
    d. HOT MIX ASPHALT (HMA) ONLY.
    e. LANE DELINEATION AND PAVEMENT MARKING COMPLETED.
    f. WHERE NEW JERSEY BARRIERS USED, OFFSET NO LESS THAN 4.25m FROM EDGE OF TRAVELED LANE.
    g. ROAD AND BOULEVARD MUST BE FREE OF OBSTRUCTIONS AND ACCOMMODATE SAFE SNOW PLOW OPERATION CONSIDERING THAT A WING AND PLOW IS 6m WIDE AND 1.52m SNOW STORAGE MINIMUM REQUIRED.
    h. ALL CATCH BASIN GRATES SHALL BE SIDE INLET, OPSD 400.081 (LATEST VERSION) UNLESS OTHERWISE NOTED.
    i. WINTER SHUT-DOWN MEETINGS WITH THE REGION OF PEEL ROAD MAINTENANCE STAFF ARE REQUIRED PRIOR TO SEASONAL SHUT-DOWN AND SHALL BE ORGANIZED BY THE CONSULTANT OR PROJECT MANAGER OR DESIGNATE.

TRAFFIC SIGNS AND SIGNALS ON REGIONAL ROADS:

1. ALL REQUIRED TRAFFIC SIGNS, WHETHER REGULATORY, WARNING, TEMPORARY OR GUIDE/DIRECTIONAL IN NATURE SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS SPECIFICATIONS AND LEGISLATION CONTAINED IN THE OTM MANUALS, THE HTA AND REGION OF PEEL TRAFFIC BY-LAW.
2. ELECTRICAL WORKS SHALL CONFORM TO THE ONTARIO PROVINCIAL STANDARD DRAWINGS AND REGION OF PEEL STANDARD DRAWINGS AND SPECIFICATIONS.
3. TRAFFIC CONTROLLERS MUST BE INSTALLED AS PER APPROVED LOCATIONS. EQUIPMENT MUST NOT ENCROACH ON PRIVATE PROPERTY WITHOUT PERMISSION TO ENTER, EASEMENT, PERMANENT OR TEMPORARY UNDERTAKINGS.

GENERAL REFERENCES FOR DRAWINGS:

REGION OF PEEL STANDARD DRAWINGS DELETED - NOVEMBER 2011 REVISION AND APRIL 2014 REVISION:

DRAWING NUMBER	DRAWING TITLE	ORIGINAL DATE	REPLACED WITH NEW REGION OF PEEL STANDARD DRAWING	REPLACED WITH OPSD
1-1-1	CIRCULAR PRECAST CHAMBER	MAY 2009	1-1-5, 1-1-7	
1-1-2	SMALL CAST-IN-PLACE CHAMBER	MAY 2009	1-1-6	
1-1-3	750/900 DIA. WM. VALVE AND CHAMBER (CAST-IN-PLACE)	MAY 2009	1-1-6, 1-3-27 TO 1-3-40	
1-1-4	RECTANGULAR PRECAST CHAMBER	MAY 2009	1-1-6	
1-2-2	STANDARD HEAVY DUTY FRAME AND COVER	MAY 2009		401.030
1-2-5	STANDARD CHAMBER STEPS ALUMINUM	MAY 2009		405.020
1-3-3A	RESTRAINING OF 300mm DIAMETER AND SMALLER P.V.C. WATERMAIN AT IN-LINE VALVE	NOV. 2011	1-5-9	
1-3-5	AIR VALVE AND CHAMBER	APRIL 2009	1-1-5, 1-3-12, 1-3-13, 1-3-14	
1-3-6	DRAIN VALVE AND CHAMBER	MAY 2009	1-1-6, 1-3-15, 1-3-27, 1-3-28, 1-3-29	
1-3-7	VALVE SETTING FOR 400mm TO 600mm PIPE	MAY 2009	1-1-6, 1-3-18 TO 1-3-24	
1-3-10	PRESSURE ZONE BOUNDARY VALVE	MAY 2009	1-1-5, 1-3-16	
1-5-2	WATERMAIN SUPPORT BRIDGING DISTURBED GROUND	MAY 2009	N/A - As Per Contract Design	
1-5-3	CONCRETE THRUST COLLAR	MAY 2009	N/A - As Per Contract Design	
1-7-5	SWABBING OUTLET 100mm AND LARGER	MAY 2009	1-7-9	
1-3-23	TYPICAL LINE VALVE CHAMBER FOR 600 CPP WITH ISOLATION VALVE, DOUBLE DRAIN VALVE AND COMBINATION AIR RELEASE OR VACUUM VALVE	NOV. 2011	1-3-21, 1-3-22	

ONTARIO PROVINCIAL STANDARD DRAWING REFERENCES TO BE READ IN CONJUNCTION WITH REGION OF PEEL STANDARD DRAWINGS - NOVEMBER 2011 REVISION AND APRIL 2014 REVISION

DRAWING NUMBER	DRAWING TITLE
401.030	CAST IRON, SQUARE FRAME WITH CIRCULAR WATERTIGHT COVER FOR MAINTENANCE HOLES
402.030	CAST IRON, RECTANGULAR FRAME WITH TWO PIECE COVER FOR METER AN VALVE CHAMBERS
404.020	ALUMINUM SAFETY PLATFORM FOR CIRCULAR MAINTENANCE HOLES
404.022	ALUMINUM SAFETY PLATFORM FOR 1800mm CIRCULAR MAINTENANCE HOLES WITH DROP PIPE
405.020	MAINTENANCE HOLE STEPS SOLID
406.010	ALUMINUM LADDER FOR MAINTENANCE HOLES
704.010	PRECAST CONCRETE ADJUSTMENT UNITS FOR MAINTENANCE HOLES, CATCH BASINS AND VALVE CHAMBERS
1101.019	PRECAST CONCRETE VALVE CHAMBER WITH POURED-IN-PLACE THRUST BLOCKS 2400 x 3000mm CHIMNEY AND CAP
1101.020	VALVE OPERATOR
1109.010	CATHODIC PROTECTION FOR METALLIC WATERMAIN SYSTEMS

NOTE: THIS LIST INCLUDES OPSD REFERENCES THAT APPLY DIRECTLY TO THE NEW AND REVISED REGION OF PEEL STANDARD DRAWINGS, BUT IT DOES NOT PRECLUDE THE APPROVED USE OF ANY APPLICABLE OPSD REFERENCES NOT LISTED ABOVE.

GENERAL NOTES FOR PRECAST CONCRETE CHAMBERS:

1. ALL PRECAST CHAMBERS TO BE SUPPLIED BY A MANUFACTURER CERTIFIED UNDER THE OCPA PLANT PREQUALIFICATION PROGRAM.
2. SUBMIT SHOP DRAWINGS TO THE CONTRACT ADMINISTRATOR FOR INFORMATION. ALL DRAWINGS SHALL BEAR THE SIGNATURE AND SEAL OF A PROFESSIONAL ENGINEER LICENSED TO PRACTISE IN ONTARIO.
3. THE MANUFACTURER SHALL PROVIDE LETTERS SIGNED BY A PROFESSIONAL ENGINEER CERTIFYING THE FOLLOWING:
   i) THAT THE DESIGN OF THE PRECAST UNITS MEETS THE REQUIREMENTS OF THE SPECIFICATIONS
   ii) THAT THE PRECAST UNITS HAVE BEEN MANUFACTURED AS PER DESIGN AND INSPECTED IN ACCORDANCE WITH THE PLANT PREQUALIFICATION PROGRAM
4. PROVIDE CONCRETE WITH MINIMUM STRENGTH OF 35 MPa UNLESS A HIGHER STRENGTH IS REQUIRED BY THE MANUFACTURER OR DESIGNER.
5. REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CSA G30.18 WITH A MINIMUM YIELD STRENGTH OF Fy=400 MPa.
6. REFER TO STANDARD DRAWINGS 1-1-5, 1-1-6, 1-1-7, 1-1-8, 1-2-1, 1-2-4, 1-2-6 AND 1-2-7 AND ONTARIO PROVINCIAL STANDARD DRAWINGS FOR CHAMBER DETAILS PERTAINING TO WATERPROOFING, JOINT SEALING, ADJUSTMENT UNITS, FRAME & COVERS, CHAMBER STEPS AND LADDERS, INSULATION, FROST STRAPS, VALVE STEM EXTENSION AND BRACKETS, SUMPS, VALVE AND PIPE SUPPORTS.
7. ALL PRECAST COMPONENTS SHALL BE DESIGNED AND MANUFACTURED TO CSA STANDARD A23.3 AND CSA STANDARD A23.4. FURTHER, ALL PRECAST CHAMBER COMPONENTS, INCLUDING ACCESS HATCHES AND TOP SLABS, SHALL ALSO MEET THE REQUIREMENTS OF CSA STANDARD S6 (CANADIAN HIGHWAY BRIDGE CODE).

GENERAL NOTES FOR PIPING:

1. MECHANICAL THRUST RESTRAINT DESIGN AND SPACING SHALL BEAR THE SIGNATURE AND SEAL OF A PROFESSIONAL ENGINEER LICENSED TO PRACTISE IN ONTARIO.
2. SUBMIT CONCRETE PRESSURE PIPE SHOP DRAWINGS TO THE CONTRACT ADMINISTRATOR FOR INFORMATION. ALL DRAWINGS SHALL BEAR THE SIGNATURE AND SEAL OF A PROFESSIONAL ENGINEER LICENSED TO PRACTISE IN ONTARIO.
3. ALL PIPING, FITTINGS, VALVES, APPURTENANCES AND MECHANICAL RESTRAINTS TO BE c/w DENSO PASTE, DENSO MASTIC AND DENSO TAPE OR APPROVED EQUAL, APPLIED TO MANUFACTURER'S RECOMMENDATIONS.

Region of Peel
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PUBLIC WORKS
STANDARD DRAWING

REV. DATE: APRIL 2014

GENERAL NOTES AND REFERENCES	APPROVED BY A.P.	DRAWN BY AINLEY GROUP
	STD. DWG. NUMBER 1-1-0	SCALE N.T.S.

■ ISSUED FOR OPA & REZONING SUBMISSION DATE OCT. 26, 2022	■ REVISED STREETSCAPE DATE MAR. 24, 2023	■ ISSUED FOR 3RD ZONING SUBMISSION DATE APR. 19, 2023	■ ISSUED FOR OPA & REZONING SUBMISSION DATE AUG. 02, 2023

R.B.T. MERWIN
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AUG. 02, 2023

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10 WEST GO GP INC.
17 & 19 ANN STREET, 84 & 90 HIGH STREET
OZ OPA 22-3

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MISSISSAUGA

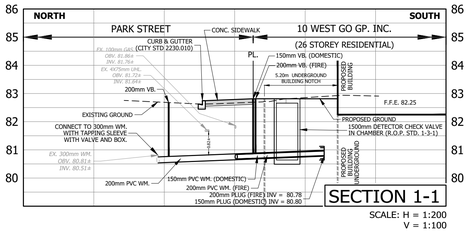
GENERAL NOTES

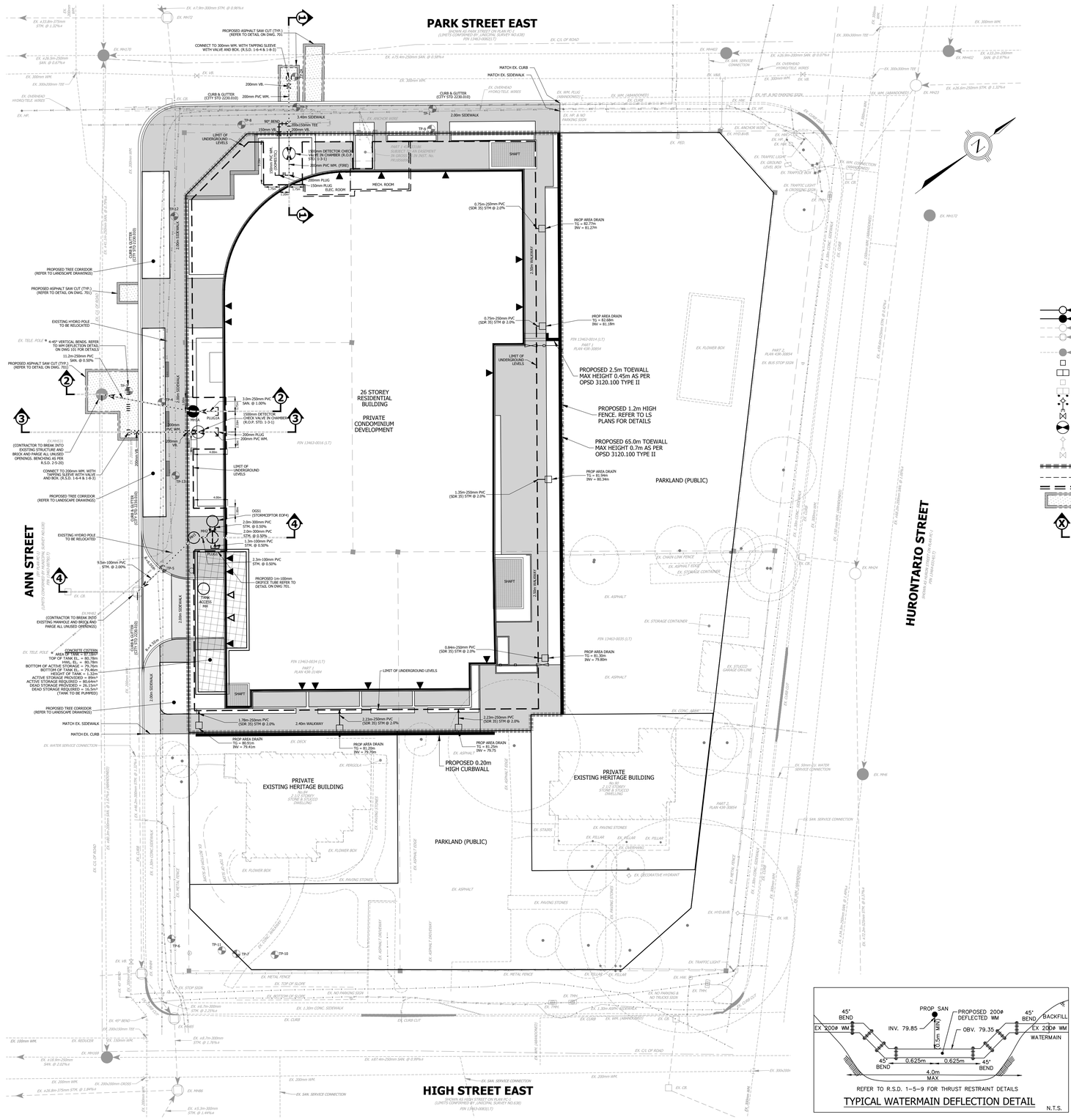
REGION FILE No. XXX
CITY FILE No. XXX

SCALE:	AREA Z-08-C5/D	PROJECT No. 19-241
DRAWN BY: A.G.	CHECKED BY: R.M./R.B.T.M	PLAN No. 100
DATE: APRIL 2023	SHEET OF	C-

File: F:\PROJECTS\19-241 (ANN & HIGH STREET)\03_DRAWINGS\000 - COVER & NOTES\100 _GENERAL NOTES.DWG

PLOT DATE:August 23, 2023 8:42:25 AM





PLOT DATE:August 23, 2023 8:42:59 AM

SANITARY STRUCTURE TABLE

STRUCTURE:	DETAILS:	STANDARD:	TOP ELEV.:	INVERTS:
EX.MH531			TOP = 81.48	NW 79.74 ± NE 79.83 SE 78.96 ±
MH1A	1200 mm MH	(R.S.D. 2-5-2, 2-5-3)	TOP = 81.78	NE 79.92 SW 79.89
PLUG1A				SW 79.95

EXISTING SANITARY STRUCTURE TABLE

STRUCTURE:	INVERTS:
EX.MH1	NW 78.70±
EX.MH6	NW 78.96± SE 78.96±
EX.MH169	NE 77.56± SW 77.53± NW 77.62±
EX.MH170	NE 79.51± SE 79.42± NW 79.51± SW 79.39±
EX.MH171	SE 80.69±
EX.MH172	SE 79.65±
EX.MH173	SE 78.46± SW 78.42± NW 78.46±
EX.MH401	SW 80.41±
EX.MH402	NE 80.08± SW 79.97± NW 80.01±
EX.MH403	NE 79.95± SW 79.95±
EX.MH531	NW 79.74± SE 78.96±

STORM STRUCTURE TABLE

STRUCTURE:	DETAILS:	STANDARD:	TOP ELEV.:	INVERTS:
EX.MH82			TOP = 80.71	SE 79.40 ± N 79.82
MH2	1200 mm MH	(OPSD 701.010)	TOP = 81.48	SE 80.23 SW 80.07 NW 80.15 NW 80.20
MH3	1200 mm MH	(OPSD 701.010)	TOP = 81.37	NE 80.06 S 80.01
OGS1 (STORMCEPTOR EF4)	1200 mm MH	(OPSD 701.010)	TOP = 81.50	SE 80.16 SE 80.19
PLUG1				NW 80.24
TANK ACCESS MH			TOP = 81.16	

EXISTING STORM STRUCTURE TABLE

STRUCTURE:	INVERTS:
EX.MH22	SE 76.82±
EX.MH23	NW 76.35± SE 76.35± NE 80.20±
EX.MH24	NW 76.10± SE 76.10±
EX.MH25	NW 75.83± SE 75.75±
EX.MH26	NW 75.55±
EX.MH27	SW 80.55±
EX.MH68	SE 81.38±
EX.MH70	NW 80.77± E 80.77±
EX.MH72	W 80.70± SW 80.62±
EX.MH82	SE 79.40±
EX.MH84	NW 78.79± E 78.79±
EX.MH85	W 78.64± SE 78.64±
EX.MH86	NW 78.49± SE 78.41± SW 77.50±
EX.MH90	NW 78.64±
EX.MH91	SE 78.49± NW 78.49±

SECTION 1-1

SCALE: H = 1:200
V = 1:100

SECTION 2-2

SCALE: H = 1:200
V = 1:100

SECTION 3-3

SCALE: H = 1:200
V = 1:100

SECTION 4-4

SCALE: H = 1:200
V = 1:100

TYPICAL WATERMAIN DEFLECTION DETAIL

N.T.S.

KEY PLAN
N.T.S.

LEGEND

- STORM SEWER AND MANHOLE
- SANITARY SEWER AND MANHOLE
- EXISTING STORM SEWER AND MANHOLE
- EXISTING STORM SEWER AND CATCH BASIN MANHOLE
- EXISTING SANITARY SEWER AND MANHOLE
- SINGLE CATCHBASIN
- DOUBLE CATCHBASIN
- EXISTING SINGLE CATCHBASIN
- EXISTING DOUBLE CATCHBASIN
- HYDRANT & VALVE C/W BOLLARDS
- VALVE AND BOX
- DETECTOR CHECK VALVE IN CHAMBER (AS PER R.S.D. 1-3-1)
- EXISTING HYDRANT & VALVE
- EXISTING VALVE AND BOX
- LIMIT OF PROPERTY
- LIMIT OF BUILDING FLOORS ABOVE
- LIMIT OF UNDERGROUND LEVELS
- PROPOSED ASPHALT SAW CUT (TYP.) (REFER TO DETAIL ON DWG. 701)
- SECTION MARKER
- EXISTING OVERHEAD WIRES
- EXISTING FENCE
- EXISTING CENTERLINE OF ROAD
- EXISTING UNDERGROUND HYDRO
- EXISTING FIBER OPTIC
- EXISTING UNDERGROUND CABLE LINE
- EXISTING UNDERGROUND TELEPHONE LINE
- EXISTING SIGN
- EXISTING STREET LIGHT
- EXISTING TRANSFORMER
- EXISTING CURB STOP
- EXISTING TREE
- PROPOSED FENCE
- PROPOSED GATE
- TEST-PIT BOREHOLES

ELEVATION NOTE

ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE CITY OF MISSISSAUGA BENCHMARKS:
No. 732 ELEVATION=78.128m
No. 731 ELEVATION=81.58m

BENCHMARK NOTE

LBM1 SANITARY MANHOLE 0.696m FROM THE CENTER LINE OF THE ROAD AT THE INTERSECTION OF ANN STREET AND HIGH STREET.
ELEVATION=80.36m

LBM2 SANITARY MANHOLE 1.345m FROM THE CENTER LINE OF THE ROAD AT THE INTERSECTION OF PARK STREET AND HURONTARIO STREET.
ELEVATION=82.51m

TOPOGRAPHIC SURVEY PREPARED BY J.D. BARNES LIMITED, JANUARY 28, 2020.

■ ISSUED FOR OPA & REZONING SUBMISSION	■ REVISED STREETSCAPE	■ ISSUED FOR 3RD ZONING SUBMISSION	■ ISSUED FOR OPA & REZONING SUBMISSION
DATE OCT. 26, 2022	DATE MAR. 24, 2023	DATE APR. 19, 2023	DATE AUG. 02, 2023

R.B.T. MERWIN
100009772
AUG. 02, 2023

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10 WEST GO GP INC.
17 & 19 ANN STREET, 84 & 90 HIGH STREET
OZ OPA 22-3

Region of Peel
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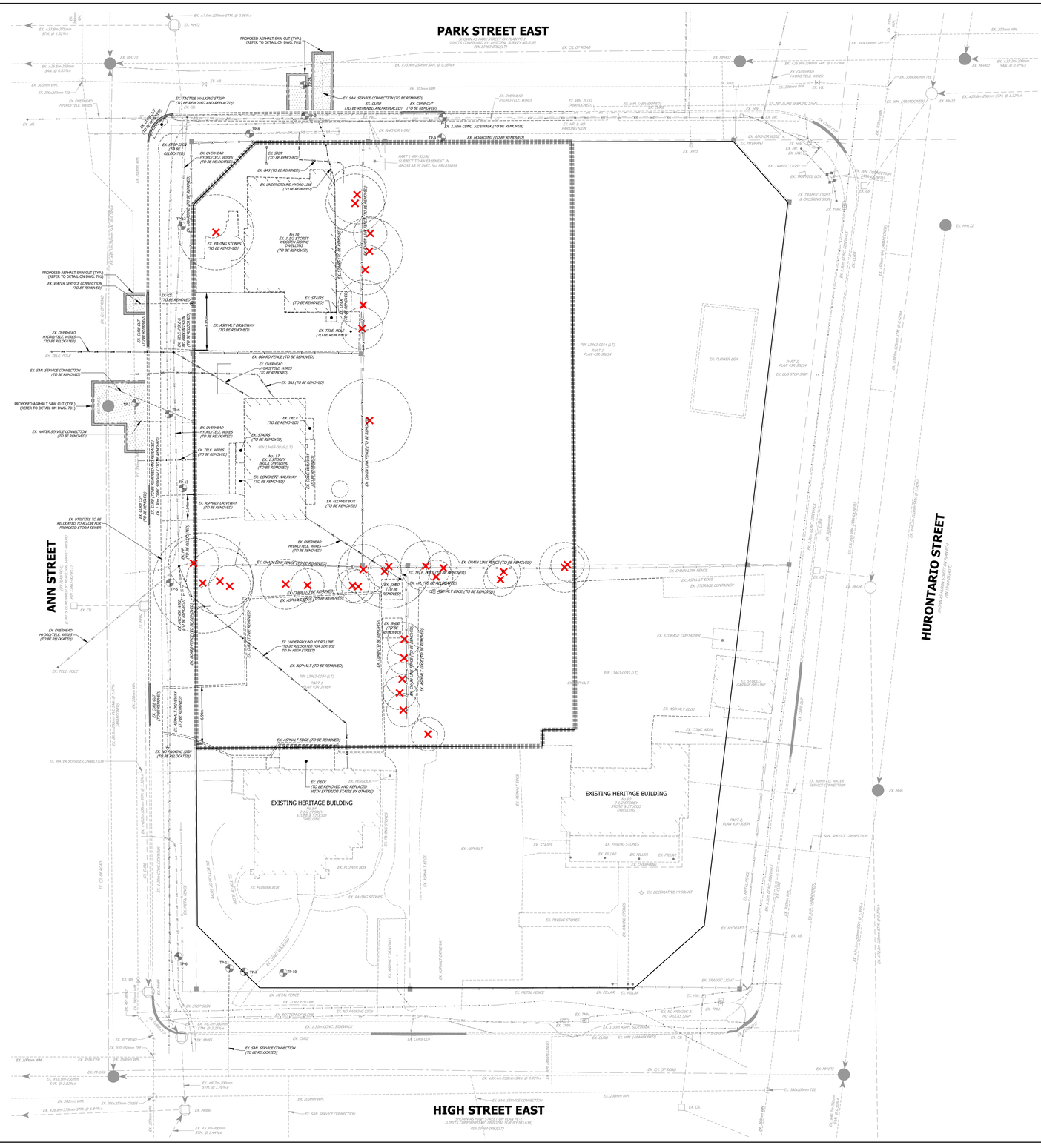
MISSISSAUGA

SERVICING PLAN

REGION FILE No. XXX
CITY FILE No. XXX

SCALE:	1:250	AREA	Z-08-C5/D	PROJECT No.	19-241
DRAWN BY:	A.G.	CHECKED BY:	R.M./R.B.T.M	PLAN No.	101
DATE:	APRIL 2023	SHEET	OF	C-	

File: F:\PROJECTS\19-241 (ANN & HIGH STREET)\03_DRAWINGS\100 - GENERAL PLAN\101_SERVICING PLAN.DWG



PLOT DATE:August 23, 2023 8:43:09 AM

KEY PLAN
N.T.S.

LEGEND

EXISTING STORM SEWER AND MANHOLE
EXISTING STORM SEWER AND CATCH BASIN MANHOLE
EXISTING SANITARY SEWER AND MANHOLE
EXISTING SINGLE CATCHBASIN
EXISTING DOUBLE CATCHBASIN
EXISTING HYDRANT & VALVE
EXISTING VALVE AND BOX
EXISTING STREET LIGHT
OHW — OHW — OHW EXISTING OVERHEAD WIRES
—X—X—X— EXISTING FENCE
EXISTING CENTERLINE OF ROAD
HW — HW — HW EXISTING UNDERGROUND HYDRO
OPT — OPT — OPT EXISTING FIBER OPTIC
EXISTING UNDERGROUND CABLE LINE
W — W — W EXISTING UNDERCROUND TELEPHONE LINE
PROPOSED ASPHALT SAW CUT (TYP.) (REFER TO DETAIL ON DWG. 701)
EXISTING TREE
EXISTING TREE TO BE REMOVED
LIMIT OF PROPERTY
TEST-PIT BOREHOLES

ELEVATION NOTE

ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE CITY OF MISSISSAUGA BENCHMARKS:
No. 732 ELEVATION=78.128m
No. 731 ELEVATION=81.58m

BENCHMARK NOTE

LBM1 SANITARY MANHOLE 0.696m FROM THE CENTER LINE OF THE ROAD AT THE INTERSECTION OF ANN STREET AND HIGH STREET.
ELEVATION=80.36m

LBM2 SANITARY MANHOLE 1.345m FROM THE CENTER LINE OF THE ROAD AT THE INTERSECTION OF PARK STREET AND HURONTARIO STREET.
ELEVATION=82.51m

TOPOGRAPHIC SURVEY PREPARED BY J.D. BARNES LIMITED, JANUARY 28, 2020.

