

Functional Servicing and Stormwater Management Report

2476 and 2482 Confederation Parkway Mississauga, Ontario TPB188171

Prepared for:



Functional Servicing and Stormwater Management Report

2476 and 2482 Confederation Parkway Mississauga, Ontario TPB188171

Prepared for:

Preeminent Developments Inc. 58 Six Point Road, Etobicoke, ON, Canada, M8Z 2X2

Prepared by:

Wood Environment & Infrastructure Solutions a Division of Wood Canada Limited 3450 Harvester Road, Suite 100 Burlington, ON L7N 3W5 Canada T: 905-335-2353

3/29/2019

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Table of Contents

1.0	Introd	duction		1			
2.0	Dl						
2.0	Background						
	2.2		ments and Drawings				
		2.2.1	City				
		2.2.2	Region				
		2.2.3	Ontario One Call				
		2.2.4	Sajecki				
3.0	Site G	Grading		5			
5.0	3.1		ng Grades				
	3.2		osed Grades				
	5.2	тторо.	Jaco Grades				
4.0	Site S	ervicing		2			
	4.1		Servicing				
		4.1.1	Existing				
		4.1.2	Proposed				
	4.2	Sanita	ary Servicing				
		4.2.1	Existing				
		4.2.2	Proposed				
	4.3	Storm	Servicing				
		4.3.1	Existing				
		4.3.2	Proposed				
	_						
5.0			lanagement				
	5.1		water Runoff Control Criteria				
	5.2		ng Conditions Storm Drainage				
	5.3		sed Conditions Storm Drainage				
	5.4		Control				
	5.5	Water	[*] Balance	6			
6.0	Const	usions		-			
U.U	CONC	USIOHS					

List of Figures

Figure 1: Existing Conditions Storm Drainage Plan Figure 2: Proposed Conditions Storm Drainage Plan

List of Tables

Table 1: Existing Conditions Peak Flows (m³/s)

Table 2: Proposed Conditions Peak Flows (m³/s)

Table 3: Proposed Conditions with SWM Peak Flow & Storage Volume)

1.0 Introduction

Wood Environment & Infrastructure Solutions, a division of Wood Canada Ltd. (Wood) has been retained by Preeminent Developments Inc. to prepare a Functional Servicing and Stormwater Management Report (FSSR) in support of a Rezoning By-law Amendment application for a proposed residential re-development. The proposed development is located at 2476 and 2482 Confederation Parkway, in the City of Mississauga.

The 0.14 ha +/- site is situated on the southwest corner of the intersection of Confederation Parkway and Dunbar Road. The subject lands are located within the Mary Fix Creek Watershed and presently consist of low-density residential land use (ref. Figure 1 – Existing Conditions Storm Drainage Plan).

The current site plan proposes to sever both properties to create two (2) new semi-detached houses (i.e. four (4) residential units), two (2) semi-detached garages, and a new private laneway. The Site Plan is provided in Appendix A.

The purpose of this FSSR is to demonstrate that the proposed development can be serviced and graded in accordance with the City of Mississauga (City) and the Region of Peel (Region) design criteria.

2.0 Background

2.1 Consultation

Prior to the preparation of this report, consultation with the City has been carried out by Sajecki Planning (Sajecki). The consultation is summarised in the Project Status Report (ref. Appendix A) and provides the City's requirements for the proposed development, including the stormwater management (SWM) criteria.

2.2 **Documents and Drawings**

The following documents, background drawings and digital files have been provided for use in the preparation of the FSSR. All documents are provided in Appendix A.

2.2.1 City

- Plan No. C-28465, Dunbar Road, Confederation Pkwy to Argyle Rd, STN. 0+000 to STN. 0+240, dated May 1991;
- Plan No. C46482, Confederation Parkway, Burnhamthorpe Rd W to Queensway St W, STA 12+660 to STA 12+940, dated March 2008.

2.2.2 Region

- Plan No. 1934-D, Confederation Parkway, 16" Watermain, King Street West to Queensway West, STN. 0+00 to STN. 8+00, dated August 1968,
- Plan No. 1943-D, Confederation Parkway, Watermain Relocation, Dunbar Rd. to Floradale Dr., dated August 1969,
- Plan No. 36280-D, Confederation Pkwy, From Burnhamthorpe Rd. to Paisley Blvd., Prop 600 Sanitary Sewer, STA 12+660 to STA 12+940, dated Jan. 2008,
- Plan No. C-4047, Hook Ave. & Royal Windsor Way, -1+65 6+00, dated April 1959,
- CCTV report titled "Formula-based TV Inspection Report (Full) Region of Peel)", dated June 23, 2015,
- SSL Inventory Cards for 2476 & 2482,

TPB188171 | 3/29/2019 Page 1 of 7 TPB188171



- WSL Inventory Cards for 2476 & 2482,
- WSL Inventory Tie Cards for 2476 & 2482,
- Sanitary Lateral Plan Schematic,
- Subject Property Aerial Image.

2.2.3 Ontario One Call

- Various Alectra Buried Plant Locate Forms,
- Various Rogers Cable Buried Plant Forms,
- Various Promark Telecon Primary & Auxiliary Locate Sheets.

2.2.4 Sajecki

- Topographic Survey & Base Information prepared by Land Survey group, date unknown,
- Site Plan.

3.0 Site Grading

3.1 Existing Grades

The existing site slopes in three directions; toward Confederation Parkway, toward Dunbar Road, and toward 2470 Confederation Parkway. Existing grades range from 108.70 m to 108.33 m. Refer to Figure 1 for the Existing Conditions Storm Drainage Plan.

3.2 Proposed Grades

The proposed development will maintain existing drainage patterns to the extent possible and ensure that stormwater runoff from within the proposed development is collected and released in a controlled manner, without impacting adjacent properties. A retaining wall (i.e. toe wall – OPSD 3120.100) will be required along the south property line and a standard curb (OPSD 600.110) will be required along the west property line to facilitate a positive grade from the south west corner of the proposed development towards Dunbar Road. The maximum preliminary height of the proposed toe wall is approximately 0.41 m (+/-). Refer to Drawing 1 for the Functional Grading Plan.

4.0 Site Servicing

4.1 Water Servicing

4.1.1 Existing

Based on Wood's review of the background drawings provided by the Region (ref. Appendix A), a 400 mm dia. concrete watermain exists within the Confederation Parkway right-of-way (R.O.W.), and a 200 mm dia. watermain (unknown material) exists within the Dunbar Road R.O.W. The depth of the watermain within the Confederation Parkway R.O.W. ranges from 2.73 m to 3.14 m deep along the frontage of the proposed development. The depth of the watermain within the Dunbar Road R.O.W. is unknown.

TPB188171 | 3/29/2019 Page 2 of 7



The existing houses are serviced by 20 mm dia. water service laterals (material unknown) connected to the 400 mm dia. watermain located within the Confederation Parkway R.O.W. Refer to Drawing 2 for the Functional Servicing Plan which provides a schematic representation of the existing watermains and service laterals.

4.1.2 Proposed

There is opportunity to utilize the existing water service laterals at 2476 and 2482 Confederation Parkway to service two (2) of the four (4) proposed units. Two (2) new service laterals must be installed to service the two (2) remaining units. As per Region standards, the new service laterals must be 19 mm dia. copper or 25 mm dia. of another approved material.

The estimated water demands for the proposed development (i.e. all four (4) units) is 12,320 L/day (Population = 70 persons/ha, Average Consumption Rate = 280 L/cap-day). Given that only two (2) new water service laterals are required, the expected increase in water demands is 6,160 L/day.

Refer to Drawing 2 for the Functional Servicing Plan.

4.2 Sanitary Servicing

4.2.1 Existing

Based on Wood's review of the background drawings provided by the Region (ref. Appendix A), a 450 mm dia. and a 600 mm dia. sanitary sewer exists within the Confederation Parkway R.O.W. draining north to south, and a 375 mm dia. sanitary sewer exists within the Dunbar Road R.O.W. draining west to east. The material of all sanitary sewers is unknown. The depth of the 450 mm diameter sanitary sewer within the Confederation Parkway R.O.W. ranges from 3.65 m to 3.80 m deep along the frontage of the proposed development. The depth of the 375 mm dia. sanitary sewer within the Dunbar Road R.O.W. ranges from 3.40 m to 3.50 m deep along the frontage of the proposed development.

The existing houses are serviced by 125 mm dia. sanitary service laterals connected to the 450 mm dia. sanitary sewer located within the Confederation Parkway R.O.W. Refer to Drawing 2 for the Functional Servicing Plan which provides a schematic representation of the existing sanitary sewers and service laterals.

4.2.2 Proposed

There is opportunity to utilize the existing sanitary service laterals at 2476 and 2482 Confederation Parkway for three (3) of the four (4) proposed units. One (1) new service lateral must be installed to service the second unit at 2482 Confederation Parkway, and a 'Y' connection must be installed on the service lateral for 2476 Confederation Parkway to service both units. As per Region standards, the new service lateral at 2482 Confederation Parkway must be 125 mm dia. PVC, and the 'Y' connection at 2476 Confederation Parkway must be 125 mm x 100 mm x 100 mm.

The estimated sanitary generation rate for the proposed development (i.e. all four (4) units) is 0.17 L/s (Population = 70 persons/ha, Average Consumption Rate = 302.8 L/cap-day, Harmon Peaking Factor = 4.41). Given that only two (2) new sanitary service laterals are required, the expected increase in sanitary demands is 0.09 L/s.

Refer to Drawing 2 for the Functional Servicing Plan.

TPB188171 | 3/29/2019 Page 3 of 7



4.3 Storm Servicing

4.3.1 Existing

Based on Wood's review of the background drawings provided by the City (ref. Appendix A), a 375 mm dia. storm sewer exists within the Confederation Parkway R.O.W. draining north to south (material unknown), and a 300 mm dia. concrete storm sewer exists within the Dunbar Road R.O.W. draining east to west. The depth of the 375 mm diameter storm sewer within the Confederation Parkway R.O.W. is approximately 1.30 m deep along the frontage of the proposed development. The depth of the storm sewer within the Dunbar Road R.O.W. is approximately 1.80 m along the frontage of the proposed development. Background records received from the City do not show that storm service laterals exist for either property. Refer to Drawing 2 for the Functional Servicing Plan which provides a schematic representation of the existing storm sewers.

4.3.2 Proposed

Surface runoff from the proposed development is proposed to be conveyed to Confederation Parkway and Dunbar Road via a combination of side yard swales and a proposed storm sewer. The proposed storm sewer is located within the proposed private laneway and would connect to the existing 300 mm dia. concrete storm sewer within the Dunbar Road R.O.W. The proposed storm sewer will be utilized to provide the requisite stormwater management (SWM) (ref. Section 5.0). Rooftop drainage is proposed to discharge at grade and be directed toward the proposed storm sewer.

5.0 Stormwater Management

5.1 Stormwater Runoff Control Criteria

As stated in Section 2.1, pre-consultation was carried out between the City and Sajecki Planning prior to the submission of this FSSR. As part of the pre-consultation, the SWM criteria applicable to the proposed development were defined by the City. The SWM criteria, as outlined in the Project Status Report (ref. Appendix A), are as follows:

- 1. **Flood Control** The site is within the Mary Fix Creek watershed. It will be necessary to implement on-site stormwater management techniques into the design to limit the post development stormwater discharge from the ten (10) year post-development storm event to the two (2) year predevelopment levels.
- Water Balance The first 5mm of runoff shall be retained on site.
- 3. **General Criteria** The applicant is required to implement low-impact development (LID) measures such as permeable pavement, green roofs, landscape irrigation with stormwater re-use, etc.

5.2 Existing Conditions Storm Drainage

Existing site drainage is split between three (3) outlets. As shown on Figure 1, Subcatchment 101 (0.04 ha) drains east toward the Confederation Parkway R.O.W., Subcatchment 102 (0.09 ha) drains north toward the Dunbar Road R.O.W., and Subcatchment 103 (0.01 ha) drains south toward the residential lot at 2470 Confederation Parkway. Is it assumed that the 5 year storm event peak flows generated by the existing site are captured and conveyed within the storm sewer systems (i.e. minor systems) located within the Confederation Parkway and Dunbar Road R.O.W.s. Furthermore, it is also assumed that flows in excess of the 5 year, up to the 100 year storm peak flow generated by the existing site are conveyed overland through the respective R.O.W.s (i.e. major system).

