Kingridge Developments

1786 Polaris Way, City of Mississauga

Functional Servicing and Stormwater Management Report (FSR/SWM)

March 26, 2025

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March 26, 2025

Prepared By:
Arcadis Professional Services (Canada) Inc.
8133 Warden Ave, Unit 300
Markham, ON L6G 1B3
Canada
Phone: 1 905 763 2322
www.arcadis.com

Prepared For:
Kingridge Developments
1660 North Service Road East
Suite 109-B
Oakville, ON L6H 7G3
Phone: 1 416 277 7466
Email: info@Kingridgedevelopments.ca

Our Ref:
#145121

Mehrdad Shooshtary P.Eng.
Project Manager
Land Engineering

Saul Rodriguez, C.E.T.
Associate – Manager
Land Engineering

Andy Kroess, M.Eng., P.Eng.
Senior Water Resources Engineer
Water & Environmental Resources

Version Control

Issue	Revision No.	Date Issued	Description	Reviewed By
First Submission	1	Feb. 23, 2024	Submitted for OPA/Zoning/SPA	Saul Rodriguez Benny Hon
Second Submission	2	Dec. 18, 2024	Submitted for OPA/Zoning/SPA	Saul Rodriguez Benny Hon
Third Submission	3	Mar. 26, 2025	Submitted for OPA/Zoning/SPA	Saul Rodriguez

Contents

Tables

Figures

Appendices

1 Introduction

Arcadis Professional Services (Canada) Inc. (Arcadis) was retained by “Kingridge Develpments” (the “Owner”) to prepare a site-specific Functional Servicing and Stormwater Management Report (FSR/SWM) for a proposed development of six (6) 3-Storey Townhouse blocks and two (2) Semi-detached homes. The subject site is part of Blocks 1 and 2, Registered Plan 43M-2076 in the City of Mississauga, Regional Municipality of Peel. The site is located on the east side of Mississauga Road, approximately 200m south of Eglinton Avenue West.

This property was previously owned by 2462357 Ontario Inc. (Pace Developments), who obtained site plan approval for 11 Single Detached Homes and was able to construct the road and services, including laterals. (Refer to The Archways, Cole#UD15-0347, City File# OZ 09/004 W8, Peel File# T-M09002 M)

This report addresses how the existing infrastructure can be utilized to service the proposed development with full municipal services according to current design requirements of applicable agencies and the municipality.

The total site area is approximately 1.09 ha with a developable area of approximately 0.649 ha (Site Plan) and located near the intersection of Eglinton Avenue West and Mississauga Road. Refer to **Plate 1** for an aerial view of the site.

PLATE 1: Site Aerial Photo (Source: maps.google.ca)

This report will document the functional grading, servicing, and stormwater management controls for the subject lands in order to demonstrate the feasibility of the proposed development in accordance with local and municipal regulatory agencies development criteria from a site civil engineering perspective.

2 Existing Conditions

The subject lands are located within the Central Erin Mills Neighbourhood Character Area and has an area of approximately 1.09 ha comprised of partially developed area, vegetation, and forested areas. The lands are bounded by existing residential homes to the south and west side of Mississauga Road, the existing Church of Croatian Martyrs to the north, and the Croatian park to the east. Approximately 0.649 ha of the entire area was previously approved for development and was partially constructed. The nearest intersection to the subject lands is Eglinton Avenue West and Mississauga Road.

2.1 Roads

The site is bound by an arterial road being Eglinton Avenue West running east and west, approximately 200m to the north of the site and major collector road being Mississauga Road running north and south. Currently, the site is only accessible from Mississauga Road, which is an urbanized road.

2.2 Sidewalks

There are existing municipal sidewalks along the west side and partially on the east along Mississauga Road and on both sides along Eglinton Avenue West.

2.3 Topography and Drainage

The subject land varies in slope intensity and topographic elevation varies about 3.5m. The site was partially constructed by the previous Developer (Pace Developments) under the project The Archways. The site road, Polaris Way, was constructed to base asphalt, along with all services, and the lots were graded to pregrade depths. There is a stone/soil stockpile that covers the majority of Polaris Way and a soil pile located in the north east side of the site. Under the existing conditions, the site generally slopes to the north and south of the site towards the existing rear lot catchbasins. The flows are then captured and conveyed to the existing storm sewer on Polaris Way and then north on Mississauga Road. See Figure **SWM-01** in **Appendix B** of the SWM Design Report (**Appendix E** of FSR) for pervious design, which shows the existing catchment boundary and drainage flow directions of the subject land.

2.4 Storm Sewers

Based on the available plan and profile data, prepared by Cole Engineering for The Archway Development, there are existing storm sewers on Polaris Way, ranging from 300mm dia. to 450mm dia. The flows from the site will be conveyed by an existing storm sewer, ranging from 525mm dia to 750mm dia., that drains north on Mississauga Road, east through Thorny-Brae Place and then south-east connecting to the existing headwall from the Church of Croatian Martyrs, which outlets to the Credit River. The storm laterals and rear lot catchbasins were installed on Polaris Way for the previously proposed Single Detached homes.

2.5 Sanitary Infrastructure

Based on the available plan and profile data prepared by Cole Engineering for The Archway Development, there is an existing 200mm diameter sanitary sewer located on Polaris Way, which conveys flows south on Mississauga Road. The sanitary laterals were installed on Polaris Way for the previously proposed Single Detached homes.

2.6 Water Supply and Distribution

The proposed site is to be serviced by the pressure district Zone 3 water distribution system, in Regional Municipality of Peel. The top water level of the storage facilities is 205.7m and the Hydraulic Grade Line (HGL) is 213.4m.

There is an existing 150mm diameter watermain connection on Polaris Way, servicing the subject site, which was installed by the previous Developer (Pace Developments) for The Archway development.

There is an existing 300mm diameter watermain located on the east side of Mississauga Road andan existing fire hydrant on the east side of Mississauga Road just north of Polaris Way entrance. As well as another existing fire hydrant on Polaris Way approximately 80m east of Mississauga Road.

A fire hydrant flow test was conducted at nearby hydrants in 2018 for the previous development. Subsequently, a recent hydrant test was performed along Mississauga Road. A new hydrant test (flowing at the hydrant within the subject site) will be done to re-visit capacity during the building construction stages. The recent flow test location and results can be found in **Appendix D.1**.

The detected static system pressures were found to be approximately 90psi (622kPa) corresponding to system head at 209.4m. The estimated system head was slightly lower than the typical HGL 213.4 m in Zone 3 distribution system. The available flow is 319L/s (at 20 psi) along Mississauga Road near the subject site – see **Appendix D.2** for details.

2.7 Utilities

The subject site abuts Mississauga Road and It is expected that utilities will be available in the area along Mississauga Road. The use of these utilities will be verified and confirmed at the detail design stage.

3 Proposed Conditions

The proposed residential development will consist of six (6) 3-storey Townhouse blocks (32 units), two (2) Semi-Detached Homes (4 units), and five (5) visitor parking spaces.

Refer to **Figure 2-Site Plan** in **Appendix A** for a proposed concept plan of the development.

3.1 Roads

Access to the proposed development will be provided via the existing Polaris Way entrance from Mississauga Road.

3.2 Grading

The grading strategy for the proposed development will respect the previously approved design for The Archways by Pace Developments. The design will match existing grades along the property lines except on the north side where we will be matching to top of existing curb in the parking lot of the Church of Croatian Martyrs. Alternatively, a proposed retaining wall is shown running along the north side of the proposed development limit on drawing **SG-1**, for the scenario in which the landowner to the north does not allow for grading beyond the property boundary. The proposed site grading for the site will match the existing perimeter grades where possible. Split lots and walkout grading of the townhomes and semi-detached blocks will be used to minimize the cut/fill requirements. The proposed grading will direct runoff to the existing road, proposed rear lot swales and rear-lot catchbasins, and ultimately into the existing storm sewers on Polaris Way. There will be an area on the east side of the development that will drain uncontrolled to the existing Greenlands.

Refer to Figure **SG-01** in **Appendix A** where a preliminary site grading plan shows the proposed grading approach.

As a general guideline for the proposed site grading, the following City standards have been observed:

- Minimum – maximum road grading of 0.5% - 5%;
- Lot surfaces shall be constructed to a minimum grading of 2%;
- Maximum grade of 3:1 for slope,
- Minimum – maximum driveway entrance grade of 2% to 8%; and
- Minimum swales of 2% and min. depth of 150mm (exception for Block1).

The proposed site grading is constrained by the existing grades along the site perimeter and Mississauga Road. We will however ensure smooth transitions between proposed and existing ground. Any drainage alteration will not have negative effect on the neighbouring properties. The overland flows from the proposed site development will be conveyed towards Mississauga Road and existing greenlands.

Grading of the site and building accesses will ensure barrier free walkways to main entrances. Pedestrians will have access throughout the development via sidewalks to the various building entrances. Also, during detail design the grading will be further refined for transitioning between blocks with any sloping/terracing where required.

3.3 Sanitary Infrastructure

The total design flow from the proposed development is 1.9 L/s as per the Regional Municipality of Peel Linear Wastewater Standards.

The existing sanitary sewer network consists of 200mm diameter pipe, which collects and conveys sewage towards Mississauga Road with approximate cover of 3.0m and a slope of 0.5%.

The existing sanitary sewer on Polaris Way and Mississauga Road was designed and constructed by the previous developer, Pace Developments for The Archways. It is our intent to utilize the existing service connections where possible and propose new connections where required.

Based on the proposed usage of the building, we anticipate that the peak sanitary flow from the site will be 1.9 L/s. Given that the existing sanitary sewer is a 200mm diameter at 0.50%, with a full flow capacity of 23.3 L/s, we do not have concerns with respect to sanitary capacity for the proposed development.

The existing sewer layout and inverts have been shown in the Figure **SS-01** in **Appendix A**.

As part of detailed design submissions, the sanitary servicing will be further refined.

In accordance with the Region Standards, residential sewage flows shall be calculated on the basis of the following for residential areas:

- Residential Average Daily Domestic Flow – 290 litres/person/day (lpcd);
- Infiltration Allowance for new subdivision – 0.26 litres/sec/hectare;
- Peaking factor – minimum 2.0 and maximum 4.0; and,
- Velocity – minimum 0.60 m/s and maximum 3.0 m/s.

All sanitary sewers have been sized to handle the theoretical daily peak flow per the Region requirement, the sanitary sewage flows have been estimated using the following formula:

$$Q = \frac{PqM}{86.4} + IA$$

The subject lands are zoned for specific residential use, the following population density has been used and as shown in the following **Table 3.1,** along with the calculated sanitary flow values for the subject lands.

Table 3-1 Population Densities – Known Lot Configuration

Type of Housing	Persons/Unit	Population	Peak Factor	Design Flow (L/s)	Infiltration (L/s)	Total Sanitary Flow (L/s)
Townhouses/Semi-detached	3.49 (weighted avg.)	126	4.00	1.69	0.21	1.90

Refer to the **Sanitary Design Sheet**, in **Appendix B**.

3.4 Stormwater Management

The subject site is located within the Credit River Watershed. The site must therefore meet the local City of Mississauga Development Requirements, Credit Valley Conservation Authority, and Ministry of the Environment, Conservation and Parks (MECP) stormwater standards. The following design criteria will be required:

- Storm sewers are to be designed to the City of Mississauga – 10 Year Intensity Duration Frequency (IDF) storm event;
- No quantity storage is required by the CVC and agreed upon by the City due to the close proximity to the Credit River;
- The storm runoff on Polaris Way, Mississauga Road, and Thorny-Brae Place are to be collected in the new storm sewer and discharged to the existing headwall which outlets into the valley depression and ultimately into the Credit River;
- For the Archways, Low Impact Development (LID) measures such as infiltration galleries at all rear lot catch basins and a 300mm deep topsoil layer will be implemented to reduce surface runoff and promote infiltration; and
- For The Archways, rooftop rainwater leaders of the rear-draining building areas will be collectively directed to rear yard infiltration trenches.

The proposed stormwater management plan meets criteria outlined by the City of Mississauga, CVC, and the MECP. Due to the close proximity to the Credit River quantity controls are not required, and the site will discharge via the recently constructed storm sewer on Mississauga Road and Thorny-Brae Place to the existing drainage feature from the top of slope to the Credit River. Since the total asphalt area of the site is comparable to the existing conditions, and the proposed rooftop is considered to generate “clean” runoff, the overall water quality of the site will remain comparable to existing conditions. The design also includes an oil-grit separator unit (Stormceptor model STC 2000), which was previously installed. Effective use of LIDs will promote infiltration and provide additional water quality measures for the development site.

The proposed 1786 Polaris Way development installed 300mm to 450mm diameter storm sewers in 2019, which connects to an existing 525 mm to 600 mm diameter storm sewer on Mississauga Road and a 675 mm to 750 mm diameter storm sewer on Thorny-Brae Place. The sewer connects to the recently constructed wingwall on the existing headwall which is the outlet for the Church storm sewer system that outlets into the valley depression and ultimately into the Credit River. Major flows from Polaris Drive at the 1786 Polaris Way development will be directed to Mississauga Road

Detailed discussions and calculations are included in the Stormwater Management Report (Arcadis, March 26, 2025) included in **Appendix E**.

3.5 Water Supply and Distribution

The proposed development is to be serviced by Zone 3 water distribution system in the Regional Municipality of Peel.

The proposed development will receive water supply from the existing 150mm diameter along Polaris Way, which connects to the existing municipal 300mm diameter watermain located along the east side of Mississauga Road. A 150mm diameter watermain was installed on the north side of Polaris Way with a 50mm diameter copper loop at

the hammerhead, under the previous project, The Archways by Pace Developments. It is our intent to use the existing water services installed on Polaris Way.

Approximately 32 Townhouse units and 4 Semi-Detached units are to be developed within the subject land with the ground elevations ranging from 143.31 to 146.90 m.

The estimated water consumption for the proposed residential development is anticipated to be approximately 0.4 L/s, 0.8 L/s and 1.1 L/s for the Average Day Demand (ADD), Maximum Day Demand (MDD) and Peak Hour Demand (PHD) condition, respectively. **Appendix D.2** showed the water demand estimations and based on the Region of Peel and City of Mississauga Watermain Guidelines.

As per Region's design criteria, the required fire flow was determined in accordance with the calculations from the FUS. The following assumptions have been made for the fire flow estimations:

- Consist of wood frame construction.
- A fire wall (2-hour rating) or equivalent to be provided every two (2) units in each townhouse block.
- A 15% reduction for the Occupancy and Contents Adjustment Factor.
- Based on the above assumptions, the required fire flow using the FUS method (see **Appendix D.4** for details) is approximately 167 L/s (2647USGPM) for the subject development.

As shown in **Table 3-2,** there are no significant pressure reductions with the proposed development under the normal operation conditions (ADD, MDD and PHD). The proposed system head and pressure within the subject site is approximately 209.4m and 622kPa (90psi), respectively. (see **Appendices D.2** and **D.5** for details).

Table 3-2 Proposed System Head and Pressure

Design Condition	System Head (m)	System Pressure (kPa)
Normal Operations (ADD, MDD and PHD)	209.4	622 (90psi)
Maximum Day + Fire Flow 167L/s (via two existing hydrants – on Mississauga Rd and Polaris Way)	198.8	518 (75psi)

As shown in **Table 3-2,** the projected system pressure is approximately 518kPa (75psi) at the two existing hydrant locations (on Mississauga Rd and Polaris Way) for the fire flow (167L/s) under the MDD demand conditions - see **Appendices D.2 and D.5** for details.

3.6 Utilities

The various utility services (i.e., Hydro, Gas, Cable and Telephone) will facilitate the proposed development by extending their respective existing infrastructure from Mississauga Road west of the subject site.

We anticipate that each of these utilities will identify their specific requirements through the standard application circulation, review, and design process.

It should be mentioned that utility designs were prepared and coordinated previously by Pace Developments for The Archways. The existing designs will need to be reviewed with the proposed concept plan and coordinated with the respective utilities.

4 Erosion & Sediment Control

During construction, erosion and sediment control measures will be required in accordance with the City of Mississauga, Peel Region, and Credit Valley Conservation Authority. Details of these controls will be provided during the detailed engineering design and will include as a minimum the following:

- Silt fences and protective hoarding to be erected around the site perimeter before any grading or topsoil stripping begins on the site to protect adjacent areas from migration of sediment in runoff and protection of identified trees.
- Installation of a “mud mat” at the construction entrance(s) to the site to minimize the amount of sediment transported off site by construction vehicles.
- Stabilization of all disturbed areas to minimize the opportunity for erosion.
- Stabilization of slopes greater than 5:1 using suitable methods (e.g. erosion control mats, tackifier and seed, etc.) as soon as practical.
- Existing ESC measures to be repaired and maintained subject to site inspections.

5 Summary

This report demonstrates that the proposed 1780 Polaris Way Development is feasible from a civil engineering perspective in accordance with the City of Mississauga, Regional Municipality of Peel, and Credit Valley Conservation Authority design criteria.

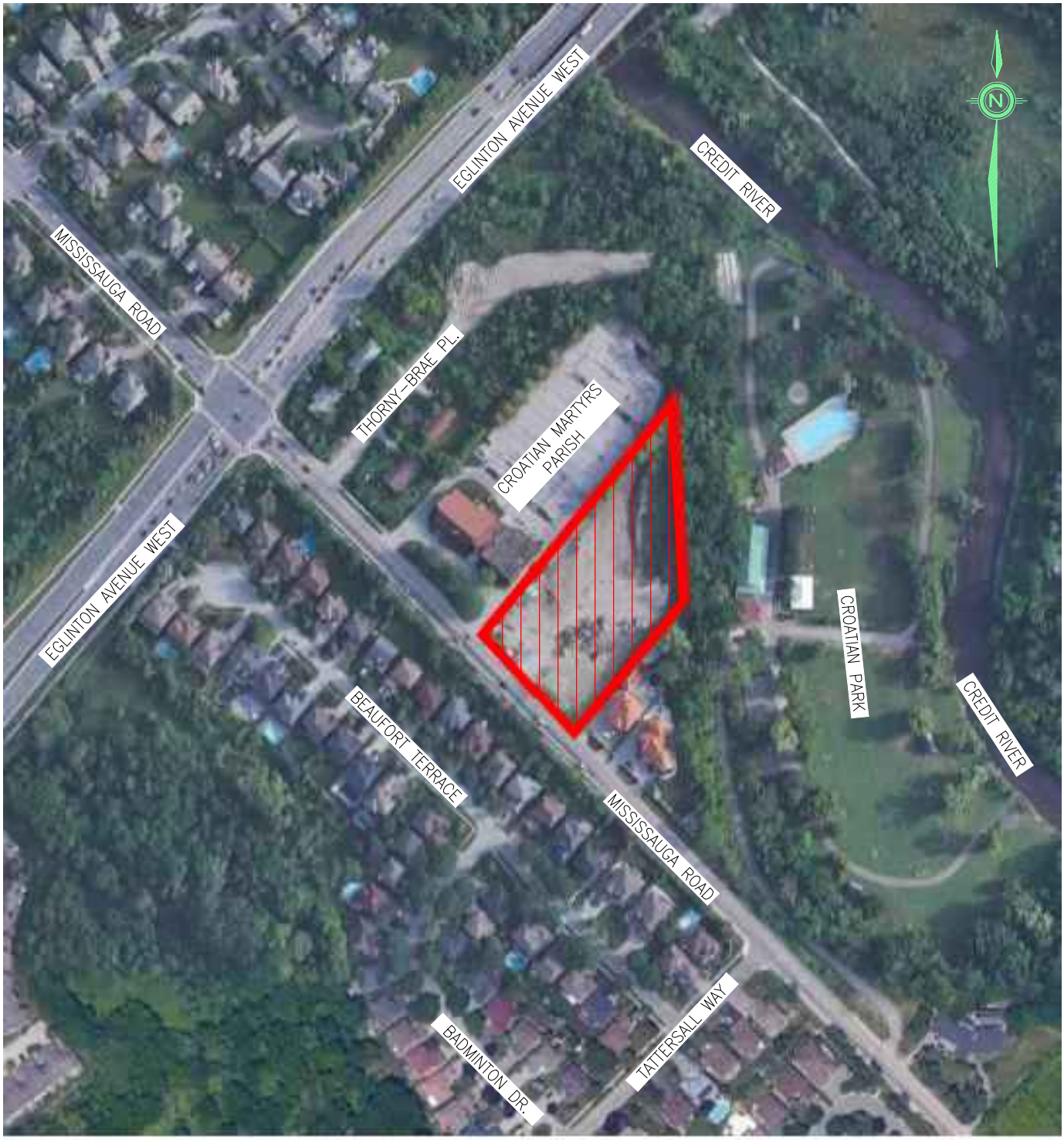
The following summarizes key aspects of the design:

- The proposed site grading will achieve compliant site gradients and match into the existing grades at its limits. The site grading will endeavour to follow the previous approved grading for The Archways.
- The proposed site development will outlet sanitary sewage into the existing 200mm sanitary sewer on Mississauga Road.
- Stormwater quantity controls are not required by the CVC and agreed upon by the City due to the close proximity of the site to the Credit River. The stormwater management design also includes a previously installed oil-grit separator unit (Stormceptor model STC 2000) and infiltration LIDs, which will promote recharge and provide additional water quality measures for the development site.
- The proposed site development will connect to the to the existing 150mm watermain along existing Polaris Way and 300mm watermain on Mississauga Road. Sufficient capacity is available for the proposed development. A new hydrant test will be performed (e.g., flowing at existing hydrant on Polaris Way) to re-confirm capacity prior to building construction.

We trust the foregoing in conjunction with the functional engineering drawings are satisfactory to demonstrate the development's feasibility from a municipal engineering perspective to support the rezoning application for the development. Should there be any questions or if further information required, please do not hesitate to contact Arcadis

Appendix A

Figures



LOCATION PLAN

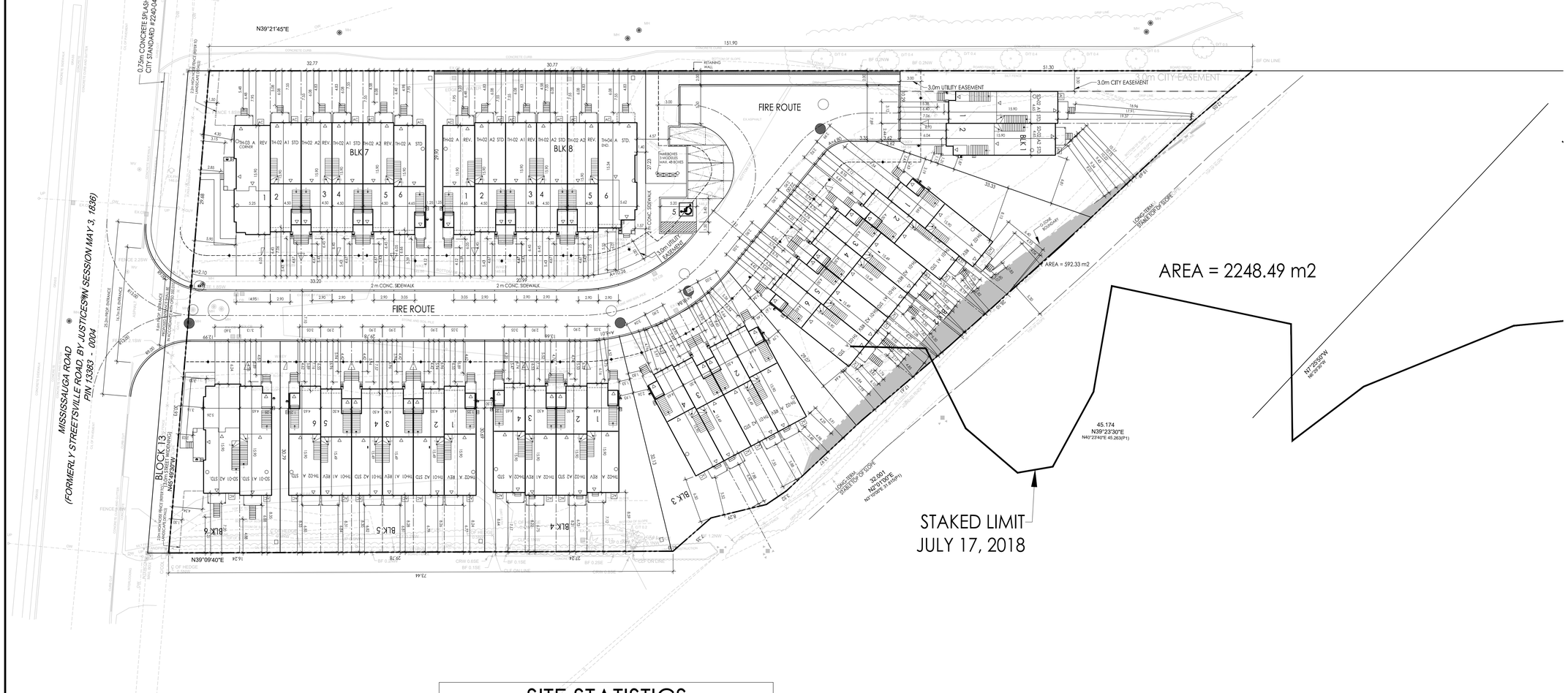
1765 POLARIS WAY,
CITY OF MISSISSAUGA, ONTARIO

DATE:	MARCH 2025	PROJECT No.:	145121
SCALE:	N.T.S.	FIGURE No.:	1

MISSISSAUGA

ARCADIS

J:\145121_1765_Polaris\7.0_Production\7.03_Design\04_Civil\Sheets\145121-LOCATION PLAN.dwg (Location Plan)



SITE STATISTICS		
LOT AREA	0.79 Ha	7950.56m2
BUILDING AREA	2711.4 m2	
LOT COVERAGE	34.10%	
TOTAL GFA	6373.82 m2	
SEMI DETACHED	4	
3 ST. - FL TOWNS	32	
TOTAL NO. OF UNITS	36	
DENSITY	46 UPH	

PARKING STATISTICS			
	REQUIRED	PROPOSED	TOTAL SPACES
RESIDENCE SPACES	72 (2 SPACES PER UNIT)	72 (2 SPACES PER UNIT)	72
VISITOR SPACES	9 (0.25 SPACES PER UNIT)	5 (0.14 SPACES PER UNIT)	5
		TOTAL:	77

- SETBACK TO STEP
- SETBACK TO PORCH
- SETBACK TO MAIN WALL OF DWELLING
- SETBACK TO GARAGE

THESE DRAWINGS ARE NOT TO BE SCALED:
ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES MUST BE REPORTED DIRECTLY TO SRN ARCHITECTS INC.