■ ISSUED FOR OPA & REZONING SUBMISSION	■ REVISED STREETSCAPE	■ ISSUED FOR 3RD ZONING SUBMISSION	■ ISSUED FOR OPA & REZONING SUBMISSION
DATE OCT. 26, 2022	DATE MAR. 24, 2023	DATE APR. 19, 2023	DATE AUG. 02, 2023

R.B.T. MERWIN
100009772
AUG. 02, 2023

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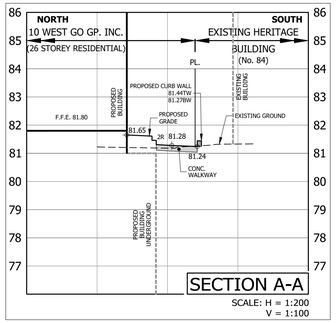
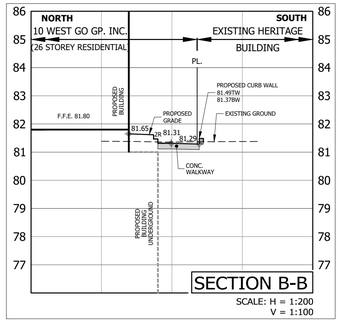
REMOVALS PLAN

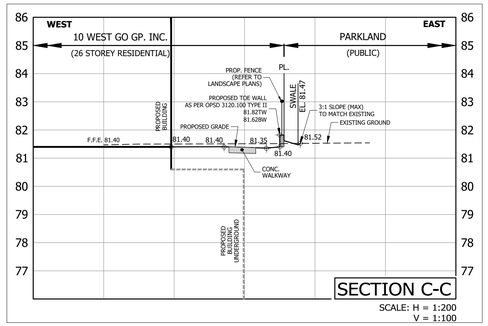
REGION FILE No. XXX
CITY FILE No. XXX

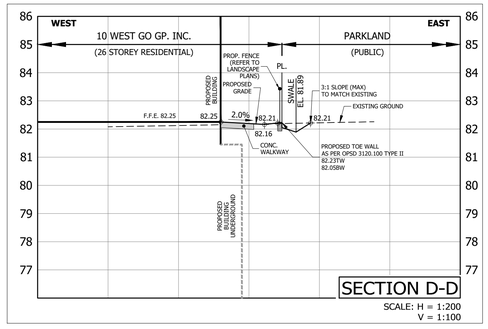
SCALE:	1:250	AREA	Z-08-C5/D	PROJECT No.	19-241
DRAWN BY:	A.G.	CHECKED BY:	R.M./R.B.T.M	PLAN No.	102
DATE:	APRIL 2023	SHEET	OF	C-	

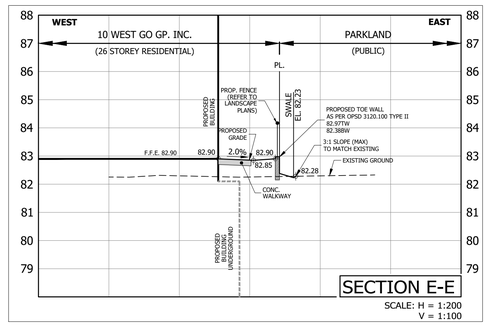
File: F:\PROJECTS\19-241 (ANN & HIGH STREET)\03_DRAWINGS\100 - GENERAL PLAN\102_REMOVALS PLAN.DWG

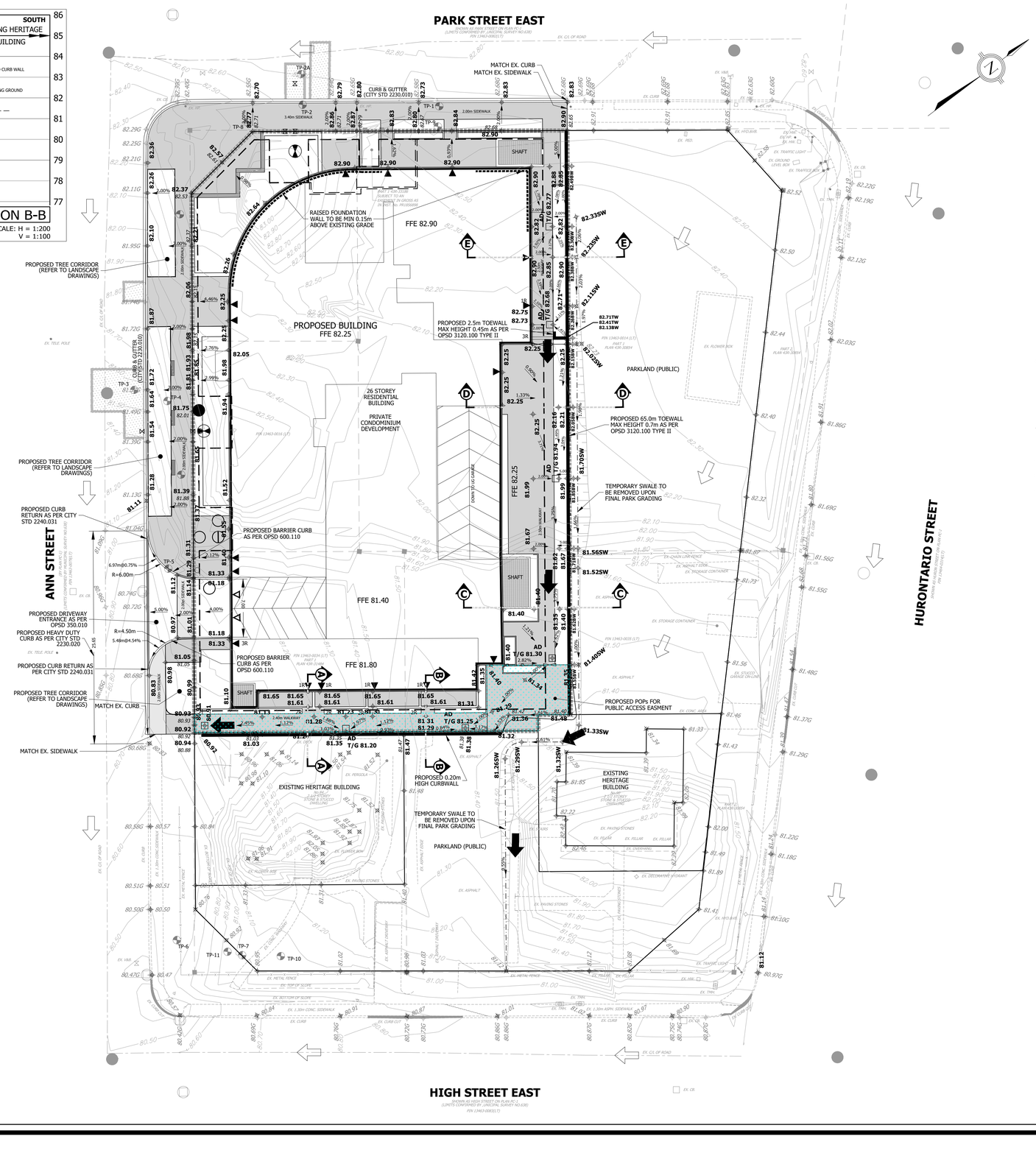


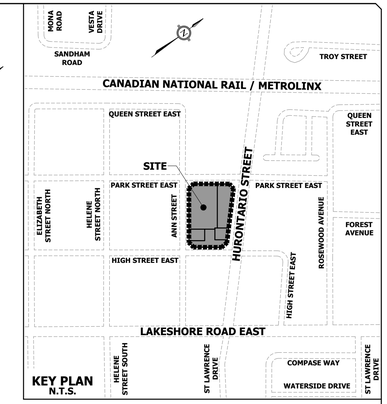












LEGEND

- EXISTING CONTOUR AND ELEVATION
- EXISTING ELEVATION
- PROPOSED ELEVATION
- FUTURE ELEVATION
- TOP OF CURB ELEVATION
- PROPOSED SWALE
- MAXIMUM 3:1 SLOPE (UNLESS OTHERWISE NOTED)
- PROPOSED OVERLAND FLOW DIRECTION
- EXISTING OVERLAND FLOW DIRECTION
- EXISTING CENTERLINE OF ROAD
- EXISTING TREE
- LIMIT OF PROPERTY
- LIMIT OF UNDERGROUND LEVELS
- PROPOSED FENCE
- PROPOSED GATE
- TEST-PIT BOREHOLES
- STORM MANHOLE
- SANITARY MANHOLE
- EXISTING STORM MANHOLE
- EXISTING STORM CATCH BASIN MANHOLE
- EXISTING SANITARY MANHOLE
- SINGLE CATCHBASIN
- DOUBLE CATCHBASIN
- EXISTING SINGLE CATCHBASIN
- EXISTING DOUBLE CATCHBASIN
- HYDRANT & VALVE C/W BOLLARDS
- VALVE AND BOX
- DETECTOR CHECK VALVE IN CHAMBER (AS PER R.S.D. 1-3-1)
- EXISTING HYDRANT & VALVE
- EXISTING VALVE AND BOX
- HEAVY-DUTY SIDEWALK
- PROPOSED POPs FOR PUBLIC ACCESS EASMENT

ELEVATION NOTE

ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE CITY OF MISSISSAUGA BENCHMARKS.
No. 732 ELEVATION=78.128m
No. 731 ELEVATION=81.58m

BENCHMARK NOTE

LBM1 SANITARY MANHOLE 0.696m FROM THE CENTER LINE OF THE ROAD AT THE INTERSECTION OF ANN STREET AND HIGH STREET,
ELEVATION=80.36m

LBM2 SANITARY MANHOLE 1.345m FROM THE CENTER LINE OF THE ROAD AT THE INTERSECTION OF PARK STREET AND HURONTARIO STREET,
ELEVATION=82.51m

TOPOGRAPHIC SURVEY PREPARED BY J.D. BARNES LIMITED, JANUARY 28, 2020.

ISSUED FOR OPA & REZONING SUBMISSION	REVISED STREETSCAPE	ISSUED FOR 3RD ZONING SUBMISSION	ISSUED FOR OPA & REZONING SUBMISSION
DATE OCT. 26, 2022	DATE MAR. 24, 2023	DATE APR. 19, 2023	DATE AUG. 02, 2023

REGISTERED PROFESSIONAL ENGINEER
R.B.T. MERWIN
100009772
AUG. 02, 2023
PROVINCE OF ONTARIO

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OZ OPA 22-3

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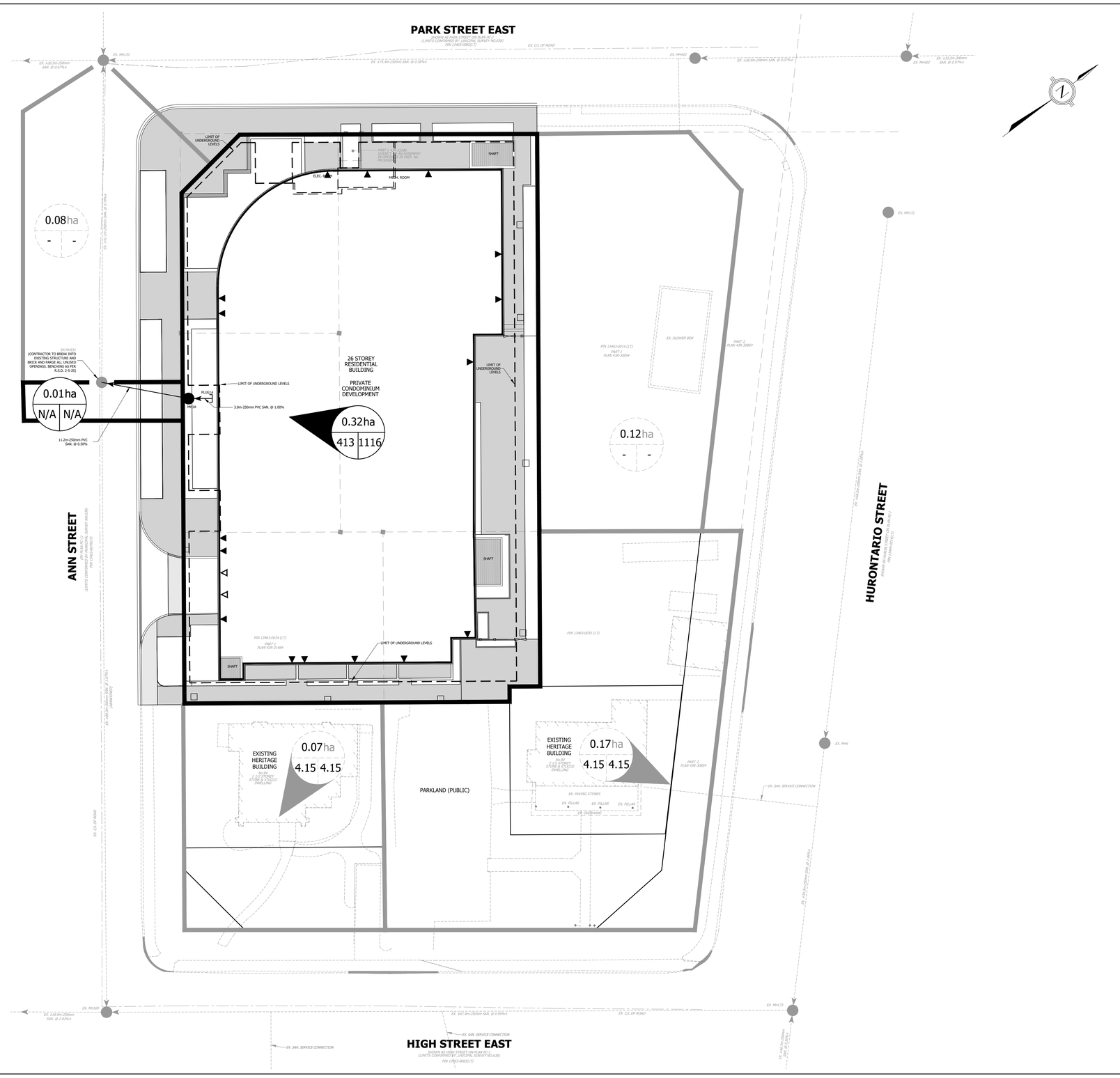
MISSISSAUGA

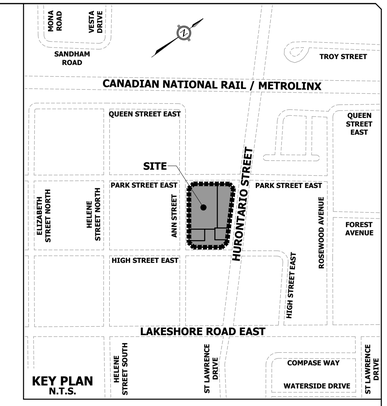
GRADING PLAN

REGION FILE No. XXX			CITY FILE No. XXX
SCALE: 1:250	AREA Z-08-C5/D		PROJECT No. 19-241
DRAWN BY: A.G.	CHECKED BY: R.M./R.B.T.M		PLAN No. 201
DATE: APRIL 2023	SHEET OF		C-

File: F:\PROJECTS\19-241 (ANN & HIGH STREET)\03_DRAWINGS\200 - GRADING\201_GRADING PLAN.DWG

PLOT DATE:August 23, 2023 8:43:30 AM





LEGEND

- SANITARY SEWER AND MANHOLE
- EXISTING SANITARY SEWER AND MANHOLE
- 0.32ha — DRAINAGE AREA (ha)
- 200 720 — POPULATION
- UNIT COUNT
- 0.03 Ha — EXISTING DRAINAGE AREA (Ha.)
- 1 1 — POPULATION
- POPULATION PER UNIT
- DRAINAGE AREA BOUNDARY
- EXISTING DRAINAGE AREA BOUNDARY
- LIMIT OF PROPERTY
- LIMIT OF UNDERGROUND LEVELS
- PROPOSED FENCE
- PROPOSED GATE

ELEVATION NOTE

ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE CITY OF MISSISSAUGA BENCHMARKS:
No. 732 ELEVATION=78.128m
No. 731 ELEVATION=81.58m

BENCHMARK NOTE

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ELEVATION=80.36m

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ELEVATION=82.51m

TOPOGRAPHIC SURVEY PREPARED BY J.D. BARNES LIMITED, JANUARY 28, 2020.

ISSUED FOR OPA & REZONING SUBMISSION	REVISED STREETSCAPE	ISSUED FOR 3RD ZONING SUBMISSION	ISSUED FOR OPA & REZONING SUBMISSION
DATE OCT. 26, 2022	DATE MAR. 24, 2023	DATE APR. 19, 2023	DATE AUG. 02, 2023

REGISTERED PROFESSIONAL ENGINEER
R.B.T. MERWIN
100009772
AUG. 02, 2023
PROVINCE OF ONTARIO

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OZ OPA 22-3

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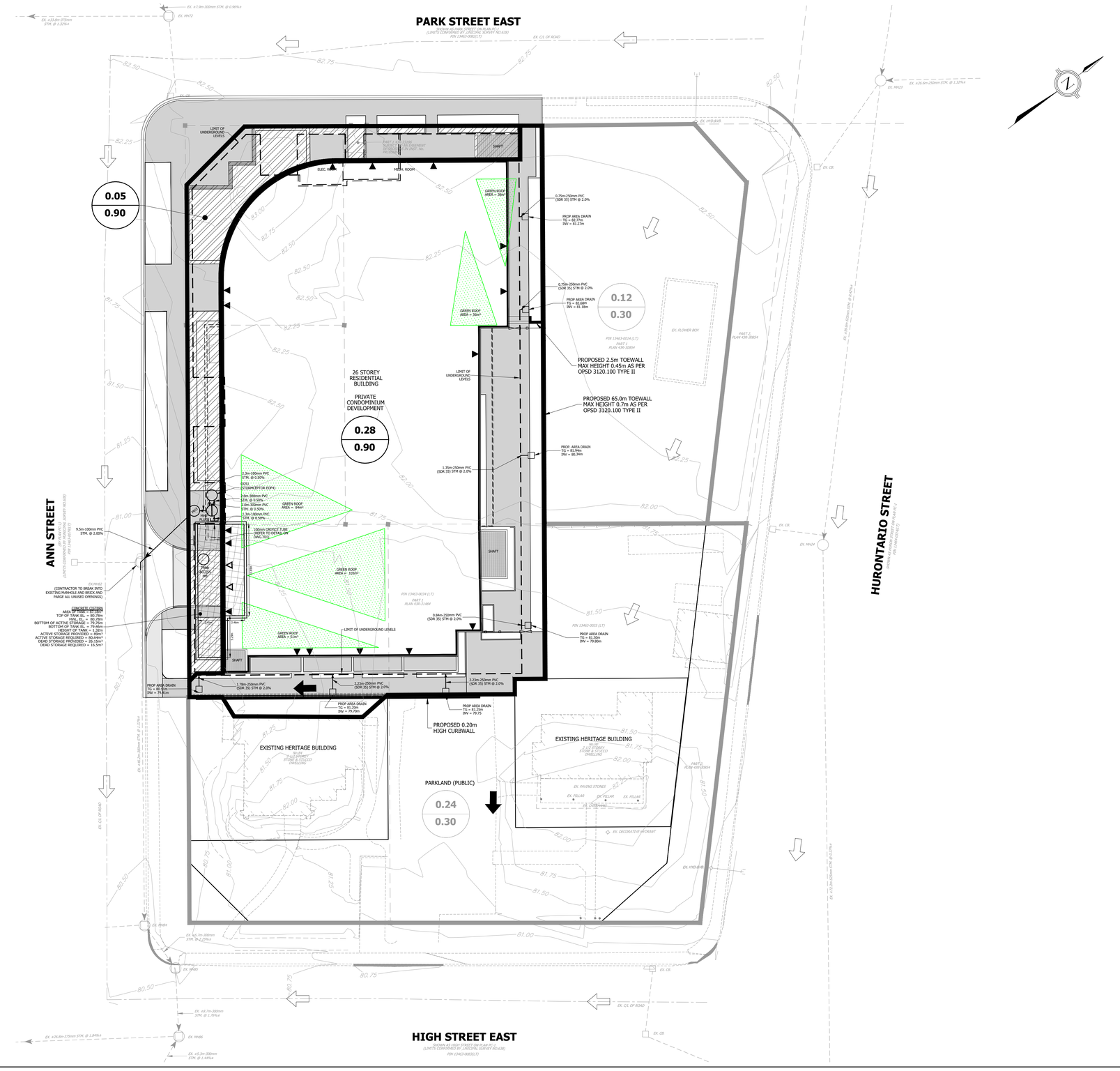
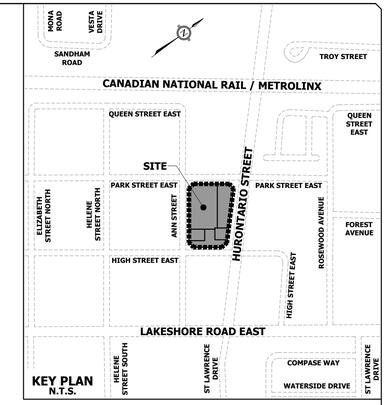
SANITARY DRAINAGE PLAN

REGION FILE No. XXX			CITY FILE No. XXX
SCALE: 1:250	AREA Z-08-C5/D		PROJECT No. 19-241
DRAWN BY: A.G.	CHECKED BY: R.M./R.B.T.M		PLAN No. **301**
DATE: APRIL 2023	SHEET OF		C-

File: F:\PROJECTS\19-241 (ANN & HIGH STREET)\03_DRAWINGS\300 - DRAINAGE\301_SANITARY DRAINAGE PLAN.DWG

PLOT DATE:August 23, 2023 8:43:38 AM





LEGEND

- STORM SEWER AND MANHOLE
- EXISTING STORM SEWER AND MANHOLE
- EXISTING STORM SEWER AND CATCH BASIN MANHOLE
- SINGLE CATCHBASIN
- DOUBLE CATCHBASIN
- EXISTING SINGLE CATCHBASIN
- EXISTING DOUBLE CATCHBASIN
- EXISTING CENTERLINE OF ROAD
- 0.30 / 0.90 — PROPOSED DRAINAGE AREA (ha) FOR MINOR SYSTEM (5 YEAR) FLOW / PROPOSED RUNOFF COEFFICIENT
- 0.15 / 0.30 — EXTERNAL DRAINAGE AREA (ha) FOR MINOR SYSTEM (5 YEAR) FLOW / EXTERNAL RUNOFF COEFFICIENT
- 87.00 — EXISTING CONTOUR AND ELEVATION
- PROPOSED OVERLAND FLOW DIRECTION
- EXISTING OVERLAND FLOW DIRECTION
- DRAINAGE AREA BOUNDARY
- EXTERNAL DRAINAGE AREA BOUNDARY
- UNCONTROLLED DRAINAGE
- GREEN ROOF
- PROPOSED FENCE
- LIMIT OF PROPERTY
- PROPOSED GATE
- LIMIT OF BUILDING FLOORS ABOVE
- LIMIT OF UNDERGROUND LEVELS

ELEVATION NOTE

ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE CITY OF MISSISSAUGA BENCHMARKS:
No. 732 ELEVATION=78.128m
No. 731 ELEVATION=81.58m

BENCHMARK NOTE

LBM1 SANITARY MANHOLE 0.696m FROM THE CENTER LINE OF THE ROAD AT THE INTERSECTION OF ANN STREET AND HIGH STREET, ELEVATION=80.36m

LBM2 SANITARY MANHOLE 1.345m FROM THE CENTER LINE OF THE ROAD AT THE INTERSECTION OF PARK STREET AND HURONTARIO STREET, ELEVATION=82.51m

TOPOGRAPHIC SURVEY PREPARED BY J.D. BARNES LIMITED, JANUARY 28, 2020.

ISSUED FOR OPA & REZONING SUBMISSION	REVISED STREETSCAPE	ISSUED FOR 3RD ZONING SUBMISSION	ISSUED FOR OPA & REZONING SUBMISSION
DATE OCT. 26, 2022	DATE MAR. 24, 2023	DATE APR. 19, 2023	DATE AUG. 02, 2023

REGISTERED PROFESSIONAL ENGINEER — R.B.T. MERWIN — 100009772 — AUG. 02, 2023 — PROVINCE OF ONTARIO

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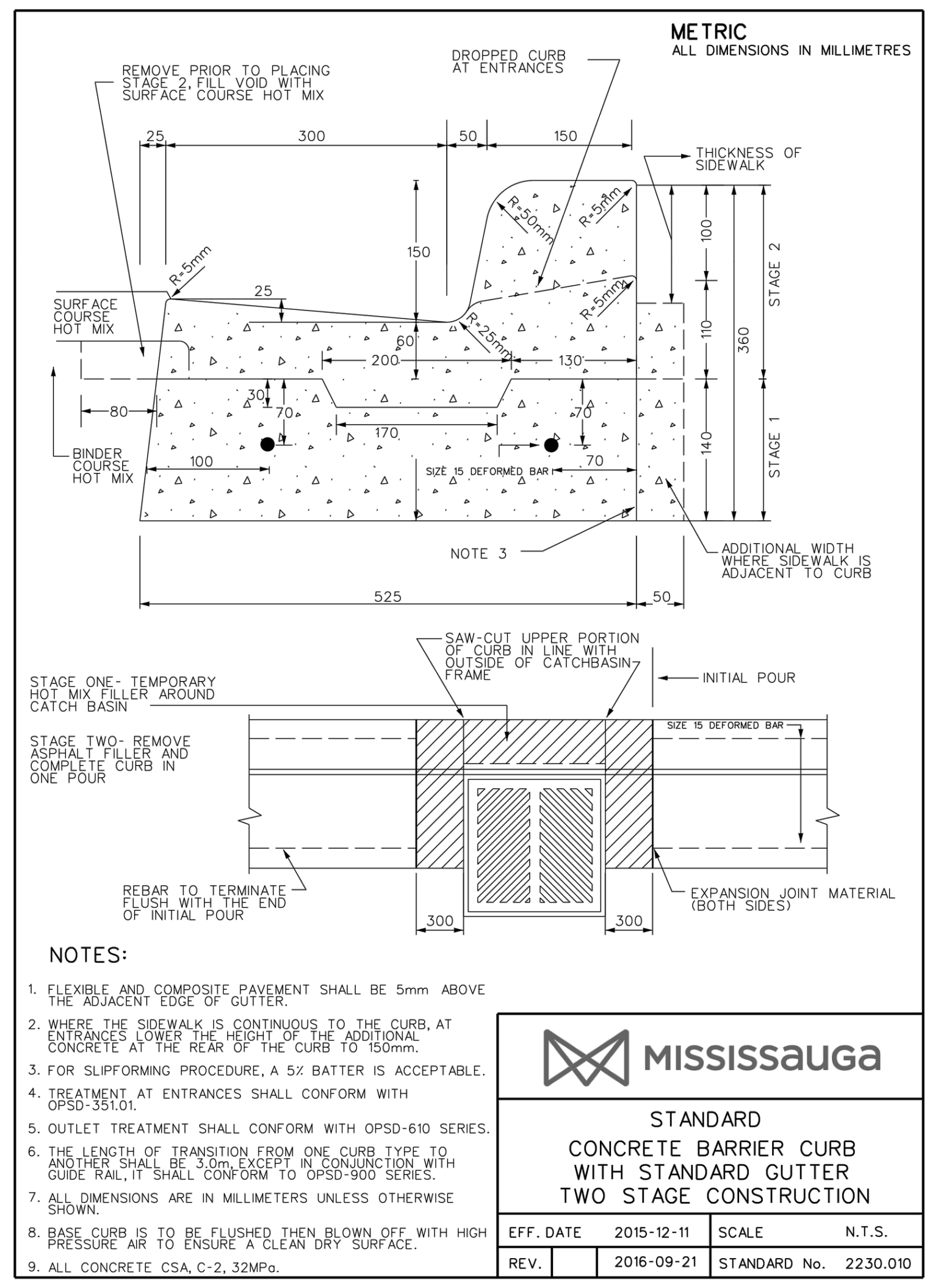
STORM DRAINAGE PLAN