TPB188171 | 3/29/2019 Page 4 of 7



The Rational Method has been used to determine the anticipated peak flows to the various outlet points for the 2 year storm event. The results are summarized in Table 1, and supporting calculations are provided in Appendix B. The existing impervious coverages and runoff coefficients of each subcatchment have been calculated using the City's standard runoff coefficients.

Table 1. Existing Conditions Peak Flows

Outlet	Subcatchment	Area (ha)	2 Year Peak Flow (m³/s)
Confederation Parkway	101	0.04	0.004
Dunbar Road	102	0.09	0.008
2470 Confederation Parkway	103	0.01	0.001

The 2 year peak flow rates for Subcatchments 101 and 102 have been taken as the target rates for the proposed development.

5.3 Proposed Conditions Storm Drainage

As outlined in Section 3.2, the proposed development will be graded such that stormwater runoff from within the proposed development is collected and released in a controlled manner, without impacting adjacent properties.

As shown on Figure 2, Subcatchment 201 (0.02 ha) consists of front yard areas, with overland drainage directed toward Confederation Parkway. Subcatchment 202 (0.12 ha) consists of rear yard and rooftop areas, with overland drainage generally directed toward the northwest corner of the proposed development. The storm sewer proposed within the private laneway will capture and convey the 10 year peak flows generated by Subcatchment 202 and connect to the existing storm sewer located within the Dunbar Road R.O.W.

The Rational Method has been used to determine the anticipated peak flows under proposed conditions to the various outlet points for the 10 year storm event. The results are summarized in Table 2 with a comparison to the target rates, and supporting calculations are provided in Appendix B.

Table 2. Proposed Conditions Peak Flows

Outlet	Subcatchment	Area (ha)	10 Year Peak Flow (m³/s)	Comparison to Target Rate (%)
Confederation Parkway	201	0.02	0.003	-25%
Dunbar Road	202	0.12	0.024	200%

The results presented in Table 2 indicate that the proposed conditions peak flow to Confederation Parkway for the 10 year storm event would be lower than the target rate for this outlet. This result is expected as the drainage area and impervious coverage of lands directed to Confederation Parkway are significantly reduced under proposed conditions. Furthermore, the proposed conditions peak flow rate to Dunbar Road for the 10 year storm event would exceed the target rate for this outlet. As such, flood control is required for Subcatchment 202 to reduce the 10 year proposed conditions peak flow rate to the target rate to Dunbar Road.

TPB188171 | 3/29/2019 Page 5 of 7



5.4 Flood Control

As outlined in Section 4.3.2, overland drainage from Subcatchment 202 is proposed to be directed to the storm sewer located within the proposed private laneway. The storm sewer will be utilized to control the 10 year proposed conditions peak flow rate via the implementation of peak flow control and detention storage. The Modified Rational Method has been used to determine the detention storage volume required to reduce the proposed conditions peak flow rate down to the target rate. A summary of the proposed conditions peak flow rate and detention volume required for Subcatchment 202 is summarized in Table 3. Supporting calculations are provided in Appendix B.

Table 3. Proposed Conditions with SWM Peak Flow & Storage Volume

Subcatchment Target Rate (m³/s)		Proposed Conditions Peak Flow (m ³ /s)	Required Detention Volume (m³)
202	0.008	0.008	14.6

The results in Table 3 show that the 10 year proposed conditions peak flow rate can be reduced to the target rate by incorporating flood controls. Based on a review of site constraints, it has been determined that the required detention volume can be provided by a combination of an underground storage tank and manhole/catchbasin storage. The Brentwood ST-24 has been selected to provide approximately 13.9 m³ of detention storage, while 3.8 m³ of stormwater storage can be provided by the proposed manholes and catchbasin for a total of 17.7 m³. The Brentwood ST-24 tank layout is shown schematically on Figure 2. Supporting calculations are provided in Appendix B.

Peak flow control can be implemented within manhole MH2 (ref. Figure 2). Due to relatively small release rate, it is not possible to achieve the target release rate using an orifice tube or plate with a minimum diameter of 75 mm. As such, the Vortex Valve FC9 is proposed to provide the peak flow control, with an effective opening size of 89 mm. Preliminary sizing calculations for the Vortex Valve are provided in Appendix B.

5.5 Water Balance

As outlined in Section 5.1, the first 5mm of runoff shall be retained on site. The impervious coverage of the proposed development is approximately 64% (0.10 ha +/-), which corresponds to an on-site retention volume of 4.6 m³. Based on a review of site constraints, permeable pavement has been selected to provide the requisite retention volume. The permeable pavement would be located within the proposed private laneway. Given the approximate laneway area of 0.03 ha, a bedding depth of only 0.05m is required to achieve a storage volume equal to the requisite retention volume (void ratio = 0.4). The extents of the permeable pavement are proposed to be refined at the detailed design stage.

It is noted that the implementation of permeable pavement would also satisfy the general criteria outlined in Section 5.1.

TPB188171 | 3/29/2019 Page 6 of 7

6.0 Conclusions

The following can be concluded from the information provided in this report:

- The proposed development can be serviced (water and sanitary) and graded in accordance with City of Mississauga and Region of Peel design requirements.
- Proposed Conditions peak runoff rates can be managed by implementing stormwater management flood controls within the proposed private laneway.
- Water balance requirements can be achieved by implementing LID measures (permeable pavement)
 within the proposed private laneway

We trust the above function servicing and stormwater management report is sufficient for Draft Plan Approval. Should you have any questions or concerns please do not hesitate to contact our office.

Sincerely,

Wood Environment & Infrastructure Solutions a Division of Wood Canada Limited

Reviewed by:

Matt Britton, EIT

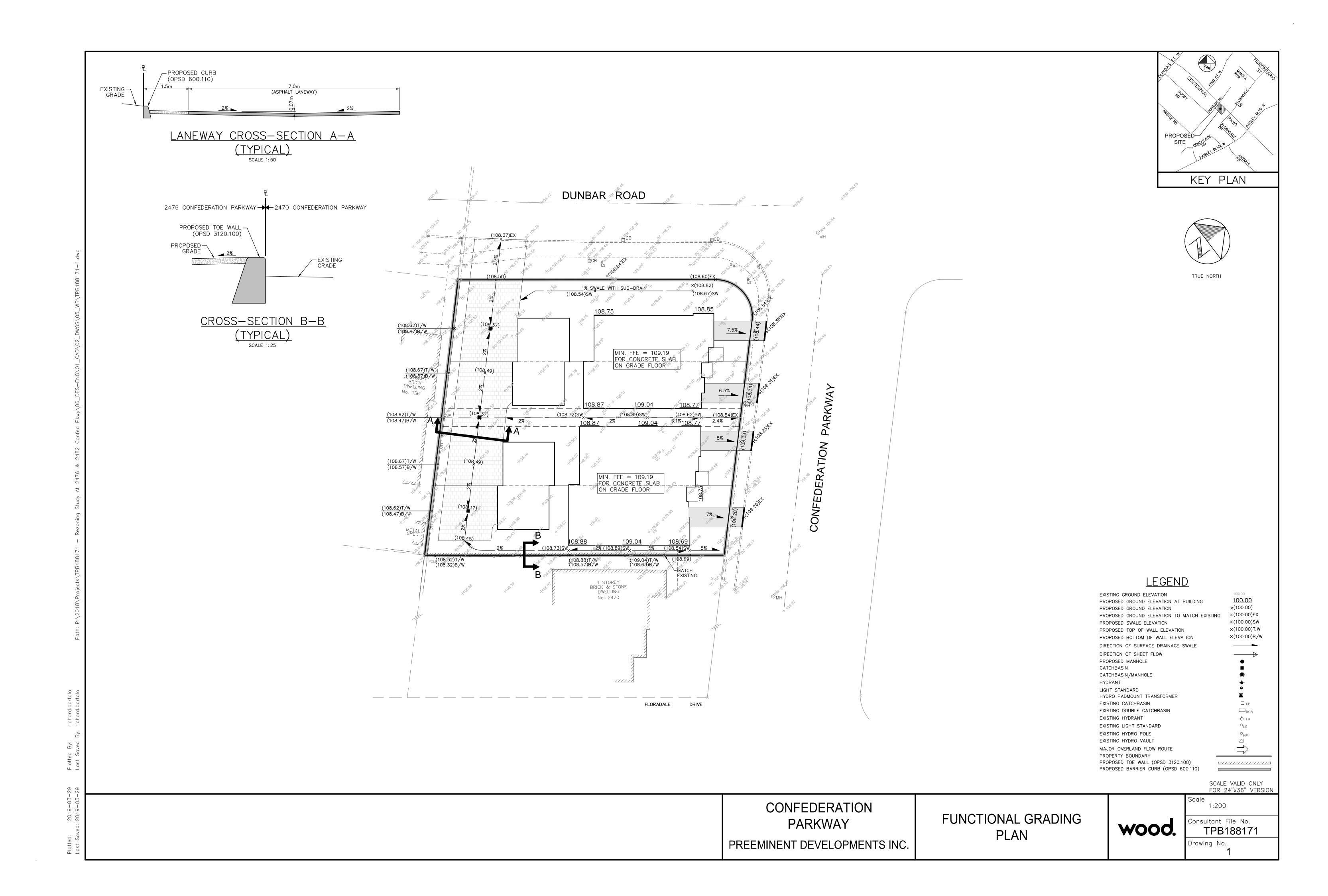
Water Resources Designer

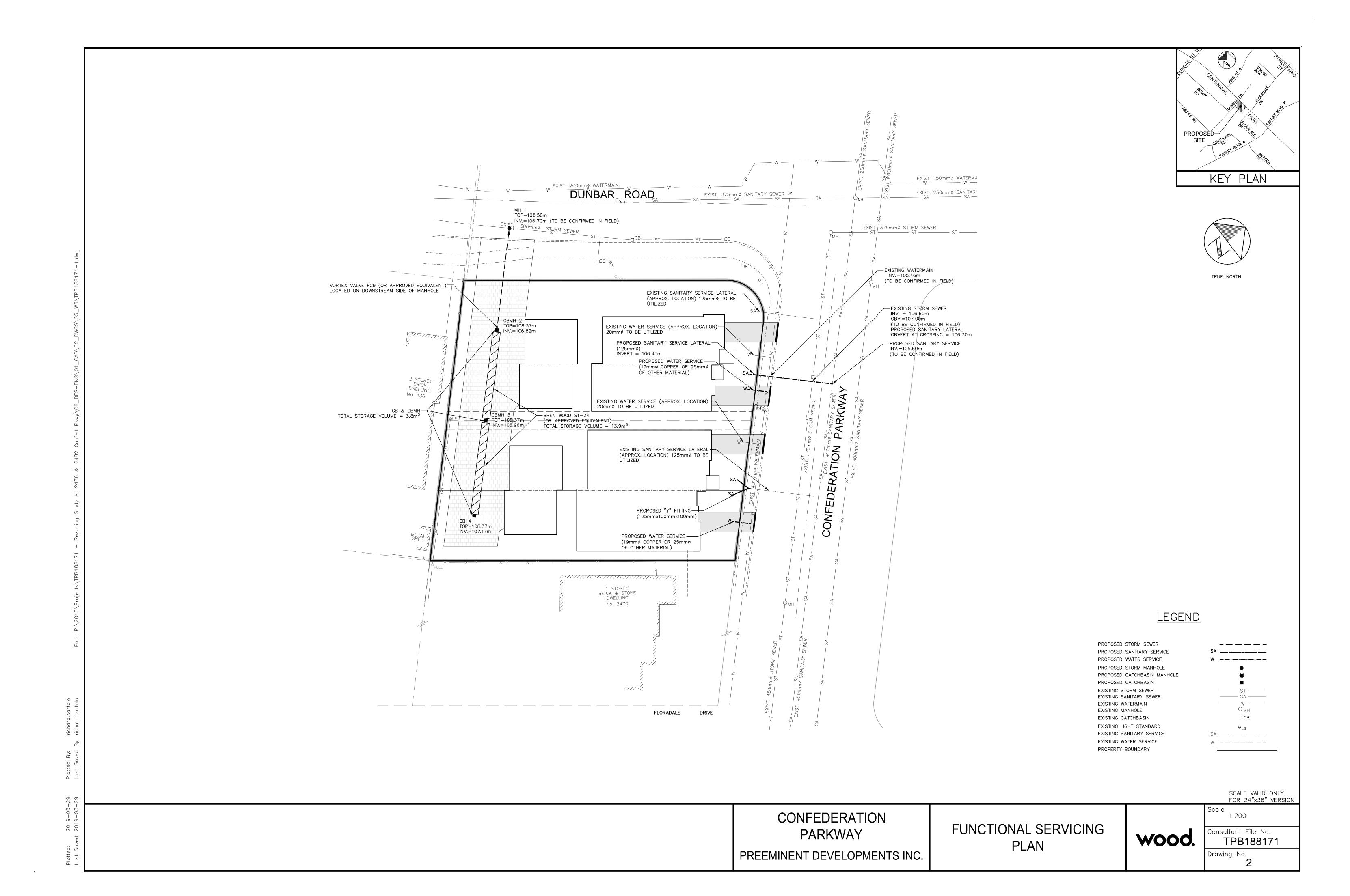
Ron Scheckenberger, M. Eng., P. Eng. Principal Consultant

MB/mb

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wood.