PROJECT CONSULTANTS:

LEGEND

FSE	FINISHED SECOND FLOOR ELEVATION
FFE	FINISHED FLOOR ELEVATION
TFW	TOP OF FOUNDATION WALL
TBS	TOP OF BASEMENT SLAB
USF	UNDER SIDE FOOTING
USFR	UNDER SIDE FOOTING @ REAR
USFG	UNDER SIDE FOOTING @ GARAGE
#	NUMBER OF RISERS TO GRADE
WOD	WALKOUT DECK
LOB	LOOKOUT BASEMENT
WOB	WALK OUT BASEMENT
WUB	WALK UP BASEMENT
REV	REVISED PLAN
STD	STANDARD PLAN
	DOOR
	WINDOW
	BELL PEDESTAL
	CABLE PEDESTAL
	CATCH BASIN
	DBL. CATCH BASIN
	ENGINEERED FILL
	HYDRO CONNECTION
	FIRE HYDRANT
	STREET LIGHT
	MAIL BOX
	TRANSFORMER
	SEWER CONNECTIONS (2.10%)
	SEWER CONNECTIONS (1.10%)
	AIR CONDITIONING
	DOWN SPOUT TO SPLASH PAD
	SWALE DIRECTION
	SUMP PUMP
	WATER CONNECTION
	WATER VALVE CHAMBER
	HYDRANT AND VALVE
	HYDRO METER
	GAS METER
	DOWN LIGHT
	14' POLE LIGHTING
	12' POLE LIGHTING
	BOLLARD LIGHTING
	STOP SIGN
	NO PARKING
	NO PARKING IN LANEWAY
	FIRE ROUTE
	3MIN PARKING (RIGHT)
	3MIN PARKING (LEFT)
100.00	PROPOSED SPOT GRADE
100.00	EXISTING SPOT GRADE
	EXISTING TREE (TO BE REMOVED)
	EXISTING TREE (TO BE RETAINED)
##	MUNICIPAL ADDRESS
	RETAINING WALL BY SEPARATE PERMIT
	SNOW STORAGE AREAS
	CHAINLINK FENCE
	PRIVACY FENCE
	SOUND BARRIER
	TOT LOT TO BE PROVIDED (12'X12') BELOW GARAGE
	FIRE FIGHTER TRAVEL PATH
	REVERSE CHECK FOUNDATION

ISSUED OR REVISION COMMENTS				
NO.	DESCRIPTION	DATE	DWN	CHK
1	ISSUED FOR REVIEW	17-MAR-23	RP	
2	ISSUED FOR REVIEW	22-MAR-23	DA	
3	PARKING STATS ADDED	31-MAR-23	DA	
4	ISSUED FOR DARC SUBMISSION	24-JUL-23	AG	RP
5	ISSUED FOR REVIEW	27-SEP-23	AG	RP
6	ISSUED FOR COORDINATION	26-OCT-23	RP	
7	ISSUED FOR COORDINATION	13-FEB-24	PP	
8	ISSUED FOR COORDINATION	29-FEB-24	MSA	
9	ISSUED FOR COORDINATION	11-JUN-24	RP	
10	ISSUED FOR COORDINATION	13-sep-24	RP	
11	ISSUED FOR COORDINATION	17-DEC-24	PP	
12	ISSUED FOR COORDINATION	18-DEC-24	PP	
13	ISSUED FOR COORDINATION	19-DEC-24	PP	
14	ISSUED FOR COORDINATION	20-MAR-25	PP	
15	REV PER PLANNER COMMENTS	24-MAR-25	AG	

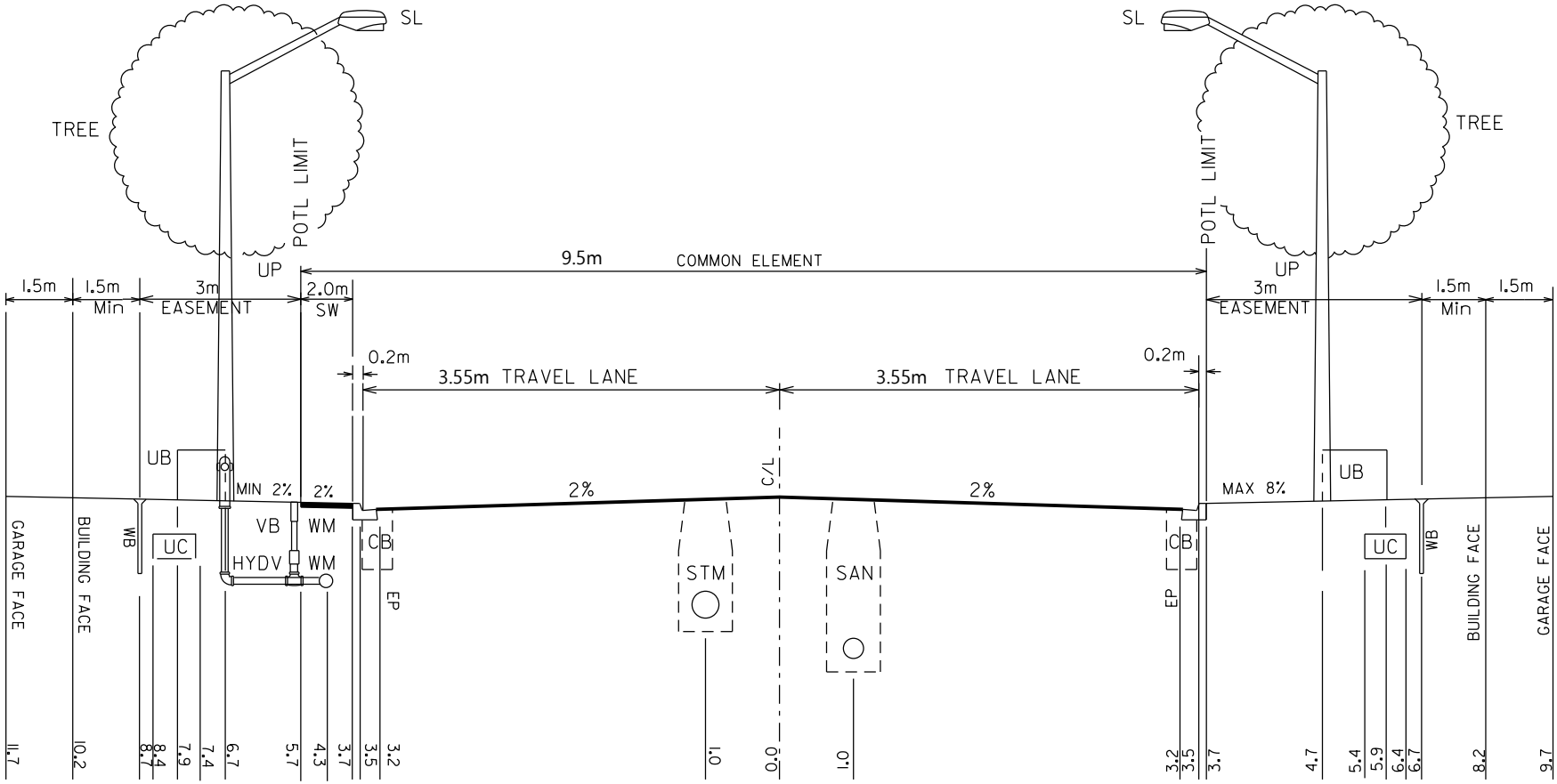
RN DESIGN
WWW.RNDESIGN.COM
T:905-738-3177
WWW.THEPLUSGROUP.CA

CLIENT
KINGRIDGE DEVELOPMENTS

PROJECT/LOCATION
MISSISSAUGA RD PROPERTIES
SOUTH SITE

DRAWING
CONCEPT PLAN

DATE	SCALE
27-SEP-23	1:300
DRAWN BY: RP	CHECKED BY: RP
PROJECT NUMBER: 22070	DRAWING NUMBER: A100



LEGEND

EP - EDGE OF PAVEMENT
CB - CATCH BASIN
CURB - CURB OR CURB AND GUTTER
C/L - CENTRELINE
GAS - GAS MAIN
HYD - FIRE HYDRANT
HYDV - FIRE HYDRANT VALVE
PWV - PRIVATE WATER VALVE
PL - PROPERTY LINE
POTL PARCEL OF TIED LAND
SL - STREETLIGHT
SW - SIDEWALK
SAN - SANITARY SEWER
STM - STORM SEWER
UB - UTIITY BOX (HYDRO,TELECOMMUNICATIONS)
UC - UTILITY CORRIDOR (HYDRO,TELECOMM,GAS,SL)
UP - UTILITY POLE
WM - WATERMAIN
WB - WATERBOX
VB - VALVEBOX

NOTES

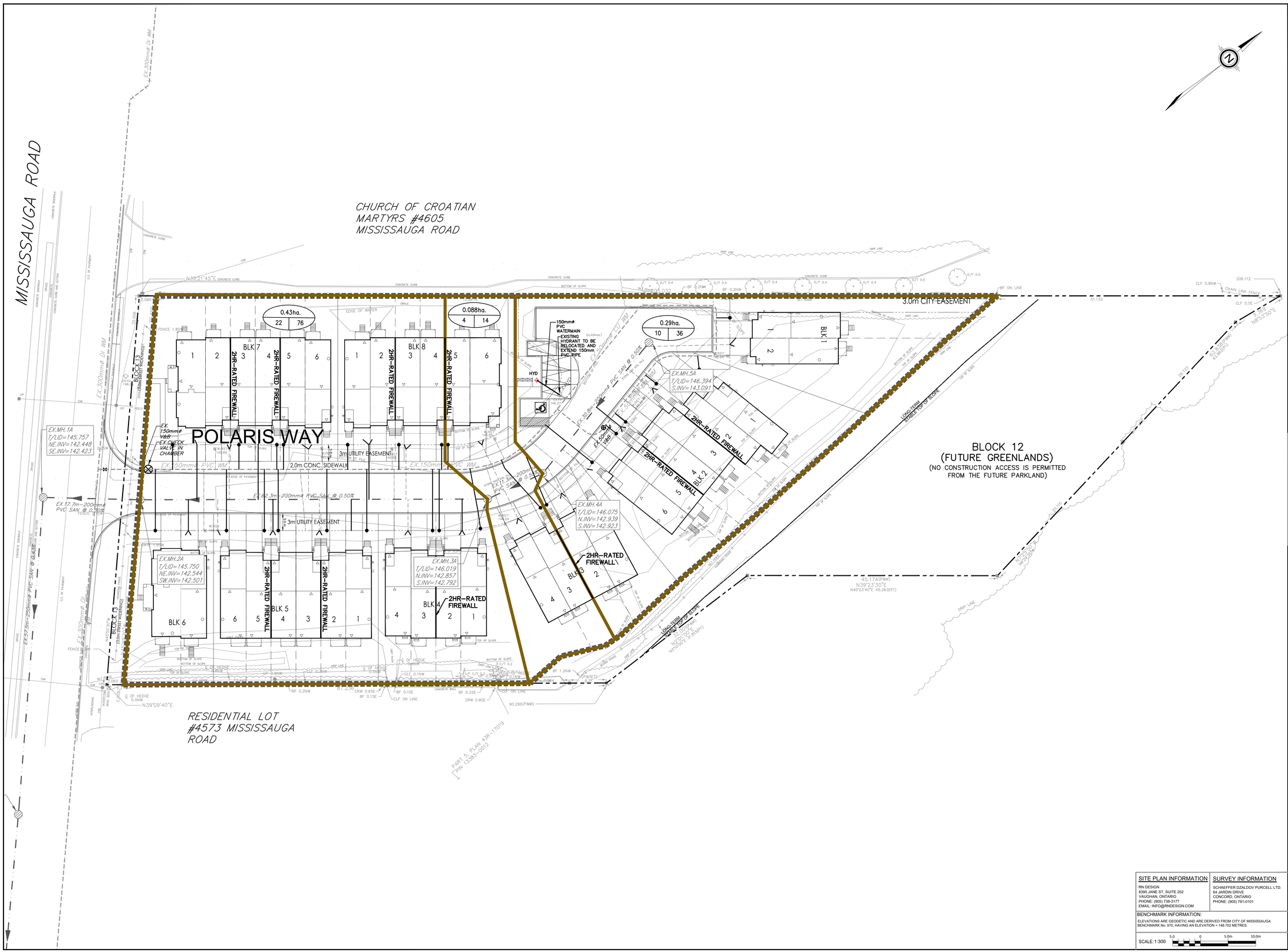
1. HYDRO, TELECOMMUNICATIONS, GAS AND SL CORRIDOR TO HAVE A MINIMUM COVER OF 0.965m.
2. WATERMAIN TO HAVE A MINIMUM COVER OF 1.7m.
3. IF UTILITIES CANNOT BE INSTALLED ACCORDING TO THIS STANDARD THEY ARE TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE PRESCRIBED LOCATION SUBJECT TO THE APPROVAL OF THE TRANSPORTATION AND WORKS DEPARTMENT OF THE CITY OF MISSISSAUGA
4. A 0.4m - 0.6m CLEARANCE MUST BE MAINTAINED BETWEEN CABLES AND HYDRANTS.
5. A 0.3m CLEARANCE MUST BE MAINTAINED BETWEEN WATERMAINS AND UTILITY POLES.
6. ROAD WIDTH IS MEASURED FROM FACE OF CURB TO FACE OF CURB AS DEFINED ON OPSD CURB & GUTTER STD. 600.040. PAVEMENT WIDTH IS MEASURED FROM EDGE OF PAVEMENT (EP) TO EDGE OF PAVEMENT (EP).
7. FOR LOCATION OF GAS MAIN WITHIN UTILITY CORRIDOR REFER TO STD. 2211.280
8. HYDRO TRANSFORMER MUST BE LOCATED AT A MINIMUM OF 3.1m FROM ANY DOORS AND/OR WINDOWS
9. SIDEWALK DETAIL MUST BE AODA COMPLIANT.
10. FOR DRIVEWAY ENTRANCE DETAIL REFER TO STD 2211.158.

METRIC
ALL DIMENSIONS IN METRES

MISSISSAUGA

MODIFIED PRIVATE ROAD CROSS SECTION FOR A COMMON ELEMENT CONDOMINIUM WITH OFF-STREET PARKING

EFF. DATE Feb. 2011			SCALE N.T.S.
REV.	1	Dec. 2015	STANDARD No. 2211.155



CLIENT

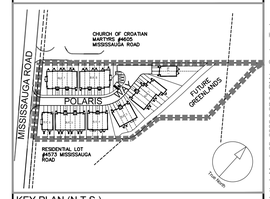
KINGRIDGE DEVELOPMENTS
1660 NORTH SERVICE ROAD EAST
SUITE 109-B
OAKVILLE ON. L6H 7G3
PHONE: (416) 277-7466
EMAIL: INFO@KINGRIDGEDEVELOPMENTS.CA

ISSUES

No.	DESCRIPTION	DATE
1.	SUBMITTED FOR OPA/ZONING/SPA	FEB. 23, 2024
2.	RE-SUBMITTED FOR OPA/ZONING/SPA	DEC. 18, 2024
3.	RE-SUBMITTED FOR OPA/ZONING/SPA	MAR. 24, 2025

LEGEND

- PROPERTY LINE
- LIMIT OF DEVELOPMENT
- OUTLINE OF BUILDING AT GROUND LEVEL
- DRAINAGE AREA BOUNDARY
- AREA 0.40ha. / UNITS (PERSON PER TOWN HOUSE 3.4) 50 / POPULATION (PERSON) 20
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY PIPE
- EXISTING SANITARY LATERALS
- PROPOSED SANITARY LATERALS
- EXISTING SANITARY LATERALS WITH PROPOSED WYE SERVICE CONNECTIONS
- EXISTING WATERMAIN
- EXISTING HYDRANT
- EXISTING CURB STOP AND SERVICE CONNECTION (25mmø COPPER TYPE "K") PROPOSED WATERMAIN
- PROPOSED HYDRANT
- PROPOSED CURB STOP AND SERVICE CONNECTION (25mmø COPPER TYPE "K")



KEY PLAN (N.T.S.)

LICENSED PROFESSIONAL ENGINEER
M. GRONSHAW
100143111
MAR 26, 2025
PROVINCE OF ONTARIO

MISSISSAUGA

ARCADIS

PROJECT

1786 POLARIS WAY

CITY OF MISSISSAUGA

PROJECT NO: 145121	
DRAWN BY: **JF/MS**	CHECKED BY: **BH**
PROJECT MGR: **SR**	APPROVED BY: **MS**

SHEET TITLE

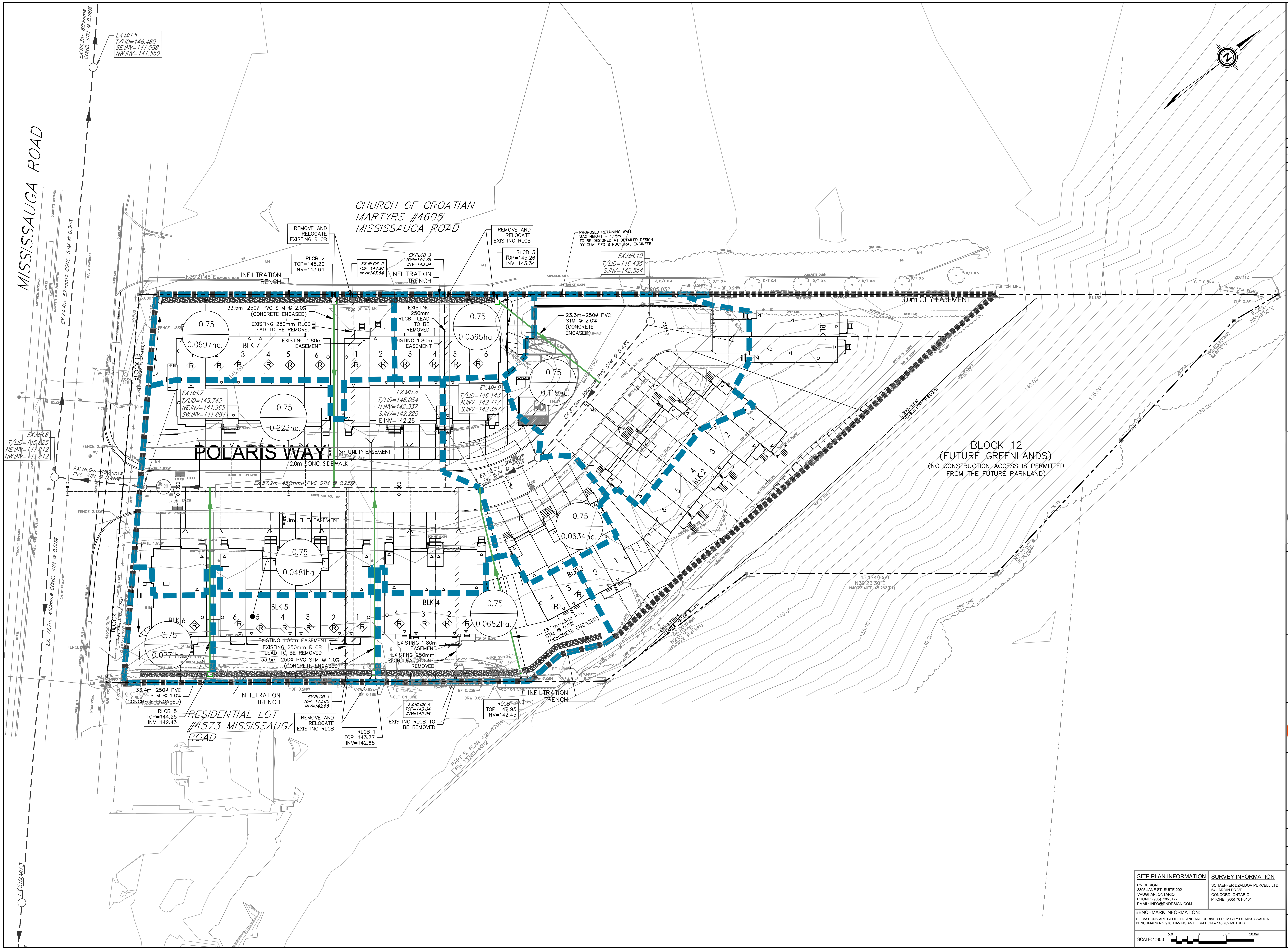
SITE WATER AND SANITARY SERVICING PLAN

SHEET NUMBER	ISSUE
SS-01	01

SITE PLAN INFORMATION	SURVEY INFORMATION
RN DESIGN 8395 JANE ST, SUITE 202 VAUGHAN, ONTARIO PHONE: (905) 738-3177 EMAIL: INFO@RNDESIGN.COM	SCHAEFFER DZALDOV PURCELL LTD. 64 JARDIN DRIVE CONCORD, ONTARIO PHONE: (905) 761-0101

BENCHMARK INFORMATION:
ELEVATIONS ARE GEODETIC AND ARE DERIVED FROM CITY OF MISSISSAUGA BENCHMARK No. 970, HAVING AN ELEVATION = 148.702 METRES.

SCALE: 1:300 (5.0 0 5.0m 10.0m)



CLIENT

KINGRIDGE DEVELOPMENTS
1660 NORTH SERVICE ROAD EAST
SUITE 109-B
OAKVILLE ON. L6H 7G3
PHONE: (416) 277-7466
EMAIL: INFO@KINGRIDGEDEVELOPMENTS.CA

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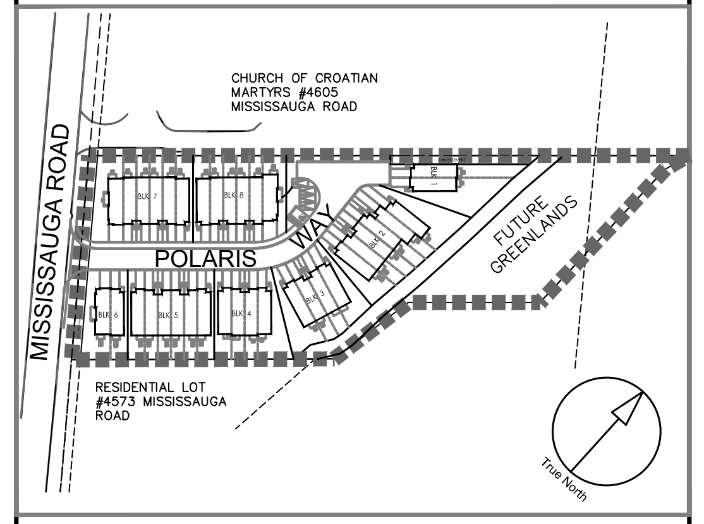
ISSUES

No.	DESCRIPTION	DATE
1.	SUBMITTED FOR OPA/ZONING/SPA	FEB. 23, 2024
2.	RE-SUBMITTED FOR OPA/ZONING/SPA	DEC. 18, 2024
3.	RE-SUBMITTED FOR OPA/ZONING/SPA	MAR. 24, 2025

LEGEND

PROPERTY LINE	—— – – ——
LIMIT OF DEVELOPMENT	▮▮▮▮▮▮▮▮▮
OUTLINE OF BUILDING AT GROUND LEVEL	——
PROP. MAIN ENTRANCE / DOOR / O/H DOOR	▽
PROP. SWALE	— · · · → · · · —
REAR DOWNSPOUTS TO CONNECT TO INFILTRATION TRENCH	◇R
EXISTING STORM MANHOLE	○
EXISTING STORM SEWER	— — — — —
EXISTING CATCH BASIN	▤
INFILTRATION TRENCH	▨
RUN-OFF COEFFICIENT → 0.75 AREA → 0.111ha.	
DRAINAGE AREA BOUNDARY	▬ ▬ ▬
EXISTING STORM LATERALS	- - - - - - - -
PROPOSED STORM LATERALS	——<
EXISTING STORM LATERALS WITH PROPOSED WYE SERVICE CONNECTIONS	- - - - - -<



KEY PLAN (N.T.S.)

M. SHOOSHTARY
100143111
MAR 26, 2025

MISSISSAUGA

ARCADIS

PROJECT

1786 POLARIS WAY

CITY OF MISSISSAUGA

PROJECT NO: 145121	
DRAWN BY: **JF/MS**	CHECKED BY: **BH**
PROJECT MGR: **SR**	APPROVED BY: **MS**

SITE PLAN INFORMATION

RN DESIGN
8395 JANE ST, SUITE 202
VAUGHAN, ONTARIO
PHONE: (905) 738-3177
EMAIL: INFO@RNDESIGN.COM

SURVEY INFORMATION

SCHAEFFER DZALDOV PURCELL LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO
PHONE: (905) 761-0101

BENCHMARK INFORMATION:

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SCALE: 1:300 — 5.0 0 5.0m 10.0m

SHEET TITLE

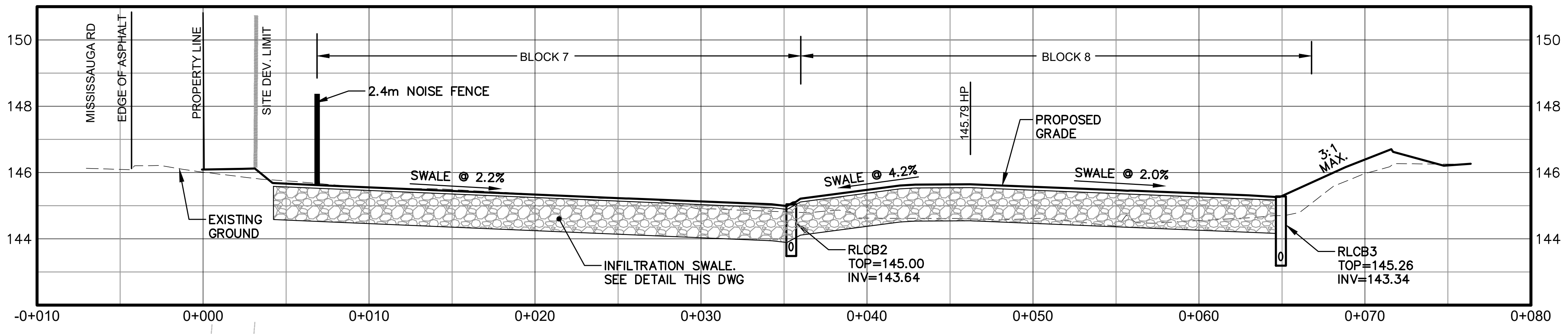
POST-DEVELOPMENT STORM DRAINAGE AREA PLAN

SHEET NUMBER: STM-02

ISSUE: 01

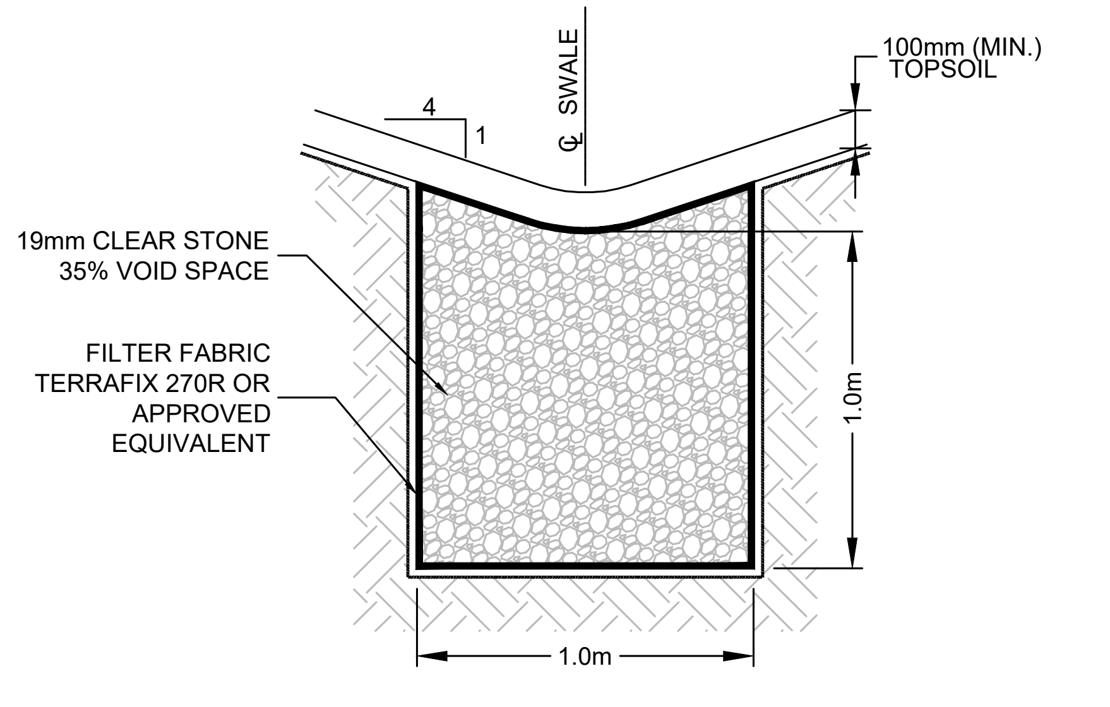
File Location: J:\145121_1765_Polaris\7.0_Production\7.03_Design\04_Civil\Sheets\145121-SHT-STORM.dwg Last Saved: March 24, 2025, by castort4258 Plotted: March 25, 2025 8:20:52 PM by Castor, Ted

SCALE CHECK 10mm 1 in



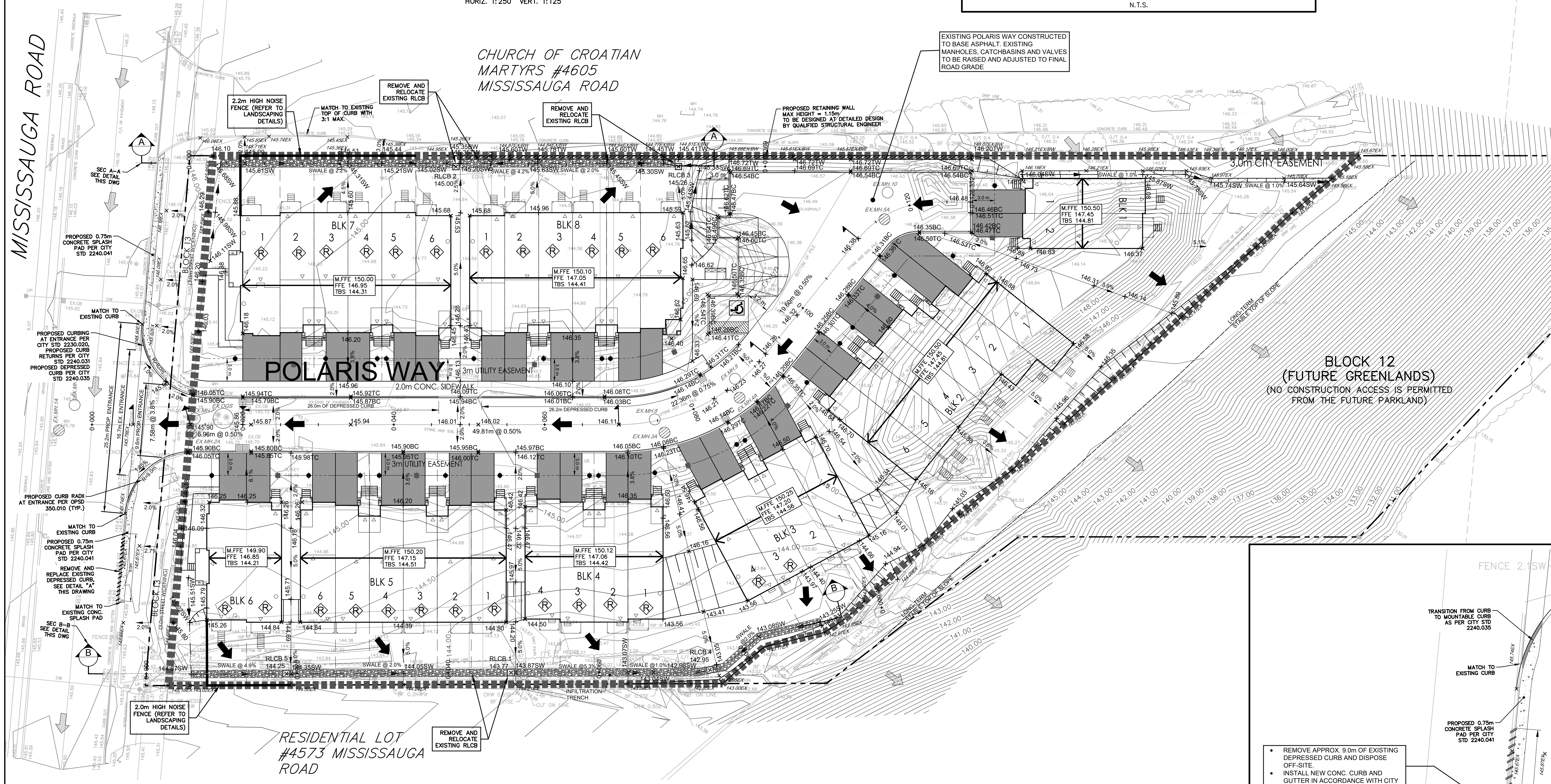
SECTION A-A

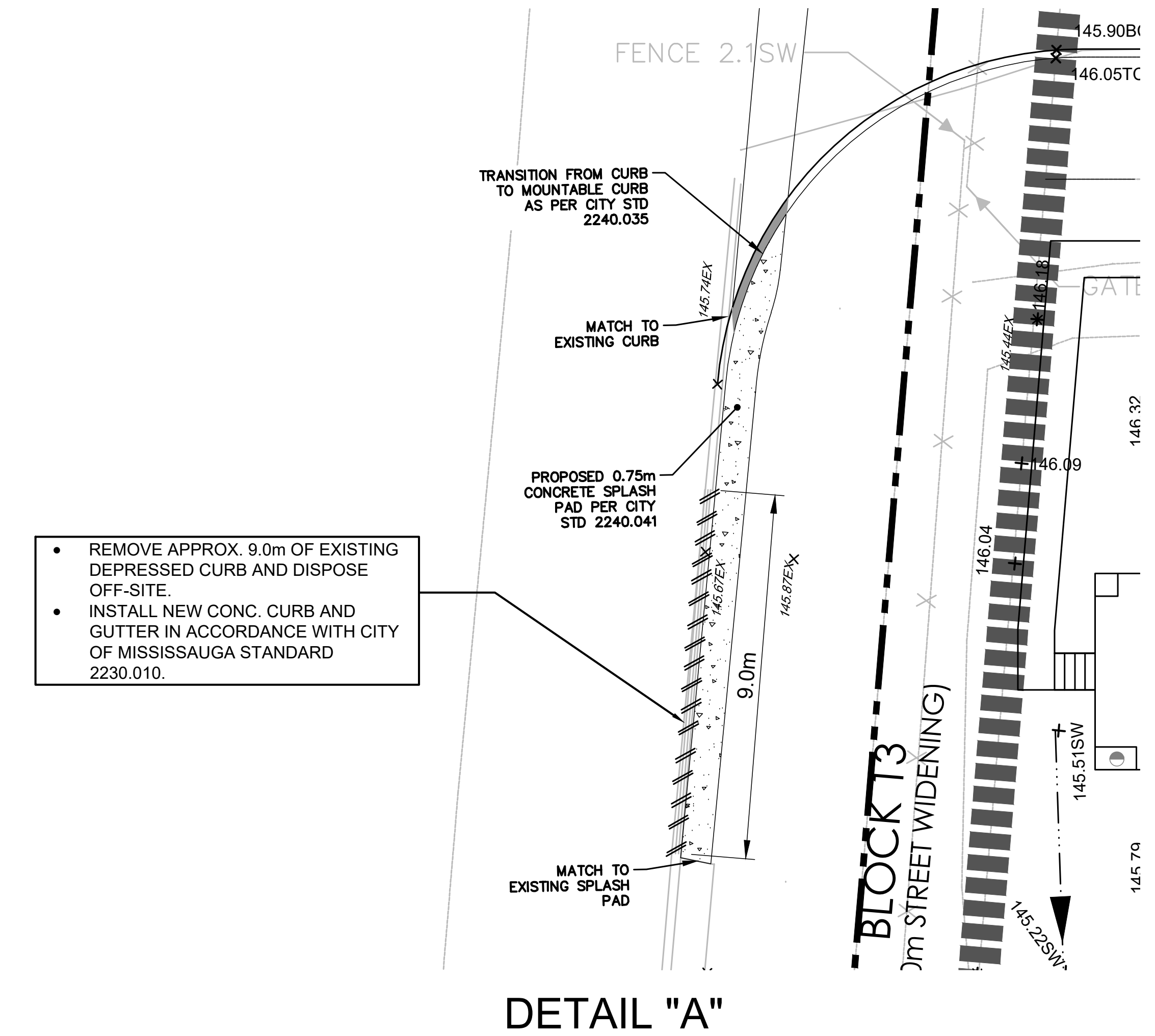
HORIZ. 1:250 VERT. 1:125



CROSS-SECTION INFILTRATION SWALE DETAIL

N.T.S.