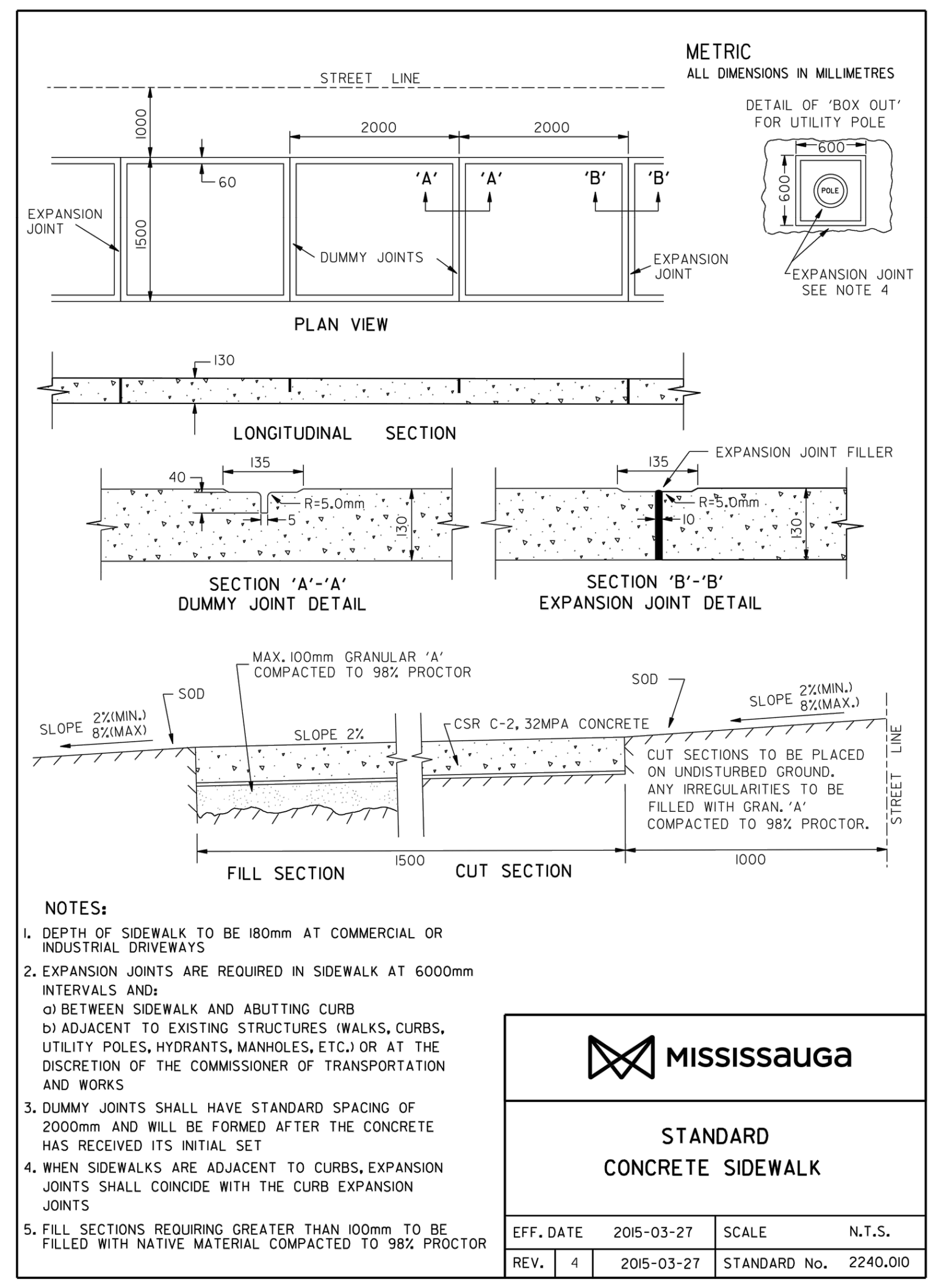
REGION FILE No. XXX — CITY FILE No. XXX

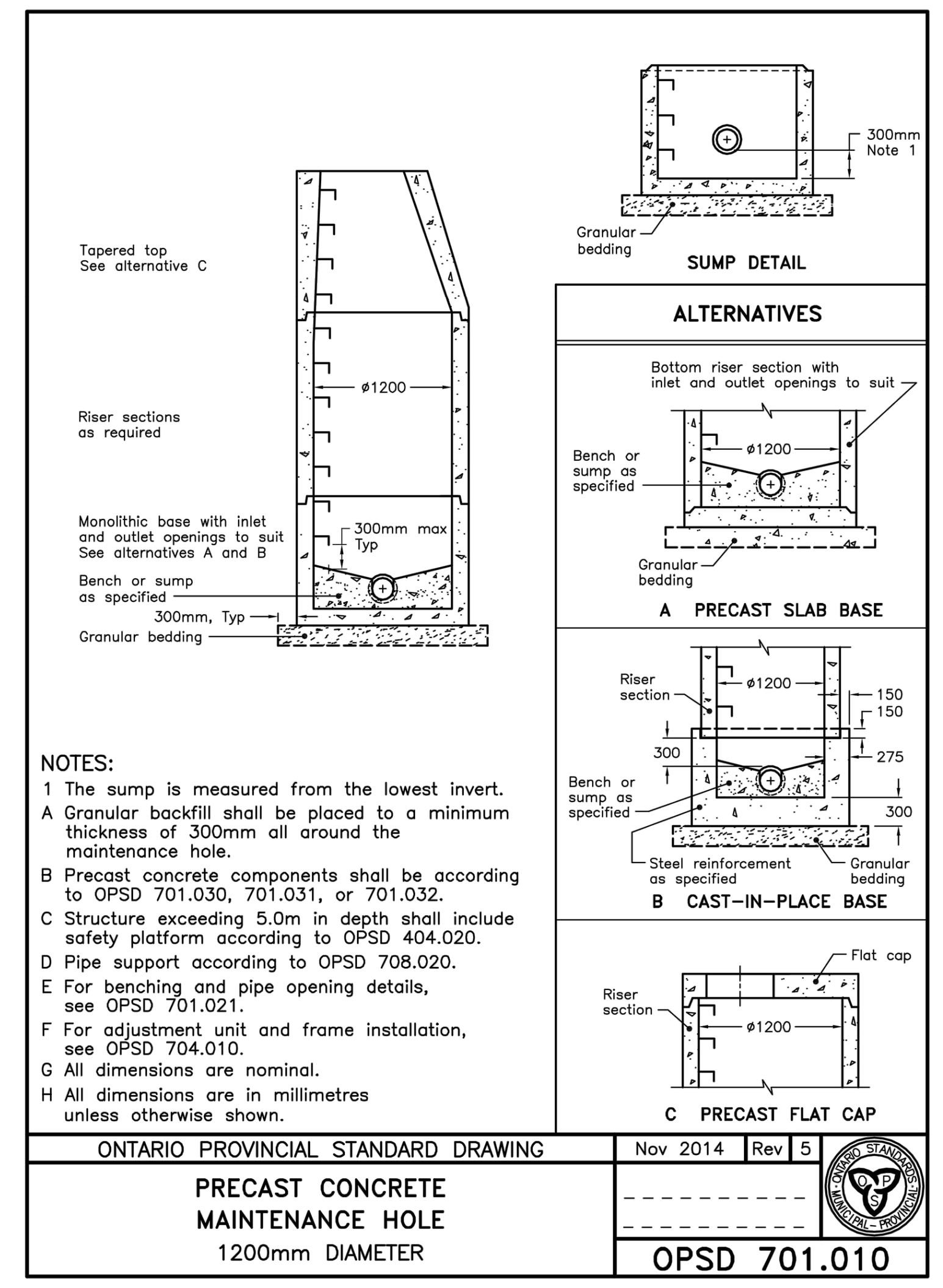
SCALE:	1:250	AREA	Z-08-CS/D	PROJECT No.	19-241
DRAWN BY:	A.G.	CHECKED BY:	R.M./R.B.T.M	PLAN No.	302
DATE:	APRIL 2023	SHEET	OF		C-

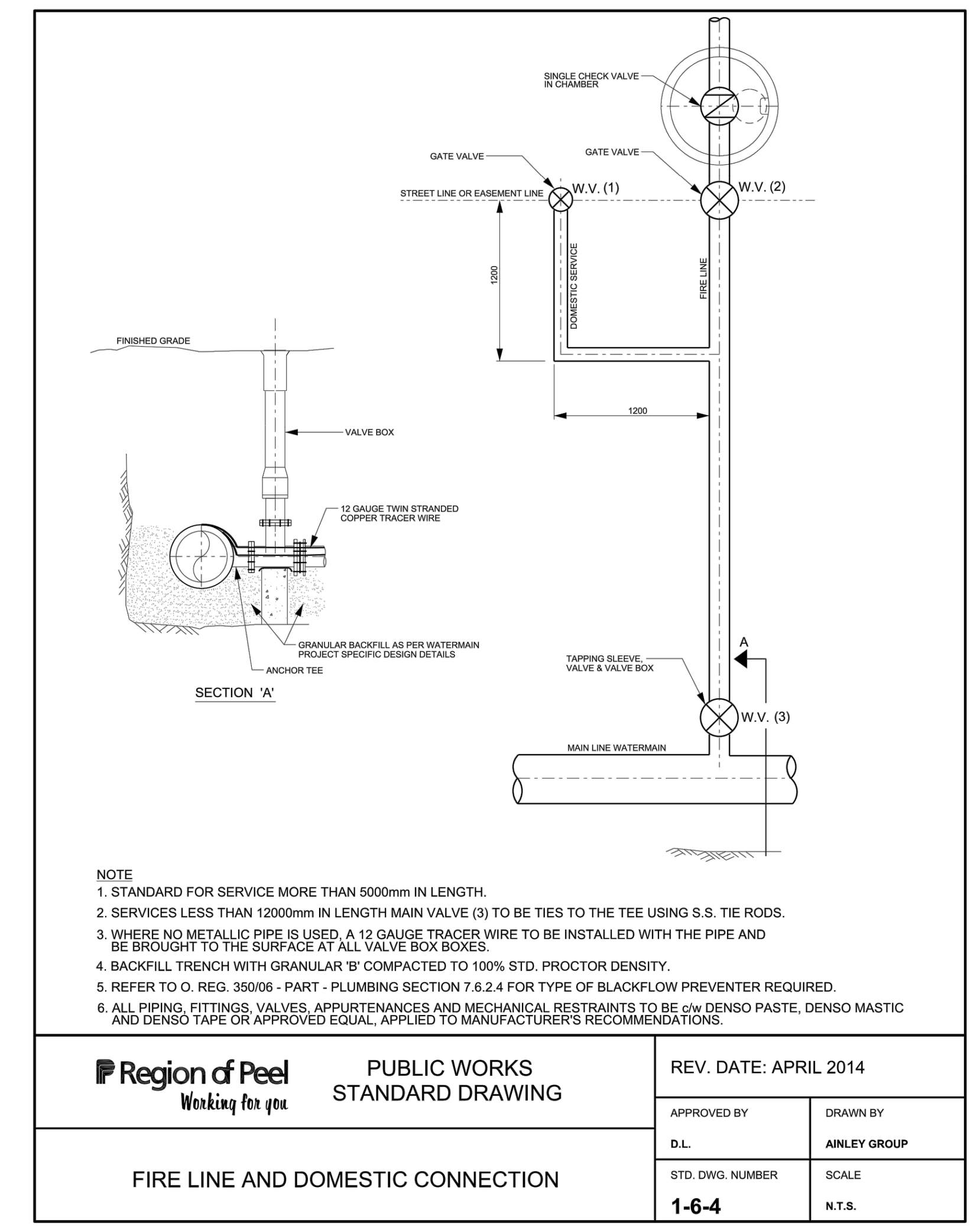
File: F:\PROJECTS\19-241 (ANN & HIGH STREET)\03_DRAWINGS\300 - DRAINAGE\302_STORM DRAINAGE PLAN.DWG