Appendix A

Application for Rezoning, Official Plan Amendment, and/or Plan of Subdivision -Submission Requirements Checklist

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

Application File No.



General Information								
Address / Legal Description of Site		Ward No.	Meeting Date					
2476 & 2482 Confederation P	2476 & 2482 Confederation Pkwy (ZBLA only) 7 Oct. 17, 2018							
Description of Proposal 2 semi-detached dwellings								
Applicant Name Pre-Application Meeting No.								
D.Sajecki, Sajecki Planning	D.Sajecki, Sajecki Planning S.Hussen DARC 18-279							

Ger	General Requirements		Required Reports / Studies (7 copies each, unless noted below)			
\boxtimes	Complete Application Form	\boxtimes	Planning Justification Report			
\boxtimes	City Application Fees / Deposits		Parking Utilization Study			
	Commenting Agency Fee Collection Form		Urban Design Study			
	Region of Peel Commenting Fee		Shadow Study			
	Conservation Authority Review Fee		Wind Study			
\boxtimes	Cover Letter	\boxtimes	Acoustical Feasibility Study			
\boxtimes	Context Plan / Map (40 copies)	\boxtimes	Arborist Report/Plan (Tree Inventory)			
\boxtimes	Concept / Site Plan (40 copies)	\boxtimes	Tree Preservation Plan			
\boxtimes	Grading / Site Servicing Plan (35 copies)	\boxtimes	Easements / Restrictions on Title			
\boxtimes	Survey Plan (40 copies)		Streetscape Feasibility Study			
	Draft Plan of Subdivision (50 copies)		Traffic Impact Assessment / Study			
\boxtimes	Building Elevations (7 copies)		Transportation Demand Management Strategy			
	Draft Official Plan Amendment (3 copies)		Traffic Safety Impact Study			
\boxtimes	Draft Zoning By-law (3 copies)	\boxtimes	Storm Water Management Plan / Report			
\boxtimes	Draft Notice Sign Mock-up (1 copy)	\boxtimes	Functional Servicing Report (FSR) (9 copies)			
\boxtimes	Digital copy (PDF format) of all required documents, plans, drawings, studies and reports on USB memory stick (2 memory sticks)		Environmental Impact Statement - Type (i.e. minor or major) to be determined following site visit prior to application submission (9 copies)			
\boxtimes	List of Low Impact Design Features for Site and Building (1 copy)		Slope Stability Study / Top of Bank Survey			
	Urban Design Advisory Panel		Geotechnical Report			
Oth	ner Requirements / Notes	\boxtimes	Phase 1 Environmental Site Assessment			
			Phase 2 Environmental Site Assessment			
			Heritage Impact Statement			
			Archaeological Assessment			
		П				

Other Information

- Application forms can be obtained at http://www.mississauga.ca/portal/residents/pbformscentre
- Drawings / Plans must be folded to letter size (8 ½" x 11"). Rolled drawings/plans will not be accepted
- Additional information/reports/studies/plans may be required upon submission of the application
- As part of the Public Consultation Strategy for a complete application, the applicant will required to host a Community Meeting with respect to the application in the event: the Ward Councillor decides not to host a Community Meeting; and the application includes of a residential component or the subject lands are located within 120m of residential uses
- Application submission is by appointment only. To book an appointment, please phone 905-615-3200 ext. 4199 or by email at sanja.blagojevic@mississauga.ca
- 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



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 18-279 W7	2476 & 2482 Confederation Pkwy	two semi-detached dwellings	10/24/2018 3:43:34 PM

Review Cycle	Review Group	Review Status	Reviewer Contact Information	
	DEVELOPMENT ENGINEERING REVIEW	Comments Provided	Cynthia Urdaneta cynthia.urdaneta@mississauga.ca 905-615-3200 x3128	
	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	
	HERITAGE PLANNER	Comments Provided	Brooke Herczeg brooke.herczeg@mississauga.ca 905-615-3200 x4061	
1	LANDSCAPE ARCH - DEV DESIGN	Comments Provided	Julia Van der Laan de Vries julia.vanderlaandevries@mississauga.ca 905-615-3200 x 5761	
	PLANNER - COMM SERVICES	Comments Provided	Sangita Manandhar sangita.manandhar@mississauga.ca 905-615-3200 x4426	
	PLANNER - DEV DESIGN	Comments Provided	Shaesta Hussen shaesta.hussen@mississauga.ca 905-615-3200 x5532	
	PUBLIC ART COORDINATOR	No Comments	Chloe Catan chloe.catan@mississauga.ca 905-615-3200 x8281	
	REGION OF PEEL	Comments Provided	Angelo Ambrico angelo.ambrico@peelregion.ca 9057917800 x4612	
	TRAFFIC REVIEW (PPP)	Comments Provided	Zain Zia zain.zia@mississauga.ca 905-615-3200 x5318	



Review Cycle	Review Group	Review Status	Reviewer Contact Information
1	URBAN DESIGNER	II ommante Providad	Michael Karowich michael.karowich@mississauga.ca 905-615-3200 x4249

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 the Applicant User Guide for more information.

Group Name	Cycle	Comment Text	Applicant Response	Seq #	Resolved Status	Create Date (M/D/Y)
	1	SUBMISSION REQUIREMENT: (i) Grading Plan (ii) Servicing Plan (iii) Cross-Sections Plan			Note	10/16/2018
DEVELOPMENT ENGINEERING REVIEW	1	SUBMISSION REQUIREMENT: Acoustical 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; (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	10/16/2018
ENVIRONMENTAL ENG REV STORM	1	COMMENT: The applicant is required to implement low impact development measure such as permeable pavement, green roofs, landscape irrigation with stormwater re-use, etc.			Note	10/04/2018



Group Name	Cycle	Comment Text	Applicant Response	Seq #	Resolved Status	Create Date (M/D/Y)
	1	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-residential and multi-residential properties. Learn more at www.stormwatercharge.ca			Note	10/04/2018
ENVIRONMENTAL ENG REV STORM	1	SUBMISSION REQUIREMENT: A Functional Servicing Report with Stormwater Management is required. The site is within the Mar Fix Creek watershed. It will be necessary to implement on-site stormwater management techniques into the design to limit the post development stormwater discharge? from the 10 year post development storm event to the two year pre-development levels. The first 5mm of runoff shall be retained on site.			Note	10/04/2018
	1	The storm sewer outlet for 2/3 of the subject site is the existing 375mm diameter storm sewer on Confederation Parkway, 1/3 of the site drain into the existing 300mm diameter storm sewer on Dunber Rd.			Note	10/04/2018
ENVIRONMENTAL ENG REVIEWER		A completed Environmental Site Screening Questionnaire and				
	1	Declaration (ESSQD) form, signed by the Owner and a Commissioner of Oaths, must be submitted to the Transportation and Works Department for review.			Note	10/09/2018



Group Name	Cycle	Comment Text	Applicant Response	Seq #	Resolved Status	Create Date (M/D/Y)
ENVIRONMENTAL ENG REVIEWER	1	A current Phase One Environmental Site Assessment must be submitted to the Transportation and Works Department for review. The report must be signed by a Qualified Person as defined in Ontario Regulation 153/04 (as amended) and include a clause or 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 report. 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 that appropriately addresses the contamination will be required. Recommendations contained within the plan will be implemented by way of conditions to development approval.			Note	10/09/2018
	1	Please be advised that if lands are 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).			Note	10/09/2018
	1	Please be advised that if dewatering is required as part of development, approval will be required from the Transportation and Works Department to discharge to the City's storm sewer network.			Note	10/09/2018
	1	Further comments may be provided upon receipt and review of the requested materials.			Note	10/09/2018
HERITAGE PLANNER	1	No heritage concerns			Note	10/11/2018



Group Name	Cycle	Comment Text	Applicant Response	Seq #	Resolved Status	Create Date (M/D/Y)
LANDSCAPE ARCH - DEV DESIGN	1	CHECK MARK COMMENTS: Refer to comments provided directly on the plans for such things as: -Front yard setback -Driveway location -Tree preservation		1	NotMet	10/16/2018
	1	SUBMISSION REQUIREMENT: A Tree Survey & Inventory Plan, Tree Preservation Plan and Arborist Report is required. The Tree Survey & Inventory Plan should locate all trees (over 80mm dbh) on-site and immediately adjacent to the site (within 5m/10m of the property line); accurately illustrate the canopy size; and identify the species, condition, and size (dbh) of the trees. Tree Preservation Plan should identify all trees to be preserved, removed or transplanted with proposed location and type of tree preservation fencing. The Arborist Report is to be completed by a certified arborist and should evaluate tree condition and define the requirements and methodologies for tree preservation and/or transplanting (including Tree Protection Zones, Soil Compaction Mitigation, Crown Elevation, Surface Treatments, and inspection schedule).		2	NotMet	10/16/2018
	1	COMMENT: Provide appropriate landscape buffers and landscape setbacks in keeping with the proposed zoning.		3	NotMet	10/16/2018
	1	DUNBAR ROAD FRONTAGE: -Consider providing driveways accessed via Dunbar Road, in order to reduce the number of driveways along Confederation Parkway.		4	NotMet	10/16/2018
PLANNER - COMM SERVICES	1	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			Note	10/16/2018
	1	with the City's Policies and By-laws. SUBMISSION REQUIREMENT: Tree Inventory and Protection Plan			Note	10/16/2018



Group Name	Cycle	Comment Text	Applicant Response	Seq #	Resolved Status	Create Date (M/D/Y)
PLANNER - DEV DESIGN	1	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.		1	Note	10/18/2018
	1	COMMENT: A Zoning By-law Amendment Application is required for the proposed development.		2	Note	10/18/2018
	1	SUBMISSION REQUIREMENT: Planning Justification Report prepared by a Registered Professional Planner (RPP).		3	Note	10/18/2018
PUBLIC ART						
COORDINATOR	1	There are no comments or concerns from a public art perspective.			Note	10/24/2018
	1	The Region will require two (2) paper copies of the site servicing plan.			Note	10/18/2018
REGION OF PEEL	1	Regional site servicing approvals are required prior to the local municipality issuing building permit. Servicing of the proposed development must comply with the local municipality's requirements for the Ontario Building Code and most current Region of Peel standards. All works associated with the servicing of this site will be at the applicant's expense.			Note	10/18/2018
	1	The Region of Peel will provide curbside collection of garbage, recyclable materials, household organics and yard waste. For more information please refer to the Waste Collection Design Standards Manual available at: https://www.peelregion.ca/pw/standards/design/waste-collection-design-manual-2016.pdf			Note	10/18/2018



Group Name	Cycle	Comment Text	Applicant Response	Seq #	Resolved Status	Create Date (M/D/Y)
REGION OF PEEL	1	For the location of existing water and sanitary sewer infrastructure, please contact Records at (905) 791-7800 ex. 7882 or by email at: PWServiceRequests@peelregion.ca For Underground Locate Requests, please visit the following link: https://www.peelregion.ca/pw/locaterequest/ For Water Service Connection Fees and latest User-Fee By-law, please visit the following link: http://www.peelregion.ca/pw/water/rates/connect-rates.htm			Note	10/18/2018
	1	As per the Mississauga Cycling Master Plan, Confederation Parkway has been identified as a proposed primary on-road bike route. The applicant is advised that fee requirements will be identified in support of this route upon review of a formal submission.			Note	10/16/2018
TRAFFIC REVIEW (PPP)	1	The proposed Driveway accesses for 2482 Confederation Parkway do not meet the minimum corner clearance of 20m. The driveways are to be relocated.			Note	10/17/2018
	1	The applicant will be required to gratuitously dedicate to the City of Mississauga: - a road allowance widening towards the ultimate 26 meter right-ofway of Confederation Parkway as identified in the Official Plan a 5 meter radius rounding at the south-west corner of Confederation Parkway & Dunbar Road			Note	10/17/2018