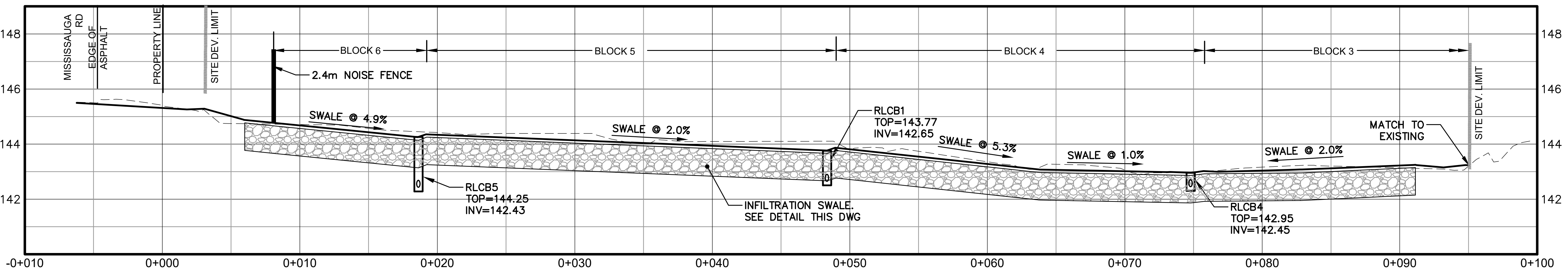




- REMOVE APPROX. 9.0m OF EXISTING DEPRESSED CURB AND DISPOSE OFF-SITE.
- INSTALL NEW CONC. CURB AND GUTTER IN ACCORDANCE WITH CITY OF MISSISSAUGA STANDARD 2230.010.

DETAIL "A"

SCALE. 1:150



SECTION B-B

HORIZ. 1:250 VERT. 1:125

NOTES
- A. PROPOSED DRIVEWAY AND ENTRANCE CURB RADII SHALL BE IN ACCORDANCE WITH OPSD 350.010.
- B. CURBING AT THE PROPOSED ACCESS SHALL BE IN ACCORDANCE WITH CITY OF MISSISSAUGA STANDARD FOR HEAVY DUTY DEPRESSED CURB 2230.020.
- C. CURB RETURNS AT THE PROPOSED ACCESS SHALL BE IN ACCORDANCE WITH CITY OF MISSISSAUGA STANDARD 2240.031.

SITE PLAN INFORMATION

RN DESIGN
8395 JANE ST, SUITE 202
VAUGHAN, ONTARIO
PHONE: (905) 738-3177
EMAIL: INFO@RNDESIGN.COM

SURVEY INFORMATION

SCHAEFFER DZALDOV PURCELL LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO
PHONE: (905) 761-0101

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SCALE: 1:300 — 5.0 — 0 — 5.0m — 10.0m

CLIENT

KINGRIDGE DEVELOPMENTS
1660 NORTH SERVICE ROAD EAST
SUITE 109-B
OAKVILLE ON. L6H 7G3
PHONE: (416) 277-7466
EMAIL: INFO@KINGRIDGEDEVELOPMENTS.CA

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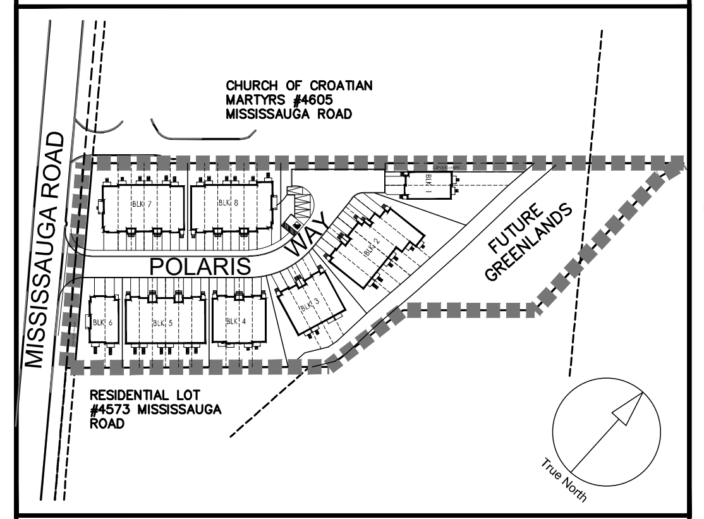
ISSUES

No.	DESCRIPTION	DATE
1.	SUBMITTED FOR OPA/ZONING/SPA	FEB. 23, 2024
2.	RE-SUBMITTED FOR OPA/ZONING/SPA	DEC. 18, 2024
3.	RE-SUBMITTED FOR OPA/ZONING/SPA	MAR. 24, 2025

LEGEND

PROPERTY LINE	——— – – ———
LIMIT OF DEVELOPMENT	▬ ▬ ▬ ▬ ▬
OUTLINE OF BUILDING AT GROUND LEVEL	———
PROP. MAIN ENTRANCE / DOOR / O/H DOOR	▽
PROP. OVERLAND FLOW ROUTE	➡
EX. OVERLAND FLOW ROUTE	⇨
PROP. SWALE	— · · · → · · · —
PROPOSED GRADE	✕116.50
EXISTING GRADE	✕ *117.33EX*
PROP. TOP OF CURB ELEVATION	✕137.52TC
PROP. BOTTOM OF CURB ELEVATION	✕137.52BC
REAR DOWNSPOUTS TO CONNECT TO INFILTRATION TRENCH	◇R
EXISTING STORM MANHOLE	○
EXISTING SANITARY MANHOLE	▨
EXISTING CATCH BASIN	▤
EXISTING FIRE HYDRANT	EX.FH
EXISTING VALVE AND BOX	WV◉/⋈ V&B
EXISTING CURB STOP	■
PROPOSED CURB STOP	●
INFILTRATION TRENCH	▨
PROPOSED 0.75m CONC. SPLASH PAD PER CITY STD. 2240.041	▨
PROPOSED DEPRESSED CURB PER CITY STD. 2240.035	▬
EX. DEPRESSED CURB REMOVALS	\\\\ \\\\ \\\\



KEY PLAN (N.T.S.)

M. SHOOSHTARY
100143111
MAR 26, 2025

PROJECT

1786 POLARIS WAY
CITY OF MISSISSAUGA

PROJECT NO: 145121	
DRAWN BY: JF/MS	CHECKED BY: BH
PROJECT MGR: SR	APPROVED BY: MS

SHEET TITLE

SITE GRADING PLAN

SHEET NUMBER	ISSUE
SG-01	01

SCALE CHECK 1 in 10mm

File Location: J:\145121_1765_Polaris\7.0_Production\7.03_Design\04_Civil\Sheets\145121-SHT-GRAD.dwg Last Saved: March 25, 2025, by castort4258 Plotted: March 25, 2025 8:13:05 PM by Castor, Ted

Appendix B

Sanitary Calculations

Minimum Dia. =	200	mm
Mannings "n"=	0.013	
Minimum Velocity =	0.60	m/s
Minimum Grade =	0.5	%
Avg. Domestic Flow =	290	l/c/d
Infiltration =	0.26	l/s/ha
Max. Peaking Factor=	4.0	
Min. Peaking Factor=	2.0	
Maximum Velocity =	3	m/s

SANITARY SEWER DESIGN SHEET
City of Mississauga
Region of Peel
T-M09002 W8

Region of Peel Densities
Semi-detached home= 4.2 person/unit
Townhouse= 3.4 person/unit

Project:	1768 Polaris Way
Project No:	145121 (Prev. UD15-0347)
Date:	20-Jun-2024
Designed by:	KP
NOMINAL PIPE SIZE USED	200 mm

STREET	FROM MH	TO MH	RESIDENTIAL							COMMERCIAL/INDUSTRIAL/INSTITUTIONAL/EXTERNAL					FLOW CALCULATIONS						PIPE DATA					
			AREA (ha)	ACC. AREA (ha)	UNITS (#)	DENISTY (P/ha)	DENSITY (P/unit)	*POP*	ACC. RES. POP.	AREA (ha)	ACC. AREA (ha)	EQUIV. POP. (p/ha)	FLOW RATE (l/s/ha)	ACC. EQUIV. POP.	INFILTRATION (l/s)	TOTAL ACC. POP.	PEAKING FACTOR	RES. FLOW (l/s)	COMM. FLOW (l/s)	TOTAL FLOW (l/s)	DIA. (mm)	SLOPE (%)	Q FULL (l/s)	V FULL (m/s)	V ACT (m/s)	% FULL %
Polaris Way	EX.MH5A	EX.MH4A	0.29	0.29	10		3.6	**36**	36	0	0	0	0	0	0.08	36	4.00	0.48	0.0	0.6	200	0.50	23.3	0.74	0.30	2%
Polaris Way	EX.MH4A	EX.MH3A	0.09	0.38	4		3.4	**14**	49	0	0	0	0	0	0.10	49	4.00	0.66	0.0	0.8	200	0.50	23.3	0.74	0.33	3%
Polaris Way	EX.MH3A	EX.MH2A	0.43	0.81	22		3.5	**76**	126	0	0	0	0	0	0.21	126	4.00	1.69	0.0	1.9	200	0.50	23.3	0.74	0.44	8%
Mississauga Road	EX.MH2A	EX.MH1A	0.00	0.81	0			**0**	126	0	0	0	0	0	0.2	126	4.00	1.7	0.0	1.9	200	0.40	20.7	0.66	0.41	9%
Mississauga Road	EX.MH1A	EX.SAN.MH3	0.00	0.81	0			**0**	126	0	0	0	0	0	0.2	126	4.00	1.7	0.0	1.9	250	0.43	39.0	0.79	0.41	5%

Appendix C

Storm Calculations

Rainfall Intensity = $\frac{A}{(Tc+B)^{c}}$

As-Constructed 10 yr Storm Sewer Design Sheet
Tributary to Existing Headwall

City of Mississauga
Region of Peel
T-M09002 W8

	10-YEAR		100-YEAR
A=	1010	A=	1450
B=	4.6	B=	4.9
c=	0.78	c=	0.78

Starting Tc = 15 min

File Location: \\caneast.ibigroup.com\J\TO\145121_1765_Polaris\7.0_Production\7.03_Design\04_Civil\Calcs\Sewer_Design\[145121_1765_Polaris-STORM-10yr.xls]PRESENTATION

Project: 1786 Polaris Way (previously The Archway)
Project No: 145121 (previously UD15-0347)
Date: JUN. 20, 2024
Designed by: J.F.

STREET	FROM MH	TO MH	10-YR AREA (ha)	10-YR RUNOFF COEFFICIENT "R"	10-YR "AR"	10-YR ACCUM. "AR"	TIME OF CONCENTRATION (min)	10-YR RAINFALL INTENSITY (mm/hr)	10-YR ACCUM. FLOW (m^3/s)	PIPE LENGTH (m)	PIPE SLOPE (%)	PIPE DIAMETER (mm)	FULL FLOW CAPACITY (m3/s)	FULL FLOW VELOCITY (m/s)	TIME OF TRAVEL (min)	ACCUMULATED TIME (min)	% FULL FLOW (%)	COMMENT
Polaris Way	*EX.MH.10*	*EX.MH.9*	*0.112*	*0.75*	*0.084*	*0.111*	*15.23*	*98.27*	*0.030*	*32*	*0.42*	*300*	*0.063*	*0.887*	*0.60*	*15.83*	*49%*	
Polaris Way	*EX.MH.9*	*EX.MH.8*	*0.0634*	*0.75*	*0.048*	*0.159*	*15.83*	*96.01*	*0.042*	*12*	*0.17*	*300*	*0.040*	*0.564*	*0.35*	*16.18*	*106%*	
Polaris Way	*RLCB.1*	*EX.MH.8*	*0.0481*	*0.75*	*0.036*	*0.036*	*15.00*	*99.17*	*0.010*	*33.5*	*1.00*	*250*	*0.059*	*1.211*	*0.46*	*15.46*	*17%*	
Polaris Way	*RLCB.2*	*EX.MH.8*	*0.0697*	*0.75*	*0.052*	*0.052*	*15.00*	*99.17*	*0.014*	*33.5*	*2.00*	*250*	*0.084*	*1.713*	*0.33*	*15.33*	*17%*	
Polaris Way	*RLCB.3*	*EX.MH.10*	*0.0365*	*0.75*	*0.027*	*0.027*	*15.00*	*99.17*	*0.008*	*23.5*	*2.00*	*250*	*0.084*	*1.713*	*0.23*	*15.23*	*9%*	
Polaris Way	*RLCB.4*	*EX.MH.8*	*0.0682*	*0.75*	*0.051*	*0.051*	*15.00*	*99.17*	*0.014*	*33.7*	*0.50*	*250*	*0.042*	*0.857*	*0.66*	*15.66*	*34%*	
Polaris Way	*RLCB.5*	*EX.MH.8*	*0.0271*	*0.75*	*0.020*	*0.020*	*15.00*	*99.17*	*0.006*	*33.4*	*1.00*	*250*	*0.059*	*1.211*	*0.46*	*15.46*	*9%*	
Polaris Way	*EX.MH.8*	*EX.OGS.1*	*0.223*	*0.75*	*0.167*	*0.486*	*16.18*	*94.73*	*0.128*	*57.2*	*0.25*	*450*	*0.142*	*0.896*	*1.06*	*17.25*	*90%*	
Polaris Way	*EX.OGS.1*	*EX.MH.7*	*0.00*	*0.00*	*0.000*	*0.486*	*17.25*	*91.11*	*0.123*	*3.8*	*0.25*	*450*	*0.142*	*0.896*	*0.07*	*17.32*	*86%*	
Mississauga Road	*EX.MH.7*	*EX.MH.6*	*0.00*	*0.00*	*0.000*	*0.486*	*17.32*	*90.88*	*0.123*	*16*	*0.45*	*450*	*0.191*	*1.203*	*0.22*	*17.54*	*64%*	
Mississauga Road	*EX.MH.6*	*EX.MH.5*	*0.18*	*0.90*	*0.162*	*0.648*	*17.54*	*90.17*	*0.162*	*74.4*	*0.30*	*525*	*0.235*	*1.088*	*1.14*	*18.68*	*69%*	
Mississauga Road	*EX.MH.5*	*EX.MH.4*	*0.34*	*0.90*	*0.306*	*0.954*	*18.68*	*86.71*	*0.230*	*84.3*	*0.28*	*600*	*0.325*	*1.149*	*1.22*	*19.90*	*71%*	
Thorny-Brae Place	*EX.MH.4*	*EX.MH.3*	*0.70*	*0.75*	*0.525*	*1.479*	*19.90*	*83.32*	*0.342*	*98.6*	*0.42*	*675*	*0.544*	*1.522*	*1.08*	*20.98*	*63%*	
Thorny-Brae Place	*EX.MH.3*	*EX.MH.2*	*0.65*	*0.75*	*0.488*	*1.966*	*20.98*	*80.56*	*0.440*	*72.2*	*0.46*	*750*	*0.755*	*1.709*	*0.70*	*21.69*	*58%*	
Thorny-Brae Place	*EX.MH.2*	*EX.MH.1*	*0.00*	*0.00*	*0.000*	*1.966*	*21.69*	*78.87*	*0.431*	*16*	*0.83*	*750*	*1.014*	*2.296*	*0.12*	*21.80*	*43%*	
Valley Outfall	*EX.MH.1*	*EX.HW*	*0.00*	*0.00*	*0.000*	*1.966*	*21.80*	*78.60*	*0.429*	*56.7*	*1.00*	*750*	*1.113*	*2.520*	*0.38*	*22.18*	*39%*	

Appendix D

Water Demand Calculations

Hydrant Flow Testing

NOTE: Hydrants tested according to NFPA 291: Recommended Practice for Fire Flow Testing and Marking of Hydrants

Date of Testing	14-Jun-2024
Project Number:	145121
Test ID	H2024-028
Site Location / Address:	1786 Polaris Rd, Miss
Region / Municipality	Peel Region
Hydrants Opened By:	Peel Region
Tested by:	James W

HYDRANT TEST LOCATION - RESIDUAL HYDRANT=R, FLOW HYDRANT=F (NORTH AT TOP)

Test Data

Time of Test	11:11 AM
Pipe Size (mm)	-
Flow Hydrant Test Location (description)	4601 Mississauga Rd
Residual Hydrant Test Location (description)	4587 Mississauga Rd
Static Pressure (PSIG)	90

Q1 Test Data (1 Orifice)

# OUTLETS	ORIFICE SIZE(IN)	PITOT PRESSURE(PSIG)	FLOW(USGPM)	RESIDUAL PRESSURE(PSIG)
1	2.5	60	1300	88

QT Test Data (2 Orifices)

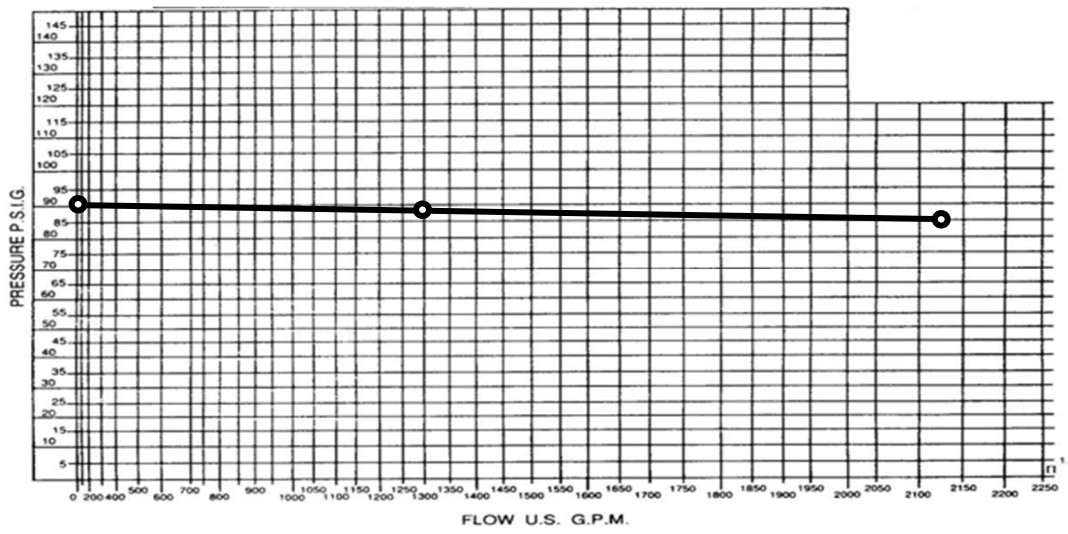
# OUTLETS	ORIFICE SIZE(IN)	PITOT PRESSURE(PSIG)	FLOW(USGPM)	RESIDUAL PRESSURE(PSIG)
2	2.5	40	2122	86

Calculations

FORMULA: Q= 29.83 cd^2√p.....Where: c- coefficient of discharge (1 in smooth pipe)
..... d- pipe diameter (inches)
.....p- pitot reading (psig)

Q1 - 1 Orifice(s)	Q1= (29.83)(0.9)(2.5)^2 √60=1300
QT - 2 Orifice(s)	QT= 2(29.83)(0.9)(2.5)^2 √40=2122
Static Pressure (PSIG)	90

Test Results Plot



Appendix D.2 Estimated Available Pressure at Water Service Connection on Mississauga Road

ARCADIS

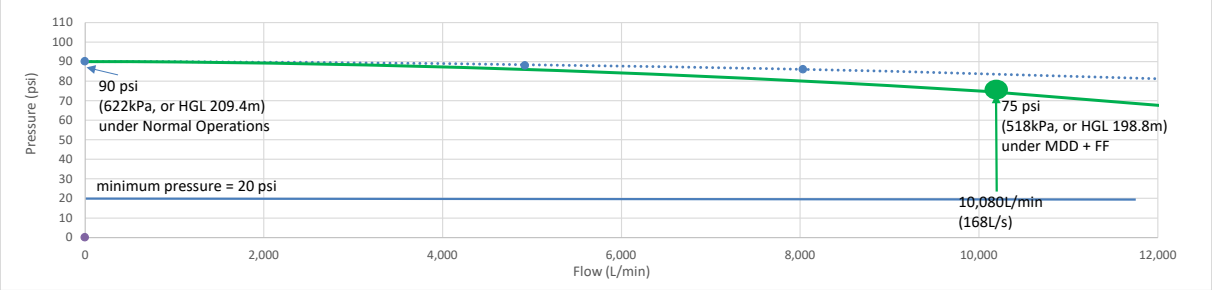
Project:	1786 Polaris Way, Mississauga	Proj.#	145121
Date:	2024-06-26		
Calc'ed by:	SK		

Hydrant Flow Test Results		
Flow Hydrant Test Location:	4587 Mississauga Rd	
Residual Hydrant Test Location:	4601 Mississauga Rd	
Main Size:	300mm Diameter	Test Time: 11:11 AM
Test Date:	2024-06-14	
Tested By:	Peel Region	

Elev.(m)
146.0

Number of Outlets & Orifice Size	Pilot Pressure (psi)	Flow (US GPM)	Flow (L/min)	Residual Pressure (psi)	Estimated Residual Pressure* (psi)	Estimated HGL(m)
0	0	0	0	90	90	209.4
1 x 2.5"	60	1,300	4,921	88	88	208.0
2 x 2.5"	40	2,122	8,033	86	**80**	206.6

*Estimated Residual Pressure: For a conservative design, it assumed that the residual pressure (at the maximum tested flow rate) would be reduced by 10 psi, which was used to estimate the available flow at 20 psi.



$$Q_R = Q_T\left(\frac{P_S - Pr}{P_S - Pt}\right)\text{^}0.54$$

Where,

Q_r = Projected Flow Rate

Q_t = Flow Rate from Flow Test = 8033 L/min

P_s = Static Pressure = 90 psi

P_r = Desired System Pressure

P_t = Residual Presure inTest = 80 psi

Pressure Under Fire Suppression (P_{r1}) =	20.0	psi		
Calculated Flow Rate (Q_{r1}) =	22,974	L/min	6,069	USGPM
			383	L/s
Pressure Under Normal Operation (P_{r2}) =	40.0	psi		
Calculated Flow Rate (Q_{r2}) =	19,157	L/min	5,061	USGPM
			319	L/s

Appendix D.3 Water Demand Estimation

Project: 145121 **1786 Polaris Road, City of Mississauga**
Date: **26-Jun-24**

Source	City of London Guidelines
Remark	
Singles/Semis*	4.02 ppu
Rows and other Multiples*	3.13 ppu
Residential (ADD, Average Day Demand)**	280 Lpcd
MDD Peaking Factor**	2
PHD Peaking Factor**	3

*City of Mississauga Development Charges Background Study (March 4, 2022)
**Region of Peel Public Works Design, Specifications & Procedures Manual - Linear Infrastructure - Watermain Design Criteria (June 2010)

Type	Number of Units	People	Demand (L/s)		
-	-	-	ADD	MDD	PHD
Singles/Semis	4	17	**0.1**	0.1	0.2
Rows and other Multiples	32	101	**0.3**	0.7	1.0
TOTAL	**36**	**118**	**0.4**	**0.8**	**1.1**

ARCADIS

Appendix D.4 FIRE FLOW DEMAND CALCULATIONS
Block 5 - 2 Units (Units 1 and 2)

Project Name: **1786 Polaris Road, City of Mississauga**

Project Number: 175121

Date: Jun-2024

Designed By: SK

Based on the Water Supply for Public Fire Protection Manual, 2020 by the Fire Underwriters Survey

Step 1: Calculate Fire Flow (based on area)

Construction Coefficient (C) =	1.5	
Largest Floor Area (Level 2) =	145	m^2
Floor Above (Level 3) =	145	m^2
Floor Below (Level 1) =	145	m^2
Area (A) =	434	m^2
Fire Flow (F) =	**7,000**	L/min

F = required fire flow (L/min)

C = coefficient related to type of construction

0.6 for Type I Fire Resistive Construction

0.8 for Type II Noncombustible Construction

1.0 for Type III Ordinary Construction

1.5 for Wood Frame Construction

A* = total effective floor area (effective building area), m^2

$$F = 220C\sqrt{A}$$

No of units	Area (m2)
6 units	434.1
1 unit	72.3

(Rounded off to nearest 1000 L/min)

1)*For a building classified with a a construction coefficient below 1.0

100% of all floor areas are considered in determining the total Effective Area to be used in the formula.

2)*For a building classified with a construction coefficient below 1.0

- If vertical openings are inadequately protected, consider two largest two largest adjoining floors plus 50% of each of any floors above up to eight floors.
- If vertical openings are adequately protected (one hour rating), consider largest floor area + 25% of two immediately floors.

Step 2: Adjustment for Building Occupancy (shall not be less than 2000 L/s)

Occupancy Adjustment =	-15%	
F_1 = Fire Flow x Adjustment =	**5950**	L/min

Non-Combust.	-25%	Free Burning	15%
Limited Comb.	-15%	Rapid Burning	25%
Combustible	No change		

(Do not round off the answer)

Step 3: Adjust F1 for Fire Suppression System

Sprinkler Adjustment =	0%	
F_2 = F_1 x Adjustment =	**0**	L/min

Adequately Designed System	-30%
Standard for both Sprinkler & Fire Department Hose Lines	-40%
Automatic Sprinklers (monitored)	-50%

(Do not round off the answer)

Step 4: Adjust F1 for Exposure / Proximity (shall not exceed 75%)

Proximity Adjustment =	60%	(max 75%)
F_3 = F_1 x Factor =	**3,570**	L/min

Separation Dis.	Adjustment
0m to 3m	25%
3.1m to 10m	20%
10.1m to 20m	15%
20.1m to 30m	10%
30.1m to 45m	5%

Side of Building	Separation Dis. (m)	Adjustment (%)
East	2.5	25
South	>10m	15
West	Fire wall	10
North	>20m	10
	sub-total	60

Step 5: Calculate Adjusted Fire Flow (shall not be less than 2000 L/min or greater than 45,000 L/min)

F_1 =	5,950	L/min
- F_2 =	0	L/min
+ F3 =	3,570	L/min
Fire Flow =	10,000	L/min
Fire Flow =	**167**	L/s
Total Demand (Fire Flow + MDD) =	**167**	L/s

$$\text{Fire Flow} = F_1 - F_2 + F_3$$

(Rounded off to nearest 1000 L/min)

Checks:

Fire Flow greater than 2000 L/min

Fire Flow less than 45,000 L/min

Appendix D.5 Estimated System Pressure at the Hydrant within Subject Site

Project: 145121_1786 Polaris Way Residential Development
Date: June 2024
File: 145121_head loss.xls

ARCADIS

Pipeline Section	From	To	Length	Diameter	Area	Pipe Flow	Velocity	"C"	Head Loss	Elev(m)	HGL(m)***	Pressure (kPa)	Location
			L	D	A	Q	V	Factor	Hf*				
			(m)	(m)	(m2)	(m^3/s)	(m/s)	-	(m)				
						50% Flow via Polaris Way**							
										146.0	**198.8**	518	at Service Connection on Miss Rd
Along Polaris Way	Mississauga Rd	Pro. Hydrant within Subject Site	80	0.15	0.02	0.088	5.0	100	19.4	146.3	179.4	**325**	at Hydrant within Subject Site

Note: *Hf=10.67*(Q/C)^1.85*(1/D^4.871)*L

**Total Required Flow (Max day +fire Flow)=0.168 m3/s - 50% flow discharges via existing hydrant on Mississauga Rd near subject site and the remaining 50% discharges via the proposed hydrant within subject site.