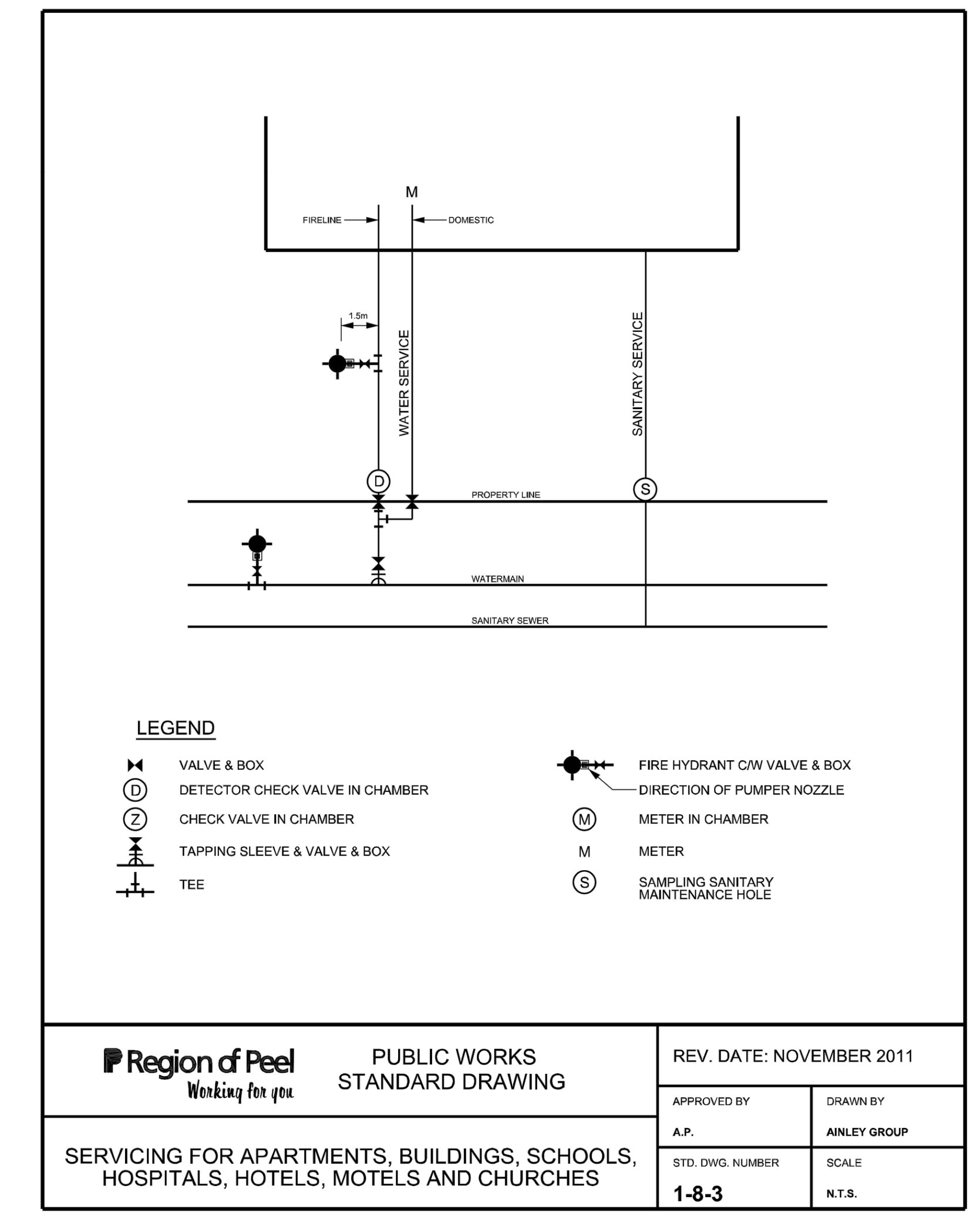
PLOT DATE:August 23, 2023 8:43:47 AM

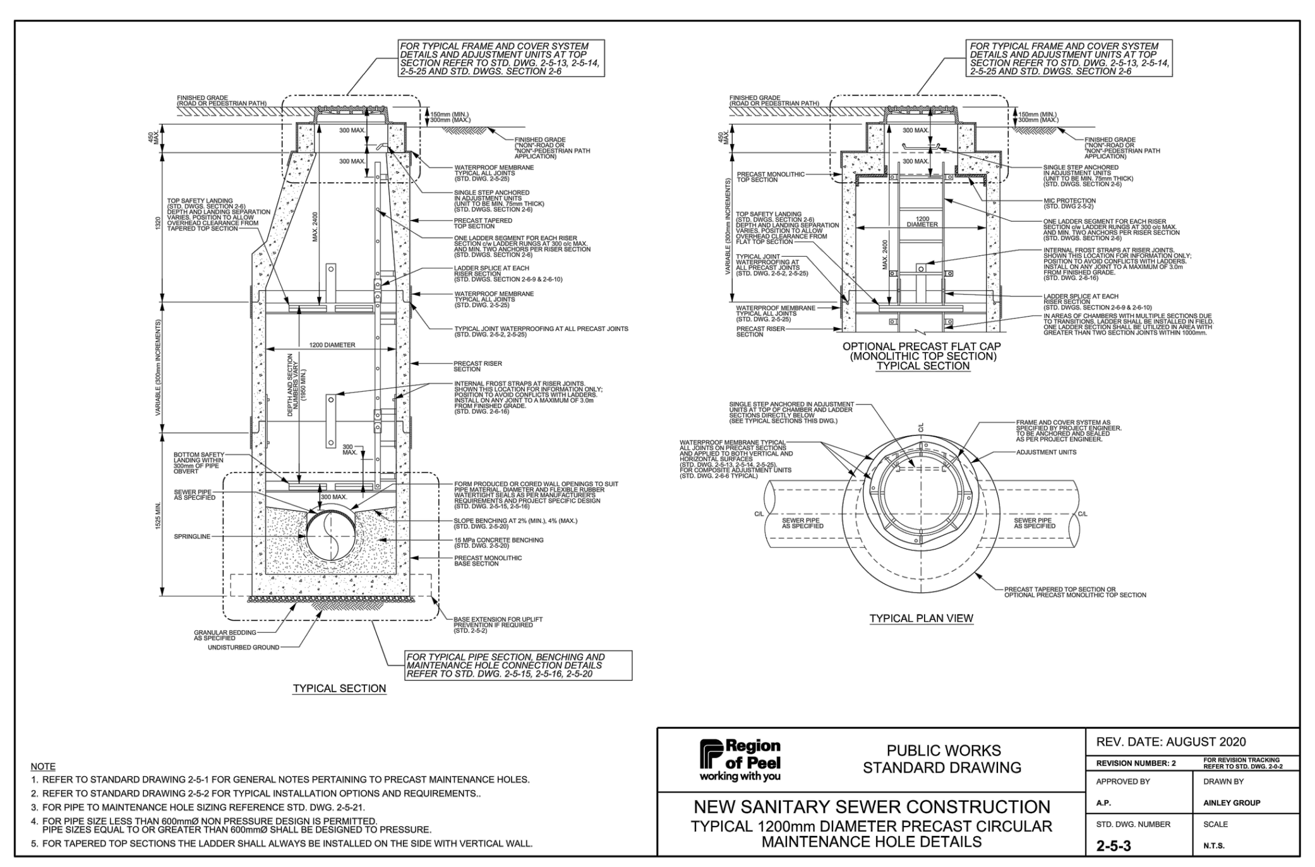


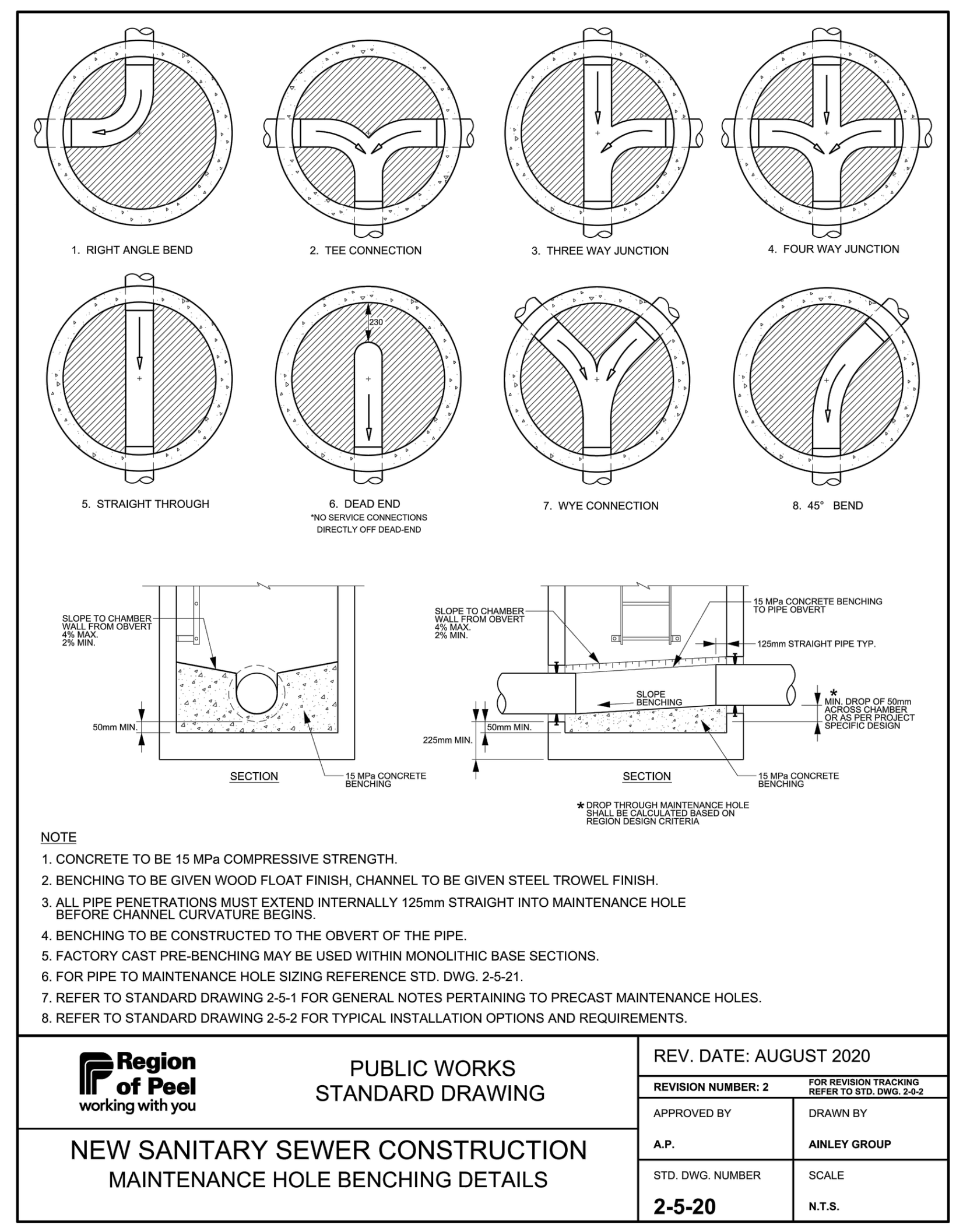


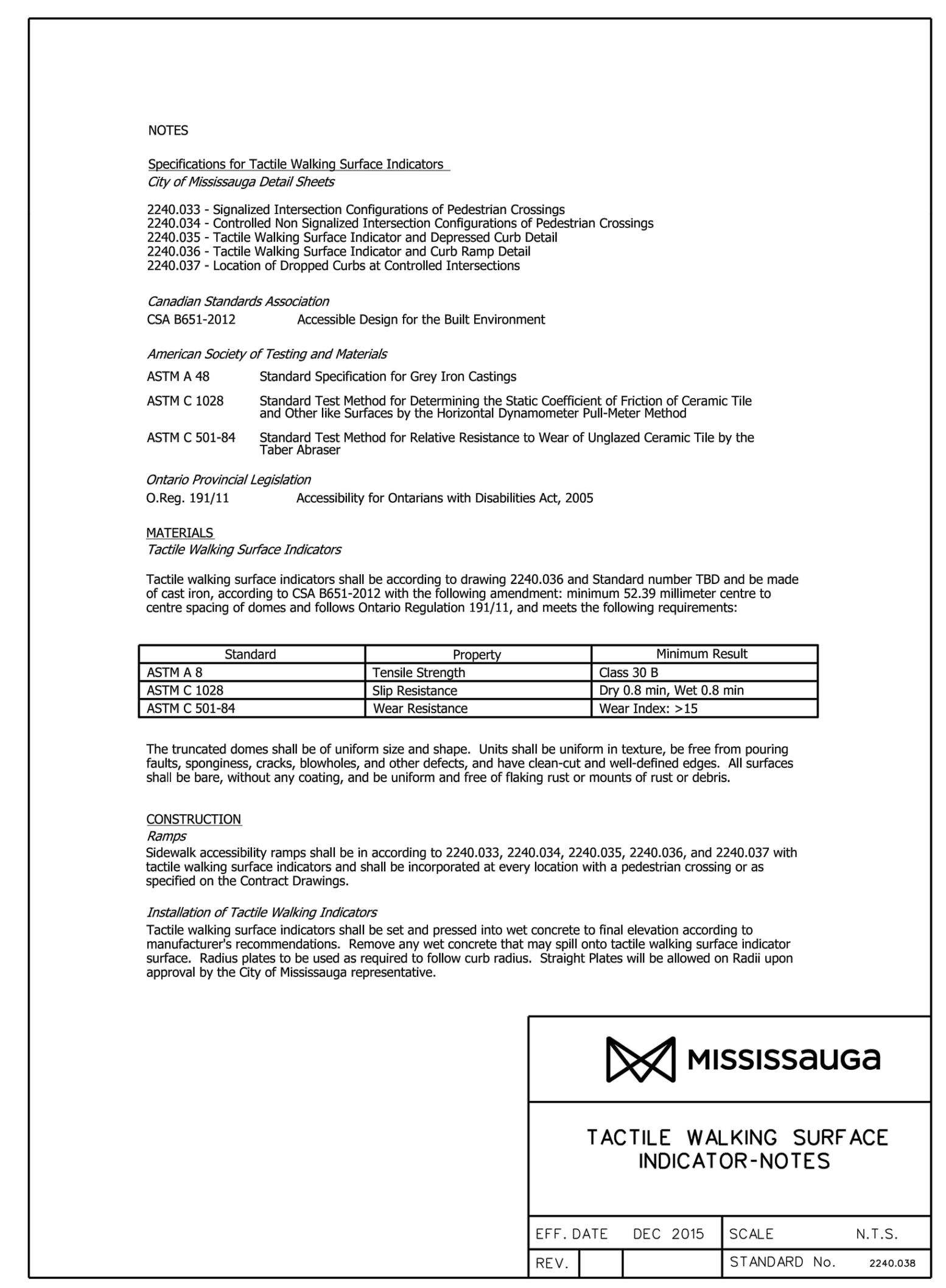


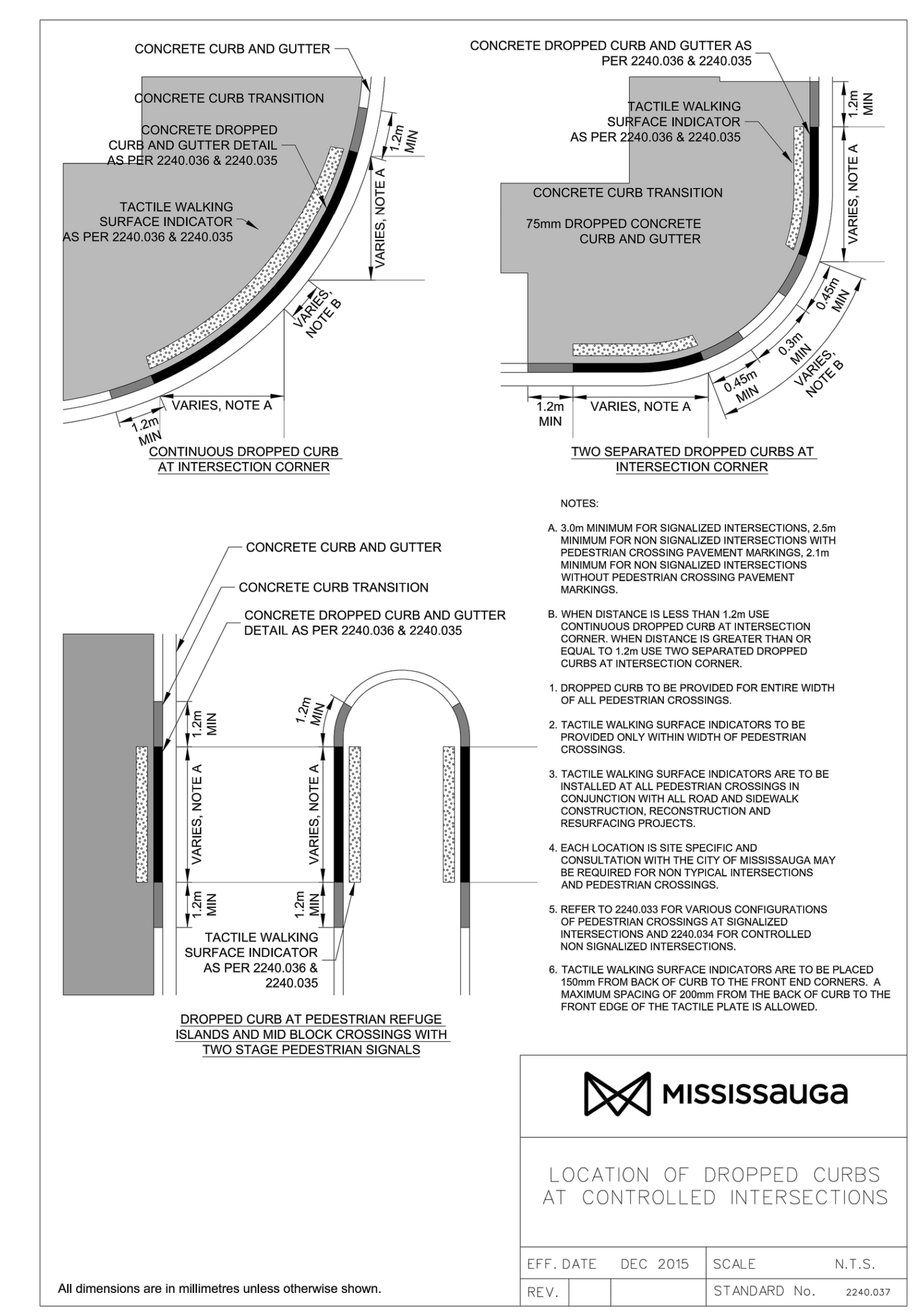


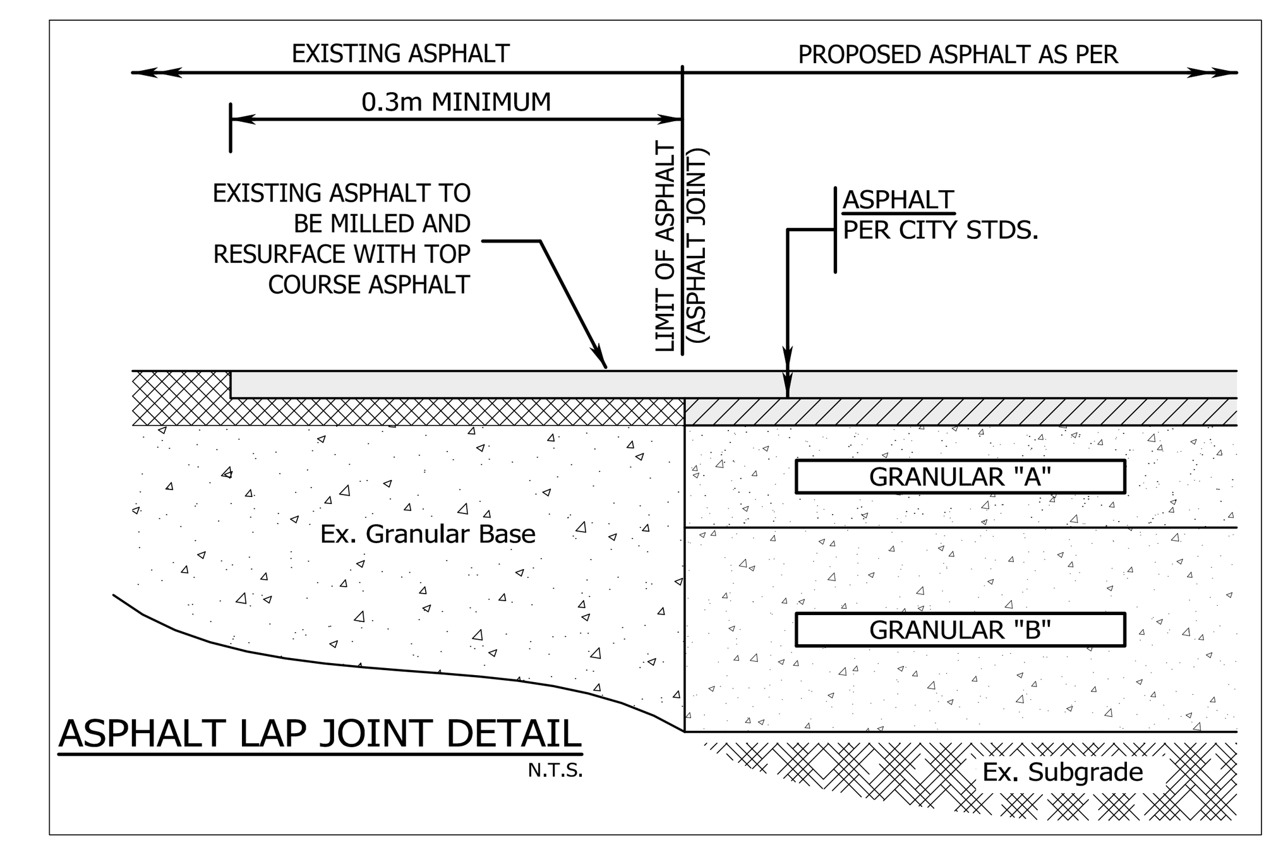


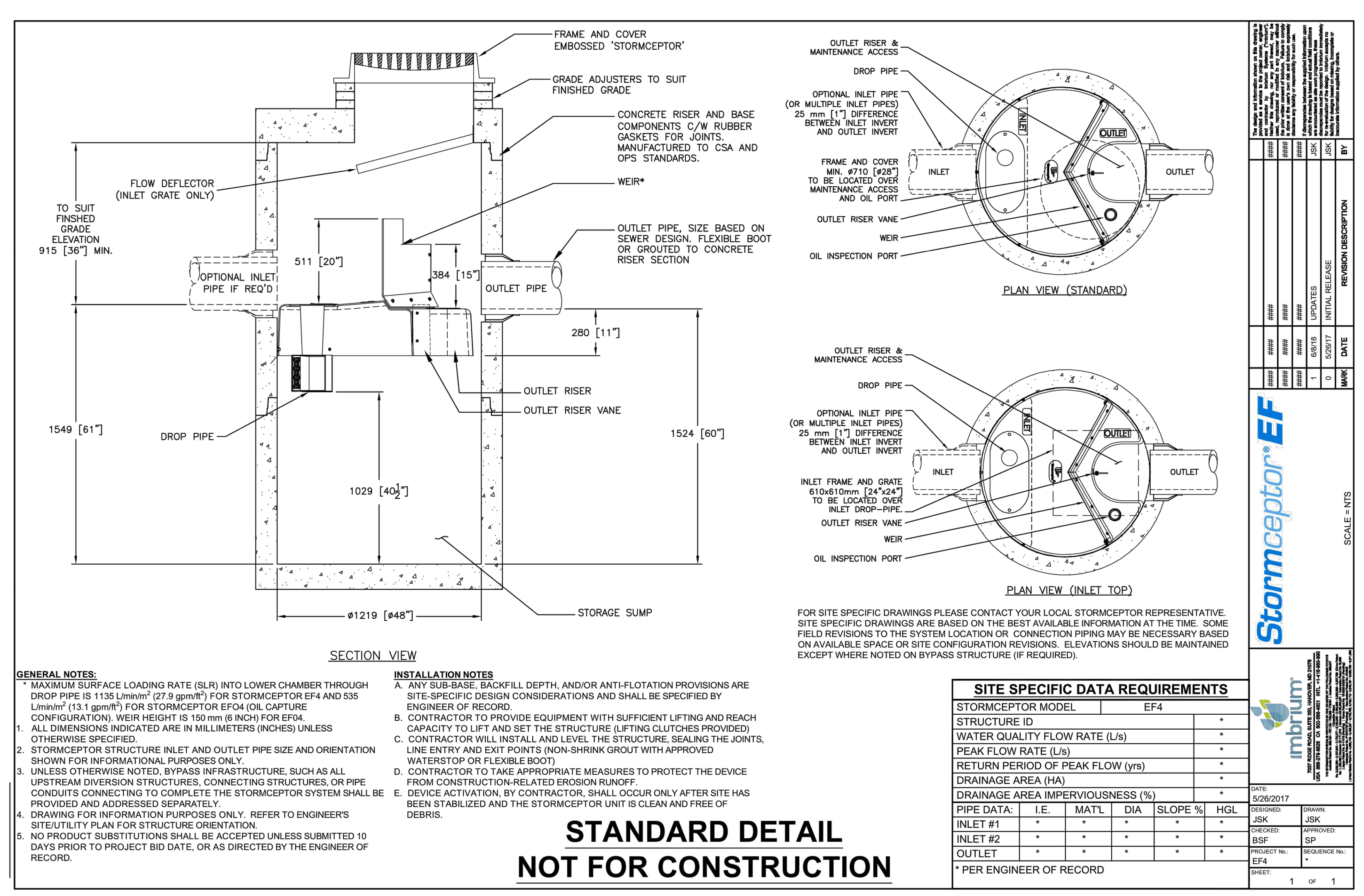


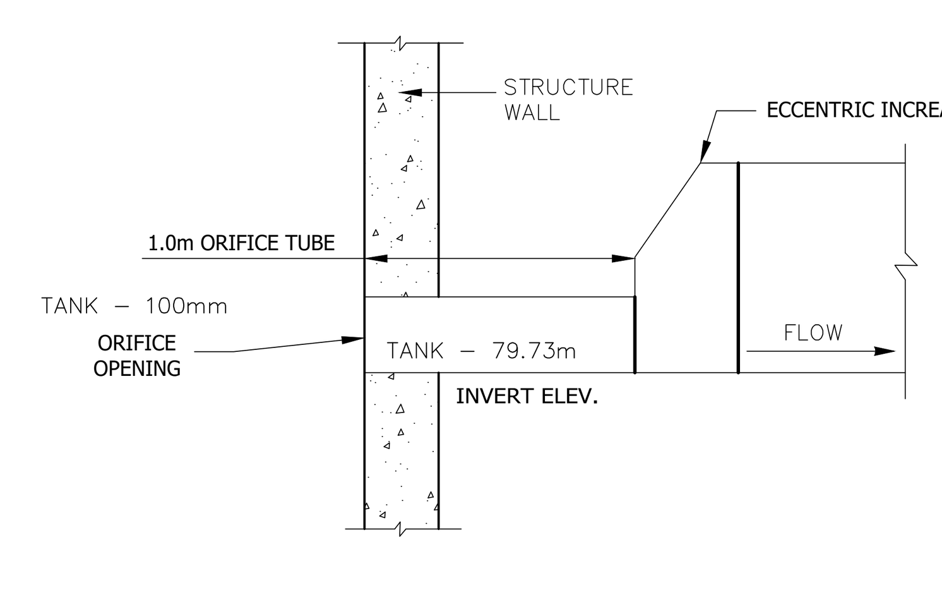












ORIFICE TUBE DETAIL N.T.S.

ISSUED FOR OPA & REZONING SUBMISSION	REVISED STREETSCAPE	ISSUED FOR 3RD ZONING SUBMISSION	ISSUED FOR OPA & REZONING SUBMISSION
DATE OCT. 26, 2022	DATE MAR. 24, 2023	DATE APR. 19, 2023	DATE AUG. 02, 2023

REGISTERED PROFESSIONAL ENGINEER
R.B.T. MERWIN
100009772
AUG. 02, 2023
PROVINCE OF ONTARIO

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OZ OPA 22-3

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MISSISSAUGA

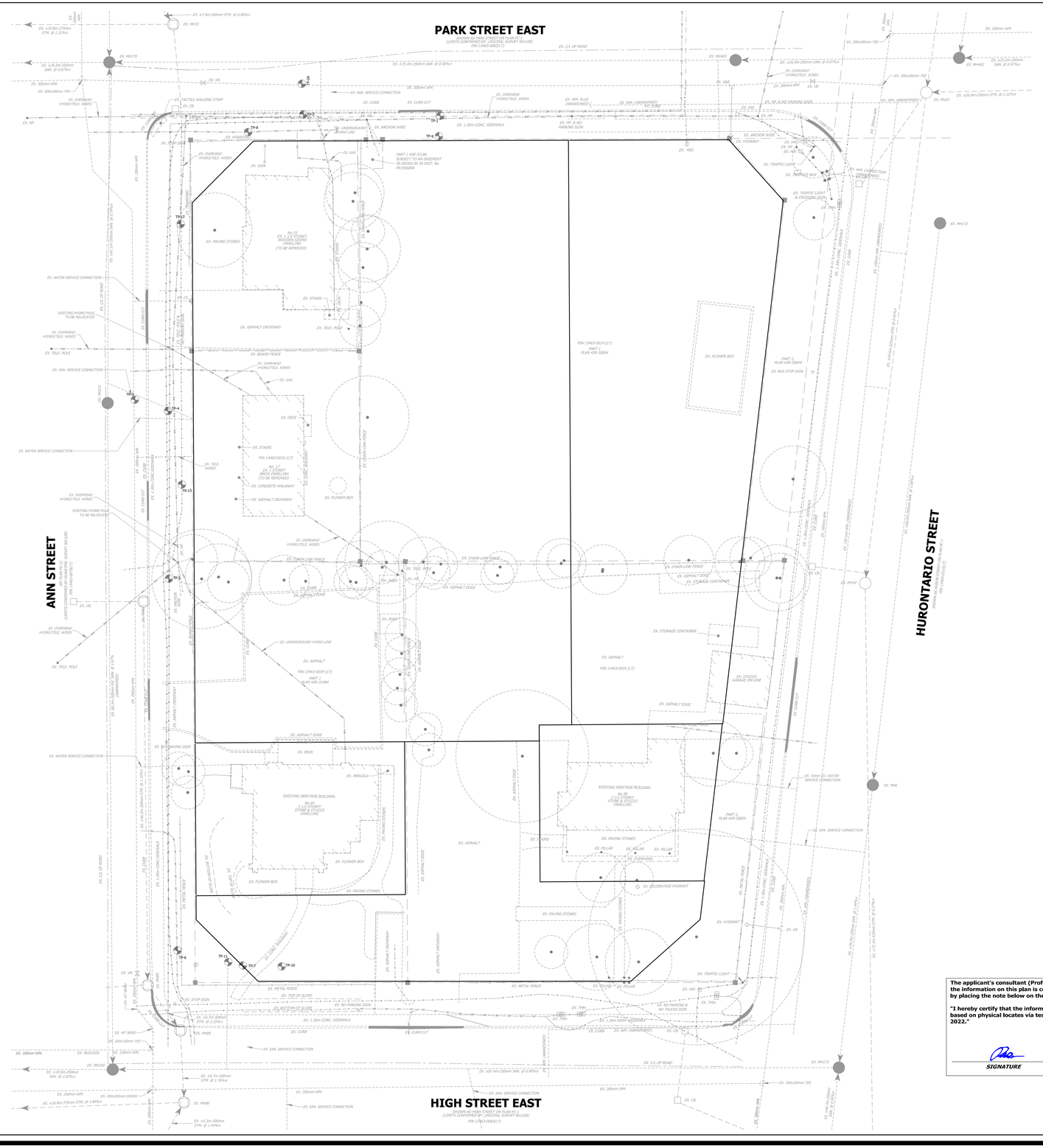
DETAILS

REGION FILE No. XXX CITY FILE No. XXX

SCALE: 1:250	AREA Z-08-C5/D	PROJECT No. 19-241
DRAWN BY: A.G.	CHECKED BY: R.M./R.B.T.M	PLAN No. **701**
DATE: APRIL 2023	SHEET OF	C-

File: F:\PROJECTS\19-241 (ANN & HIGH STREET)\03_DRAWINGS\700 - STANDARD DETAILS\701-DETAILS.DWG

PLOT DATE:August 23, 2023 8:43:56 AM



KEY PLAN
N.T.S.

LEGEND

- EXISTING STORM SEWER AND MANHOLE
- EXISTING STORM SEWER AND CATCH BASIN MANHOLE
- EXISTING SANITARY SEWER AND MANHOLE
- EXISTING SINGLE CATCHBASIN
- EXISTING DOUBLE CATCHBASIN
- EXISTING HYDRANT & VALVE
- EXISTING VALVE AND BOX
- EXISTING STREET LIGHT
- EXISTING OVERHEAD WIRES
- EXISTING FENCE
- EXISTING CENTERLINE OF ROAD
- EXISTING UNDERGROUND HYDRO
- EXISTING FIBER OPTIC
- EXISTING UNDERGROUND CABLE LINE
- EXISTING UNDERCROUND TELEPHONE LINE
- EXISTING TREE
- LIMIT OF PROPERTY
- PROPOSED TEST-PIT BOREHOLES

ELEVATION NOTE

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No. 731 ELEVATION=81.58m

BENCHMARK NOTE

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ELEVATION=80.36m

LBM2 SANITARY MANHOLE 1.345m FROM THE CENTER LINE OF THE ROAD AT THE INTERSECTION OF PARK STREET AND HURONTARIO STREET.
ELEVATION=82.51m

TOPOGRAPHIC SURVEY PREPARED BY J.D. BARNES LIMITED, JANUARY 28, 2020.

■ ISSUED FOR OPA & REZONING SUBMISSION	■ REVISED STREETSCAPE	■ ISSUED FOR 3RD ZONING SUBMISSION	■ ISSUED FOR OPA & REZONING SUBMISSION
DATE OCT. 26, 2022	DATE MAR. 24, 2023	DATE APR. 19, 2023	DATE AUG. 02, 2023

R.B.T. MERWIN
100009772
AUG. 02, 2023

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A Division of Leighton-Zec West Ltd.
2030 Bristol Circle, Suite 105
Oakville, ON. L6H 0H2
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10 WEST GO GP INC.
17 & 19 ANN STREET, 84 & 90 HIGH STREET
OZ OPA 22-3

Region of Peel
working with you

MISSISSAUGA

EXISTING COMPOSITE UTILITY PLAN

REGION FILE No. XXX
CITY FILE No. XXX

SCALE: 1:250	AREA Z-08-C5/D	PROJECT No. 19-241
DRAWN BY: A.G.	CHECKED BY: R.M./R.B.T.M	PLAN No. **901**
DATE: APRIL 2023	SHEET OF	C-

File: F:\PROJECTS\19-241 (ANN & HIGH STREET)\03_DRAWINGS\900 - COMPOSITE UTILITY\901_EX-CUP PLAN.DWG

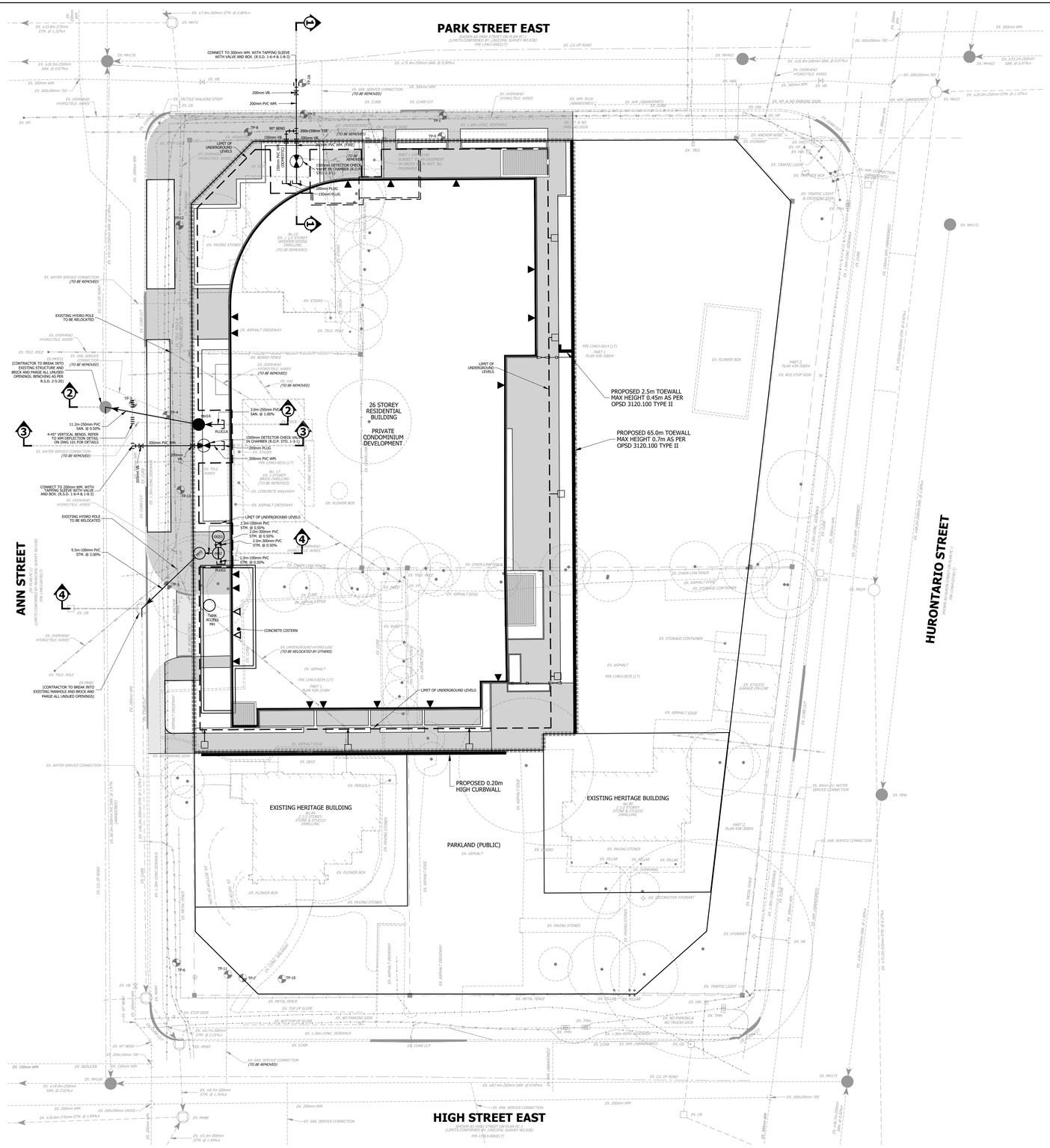
The applicant's consultant (Professional Engineer) is to certify on the plan that the information on this plan is complete, accurate and based on physical locates by placing the note below on the Utiility Plan:

"I hereby certify that the information on this plan is complete, accurate and based on physical locates via test pits, as provided by Onsite, on September 15, 2022."

AUG. 02, 2023

SIGNATURE ***DATE***

PLOT DATE:August 23, 2023 8:44:11 AM



SECTION 1-1

SCALE: H = 1:200
V = 1:100

SECTION 2-2

SCALE: H = 1:200
V = 1:100

SECTION 3-3

SCALE: H = 1:200
V = 1:100

SECTION 4-4

SCALE: H = 1:200
V = 1:100

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AUG. 02, 2023

SIGNATURE ***DATE***

KEY PLAN
N.T.S.

LEGEND

- STORM SEWER AND MANHOLE
- SANITARY SEWER AND MANHOLE
- EXISTING STORM SEWER AND MANHOLE
- EXISTING STORM SEWER AND CATCH BASIN MANHOLE
- EXISTING SANITARY SEWER AND MANHOLE
- EXISTING SINGLE CATCHBASIN
- EXISTING DOUBLE CATCHBASIN
- EXISTING HYDRANT & VALVE
- EXISTING VALVE AND BOX
- EXISTING STREET LIGHT
- HYDRANT & VALVE C/W BOLLARDS
- VALVE AND BOX
- DETECTOR CHECK VALVE IN CHAMBER (AS PER R.S.D. 1-3-1)
- EXISTING OVERHEAD WIRES
- EXISTING FENCE
- EXISTING CENTERLINE OF ROAD
- EXISTING UNDERGROUND HYDRO
- EXISTING FIBER OPTIC
- EXISTING UNDERGROUND CABLE LINE
- EXISTING UNDERCROUND TELEPHONE LINE
- EXISTING TREE
- LIMIT OF UNDERGROUND LEVELS
- LIMIT OF PROPERTY
- PROPOSED FENCE
- PROPOSED GATE
- PROPOSED TEST-PIT BOREHOLES

ELEVATION NOTE

ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE CITY OF MISSISSAUGA BENCHMARKS:
No. 732 ELEVATION=78.128m
No. 731 ELEVATION=81.58m

BENCHMARK NOTE

LBM1 SANITARY MANHOLE 0.696m FROM THE CENTER LINE OF THE ROAD AT THE INTERSECTION OF ANN STREET AND HIGH STREET.
ELEVATION=80.36m

LBM2 SANITARY MANHOLE 1.345m FROM THE CENTER LINE OF THE ROAD AT THE INTERSECTION OF PARK STREET AND HURONTARIO STREET.
ELEVATION=82.51m

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MISSISSAUGA

PROPOSED COMPOSITE UTILITY PLAN

REGION FILE No. XXX
CITY FILE No. XXX

SCALE: 1:250	AREA Z-08-C5/D	PROJECT No. 19-241
DRAWN BY: A.G.	CHECKED BY: R.M./R.B.T.M	PLAN No. **902**
DATE: APRIL 2023	SHEET OF	C-

File: F:\PROJECTS\19-241 (ANN & HIGH STREET)\03_DRAWINGS\900 - COMPOSITE UTILITY\902_PROP-CUP PLAN.DWG

PLOT DATE:August 23, 2023 8:44:31 AM

EROSION AND SEDIMENT CONTROL

1.1. CONTRACTOR TO INSTALL EROSION CONTROL MEASURES AS SHOWN PRIOR TO CONSTRUCTION AND MAINTAIN IN GOOD CONDITION UNTIL CONSTRUCTION IS COMPLETED AND ALL DISTURBED GROUND SURFACES HAVE BEEN RESTABILIZED EITHER BY PAVING OR RESTORATION OF VEGETATIVE COVER.

1.2. ALL SILT FENCING TO BE INSTALLED PRIOR TO ANY AREA GRADING, EXCAVATING OR DEMOLITION COMMENCING.

1.3. EROSION CONTROL FENCING TO BE INSTALLED AROUND BASE OF ALL LONG TERM STOCKPILES. ALL STOCKPILES TO BE KEPT 2.5M MINIMUM FROM PROPERTY LINE.

1.4. EROSION PROTECTION TO BE PROVIDED AROUND ALL STORM CBS.

1.5. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS SITE DEVELOPMENT PROGRESSES. CONTRACTOR TO PROVIDE ALL ADDITIONAL EROSION CONTROL STRUCTURES.

1.6. EROSION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN RESTABILIZED.

1.7. NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY THE ENGINEER AND THE CITY.

1.8. CONTRACTOR TO CLEAN ROADWAY AND SIDEWALKS OF SEDIMENTS RESULTING FROM CONSTRUCTION TRAFFIC FROM THE SITE EACH DAY.

1.9. CONTRACTOR MUST REMOVE EROSION AND SEDIMENTATION FENCING PRIOR TO COMPLETION OF PROJECT. CONTRACTOR TO HAVE EROSION AND SEDIMENTATION FENCE INSPECTED WHEN VEGETATION HAS ESTABLISHED, BUT PRIOR TO FENCE BECOMING OVERGROWN. ENGINEER'S REPRESENTATIVE TO DETERMINE IF VEGETATION HAS REACHED THE CRITICAL POINT AND WILL THEN INSTRUCT CONTRACTOR TO REMOVE FENCE.

1.10. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO CONTROL DUST IN THE PROJECT AND SHALL PROVIDE, AT HIS OWN EXPENSE, CONTROLLING MEASURES AS DIRECTED BY THE ENGINEER AND THE CITY.

1.11. SHOULD EXCESSIVE MUD TRACKING BE NOTED ON THE CITY/REGION ROADS, IT MAY BE DIRECTED BY THE CITY/REGION ENGINEER TO INSTALL A WHEEL WASHING DEVICE WHICH WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

1.12. ALL SEDIMENT CONTROLS MUST BE MONITORED ON A WEEKLY BASIS BY THE THIRD PARTY AND A REPORT WILL BE SUBMITTED TO CVC, MNRF AND THE CITY OF MISSISSAUGA. DURING OR IMMEDIATELY AFTER A SIGNIFICANT RAINFALL EVENT AN INSPECTION MUST BE DONE, AND THE RECEIVING SYSTEM SHOULD BE INSPECTED FOR EXCESS SEDIMENT LOAD. IF EXCESS SEDIMENT LOAD IS NOTED, THE SEDIMENT EROSION CONTROL PLAN SHOULD BE ADJUSTED TO CONTROL EXCESS SEDIMENT TO THE EXTENT FEASIBLE AS SOON AS POSSIBLE. MODIFICATIONS & MAINTENANCE MAY BE REQUIRED AS SITE CONDITIONS WARRANT. THE CVC AND CITY OF MISSISSAUGA APPROVAL IS REQUIRED PRIOR TO MODIFICATIONS.

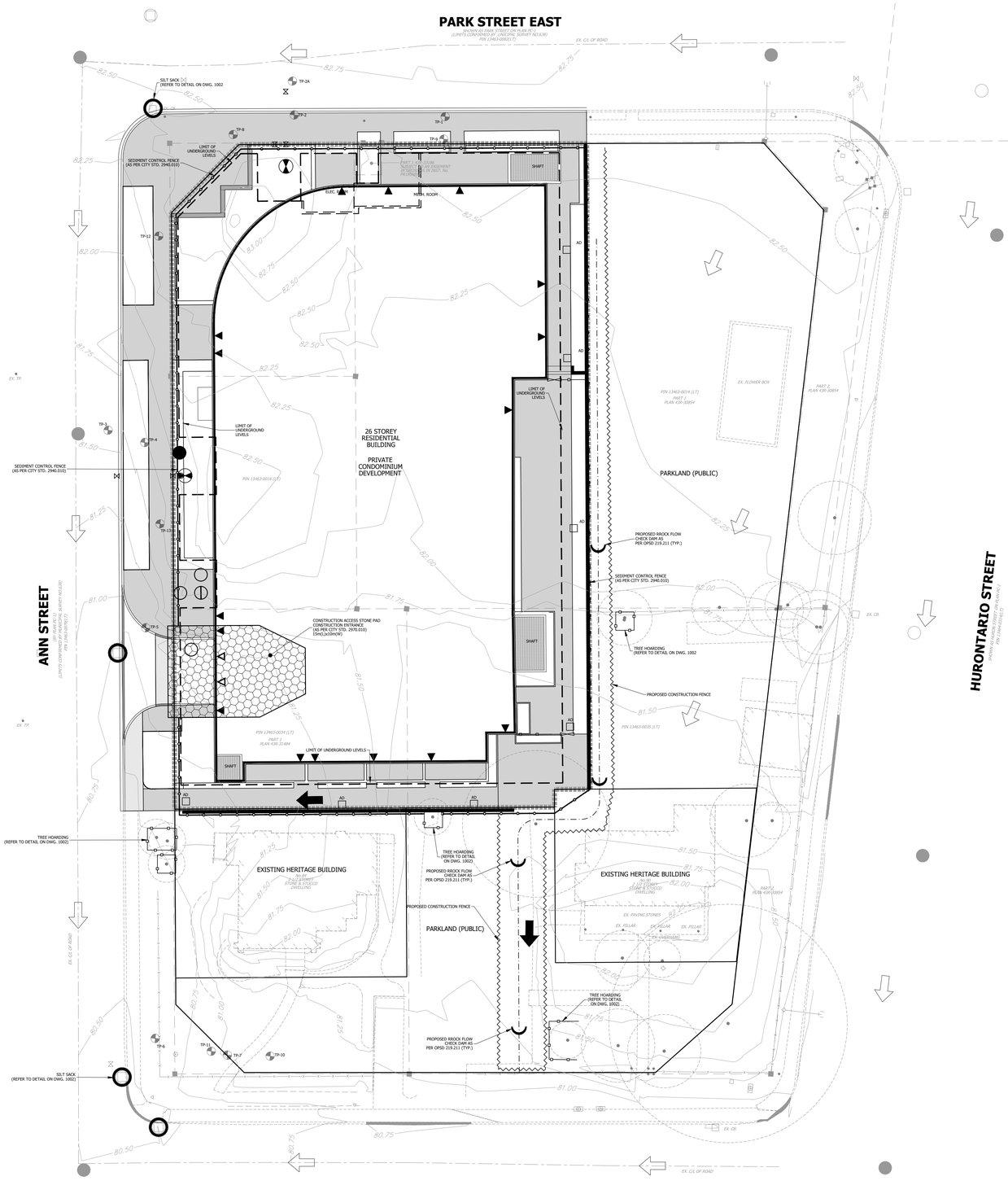
1.13. ALL EXTERNAL AREAS DISTURBED DUE TO CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE CITY OF MISSISSAUGA OR REGION OF PEEL.