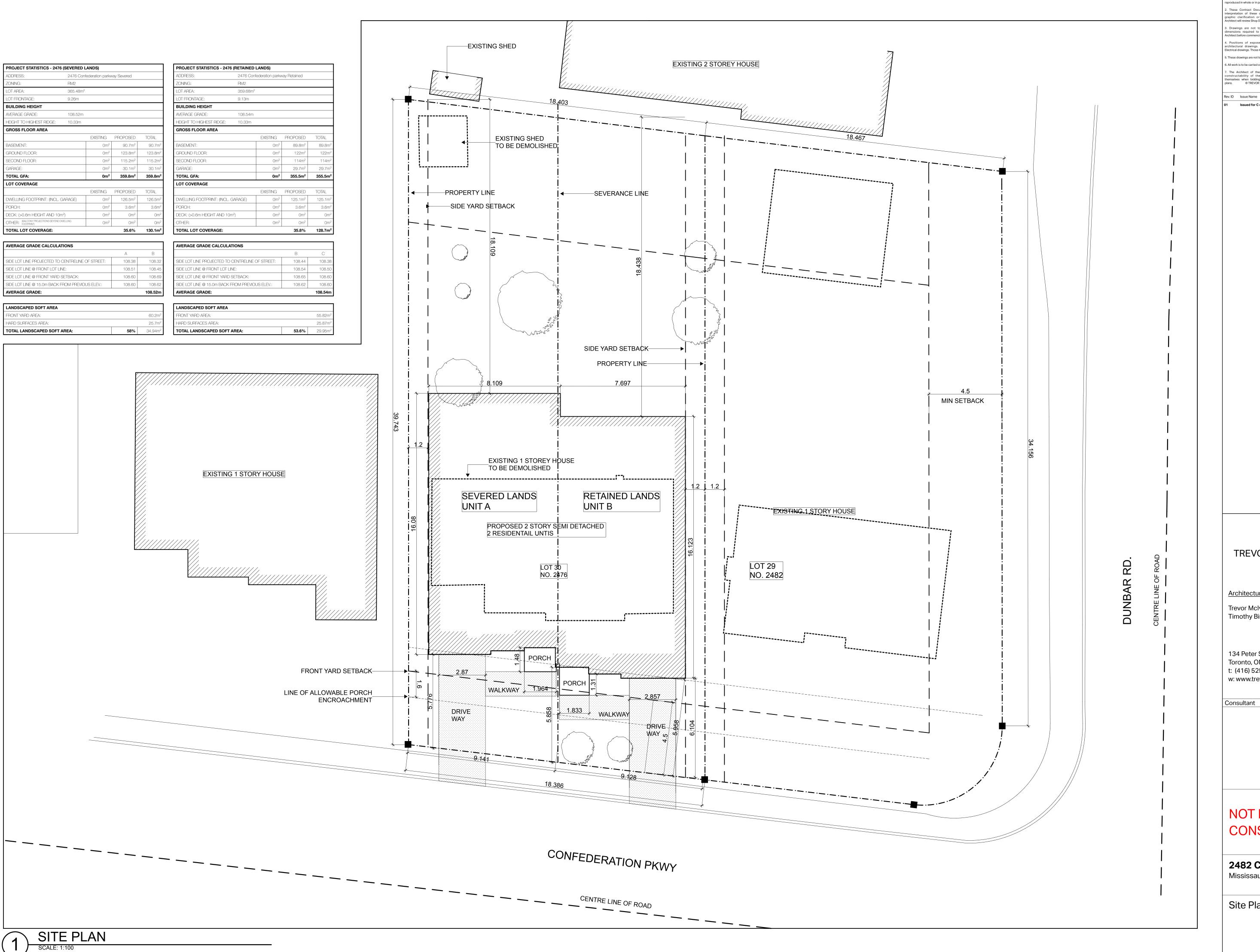
Outstanding changemarks

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 the Applicant User Guide for more information.

	File Name	Cycle	Group Name	Subject	Comment / Condition	Applicant Response	Create Date (M/D/Y)
A101 -	- Site Plan 2476.pdf						
		1	URBAN DESIGNER	Street widening	There may be a requiremet for land along the street frontage, which will result in moving the building back at achieve a 3 metre setback condition behind the street allowance.		10/24/2018
		1	URBAN DESIGNER	Rear Access	Subject to approval by the Transportation and Works Department, in order to avoid a series of curb cuts, driveways and garage doors fronting onto Confederation Parkway which will become more pedestrian in order to support the higher order transit plans for Hurontario Street and Dundas Street, consider creating a private rear lane with access to garages.		10/24/2018
		1	URBAN DESIGNER	Driveways	The proposal for curb cuts are discouraged as Confederation Parkway is a major street where pedestrian movement is anticipated to intensify. Alternatively, consider access to the rear with a consoliated parking area.		10/24/2018
A101 -	- Site Plan 2482.pdf						
		1	URBAN DESIGNER	Setbacks, Driveways and Access From the Rear	See Site Plan for 2nd Semi-Detached homes for same comments.		10/24/2018



File Name	Cycle	Group Name	Subject	Comment / Condition	Applicant Response	Create Date (M/D/Y)
A401 - Elevations						
2482.pdf	1	URBAN DESIGNER	Garages along Confederation Parkway	As Confederation Parking pedestrian movement will only increase, consider alternative parking at the rear of the building.		10/24/2018



I. Copyright of this drawing is reserved by the Architect. The drawing and all associated documents are an instrument of service by the Architect. The drawing and the information contained therein may not be

2. These Contract Documents are the property of the Architect. The Architect bears no responsibility for the interpretation of these documents by the Contractor. Upon written application, the Architect will provide written/graphic clarification or supplementary information regarding the intent of the Contract Documents. The Architect will review Shop Drawings submitted by the Contractor for design conformance only. Drawings are not to be scaled for construction. The Contractor is to verify all existing conditions and mensions required to perform the work and report any discrepancies with the Contract Documents to the richtect before commencing any work.

Positions of exposed finished mechanical or electrical devices, fittings, and fixtures are indicated on architectural drawings. The locations shown on the architectural drawings govern over the Mechanical and Electrical drawings. Those items not clearly located will be located as directed by the Architect.

These drawings are not to be used for constuction unless noted below as "Issuance: For Construction"

7. The Architect of these plans and specifications gives no warranty or representation to any party about the constructability of the building(s) represented by them. All contractors or subcontractors must satisfy themselves when bidding and at all times ensure that they can properly construct the work represented by these plans.

Change ID Change Name Issued for C of A 2018-09-06

TREVOR MCIVOR ARCHITECT INC

Architecture:

Trevor McIvor: trevor@trevormcivor.com Timothy Birchard: timothy@trevormcivor.com

134 Peter St., #1301 Toronto, ON M5A 4M2 t: (416) 525 7772 w: www.trevormcivor.com

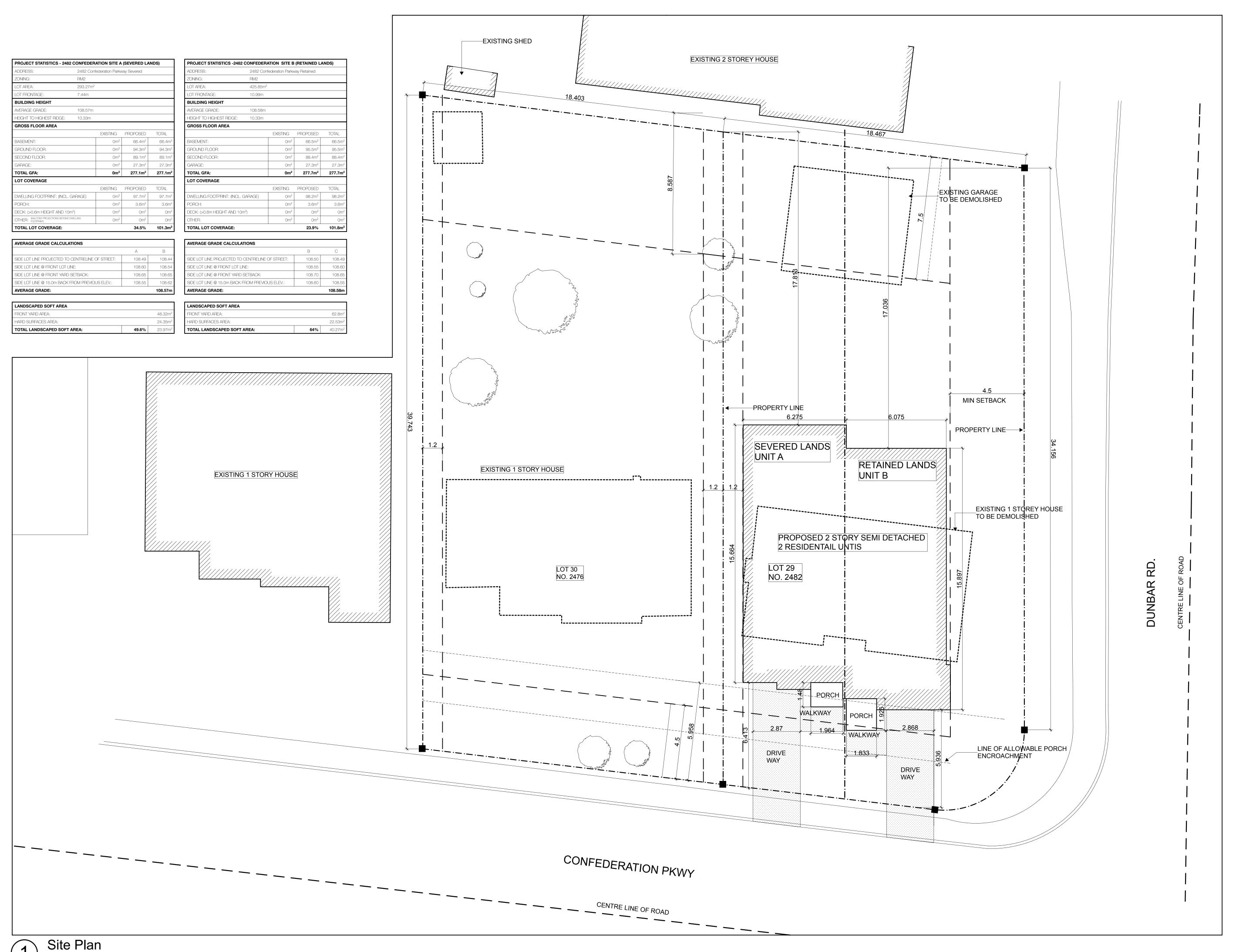
Consultant Architect

NOT FOR CONSTRUCTION



2482 Confederation Parkway Mississauga, ON

Site Plan 2476



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3. Drawings are not to be scaled for construction. The Contractor is to verify all existing conditions and fimensions required to perform the work and report any discrepancies with the Contract Documents to the vichitect before commencing any work.

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6. All work is to be carried out in conformance with the Code and Bylaws of the authorities having jurisdiction.

7. The Architect of these plans and specifications gives no warranty or representation to any party about the constructability of the building(s) represented by them. All contractors or subcontractors must satisfy themselves when bidding and at all times ensure that they can properly construct the work represented by these plans.