*** Pressure at Service Connection on Mississauga Rd was estimated from the hydrant testing on June 14, 2024 (as shown in **Appendix D.2**)

Appendix E

Stormwater Management Report

Kingridge Developments

Stormwater Management Design Report - Revised The Archways and Hazel Common Element Condominium

4583, 4589 and 4601 Mississauga Road

City of Mississauga

March 26, 2025

Stormwater Management Design Report - Revised

The Archways and Hazel Common Element Condominium

4583, 4589 and 4601 Mississauga Road

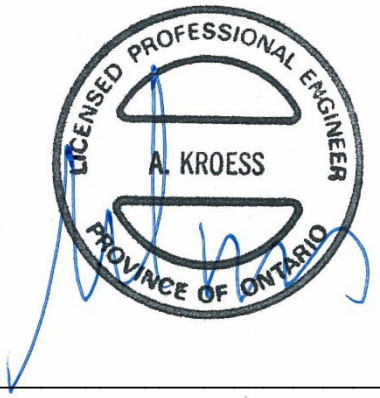
City of Mississauga

March 26, 2025

Prepared By:
Arcadis Professional Services (Canada) Inc.
Suite 106, 420 Wes Graham Way
Waterloo, Ontario N2L 0J6
Canada
Phone: 519 585 2255

Prepared For:
Kingridge Developments
1660 North Service Road East
Suite 109-B
Oakville, ON L6H 7G3

Our Ref:
145121



Andy Kroess, M.Eng., P.Eng.
Senior Water Resources Engineer

Version Control

Issue	Revision No.	Date Issued	Page No.	Description	Reviewed By
Final	2	2024-06-28		Issued for OPA/zoning/SPA	Benny Hon
Final	3	2024-12-13		Issued for OPA/zoning/SPA	
Final	4	2025-03-26		Issued for OPA/zoning/SPA	

Contents

Tables

Appendices

1 Introduction

Arcadis (formerly Cole Engineering Group Ltd.) has been retained by Pace Developments Inc. (the “Client”) to prepare a Stormwater Management Design Report in support of the proposed The Archways common element condominium project located at 4583, 4589 and 4601 Mississauga Road, in the City of Mississauga (the “City”). The proposed redevelopment is situated at the southeast corner of Eglinton Avenue West and Mississauga Road and approximately 200 m south of Eglinton Avenue East. The subject site is Part of Lots 3 and 4, Range 5 North of Dundas Street in the City of Mississauga.

This project had received a previous approval, and the proposed storm sewer system described below was installed in 2019.

This Report is an update to the 2017 Stormwater Management Design Brief (Cole Engineering, June 29, 2017) and supersedes that version and reflects only the proposed changes to the 1786 Polaris Way development (the Archways). This Report also includes updated information originally included in the 2017 Stormwater Management Design – Water Balance Requirements Brief (Cole Engineering, June 28, 2017). The previous design for the 1786 Polaris Way development included an 11 lot condominium site plan. The current condominium site plan includes 6 townhouse blocks with a total of 32 townhouse units and 2 semi-detached units.

The stormwater assessment for the other developing and tributary areas remains the same from 2017 and have been replicated in this report unchanged.

2 Existing Conditions

The existing (pre-development) site for the Archways is located at 4583, 4589 and 4601 Mississauga Road, in the City of Mississauga and consists of approximately 2.756 ha (6.80 Ac). The pre-development drainage area plan is provided in **Appendix B**.

The 1786 Polaris Way lands have an area of approximately 1.09 ha comprised of partially developed area, vegetation, and forested areas. The lands are bounded by existing residential homes to the south and west side of Mississauga Road, the existing Church of Croatian Martyrs to the north, and the Croatian park to the east. Approximately 0.647 ha of the entire area was previously approved for development and was partially constructed in 2019.

The Archways site previously consisted of 3 single family homes (now demolished and removed off site) with individual driveway access to Mississauga Road. The site is bound by Mississauga Road and single family homes to the west, the Church of the Croatian Martyrs at 4605 Mississauga Road to the north, Croatian Park (Church) comprising a woodlot and embankments to the east and existing residence at 4573 Mississauga Road to the south.

The lands are relatively flat sloping from the east to the west towards a midpoint of the site with a grade differential of approximately 1.5 m and are located within the Credit River watershed. The easterly portion of the site is within the Credit River Valley Lands with a top of bank and 5 m buffer block that had been previously established by the Credit Valley Conservation (CVC) and the City of Mississauga.

The existing Thorny-Brae Place comprising approximately 1.55 ha. consists of 4 single family homes with a cul-de-sac that flows into a drainage feature in an existing valley depression which ultimately outlets into the Credit

River to the east. Additional drainage from the Church lands contributes approximately 1.56 ha of building, parking lot and landscaped areas into the same valley depression through an internal storm sewer system that outlets from an existing headwall.

The pre-development 2, 10, and 100 year peak flow at the existing headwall is shown in **Table 2-1 – Pre-Development Peak Flows at the Existing Headwall** and the corresponding calculations shown in **Appendix A**.

Table 2-1 Pre-Development Peak Flows at the Existing Headwall

Storm Event	Pre-Development Peak Flow
2 Year	226.7 l/s
10 Year	304.2 l/s
100 Year	532.5 l/s

3 Design Criteria and SWM Approach

The subject site is located within the Credit River Watershed. The site must therefore meet the local City of Mississauga Development Requirements, Credit Valley Conservation, and Ministry of the Environment, Conservation and Parks (MECP) stormwater standards. The following design criteria will be required:

- Storm sewers are to be designed to the City of Mississauga – 10 Year Intensity Duration Frequency (IDF) storm event;
- No quantity storage is required by the CVC and agreed upon by the City due to the proximity to the Credit River;
- The storm runoff on Polaris Way, Mississauga Road, and Thorny-Brae Place are to be collected in the new storm sewer and discharged to the existing headwall which outlets into the valley depression and ultimately into the Credit River;
- For the Archways, Low Impact Development (LID) measures such as infiltration galleries at all rear lot catch basins and a 300mm deep topsoil layer will be implemented to reduce surface runoff and promote infiltration; and
- For The Archways, rooftop rainwater leaders of the rear-draining building areas will be collectively directed to rear yard infiltration trenches.

4 Proposed Conditions

4.1 General

The proposed 1786 Polaris Way development is comprised of 34 common element condominium townhouse lots and 2 semi-detached lots with a single driveway entrance on Mississauga Road and a “hammerhead” turnaround at the north edge of the property. Site drainage will be collected in an existing on-site storm sewer, and flows will be routed to the existing storm sewer on Mississauga Road.

LIDs such as a 300m deep topsoil layer and infiltration trenches are proposed to promote infiltration at the interior portion of the site and concentrated surface runoff is to be reduced at the rear of the lots backing on to the top of slope to mitigate erosion.

Major flows from Polaris Drive at the Archways development will be directed to Mississauga Road. Major flows in excess of the 10 year storm event on Mississauga Road are conveyed to a low point at the intersection of Mississauga Road / Tattersall Way, and runoff will pond and ultimately be captured in the local storm sewer system on Mississauga Road that is currently outletting to Mullet Creek, a tributary of the Credit River.

4.2 Quantity Control

Quantity control for the Archways is not required due to the proximity to the Credit River. An analysis of the proposed site conditions was completed using the Rational Method to determine the post-development peak flows for the site. The time in concentration is assumed to be 21.80 minutes based on the storm sewer design sheet included in **Appendix A** and a maximum of 15 minutes for the Church lands. Minimum runoff coefficient used is 0.75 notwithstanding lesser coefficients were calculated in the post-development conditions.

A minimum runoff coefficient for the strip of land along Eglinton Avenue West was 0.40 with the assumption that brick pavers may be used in this location. Notwithstanding this conservative approach, the post-development AR (area x runoff coefficient) = 0.09 ha x 0.40 = 0.036, which is less than the pre-development AR = 0.20 ha x 0.25 = 0.05, therefore the small front landscaped area for the proposed lots along Eglinton Avenue West can be conveyed north without detrimental impact. Rooftops for the houses along Eglinton Avenue West will be captured and discharged to the storm sewer connections on Thorny-Brae Place. This will be confirmed once the final design for this parcel proceeds.

The post-development 2, 10, and, 100 year peak flow at the existing headwall including the corresponding pre-development flows is shown in **Table 4-1 – Post-Development Peak Flows at the Existing Headwall** and the corresponding calculations shown in **Appendix A**.

The post-development drainage area plan is provided in **Appendix B**.

Table 4-1 Post-Development Peak Flows at the Existing Headwall

Storm Event	Pre-Development Peak Flow	Post-Development Peak Flow
2 Year	226.7 l/s	452.9 l/s
10 Year	304.2 l/s	749.9 l/s
100 Year	532.5 l/s	1,067.1 l/d

4.3 Quality Control

Low Impact Development (LID) measures such as infiltration galleries at all rear lot catch basins and a 300mm deep topsoil layer will be implemented to reduce surface runoff and promote infiltration and water quality. Refer to the infiltration galleries calculations in **Appendix C.** The design also includes an oil-grit separator unit (Stormceptor model STC 2000), which was previously installed at the outlet of Polaris Way storm sewer and provides a TSS removal efficiency of 82 percent. The previous STC calculations are included in **Appendix A**.

4.4 Water Balance

CVC water balance criteria require a site specific water balance analysis and mitigation measures in order to maintain pre-development groundwater recharge rates. To meet these criteria and mitigate the post-development infiltration deficit on site, Low Impact Development (LID) measures are proposed to be implemented on site, in order to promote infiltration in an effort to maintain pre-development recharge conditions.

Under pre-development conditions, the 1786 Polaris Way site currently provides an annual infiltration rate of 1447 m^3, provided by the 0.97 ha pervious landscaped area on-site. In comparison, an annual infiltration rate of 900 m^3 is provided in post-development (without mitigation measures), resulting in a 547 m^3 infiltration deficit compared to pre- development conditions. The decrease in annual infiltration under post-development conditions is a result of the introduction of additional impervious surfaces during site development, and the corresponding decrease in pervious areas on-site (compared to pre-development conditions) from 0.97 ha to 0.60 ha.

In order to meet the water balance infiltration targets, LIDs in the form of a 300mm topsoil layer and infiltration trenches are proposed for the site. The proposed 300mm topsoil layer area of 890 m^2 will capture a rainfall depth of 5 mm for infiltration, as confirmed in the calculations included in **Appendix C**. Additionally, two infiltration trenches 1.0 m wide, are proposed on-site with a combined trench length of 143.0m. The proposed trenches will receive a minimum of 5 mm of rainfall runoff from their respective contributing 916 m^2 rooftop areas for on-site infiltration.

Cross-sections for the infiltration trenches will be provided on the engineering drawings. Based on the Soil Investigation (Soil Engineers Ltd., March 2008), no groundwater was encountered on the site to the depth of the borehole excavations (3 to 6m).

The proposed mitigation measures will provide an annual infiltration volume of 1448 m^3, therefore achieving the pre-development infiltration target required to meet the water balance criteria outlined by the CVC. Based on Figure 1a in the City of Toronto Wet Weather Flow Management Guidelines (November 2006), capturing 5mm per storm event equates to capturing 48 percent of annual rainfall, which is used to calculate the total annual retention for infiltration for each LID feature. Detailed LID calculations are included in **Appendix C**.

As per the City's requirements, the first 5mm of runoff shall be retained on-site and managed by way of infiltration, evapotranspiration or re-use. However, the storm sewer and OGS unit for the site have been constructed based on the previous approvals for the development, and capturing and retaining 5mm over the entire site is not feasible as it could potentially require the alteration of the existing infrastructure. The current design is proposing to meet the existing conditions water balance by providing recharge in infiltration galleries, permeable paver areas, and landscaped areas.

5 Proposed Storm Connection

The proposed 1786 Polaris Way development installed in 2019 connects to an existing 525 mm to 600 mm diameter storm sewer on Mississauga Road and a 675 mm to 750 mm diameter storm sewer on Thorny-Brae Place. The sewer connects to the recently constructed wingwall on the existing headwall which is the outlet for the Church storm sewer system that outlets into the valley depression and ultimately into the Credit River. Major flows from Polaris Drive at the 1786 Polaris Way development will be directed to Mississauga Road.

6 Conclusions

The proposed stormwater management plan meets criteria outlined by the City of Mississauga, CVC, and the MECP. Due to the close proximity to the Credit River quantity controls are not required, and the site will discharge via the recently constructed storm sewer on Mississauga Road and Thorny-Brae Place to the existing drainage feature from the top of slope to the Credit River. Since the total asphalt area of the site is comparable to the existing conditions, and the proposed rooftop is considered to generate “clean” runoff, the overall water quality of the site will remain comparable to existing conditions. The design also includes an oil-grit separator unit (Stormceptor model STC 2000), which was previously installed, which provides a TSS removal efficiency of 82 percent. Effective use of LIDs will promote infiltration and provide additional water quality measures for the development site.

Appendix A

Pre-Development and Post-Development Calculations

Storm Sewer Design Chart – 10 Year Storm

OGS Sizing

Pre-Development Runoff Coefficient Calculation

The Archways, Mississauga
File No. 145121 (UD15-0347)
Date: March 2025 - Revised

Drainage Area ID	Pervious Area (ha)	Impervious Area (ha)	Total Area (ha)	Composite Runoff Coefficient
A1 Pre	1.25	0.30	1.55	0.38
A2 Pre*	0.56	1.00	1.56	0.67
Total*	1.81	1.30	3.11	0.52

* maximum allowable C = 0.50

City of Mississauga

Lawns and Gardens	0.25
All other surfaces	0.90

	Rational Method Pre-Development Flow Calculation
Prepared By: SG & PF	The Archways, Mississauga File No. 145121 (UD15-0347) Date: March 2025 - Revised

Area Number	Area (ha)	C	Tc	
A1 Pre	1.55	0.38	15	Thorny-Brae Place
A2 Pre	1.56	0.50	15	Church

Rational Method Calculation

Event 2 yr
IDF Data Set City of Mississauga
a = 610
b = 4.6
c = -0.78

Area Number	A (ha)	C	AC	Tc (min.)	I (mm/h)	Q (m^3/s)	Q (L/s)
A1 Pre	1.55	0.38	0.583	15	59.9	0.097	96.9
A2 Pre	1.56	0.50	0.780	15	59.9	0.130	129.8
Total	3.11				0.0	0.227	226.7

Event 5 yr
IDF Data Set City of Mississauga
a = 820
b = 4.6
c = -0.78

Area Number	A (ha)	C	AC	Tc (min.)	I (mm/h)	Q (m^3/s)	Q (L/s)
A1 Pre	1.55	0.38	0.583	15	80.5	0.130	130.3
A2 Pre	1.56	0.50	0.780	15	80.5	0.174	174.4
Total	3.11				0.0	0.305	304.7

Event 10 yr
IDF Data Set City of Mississauga
a = 1010
b = 4.6
c = -0.78

Area Number	A (ha)	C	AC	Tc (min.)	I (mm/h)	Q (m^3/s)	Q (L/s)
A1 Pre	1.55	0.38	0.583	15	99.2	0.160	160.5
A2 Pre	1.56	0.50	0.780	15	99.2	0.215	214.9
Total	3.11				0.0	0.375	375.3

Rational Method
Pre-Development Flow Calculation

The Archways, Mississauga
File No. 145121 (UD15-0347)
Date: March 2025 - Revised

Event 25 yr
IDF Data Set City of Mississauga
a = 1160
b = 4.6
c = -0.78

Area Number	A	C	AC	Tc	I	Q	Q
	(ha)			(min.)	(mm/h)	(m^3/s)	(L/s)
A1 Pre	1.55	0.38	0.583	15	113.9	0.184	184.3
A2 Pre	1.56	0.50	0.780	15	113.9	0.247	246.8
Total	3.11				0.0	0.431	431.1

Event 50 yr
IDF Data Set City of Mississauga
a = 1300
b = 4.7
c = -0.78

Area Number	A	C	AC	Tc	I	Q	Q
	(ha)			(min.)	(mm/h)	(m^3/s)	(L/s)
A1 Pre	1.55	0.38	0.583	15	127.1	0.206	205.7
A2 Pre	1.56	0.50	0.780	15	127.1	0.275	275.5
Total	3.11				0.0	0.481	481.2

Event 100 yr
IDF Data Set City of Mississauga
a = 1450
b = 4.9
c = -0.78

Area Number	A	C	AC	Tc	I	Q	Q
	(ha)			(min.)	(mm/h)	(m^3/s)	(L/s)
A1 Pre	1.55	0.38	0.583	15	140.7	0.228	227.6
A2 Pre	1.56	0.50	0.780	15	140.7	0.305	304.8
Total	3.11				0.0	0.532	532.5

Post-Development Runoff Coefficient Calculation

The Archways, Mississauga
File No. 145121 (UD15-0347)
Date: March 2025 - Revised

Drainage Area ID	Pervious Area (ha)	Impervious Area (ha)	Total Area (ha)	Composite Runoff Coefficient
A1 Post	0.60	1.14	1.74	0.73
A2 Post	0.56	1.00	1.56	0.72
Total	1.16	2.14	3.30	0.72
				Use Minimum Runoff Coefficient C=0.75

City of Mississauga

Lawns and Gardens	0.40	(with patios and walkways)
All other surfaces	0.90	

Rational Method
Post-Development Flow Calculation

The Archways, Mississauga
File No. 145121 (UD15-0347)
Date: March 2025 - Revised

Area Number	Area (ha)	C	Tc	
B1 - The Archways	0.66	0.67	21.80	Based on Storm Sewer Design Sheet
B2 - Mississauga Rd.	0.52	0.90	21.80	Based on Storm Sewer Design Sheet
B3 - The Hazel	1.74	0.73	21.80	Based on Storm Sewer Design Sheet
B4 - Church	1.56	0.72	15.00	Matches pre-development Tc

Use Minimum Runoff Coefficient C=0.75

Rational Method Calculation

Event 2 yr
IDF Data Set City of Mississauga
a = 610
b = 4.6
c = -0.78

Area Number	A (ha)	C	AC	Tc (min.)	I (mm/h)	Q (m^3/s)	Q (L/s)
B1 - The Archways	0.66	0.75	0.491	21.80	47.5	0.065	64.8
B2 - Mississauga Rd.	0.52	0.90	0.468	21.80	47.5	0.062	61.7
B3 - The Hazel	1.74	0.75	1.305	21.80	47.5	0.172	172.1
B4 - Church	1.56	0.75	1.170	15.00	47.5	0.154	154.3
Total	4.475					0.453	452.9

Event 5 yr
IDF Data Set City of Mississauga
a = 820
b = 4.6
c = -0.78

Area Number	A (ha)	C	AC	Tc (min.)	I (mm/h)	Q (m^3/s)	Q (L/s)
B1 - The Archways	0.66	0.75	0.491	21.80	63.8	0.087	87.1
B2 - Mississauga Rd.	0.52	0.90	0.468	21.80	63.8	0.083	83.0
B3 - The Hazel	1.74	0.75	1.305	21.80	63.8	0.231	231.4
B4 - Church	1.56	0.75	1.170	15.00	63.8	0.207	207.4
Total	4.475					0.609	608.8

Event 10 yr
IDF Data Set City of Mississauga
a = 1010
b = 4.6
c = -0.78

Area Number	A (ha)	C	AC	Tc (min.)	I (mm/h)	Q (m^3/s)	Q (L/s)
B1 - The Archways	0.66	0.75	0.491	21.80	78.6	0.107	107.3
B2 - Mississauga Rd.	0.52	0.90	0.468	21.80	78.6	0.102	102.2
B3 - The Hazel	1.74	0.75	1.305	21.80	78.6	0.285	285.0
B4 - Church	1.56	0.75	1.170	15.00	78.6	0.255	255.5
Total	4.475					0.750	749.9

Rational Method
Post-Development Flow Calculation

The Archways, Mississauga
File No. 145121 (UD15-0347)
Date: March 2025 - Revised

Event 25 yr
IDF Data Set City of Mississauga
a = 1160
b = 4.6
c = -0.78

Area Number	A	C	AC	Tc	I	Q	Q
	(ha)			(min.)	(mm/h)	(m^3/s)	(L/s)
B1 - The Archways	0.66	0.75	0.491	21.80	90.3	0.123	123.2
B2 - Mississauga Rd.	0.52	0.90	0.468	21.80	90.3	0.117	117.4
B3 - The Hazel	1.74	0.75	1.305	21.80	90.3	0.327	327.3
B4 - Church	1.56	0.75	1.170	15.00	90.3	0.293	293.4
Total	4.475					0.861	861.3

Event 50 yr
IDF Data Set City of Mississauga
a = 1300
b = 4.7
c = -0.78

Area Number	A	C	AC	Tc	I	Q	Q
	(ha)			(min.)	(mm/h)	(m^3/s)	(L/s)
B1 - The Archways	0.66	0.75	0.491	21.80	100.9	0.138	137.7
B2 - Mississauga Rd.	0.52	0.90	0.468	21.80	100.9	0.131	131.1
B3 - The Hazel	1.74	0.75	1.305	21.80	100.9	0.366	365.7
B4 - Church	1.56	0.75	1.170	15.00	100.9	0.328	327.9
Total	4.475					0.962	962.4

Event 100 yr
IDF Data Set City of Mississauga
a = 1450
b = 4.9
c = -0.78

Area Number	A	C	AC	Tc	I	Q	Q
	(ha)			(min.)	(mm/h)	(m^3/s)	(L/s)
B1 - The Archways	0.66	0.75	0.491	21.80	111.9	0.153	152.6
B2 - Mississauga Rd.	0.52	0.90	0.468	21.80	111.9	0.145	145.4
B3 - The Hazel	1.74	0.75	1.305	21.80	111.9	0.406	405.5
B4 - Church	1.56	0.75	1.170	15.00	111.9	0.364	363.6
Total	4.475					1.067	1067.1

Rainfall Intensity = $\frac{A}{(Tc+B)^{c}}$

As-Constructed 10 yr Storm Sewer Design Sheet
Tributary to Existing Headwall

City of Mississauga
Region of Peel
T-M09002 W8

	10-YEAR		100-YEAR
A=	1010	A=	1450
B=	4.6	B=	4.9
c=	0.78	c=	0.78

Starting Tc = 15 min

File Location: \\caneast.ibigroup.com\J\TO\145121_1765_Polaris\7.0_Production\7.03_Design\04_Civil\Calcs\Sewer_Design\[145121_1765_Polaris-STORM-10yr.xls]PRESENTATION

Project: 1786 Polaris Way (previously The Archway)
Project No: 145121 (previously UD15-0347)
Date: JUN. 20, 2024
Designed by: J.F.

STREET	FROM MH	TO MH	10-YR AREA (ha)	10-YR RUNOFF COEFFICIENT "R"	10-YR "AR"	10-YR ACCUM. "AR"	TIME OF CONCENTRATION (min)	10-YR RAINFALL INTENSITY (mm/hr)	10-YR ACCUM. FLOW (m^3/s)	PIPE LENGTH (m)	PIPE SLOPE (%)	PIPE DIAMETER (mm)	FULL FLOW CAPACITY (m3/s)	FULL FLOW VELOCITY (m/s)	TIME OF TRAVEL (min)	ACCUMULATED TIME (min)	% FULL FLOW (%)	COMMENT
Polaris Way	*EX.MH.10*	*EX.MH.9*	*0.112*	*0.75*	*0.084*	*0.111*	*15.23*	*98.27*	*0.030*	*32*	*0.42*	*300*	*0.063*	*0.887*	*0.60*	*15.83*	*49%*	
Polaris Way	*EX.MH.9*	*EX.MH.8*	*0.0634*	*0.75*	*0.048*	*0.159*	*15.83*	*96.01*	*0.042*	*12*	*0.17*	*300*	*0.040*	*0.564*	*0.35*	*16.18*	*106%*	
Polaris Way	*RLCB.1*	*EX.MH.8*	*0.0481*	*0.75*	*0.036*	*0.036*	*15.00*	*99.17*	*0.010*	*33.5*	*1.00*	*250*	*0.059*	*1.211*	*0.46*	*15.46*	*17%*	
Polaris Way	*RLCB.2*	*EX.MH.8*	*0.0697*	*0.75*	*0.052*	*0.052*	*15.00*	*99.17*	*0.014*	*33.5*	*2.00*	*250*	*0.084*	*1.713*	*0.33*	*15.33*	*17%*	
Polaris Way	*RLCB.3*	*EX.MH.10*	*0.0365*	*0.75*	*0.027*	*0.027*	*15.00*	*99.17*	*0.008*	*23.5*	*2.00*	*250*	*0.084*	*1.713*	*0.23*	*15.23*	*9%*	
Polaris Way	*RLCB.4*	*EX.MH.8*	*0.0682*	*0.75*	*0.051*	*0.051*	*15.00*	*99.17*	*0.014*	*33.7*	*0.50*	*250*	*0.042*	*0.857*	*0.66*	*15.66*	*34%*	
Polaris Way	*RLCB.5*	*EX.MH.8*	*0.0271*	*0.75*	*0.020*	*0.020*	*15.00*	*99.17*	*0.006*	*33.4*	*1.00*	*250*	*0.059*	*1.211*	*0.46*	*15.46*	*9%*	
Polaris Way	*EX.MH.8*	*EX.OGS.1*	*0.223*	*0.75*	*0.167*	*0.486*	*16.18*	*94.73*	*0.128*	*57.2*	*0.25*	*450*	*0.142*	*0.896*	*1.06*	*17.25*	*90%*	
Polaris Way	*EX.OGS.1*	*EX.MH.7*	*0.00*	*0.00*	*0.000*	*0.486*	*17.25*	*91.11*	*0.123*	*3.8*	*0.25*	*450*	*0.142*	*0.896*	*0.07*	*17.32*	*86%*	
Mississauga Road	*EX.MH.7*	*EX.MH.6*	*0.00*	*0.00*	*0.000*	*0.486*	*17.32*	*90.88*	*0.123*	*16*	*0.45*	*450*	*0.191*	*1.203*	*0.22*	*17.54*	*64%*	
Mississauga Road	*EX.MH.6*	*EX.MH.5*	*0.18*	*0.90*	*0.162*	*0.648*	*17.54*	*90.17*	*0.162*	*74.4*	*0.30*	*525*	*0.235*	*1.088*	*1.14*	*18.68*	*69%*	
Mississauga Road	*EX.MH.5*	*EX.MH.4*	*0.34*	*0.90*	*0.306*	*0.954*	*18.68*	*86.71*	*0.230*	*84.3*	*0.28*	*600*	*0.325*	*1.149*	*1.22*	*19.90*	*71%*	
Thorny-Brae Place	*EX.MH.4*	*EX.MH.3*	*0.70*	*0.75*	*0.525*	*1.479*	*19.90*	*83.32*	*0.342*	*98.6*	*0.42*	*675*	*0.544*	*1.522*	*1.08*	*20.98*	*63%*	
Thorny-Brae Place	*EX.MH.3*	*EX.MH.2*	*0.65*	*0.75*	*0.488*	*1.966*	*20.98*	*80.56*	*0.440*	*72.2*	*0.46*	*750*	*0.755*	*1.709*	*0.70*	*21.69*	*58%*	
Thorny-Brae Place	*EX.MH.2*	*EX.MH.1*	*0.00*	*0.00*	*0.000*	*1.966*	*21.69*	*78.87*	*0.431*	*16*	*0.83*	*750*	*1.014*	*2.296*	*0.12*	*21.80*	*43%*	
Valley Outfall	*EX.MH.1*	*EX.HW*	*0.00*	*0.00*	*0.000*	*1.966*	*21.80*	*78.60*	*0.429*	*56.7*	*1.00*	*750*	*1.113*	*2.520*	*0.38*	*22.18*	*39%*	

Brief Stormceptor Sizing Report - The Archways

Project Information & Location			
Project Name	The Archways	**Project Number**	UD15-0347
City	Markham	**State/ Province**	Ontario
Country	Canada	**Date**	12/11/2017
Designer Information		**EOR Information (optional)**	
Name	Ivan Prock	**Name**	Ivan Prock
Company	Cole Engineering Group Ltd.	**Company**	Cole Engineering Group Ltd.
Phone #	416-738-1444	**Phone #**	416-738-1444
Email	iprock@ColeEngineering.ca	**Email**	iprock@ColeEngineering.ca

Stormwater Treatment Recommendation

The recommended Stormceptor Model(s) which achieve or exceed the user defined water quality objective for each site within the project are listed in the below Sizing Summary table.

Site Name	The Archways
Target TSS Removal (%)	80
TSS Removal (%) Provided	82
Recommended Stormceptor Model	STC 2000

The recommended Stormceptor Model achieves the water quality objectives based on the selected inputs, historical rainfall records and selected particle size distribution.

Stormceptor Sizing Summary		
Stormceptor Model	**% TSS Removal Provided**	**% Runoff Volume Captured Provided**
STC 300	67	85
STC 750	77	93
STC 1000	79	93
STC 1500	79	93
STC 2000	82	96
STC 3000	84	96
STC 4000	87	98
STC 5000	88	98
STC 6000	90	99
STC 9000	93	100
STC 10000	93	100
STC 14000	95	100
StormceptorMAX	Custom	Custom

Stormceptor®

FORTERRA

Sizing Details

Drainage Area	
Total Area (ha)	0.63
Imperviousness %	76.8

Rainfall	
Station Name	TORONTO CENTRAL
State/Province	Ontario
Station ID #	0100
Years of Records	18
Latitude	45°30'N
Longitude	90°30'W

Water Quality Objective	
TSS Removal (%)	80.0
Runoff Volume Capture (%)	90.00
Oil Spill Capture Volume (L)	
Peak Conveyed Flow Rate (L/s)	
Water Quality Flow Rate (L/s)	

Up Stream Storage	
Storage (ha-m)	Discharge (cms)
0.000	0.000

Up Stream Flow Diversion	
Max. Flow to Stormceptor (cms)	

Particle Size Distribution (PSD)
The selected PSD defines TSS removal

City of Toronto PSD		
Particle Diameter (microns)	Distribution %	Specific Gravity
10.0	20.0	2.65
30.0	10.0	2.65
50.0	10.0	2.65
95.0	20.0	2.65
265.0	20.0	2.65
1000.0	20.0	2.65

Notes

• Stormceptor performance estimates are based on simulations using PCSWMM for Stormceptor, which uses the EPA Rainfall and Runoff modules.
• Design estimates listed are only representative of specific project requirements based on total suspended solids (TSS) removal defined by the selected PSD, and based on stable site conditions only, after construction is completed.
• For submerged applications or sites specific to spill control, please contact your local Stormceptor representative for further design assistance.