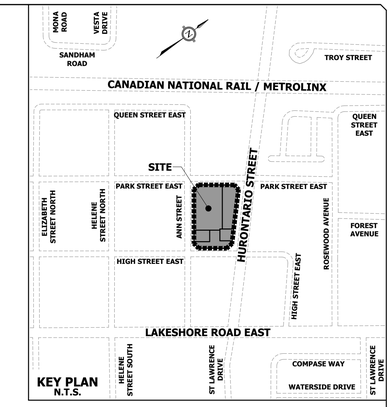
MAINTENANCE RECOMMENDATIONS

2.1. REMOVE SEDIMENT AND CONTAMINANTS ANNUALLY AND REINSTATE STORM WATER MANAGEMENT FACILITY ACCORDING TO THE DESIGN OUTLINED ON THIS PLAN.

2.2. EROSION CONTROL STRUCTURES TO BE MONITORED REGULARLY AND ANY DAMAGE REPAIRED IMMEDIATELY. SEDIMENTS TO BE REMOVED WHEN ACCUMULATIONS REACH A MAXIMUM OF 1/3 THE HEIGHT OF THE FENCE.

2.3. OWNER'S REPRESENTATIVE TO MONITOR EROSION CONTROL STRUCTURES TO ENSURE FENCING IS INSTALLED AND MAINTENANCE IS PERFORMED TO CITY REQUIREMENTS.





LEGEND

- STORM MANHOLE
- SANITARY MANHOLE
- EXISTING STORM MANHOLE
- EXISTING STORM CATCH BASIN MANHOLE
- EXISTING SANITARY MANHOLE
- SINGLE CATCHBASIN
- EXISTING SINGLE CATCHBASIN
- HYDRANT & VALVE C/W BOLLARDS
- VALVE AND BOX
- DETECTOR CHECK VALVE IN CHAMBER (AS PER R.S.D. 1-3-1)
- EXISTING HYDRANT & VALVE
- EXISTING VALVE AND BOX
- 87.00 EXISTING CONTOUR AND ELEVATION
- EXISTING OVERLAND FLOW DIRECTION
- EXISTING CENTERLINE OF ROAD
- EXISTING TREE
- LIMIT OF PROPERTY
- LIMIT OF UNDERGROUND LEVELS
- PROPOSED SEDIMENT CONTROL FENCE (AS PER CITY STD. 2940.010)
- TREE PROTECTION BARRIER (REFER TO DETAIL ON DWG. 1002)
- PROPOSED CONSTRUCTION FENCE
- PROPOSED CONSTRUCTION ACCESS STONE PAD (AS PER CITY STD. 2970.010)
- CATCHBASIN SILT PROTECTION (REFER TO DETAIL ON DWG. 1002)
- PROPOSED FENCE
- PROPOSED GATE
- PROPOSED TEST-PIT BOREHOLES

ELEVATION NOTE

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No. 732 ELEVATION=76.128m
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BENCHMARK NOTE

LBM1 SANITARY MANHOLE (L)696m FROM THE CENTER LINE OF THE ROAD AT THE INTERSECTION OF ANN STREET AND HIGH STREET, ELEVATION=80,36m

LBM2 SANITARY MANHOLE 1,345m FROM THE CENTER LINE OF THE ROAD AT THE INTERSECTION OF PARK STREET AND HURONTARIO STREET. ELEVATION=82.51m

TOPOGRAPHIC SURVEY PREPARED BY J.D. BARNES LIMITED, JANUARY 28, 2020.

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REGISTERED PROFESSIONAL ENGINEER
R.B.I. MERWIN
1000097772
AUG. 02, 2023
PROVINCE OF ONTARIO

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17 & 19 ANN STREET, 84 & 90 HIGH STREET
OZ OPA 22-3

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MISSISSAUGA

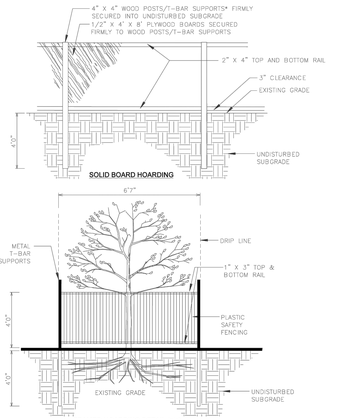
EROSION & SEDIMENT CONTROL PLAN

REGION FILE No. XXX			CITY FILE No. XXX
SCALE: 1:250	AREA Z-08-C5/D	PROJECT No.	19-241
DRAWN BY: A.G.	CHECKED BY: R.M./R.B.T.M	PLAN No.	**1001**
DATE: APRIL 2023	SHEET OF		C-

File: P:\PROJECTS\19-241 (ANN & HIGH STREET)\03_DRAWINGS\1000 - EROSION\1001-EROSION & SEDIMENT CONTROL PLAN.DWG

PLOT DATE:August 23, 2023 8:44:44 AM

DEVELOPMENT & DESIGN CONSTRUCTION HOARDING



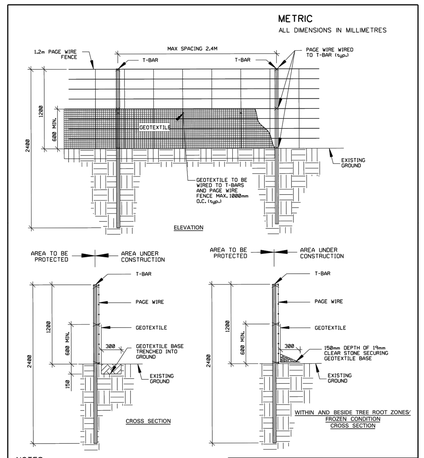
NOTES:
1. HOARDING DETAILS TO BE DETERMINED FOLLOWING INITIAL SITE INSPECTION.
2. HOARDING TO BE APPROVED BY DEVELOPMENT AND DESIGN.
3. HOARDING MUST BE SUPPLIED, INSTALLED AND MAINTAINED BY THE APPLICANT THROUGHOUT ALL PHASES OF CONSTRUCTION, UNTIL APPROVAL TO REMOVE HOARDING IS OBTAINED FROM DEVELOPMENT AND DESIGN.
4. DO NOT ALLOW WATER TO COLLECT AND POND BEHIND OR WITHIN HOARDING.
* T-BAR SUPPORTS FOR SOLID HOARDING WILL ONLY BE ALLOWED WITH PRE APPROVAL FROM DEVELOPMENT AND DESIGN.

MISSISSAUGA Development and Design

SCALE: N.T.S.
DATE: JAN, 2008

\\planning\mapping\Special Projects\, 2008 \ConstructionHoarding_d=\, D&D_ConstructHd.dgn

METRIC
ALL DIMENSIONS IN MILLIMETRES



NOTES:
1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN LOCATES FOR ALL UTILITIES AND SERVICING PRIOR TO INSTALLING HOARDING.
3. DO NOT DAMAGE VISIBLE TREE ROOTS WHEN INSTALLING T-BARS.
4. GEOTEXTILE TO WOVEN OR NON WOVEN. MINIMUM EQUIVALENT OPENING SIZE IS 0.15mm AND MAXIMUM EQUIVALENT OPENING SIZE IS 0.25mm.
5. GEOTEXTILE TO HAVE HORIZONTAL OVERLAP OF 1000mm MINIMUM AT JOINTS.
6. HOARDING MUST BE MAINTAINED IN SOUND CONDITION THROUGH ALL PHASES OF CONSTRUCTION UNTIL APPROVAL TO REMOVE HOARDING IS OBTAINED FROM THE COMMUNITY SERVICES DEPARTMENT.

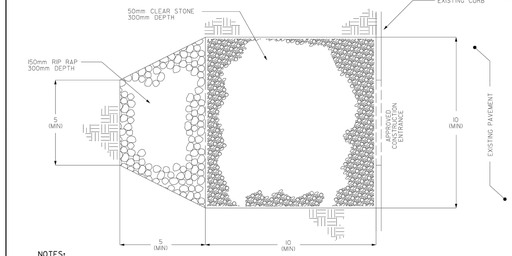
MISSISSAUGA Transportation and Works

STANDARD

SEDIMENT CONTROL FENCE

EFF. DATE	2002-01-01	SCALE	N.T.S.
REV.		STANDARD No.	2940.010

METRIC
ALL DIMENSIONS IN METRES



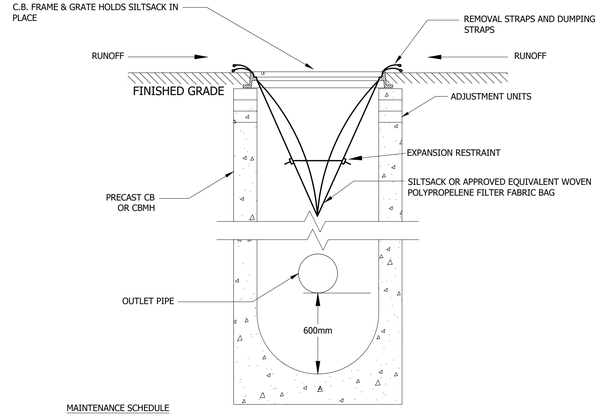
NOTES:
1. GRANULAR MATERIAL IS TO BE CLEAN APPROVED MATERIAL AND PLACED AT NOTED DIMENSIONS PRIOR TO LAND DISTURBANCE
2. GEOTEXTILE IS TO BE PLACED OVER THE ENTIRE AREA PRIOR TO STONE PLACEMENT
3. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL REDUCE TRACKING OR FLOWING OF SEDIMENT ONTO THE R.O.W. AND GRANULAR MATERIAL IS TO BE REPLACED AS WARRANTED OR DIRECTED BY THE TRANSPORTATION AND WORKS DEPARTMENT OF THE CITY OF MISSISSAUGA.
4. FOR SITE DEVELOPMENTS GREATER THAN 4.0ha IN SIZE 20m (MIN) IS REQUIRED FOR 50mm CLEAR STONE AND 10m (MIN) IS REQUIRED FOR 150mm RIP RAP.

MISSISSAUGA Transportation and Works

STANDARD

STONE PAD CONSTRUCTION ENTRANCE

EFF. DATE	2002-01-01	SCALE	N.T.S
REV.		STANDARD No.	2970.010



MAINTENANCE SCHEDULE

-INSPECT AFTER EVERY MAJOR RAIN EVENT.
-INSPECT EVERY 3 WEEKS MINIMUM.
-SILTSACK SHOULD NEVER BE OVER HALF FULL.
-FULL BAG CAN BE REMOVED, DUMPED, CLEANED AND REUSED
(TO REMOVE INSERT 25mm REBAR INTO REMOVAL FLAP POCKETS)
(TO DUMP INSERT 25mm REBAR INTO BOTH DUMPING STRAPS)

SILTSACK DETAIL

N.T.S.

ELEVATION NOTE

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OZ OPA 22-3

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MISSISSAUGA

EROSION & SEDIMENT CONTROL DETAILS

REGION FILE No. XXX — CITY FILE No. XXX

SCALE:	1:250	AREA	Z-08-CS/D	PROJECT No.	19-241
DRAWN BY:	A.G.	CHECKED BY:	R.M./R.B.T.M	PLAN No.	**1002**
DATE:	APRIL 2023	SHEET	OF		C-

File: F:\PROJECTS\19-241 (ANN & HIGH STREET)\03. DRAWINGS\1000 - EROSION\1002-EROSION & SEDIMENT CONTROL DETAILS.DWG

PLOT DATE:August 23, 2023 8:44:49 AM

APPENDIX B
SWM Calculations

STORM SEWER DESIGN SHEET

10 Year Storm

10 WEST GO GP INC.

City of Mississauga, Region of Peel

PROJECT DETAILS

Project No: 19-241
Date: 21-Oct-22
Designed by: AG
Checked by: RBTM

DESIGN CRITERIA

Min. Diameter =	300	mm	Rainfall Intensity =	A / (Tc+B)^c
Mannings 'n'=	0.013			
Starting Tc =	15	min	A =	1010
			B =	4.6
Factor of Safety =	10	%	c =	0.78

NOMINAL PIPE SIZE USED

STREET	FROM MH	TO MH	AREA (ha)	RUNOFF COEFFICIENT "R"	'AR'	ACCUM. 'AR'	RAINFALL INTENSITY (mm/hr)	FLOW (m3/s)	CONSTANT FLOW (m3/s)	ACCUM. CONSTANT FLOW (m3/s)	TOTAL FLOW (m3/s)	LENGTH (m)	SLOPE (%)	PIPE DIAMETER (mm)	FULL FLOW CAPACITY (m3/s)	FULL FLOW VELOCITY (m/s)	INITIAL Tc (min)	TIME OF CONCENTRATION (min)	ACC. TIME OF CONCENTRATION (min)	PERCENT FULL (%)
ANN STREET	CISTERN	MH2					99.2		0.026	0.026	0.026	1.3	0.50	300	0.068	0.97	15.00	0.02	15.02	38%
ANN STREET	MH2	OGS1					99.1			0.026	0.026	2.0	0.50	300	0.068	0.97	15.02	0.03	15.06	38%
ANN STREET	OGS1	MH2.1					98.9			0.026	0.026	2.0	0.50	300	0.068	0.97	15.06	0.03	15.09	38%
ANN STREET	MH2.1	MH3					98.8			0.026	0.026	2.3	0.50	300	0.068	0.97	15.09	0.04	15.13	38%
ANN STREET	MH3	EX.MH82					98.7			0.026	0.026	9.6	0.50	300	0.068	0.97	15.13	0.17	15.30	38%
ANN STREET	EX.MH82	EX.MH84					98.0			0.026	0.026	46.0	1.33	300	0.112	1.58	15.30	0.49	15.78	23%

URBANTECH®

SWM CALCULATIONS
ALLOWABLE OFFSITE RELEASE RATE

Project Name: 10 West
Municipality: City of Mississauga
Project No.: 19-241

Prepared by: J.P.O
Checked by: R.M.
Date: 27-Jul-23

Site Area 0.33 ha

Pre-Development Runoff Coefficient

0.5 * 1.25 = 0.625

Proposed Discharge Location and Target Release Rate

Proposed Discharge Point — Target Rel. Rate (m^3/s)

10-Yr Pre	100-Yr Pre
0.046	0.081

Method of Determining Runoff: Rational Method, Q = 0.00278CIA

Where: Q = Peak flow rate (m^3/second)
C = Runoff coefficient
I = Rainfall intensity (mm/hour)
A = Catchment area (hectares)

Rainfall intensity per City of Mississauga Development Requirements (Section 8), $I = A/(T+B)^C$:

Where: A, B and C = Parameters defined in Mississauga Development Requirements Section 8.1
I = Rainfall intensity (mm/hour)
T = Time of concentration (hours)

Return Period (Years)	10	100
A	1,010	1,450
B	4.6	4.9
C	0.78	0.78
T (min) **	15	15
I (mm/hr)	99.2	140.7

** The minimum initial time of concentration is 15 minutes.

The 10-year pre-development flow rate is 0.046 L/s.
The 100-year pre-development flow rate is 0.081 L/s.

URBANTECH

SWM DESIGN CALCULATIONS
MODIFIED RATIONAL, 100-YEAR POST TO 10-YEAR PRE-DEV.

Project Name: 10 West
Municipality: City of Mississauga
Project No.: 19-241

Prepared by: J.P.O
Checked by: R.M.
Last Revised: 2023-07-27

Target Release Rate - 10-Year Pre-Dev.		
Target	0.046	m^3/s
Uncontrolled	0.0196	m^3/s
GW Dewatering	0.0004	m^3/s
Max Tank Release	0.0260	m^3/s

IDF	A	B	C
100-Year	1,450	4.9	0.78

Post Development Condition:	Area (ha)	C
Above UG Gargage	0.280	0.90
Uncontrolled	0.050	0.90
Total Area	0.330	1*

*A 1.25 adjustment factor was used up to a value of 1 which repersents a fully saturated ground condition.

Time (min)	**Intensity 100-year** (mm/hr)	**Storm Runoff** (m^3/s)	**Target Release Rate** (m^3/s)	**Storage Accum. Rate** (m^3/s)	**Required Storage Volume** (m^3)
15	140.69	0.110	0.026	0.084	75.15
16	135.41	0.105	0.026	0.079	76.22
17	130.56	0.102	0.026	0.076	77.13
18	126.09	0.098	0.026	0.072	77.91
19	121.96	0.095	0.026	0.069	78.57
20	118.12	0.092	0.026	0.066	79.12
21	114.55	0.089	0.026	0.063	79.57
22	111.21	0.087	0.026	0.061	79.94
23	108.09	0.084	0.026	0.058	80.22
24	105.16	0.082	0.026	0.056	80.42
25	102.41	0.080	0.026	0.054	80.56
26	99.82	0.078	0.026	0.052	80.63
27	97.37	0.076	0.026	0.050	80.64
28	95.05	0.074	0.026	0.048	80.60
29	92.86	0.072	0.026	0.046	80.51
30	90.77	0.071	0.026	0.045	80.37
31	88.80	0.069	0.026	0.043	80.18
32	86.91	0.068	0.026	0.042	79.95
33	85.12	0.066	0.026	0.040	79.69
34	83.41	0.065	0.026	0.039	79.38
35	81.77	0.064	0.026	0.038	79.05
36	80.21	0.062	0.026	0.036	78.67
37	78.71	0.061	0.026	0.035	78.27
38	77.28	0.060	0.026	0.034	77.84
39	75.90	0.059	0.026	0.033	77.38
40	74.58	0.058	0.026	0.032	76.90
41	73.31	0.057	0.026	0.031	76.39
42	72.09	0.056	0.026	0.030	75.85
43	70.91	0.055	0.026	0.029	75.30
44	69.78	0.054	0.026	0.028	74.72
45	68.68	0.053	0.026	0.027	74.12
46	67.63	0.053	0.026	0.027	73.50
47	66.61	0.052	0.026	0.026	72.86
48	65.63	0.051	0.026	0.025	72.21
49	64.67	0.050	0.026	0.024	71.53
50	63.75	0.050	0.026	0.024	70.84
					80.64

URBANTECH®

SWM DESIGN CALCULATIONS
WATER BALANCE

Project Name: 10 West
Municipality: City of Mississauga
Project No.: 19-241

Prepared by: J.P.O
Checked by: R.M.
Last Revised: 27-Jul-23

For this site, the minimum on-site runoff retention will require the site to retain all runoff from the first 5 mm of rainfall through infiltration, evapotranspiration or rainwater reuse, per CVC SWM Criteria (Section 4.2).

Site Area =	3300	m^2	
Required Water Balance Volume =	16.5	m^3	
Runoff Coefficient [1] =	0.9		
Equivalent Imperviousness =	100%		(based on I = (C - 0.2) / 0.7)

[1] Runoff Coefficient for Compact or dense housing (eg. Townhouses)
City of Mississauga, *Development Requirements Manual, Section 8*

Proposed Site Area Breakdown			
Cover	A (m^2)	IA (mm)	IA Volume (m^3)
Impervious	3,300	0	0.0
Pervious	0	0	0.0
Total	3,300		0.0

Total Initial Abstraction Volume = 0.0 m^3

Required Reuse Volume = SWM Tank Sump Volume
= 16.5 m^3

URBANTECH

SWM DESIGN CALCULATIONS
ORIFICE DESIGN AND MINIMUM CISTERN SIZING

Project Name: 10 West
Municipality: City of Mississauga
Project No.: 19-241

Prepared by: J.P.O
Checked by: R.M.
Last Revised: 27-Jul-23

Orifice Control to Galesway Boulevard

Peak Discharge rate at maximum head, $Q = Cd\ A\ (2g\ H)^{0.5}$

Orifice Tube Diameter =	100	mm
C_d =	0.82	
A =	0.0079	m
g =	9.81	m^2/s
H =	0.85	m
Q =	0.026	m^3/s
Target release rate =	0.046	m^3/s
Uncontrolled Flow =	0.020	m^3/s
Max. Allowable Orifice Release Rate =	0.026	m^3/s

The peak discharge at maximum head is lower than the allowable municipal release rate (0.046 m3/s). The flow rate to the municipal storm sewer system is 0.026 m3/s.

Minimum Cistern Sizing

Sump Storage =	16.5	m^3
Total Active Storage Required =	80.6	m^3
Total Cistern Volume Required =	97.14	m^3

Stormceptor®

FORTERRA

Stormceptor® EF Sizing Report

STORMCEPTOR®
ESTIMATED NET ANNUAL SEDIMENT (TSS) LOAD REDUCTION

10/21/2022

Province:	Ontario
City:	Mississauga
Nearest Rainfall Station:	TORONTO INTL AP
Climate Station Id:	6158731
Years of Rainfall Data:	20

Site Name:	

Drainage Area (ha):	0.28
% Imperviousness:	100.00

Runoff Coefficient 'c': 0.90

Particle Size Distribution:	Fine
Target TSS Removal (%):	80.0

Required Water Quality Runoff Volume Capture (%):	90.00
Estimated Water Quality Flow Rate (L/s):	7.84
Oil / Fuel Spill Risk Site?	Yes
Upstream Flow Control?	Yes
Upstream Orifice Control Flow Rate to Stormceptor (L/s):	26.00
Peak Conveyance (maximum) Flow Rate (L/s):	
Site Sediment Transport Rate (kg/ha/yr):	

Project Name:	10 West
Project Number:	19-241
Designer Name:	Janna Ormond
Designer Company:	Urbantech
Designer Email:	jannaormond@urbantech.com
Designer Phone:	289-887-3057
EOR Name:	
EOR Company:	
EOR Email:	
EOR Phone:	

Net Annual Sediment (TSS) Load Reduction Sizing Summary

Stormceptor Model	TSS Removal Provided (%)
EFO4	91
EFO6	97
EFO8	99
EFO10	100
EFO12	100

Recommended Stormceptor EFO Model: EFO4

Estimated Net Annual Sediment (TSS) Load Reduction (%): 91

Water Quality Runoff Volume Capture (%): > 90

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THIRD-PARTY TESTING AND VERIFICATION

►**Stormceptor® EF and Stormceptor® EFO** are the latest evolutions in the Stormceptor® oil-grit separator (OGS) technology series, and are designed to remove a wide variety of pollutants from stormwater and snowmelt runoff. These technologies have been third-party tested in accordance with the Canadian ETV **Procedure for Laboratory Testing of Oil-Grit Separators** and performance has been third-party verified in accordance with the **ISO 14034 Environmental Technology Verification (ETV)** protocol.

PERFORMANCE

►**Stormceptor® EF and EFO** remove stormwater pollutants through gravity separation and floatation, and feature a patent-pending design that generates positive removal of total suspended solids (TSS) throughout each storm event, including high-intensity storms. Captured pollutants include sediment, free oils, and sediment-bound pollutants such as nutrients, heavy metals, and petroleum hydrocarbons. Stormceptor is sized to remove a high level of TSS from the frequent rainfall events that contribute the vast majority of annual runoff volume and pollutant load. The technology incorporates an internal bypass to convey excessive stormwater flows from high-intensity storms through the device without resuspension and washout (scour) of previously captured pollutants. Proper routine maintenance ensures high pollutant removal performance and protection of downstream waterwavs.

PARTICLE SIZE DISTRIBUTION (PSD)

►The **Canadian ETV PSD** shown in the table below was used, or in part, for this sizing. This is the identical PSD that is referenced in the Canadian ETV ***Procedure for Laboratory Testing of Oil-Grit Separators*** for both sediment removal testing and scour testing. The Canadian ETV PSD contains a wide range of particle sizes in the sand and silt fractions, and is considered reasonably representative of the particle size fractions found in typical urban stormwater runoff.

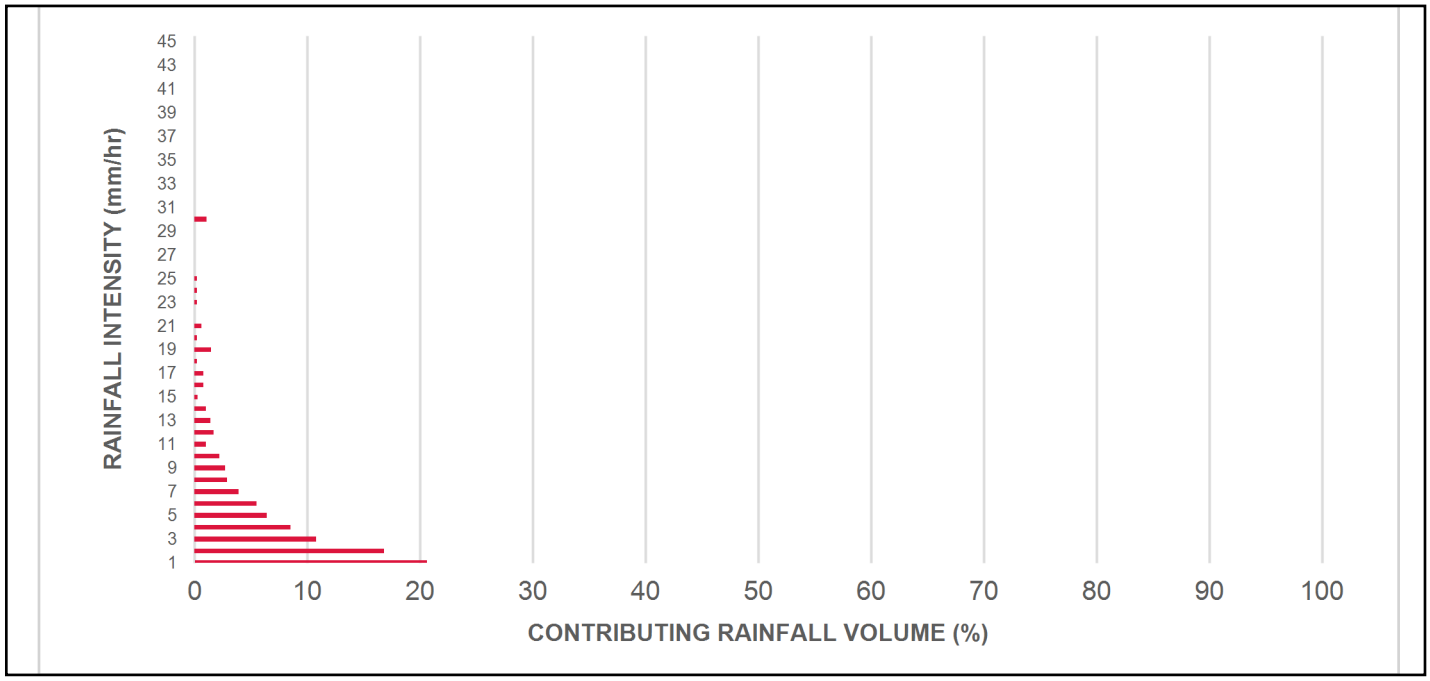
Particle Size (µm)	Percent Less Than	Particle Size Fraction (µm)	Percent
1000	100	500-1000	5
500	95	250-500	5
250	90	150-250	15
150	75	100-150	15
100	60	75-100	10
75	50	50-75	5
50	45	20-50	10
20	35	8-20	15
8	20	5-8	10
5	10	2-5	5
2	5	<2	5