Change ID Change Name Rev. ID Issue Name Issued for C of A 2018-09-06

TREVOR MCIVOR ARCHITECT INC

Architecture:

Trevor McIvor: trevor@trevormcivor.com Timothy Birchard: timothy@trevormcivor.com

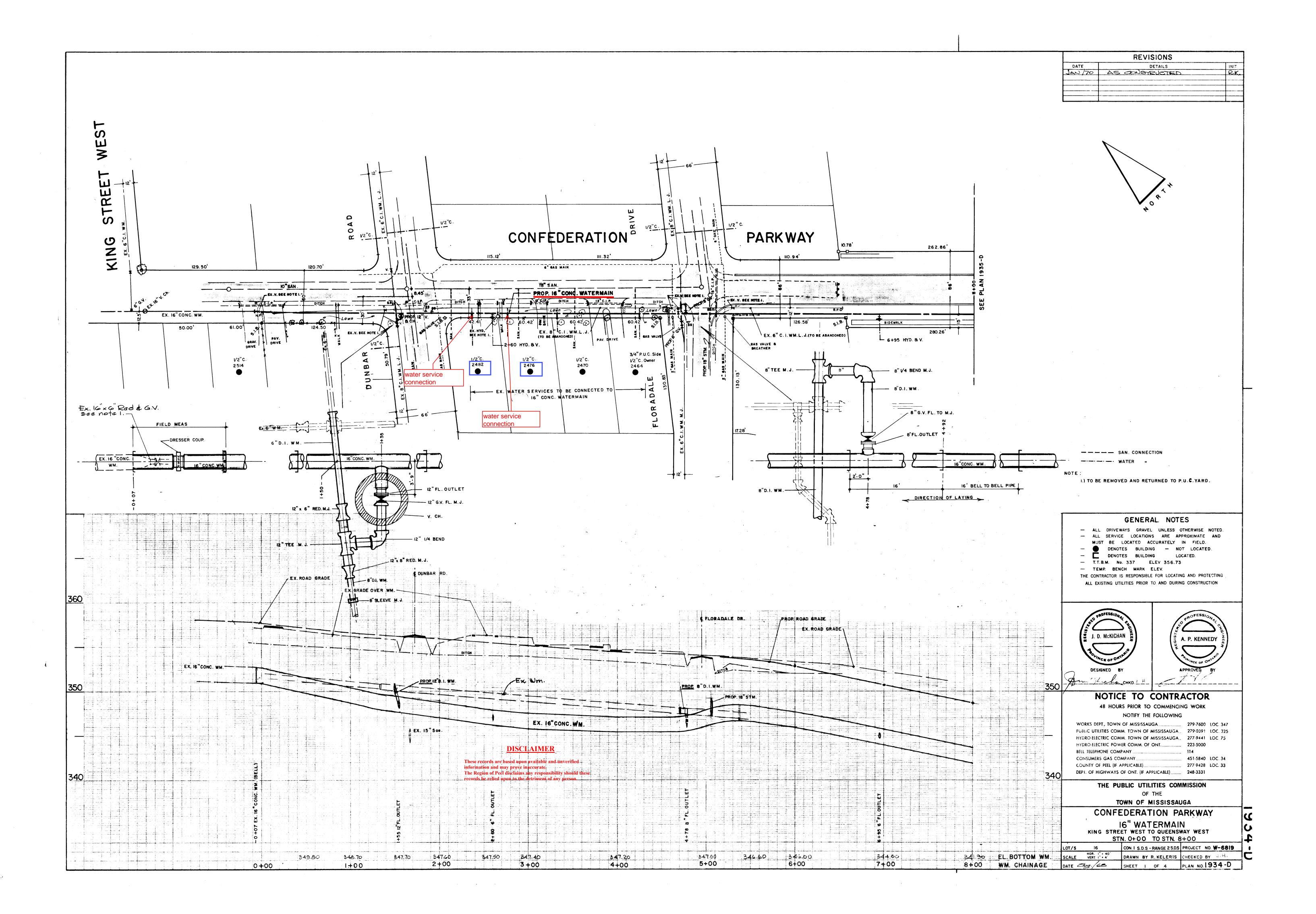
134 Peter St., #1301 Toronto, ON M5A 4M2 t: (416) 525 7772 w: www.trevormcivor.com

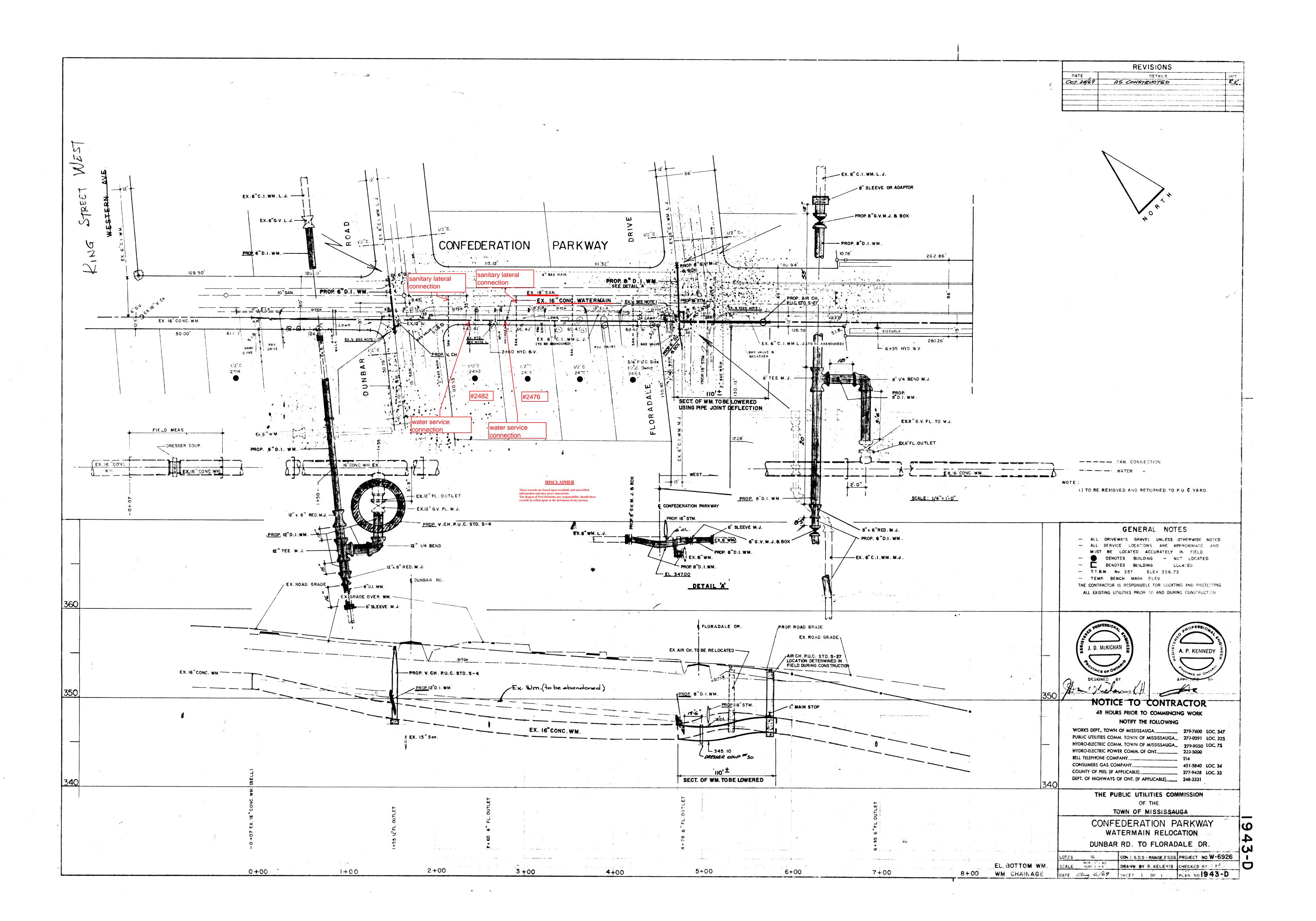
Consultant Architect

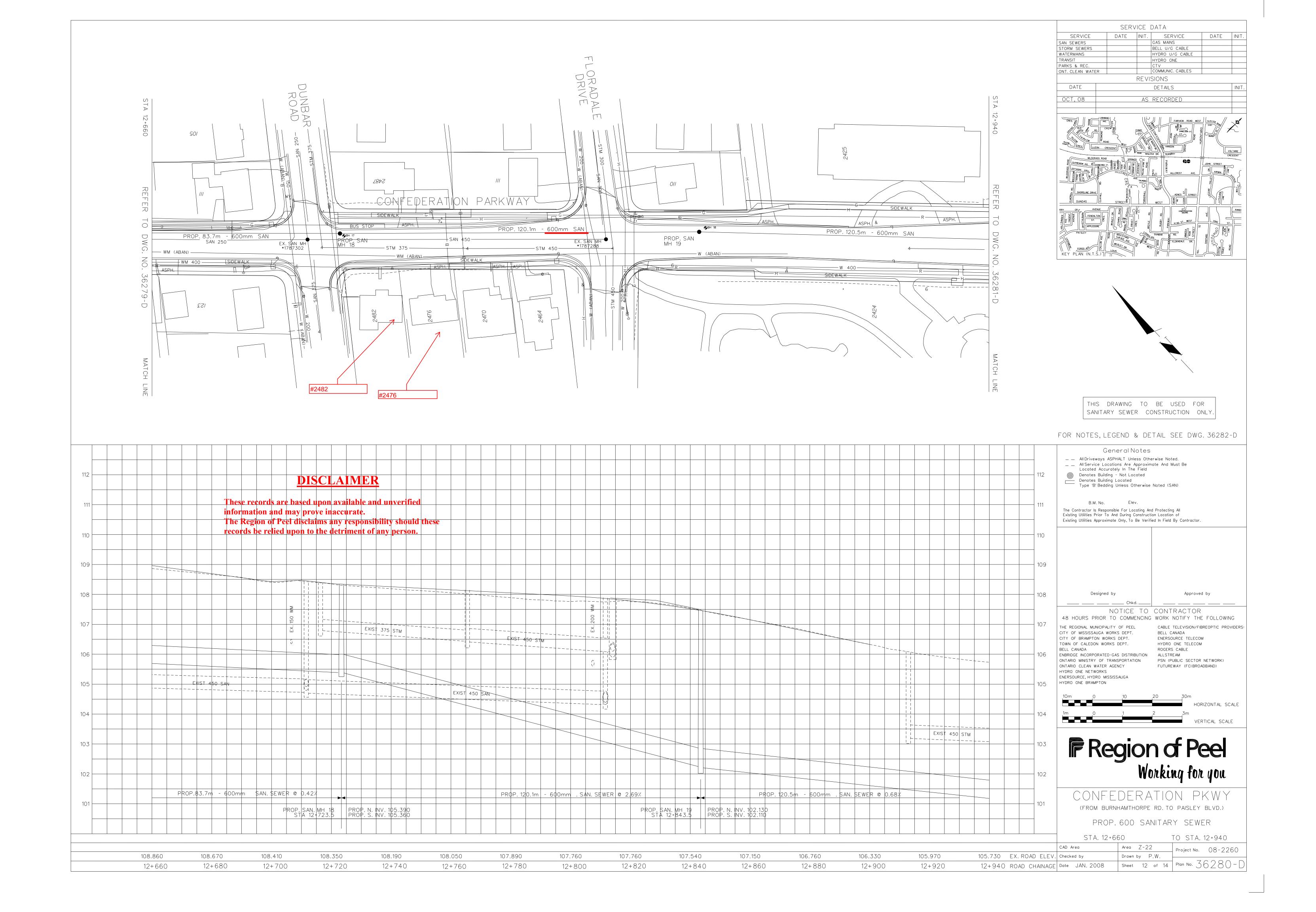
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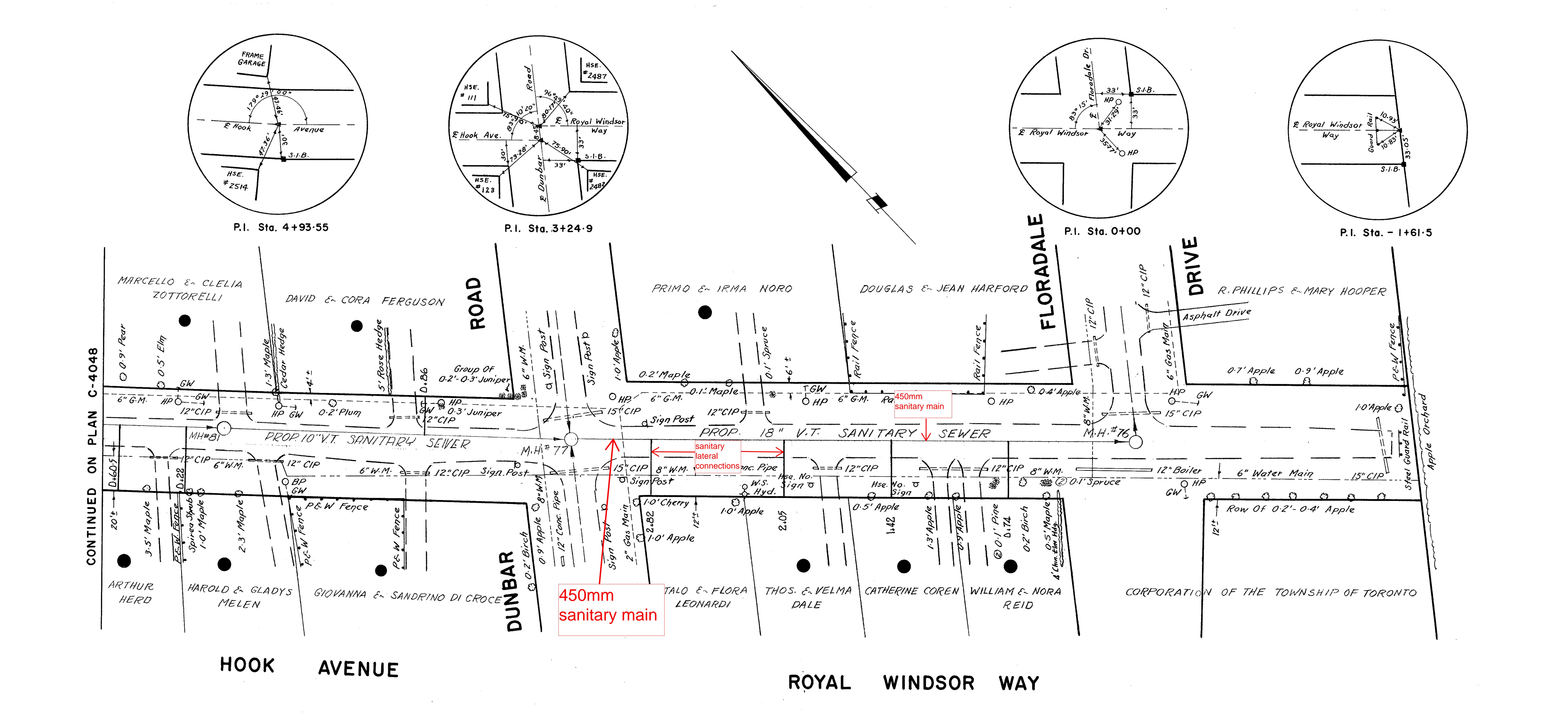
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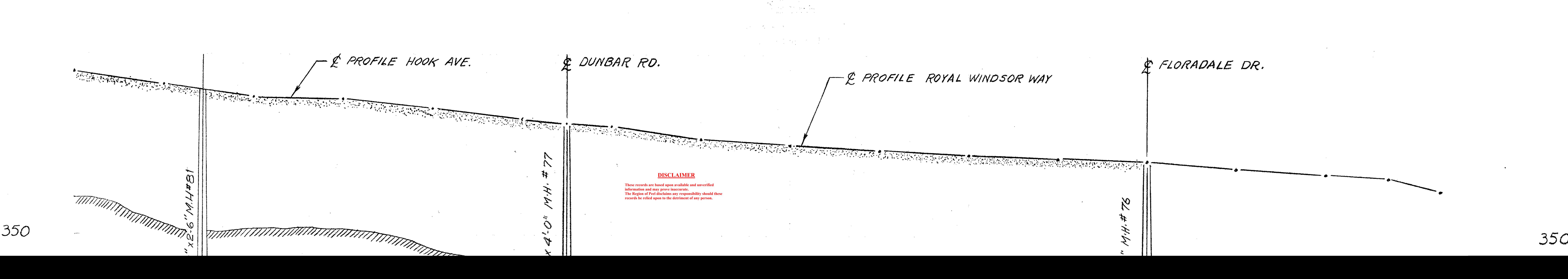
Site Plan 2482