For Stormceptor Specifications and Drawings Please Visit:
http://www.imbriumsystems.com/technical-specifications

Appendix B

Pre-Development Drainage Area Plan

Post-Development Drainage Area Plan

EGLINTON AVENUE WEST

MISSISSAUGA ROAD

THORNY-BRAE PLACE

POLARIS WAY

CHURCH OF CROATIAN MARTYRS
#4605 MISSISSAUGA ROAD

RESIDENTIAL LOT
#4373 MISSISSAUGA ROAD

0.25
0.20ha.

0.33
1.35ha.

0.80
1.56ha.

0.25
1.09ha.

BH1 BH2 BH3 BH4 BH5 BH6 BH7 BH8 BH9 BH10 BH11 BH12

LTSSL 10m BUFFER

LONG-TERM STABLE SLOPE LINE

EX.REGULATORY FLOODLINE ELEV.133.61

Top-of-bank as depicted by the Credit Valley Conservation Authority as shown on a sketch by Young and Young Engineering Limited dated February 23, 2024

CLIENT

KINGRIDGE DEVELOPMENTS
1660 NORTH SERVICE ROAD EAST
SUITE 109-B
OAKVILLE ON. L6H 7G3
PHONE: (416) 277-7466
EMAIL: INFO@KINGRIDGEDEVELOPMENTS.CA

ISSUES

No.	DESCRIPTION	DATE
1.	SUBMITTED FOR OPA/ZONING/SPA	FEB. 23, 2024
2.	RE-SUBMITTED FOR OPA/ZONING/SPA	JUN. 28, 2024

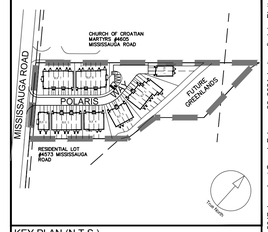
LEGEND

PRE-DEVELOPMENT DRAINAGE AREA

0.45 — RUNOFF COEFFICIENT
0.06ha. — DRAINAGE AREA

DIRECTION OF DRAINAGE

OVERLAND FLOW



KEY PLAN (N.T.S.)

MISSISSAUGA

ARCADIS

PROJECT

1786 POLARIS WAY

CITY OF MISSISSAUGA

PROJECT NO: 145121	
DRAWN BY: **JF**	CHECKED BY: **BH/AK**
PROJECT MGR: **SR**	APPROVED BY: **AK**

SHEET TITLE

PRE-DEVELOPMENT DRAINAGE AREA PLAN

SHEET NUMBER SWM-01 | ISSUE 01

SITE PLAN INFORMATION

RN DESIGN
8395 JANE ST, SUITE 202
VAUGHAN, ONTARIO
PHONE: (905) 738-3177
EMAIL: INFO@RNDESIGN.COM

SURVEY INFORMATION

SCHAEFFER DZALDOV PURCELL LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO
PHONE: (905) 761-0101

BENCHMARK INFORMATION:

ELEVATIONS ARE GEODETIC AND ARE DERIVED FROM CITY OF MISSISSAUGA BENCHMARK No. 970, HAVING AN ELEVATION = 148.702 METRES.

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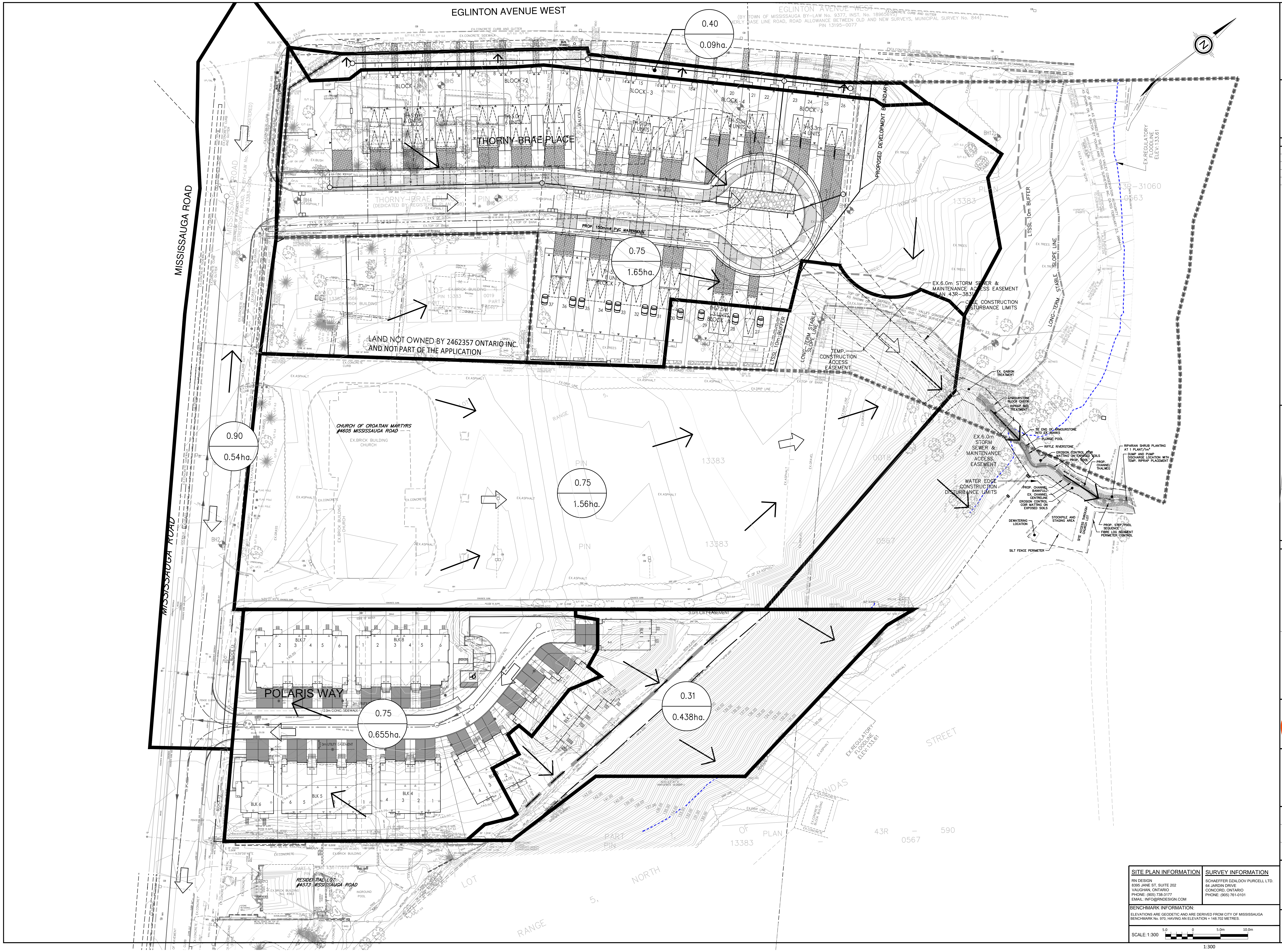
SCALE CHECK 10mm



CLIENT

KINGRIDGE DEVELOPMENTS
1660 NORTH SERVICE ROAD EAST
SUITE 109-B
OAKVILLE ON. L6H 7G3
PHONE: (416) 277-7466
EMAIL: INFO@KINGRIDGEDEVELOPMENTS.CA

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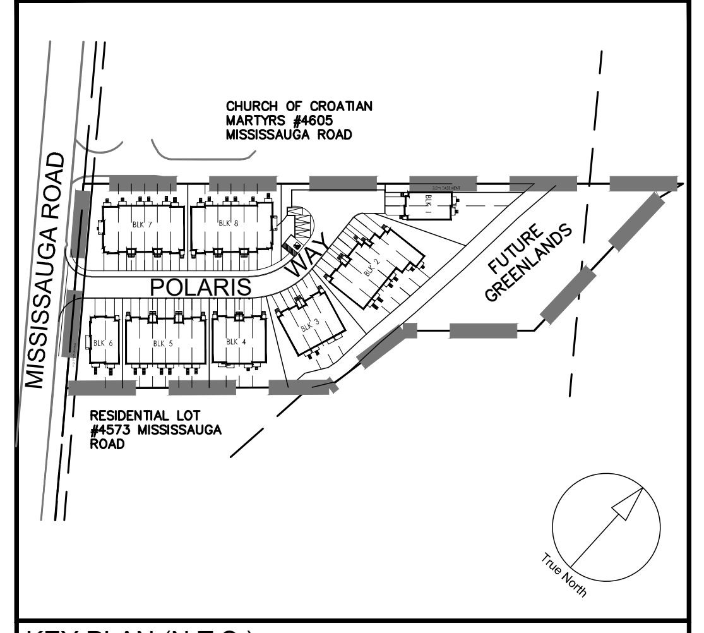
ISSUES

No.	DESCRIPTION	DATE
1.	SUBMITTED FOR OPA/ZONING/SPA	FEB. 23, 2024
2.	RE-SUBMITTED FOR OPA/ZONING/SPA	DEC 18, 2024
3.	RE-SUBMITTED FOR OPA/ZONING/SPA	MAR 24, 2025

LEGEND

▬	POST-DEVELOPMENT DRAINAGE AREA
0.75	RUNOFF COEFFICIENT
1.56ha.	DRAINAGE AREA
→	DIRECTION OF DRAINAGE
⇨	OVERLAND FLOW



KEY PLAN (N.T.S.)

MISSISSAUGA

ARCADIS

PROJECT

1786 POLARIS WAY

CITY OF MISSISSAUGA

PROJECT NO:
145121

DRAWN BY: **JF**	CHECKED BY: **BH/AK**
PROJECT MGR: **SR**	APPROVED BY: **AK**

SHEET TITLE

POST-DEVELOPMENT
DRAINAGE AREA PLAN

SHEET NUMBER
SWM-02

ISSUE
01

SITE PLAN INFORMATION
RN DESIGN
8395 JANE ST, SUITE 202
VAUGHAN, ONTARIO
PHONE: (905) 738-3177
EMAIL: INFO@RNDESIGN.COM

SURVEY INFORMATION
SCHAEFFER DZALDOV PURCELL LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO
PHONE: (905) 761-0101

BENCHMARK INFORMATION:
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1:300

SCALE CHECK
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Appendix C

Water Balance & Infiltration Calculations

Water Balance Calculations

4583, 4589 and 4601 Mississauga Road
File No. 145121 (UD15-0347)
Date: March 2025 - Revised

Based on MOE Table 3.1

Site Data

Hydrologic Soil group:	C	Silty Clay Till (Soil Map)
Vegetation Cover:	Urban Lawn	

PRE-DEVELOPMENT WATER BALANCE

	Pervious Area	Impervious Area	Total
Area (ha)	0.965	0.128	1.093
Precipitation (mm)	785.9	785.9	
ET (mm)	536	79	
Surplus (mm)	250	707	
Infiltration (mm)	150	0	
Runoff (mm)	100	707	
ET (m^3)	5173	101	5274
Infiltration (m^3)	1447	0	1447
Runoff (m^3)	965	905	1869

POST-DEVELOPMENT WATER BALANCE (NO MITIGATION)

	Pervious Area	Impervious Area	Total
Area (ha)	0.600	0.493	1.093
Precipitation (mm)	785.9	785.9	
ET (mm)	536	79	
Surplus (mm)	250	707	
Infiltration (mm)	150	0	
Runoff (mm)	100	707	
ET (m^3)	3217	387	3605
Infiltration (m^3)	900	0	900
Runoff (m^3)	600	3487	4087

POST-DEVELOPMENT WATER BALANCE (WITH MITIGATION)

	Pervious Area	Impervious Area	300mm Topsoil	Rooftop to Trench	Total
Area (ha)	0.511	0.401	0.089	0.092	1.093
Precipitation (mm)	785.9	785.9	785.9	785.9	
ET (mm)	536	79	79	79	
Surplus (mm)	250	707	707	707	
Infiltration (mm)	150	0	377	377	
Runoff (mm)	100	707	330	330	
ET (m^3)	2740	315	70	72	3197
Infiltration (m^3)	766	0	336	346	1448
Runoff (m^3)	511	2839	294	302	3946

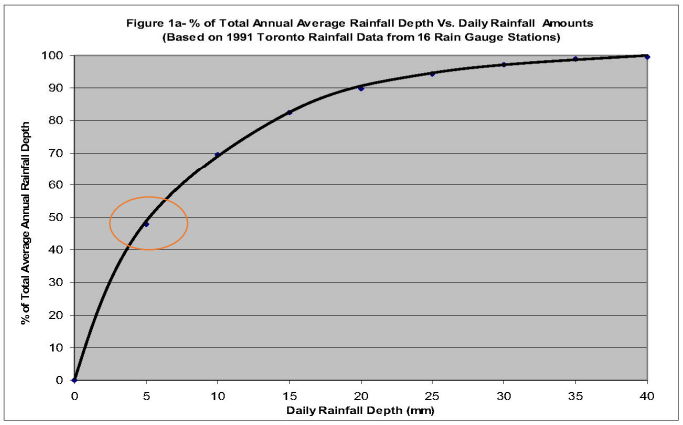
4.6 m^3 of infiltration trench volume equals about 5 mm of depth over the impervious area.5 mm daily capture roughly equals 48% capture of the annual rainfall.

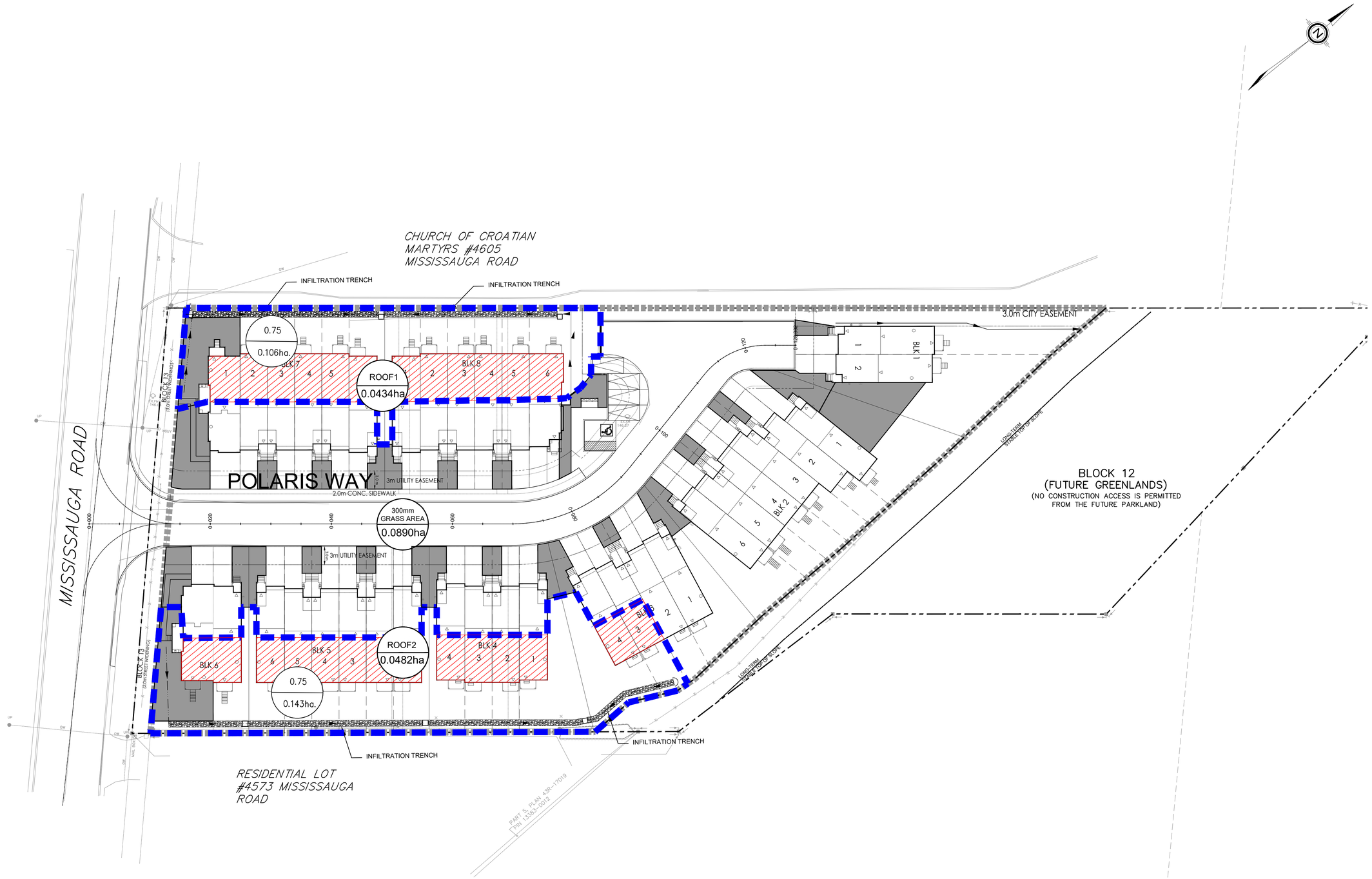
4.5 m^3 of 300mm topsoil infiltration volume equals about 5 mm of depth over the impervious area. 5mm daily capture roughly equals 48% capture of the annual rainfall.

Refer to Figure 1a below

SUMMARY

	ET	Infiltration m^3	Runoff
Pre	5274	1447	1869
w/o Mitigation	3605	900	4087
	-32%	-38%	119%
w/ Mitigation	3197	1448	3946
	-39%	0%	111%





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CLIENT

KINGRIDGE DEVELOPMENTS
1660 NORTH SERVICE ROAD EAST
SUITE 109-B
OAKVILLE ON. L6H 7G3
PHONE: (416) 277-7466
EMAIL: INFO@KINGRIDGEDEVELOPMENTS.CA

ISSUES

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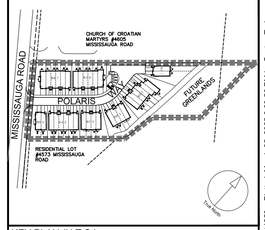
2.	RE-SUBMITTED FOR OPA/ZONING/SPA	DEC 18, 2024
3.	RE-SUBMITTED FOR OPA/ZONING/SPA	MAR 24, 2025

LEGEND

- PROPERTY LINE
- TRENCH DRAINAGE AREA
- INFILTRATION TRENCH
- ROOF1 / 0.05ha — ROOF ID NUMBER / CONTRIBUTING ROOFTOP AREA
- CONTRIBUTING ROOFTOP AREA
- 300mm TOPSOIL AREA
- 0.75 / 1.56ha. — RUNOFF COEFFICIENT / TOTAL DRAINAGE AREA



KEY PLAN (N.T.S.)

MISSISSAUGA

ARCADIS

PROJECT

1786 POLARIS WAY

CITY OF MISSISSAUGA

PROJECT NO: 145121	
DRAWN BY: **JF**	CHECKED BY: **BH/AK**
PROJECT MGR: **SR**	APPROVED BY: **AK**

SHEET TITLE

LOW IMPACT DEVELOPMENT PLAN

SHEET NUMBER	ISSUE
LID-01	01

SITE PLAN INFORMATION

RN DESIGN
8395 JANE ST, SUITE 202
VAUGHAN, ONTARIO
PHONE: (905) 738-3177
EMAIL: INFO@RNDESIGN.COM

SURVEY INFORMATION

SCHAEFFER DZALDOV PURCELL LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO
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SCALE: 1:300 (5.0 0 5.0m 10.0m)

SCALE CHECK: 10mm / 1m

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Infiltration Trench Calculations

2462357 ONTARIO INC (Pace Developments)
File No. 145121 (UD15-0347)
Date: March 2025 - Revised

TRENCH #	Contributing Rooftop Area	Rainfall Depth	Stone Porosity	Infiltration Volume[1]	Infiltration rate	Safety Factor	Infiltration rate[3]	Required Drawdown Time	Maximum Allowable Depth for Infiltration[4]	Minimum Footprint Area for Infiltration[6]	Proposed Trench Length	Min. Required Trench Width	Proposed Trench Width
	(m^2)	(mm)		(m^3)	(mm/hr)		(mm/hr)	(hr)	(m)	(m^2)	(m)	(m)	(m)
Trench 1	434.0	5	0.40	2.2	4.0	3.5	1.2	48	0.14	39.2	59.42	0.66	1.00
Trench 2	482.0	5	0.40	2.4	4.0	3.5	1.2	48	0.14	43.5	83.58	0.52	1.00
TOTAL	**916.0**	**5**	**0.40**	**4.6**	**4.0**	**3.5**	**1.2**	**48**	**0.14**	**82.7**	**143.0**	**0.58**	**1.00**

MOE SWMP Manual Eq. 4.2
Used to calculate maximum infiltration depth

$$dmax = \frac{i \times T}{Vr}$$

d = Maximum allowable depth for infiltration storage (m)
i = Infiltration Rate (mm/hr)
T = Drawdown time (48 hrs max) (hr)
Vr= Void space ratio for aggregate used (typically 0.4 for 50mm clear stone)

MOE SWMP Manual Eq. 4.3
(Used to calculate the footprint of the Infiltration Trench)

where;
A = Bottom area of infiltration trench (m^2)
WQV = runoff volume to be infiltrated
Vr = Void space ratio for aggregate used (typically 0.4 for 50mm clear stone)
d = Maximum allowable depth for infiltration storage (m)

$$A = \frac{WQV}{d \times Vr}$$

Notes:
1 - Volume of runoff based on 5mm of rain across the drainage area
2 - Safety factor from TRCA Stormwater Management Criteria Appendix C: Water Balance and Recharge
3 - Infiltration rate at base / safety factor
4 - Max depth for a 48 hour draw down time see equation 4.2 above
5 - Proposed depth for infiltration trench
6 - Minimum trench bottom area, see equation 4.3 above

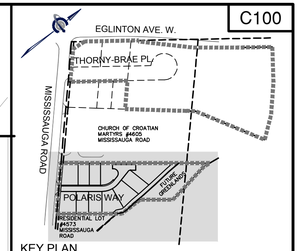
Arcadis Professional Services (Canada) Inc.
Suite 106, 420 Wes Graham Way
Waterloo, Ontario N2L 0J6
Canada
Phone: 519 585 2255

www.arcadis.com

Appendix F

References

C100



KEY PLAN
N.T.S.

EX.TREE TO BE REMOVED

PROPOSED OVERLAND FLOW

INFILTRATION TRENCH

PERVIOUS STABLE SURFACES— PERMEABLE PAVERS

FIRE ROUTE AND NO PARKING SIGN

MIN. B.F.E. 144.15 — MINIMUM BASEMENT ELEVATION

ENGINEERED FILL LOT

REAR DOWNSPOUTS TO CONNECT TO INFILTRATION TRENCH

STREETLIGHT

HYDRO TRANSFORMERS

LEGEND

- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED DOUBLE CATCH BASIN
- PROPOSED VALVE & BOX
- PROPOSED VALVE & BOX
- PROPOSED HYDRANT & VALVE
- EXISTING STORM MANHOLE
- EXISTING SANITARY MANHOLE
- EX.CB. EXISTING CATCHBASIN
- EX.V&C EXISTING VALVE & CHAMBER
- EX.H&V EXISTING HYDRANT & VALVE
- 135 PROPOSED LOT NUMBERS
- PROPOSED 2.0m HIGH WOODEN ACOUSTIC FENCE
- PROPOSED 2.0m HIGH WOODEN LIGHT DUTY NOISE FENCE
- PROPOSED 1.5m HIGH CHAIN LINK FENCE
- PROPERTY LINE
- 294.00 EXISTING CONTOUR
- ×303.04 EXISTING ELEVATION
- ×303.10 PROPOSED ELEVATION
- PROPOSED DOWNSPOUT LOCATION

EXISTING SERVICING INFORMATION FOR MISSISSAUGA ROAD AND THORNY-BRAE PLACE WAS OBTAINED FROM MUNICIPAL RECORD DRAWINGS: C-33221, C-33222, C-99829, 1156-D, 7235-D
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LIST OF DRAWINGS

SITE PLAN INFORMATION

SCHAEFFER DZALDOV BENNETT LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO L4K 3P3
PHONE: (416) 987-0101
FAX: (905) 761 - 0101

SURVEY INFORMATION

SCHAEFFER DZALDOV BENNETT LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO L4K 3P3
PHONE: (416) 987-0101
FAX: (905) 761 - 0101

BENCHMARK

ELEVATIONS SHOWN HEREON ARE REFERRED TO CITY OF MISSISSAUGA BENCHMARK No. 970, HAVING A PUBLISHED ELEVATION OF 148.702 METRES.

NO.	REVISION	DATE	BY
11.	REVISED PER REGION COMMENTS	OCT. 19, 2018	S.G.
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9.	ISSUED FOR SPA #3	APR. 27, 2018	S.G.
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2.	FIRST ENGINEERING SUBMISSION	APR 26, 2016	S.G.

LICENSED PROFESSIONAL ENGINEER
P. FILIPTSEV
100146817
OCT. 19/18
PROVINCE OF ONTARIO

Region of Peel
working with you

MISSISSAUGA

2462357 ONTARIO INC. (PACE DEVELOPMENTS)
THE ARCHWAYS
4583, 4589, 4601 MISSISSAUGA ROAD,
MISSISSAUGA, ON

SITE GRADING PLAN

COLE ENGINEERING
70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5
T 416.987.5181 / 905.940.5181 F 905.940.2064

DESIGNED BY: P.F.	DATE: OCTOBER 2015	CHECKED BY: S.G.
DRAWN BY: P.F.	PROJECT No.	APPROVED BY: S.G.
SCALE: 1:300	UD15-0347	DRAWING No. SG-01

NOTE:
CURB IN FRONT OF LOTS 8 & 9, 10 & 11 TO BE CONTINUOUSLY LOWERED AS SHOWN ON THE PLAN BY ═══ AND PROPOSED ELEVATIONS. CURB BETWEEN LOTS 9 & 10 TO BE FULL CURB

"I have reviewed the plans for the construction of OZ 09/004 W8 located at 4583, 4589, 4601 MISSISSAUGA ROAD and have prepared this plan to indicate the compatibility of the proposal to existing adjacent properties and municipal services. It is my belief that adherence to the proposed grades as shown will produce adequate surface drainage and proper facility of the municipal services without any detrimental effect to the existing drainage patterns or adjacent properties"

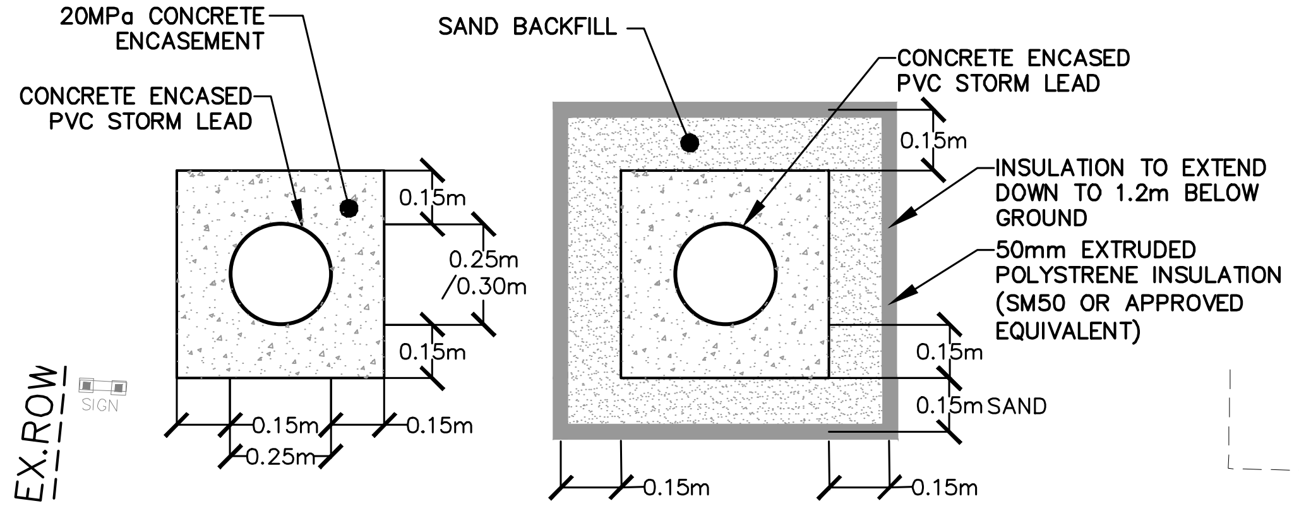
REFER TO DRAWING DD-03 FOR CROSS-SECTIONS

CITY FILE # OZ 09/004 W8
PEEL FILE# T-M09002 M
SP-16-147M

S:\2015 Projects\UD\SDM\UD15-0347 ProcDev_TheArchways_Miss\400- CAD\400-Design\Sheets\SITE PLAN\UD15-0347 GRADING.dwg [SG-01]
Oct 24, 2018 - 10:06am By: PFilptsev