Upstream Flow Controlled Results

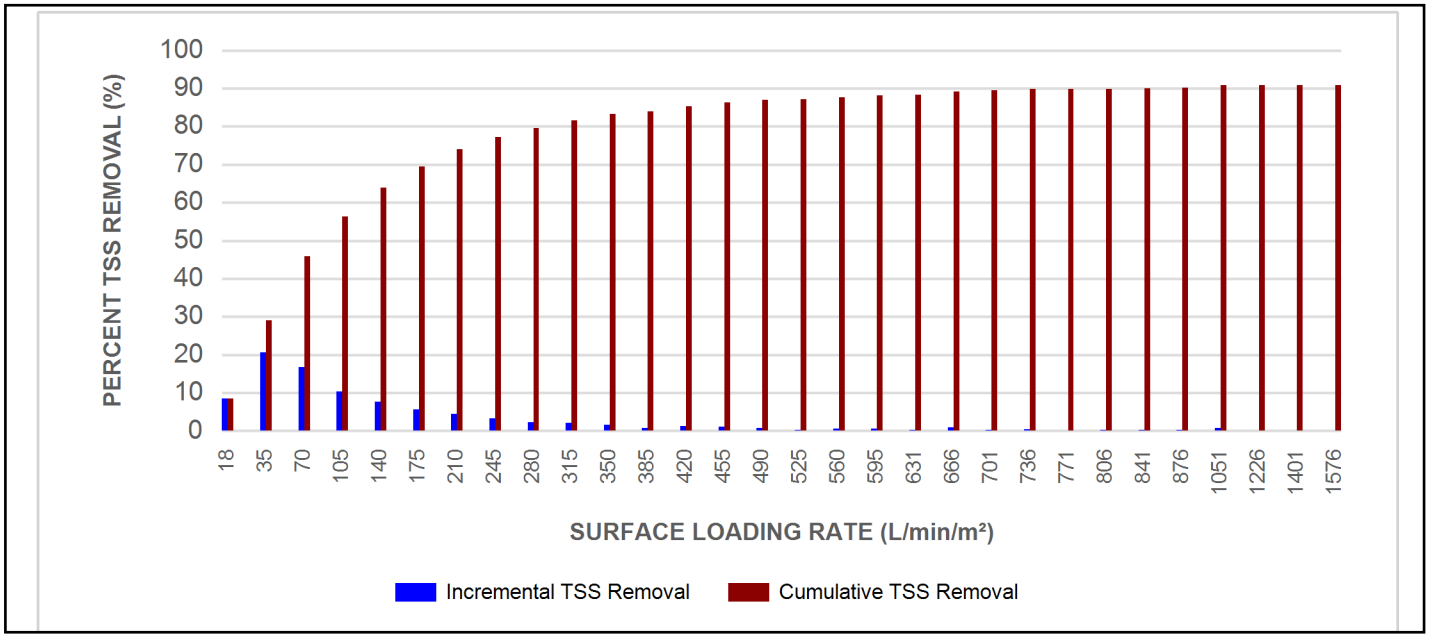
Rainfall Intensity (mm / hr)	Percent Rainfall Volume (%)	Cumulative Rainfall Volume (%)	Flow Rate (L/s)	Flow Rate (L/min)	Surface Loading Rate (L/min/m²)	Removal Efficiency (%)	Incremental Removal (%)	Cumulative Removal (%)
0.5	8.5	8.5	0.35	21.0	18.0	100	8.5	8.5
1	20.6	29.1	0.70	42.0	35.0	100	20.6	29.1
2	16.8	45.9	1.40	84.0	70.0	100	16.8	45.9
3	10.8	56.7	2.10	126.0	105.0	96	10.3	56.3
4	8.5	65.2	2.80	168.0	140.0	91	7.7	63.9
5	6.4	71.6	3.50	210.0	175.0	87	5.6	69.5
6	5.5	77.0	4.20	252.0	210.0	83	4.5	74.0
7	3.9	81.0	4.90	294.0	245.0	81	3.2	77.2
8	2.9	83.9	5.60	336.0	280.0	79	2.3	79.5
9	2.7	86.5	6.31	378.0	315.0	78	2.1	81.6
10	2.2	88.7	7.01	420.0	350.0	76	1.7	83.3
11	1.0	89.7	7.71	462.0	385.0	75	0.7	84.0
12	1.7	91.3	8.41	504.0	420.0	73	1.2	85.2
13	1.4	92.8	9.11	546.0	455.0	72	1.0	86.2
14	1.0	93.7	9.81	588.0	490.0	70	0.7	86.9
15	0.3	94.0	10.51	631.0	525.0	68	0.2	87.1
16	0.8	94.8	11.21	673.0	560.0	66	0.5	87.6
17	0.8	95.7	11.91	715.0	595.0	65	0.5	88.2
18	0.2	95.8	12.61	757.0	631.0	64	0.1	88.3
19	1.5	97.3	13.31	799.0	666.0	64	1.0	89.2
20	0.2	97.5	14.01	841.0	701.0	64	0.1	89.4
21	0.6	98.2	14.71	883.0	736.0	64	0.4	89.8
22	1.8	100.0	15.41	925.0	771.0	63	1.2	90.9
23	0.2	100.2	16.11	967.0	806.0	63	0.1	91.1
24	0.2	100.5	16.81	1009.0	841.0	63	0.2	91.2
25	0.2	100.7	17.51	1051.0	876.0	63	0.2	91.4
30	1.1	101.8	21.02	1261.0	1051.0	60	0.7	92.1
35	-1.8	100.0	24.52	1471.0	1226.0	56	N/A	91.0
40	0.0	100.0	26.00	1560.0	1300.0	55	0.0	91.0
45	0.0	100.0	26.00	1560.0	1300.0	55	0.0	91.0
Estimated Net Annual Sediment (TSS) Load Reduction =								**91 %**

Climate Station ID: 6158731 *Years of Rainfall Data*: 20

RAINFALL DATA FROM TORONTO INTL AP RAINFALL STATION



INCREMENTAL AND CUMULATIVE TSS REMOVAL FOR THE RECOMMENDED STORMCEPTOR® MODEL



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Maximum Pipe Diameter / Peak Conveyance

Stormceptor EF / EFO	Model Diameter		Min Angle Inlet / Outlet Pipes	Max Inlet Pipe Diameter		Max Outlet Pipe Diameter		Peak Conveyance Flow Rate	
	(m)	(ft)		(mm)	(in)	(mm)	(in)	(L/s)	(cfs)
EF4 / EFO4	1.2	4	90	609	24	609	24	425	15
EF6 / EFO6	1.8	6	90	914	36	914	36	990	35
EF8 / EFO8	2.4	8	90	1219	48	1219	48	1700	60
EF10 / EFO10	3.0	10	90	1828	72	1828	72	2830	100
EF12 / EFO12	3.6	12	90	1828	72	1828	72	2830	100

SCOUR PREVENTION AND ONLINE CONFIGURATION

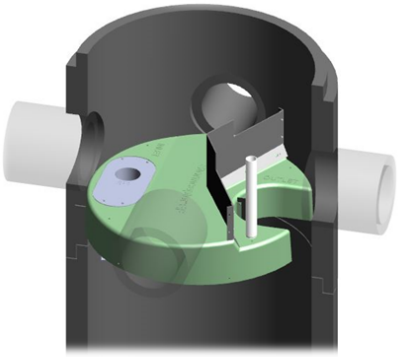
►**Stormceptor® EF and EFO** feature an internal bypass and superior scour prevention technology that have been demonstrated in third-party testing according to the scour testing provisions of the Canadian ETV **Procedure for Laboratory Testing of Oil-Grit Separators**, and the exceptional scour test performance has been third-party verified in accordance with the ISO 14034 ETV protocol. As a result, Stormceptor EF and EFO are approved for online installation, eliminating the need for costly additional bypass structures, piping, and installation expense.

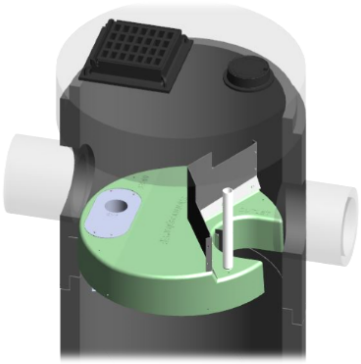
DESIGN FLEXIBILITY

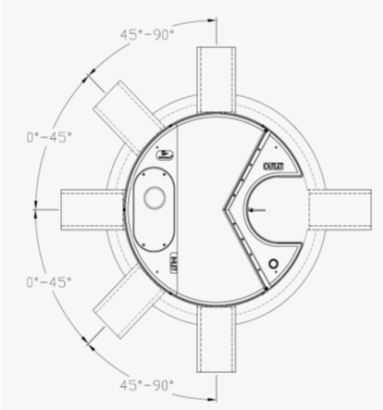
►**Stormceptor® EF** and **EFO** offers design flexibility in one simplified platform, accepting stormwater flow from a single inlet pipe or multiple inlet pipes, and/or surface runoff through an inlet grate. The device can also serve as a junction structure, accommodate a 90-degree inlet-to-outlet bend angle, and can be modified to ensure performance in submerged conditions.

OIL CAPTURE AND RETENTION

►While Stormceptor® EF will capture and retain oil from dry weather spills and low intensity runoff, **Stormceptor® EFO** has demonstrated superior oil capture and greater than 99% oil retention in third-party testing according to the light liquid re-entrainment testing provisions of the Canadian ETV **Procedure for Laboratory Testing of Oil-Grit Separators**. Stormceptor EFO is recommended for sites where oil capture and retention is a requirement.







INLET-TO-OUTLET DROP

Elevation differential between inlet and outlet pipe inverts is dictated by the angle at which the inlet pipe(s) enters the unit.

0° - 45° : The inlet pipe is 1-inch (25mm) higher than the outlet pipe.

45° - 90° : The inlet pipe is 2-inches (50mm) higher than the outlet pipe.

HEAD LOSS

The head loss through Stormceptor EF is similar to that of a 60-degree bend structure. The applicable K value for calculating minor losses through the unit is 1.1. For submerged conditions the applicable K value is 3.0.

Pollutant Capacity

Stormceptor EF / EFO	Model Diameter		Depth (Outlet Pipe Invert to Sump Floor)		Oil Volume		Recommended Sediment Maintenance Depth *		Maximum Sediment Volume *		Maximum Sediment Mass **	
	(m)	(ft)	(m)	(ft)	(L)	(Gal)	(mm)	(in)	(L)	(ft^3)	(kg)	(lb)
EF4 / EFO4	1.2	4	1.52	5.0	265	70	203	8	1190	42	1904	5250
EF6 / EFO6	1.8	6	1.93	6.3	610	160	305	12	3470	123	5552	15375
EF8 / EFO8	2.4	8	2.59	8.5	1070	280	610	24	8780	310	14048	38750
EF10 / EFO10	3.0	10	3.25	10.7	1670	440	610	24	17790	628	28464	78500
EF12 / EFO12	3.6	12	3.89	12.8	2475	655	610	24	31220	1103	49952	137875

*Increased sump depth may be added to increase sediment storage capacity

** Average density of wet packed sediment in sump = 1.6 kg/L (100 lb/ft^3)

Feature	Benefit	Feature Appeals To
Patent-pending enhanced flow treatment and scour prevention technology	Superior, verified third-party performance	Regulator, Specifying & Design Engineer
Third-party verified light liquid capture and retention for EFO version	Proven performance for fuel/oil hotspot locations	Regulator, Specifying & Design Engineer, Site Owner
Functions as bend, junction or inlet structure	Design flexibility	Specifying & Design Engineer
Minimal drop between inlet and outlet	Site installation ease	Contractor
Large diameter outlet riser for inspection and maintenance	Easy maintenance access from grade	Maintenance Contractor & Site Owner

STANDARD STORMCEPTOR EF/EFO DRAWINGS

For standard details, please visit http://www.imbriumsystems.com/stormwater-treatment-solutions/stormceptor-ef

STANDARD STORMCEPTOR EF/EFO SPECIFICATION

For specifications, please visit http://www.imbriumsystems.com/stormwater-treatment-solutions/stormceptor-ef

STANDARD PERFORMANCE SPECIFICATION FOR "OIL GRIT SEPARATOR" (OGS) STORMWATER QUALITY TREATMENT DEVICE

PART 1 – GENERAL

1.1 WORK INCLUDED

This section specifies requirements for selecting, sizing, and designing an underground Oil Grit Separator (OGS) device for stormwater quality treatment, with third-party testing results and a Statement of Verification in accordance with ISO 14034 Environmental Management – Environmental Technology Verification (ETV).

1.2 REFERENCE STANDARDS & PROCEDURES

ISO 14034:2016 Environmental management – Environmental technology verification (ETV)

Canadian Environmental Technology Verification (ETV) Program's **Procedure for Laboratory Testing of Oil-Grit Separators**

1.3 SUBMITTALS

1.3.1 All submittals, including sizing reports & shop drawings, shall be submitted upon request with each order to the contractor then forwarded to the Engineer of Record for review and acceptance. Shop drawings shall detail all OGS components, elevations, and sequence of construction.

1.3.2 Alternative devices shall have features identical to or greater than the specified device, including: treatment chamber diameter, treatment chamber wet volume, sediment storage volume, and oil storage volume.

1.3.3 Unless directed otherwise by the Engineer of Record, OGS stormwater quality treatment product substitutions or alternatives submitted within ten days prior to project bid shall not be accepted. All alternatives or substitutions submitted shall be signed and sealed by a local registered Professional Engineer, based on the exact same criteria detailed in Section 3, in entirety, subject to review and approval by the Engineer of Record.

PART 2 – PRODUCTS

2.1 OGS POLLUTANT STORAGE

The OGS device shall include a sump for sediment storage, and a protected volume for the capture and storage of petroleum hydrocarbons and buoyant gross pollutants. The minimum sediment & petroleum hydrocarbon storage capacity shall be as follows:

2.1.1	4 ft (1219 mm) Diameter OGS Units:	1.19 m^3 sediment / 265 L oil
	6 ft (1829 mm) Diameter OGS Units:	3.48 m^3 sediment / 609 L oil
	8 ft (2438 mm) Diameter OGS Units:	8.78 m^3 sediment / 1,071 L oil
	10 ft (3048 mm) Diameter OGS Units:	17.78 m^3 sediment / 1,673 L oil
	12 ft (3657 mm) Diameter OGS Units:	31.23 m^3 sediment / 2,476 L oil

PART 3 – PERFORMANCE & DESIGN

3.1 GENERAL

The OGS stormwater quality treatment device shall be verified in accordance with ISO 14034:2016 Environmental management – Environmental technology verification (ETV). The OGS stormwater quality treatment device shall

remove oil, sediment and gross pollutants from stormwater runoff during frequent wet weather events, and retain these pollutants during less frequent high flow wet weather events below the insert within the OGS for later removal during maintenance. The Manufacturer shall have at least ten (10) years of local experience, history and success in engineering design, manufacturing and production and supply of OGS stormwater quality treatment device systems, acceptable to the Engineer of Record.

3.2 SIZING METHODOLOGY

The OGS device shall be engineered, designed and sized to provide stormwater quality treatment based on treating a minimum of 90 percent of the average annual runoff volume and a minimum removal of an annual average 60% of the sediment (TSS) load based on the Particle Size Distribution (PSD) specified in the sizing report for the specified device. Sizing of the OGS shall be determined by use of a minimum ten (10) years of local historical rainfall data provided by Environment Canada. Sizing shall also be determined by use of the sediment removal performance data derived from the ISO 14034 ETV third-party verified laboratory testing data from testing conducted in accordance with the Canadian ETV protocol Procedure for Laboratory Testing of Oil-Grit Separators, as follows:

3.2.1 Sediment removal efficiency for a given surface loading rate and its associated flow rate shall be based on sediment removal efficiency demonstrated at the seven (7) tested surface loading rates specified in the protocol, ranging 40 L/min/m^2 to 1400 L/min/m^2, and as stated in the ISO 14034 ETV Verification Statement for the OGS device.

3.2.2 Sediment removal efficiency for surface loading rates between 40 L/min/m^2 and 1400 L/min/m^2 shall be based on linear interpolation of data between consecutive tested surface loading rates.

3.2.3 Sediment removal efficiency for surface loading rates less than the lowest tested surface loading rate of 40 L/min/m^2 shall be assumed to be identical to the sediment removal efficiency at 40 L/min/m^2. No extrapolation shall be allowed that results in a sediment removal efficiency that is greater than that demonstrated at 40 L/min/m^2.

3.2.4 Sediment removal efficiency for surface loading rates greater than the highest tested surface loading rate of 1400 L/min/m^2 shall assume zero sediment removal for the portion of flow that exceeds 1400 L/min/m^2, and shall be calculated using a simple proportioning formula, with 1400 L/min/m^2 in the numerator and the higher surface loading rate in the denominator, and multiplying the resulting fraction times the sediment removal efficiency at 1400 L/min/m^2.

The OGS device shall also have sufficient annual sediment storage capacity as specified and calculated in Section 2.1.

3.3 CANADIAN ETV or ISO 14034 ETV VERIFICATION OF SCOUR TESTING

The OGS device shall have Canadian ETV or ISO 14034 ETV Verification of third-party scour testing conducted in accordance with the Canadian ETV Program's **Procedure for Laboratory Testing of Oil-Grit Separators.**

3.3.1 To be acceptable for on-line installation, the OGS device must demonstrate an average scour test effluent concentration less than 10 mg/L at each surface loading rate tested, up to and including 2600 L/min/m^2.

3.4 LIGHT LIQUID RE-ENTRAINMENT SIMULATION TESTING

The OGS device shall have Canadian ETV or ISO 14034 ETV Verification of completed third-party Light Liquid Re-entrainment Simulation Testing in accordance with the Canadian ETV **Program's Procedure for Laboratory Testing of Oil-Grit Separators,** with results reported within the Canadian ETV or ISO 14034 ETV verification. This re-entrainment testing is conducted with the device pre-loaded with low density polyethylene (LDPE) plastic beads as a surrogate for light liquids such as oil and fuel. Testing is conducted on the same OGS unit tested for sediment removal to

assess whether light liquids captured after a spill are effectively retained at high flow rates.

3.4.1 For an OGS device to be an acceptable stormwater treatment device on a site where vehicular traffic occurs and the potential for an oil or fuel spill exists, the OGS device must have reported verified performance results of greater than 99% cumulative retention of LDPE plastic beads for the five specified surface loading rates (ranging 200 L/min/m^2 to 2600 L/min/m^2) in accordance with the Light Liquid Re-entrainment Simulation Testing within the Canadian ETV Program's **Procedure for Laboratory Testing of Oil-Grit Separators.** However, an OGS device shall not be allowed if the Light Liquid Re-entrainment Simulation Testing was performed with screening components within the OGS device that are effective at retaining the LDPE plastic beads, but would not be expected to retain light liquids such as oil and fuel.

APPENDIX C
Wastewater Servicing

URBANTECH

WASTEWATER DEMAND CALCULATIONS
INCREASED UNIT COUNT 50

Project Name: 17 & 19 Ann Street, 84 & 90 High Street - OZ OPA 22-03.
Municipality: City of Mississauga
Project No.: 19-241

Prepared by: RM
Checked by: RM
Last Revised:

Proposed Conditions

Residential

	# of Units	PPU
1 Bedroom =	170	2.7
2 or more Bedrooms =	239	2.7
2 Bed Townhouses =	4	2.7

Total Units =	413	
Population =	1116	persons
Harmon Peak Factor for Site, Me =	$(1+14/(4+P^{0.5})$	
	3.77	
Unit Sewage Flow =	302.8	L/person/day
Domestic Sewage Flow by Population =	14.74	L/s
Site Area =	0.32	ha
Infiltration Allowance =	0.20	L/s/ha
Total Infiltration =	0.06	L/s
Total wastewater flow (by pop) =	14.80	L/s

URBANTECH®

SANITARY SEWER DESIGN SHEET

10 WEST GO GP INC.

City of Mississauga, Region of Peel

PROJECT DETAILS

Project No: 19-241
Date: 6-Dec-21
Designed by: AG
Checked by: RBTM

DESIGN CRITERIA

Min. Flow =	**13**	**l/s**			
Min Diameter =	**250**	**mm**	**Avg. Domestic Flow =**	**302.8**	**l/c/d**
Mannings 'n'=	**0.013**		**Infiltration =**	**0.200**	**l/s/ha**
Min. Velocity =	**0.75**	**m/s**	**Max. Peaking Factor =**	**4.00**	
Max. Velocity =	**3.50**	**m/s**	**Min. Peaking Factor=**	**1.50**	
			Domestic Sewage flow for < 1000 ppl = 0.013m^3/s		
Factor of Safety =	**15**	**%**	**(Region of Peel Std. 2-5-2)**		

NOMINAL PIPE SIZE USED

STREET	FROM MH	TO MH	RESIDENTIAL							COMMERCIAL/INDUSTRIAL/INSTITUTIONAL						FLOW CALCULATIONS								PIPE DATA						
			AREA (ha)	ACC. AREA (ha)	UNITS (#)	DENSITY (P/ha)	DENSITY (P/unit)	POP	ACCUM. RES. POP.	AREA (ha)	ACC. AREA (ha)	EQUIV. POP. (p/ha)	FLOW RATE (l/s/ha)	EQUIV. POP.	ACCUM. EQUIV. POP.	INFILTRATION (l/s)	TOTAL ACCUM. POP.	PEAKING FACTOR	RES. FLOW (l/s)	MIN. RES. FLOW (l/s)	COMM. FLOW (l/s)	ACCUM. COMM. FLOW (l/s)	TOTAL FLOW (l/s)	SLOPE (%)	PIPE DIAMETER (mm)	PIPE LENGTH (m)	FULL FLOW CAPACITY (l/s)	FULL FLOW VELOCITY (m/s)	ACTUAL VELOCITY (m/s)	PERCENT FULL (%)
ANN STREET	10WEST	PLUG1A	0.32	0.32	413		2.7	1116	1116							0.1	1116	3.77	14.7	14.7			14.8		250					
ANN STREET	PLUG1A	MH1A		0.32					1116							0.1	1116	3.77	14.7	14.7			14.8	1.00	250		59.5	1.21	0.98	25%
ANN STREET	MH1A	EX.MH531	0.01	0.33					1116							0.1	1116	3.77	14.7	14.7			14.8	0.50	250		42.0	0.86	0.77	35%
ANN STREET	EX.MH531	EX.MH170	0.08	0.41					1116							0.1	1116	3.77	14.7	14.7			14.8	0.79	250		52.9	1.08	0.92	28%

Connection Single Use Demand Table

WATER CONNECTION

Connection point [3]							
Pressure zone of connection point			Zone 1				
Total equivalent population to be serviced [1]			1116				
Total lands to be serviced			0.32 ha				
Hydrant flow test							
	Hydrant flow test location						
		High Street Hydrant			Hurontario Hydrant		
		Pressure (kPa)	Flow (in l/s)	Time	Pressure (kPa)	Flow (in l/s)	Time
	Minimum water pressure	393	159.87	8:30	414	163.97	8:00
	Maximum water pressure	468	87.2	8:30	517	91.67	8:00

No.	Water demands		
	Demand type	**Demand**	**Units**
1	Average day flow	3.6	l/s
2	Maximum day flow	7.2	l/s
3	Peak hour flow	10.9	l/s
4	Fire flow [2]	83.3	l/s
Analysis			
5	Maximum day plus fire flow	90.5	l/s

WASTEWATER CONNECTION

Connection point [4]			
Total equivalent population to be serviced [1]		1116	
Total lands to be serviced		0.32 ha	
6	Wastewater sewer effluent (in l/s)	14.80 L/s	← Based on a population of 1116

[1] The calculations should be based on the development estimated population (employment or residential).

[2] Please reference the Fire Underwriters Survey Document

[3] Please specify the connection point ID

[4] Please specify the connection point (wastewater line or manhole ID)
Also, the "total equivalent popopulation to be serviced" and the "total lands to be serviced" should reference the connection point. (The FSR should contain one copy of Site Servicing Plan)

Please include the graphs associated with the hydrant flow test information table
Please provide Professional Engineer's signature and stamp on the demand table
All required calculations must be submitted with the demand table submission.

APPENDIX D
Water Servicing

URBANTECH®

WATER DEMAND CALCULATIONS

Project Name: 10 West
Municipality: City of Mississauga
Project No.: 19-241

Prepared by: J.P.O
Checked by:
Last Revised: 14-Jul-23

Fire Flow Calculations

Based on the *Water Supply for Public Fire Protection, 1999* by Fire Underwriters Survey

1 Estimate of Fire Flow

F = 220 C (A)1/2

F = Fire Flow (L/min)
C = Construction Type Coefficient
= 0.6 ,for fire-resistive construction (fully protected frame, floors, roof)

A = Total flow area (m^2)
= If vertical openings and exterior vertical communications are properly protected (one hour rating), Largest Floor + 25% of two immediately adjoining floors

Building 1

Floor	Area (m^2)	%
Level 3	1,384	25%
Level 4	1,384	100%
Level 5	1,384	25%

= 2076 m^2

F = 6014 L/min
= 6000 L/min, rounded to the nearest 1000 L/min

URBANTECH®

WATER DEMAND CALCULATIONS

Project Name: 10 West
Municipality: City of Mississauga
Project No.: 19-241

Prepared by: J.P.O
Checked by:
Last Revised: 14-Jul-23

2 Occupancy Reduction

15% for low hazard occupancies (apartments)

F = 5100 L/min

3 Sprinkler Reduction

30% for adequately designed sprinkler protection conforming to NFPA 13 and other NFPA sprinkler standards

F = 3570 L/min

4 Separation Charge

Direction	Separation (m)	Charge
North		
West	25.0	10%
South	7.7	20%
East		

Total Charge = 30%

F = 1530 L/min

Required Fire Flow

F = 5100 L/min

= 5000 L/min, rounded to the nearest 1000 L/min

Fire Flow Demand =	83.3	L/s
=	1321	USGPM

WATER DEMAND CALCULATIONS

Project Name: 10 West
Municipality: City of Mississauga
Project No.: 19-241

Prepared by: J.P.O
Checked by:
Last Revised: 14-Jul-23

Domestic Flow Calculations

Population =	1116	persons, from Sanitary Calculations
Average Day Demand =	280	L/person/day, from Region of Peel design criteria
=	3.6	L/s

Use Peaking Factor the Greater of

Max Daily Demand PF =	2	, from Region of Peel design criteria
Max Daily Demand =	7.2	L/s

or

Max Peak Hour PF =	3	, from Region of Peel design criteria
Max Peak Hour Demand =	10.9	L/s

Domestic Flow Demand =	10.9	L/s
=	172	USGPM

Hydrant Flow Test Report

SITE NAME:

SITE ADDRESS / MUNICIPALITY: **17/19 Ann Street,84/90High Street East Mississauga, ON**

TEST HYDRANT LOCATION : Southwest Corner of High Street East at Ann Street

BASE HYDRANT LOCATION: Northwest Corner of Hurontario Street at High Street East

TEST BY: Luzia Wood

TEST DATE: August 19,2021

TEST TIME: 8:30AM

TEST DATA

FLOW HYDRANT — Pipe Diam. (in / mm): 200mm P.V.C.

	PITOT 1	PITOT 2
SIZE OPENING (inches):	2.5	2.5
COEFFICIENT (**note 1**):	0.90	0.90
PITOT READING (psi):	68	57 / 57
FLOW (usgpm):	**1384**	**2534**

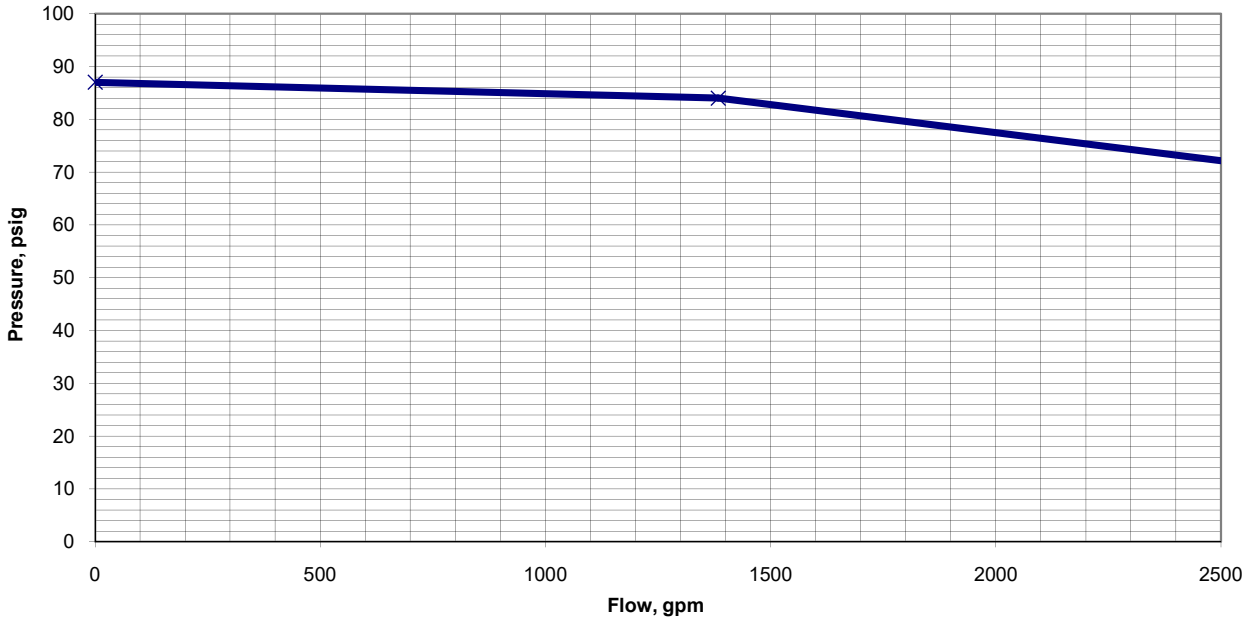
THEORETICAL FLOW @ 20 PSI 7404

BASE HYDRANT — Pipe Diam. (in / mm): 300mm P.V.C.

STATIC READING (psi): 87 RESIDUAL 1 (psi): 84 RESIDUAL 2 (psi): 80

REMARKS:

NOTE 1: Conversion factor of .90 used for flow calculation based on rounded and flush internal nozzle configuration. No appreciable difference in pipe invert between flow and base hydrants.



J & D Waterworks Inc
491 Port Maitland Rd
Dunnville, ON N1A 2W6

Hydrant Flow Test Report

SITE NAME:

SITE ADDRESS / MUNICIPALITY: **17/19 Ann Street,84/90 High Street East**

TEST HYDRANT LOCATION : Northwest Corner of Hurontario Street at High Street East

BASE HYDRANT LOCATION: Southwest Corner of High Street East at Ann Street

TEST BY: Luzia Wood

TEST DATE: August 19 2021

TEST TIME: 8:00AM

TEST DATA

FLOW HYDRANT — Pipe Diam. (in / mm): 300mm P.V.C.