Formula-based TV Inspection Report (Full) - Region Of Peel

(New Format)

TV- Inspection # (in Hansen): 796441

Inspection Date: 23-Jun-2015 Project #: Weather: 3

<u>Upstream MH:</u> 1787302 <u>Dnstream MH:</u> 1787288 <u>Depth of Upstream MH (m):</u> <u>Tile #:</u> 0160

Address: CONFEDERATION PKY MISSISSAUGA <u>Installation Date:</u> 18-Mar-1960

<u>Diameter (mm):</u> 450 <u>Length (m):</u> 100.50 <u>Pipe Material:</u> VIT <u>Drawing #:</u> C4047

Starting MH: Upstream MH - 1787302

Direction of Inspection

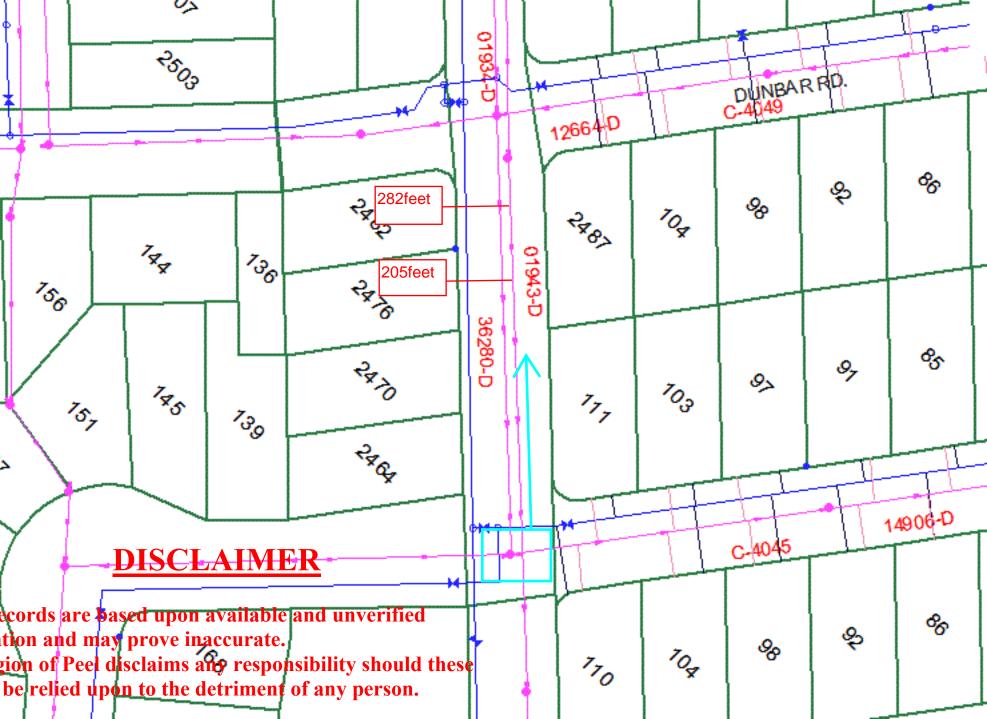
Meas From	Upst-MH	Meas.%	Observation	Observation Details
<u>From</u>	<u>To</u>			
0.00	0.00		MANHOLE NODE	
0.00	0.00		GENERAL OBSERVATION	
0.00	0.00		GENERAL OBSERVATION	
0.00	0.00	10.0	WATER LEVEL	
0.00	99.20		SUR WEAR SLIGHT/ROUGHNESS INCR	At 08 To 04 O'clock
0.00	99.20	5.0	DEBRIS GREASE/ATTACHED GREASE	At 05 O'clock
0.00	99.20	5.0	DEBRIS GREASE/ATTACHED GREASE	At 07 O'clock
2.20	17.80	5.0	DEPOSITS ATTACHED ENCRUSTATION	At 07 To 05 O'clock
25.70	25.70		JUNCTION/TAP FACTORY DECTIVE	At 01 O'clock
37.00	37.00		JUNCTION/TAP FACTORY #2476	At 01 O'clock
56.00	56.00		TAP FACTORY ACTIVE	At 01 O'clock
77.00	77.00		JUNCTION/TAP FACTORY	At 01 O'clock
82.50	82.50	5.0	DEPOSITS ATTACHED ENCRUSTATION	At 07 To 09 O'clock
99.20	99.20		MANHOLE NODE	_
99.20	99.20		GENERAL OBSERVATION	

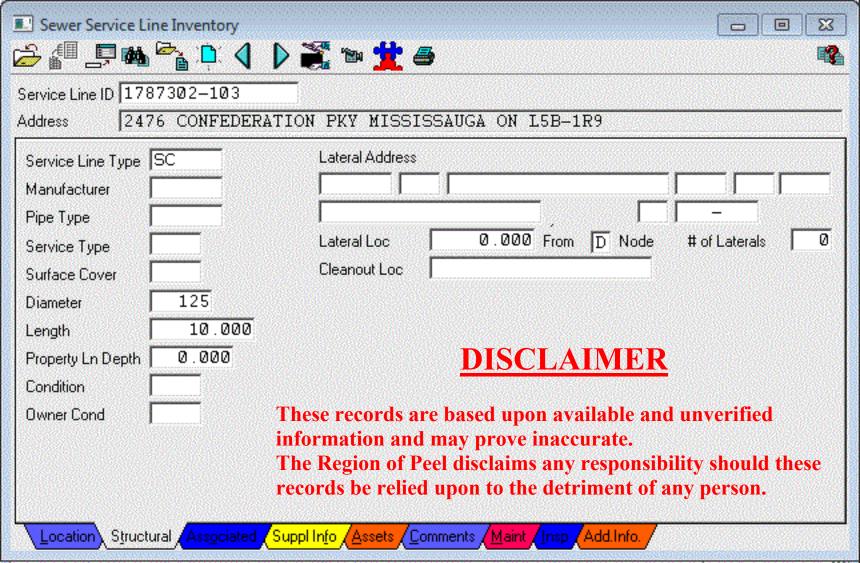
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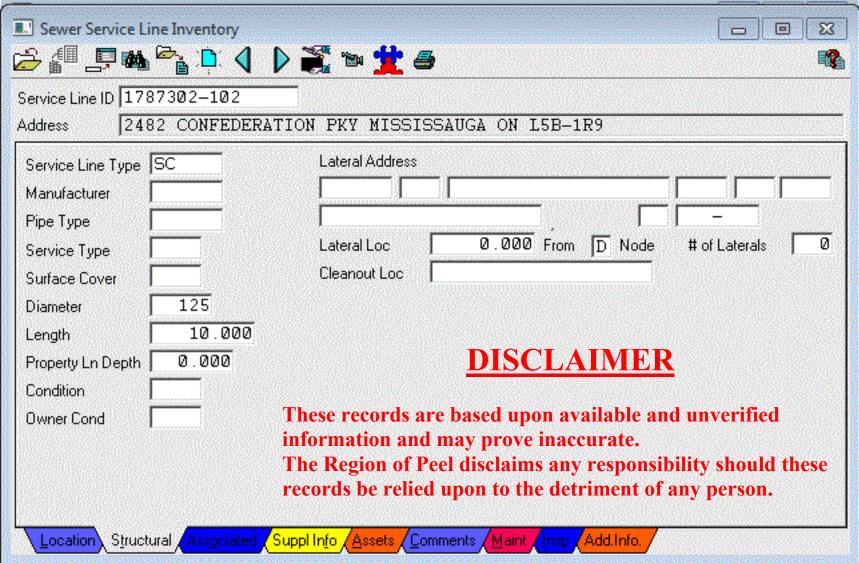
Formula-based TV Inspection Report (Full) - Region Of Peel