C200

REAR LOT CB LEAD ENCASEMENT / INSULATION DETAIL



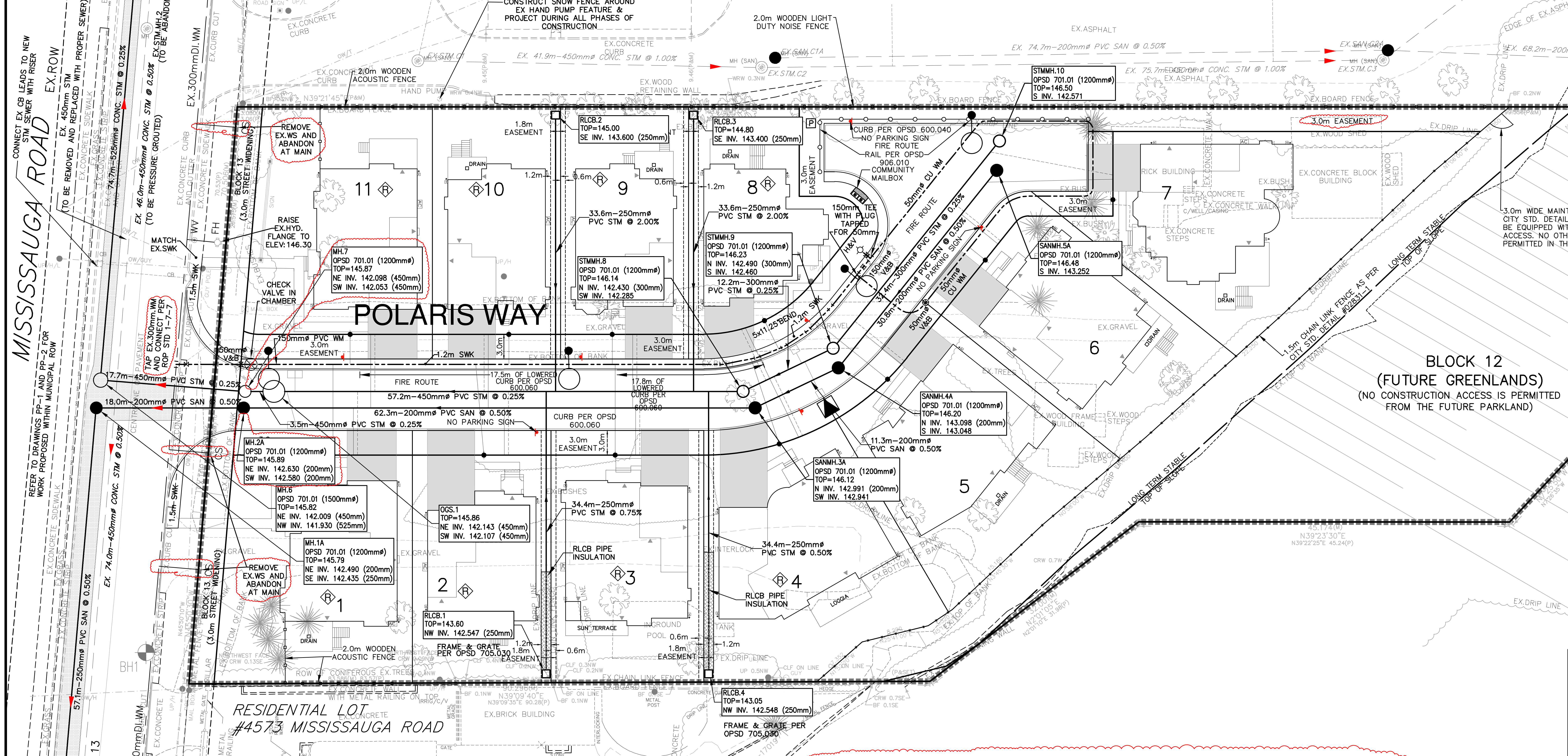
STORM SEWER LATTERALS TO BE CONSTRUCTED TO INVERT ELEVATIONS LISTED BELOW

Lot Number	Storm Sewer Service Invert at Plug (m)	Top of Drain Elevation (m)	Sump Pump (YES/NO)
1	142.77	143.80	NO
2	142.82	143.85	NO
3	142.86	No Drain	NO
4	142.90	No Drain	NO
5	142.96	144.20	NO
6	143.01	144.20	NO
7	143.03	144.30	NO
8	142.90	144.05	NO
9	142.86	144.05	NO
10	142.82	143.90	NO
11	142.77	No Drain	NO

FOR LOTS # 1, 2, 3, 4, 5 & 6, STORM SERVICE CONNECTION TO CROSS UNDER SANITARY SEWER

SANITARY SEWER LATTERALS TO BE CONSTRUCTED TO INVERT ELEVATIONS LISTED BELOW

Lot Number	Sanitary Sewer Service Invert at Plug (m)	Minimum Basement Floor Elevation (m)	Clearance (m)
1	143.00	144.00	1.00
2	143.10	144.05	0.95
3	143.15	144.10	0.95
4	143.30	144.15	0.85
5	143.45	144.15	0.70
6	143.50	144.15	0.65
7	143.65	144.50	0.85
8	143.40	144.15	0.75
9	143.30	144.10	0.80
10	143.25	144.05	0.80
11	143.20	144.00	0.80



CONSTRUCTION AND ROAD RESTORATION COMPRISING:

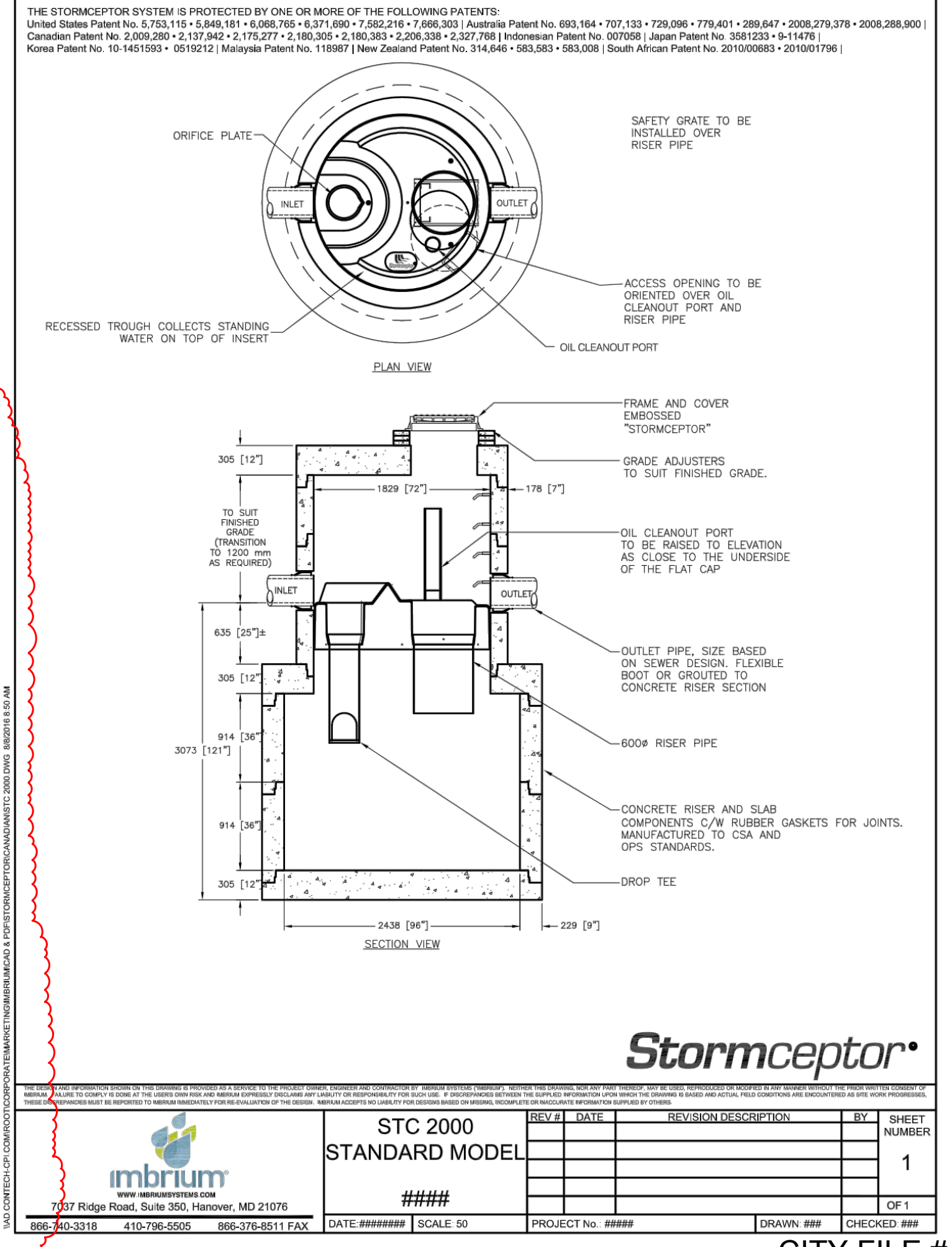
- ALL ROAD EXCAVATIONS AND RESTORATIONS TO BE IN ACCORDANCE WITH CITY OF MISSISSAUGA STANDARD DRAWINGS # 2220.030; 2220.031 AND 2220.032

REGION OF PEEL NOTES:

- o All materials and construction methods must correspond to the current Region of Peel Public Works Design Standards and Specifications.
- o Watermain and / or water service materials 100 mm (4") and larger must be DR 18 P.V.C. pipe manufactured to A.W.W.A. spec. C900–16 spec complete with tracer wire. Size 50 mm (2") and smaller must be Type 'K' soft copper pipe per A.S.T.M. B88–49 Specification.
- o Water services are to have a minimum cover of 1.7 m (5'6") with a minimum horizontal spacing of 1.2 m (4") from themselves and all other utilities.
- o Provisions for flushing water line prior to testing, etc. must be provided with at least a 50 mm (2") outlet on 100 mm (4") and larger lines. Copper lines are to have flushing points at the end, the same size as the line. They must also be hosed or piped to allow the water to drain onto a parking lot or down a drain. On fire lines, flushing outlet to be 100 mm (4") diameter minimum on a hydrant.
- o All curb stops to be 3.0 m (10') off the face of the building unless otherwise noted.
- o Hydrant on municipal side should be set to Region standard 1 – 6 – 1.
- o Municipal watermains to be installed to grades as shown on approved site plan. Copy of grade sheet must be supplied to inspector prior to commencement of work, where requested by inspector.
- o Watermains must have a minimum vertical clearance of 0.3m (12,) over /0.5 m (20") under sewers and all other utilities when crossing and 2.5m horizontal clearance.
- o All live tapping and operation of Region water valves shall be arranged through the Regional Inspector assigned or by contacting the Operations and Maintenance Division.
- o The contractor(s) shall be solely responsible for locates, exposing, supporting and protecting of all underground and overhead utilities and structures existing at the time of construction in the area of their work whether shown on the plans or not and for all repairs and consequences resulting from damage to same.
- o The contractor(s) shall be solely responsible to give 72 hours written notice to the utilities prior to crossing such utilities, for the purpose of inspection by the concerned utility. This inspection will be for the duration of the construction, with the contractor responsible for all costs arising from such inspection.
- o All proposed water piping must be isolated through a temporary connection that shall include an appropriate cross–connection control device, consistent with the degree of hazard, for backflow prevention of the active distribution system, conforming to Region of Peel standards 1–7–7 or 1–7–8.
- o All water services to be 25mm, water meters 19mm.

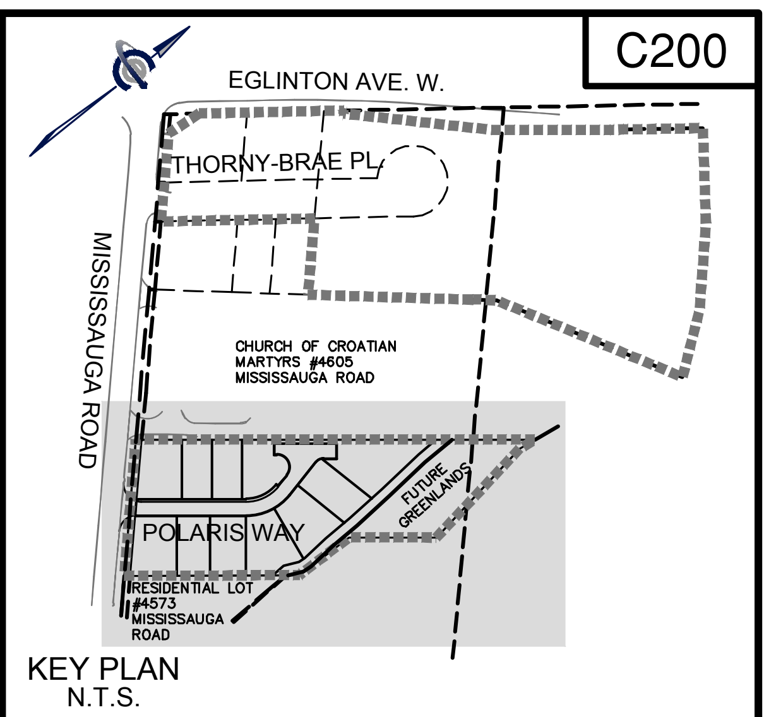
DRAWING NOT TO BE USED FOR CONSTRUCTION

THE STORMCEPTOR SYSTEM IS PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENTS:
United States Patent No. 5,753,115 • 5,849,181 • 6,068,765 • 6,371,690 • 7,582,216 • 7,666,303 | Australia Patent No. 693,164 • 707,133 • 729,096 • 779,401 • 289,647 • 2008,279,378 • 2008,288,900 | Canadian Patent No. 2,009,280 • 2,137,942 • 2,175,277 • 2,180,305 • 2,180,383 • 2,206,338 • 2,327,768 | Indonesian Patent No. 007058 | Japan Patent No. 3581233 • 9-11476 | Korea Patent No. 10-1451593 • 0519212 | Malaysia Patent No. 118987 | New Zealand Patent No. 314,646 • 583,583 • 583,008 | South African Patent No. 2010/00683 • 2010/01796 |



imbrium WWW.IMBRIUMSYSTEMS.COM 7037 Ridge Road, Suite 350, Hanover, MD 21076 866-740-3318 410-796-5505 866-376-8511 FAX	STC 2000 STANDARD MODEL ####	REV #	DATE	REVISION DESCRIPTION	BY	SHEET NUMBER 1 OF 1
	DATE: ######## SCALE: 50	PROJECT No.: #####			DRAWN: ###	CHECKED: ###

CITY FILE #
OZ 09/004 W8
PEEL FILE#
T-M09002 M
SP-16-147M



KEY PLAN
N.T.S.

LEGEND

○	PROPOSED STORM MANHOLE
●	PROPOSED SANITARY MANHOLE
□	PROPOSED CATCH BASIN
◫	PROPOSED DOUBLE CATCH BASIN
⊗	PROPOSED VALVE & BOX
⋈	PROPOSED VALVE & BOX
⊢○	PROPOSED HYDRANT & VALVE
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●	EXISTING SANITARY MANHOLE
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⊢○ EX.H&V	EXISTING HYDRANT & VALVE
135	PROPOSED LOT NUMBERS
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—○—○—	PROPOSED 2.0m HIGH WOODEN LIGHT DUTY NOISE FENCE
—x—x—	PROPOSED 1.5m HIGH CHAIN LINK FENCE
■■■■	PROPERTY LINE
▨	PERVIOUS STABLE SURFACES–PERMEABLE PAVERS
▼	DOOR LOCATION
•–○	STREETLIGHT
▼	HYDRO TRANSFORMERS
⇡	PROPOSED DOWNSPOUT LOCATION

EXISTING SERVICING INFORMATION FOR MISSISSAUGA ROAD AND THORNY-BRAE PLACE WAS OBTAINED FROM MUNICIPAL RECORD DRAWINGS: C-33221, C-33222, C-99829, 1156-D, 7235-D
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SG-01	(SITE GRADING PLAN)
SS-01	(SITE SERVICING PLAN)
ST-01	(STORM DRAINAGE PLAN)
SA-01	(SANITARY DRAINAGE PLAN)
EC-01	(EROSION CONTROL PLAN)
DD-01	GENERAL NOTES
DD-02	DETAIL DRAWINGS
DD-03	CROSS SECTIONS

SITE PLAN INFORMATION

SCHAEFFER DZALDOV BENNETT LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO L4K 3P3
PHONE: (416) 987-0101
FAX: (905) 761 - 0101

SURVEY INFORMATION

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64 JARDIN DRIVE
CONCORD, ONTARIO L4K 3P3
PHONE: (416) 987-0101
FAX: (905) 761 - 0101

BENCHMARK

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2.	FIRST ENGINEERING SUBMISSION	APR 26, 2016	S.G.

LICENSED PROFESSIONAL ENGINEER
P. FILIPTSEV
100146817
OCT. 19/18
PROVINCE OF ONTARIO

Region of Peel
working with you

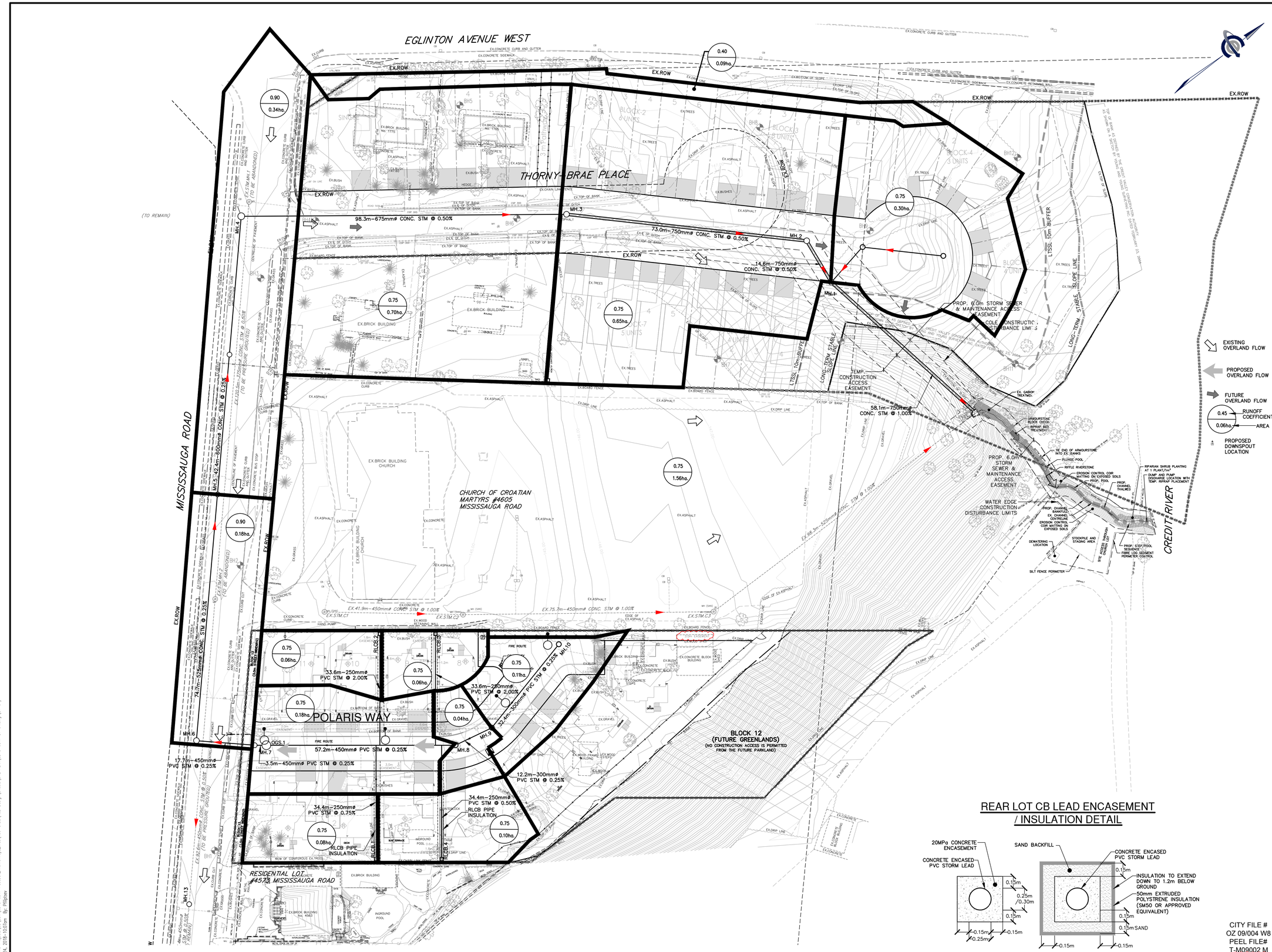
MISSISSAUGA

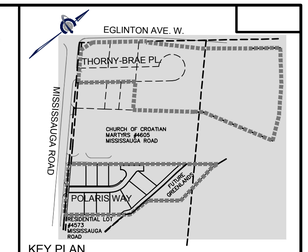
2462357 ONTARIO INC. (PACE DEVELOPMENTS)
THE ARCHWAYS
4583, 4589, 4601 MISSISSAUGA ROAD,
MISSISSAUGA, ON

SITE SERVICING PLAN

COLE ENGINEERING
70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5
T:416.987.6161 / 905.940.6161 F:905.940.2064

DESIGNED BY: P.F.	DATE: OCTOBER 2015	CHECKED BY: S.G.
DRAWN BY: P.F.	PROJECT No.	APPROVED BY: S.G.
SCALE: 1:300	UD15-0347	DRAWING No. SS-01





KEY PLAN
N.T.S.

LEGEND

- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED DOUBLE CATCH BASIN
- PROPOSED VALVE & BOX
- PROPOSED VALVE & BOX
- PROPOSED HYDRANT & VALVE
- EXISTING STORM MANHOLE
- EXISTING SANITARY MANHOLE
- EXISTING CATCHBASIN (EX.CB)
- EXISTING VALVE & CHAMBER (EX. V&C)
- EXISTING HYDRANT & VALVE (EX.H&V)
- 135 PROPOSED LOT NUMBERS
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- PROPOSED 2.0m HIGH WOODEN LIGHT DUTY NOISE FENCE
- PROPOSED 1.5m HIGH CHAIN LINK FENCE
- PROPERTY LINE
- PERVIOUS STABLE SURFACES– PERMEABLE PAVERS
- REAR DOWNSPOUTS TO CONNECT TO INFILTRATION TRENCH
- DRAINAGE AREA BOUNDARY

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LIST OF DRAWINGS

SITE PLAN INFORMATION

SCHAEFFER DZALDOV BENNETT LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO L4K 3P3
PHONE: (416) 987-0101
FAX: (905) 761 - 0101

SURVEY INFORMATION

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BENCHMARK

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LICENSED PROFESSIONAL ENGINEER
P. FILIPTSEV
100146817
OCT. 19/18
PROVINCE OF ONTARIO

Region of Peel working with you

MISSISSAUGA

2462357 ONTARIO INC. (PACE DEVELOPMENTS)
THE ARCHWAYS
4583, 4589, 4601 MISSISSAUGA ROAD,
MISSISSAUGA, ON

STORM DRAINAGE PLAN

COLE ENGINEERING
70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5
T 416.987.8161 / 905.940.8161 F 905.940.2064

REAR LOT CB LEAD ENCASEMENT / INSULATION DETAIL

DESIGNED BY: P.F.	DATE: OCTOBER 2015	CHECKED BY: S.G.
DRAWN BY: P.F.	PROJECT No. UD15-0347	APPROVED BY: S.G.
SCALE: 1:500		DRAWING No. ST-01

CITY FILE # OZ 09/004 W8
PEEL FILE# T-M09002 M
SP-16-147M

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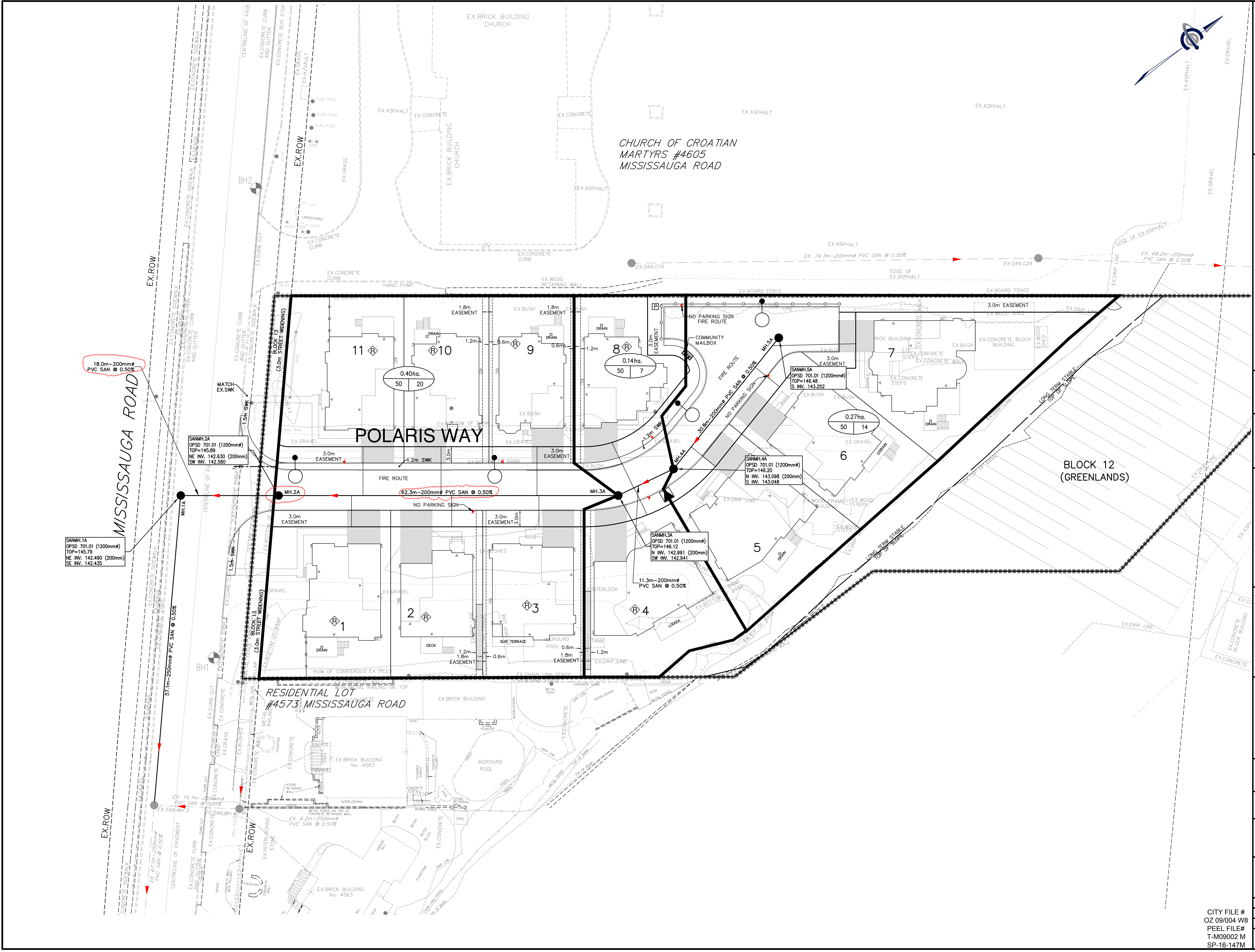
Oct 24, 2018–10:07am By: Philptsev



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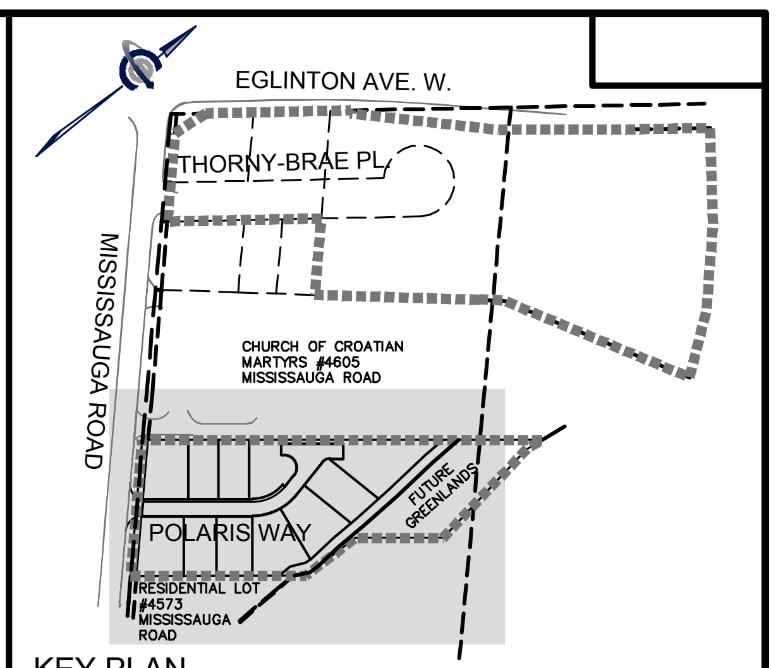

KEY PLAN
N.T.S.