	PITOT 1	PITOT 2
SIZE OPENING (inches):	2.5	2.5
COEFFICIENT (**note 1**):	0.90	0.90
PITOT READING (psi):	75	60 / 60
FLOW (usgpm):	**1453**	**2599**

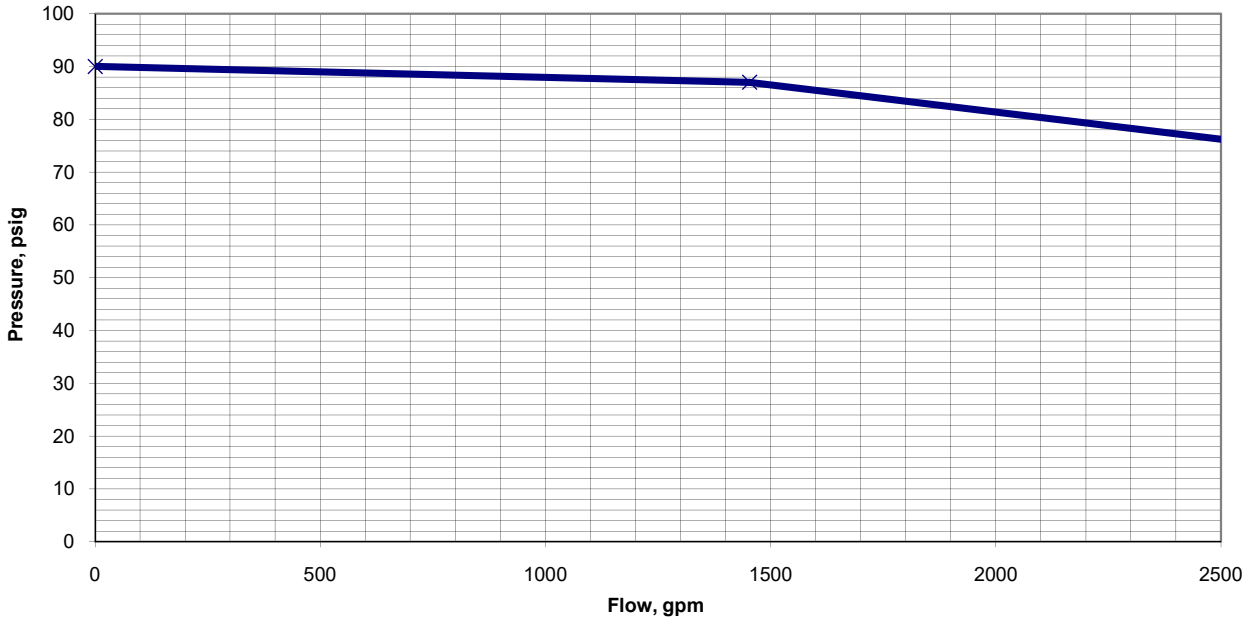
THEORETICAL FLOW @ 20 PSI 7962

BASE HYDRANT — Pipe Diam. (in / mm): 200mm P.V.C.

STATIC READING (psi): 90 RESIDUAL 1 (psi): 87 RESIDUAL 2 (psi): 85

REMARKS:

NOTE 1: Conversion factor of .90 used for flow calculation based on rounded and flush internal nozzle configuration. No appreciable difference in pipe invert between flow and base hydrants.



J & D Waterworks Inc
491 Port Maitland Rd
Dunnville, ON N1A 2W6

APPENDIX E
DARC 21-161 Documents

Project Status Report

Project Review Status

Please click on the '+' sign for the Review Cycle to expand the Project Review Status information.

Project Number	Site Address	Project Description	Report Run Date
DARC 21-161 W1	90 High Street	22 storey residential apartment building (350 units) with ground floor retail and City park	5/13/2021 2:46:04 PM

Please refrain from contacting plan reviewers until they have completed their review and you have received comments. Contacting plan reviewers prior to their review adds delays to the review process.

Review Cycle	Review Group	Review Status	Reviewer Contact Information
1			
	CPS - HOUSING	Comments Provided	Catherine Parsons catherine.parsons@mississauga.ca 905-615-3200
	DEVELOPMENT ENGINEERING REVIEW	Comments Provided	Tony Rocco tony.rocco@mississauga.ca 905-615-3200 x5174
	ENVIRONMENTAL ENG REV STORM	Comments Provided	Ghazwan Yousif ghazwan.yousif@mississauga.ca 905-615-3200 x3526
	ENVIRONMENTAL ENG REVIEWER	Comments Provided	Valeriya Danylova valeriya.danylova@mississauga.ca 905-615-3200 x5930
	GO TRANSIT - METROLINX	Comments Provided	Tony To development.coordinator@metrolinx.com 416-202-7294
	HERITAGE PLANNER	Comments Provided	John Dunlop john.dunlop@mississauga.ca 905-615-3200 x5366
	LANDSCAPE ARCH - COMM SERVICES	Comments Provided	Katie Henley katie.henley@mississauga.ca 905-615-3200 x3748
	LANDSCAPE ARCH - DEV DESIGN	Comments Provided	Kate Allan kate.allan@mississauga.ca 905-615-3200 x5728

Project Status Report

Review Cycle	Review Group	Review Status	Reviewer Contact Information
1	LIGHT RAIL TRANSIT OFFICE	Comments Provided	Sally Lepage sally.lepage@mississauga.ca 905-615-3200 x3748
	PLANNER - COMM SERVICES	Comments Provided	Michael Hynes michael.hynes@mississauga.ca 905-615-3200 x5525
	PLANNER - DEV DESIGN	Comments Provided	Paul Stewart paul.stewart@mississauga.ca 905-615-3200 x5813
	PUBLIC ART COORDINATOR	Comments Provided	Michael Tunney michael.tunney@mississauga.ca 905-615-3200 x4602
	REGION OF PEEL	Comments Provided	Diana Guida Diana.guida@peelregion.ca 905-791-7800 x8243
	TRAFFIC REVIEW	Comments Provided	Michael Turco michael.turco@mississauga.ca 905-615-3200
	URBAN DESIGNER	Comments Provided	Yang Huang yang.huang@mississauga.ca 905-615-3200 x5540

Review Status Legend	
“Approved”	Review Group has completed the review and has no outstanding conditions.
“Comments Provided”	Review Group has completed the review and has provided comments.
“In-Review”	Reviewer in the Review Group has accepted the task and is in the process of reviewing the project.
“No Comments”	Review Group has completed the review and has no comments.
“No Review Required”	Review Group has determined that no review is required for the project.
“Not Reviewed this Cycle”	Review Group did not review the project for the applicable review cycle.
“Withheld”	Review Group has completed the applicable review cycle and the project has outstanding conditions that need to be addressed.

Outstanding Checklist Items

Please be advised that the information noted below is subject to change until all the required review groups have completed the applicable review cycle. You will not be able to respond to any of outstanding checklist items or changemarks until you have been assigned a Prescreen Corrections or an Applicant Resubmit task. Please refer to ePlans help guides for more information.

If you require an explanation or would like to discuss the comments found in this report, please contact the reviewer directly. Reviewers are available in person by appointment only. Please call or email the reviewer to schedule an appointment.

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
CPS - HOUSING	1	73	The applicant is proposing a development of 349 units. The applicant's cover letter indicates this proposal is a condominium proposal, and the applicant has previously indicated through DARC 19-309 that the proposed tenure is ownership.			Note	05/10/2021 10:40 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
CPS - HOUSING	1	74	The City is seeking to ensure that large developments represent good planning by providing a mix of housing options including options for tenure, unit type, and affordability. Chapter 7 Complete Communities of Mississauga Official Plan provides the following policies to ensure development meets the needs and preferences of residents:"7.1.6 Mississauga will ensure that the housing mix can accommodate people with diverse housing preferences and socioeconomic characteristics and needs.7.2.2 Mississauga will provide opportunities for:a. the development of a range of housing choices in terms of type, tenure and price;b. the production of a variety of affordable dwelling types for both the ownership and rental markets; and c. the production of housing for those with special needs, such as housing for the elderly and shelters.7.2.3 When making planning decisions, Mississauga will ensure that housing is provided in a manner that fully implements the intent of the Provincial and Regional housing policies.7.2.5 The onus will be placed on the applicant/developer to address Provincial and Regional housing requirements."			Note	05/10/2021 10:40 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
CPS - HOUSING	1	75	In addition, the Port Credit Local Area Plan Vision and Guiding Principles speak to the need to develop a complete community with access to a range of housing. The Housing policies of Section 8.1 provide a policy basis for the inclusion of housing options throughout the Community Node: "8.1Housing 8.1.1 The Community Node and Lakeshore Road Corridor are encouraged to develop with a range of housing choices in terms of type, tenure and price. 8.1.2 The provision of additional affordable housing, with a focus on rental housing units, is encouraged in the Community Node and Lakeshore Road Corridor. 8.1.4 Mississauga will encourage investment in new rental housing and, in particular, affordable rental housing that meets the needs of young adults, older adults and families in the Community Node and along the Lakeshore Road Corridor."A portion of the site falls within the boundaries of Special Site 12 policy area, as identified in Policy 13.1.12 of the Port Credit Local Area Plan. Policy 13.1.12.2 m) states the following:"13.1.12.2Notwithstanding the, policies of this Plan, the following provisions shall apply, with the Port Credit GO Station Southeast Area Master Plan, also to be used in the review of development applications:m)Development applications shall demonstrate how both the City of Mississauga and Region of Peel Affordable Housing initiatives are being addressed; and"			Note	05/10/2021 10:40 AM
	1	76	As part of a complete application, the applicant is required to submit a Housing Report in accordance with the Housing Report Terms of Reference. The Housing Report provides the City with information to evaluate how the proposed development achieves Provincial, Regional, and City housing objectives, including the provision of the range of housing options.			Note	05/10/2021 10:40 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
CPS - HOUSING	1	77	The Housing Report Terms of Reference is available here: www7.mississauga.ca/documents/Business/Housing_Report_Terms_of_Reference.pdf			Note	05/10/2021 10:40 AM
	1	78	The City is seeking to ensure that developments proposing 50 or more ownership units incorporate housing options, including affordable units. The City seeks to ensure that 10% of units are affordable to middle income households. The 10% is not applied to the first 50 units of a development. In this case, the City is seeking to ensure that a minimum of 30 units are affordable to middle income households.			Note	05/10/2021 10:40 AM
	1	79	The City is committed to working with the applicant to ensure housing objectives are satisfied.			Note	05/10/2021 10:40 AM
DEVELOPMENT ENGINEERING REVIEW							
	1	42	SUBMISSION REQUIREMENT: Indicate the tenure for the proposed condominium development as described by the Condominium Act.			Note	05/05/2021 9:45 AM
	1	43	COMMENT: Should these lands be developed as a multi-family or any condominium, the applicant is advised that internal roads and services are to be constructed to meet the City's minimum condominium standards in accordance with Section 6, Development Requirements Manual, Transportation and Works Department, City of Mississauga.http://www.mississauga.ca/portal/business/developmentrequirements			Note	05/05/2021 9:45 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
DEVELOPMENT ENGINEERING REVIEW	1	44	SHORING, TIEBACKS, HOARDING - In the event that placement of any shoring and tiebacks systems are proposed, the owner is to contact the Building Division to apply for a permit for the required shoring on site. The owner is further advised that an encroachment agreement may be required and that only tiebacks encroachments (below a certain depth) will be accepted, if any. No other underground encroachments are permitted in the municipal right-of-way. Shoring and associated works are to be wholly within private lands, including excavation support such as 'soldier piles and lagging'.			Note	05/05/2021 9:45 AM
	1	45	SUBMISSION REQUIREMENT: Acoustical and Vibration Feasibility Study that includes the following:(i) A technical assessment of the existing and predicted future noise and vibration levels from all transportation (road, rail, aircraft) and stationary noise sources on the indoor and outdoor environment. Please contact the City's Transportation and Infrastructure Management section at (905) 615-3200 ext 3016 to obtain the ultimate traffic data for municipal roads; (ii) Description of impacts of noise generated by a proposed development on the surrounding environment, the impact of noise from the surrounding environment on the proposed development and the impact of noise from the proposed development on itself;(iii) Recommendation of mitigative measures and features (e.g. building materials, ventilation requirements, noise barrier (berm/fence) design and height, building orientation, warning clauses) required to meet indoor and outdoor sound level limits, in accordance with the applicable Ministry of the Environment and Climate Change and City/Region of Peel Guidelines.			Note	05/05/2021 9:45 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
DEVELOPMENT ENGINEERING REVIEW	1	46	SUBMISSION REQUIREMENT: (i) Grading Plan (ii) Servicing Plan (iii) Underground Parking Plan (iv) Cross-Sections Plan (v) Phasing Plan.			Note	05/05/2021 9:45 AM
	1	47	HLRT approval will be required for the design of this block as it may need to incorporate additional area at the north/east corner of the block to protect for the future expansion of the LRT south to Lakeshore Road.			Note	05/05/2021 9:47 AM
ENVIRONMENTAL ENG REV STORM							
	1	2	SUBMISSION REQUIREMENT: A Functional Servicing Report with Stormwater Management is required..The first 5mm of runoff shall be retained on site. A 80% TSS removal (enhanced protection) in accordance with the MECP criteria.			Note	04/26/2021 7:06 AM
	1	3	SUBMISSION REQUIREMENT: A drainage proposal is required to identify the storm sewer outlet and the storm sewer capacity			Note	04/26/2021 7:06 AM
	1	4	COMMENT: The applicant is required to implement low impact development measure such as permeable pavement, green roofs, landscape irrigation with stormwater re-use, etc. -For runoff volume reduction: Where there are limited opportunities or constraints to employ infiltration, evapotranspiration or filtration, applicants may consider exploring reuse of non-potable water			Note	04/26/2021 7:07 AM
	1	5	COMMENT: Please be advised that the Stormwater Charge has come into effect as of January 2016. Credits of up to 50% are available for on-site stormwater management on non-residentil and multi-residential properties. Learn more at www.stormwatercharge.ca			Note	04/26/2021 7:07 AM
	1	6	SUBMISSION REQUIREMENT A Hydrogeological Report that establishes the seasonally high groundwater level on the property is to be provided for review.			Note	04/26/2021 7:07 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
	1	7	The proposed development may require the discharge of groundwater or accumulated rain water/snow melt to the Citys storm sewer system. Therefore, please provide the Temporary Discharge to Storm Sewer Commitment Letter to the Transportation and Works Department to ensure compliance with the Citys Storm Sewer By-law. A copy of the letter template can be acquired from the Environmental Reviewer. When the Temporary Discharge Approval is required please contact the Environment Coordinator, Storm Sewers at Env.Inquiries@mississauga.ca for the applicable requirements.			Note	04/26/2021 1:56 PM
	1	8	Further comments may be provided upon receipt and review of the requested materials.			Note	04/26/2021 1:56 PM
ENVIRONMENTAL ENG REVIEWER			Please be advised that as lands to be dedicated to the City, they will be in a condition acceptable to the City in its sole and unfettered discretion that such land is environmentally suitable for the proposed use, as determined by the City, and shall be certified as such by a Qualified Person, as defined in Ontario Regulation 153/04 (as amended). All environmental reports submitted to the City must:a)include a specific reference of all lands to be dedicated to the City (provide a written legal description in the letter and as a separate attachment, include an overlay on a plan of survey drawn to scale and signed by a licenced Ontario Land Surveyor that clearly outlines the legal boundaries of the conveyance lands); be completed in accordance with O. Reg. 153/04 ;b)be signed and dated by a Qualified Person (as defined by section 5 and 6 under O. Reg. 153/04, as applicable);c)include a clear statement that these lands meet the applicable full depth generic site condition standards in accordance with O. Reg. 153/04 and are suitable for the intended land use.d)include confirmation that				

	1	9	there are no well(s) (monitoring/domestic) or include proof of decommissioning of all well(s) on the conveyance lands. The document must reference all applicable guidelines and regulations respecting water wells, including Ontario Regulation 903, R.R.O. 1990, made under the Ontario Water Resources Act and must provide details of the well(s) decommissioning.e)include confirmation that there is no debris (including buried debris or waste, as defined by Reg. 347) on the lands to be dedicated to the City. If the removal of demolition or buried debris has occurred, the certification letter must include a statement that indicates all demolition debris has been removed in accordance with applicable guidelines and regulations, and attach copies of waste manifests and other supporting documentation. f)be accompanied by a letter signed by the author of the report or a Principal of the Consulting Firm, which allows the City of Mississauga to make reliance on the findings and conclusions presented in the reports to the same extent as to the property owner. The wording of the reliance must meet the Citys sole and unfettered satisfaction. The template is provided on the last page of the following document: https://www.mississauga.ca/wp-content/uploads/2020/08/26144135/Section-5-Environmental-Requirements-1.pdfPlease note if a Record of Site Condition (RSC) is required to be filed for the property or for the lands to be dedicated, the RSC filing must be completed prior to land dedication.			Note	04/26/2021 1:56 PM
	1	10	As the proposed land use is changing from a less sensitive to a more sensitive use, in accordance with Ontario Regulation 153/04 as amended, the applicant is required to submit a complete Record of Site Condition (RSC), including all supporting documents to the Transportation and Works Department for review.The RSC must be posted to the Ministry of the Environment, Conservation and Parks Environmental Site Registry (ESR).			Note	04/26/2021 1:56 PM
			A current Phase One Environmental Site Assessment				