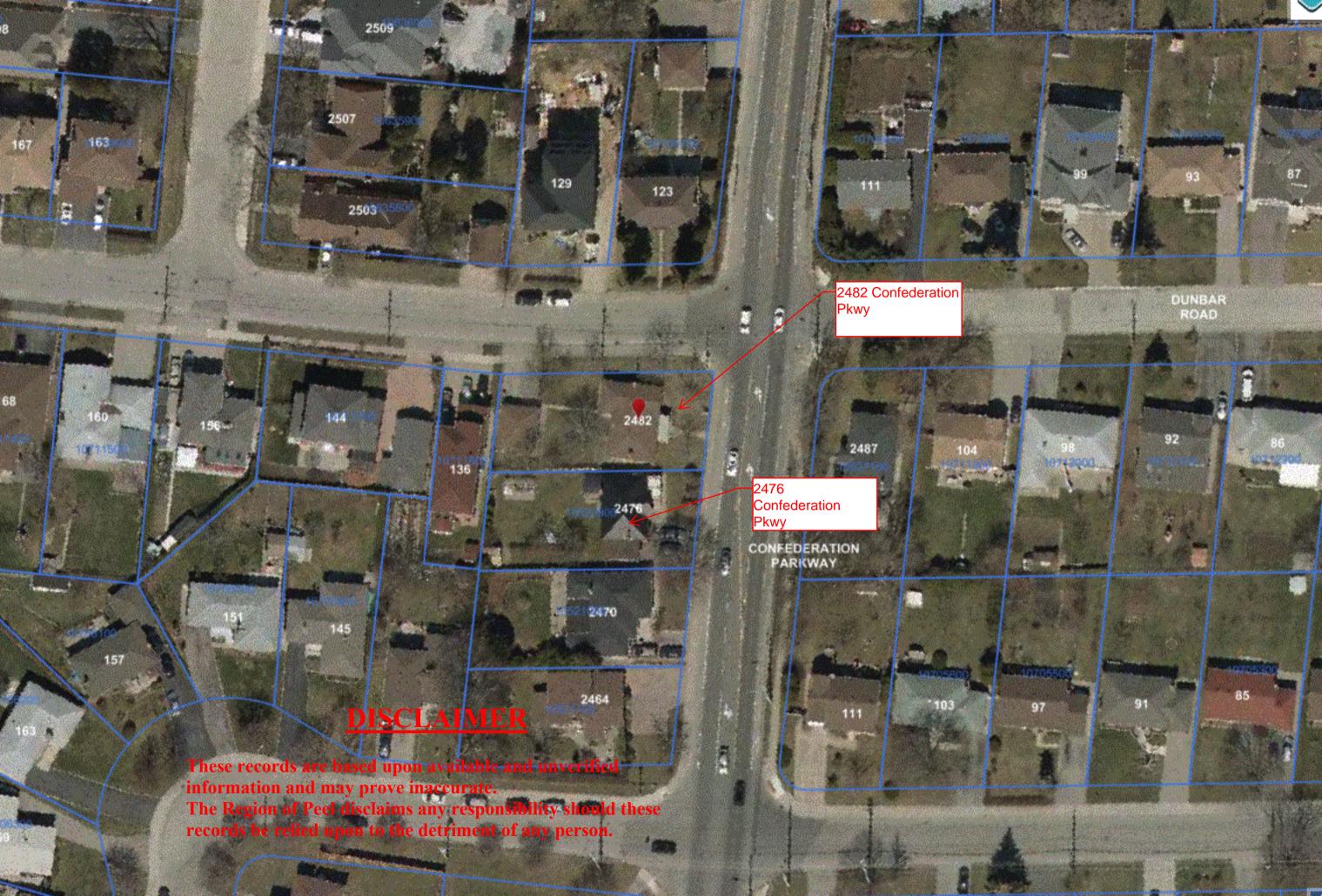
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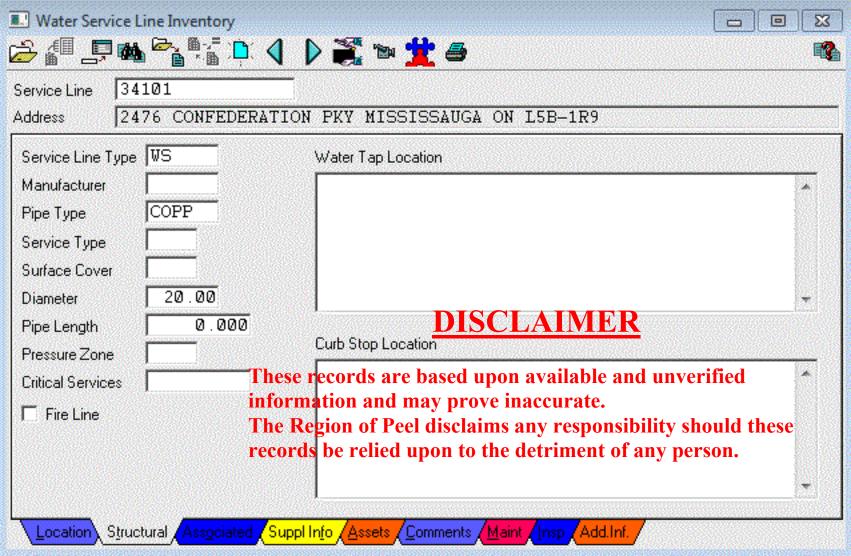
		`	
Ending MH:	Dnstream MH - 1787288		
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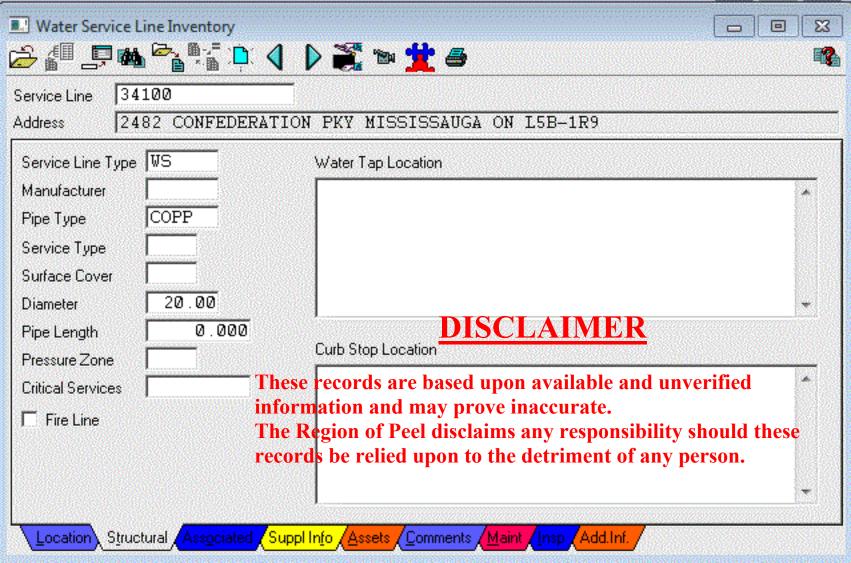