LEGEND

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●	PROPOSED SANITARY MANHOLE
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—▫—▫—▫—	PROPOSED 2.0m HIGH LIGHT DUTY ACOUSTIC FENCE
▪▪▪▪▪▪▪▪▪▪	PROPERTY LINE
▨	DRIVEWAY WITH PERMEABLE PAVERS
▬	DRAINAGE AREA BOUNDARY
⇡	PROPOSED DOWNSPOUT LOCATION

AREA: 0.40ha.
POPULATION (PPERSON per Ha): 50
POPULATION (PERSON): 20

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DD-02	DETAIL DRAWINGS
DD-03	CROSS SECTIONS

SITE PLAN INFORMATION

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64 JARDIN DRIVE
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2462357 ONTARIO INC. (PACE DEVELOPMENTS)
THE ARCHWAYS
4583, 4589, 4601 MISSISSAUGA ROAD,
MISSISSAUGA, ON

SANITARY DRAINAGE PLAN

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70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5
T:416.987.6161 / 905.940.6161 F:905.940.2064

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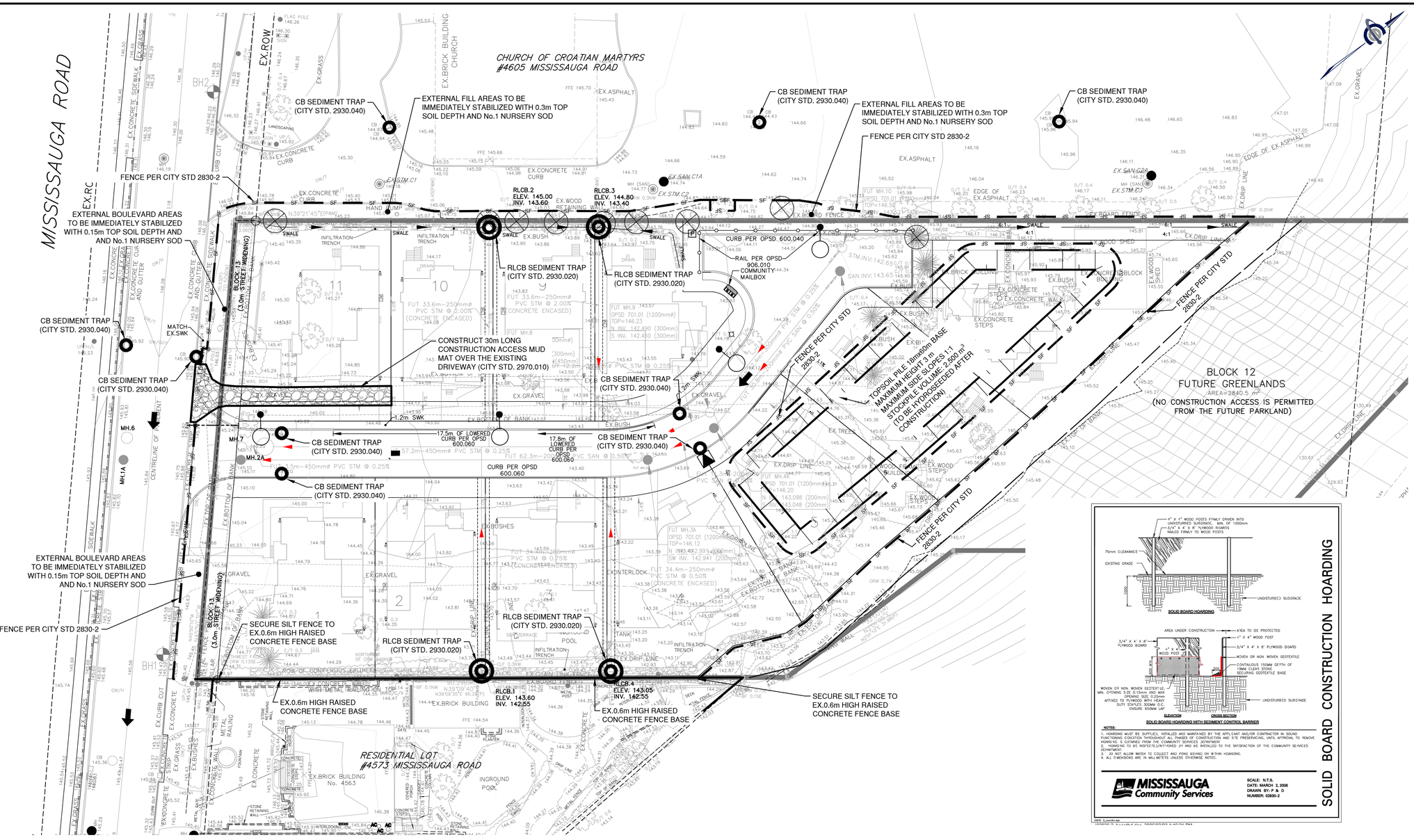
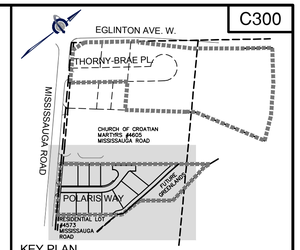
SCALE: 1:300	UD15-0347	DRAWING No.
		SA-01





KEY PLAN
N.T.S.

LEGEND

- PROPERTY LINE
- 294.00 EXISTING CONTOUR
- 294.00 / 303.04 EXISTING ELEVATION
- EX.TREE TO BE REMOVED
- FENCE PER CITY STD 2830-2
- CB SEDIMENT TRAP CITY STD. 2930.040
- RLCB SEDIMENT TRAP CITY STD. 2930.020
- PROPOSED DOWNSPOUT LOCATION

EXISTING SERVICING INFORMATION FOR MISSISSAUGA ROAD AND THORNY-BRAE PLACE WAS OBTAINED FROM MUNICIPAL RECORD DRAWINGS: C-33221, C-33222, C-99829, 1156-D, 7235-D
EXISTING SERVICING AND UTILITIES INFORMATION SHOWN ON THIS DRAWING IS NOT TO BE RELIED ON. THE CONTRACTOR TO VERIFY INVERT ELEVATION AND LOCATION OF ALL UNDERGROUND SERVICES AND UTILITIES PRIOR TO COMMENCING WORK.

LIST OF DRAWINGS

SITE PLAN INFORMATION

SCHAEFFER DZALDOV BENNETT LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO L4K 3P3
PHONE: (416) 987-0101
FAX: (905) 761 - 0101

SURVEY INFORMATION

SCHAEFFER DZALDOV BENNETT LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO L4K 3P3
PHONE: (416) 987-0101
FAX: (905) 761 - 0101

BENCHMARK

ELEVATIONS SHOWN HEREON ARE REFERRED TO CITY OF MISSISSAUGA BENCHMARK No. 970, HAVING A PUBLISHED ELEVATION OF 148.702 METRES.

NO.	REVISION	DATE	BY
11.	REVISED PER REGION COMMENTS	OCT. 19, 2018	S.G.
10.	ISSUED FOR SPA #4	SEPT. 5, 2018	S.G.
9.	ISSUED FOR SPA #3	APR. 27, 2018	S.G.
8.	ISSUED FOR SPA #2	JULY 27, 2017	S.G.
7.	SPA #2	JULY 04, 2017	S.G.
6.	REVISED FOR CVC & CITY COMMENTS	MAY 8, 2017	S.G.
5.	ISSUED FOR SITE PLAN APPROVAL	SEPT. 30, 2016	S.G.
4.	PER REGION AND CITY COMMENTS	AUG 12, 2016	S.G.
3.	PER CVC COMMENTS	JUNE 13, 2016	S.G.
2.	FIRST ENGINEERING SUBMISSION	APR 26, 2016	S.G.

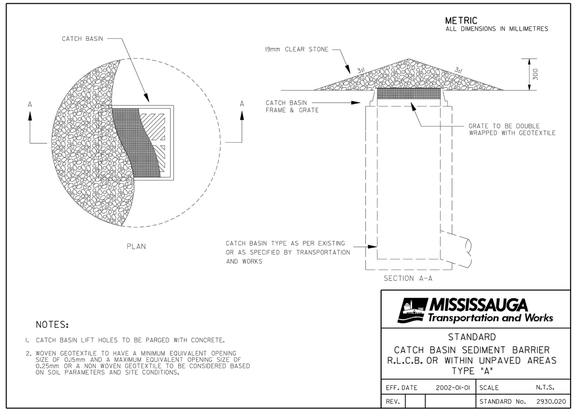
MISSISSAUGA Community Services

SCALE: N.T.S.
DATE: MARCH 2, 2006
DRAWN BY: P & D
NUMBER: 02830-2

SOLID BOARD CONSTRUCTION HOARDING

NOTES:

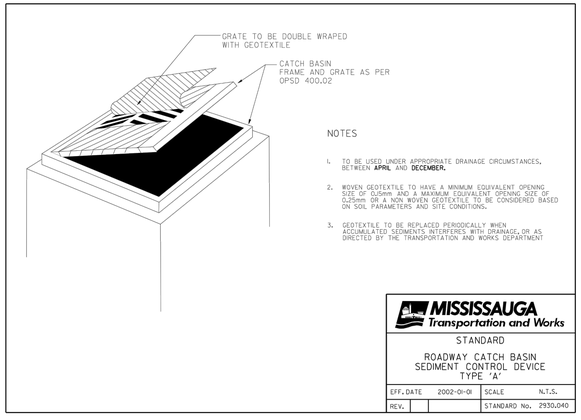
- GRADING AND SERVICING CONTRACTORS, AND BUILDER TO IMPLEMENT ROAD SWEEPING AND FLUSHING PROGRAMS TO MINIMIZE SEDIMENT TRACKING ON MISSISSAUGA ROAD
- ADDITIONAL EROSION AND CONTROL MATERIALS (i.e. SILT FENCE, STRAW BALES, CLEAR STONE,...ect.) ARE TO BE KEPT ON SITE FOR EMERGENCIES AND REPAIRS
- EROSION AND SEDIMENT CONTROL METHODS ARE TO BE CONTINUOUSLY EVALUATED; AND UPGRADES ARE TO BE IMPLEMENTED, WHEN NECESSARY
- THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR CONTROLLING SEDIMENT AND EROSION WITHIN THE CONSTRUCTION SITE FOR THE TOTAL PERIOD OF CONSTRUCTION. THE SEDIMENT LADEN WATER WILL NOT BE ALLOWED TO DISCHARGE TO THE CREEK
- AN AFTER HOUR CONTACT NUMBER IS TO BE VISIBLY POSTED ON SITE FOR EMERGENCIES
- REFER TO DRAWING DD-01 FOR DETAILS
- REFER TO BTi DRAWING FOR TREE PRESERVATION PLAN
- NO CONSTRUCTION ACCESS IS PERMITTED FROM THE FUTURE PARKLAND
- TREE PRESERVATION FENCING TREE PROTECTION HOARDING TO BE INSTALLED APPROXIMATELY 150mm ON TO THE GREENLANDS IN ORDER TO FACILITATE THE INSTALLATION OF GREENLAND FENCING WITHOUT THE REMOVAL OR RELOCATION OF TEMPORARY HOARDING



NOTES:
1. CATCH BASIN LIFT HOLES TO BE PARGED WITH CONCRETE.
2. WOVEN GEOTEXTILE TO HAVE A MINIMUM EQUIVALENT OPENING SIZE OF 0.6mm AND A MAXIMUM EQUIVALENT OPENING SIZE OF 0.25mm OR A NON WOVEN GEOTEXTILE TO BE CONSIDERED BASED ON SOIL PARAMETERS AND SITE CONDITIONS.

MISSISSAUGA Transportation and Works
STANDARD
CATCH BASIN SEDIMENT BARRIER
R.L.C.B. OR WITHIN UNPAVED AREAS
TYPE 'A'

EFF. DATE	2002-01-01	SCALE	N.T.S.
REV.		STANDARD No.	2930.020



NOTES
1. TO BE USED UNDER APPROPRIATE DRAINAGE CIRCUMSTANCES, BETWEEN APRIL AND DECEMBER.
2. WOVEN GEOTEXTILE TO HAVE A MINIMUM EQUIVALENT OPENING SIZE OF 0.6mm AND A MAXIMUM EQUIVALENT OPENING SIZE OF 0.25mm OR A NON WOVEN GEOTEXTILE TO BE CONSIDERED BASED ON SOIL PARAMETERS AND SITE CONDITIONS.
3. GEOTEXTILE TO BE REPLACED PERIODICALLY WHEN ACCUMULATED SEDIMENTS INTERFERES WITH DRAINAGE, OR AS DIRECTED BY THE TRANSPORTATION AND WORKS DEPARTMENT

MISSISSAUGA Transportation and Works
STANDARD
ROADWAY CATCH BASIN
SEDIMENT CONTROL DEVICE
TYPE 'A'

EFF. DATE	2002-01-01	SCALE	N.T.S.
REV.		STANDARD No.	2930.040

EROSION AND SEDIMENT CONTROL NOTES:

- ADDITIONAL EROSION AND SEDIMENT CONTROL MATERIALS (I.E. SILT FENCE, STRAW BALES, CLEAR STONES ETC,) ARE TO BE KEPT ON SITE FOR EMERGENCIES AND REPAIRS.
- EROSION AND SEDIMENT CONTROLS METHODS ARE TO BE CONTINUOUSLY EVALUATED; AND UPGRADES ARE TO BE IMPLEMENTED, WHEN NECESSARY.
- THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR CONTROLLING SEDIMENT & EROSION WITHIN THE CONSTRUCTION SITE FOR THE TOTAL PERIOD OF THE CONSTRUCTION. THE SEDIMENT LADEN WATER WILL NOT BE ALLOWED TO DISCHARGE TO THE CREEK .
- AN AFTER HOURS CONTACT NUMBER IS TO BE VISIBLY POSTED ON-SITE FOR EMERGENCIES. ALL THE PLANS SHOULD HAVE NAME AND CONTACT INFO OF THE PERSON RESPONSIBLE FOR ESC MEASURES.
- ANY SEDIMENT SPILL FROM THE SITE MUST BE REPORTED TO MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE (CALL SPILL ACTION CENTER AT 1-800-268-6060.)

CITY FILE #
OZ 09/004 W8
PEEL FILE#
T-M09002 M
SP-16-147M

LICENCED PROFESSIONAL ENGINEER
P. FILIPTSEV
100146817
OCT. 19/18
PROVINCE OF ONTARIO

Region of Peel
working with you

MISSISSAUGA

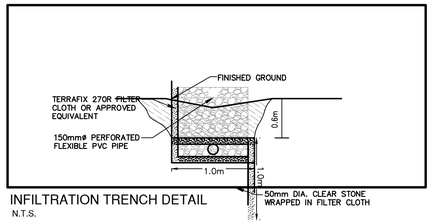
2462357 ONTARIO INC. (PACE DEVELOPMENTS)
THE ARCHWAYS
4583, 4589, 4601 MISSISSAUGA ROAD,
MISSISSAUGA, ON

EROSION CONTROL PLAN

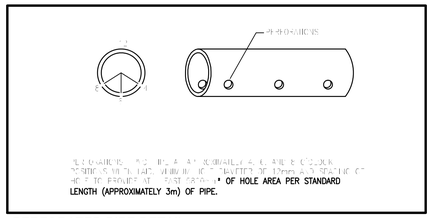
COLE ENGINEERING
70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5
T 416 987 8101 / 905 940 8181 F 905 940 2064

DESIGNED BY: P.F.	DATE: OCTOBER 2015	CHECKED BY: S.G.
DRAWN BY: P.F.	PROJECT No. UD15-0347	APPROVED BY: S.G.
SCALE: 1:300		DRAWING No. EC-01

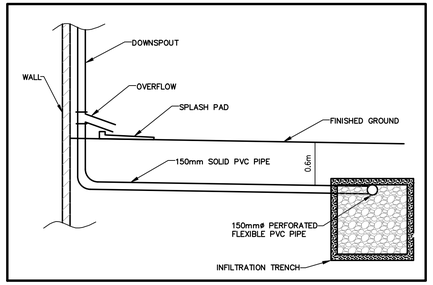
S:\2015 Projects\UD\SWM\UD15-0347 Pace\Dev_The Archways_Mtce\400-CADD\402-Design\Sheets\SITE PLAN\UD15-0347 EROSION CONTROL.dwg (EC-01)
Oct 24, 2018 - 10:07am By: PSippleton



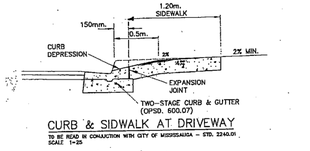
INFILTRATION TRENCH DETAIL
N.T.S.



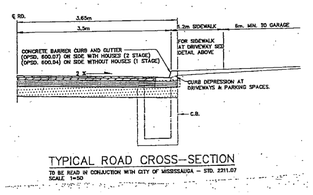
PERFORATED PIPE DETAIL
N.T.S.



REAR DOWNSPOUT CONNECTION TO TRENCH DETAIL
N.T.S.

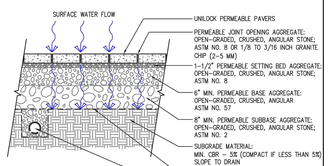


CURB & SIDWALK AT DRIVEWAY
TO BE READ IN CONJUCTION WITH CITY OF MISSISSAUGA – STD. 2240.01
SCALE: 1=25



TYPICAL ROAD CROSS-SECTION
TO BE READ IN CONJUCTION WITH CITY OF MISSISSAUGA – STD. 2311.07
SCALE: 1=30

NOTES:
1) THIS PERMEABLE PAVEMENT DETAIL IS A RECOMMENDED MINIMUM AND MUST BE DESIGNED BY A PROFESSIONAL ENGINEER.
2) ALL AGGREGATE MATERIAL SHALL BE CRUSHED, ANGULAR STONE AND FREE OF FINES.
3) COMPACT SUBSOIL WITH A CALIFORNIA BEARING RATIO (CBR) OF LESS THAN 5% AS DIRECTED BY A PROFESSIONAL ENGINEER.
4) SURFACE SLOPE SHALL BE A MINIMUM OF 1% AND A MAXIMUM OF 5%.
5) INSTALL PVC UNDERDRAIN PIPE WHERE INFILTRATION RATE OF SUBSOIL IS LESS THAN 0.5 IN./HR. SIZE AS DIRECTED BY A PROFESSIONAL ENGINEER.
6) NEVER BUILD PERMEABLE PAVEMENTS ON ORGANIC CLAY SOILS OF HIGH PLASTICITY AND/OR PEAT, MUCK, SOILS WITH HIGH ORGANIC CONTENT.
7) MAINTAIN A MINIMUM DISTANCE OF 2' BETWEEN BOTTOM OF PERMEABLE BASE AND WATER TABLE.
8) THE MINIMUM AGGREGATE THICKNESSES ARE AFTER COMPACTION.
9) CROWN ROADWAY APPLICATIONS AT A 1.5 TO 1.7% SLOPE FOR INCREASED PAVEMENT STIFFNESS. (CROWNING IS NOT FOR DRAINAGE PURPOSES.)
10) ONLY USE CRUSHED, ANGULAR GRANITE CHIPS FOR JOINT MATERIAL IN ROADWAY APPLICATIONS.



COMMERCIAL APPLICATION PERMEABLE PAVER DETAIL	NOTES: This cross section is intended for preliminary design purposes only. Confirm site conditions and consult with a qualified design professional or installer prior to installation.	CROSS SECTION PARTIAL INFILTRATION WITH UNDERDRAIN MEDIUM DUTY
CREATED: OCTOBER 11, 2011		UNILOCK DESIGNED TO CONNECT.
REVISED: JANUARY 30, 2014		
FILE NAME: CS-COM-PERM-T2-2014.DWG		

PERMEABLE PAVER DETAIL
N.T.S.

GRADING:

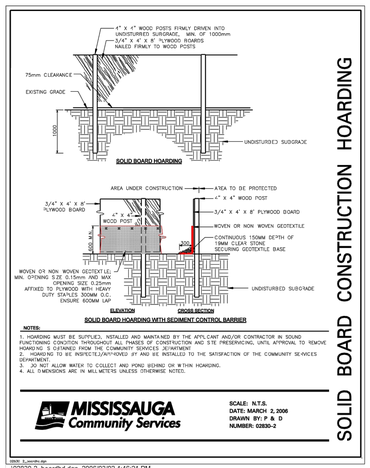
1. PRIOR TO COMMENCEMENT OF GRADING WORKS ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND OPERATIONAL. THE CONTRACTOR SHALL MAINTAIN ALL WORKS UNTIL SERVICING CONSTRUCTION IS COMPLETED TO THE SATISFACTION OF THE ENGINEER AND THE CITY OF MISSISSAUGA.
2. ALL GRANULAR BASE AND SUB-BASE COURSE MATERIALS SHALL BE COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY.
3. PAVEMENT STRUCTURE TO BE CONSTRUCTED, AS RECOMMENDED BY THE GEOTECHNICAL REPORT.
4. CONCRETE BARRIER CURB SHALL BE AS PER (OPSD 600.110).
5. INSPECTIONS: ALL WORK ON THE MUNICIPAL RIGHT-OF-WAY AND EASEMENTS TO BE INSPECTED BY THE MUNICIPALITY PRIOR TO BACKFILLING. ALL WORK RELATING TO WATERMAINS AND SEWERS TO BE INSPECTED BY THE MUNICIPALITY WHEN REQUIRED BY THE MUNICIPALITY.
6. CONTRACTOR TO OBTAIN A ROAD OCCUPANCY PERMIT 48 HOURS PRIOR TO COMMENCING ANY WORK WITHIN THE MUNICIPAL ROAD ALLOWANCE IF REQUIRED BY THE MUNICIPALITY OR THE REGION.
7. EMBANKMENTS TO BE SLOPED AT MAX. 3:1, UNLESS OTHERWISE SPECIFIED.
8. SEDIMENT CONTROL TO BE PROVIDED AT CATCH BASINS AND CATCH BASIN MANHOLES UPON INSTALLATION OF STRUCTURES AS PER DETAIL PROVIDED.
9. CONTRACTOR WILL BE RESPONSIBLE FOR ALL REMOVALS AS REQUIRED TO FACILITATE NEW CONSTRUCTION. ALL EXISTING STRUCTURES, VALVES, ETC. ARE TO BE ADJUSTED TO PROPOSED ELEVATIONS.
10. EXISTING ELEVATIONS AT MATCH POINTS, AS SHOWN ON PLANS, ARE TO BE CONFIRMED BY THE CONTRACTOR 72 HOURS PRIOR TO MOBILIZATION OF FORCES. LOST TIME AND/OR ANY ADDITIONAL WORKS DUE TO FAILURE OF THE CONTRACTOR TO CONFIRM EXISTING ELEVATIONS AND NOTIFY THE ENGINEER OF POSSIBLE CONFLICTS 72 HOURS PRIOR TO MOBILIZATION WILL BE AT THE EXPENSE OF THE CONTRACTOR.

EROSION:

1. ALL SEEDING TO BE COMPLETED AS PER THE RECOMMENDATIONS OF THE LANDSCAPE ARCHITECT.
2. ALL DISTURBED AREAS TO BE STABILIZED WITH SEED AS SOON AS CONSTRUCTION ACTIVITY IS COMPLETED.
3. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED AND MAINTAINED ON A REGULAR BASIS. INSPECTION OF SUCH MEASURES SHALL BE COMPLETED AFTER EVERY RAINFALL.
4. ADDITIONAL SILT FENCING SHALL BE AVAILABLE IN CASE IMMEDIATE REPAIR IS REQUIRED.
5. ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED PRIOR TO ANY GROUND DISTURBANCE ACTIVITIES.

REGION OF PEEL NOTES:

1. ALL MATERIALS AND CONSTRUCTION METHODS MUST CORRESPOND TO THE CURRENT PEEL PUBLIC WORKS STANDARDS AND SPECIFICATIONS.
2. WATERMAINS AND / OR WATER SERVICE MATERIALS 100mm (4") AND LARGER MUST BE PVC CLASS 150, DR-18. SIZE 50mm (2") AND SMALLER COPPER TYPE "K".
3. WATERMAINS AND / OR WATER SERVICES ARE TO HAVE A MINIMUM COVER OR 1.7m (5'6") WITH A MINIMUM HORIZONTAL SPACING OF 1.2m (4') FROM THEMSELVES AND ALL OTHER UTILITIES.
4. PROVISIONS FOR FLUSHING WATER LINE PRIOR TO TESTING, ETC. MUST BE PROVIDED WITH AT LEAST A 50mm (2") OUTLET ON 100mm (4") AND LARGER LINES. COPPER LINES ARE TO HAVE FLUSHING POINTS AT THE END, THE SAME SIZE AS THE LINE. THEY MUST ALSO BE HOSED OR PIPED TO ALLOW THE WATER TO DRAIN ONTO A PARKING LOT OR DOWN A DRAIN. ON FIRE LINES, FLUSHING OUTLET TO BE 100mm (4") DIAMETER MINIMUM ON A HYDRANT.
5. ALL CURB STOPS TO BE 3.0m (10') OFF THE FACE OF THE BUILDING UNLESS OTHERWISE NOTED.
6. HYDRANT AND VALVE SET TO REGION STANDARD 1-6-1 DIMENSION A AND B, 0.7m (2') AND 0.9m (3') AND TO HAVE PUMPER NOZZLE.
7. WATERMAINS TO BE INSTALLED TO GRADES AS SHOWN ON APPROVED SITE PLAN. COPY OF GRADING SHEET MUST BE SUPPLIED TO INSPECTOR PRIOR TO COMMENCEMENT OF WORK, WHERE REQUESTED BY INSPECTOR.
8. WATERMAINS MUST HAVE A MINIMUM VERTICAL CLEARANCE OF 0.3m (12") OVER / 0.5m (20") UNDER SEWERS AND ALL OTHER UTILITIES WHEN CROSSING.
9. ALL PROPOSED WATER PIPING MUST BE INSOLATED FROM EXISTING LINES IN ORDER TO ALLOW INDEPENDANT PRESSURE TESTING AND CHLORINATING FROM THE EXISTING SYSTEMS.
10. ALL LIVE TAPPING AND OPERATION OF REGION WATER VALVES SHALL BE ARRANGED THROUGH THE REGIONAL INSPECTOR ASSIGNED OR BY CONTACTING THE OPERATIONS AND MAINTENANCE DIVISION.



NOTES:
1. HOARDING MUST BE SUPPLIED, INSTALLED AND MAINTAINED BY THE APPLICANT AND/OR CONTRACTOR IN SOUND, FUNCTIONING CONDITION THROUGHOUT ALL PHASES OF CONSTRUCTION AND SITE PRESERVICING, UNTIL APPROVAL TO REMOVE HOARDING IS GIVEN BY THE COMMISSIONER OF PLANNING AND BUILDING.
2. HOARDING TO BE INSPECTED APPROVED BY AND BE INSTALLED TO THE SATISFACTION OF THE COMMUNITY SERVICES DEPARTMENT.
3. DO NOT ALLOW WATER TO COLLECT AND POND BEHIND OR WITHIN HOARDING.
4. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

MISSISSAUGA Community Services

SCALE: N.T.S.
DATE: MARCH 2, 2006
DRAWN BY: P & D
NUMBER: 02830-2

SOLID BOARD CONSTRUCTION HOARDING

CITY OF MISSISSAUGA NOTES:

1. AT THE ENTRANCES TO THE SITE, THE MUNICIPAL CURB AND SIDEWALK WILL BE CONTINUOUS THROUGH THE DRIVEWAY AND A CURB DEPRESSION WILL BE PROVIDED FOR EACH ENTRANCE.
2. ALL PROPOSED CURBING WITHIN THE MUNICIPAL BOULEVARD AREA FOR THE SITE IS TO SUIT AS FOLLOWS: A) FOR ALL SINGLE FAMILY RESIDENTIAL PROPERTIES INCLUDING ON STREET TOWNHOUSES, ALL CURBING IS TO STOP AT THE PROPERTY LIMIT OR THE BACK OF THE MUNICIPAL SIDEWALK, WHICHEVER IS APPLICABLE, OR B) FOR ALL OTHER PROPOSALS INCLUDING INDUSTRIAL, COMMERCIAL AND CONDOMINIUM DEVELOPMENTS, ALL ENTRANCES TO THE SITE ARE TO BE IN ACCORDANCE WITH OPSD 350.010.
3. THE EXISTING DRAINAGE PATTERN WILL BE MAINTAINED EXCEPT WHERE NOTED.
4. PRIOR TO ANY CONSTRUCTION TAKING PLACE, STRUCTURALLY CERTIFIED OVERHEAD HOARDING WITHIN THE RIGHT-OF-WAY AS SHOWN ON THE SITE PLAN (AS APPLICABLE), HOARDING ADJACENT TO EXISTING PROPERTIES TO PROTECT FROM CONSTRUCTION ACTIVITY, AND ALL REQUIRED HOARDING IN ACCORDANCE WITH ONTARIO OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS MUST BE ERECTED AND MAINTAINED THROUGHOUT ALL PHASES OF CONSTRUCTION.
5. THE MINIMUM PAVEMENT STRUCTURE FOR THE ROADS AND DRIVEWAYS WILL BE AS FOLLOWS, BUT MAY VARY DEPENDING UPON SOIL CONDITIONS, FOR SITE CONDITIONS OR ANY SPECIFIC USES WHICH WILL REQUIRE EXTRA STRENGTH PAVEMENT, THE PAVEMENT STRUCTURE SHALL BE SUBSTANTIATED BY A REPORT FROM THE APPLICANT'S GEOTECHNICAL CONSULTANT.

MINIMUM PAVEMENT STRUCTURE FOR ROADS:

OPSS GRANULAR 'B'	250mm
OPSS GRANULAR 'A'	200mm
OPSS HL8	65mm
HL3	40mm

MINIMUM PAVEMENT STRUCTURE FOR DRIVEWAYS:

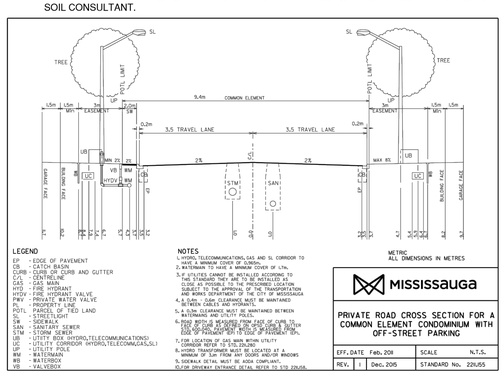
OPSS GRANULAR 'A'	150mm
HL8	50mm
HL3F	25mm

CITY MINIMUM PAVEMENT STRUCTURE RECOMMENDATIONS ARE TO BE REVIEWED BY THE GEOTECHNICAL ENGINEER TO CONFIRM THAT IT MEETS THE MINIMUM REQUIREMENTS BASED ON THE EXISTING SOIL CONDITIONS.

6. THE APPLICANT IS ADVISED THAT THEY WILL BE REQUIRED TO PROVIDE INSPECTION STAFF 48 HOURS NOTICE PRIOR TO COMMENCEMENT OF ANY ROAD CONSTRUCTION.
7. THE APPLICANT IS ADVISED THAT CONFIRMATION MUST BE RECEIVED FROM THE DEVELOPMENT CONSTRUCTION SECTION THAT THEY HAVE MADE ARRANGEMENTS FOR A PRECONSTRUCTION MEETING.