	1	11	(ESA) must be submitted to the Transportation and Works Department for review. The report should be prepared in accordance with O. Reg 153/04. If the Phase One ESA indicates potential for contamination, a Phase Two Environmental Site Assessment will be required. If contamination is confirmed, a Remedial Action Plan (RAP) that appropriately addresses the contamination will be required. Recommendations contained within the plan will be implemented by way of conditions to development approval. If site remediation works are required, the satisfactory completion of site remediation works will be a condition of the approval. Any and all contaminated areas of the site identified in the report must be remediated in accordance with Ministry of the Environment, Conservation and Parks Standards. Upon completion of the remediation, a final clean-up report must be submitted to the Transportation and Works Department for review. All reports must be prepared in accordance with O. Reg. 153/04 , signed and dated by a Qualified Person (as defined by section 5 and 6 under Ontario Regulation 153/04, as applicable) and be accompanied by a letter signed by the author of the reports or a Principal of the Consulting Firm, which allows the City of Mississauga to make reliance on the findings and conclusions presented in the reports. The wording of the reliance must meet the Citys sole and unfettered satisfaction. The template is provided on the last page of the following document: https://www.mississauga.ca/wp-content/uploads/2020/08/26144135/Section-5-Environmental-Requirements-1.pdf.Environmental reports that are not accompanied with reliance to the City shall be deemed as an incomplete application			Note	04/26/2021 1:56 PM
	1	12	A completed Environmental Site Screening Questionnaire and Declaration (ESSQD) form, signed by the Owner and a Commissioner of Oaths, must be submitted to the Transportation and Works Department for review.			Note	04/26/2021 1:56 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
GO TRANSIT - METROLINX	1	68	The subject lands are located in close proximity to future Hurontario Light Rail Transit, which will be located within the existing Hurontario Street right-of-way. As part of the Hurontario Light Rail Transit project, Metrolinx and its contractors will be utilizing the full extent of the Hurontario Street right-of-way, its intersections, and lands near Port Credit GO Station, during the construction phases of the project. Note that should construction periods overlap between the two projects, coordination between Metrolinx, its contractor, and the proponent of this development may be required.			Note	05/10/2021 9:35 AM
	1	69	In order to provide clear notification to those who may acquire an interest in properties adjacent to active railway corridors, and to reduce the potential for future land use conflicts, the Owner shall grant Metrolinx an environmental easement for operational emissions, registered on title against the subject residential building, in favour of Metrolinx. I have included a copy of the environmental easement language for information. I request the applicant contact Tony To (tony.to@metrolinx.com) to initiate the easement registration process.			Note	05/10/2021 9:35 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
GO TRANSIT - METROLINX	1	70	I recommend the following warning clause be included in all development agreements, agreements of purchase and sale and/or lease agreements of all residential units within 300 metres of the railway corridor: Warning: Metrolinx and its assigns and successors in interest has or have a right-of-way within 300 metres from the land the subject hereof. There may be alterations to or expansions of the rail facilities on such right-of-way in the future including the possibility that Metrolinx or any railway entering into an agreement with Metrolinx to use the right-of-way or their assigns or successors as aforesaid may expand their operations, which expansion may affect the living environment of the residents in the vicinity, notwithstanding the inclusion of any noise and vibration attenuating measures in the design of the development and individual dwelling(s). Metrolinx will not be responsible for any complaints or claims arising from use of such facilities and/or operations on, over or under the aforesaid right-of-way.			Note	05/10/2021 9:35 AM
	1	71	In accordance with the Port Credit Go Station Southeast Area Master Plan, the required tower separation across Park Street East is 40 metres (i.e. 20m on each side of the centre line of the Park Street East right-of-way. I request the applicant demonstrate how the required tower separation distance will be shared between the subject site and the Metrolinx-owned property on the northside of Park Street East.			Note	05/10/2021 9:35 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
GO TRANSIT - METROLINX	1	72	Please provide a noise and vibration assessment, prepared by a qualified professional, to Metrolinx for review. The assessment should document potential noise and vibration impacts the subject development may experience from the neighbouring rail operations. The proponent may obtain the most up to date Go Transit rail data forecast by submitting a request to raildatarequests@metrolinx.com.			Note	05/10/2021 9:38 AM
HERITAGE PLANNER							
	1	40	The subject area includes alisted property at 19 Ann Streetunder the Ontario Heritage Act.As such, a completed HeritageProperty Permit Application, anda Heritage Impact Assessmentis required to alter the property.A copy of the Heritage PropertyPermit Application form isavailable on line at:https://www7.mississauga.ca/documents/culture/heritage/2248.pdfThe citys Heritage ImpactAssessment Terms ofReference are available on lineat:https://www7.mississauga.ca/documents/culture/heritage/HeritageImpactAssessment_TermsOfReference2017.pdf. More comments maybe forthcoming once theHeritage Impact Statement isaccepted.			Note	05/04/2021 3:33 PM
	1	41	The subject area also includes,under the Ontario Heritage Acttwo designated properties at 84and 90 High Street. Heritageplanning will require a Heritage Impact Assessment which discusses the impacts of the development on the properties. This HIA can be combined with the HIA for 19 Ann Street.			Note	05/04/2021 3:34 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
LANDSCAPE ARCH - COMM SERVICES	1	55	SUBMISSION REQUIREMENT: COMMENT: Please note the following items are required to be illustrated on the drawings submitted as part of the development application review and approval process: parkland protection hoarding to protect future parkland; parkland fencing along the shared property line with the proposed development; an arborist report and tree preservation plan; a full restoration and landscape plan; and/or securities related to the above.			Note	05/06/2021 11:03 AM
	1	56	COMMENT: Abutting the application site to the west is the municipally owned parcel 0 Port St E. Please see the Community Services Planner comments regarding the proposed acquisition. The Community Services, Park Planning Section standards, details and specifications referenced in the comments below are available on-line at: www.mississauga.ca/portal/business/communityservicesstandards			Note	05/06/2021 11:09 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
LANDSCAPE ARCH - DEV DESIGN	1	57	SUBMISSION REQUIREMENT: A Tree Survey/ Inventory and Tree Preservation Plan is required to evaluate the potential effects of proposed development on existing trees and ensure the proposal conforms to the relevant policies, standards and guidelines. The Tree Inventory/Survey and Tree Preservation Plan must identify existing trees that are to be preserved, removed and/or transplanted and shall be prepared in accordance with the Terms of Reference available on the Citys website at: https://www.mississauga.ca/services-and-programs/building-and-renovating/development-applications/apply-for-site-plan-approval/. The Tree Inventory/Survey and Tree Preservation Plan is to be coordinated with the Arborist Report and be consistent with the completed Tree Injury or Destruction Questionnaire (Schedule D). The information and drawings shall conform to the criteria in the Terms of Reference to the satisfaction of the Development & Design Division.			Note	05/07/2021 9:11 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
LANDSCAPE ARCH - DEV DESIGN	1	58	SUBMISSION REQUIREMENT: An Arborist Report is required to evaluate the potential effects of proposed development on existing trees and ensure the proposal conforms to the relevant policies, standards and guidelines. The report must identify existing trees that are to be preserved, removed and/or transplanted and shall be prepared in accordance with the Terms of Reference available on the Citys website at: https://www.mississauga.ca/services-and-programs/building-and-renovating/development-applications/apply-for-site-plan-approval/. The Arborist Report is to be coordinated with the Tree Preservation Plan and be consistent with the completed Tree Injury or Destruction Questionnaire (Schedule D). The report shall conform to the criteria in the Terms of Reference to the satisfaction of the Development & Design Division.			Note	05/07/2021 9:11 AM
	1	59	SUBMISSION REQUIREMENT: Upload the Parcel Register (available from Service Ontario) to confirm the location, dimensions and type of any easements, covenants, agreements and restrictions on the Land Title and include any applicable information on all plans.			Note	05/07/2021 9:11 AM
	1	60	SUBMISSION REQUIREMENT: Provide a site Grading Plan that shows, as a minimum, the existing and proposed grades around the perimeter of the building (s), parking areas and parking structures, property lines, retaining walls, ramps/stairs, walkways, vents, base of existing trees, natural features and other site features as requested.			Note	05/07/2021 9:11 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
LANDSCAPE ARCH - DEV DESIGN	1	61	Indicate the location and size of all proposed Outdoor Amenity Areas on the Concept Plan. The Project Site Statistics must include calculations for Outdoor Amenity Area - required as per the applicable Zoning By-law. If the proposed development is to be phased, the Project Site Statistics must include calculations for all phases including the proposed total Outdoor Amenity Area for the development. Ensure the locations of all proposed Outdoor Amenity Areas are reviewed in conjunction with Sun/Shadow Studies, Pedestrian Wind Study, and Noise Feasibility Studies to ensure they comply with applicable City of Mississauga Urban Design Guidelines and other applicable policy and guidelines. Please refer to the City of Mississauga Outdoor Amenity Area Design Reference Note (http://www7.mississauga.ca/documents/pb/main/2015/Amenity_Space_Reference.pdf) for more information. Detailed design will be required through the Site Plan Application process.			Note	05/07/2021 9:11 AM
	1	62	SUBMISSION REQUIREMENT: An Amended Boulevard Treatment is required within the municipal boulevard along Ann and Park Street. Further discussions with Community Services are required to discuss the proposed treatment along Hurontario which may also require a Streetscape Feasibility Study. A Street Feasibility Study prepared in accordance with the Terms of Reference document is required to ensure the required Amended Boulevard Treatment can be accommodated within the municipal boulevard. The Terms of Reference document can be found on the City's website at: available on the CIty's website at: https://www7.mississauga.ca/documents/pb/main/2017/Streetscape_Feasibility_Terms_of_Reference.pdf .			Note	05/07/2021 9:11 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
LANDSCAPE ARCH - DEV DESIGN	1	63	SUBMISSION REQUIREMENT: Mississauga encourages sustainable stormwater management by maximizing the natural infiltration and retention of rainwater through site development. Consider a pervious stable surface for parking areas, driveways, walkways, and other hard surfaces. Also investigate implementation of rainwater harvesting, greywater irrigation system, bioretention systems, green roofs and other technologies. Indicate in your covering letter how sustainable stormwater management has been addressed through the current proposal.			Note	05/07/2021 9:11 AM
	1	64	COMMENT: Dimension and label the required landscaped buffers on the Concept Plan. The proposed development is to provide landscaped buffers that conform to the Zoning By-law. The required landscaped buffers on the subject property are to be unencumbered from any utilities, obstructions, restrictive easements, etc.			Note	05/07/2021 9:11 AM
LIGHT RAIL TRANSIT OFFICE	1	65	HURONTARIO LRT - Please be advised that higher order transit is planned for Hurontario Street in the form of light rail transit (LRT) operating between Port Credit and Brampton's Gateway Station. Metrolinx representatives have been circulated this DARC application and will be providing comments separately regarding this submission. All required clearances and/or agreements requested by Metrolinx will have to be addressed through the development application process.			Note	05/10/2021 9:09 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
LIGHT RAIL TRANSIT OFFICE	1	66	HURONTARIO LRT - Please be advised that the HuLRT currently starting at the GO Station is directly north of this development application block. The City is still considering a further southerly extension of the HuLRT line to Lakeshore Road as part of a longer term transit plan. While the necessary approvals and funding are not in place we would like to preserve the option to the extent possible by not allowing for development that might preclude it. Extending the HULRT Guideway including all applicable infrastructure would impact the north/east corner of Hurontario Street and Park Street so this area should remain unencumbered to accommodate for future expansion.			Note	05/10/2021 9:09 AM
	1	67	HURONTARIO LRT - Please see Development Engineering and Traffic comments as they relate to the existing scope of the HuLRT and possible future expansion.			Note	05/10/2021 9:09 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
PLANNER - COMM SERVICES	1	32	SUBMISSION REQUIREMENTS: Realty Services will undertake the securing of an appraisal for the acquisition of city owned land by FRAM at FRAMS expense. The City will request two to three quotes for an appraisal using the Citys standard Terms of Reference and using only AACI designated appraisers from the Citys approve appraisal list. On confirmation from FRAM as to accepting cost of the appraisal report preparation (and providing a certified cheque to cover the cost), the City will issue a letter of retention to the designated appraiser to complete the assignment. This process usually takes 4 to 6 weeks to complete. An updated sketch will be required showing all dimensions of the park including all easements. The revised sketch will also be used to complete the appraisal assignment. Realty Services would recommend using the appraiser to evaluate both the lands to be acquired from FRAM and the lands to be sold to FRAM (as part of the exchange).			Note	05/04/2021 9:10 AM
	1	37	SUBMISSION REQUIREMENTS: FRAM needs to provide more explanation on transition between the condo and the existing heritage buildings. Part of the POPS does not connect the condo building to the heritage building (condo lands). The open space area between the heritage buildings and the condo building should be POPS.			Note	05/04/2021 9:20 AM
	1	39	SUBMISSION REQUIREMENTS: The extent of the underground parking to be shown on all drawings.			Note	05/04/2021 10:41 AM
	1	48	SUBMISSION REQUIREMENTS: Sun/Shadow Study to determine the impact the proposed building shadows will have on the abutting park.			Note	05/05/2021 1:24 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
PLANNER - COMM SERVICES	1	49	SUBMISSION REQUIREMENTS: Planning Justification Report outlining how the proposed land exchange is beneficial to the City from both qualitative and quantitative analysis.			Note	05/05/2021 1:24 PM
	1	50	SUBMISSION REQUIREMENTS: Provide a Wind Study to determine the impact wind may have on standing, sitting or walking within the park.			Note	05/05/2021 1:32 PM
	1	51	SUBMISSION REQUIREMENTS: Intended use for the two heritage buildings, setback requirements to proposed Public Park, Access requirements to Heritage Buildings through Public Parkland. Is an easement required via proposed park? This information will be required for land appraisal process.			Note	05/05/2021 1:32 PM
	1	52	COMMENT: Please be advised that prior to the issuance of building permit, for each lot or block cash-in-lieu for park or other public recreational purposes is required pursuant to Section 42(6) of the Planning Act (R.S.O.1990, c.P. 13, as amended) and in accordance with the City's Policies and By-laws.			Note	05/05/2021 1:40 PM
	1	53	COMMENT: Currently the City does not have a Corporate Policy or By-law in place which allows the City to grant parkland credits towards POPS. As such, parkland credits cannot be granted towards the proposed POPS.			Note	05/05/2021 1:42 PM
PLANNER - DEV DESIGN	1	25	IMPORTANT NOTICE The comments provided from all City departments are for preliminary information and/or discussion purposes only and shall not be construed as the City's position on the project. Comments are not comprehensive and additional comments will be provided through a formal application submission review.			Note	05/02/2021 4:22 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
PLANNER - DEV DESIGN	1	26	SUBMISSION REQUIREMENT: Planning Justification Report prepared by a Registered Professional Planner (RPP) is required. Report should address how proposal responds to direction in the OP and Master Plan and provide justification on any differences. Report should address issues including but not limited to (1) amount of commercial space proposed and how it contributes to an appropriate mix of non-residential uses and maintains the intended planned function, (2) how proposed built form and landscaping respects heritage attributes of adjacent properties, (3) how Affordable Housing initiatives of the City and Region are being addressed (4) how built form contributes to the streetscape and helps animate the area			Note	05/02/2021 4:22 PM
	1	27	SUBMISSION REQUIREMENT: A parking utilization study is required to justify the parking reductions from current zoning by-law standards are acceptable.			Note	05/02/2021 4:22 PM
	1	28	A community meeting is required. Please contact Ward Councillor to discuss			Note	05/02/2021 4:24 PM
	1	29	SUBMISSION REQUIREMENT: A letter from the City giving permission to submit applications for OPA and ZBA on land that is currently owned by the City			Note	05/02/2021 4:33 PM
	1	30	SUBMISSION REQUIREMENT: OPA and ZBA are required as proposal differs from OP policies and Mixed Use designation (e.g. amount of commercial space). Rezoning required as proposal does not meet RA1-24, H-RA2-48 and D zoning			Note	05/02/2021 4:35 PM
	1	31	SUBMISSION REQUIREMENT: Please clarify future use of High Street Heritage Buildings (e.g. residential, commercial, party rooms for condo, etc.) and justification for setbacks and having P.O.P space located immediately adjacent to northern wall of heritage buildings.			Note	05/04/2021 9:06 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
PUBLIC ART COORDINATOR	1	1	The City of Mississauga strongly encourages the inclusion of public art in developments that are greater than 10,000m2 (100,000 sq. ft.) in gross floor area, with the exception of non-profit organizations and social housing. Developers are encouraged to include public art as part of their development and/or contribute an agreed upon amount of their gross construction costs to the Citys Public Art Program. The dollar value of the public art contribution should be determined by the Citys Planning and Building Department, together with the Public Art Program when calculating the value of construction for building permit fees on relevant projects.			Note	04/23/2021 11:54 AM
REGION OF PEEL	1	80	Servicing of this site may require municipal and/or private easements and the construction, extension, twinning and/or upgrading of municipal services. All works associated with the servicing of this site will be at the applicants expense. The applicant will also be responsible for the payment of applicable fees, DC charges, legal costs and all other costs associated with the development of this site. For location of existing water and sanitary sewer Infrastructure please contact Records at 905-791-7800 extension 7882 or by e-mail at PWServiceRequests@peelregion.ca. For Underground Locate Requests please go to the following link: https://www.peelregion.ca/pw/locaterequest/			Note	05/13/2021 1:26 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
REGION OF PEEL	1	81	A full Engineering Submission may be required for the construction of the infrastructure. The Infrastructure must be operational/commissioned by the Region prior to Site Servicing Approval. Please refer the applicant to the Regions engineering submission requirements found at the following link: http://www.peelregion.ca/pw/other/standards/linear/procedures/pdf/subdivision-process-july-2009-final.pdfPlease forward the submission to:Planning Manager, Development ServicesPublic Works, Region of Peel 10 Peel Centre Drive, Suite A, 6th Floor Brampton, On L6T 4B9Please refer to Section 3 of our Site Plan Process for Site Servicing Submission Requirements found online at http://www.peelregion.ca/pw/other/standards/linear/procedures/pdf/site-plan-process2009.pdf			Note	05/13/2021 1:26 PM
	1	82	Prior to OZ/RZ Approval, satisfactory Functional servicing Report must be submitted to determine the adequacy of the existing services for the proposed development. The reports shall be submitted in digital format.			Note	05/13/2021 1:26 PM
	1	83	Prior to RZ/OZ Approval, the Consultant is required to complete and submit the Multi-Use Demand table for the Region to fulfil our modelling requirements and determine the proposals impact to the Existing system. The demand table shall be in digital format and accompanied by the Supporting graphs for the hydrant flow tests and shall be stamped and signed by the Professional Consulting Engineer. For the design flow calculations, please consider the following PPUs: --- Singles 4.15; --- Semis 4.15; --- Rowhouses 3.5; --- Apartment (2 or more bedrooms) 2.54; and --- Apartment (One bedroom) 1.68.			Note	05/13/2021 1:26 PM
	1	84	Prior to Site Plan approval, 2 copies of the Site servicing drawings are required for review.			Note	05/13/2021 1:26 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
REGION OF PEEL	1	85	To accompany the servicing review, the supporting Mechanical Drawings are required for review by Development Engineering prior to issuing site servicing approval.			Note	05/13/2021 1:26 PM
	1	86	Provision(s) for the installation of the property line sanitary manhole and water valve and chamber must be made where parking structures abut property lines.			Note	05/13/2021 1:26 PM
	1	87	All Servicing and Grading drawings shall reflect the Regions and Local Municipalitys road widening requirements			Note	05/13/2021 1:26 PM
	1	88	Condominium Water Servicing Agreement may be required prior to Condominium Registration.			Note	05/13/2021 1:26 PM
	1	89	Review of the draft Declaration and Description will be required prior to registration of the Condominium.			Note	05/13/2021 1:26 PM
	1	90	Prior to Site Plan Approval, the applicant is required to provide to the Region copies of all registered easements affecting the subject lands.			Note	05/13/2021 1:26 PM
	1	91	All drawings shall be revised to show all existing easements and their limits; the purpose of each of the easements, the easement instrument numbers, parts and reference plan numbers and indicate whether they are private or municipal.			Note	05/13/2021 1:26 PM
	1	92	Prior to Site Plan Approval, the applicant is required to provide to the Region with copies of the most current PINS (Parcel Register). Further comments/requirements will be provided once the PINS are reviewed by a Regional Law Clerk.			Note	05/13/2021 1:26 PM
	1	93	Prior to RZ/OZ approval, please include the non-refundable Report Fee of $515 as per current fee by-law.			Note	05/13/2021 1:26 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
REGION OF PEEL	1	94	Please be advised that due to the ongoing developments of the novel coronavirus outbreak, the Region of Peel is currently implementing various measures to ensure the safety of our customers, employees and the workplace. Our front counter is now closed to the public and our staff have been directed to work from home for the foreseeable future. Therefore, Servicing Connections cannot process any payments over the counter at this time, however, we will accept Electronic Fund Transfers (EFT). Please contact us at siteplanservicing@peelregion.ca for the process to submit an Electronic Fund Transfer for your servicing application fees.			Note	05/13/2021 1:26 PM
	1	95	Private Servicing Easements may be required prior to Regional servicing approval. This will be determined once the Legal Review has been completed and the site servicing proposal is reviewed.			Note	05/13/2021 1:26 PM
	1	96	Should the tenure change to multi/condominium, we will require that the servicing drawings be revised to reflect the Local Municipalitys Requirements for the Ontario Building Code and we may have additional comments and requirements.			Note	05/13/2021 1:26 PM
	1	97	Prior to Site Plan approval, a satisfactory Servicing submission is required.			Note	05/13/2021 1:26 PM
	1	98	Site Servicing approvals are required prior to the local municipality issuing building permit.			Note	05/13/2021 1:26 PM
	1	99	Please indicate if Developer will be pursuing LEED certification			Note	05/13/2021 1:26 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
REGION OF PEEL	1	100	Please Refer to the most current Region of Peel Standards and Design Criteria. Servicing for the proposed development must comply with the Local Municipalitys Requirements for the Ontario Building Code and most current Region of Peel standards.All our Design criteria, standards, specifications, procedures and report and submission requirements are found on-line at https://www.peelregion.ca/public-works/design-standards/#procedures, including Water Design Criteria, Sanitary Sewer Design Criteria, Functional Servicing and Stormwater Management Report Criteria, and Standard Drawings (to determine which standards are applicable to your Project). Please refer and adhere to the Regional by-laws that are applicable to your proposal, such as but not limited to the Water, Wastewater and Backflow Prevention by-laws https://www.peelregion.ca/council/bylaws/archive.asp. Please refer to the Latest Fees By-law at https://www.peelregion.ca/council/bylaws/2020s/2021/bl-6-2021.pdf. Fees may be subject to change on annual basis pending Council approval.			Note	05/13/2021 1:26 PM
	1	101	This property is within the vicinity of St. Lawrence Starch, which is a private landfill site. It is an inactive landfill located on Hurontario, south of Lakeshore Blvd. It has been cleaned to M.O.E.C.C. standards. No further information is available.			Note	05/13/2021 1:30 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
REGION OF PEEL	1	102	This property is also within the vicinity of Port Credit Memorial Park/Library. The site is located on a closed landfill site. The site was used for the disposal of flyash and waste. Methane gas and leachate have been detected at the site. An environmental monitoring program is in place and consists of groundwater, surface water and landfill gas monitoring on a routine basis. The site is currently a park complete with library facilities. It is catalogued by the M.O.E as #7069.			Note	05/13/2021 1:30 PM
	1	103	Residential units are eligible for Front-End waste collection provided that requirements in Sections 2.0, 4.0, and 5.0 of the Waste Collection Design Standards Manual are met (https://www.peelregion.ca/public-works/design-standards/pdf/waste-collection-design-standards-manual.pdf).			Note	05/13/2021 1:30 PM
	1	104	Retail space less than 500m2 is also eligible for Front-End waste collection, otherwise waste collection for commercial units will be required through a private waste hauler. Retail waste must be identified on the site plan.			Note	05/13/2021 1:30 PM
	1	105	A Waste Management Plan is required at the Official Plan Amendment and Rezoning stage. This plan must demonstrate: (1) Collection vehicle access route requirements can be met; (2) Collection point has overhead clearance min. 7.5m and can hold all waste bins of the larger stream; and (3) Waste storage room is large enough for all required bins.			Note	05/13/2021 1:30 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
REGION OF PEEL	1	106	PLANNING - Please refer to the Regions Latest Fees By-law: https://www.peelregion.ca/council/bylaws/2020s/2021/bl-6-2021.pdf. More information on 2021 Development Application fees can be found at https://www.peelregion.ca/planning/about/devservices.htm . Fees may be subject to change on annual basis pending Council approval.			Note	05/13/2021 1:31 PM
	1	107	PUBLIC HEALTH - In order to achieve closer alignment with the vision of a pedestrian friendly mixed-use community, please consider further opportunities to integrate design features that facilitate the following: --- Public outdoor areas such as pedestrian walkways, parks and greenspaces, should include pedestrian-scaled lighting, shading and benches; --- In order to support the proposed compact mix of uses and encourage walking and cycling as viable means of transportation, dedicated car share vehicles, and secure, internal resident bike parking are recommended; and --- Where any paving or parking is proposed on site, it should be designed to minimize negative aesthetic and environmental impacts. This can include porous/permeable surfaces, light coloured materials instead of asphalt, landscaping and tree plantings.			Note	05/13/2021 1:31 PM
TRAFFIC REVIEW							
	1	14	COMMENT: [HURONTARIO LRT] - The Owner is advised that Infrastructure Ontario and Metrolinx have awarded a contract for the Hurontario LRT. Design work will begin immediately with construction to follow. The anticipated completion date of the Hurontario LRT is scheduled for late 2024. The Owner is advised to contact the Hurontario LRT Office as there may be impacts to this proposed development.			Note	04/27/2021 8:59 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
TRAFFIC REVIEW	1	15	COMMENT: LAND DEDICATION - The applicant is to gratuitously dedicate to the City of Mississauga: (a) 15x15 metre sight triangles at the (North/West) corner of Hurontario Street and High Street AND at the (South/West) corner of Hurontario Street and Park Street East (c) 7.5x7.5 metre sight triangles at the (North/East) corner of High Street and Ann Street AND at the (South/East) corner of Park Street East and Ann Street (c) a road allowance widening towards the ultimate 30.0 meter right-of-way as identified in the Official Plan, across the site frontage of Hurontario Street.			Note	04/27/2021 8:59 AM
	1	16	SUBMISSION REQUIREMENT: [TRAFFIC IMPACT STUDY] - A Transportation Impact Study representative of the proposed land use and gross floor area is required. The study is to include a Transportation Demand Management component. The traffic consultant should provide a terms of reference to the City's Traffic Section for review and receive confirmation prior to commencing of the study.			Note	04/27/2021 9:03 AM
	1	17	COMMENT: BICYCLE PARKING (MULTIPLE USES) - The applicant will be required to provide accessible and secure short term (outdoor) and long term (indoor) bicycle storage facilities as follows:- a minimum of 0.70 long term spaces and 0.08 short term spaces per residential unit- a minimum of 0.15 long term spaces and 0.10 short term spaces per 100 sq.m. GFA of office area- a minimum of 0.10 long term spaces and 0.25 short term spaces per 100 sq.m. GFA of retail area			Note	04/27/2021 9:09 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
TRAFFIC REVIEW	1	18	COMMENT: [INTERNAL SITE CIRCULATION] - (a) Turning movement diagrams will be required to depict the internal site circulation. (b) Additional provisions to aid in the safety and operation of these features may be required. (c) Detailed turning movements are to be provided for ingress and egress through the access point(s) for the site. (d) Confirmation from Fire and Emergency Services that the internal road is acceptable from an emergency response perspective. (e) Confirmation from the Region of Peel that the internal road is acceptable from a waste collection perspective. (f) A turn around facility may be required as a result of the above in addition to providing sufficient snow storage for the proposed development.			Note	04/27/2021 9:29 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
TRAFFIC REVIEW	1	23	COMMENT: [TRAFFIC NOTES] - (i) All damaged or disturbed areas within the municipal right-of-way are to be reinstated at the Owner's expense. (ii) All landscaping and grading within close proximity to the proposed access points is to be designed to ensure that adequate sight distances are available for all approaching and exiting motorists and pedestrians. (iii) The portion of the driveway within the municipal boulevard is to be paved by the Owner. (iv) Driveway accesses shall maintain a 1.5m setback from aboveground features such as utilities and trees. (v) Any above ground utilities located within 1.5m of a proposed access are to be relocated at the Owner's expense. (vi) The cost for any/all road improvements required in support of this development application will be borne by the Owner. (vii) The Owner shall make satisfactory arrangements with the Transportation and Works Department for the design, construction and payment of all costs associated with works necessary in support access to this site. (viii) Any access to internal servicing shall be provided internally through the site. (ix) Details of the site specific access configurations will be finalized in conjunction with the Site Plan review/approval process.			Note	04/28/2021 10:51 AM
	1	24	COMMENT: [SITE ACCESS] - (a) The proposed access shall be relocated to align with the opposing access on Ann Street. (b) The Owner shall ensure the proposed access provides sufficient sight lines such that views are not obstructed at the intersection (street trees, retaining walls, noise walls etc.). (c) The Owner shall provide for a sufficient clear throat length within the driveway access to ensure the roadway and internal driveway can operate efficiently.			Note	04/28/2021 10:57 AM

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Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
URBAN DESIGNER	1	19	SUBMISSION REQUIREMENT: Sun/Shadow Study is required to ensure adequate sunlight is achieved. The proposed building(s) should be designed and sited to minimize shadow impacts onto the surrounding area.			Note	04/27/2021 1:40 PM
	1	20	SUBMISSION REQUIREMENT: Acoustical Study prepared by a qualified acoustical consultant is required, recommending noise control features to meet the noise level objectives of the City and the Ontario Ministry of Environment (MOE) for...			Note	04/27/2021 1:40 PM
	1	21	SUBMISSION REQUIREMENT: A Quantitative Pedestrian Wind Comfort and Safety Feasibility Study is required to demonstrate minimal wind impacts. The proposed building should be designed and sited to minimize wind impacts onto the proposed development and the surrounding area.			Note	04/27/2021 1:41 PM
	1	22	This proposal shall be reviewed by Mississauga Urban Design Advisory Panel. Please refer to the link below for submission requirements and schedule. http://www.mississauga.ca/portal/residents/urbandesignadvisorypanelFor additional information, please contact:Mike Votruba, OAA, MRAIC, LEED APPlanning and Building DepartmentPhone: 905-615-3200 ext. 5759email: Mike.Votruba@mississauga.ca			Note	04/27/2021 1:56 PM

Outstanding changemarks

Please be advised that the information noted below is subject to change until all the required review groups have completed the applicable review cycle. You will not be able to respond to any of outstanding checklist items or changemarks until you have been assigned a Prescreen Corrections or an Applicant Resubmit task. Please refer to ePlans help guides for more information.

If you require an explanation or would like to discuss the comments found in this report, please contact the reviewer directly. Reviewers are available in person by appointment only. Please call or email the reviewer to schedule an appointment.

File Name	Cycle	Ref #	Group Name	Subject	Comment / Condition	Applicant Response	Create Date (M/D/Y)
16 TO 22ND FLOOR PLANS.pdf							
	1	2	URBAN DESIGNER	Floor Plate Szie	The proponent shall clarify the 850 sm is GFA without the defined exclusion or the Tower Floor Plate, which means the average floor area of all storeys within that portion of a building or structure or part thereof located above the podium, measured to the exterior faces of exterior walls of each storey of a building or structure.		05/03/2021 1:01 PM
	1	1	URBAN DESIGNER	Floor Plate Size	Since the more slab like floor plate design, rather than a more square-like point tower, the floor plate size shall be no more than 800 m2 to mitigate its impacts and the bulkiness of its massing. Port Credit Local Area Plan 13.1.12.2 d. The maximum size of residential floor plates beyond the 15th storey shall generally be 800 square metres or less;		05/03/2021 1:01 PM

Project Status Report

File Name	Cycle	Ref #	Group Name	Subject	Comment / Condition	Applicant Response	Create Date (M/D/Y)
2ND TO 15TH FLOOR PLANS.pdf							
	1	11	URBAN DESIGNER	Building Separation Distances	To maintain the separation distance over 6 storeys to any future building over 6 storeys across the street, the above 6th storey portion of the proposed building shall be setback minimum of 15 m from centerline of any public street. Port Credit Built Form Guide 2.4.2 Building Separation Distances A minimum of 35 to 40 m from any portion of a building that is over 6 storeys to another building that is over 6 storeys is required. Taller buildings require greater separation distances and therefore will be required to meet the 40 m separation distance. These separation distances will ensure that new tall buildings maintain sky views, and develop as an elegant skyline.		05/03/2021 9:58 AM
GF FLOOR PLAN.pdf							
	1	6	URBAN DESIGNER	Commerical space facing park	The proponent shall clarify whether there will be store fronting onto the park.		05/03/2021 11:14 AM
	1	5	URBAN DESIGNER	Service Area Entrance	The service area entrance shall not be projected out towards Ann Street more than the residential uses. It shall be recessed so it is less prominent than the ground floor residential units.		05/03/2021 11:14 AM
	1	7	URBAN DESIGNER	Commercial Garbage	The proponent shall consider how the garbage from the commercial/retail uses will be moved to the waste collection area. Moving them through the outdoor amenity area is not acceptable.		05/03/2021 11:15 AM

Project Status Report

File Name	Cycle	Ref #	Group Name	Subject	Comment / Condition	Applicant Response	Create Date (M/D/Y)
SECTION PLAN.pdf							
	1	8	URBAN DESIGNER	Mezzanine level	Mezzanine levels may be considered as a floor by Zoning. The building heights shall be within the limits set in Port Credit Local Area Plan.		05/03/2021 11:03 AM
	1	9	URBAN DESIGNER	Step back	A better transition shall be provided toward the heritage properties. One possibility is to have the first step back at a height that is lower than the eavestrough of heritage building's roof. Material changes and planting along the step-back edges shall be considered to visually differentiate the lower floors and upper floors.		05/03/2021 11:03 AM
	1	10	URBAN DESIGNER	Transition to Park	A better transition shall be provided toward the city park. One possibility is to have the first step back at a height that is consistent to the stepback along heritage properties as suggested in the other comment (lower than the eavestrough of heritage building's roof). Material changes and planting along the step-back edges shall be considered to visually differentiate the lower floors and upper floors.		05/03/2021 11:03 AM
SITE PLAN.pdf							
	1	3	URBAN DESIGNER	Site Plan	A site plan shall be provided to show a top view of the proposal and the proposed height, not the ground floor layout.		05/03/2021 9:27 AM
	1	4	URBAN DESIGNER	Setback	Setback for residential uses at grade shall be minimum of 4 m.		05/03/2021 9:27 AM

Submission Requirements Checklist

Type of Application:

☒ Official Plan Amendment (OPA) ☐ Removal of H (H-OZ)

☒ Rezoning (OZ) ☐ Plan of Subdivision (T)

Planning and Building Department
Development and Design Division
300 City Centre Drive
Mississauga, ON L5B 3C1
Tel: 905-896-5511
www.mississauga.ca
eplans.devdes@mississauga.ca

MISSISSAUGA

General Information		
Address / Legal Description of Site **84 and 90 High Street, 17 and 19 Ann Street**	Ward No. **1**	Meeting Date **waived**
Description of Proposal **22 storey residential building with ground floor retail and park, heritage houses to remain**		
Applicant Name **Anthony Di Santo – Fram Group**	Planner Name **Paul Stewart**	Pre-Application Meeting No. **DARC 21-161**

General Requirements		Required Reports / Studies (7 copies each, unless noted below)	
☒	Official Plan Amendment and/or Rezoning Application Form, including **ALL** Schedules	☒	Planning Justification Report
☐	Plan of Subdivision Application Form	☒	Parking Utilization Study
☒	City Application Fees / Deposits	☐	Urban Design Study (contact UD for TOR)
☐	Commenting Agency Fee Collection Form	☒	Sun/Shadow Study
☐	Region of Peel Commenting Fee	☒	Wind Study
☐	Conservation Authority Review Fee	☐	Digital 3D Building Mass Model (SketchUp)
☒	Cover Letter	☒	Acoustical Feasibility Study
☒	Context Plan / Map	☒	Arborist Report
☒	Concept / Site Plan including amenity areas and calculations	☒	Tree Inventory / Tree Preservation Plan
☒	Grading / Site Servicing Plan / Cross Sections	☒	Easements / Restrictions on Title
☒	Recent Survey Plan	☒	Streetscape Feasibility Study (includes an existing utility plan that meets the Terms of Reference)
☐	Draft Plan of Subdivision	☒	Traffic Impact Study
☒	Building Elevations	☒	Transportation Demand Management Strategy
☒	Official Plan – Table/List of requested Site-Specific Exemptions	☐	Operations and Safety Assessment
☒	Zoning By-law – Table/List of requested Site-Specific Exemptions)	☐	Slope Stability Study / Top of Bank Survey
☒	Draft Notice Sign Mock-up	☒	Stormwater Management Report
☒	List of Low Impact Design Features for Site and Building	☒	Functional Servicing Report (FSR)
☒	Urban Design Advisory Panel	☐	Geotechnical Report
☒	Pre-Submission Community Engagement Meeting (contact Ward Councillor's office to confirm if required)	☐	Environmental Impact Statement – Type (i.e. minor or major) to be determined following site visit prior to application submission
	Other Requirements / Notes	☒	Phase 1 Environmental Site Assessment
☒	Statement of proposed tenure	☐	Phase 2 Environmental Site Assessment
☒	Underground Parking Plan	☒	Heritage Impact Assessment
☒	Phasing Plan	☐	Archaeological Assessment
☒	Hurontario LRT circulation and approval	☒	Housing Report
☒	Drainage proposal	☒	Hydrogeological Report
☒	Record of Site Condition (RSC)		
☒	Environmental Site Screening Questionnaire and Declaration		
☒	Appraisal (see Community Services comments)		
☒	Explanation of transition (see Community Services comments) and proposed use of Heritage buildings		
☒	Letter of Authorization from City of Mississauga to make application for municipal property		
☒	Waste Management Plan		

Other Information

- Application forms can be obtained at Apply for an Official Plan amendment, Zoning By-law amendment or plan of subdivision – City of Mississauga
- Additional information/reports/studies/plans may be required upon submission of the application.
- This checklist is valid for **one (1) year** from the date of the meeting or at the discretion of the Director of Development and Design or his/her designate. In the event that the checklist expires prior to the application being submitted, and/or new policy and/or by-laws apply, another updated checklist may be required.
- As part of the **Public Engagement Strategy** for a complete application, and where deemed necessary by the Ward Councillor, the applicant may be required to host a Community Engagement Meeting prior to submitting an application with surrounding residents to inform the community of the contemplated development proposal and to gather feedback. Further details on the meeting can be obtained by the Planner assigned to the file.
- Application submission is via **ePlans only** at Mississauga ePlans Login
- Applicants should consult with the Planning Services Centre of the Development and Design Division to verify the application fee calculation before preparing a cheque. Send your completed Fee Calculation Worksheet (in the application form) to eplans.devdes@mississauga.ca for review.

Preparing Drawings & Documents for an ePlans Submission

Drawing Standards

Drawing sheets should be saved and uploaded into ePlans with the proper view orientation, so that the drawings do not require to be rotated to a proper view.

The top right corner of all drawing sheets should be left blank with the exception of the boarder for the purpose of a City of Mississauga electronic approval stamp. Refer to the following chart for the approval stamp / location depending on the sheet size.

Sheet Size	Approval Stamp Size / Location
36” x 48”	• 3” width x 2” height • ¾” from edge of sheet in both directions
24” x 36”	• 3” width x 2” height • ¾” from edge of sheet in both directions
18” x 24”	• 3” width x 2” height • ½” from edge of sheet in both directions
11” x 17”	• 3” width x 2” height • ½” from edge of sheet in both directions

File Naming Standards for Drawings

File names for all drawings submitted through ePlans should include the first character of the discipline name followed by a 3-digit sheet number and drawing type.

Each drawing plan sheet must be an independent file and the file name cannot exceed 70 characters. Files submitted with multiple drawing plan sheets will not be accepted.

Refer to the chart below for sample file naming conventions.

Drawing Type	Character – Discipline	Sample File Name
Site Plan	A – Architectural	A100 – Site Plan
Elevations	A – Architectural	A200 – North Elevation
Floor Plans	A – Architectural	A300 – Ground Floor Plan
Concept Plan	A – Architectural	A400 – Concept Plan
Grading Plan	C – Civil	C100 – Grading Plan
Survey Plan	C – Civil	C105 – Survey Plan
Tree Inventory Plan	L – Landscape	L100 – Tree Inventory Plan
Landscape Plan	L – Landscape	L200 – Landscape Plan

File Naming Standards for Documents

File names for all documents should clearly identify the type of document, such as an arborist report, shadow study, traffic impact study or stormwater management report.

File name cannot exceed 70 characters.

File Type Standards

Only PDF or vector PDF (preferred) files will be accepted for drawings and documents. If drawings are created in AutoCAD, please convert the files to vector PDF by using the Autodesk Vector Graphic Converter “DWG to .pc3 plotter driver”.

File Size Restrictions

Individual file size restriction is up to 1 Gigabyte (GB).

Notice

Be advised that additional information/reports/studies/plans and other types of applications, such as minor variances, may be required as the Site Plan application proceeds through the review and approval process.