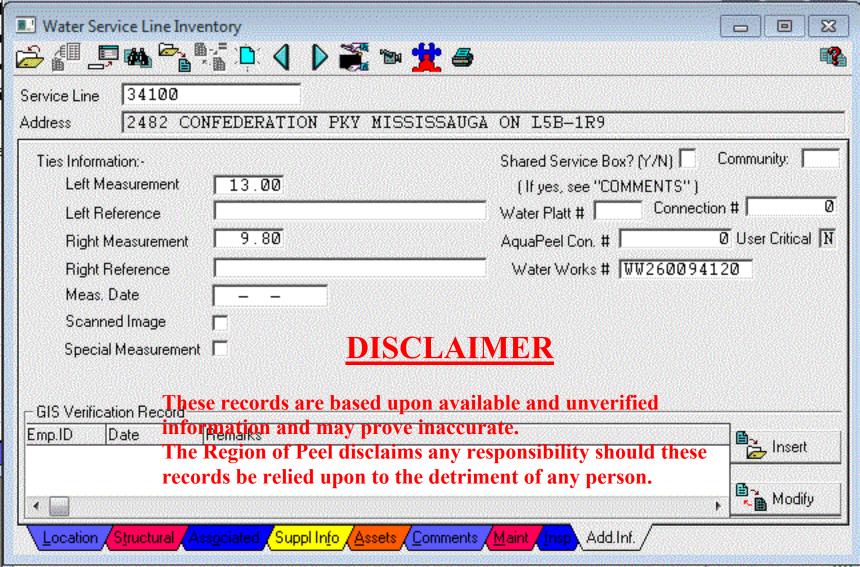


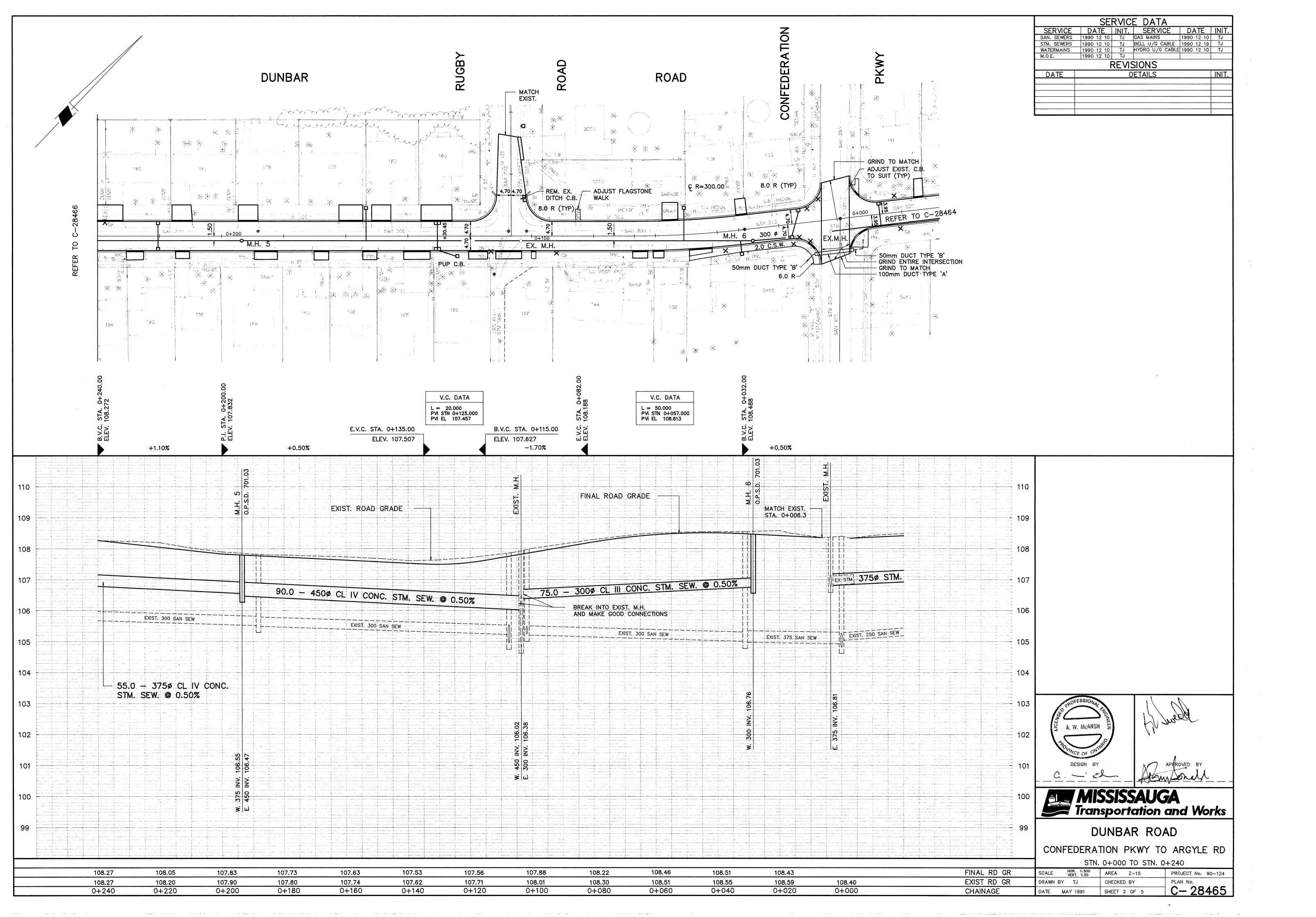


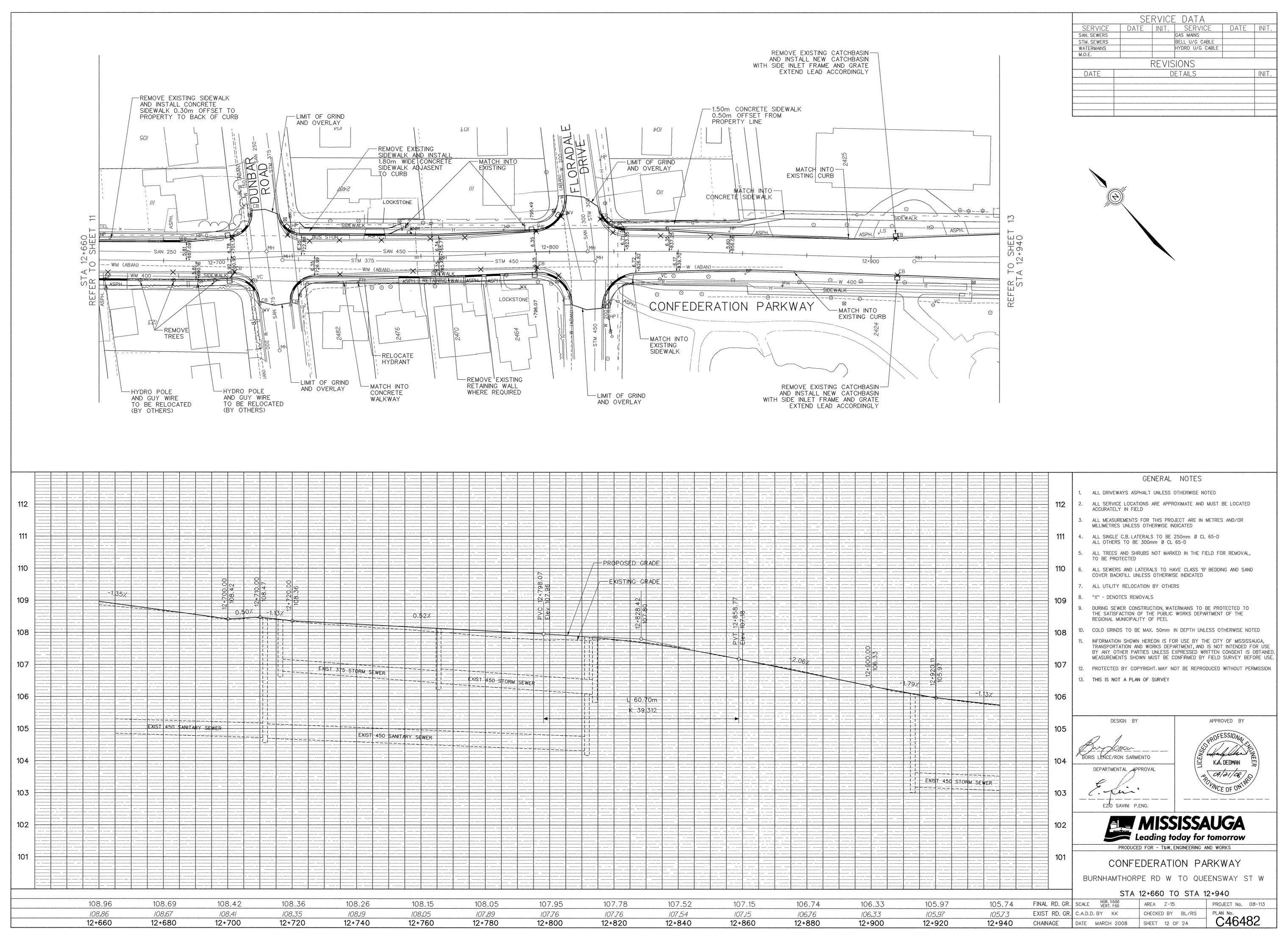




Water Service Line Inventory Service Line 34101 Address 2476 CONFEDERATION PKY MISSISS.	
Ties Information: Left Measurement 17.70 Left Reference G Right Measurement 9.50 Right Reference Meas. Date — DISCL Scanned Image DISCL Special Measurement These records are based upon a information and may prove ina GIS Verification Records Region of Peel disclaims and Emp.ID Date records relied upon to the decords.	nccurate. ny responsibility should these







wood.

Appendix B

Existing Conditions

Hydrologic Parameterization and Target Peak Flows

ent Peak Flows (All Un

Location	Sub#	Area (ha)	Perv (ha)	Imp (ha)	Outlet	Weighted C	Q=CI	A/360
							2 year	10 year
Overland to Confed. Pkwy.	101	0.04	0.02	0.02	Confed. Pkwy.	0.57	0.004	0.007
Overland to Dunbar Rd.	102	0.09	0.06	0.04	Dunbar Rd.	0.49	0.008	0.013
Overland to 2470 Confed. Pkwy.	103	0.01	0.01	0.001	2470 Confed. Pkwy.	0.36	0.001	0.001
	Total	0.14	0.09	0.06				

Cperv= 0.25 Cimp= 0.90

Rainfall Depths

City of Toronto IDF Parameters

Storm (year)	a	b	С	td (min)	i (mm/hr)
2	610	4.6	0.78	15	59.89
5	820	4.6	0.78	15	80.51
10	1010	4.6	0.78	15	99.17
25	1160	4.6	0.78	15	113.89
50	1300	4.7	0.78	15	127.13
100	1450	4.9	0.78	15	140.69

Proposed Conditions

Hydrologic Parameterization and Future Condition Peak Flows							ient Peak Fl	lows (All Un
Location	Sub#	Area (ha)	Perv (ha)	Imp (ha)	Outlet	Weighted C	Q=CI	A/360
							2 year	10 year
Overland to Confed. Pkwy.	201	0.02	0.02	0.01	Confed. Pkwy.	0.44	0.002	0.003
Overland to Dunbar Rd.	202	0.12	0.04	0.09	Dunbar Rd.	0.71	0.014	0.024
	Total	0.14	0.05	0.09				

Cperv= 0.25 Cimp= 0.90

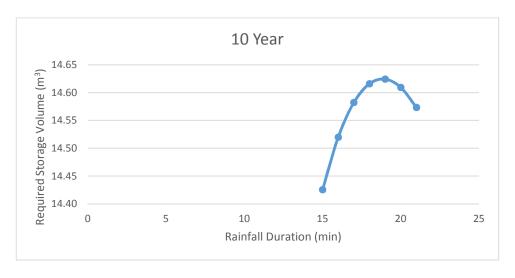
Rainfall Depths

City of Toronto IDF Parameters

Storm (year)	а	b	С	td (min)	i (mm/hr)
2	610	4.6	0.78	15	59.89
5	820	4.6	0.78	15	80.51
10	1010	4.6	0.78	15	99.17
25	1160	4.6	0.78	15	113.89
50	1300	4.7	0.78	15	127.13
100	1450	4.9	0.78	15	140.69

Subcatchment 202-Future Conditions Required Storage

10 Year Sto	10 Year Storm		C =	0.71	
			A =	0.12	ha
		Allowable	Discharge=	0.008	m ³ /s
	Actual Orifice Discharge=			0.008	m ³ /s
	Min Tc =			15	min
а	b	С			
1010	4.6	0.78			
					Required
Rainfall	Rainfall	Peak	Runoff	Release	Storage
Duration	Intensity	Flow	Volume	Volume	Volume
(min)	(mm/hr)	(m^3/s)	(m^3)	(m^3)	(m^3)
15	99.17	0.024	21.36	6.93	14.43
16	95.39	0.023	21.91	7.39	14.52
17	91.93	0.022	22.44	7.86	14.58
18	88.74	0.021	22.93	8.32	14.62
19	85.79	0.021	23.40	8.78	14.62
20	83.06	0.020	23.85	9.24	14.61
21	80.52	0.019	24.28	9.70	14.57
				MAX	14.62



Subcatchment 202-Future Conditions Storage Volume

Manhole Diameter (mm)	Area (m²)	Depth (m)	Volume (m³)
1200	1.131	1.55	1.8
1200	1.131	1.41	1.6

Catchbasin Size	_	Depth (m)	Volume
(mm)	(m²)	. ,	(m³)
600 x 600	0.360	1.2	0.4

Provided Storm Sewer Storage = $3.8 ext{ m}^3$ Provided Underground Storage = $13.9 ext{ m}^3$ **Total Provided Storage = 17.7 ext{ m}^3**

Required Storage = 14.6 m³

STOPHTANK Module Volume Calculator

Confederation Parkway Project Name: Engineer: Wood Date: 28-Mar-19 Units: SI Liner: Yes Location: Excavation Stacking: Single Height: 609.6 Stone Storage: ΑII Porosity: 40%

	Module					
	Footprint:		10.968	m^2		
	Perimeter:		22.85	m		
	_					
	Ex	cav	ation			
	Footprint:		23.9	m^2		
	Perimeter:		49.8	m		
	_					
ns		Sto	ne			
Dimensions	Leveling Bed:		0.152	m		
nen	Top Backfill:		0.3	m		
Din	Compacted Fill:		0.3734	m m		

Results

Capacity:

Stone Storage Volume:7.47m^3Module Storage Volume:6.44m^3Total Storage Volume:13.91m^3

Quantities:

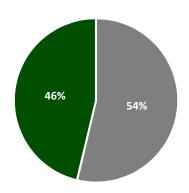
Required Excavation: 34.30 m^3 Required Stone: 18.69 m^3

Estimated Geotextile:

Surrounding Module: 39.85 m^2
Surrounding Excavation: 223.71 m^2
Estimated Liner: 111.85 m^2

(Estimations include 10% for scrap and overlap)

Storage Capacity Ratio



■ Stone Storage Volume:

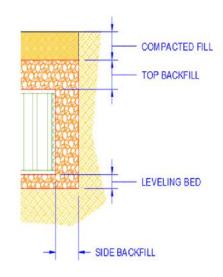
■ Module Storage Volume:

Basin Detail

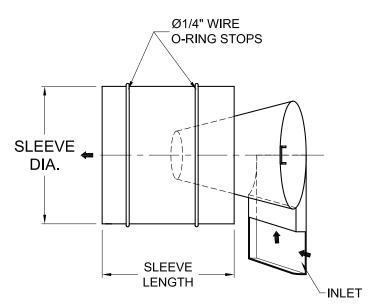
Component Quantities:

	Bottom	Top	Total
	Layer	Layer	TOtal
Height	609.6	N/A	609.6
# of Modules	26	N/A	26
# of Platens	52	N/A	52
# of Side Panels	50	N/A	50
# of Columns	210	N/A	210
# of Stacking Pins	0	N/A	0

Cross-Section:



	FC9 with 76 mm	FC9 with 89 mm	FC9 with 102	FC9 with 114
	Outlet	Outlet	mm Outlet	mm Outlet
Head	Flow	Flow	Flow	Flow
(m)	(l/s)	(l/s)	(l/s)	(l/s)
0.000	0.000	0.000	0.000	0.000
0.152	2.830	3.964	5.663	7.787
0.305	3.100	4.875	6.371	8.778
0.457	2.750	4.530	6.512	9.061
0.610	3.100	4.700	7.070	9.627
0.686	3.496	5.306	7.688	9.832
0.762	3.685	5.593	8.104	10.364
0.838	3.865	5.866	8.500	10.869
0.914	4.037	6.127	8.878	11.353
0.991	4.201	6.377	9.240	11.816
1.067	4.360	6.618	9.589	12.262
1.143	4.513	6.850	9.926	12.693
1.219	4.661	7.075	10.251	13.109
1.295	4.805	7.292	10.567	13.512
1.372	4.944	7.504	10.873	13.904
1.448	5.079	7.709	11.171	14.285
<mark>1.524</mark>	5.211	<mark>7.910</mark>	11.461	14.656
1.600	5.340	8.105	11.744	15.018
1.676	5.466	8.296	12.020	15.372
1.753	5.588	8.482	12.291	15.717
1.829	5.709	8.665	12.555	16.055
1.905	5.826	8.843	12.814	16.386
1.981	5.942	9.018	13.068	16.711
2.057	6.055	9.190	13.316	17.029
2.134	6.166	9.359	13.561	17.342
2.210	6.275	9.524	13.801	17.649
2.286	6.382	9.687	14.037	17.950
2.362	6.488	9.847	14.269	18.247
2.438	6.592	10.005	14.497	18.539
2.515	6.694	10.160	14.722	18.826
2.591	6.795	10.313	14.943	19.109
2.667	6.894	10.463	15.161	19.388
2.743	6.992	10.612	15.377	19.663
2.819	7.088	10.758	15.589	19.935
2.896	7.183	10.903	15.798	20.202
2.972	7.277	11.045	16.004	20.466
3.048	7.370	11.186	16.208	20.727

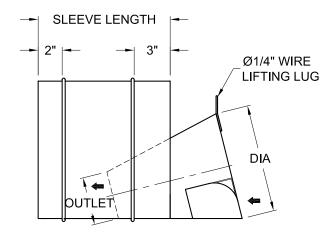


NOTES

- 1. FLUIDIC-CONE SIZES VARY BASED ON SITE REQUIREMENTS (SEE FLOW CHARTS)
- 2. SLEEVE DIAMETER & LENGTH DEPEND ON PIPE SIZE AND MATERIAL.
- 3. ATTACHMENT MAY BE MADE BY A PLATE, A SLEEVE (AS SHOWN) OR A BOLTING FLANGE
- 4. OUTLET SIZE VARIES BASED ON DESIRED OUTFLOW RATES (Ø3" MINIMUM)
- 5. ALL WELDS CONTINUOUS UNLESS NOTED OTHERWISE

MATERIALS: 12 GA. 304L STAINLESS STEEL (1) Ø5/8" AND (1) Ø9/16" BUNA N, 50 DUROMETER O-RINGS

TOP VIEW



SIDE VIEW

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TYPICAL DETAIL
FLUIDIC-CONE™ HYDROBRAKE
WITH SLEEVE ATTACHMENT & BOX INLET

NOT INTENDED FOR CONSTRUCTION PURPOSES

DATE: 4/10/06 SCALE: NONE FILE NAME: TYPFCSLV DRAWN: JBS CHECKED: NDG