GENERAL NOTES:

1. PRIOR TO STARTING ANY WORKS, THE CONTRACTOR MUST ENSURE THAT ALL NECESSARY APPROVALS ARE IN PLACE FROM THE CITY OF MISSISSAUGA AND OTHER EXTERNAL AGENCIES, AS REQUIRED.
2. ALL WORK SHALL BE CARRIED OUT IN COMPLIANCE WITH THE APPLICABLE HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
3. ALL WORK AND MATERIALS TO CONFORM WITH THE CURRENT PROVINCIAL BUILDING CODE, MINISTRY OF THE ENVIRONMENT OF ONTARIO, CITY OF MISSISSAUGA, ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS. LOCAL UTILITY STANDARDS AND MINISTRY OF TRANSPORTATION STANDARDS WILL APPLY WHERE REQUIRED.
4. FOR ALL CONSTRUCTION DETAILS NOT SHOWN ON THE DRAWINGS, REFERENCE SHALL BE MADE TO THE DESIGN STANDARDS OF THE CITY OF MISSISSAUGA.
5. THE CONTRACTOR IS ADVISED THAT WORKS BY OTHERS MAY BE ONGOING DURING THE PERIOD OF THIS CONTRACT. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH ALL OTHER CONTRACTORS AND PREVENT CONSTRUCTION CONFLICTS.
6. THE INFORMATION SHOWN FOR EXISTING UTILITIES WAS PROVIDED BY OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION. ALL EXISTING UTILITIES MUST BE LOCATED AND VERIFIED BY EACH PROVIDER PRIOR TO COMMENCEMENT OF WORK. ANY VARIANCE IS TO BE REPORTED TO THE ENGINEER 48 HRS PRIOR TO CONSTRUCTION. LOST TIME AND/OR ANY ADDITIONAL WORKS DUE TO FAILURE OF THE CONTRACTOR TO CONFIRM UTILITY LOCATIONS AND NOTIFY THE ENGINEER OF ANY CONFLICTS 48 HRS PRIOR TO CONSTRUCTION WILL BE AT THE CONTRACTORS EXPENSE.
7. THE CONTRACTOR MUST INSTALL ALL SEDIMENT CONTROL DEVICES PRIOR TO THE COMMENCEMENT OF SITE GRADING WORKS. SILT LADEN WATER MUST NOT BE PERMITTED TO ENTER INTO ANY EXISTING CATCH BASINS, INLETTING STRUCTURES, OR WATERCOURSES. ADDITIONAL CONTROLS AS DEEMED REQUIRED BY THE AUTHORITIES AND/OR THE ENGINEER DURING CONSTRUCTION ACTIVITIES SHALL BE PROVIDED BY THE CONTRACTOR. THE CONTRACTOR MUST INSPECT SEDIMENT CONTROLS ON A REGULAR BASIS AND AFTER EVERY RAINFALL EVENT. REPAIRS MUST BE DONE IN A TIMELY MANNER TO PREVENT SEDIMENT FROM ENTERING ANY WATER SYSTEMS. ADDITIONAL SILT FENCING MUST BE AVAILABLE IN CASE IMMEDIATE REPAIR IS REQUIRED.
8. ALL DIMENSIONS, ELEVATIONS AND OTHER INFORMATION SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR 72 HOURS PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES FOUND MUST BE REPORTED IMMEDIATELY TO THE ENGINEER.
9. THE CONTRACTOR IS TO PROVIDE A TOTAL OF TWO CCTV CAMERA INSPECTIONS OF ALL SANITARY AND STORM SEWERS, INCLUDING PICTORIAL REPORT, TWO CD COPIES AND ONE VIDEO TAPE IN A FORMAT SATISFACTORY TO THE ENGINEER. ALL SEWERS ARE TO BE FLUSHED PRIOR TO CAMERA INSPECTION.
10. LASER ALIGNMENT CONTROL TO BE UTILIZED ON ALL SEWER INSTALLATIONS.
11. ALL PVC SANITARY SEWERS TO BE MANDREL AND AIR TESTED.
12. ALL PVC STORM SEWERS TO BE MANDREL TESTED. AIR TEST ONLY ON RECOMMENDATION BY SOIL CONSULTANT.



MISSISSAUGA

PRIVATE ROAD CROSS SECTION FOR A COMMON ELEMENT CONDOMINIUM WITH OFF-STREET PARKING

EFF. DATE Feb. 20I	SCALE	N.T.S.
REV. 1 Dec. 2005	STANDARD No. 229.65	

CATCH BASINS:

1. ALL SINGLE AND DOUBLE CATCH BASINS SHALL BE PRECAST AS PER OPSD 705.010 AND 705.020 RESPECTIVELY.
2. ALL CATCH BASIN FRAMES AND COVERS SHALL BE AS PER OPSD 400.020.
3. ALL CATCH BASIN LEADS SHALL BE SDR-35, 200mmØ FOR SINGLE AND 250mmØ FOR DOUBLE WITH A MINIMUM SLOPE OF 1.00% UNLESS OTHERWISE NOTED. CB LEAD INVERT TO BE MINIMUM 1.50m BELOW FINISHED GRADE, UNLESS OTHERWISE NOTED.
4. 'MODULOC' OR APPROVED CATCH BASIN ADJUSTERS SHALL BE USED IN LIEU OF BRICKING.
5. DURING CONSTRUCTION ALL CATCH BASINS SHALL BE EQUIPPED WITH A TEMPORARY SEDIMENT CONTROL DEVICE.

SEWER MATERIALS:

1. ALL SEWERS OF 450mmØ OR SMALLER SHALL BE PVC. ALL SEWERS 525mmØ OR GREATER SHALL BE CONCRETE.
2. POLYVINYL CHLORIDE (PVC) SEWER PIPE TO MEET M.O.E. SPECIFICATIONS, CLASS SDR 35 UNLESS OTHERWISE NOTED.
3. ALL CONCRETE SEWER PIPES SHALL BE REINFORCED CLASS 65-D, UNLESS OTHERWISE NOTED; CONFORMING TO CSA-A257.2.
4. THE MINIMUM PIPE SIZE FOR MAINLINE OR BRANCH SANITARY OR STORM SEWERS SHALL BE 250mmØ AND 300mmØ RESPECTIVELY.

SEWER BEDDING:

1. STORM AND SANITARY SEWER BEDDING SHALL BE AS PER OPSD 802.010 CLASS 'B' FOR FLEXIBLE PIPES AND OPSD 802.030, 802.031, 802.032 CLASS 'B' FOR RIGID PIPES UNLESS OTHERWISE SPECIFIED.
2. ALL SERVICES AND STRUCTURES LOCATED IN TRENCH CUT SHALL BE SUPPORTED BY COMPACTED GRANULAR TO UNDISTURBED OR STRUCTURALLY COMPACTED GROUND.

BACKFILL:

1. ALL MANHOLE AND CATCH BASIN EXCAVATIONS SHALL BE BACKFILLED WITH GRANULAR 'B' COMPACTED TO 98% SPMDD AND BE PLACED IN ACCORDANCE WITH THE LATEST REVISION OF THE GEOTECHNICAL REPORT.

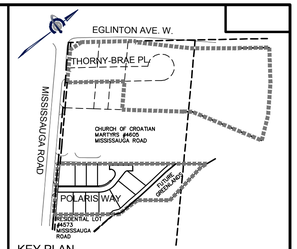
WATERMAINS:

1. ALL WATERMAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH OPSS 701.
2. WATERMAINS AND APPURTENANCES SHALL BE AS PER THE REGION OF PEEL'S SPECIFICATIONS.
3. WATERMAIN SHALL BE POLYVINYL CHLORIDE (PVC) CLASS-150, DR-18 CONFORMING TO APPLICABLE AWWA STANDARDS.
4. ALL WATERMAINS SHALL HAVE A MINIMUM COVER OF 1.70m.
5. ALL WATERMAIN HORIZONTAL AND VERTICAL BENDS, JOINTS AND PLUGS TO BE MECHANICALLY RESTRAINED. MECHANICAL RESTRAINERS MUST BE INSTALLED ON ALL WATERMAIN BENDS, TEES, AND PLUGS AS PER REGION OF PEEL STANDARDS.
6. WATERMAINS MUST COMPLY WITH MINIMUM HORIZONTAL AND VERTICAL CLEARANCES IN ACCORDANCE WITH LOCAL PROVINCIAL GUIDELINES AND THE APPLICABLE BUILDING AND PLUMBING CODE. WHERE HORIZONTAL SEPARATIONS CANNOT BE ACHIEVED, APPROVAL FROM THE ENGINEER MUST BE OBTAINED AND A MINIMUM 500mm VERTICAL SEPARATION MUST BE MAINTAINED.
7. ALL WATERMAIN BEDDING COVER AND TRENCH DETAIL SHALL BE AS PER LOCAL MUNICIPAL, REGIONAL OR PROVINCIAL STANDARDS. THE CONTRACTOR SHALL SUBMIT SAMPLES OF BEDDING AND COVER MATERIALS TO THE GEOTECHNICAL ENGINEER AND OBTAIN APPROVAL FOR USE PRIOR TO COMMENCEMENT OF SERVICE INSTALLATION.
8. ALL WATERMAIN AND APPURTENANCES (VALVES, HYDRANTS, FITTINGS, ETC.) SHALL BE INSTALLED WITH CATHODIC PROTECTION AS PER OPSD 1109.011.
9. ALL PVC WATERMAIN SHALL BE INSTALLED COMPLETE WITH #14 GAUGE TRACER WIRE, TERMINATING AT GRADE AT A FIRE HYDRANT OR VALVE LOCATION, AND SHALL BE POSITIVELY CONNECTED TO THE HYDRANT OR VALVE.
10. ALL WATERMAINS SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH LOCAL MUNICIPAL AND PROVINCIAL GUIDELINES UNLESS OTHERWISE DIRECTED. PROVISIONS FOR FLUSHING WATER LINE PRIOR TO TESTING, ETC. MUST BE PROVIDED. FLUSHING, PRESSURE TESTING, CHLORINATION AND SAMPLING SHALL BE DONE IN ACCORDANCE WITH THE CITY OF MISSISSAUGA AND REGION OF PEEL'S REQUIREMENTS.
11. ALL WATERMAINS SHALL BE BACTERIALOGICALLY TESTED IN ACCORDANCE WITH LOCAL MUNICIPAL AND PROVINCIAL GUIDELINES. ALL CHLORINATED WATER TO BE DISCHARGED AND PRETREATED TO ACCEPTABLE LEVELS PRIOR TO DISCHARGE. ALL DISCHARGED WATER MUST BE CONTROLLED AND TREATED SO AS NOT TO ADVERSELY EFFECT THE ENVIRONMENT. THE LOCAL MUNICIPALITY MAY HAVE SPECIFIC REQUIREMENTS TO BE COMPLIED WITH. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL MUNICIPAL AND/OR PROVINCIAL REQUIREMENTS ARE FOLLOWED.
12. ALL SERVICES TO BE 25mm DIAMETER COPPER TYPE "K"

MANHOLES:

1. ALL PRECAST CONCRETE MANHOLES TO MEET M.O.E. SPECIFICATIONS AND CONFORM TO OPSD 701.010, 701.011, 701.012, 701.013 AND 701.014.
2. MANHOLE COVERS TO BE AS PER OPSD 401.010, TYPE 'A' FOR SANITARY AND TYPE 'B' FOR STORM.
3. 'MODULOC' OR APPROVED MANHOLES ADJUSTERS SHALL BE USED IN LIEU OF BRICKING.
4. MANHOLE STEPS SHALL BE RECTANGULAR STAINLESS STEEL AS PER OPSD 405.010.
5. SAFETY PLATFORMS SHALL BE PROVIDED, AS PER OPSD 404.020, FOR MANHOLES WITH DEPTH EXCEEDING 5.0m.
6. BENCHING TO BE PROVIDED AT ALL MANHOLES UNLESS OTHERWISE STATED IN ACCORDANCE WITH OPSD 701.021
7. ALL DROP STRUCTURES TO BE CONSTRUCTED AS PER OPSD 1003.010 AND OPSD 1003.020.

CITY FILE # OZ 09/004 W8
PEEL FILE# T-M09002 M
SP-16-147M



KEY PLAN
N.T.S.

LEGEND

EXISTING SERVICING INFORMATION FOR MISSISSAUGA ROAD AND THORNY-BRAE PLACE WAS OBTAINED FROM MUNICIPAL RECORD DRAWINGS: C-33221, C-33222, C-99829, 1156-D, 7235-D
EXISTING SERVICING AND UTILITIES INFORMATION SHOWN ON THIS DRAWING IS NOT TO BE RELIED ON. THE CONTRACTOR TO VERIFY INVERT ELEVATION AND LOCATION OF ALL UNDERGROUND SERVICES AND UTILITIES PRIOR TO COMMENCING WORK.

LIST OF DRAWINGS

SITE PLAN INFORMATION

SCHAEFFER DZALDOV BENNETT LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO L4K 3P3
PHONE: (416) 987-0101
FAX: (905) 761 - 0101

SURVEY INFORMATION

SCHAEFFER DZALDOV BENNETT LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO L4K 3P3
PHONE: (416) 987-0101
FAX: (905) 761 - 0101

BENCHMARK

ELEVATIONS SHOWN HEREON ARE REFERRED TO CITY OF MISSISSAUGA BENCHMARK No. 970, HAVING A PUBLISHED ELEVATION OF 148.702 METRES.

NO.	REVISION	DATE	BY
11.	REVISED PER REGION COMMENTS	OCT. 19, 2018	S.G.
10.	ISSUED FOR SPA #4	SEPT. 5, 2018	S.G.
9.	ISSUED FOR SPA #3	APR. 27, 2018	S.G.
8.	ISSUED FOR SPA #2	JULY 27, 2017	S.G.
7.	SPA #2	JULY 04, 2017	S.G.
6.	REVISED FOR CVC & CITY COMMENTS	MAY 8, 2017	S.G.
5.	ISSUED FOR SITE PLAN APPROVAL	SEPT. 30, 2016	S.G.
4.	PER REGION AND CITY COMMENTS	AUG 12, 2016	S.G.
3.	PER CVC COMMENTS	JUNE 13, 2016	S.G.
2.	FIRST ENGINEERING SUBMISSION	APR 26, 2016	S.G.

LICENSED PROFESSIONAL ENGINEER
P. FILIPTSEV
100146817
OCT. 19/18
PROVINCE OF ONTARIO

Region of Peel
working with you

MISSISSAUGA

2462357 ONTARIO INC. (PACE DEVELOPMENTS)
THE ARCHWAYS
4583, 4589, 4601 MISSISSAUGA ROAD,
MISSISSAUGA, ON

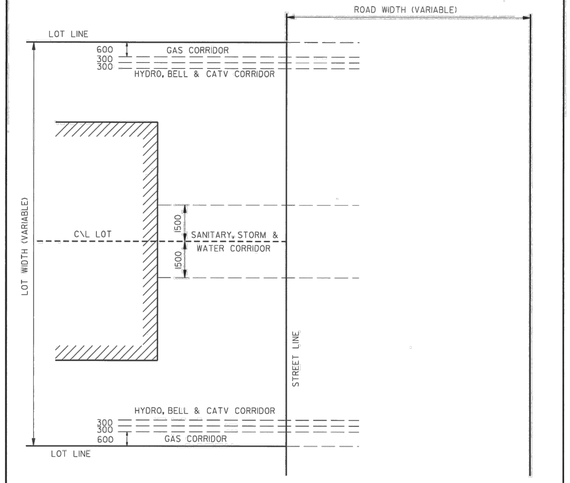
GENERAL NOTES

COLE ENGINEERING
70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5
T 416.987.0101 | 905.940.8181 F 905.940.2064

DESIGNED BY: P.F.	DATE: OCTOBER 2015	CHECKED BY: S.G.
DRAWN BY: P.F.	PROJECT No. UD15-0347	APPROVED BY: S.G.
SCALE: 1:300		DRAWING No. DD-01

S:\2015 Projects\UD\SSM\UD15-0347 PostDev_TheArchways_Misc\400-CAD\01-402 - Design\Sheets\SITE PLAN\UD15-0347 DETAILS.dwg (DETAIL-01)
Oct 24, 2018 - 10:07am By: PFilptsev

METRIC
ALL DIMENSIONS IN MILLIMETRES



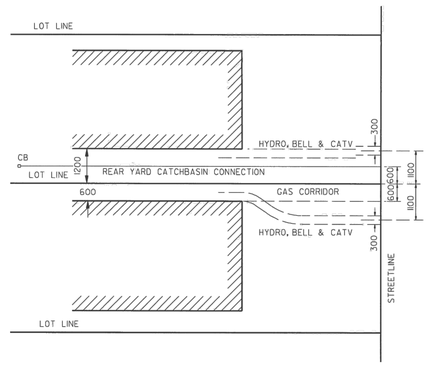
NOTES:
1. STORM & SANITARY SERVICE CONNECTIONS MAY BE INSTALLED IN A COMMON TRENCH PROVIDED WIDTH DOES NOT EXCEED SUM OF O.D.'S + 500mm.
2. WATER SERVICE IS TO BE LOCATED A MIN. OF 1500mm FROM NEAREST WATER SERVICE.
3. WHERE A LOT IS SUBJECT TO AN EASEMENT FOR STORM SEWER, SANITARY SEWER OR WATERMAIN THE INTERIOR LIMIT OF THE EASEMENT WILL BE CONSIDERED THE LOT LINE FOR SERVICE PURPOSES.

MISSISSAUGA
Transportation and Works

STANDARD
LOCATION OF SERVICES
SINGLE FAMILY
RESIDENTIAL LOT

EFF. DATE	2002-01-01	SCALE	N.T.S.
REV.		STANDARD No.	215.010

METRIC
ALL DIMENSIONS IN MILLIMETRES

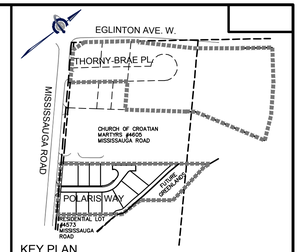


NOTES :
THIS STANDARD IS TO BE USED AS AN ALTERNATIVE TO 215.030 WHERE A REAR YARD CATCH BASIN CONNECTION IS INSTALLED AT THE SIDE OF HOMES WHERE HYDRO,BELL, CATV & GAS ARE NORMALLY INSTALLED.

MISSISSAUGA
Transportation and Works

STANDARD
LOCATION OF UTILITY SERVICES
SINGLE FAMILY RESIDENTIAL LOTS
WHERE REAR YARD CATCHBASIN
CONNECTIONS ARE REQUIRED

EFF. DATE	2002-01-01	SCALE	N.T.S.
REV.		STANDARD No.	215.040



KEY PLAN
N.T.S.

LEGEND

EXISTING SERVICING INFORMATION FOR MISSISSAUGA ROAD AND THORNY-BRAE PLACE WAS OBTAINED FROM MUNICIPAL RECORD DRAWINGS: C-33221, C-33222, C-99829, 1156-D, 7235-D
EXISTING SERVICING AND UTILITIES INFORMATION SHOWN ON THIS DRAWING IS NOT TO BE RELIED ON. THE CONTRACTOR TO VERIFY INVERT ELEVATION AND LOCATION OF ALL UNDERGROUND SERVICES AND UTILITIES PRIOR TO COMMENCING WORK.

LIST OF DRAWINGS

SITE PLAN INFORMATION

SCHAEFFER DZALDOV BENNETT LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO L4K 3P3
PHONE: (416) 987-0101
FAX: (905) 761 - 0101

SURVEY INFORMATION

SCHAEFFER DZALDOV BENNETT LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO L4K 3P3
PHONE: (416) 987-0101
FAX: (905) 761 - 0101

BENCHMARK

ELEVATIONS SHOWN HEREON ARE REFERRED TO CITY OF MISSISSAUGA BENCHMARK No. 970, HAVING A PUBLISHED ELEVATION OF 148.702 METRES.

NO.	REVISION	DATE	BY
11.	REVISED PER REGION COMMENTS	OCT. 19, 2018	S.G.
10.	ISSUED FOR SPA #4	SEPT. 5, 2018	S.G.
9.	ISSUED FOR SPA #3	APR. 27, 2018	S.G.
8.	ISSUED FOR SPA #2	JULY 27, 2017	S.G.
7.	SPA #2	JULY 04, 2017	S.G.
6.	REVISED FOR CVC & CITY COMMENTS	MAY 8, 2017	S.G.
5.	ISSUED FOR SITE PLAN APPROVAL	SEPT. 30, 2016	S.G.
4.	PER REGION AND CITY COMMENTS	AUG 12, 2016	S.G.
3.	PER CVC COMMENTS	JUNE 13, 2016	S.G.
2.	FIRST ENGINEERING SUBMISSION	APR 26, 2016	S.G.

LICENSED PROFESSIONAL ENGINEER
P. FILIPTSEV
100146817
OCT. 19/18
PROVINCE OF ONTARIO

Region of Peel
working with you

MISSISSAUGA

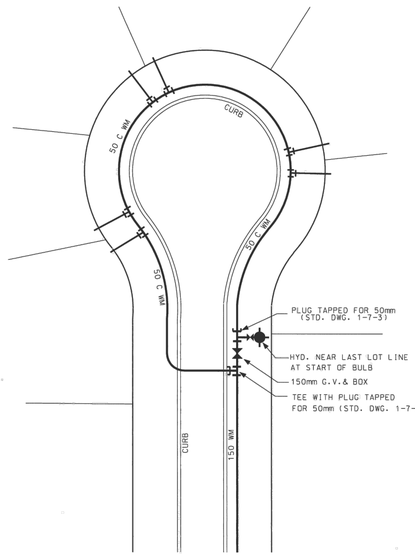
2462357 ONTARIO INC. (PACE DEVELOPMENTS)
THE ARCHWAYS
4583, 4589, 4601 MISSISSAUGA ROAD,
MISSISSAUGA, ON

DETAIL DRAWINGS

COLE ENGINEERING
70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T8
T 416.987.8100 / 905.940.8181 F 905.940.2064

DESIGNED BY: P.F.		DATE: OCTOBER 2015	CHECKED BY: S.G.
DRAWN BY: P.F.		PROJECT No.	APPROVED BY: S.G.
SCALE: 1:300		UD15-0347	DRAWING No. DD-02

CITY FILE # OZ 09/004 W8
PEEL FILE# T-M09002.M
SP-16-147M



NOTE
1. PROVIDE 25mm DIA. SERVICE FOR LOTS 500 sq.m OR GREATER
2. FOR OFFSET OF WATERMAIN FROM STREETLINE, REFER TO THE LOCAL MUNICIPALITIES RELEVANT STANDARD CROSS - SECTION.

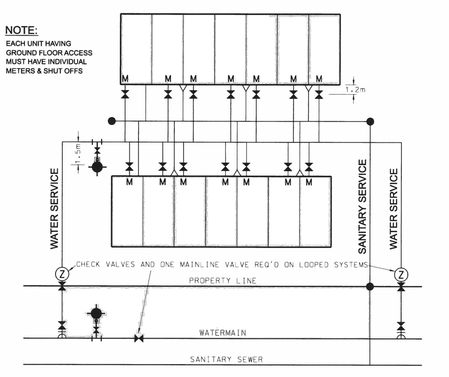
Region of Peel Working for you — PUBLIC WORKS STANDARD DRAWING

TYPICAL 50mm WATERMAIN
ON CUL-DE-SAC

REV. DATE: SEPT. 2006

APPROVED BY	DRAWN BY
A.M.	I.F.
STD. DWG. NUMBER	SCALE
1-7-4	N.T.S.

NOTE:
EACH UNIT HAVING GROUND FLOOR ACCESS MUST HAVE INDIVIDUAL METERS & SHUT OFFS



LEGEND

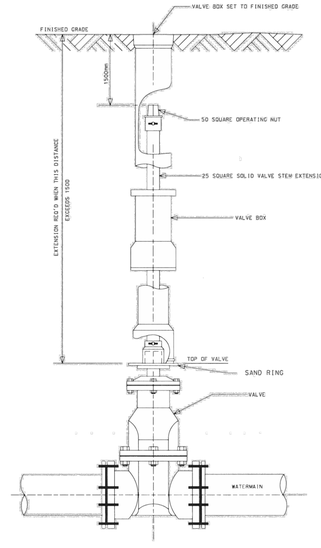
- VALVE & BOX
- DETECTOR CHECK VALVE IN CHAMBER
- CHECK VALVE IN CHAMBER
- TAPPING SLEEVE & VALVE & BOX
- TEE
- FIRE HYDRANT C/W VALVE & BOX
- DIRECTION OF PUMPER NOZZLE
- METER IN CHAMBER
- METER
- NON SAMPLING SANITARY MAINTENANCE HOLE

Region of Peel Working for you — PUBLIC WORKS STANDARD DRAWING

SERVICING FOR TOWNHOUSE COMPLEX

REV. DATE: FEB. 2006

APPROVED BY	DRAWN BY
D.L.	A.B.
STD. DWG. NUMBER	SCALE
1-8-2	N.T.S.



NOTE
1. VALVE TO BE RESTRAINED AS SHOWN IN STD. 1-3-3A

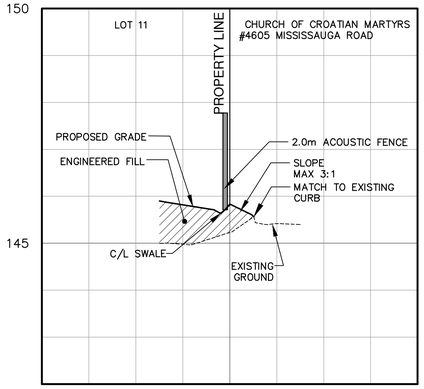
Region of Peel Working for you — PUBLIC WORKS STANDARD DRAWING

VALVE STEM EXTENSION IN VALVE BOX
FOR WATERMAIN 100mm TO 300mm DIA. INCLUSIVE

REV. DATE: FEBRUARY 2007

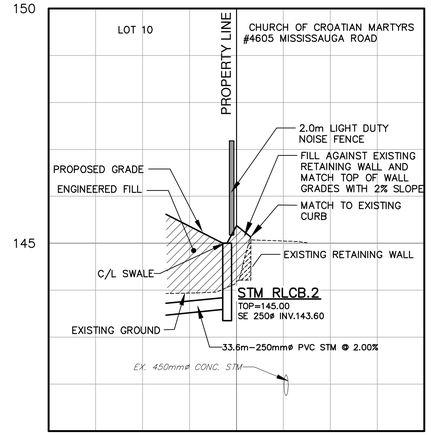
APPROVED BY	DRAWN BY
R.S.	B.N.
STD. DWG. NUMBER	SCALE
1-3-8	N.T.S.

S:\2015 Projects\UD\SDM\UD15-0347 Procdev_TheArchways_Miss\400-CAD\402-Design\Sheets\SITE PLAN\UD15-0347_DETAILS.dwg (DETAIL-02)
Oct. 24, 2018--10:07am By: Pfilptsev



SECTION A-A

SCALE HOR: 1:300
VER: 1:50



SECTION B-B

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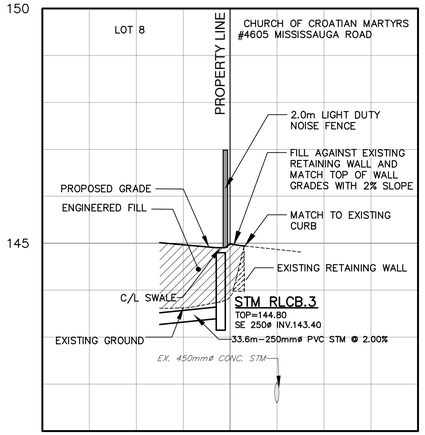
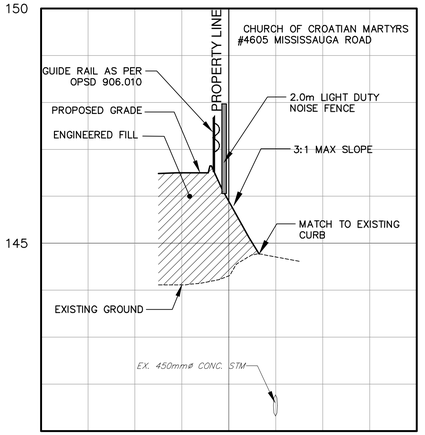
VER: 1:50



SECTION C-C

SCALE HOR: 1:300
VER: 1:50



SECTION D-D

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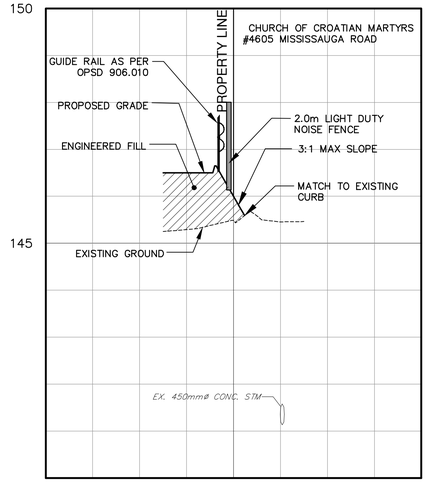
VER: 1:50



SECTION E-E

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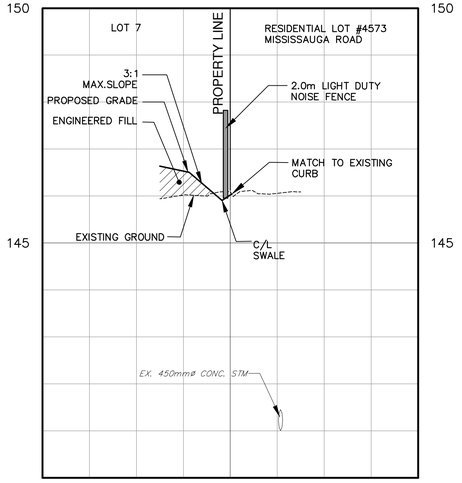
VER: 1:50



SECTION F-F

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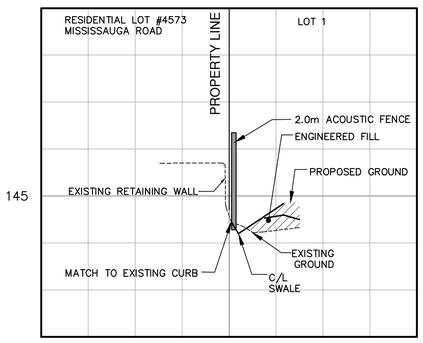
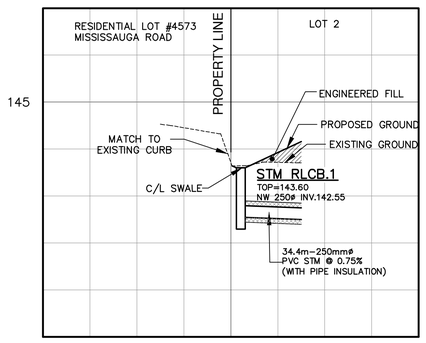
VER: 1:50



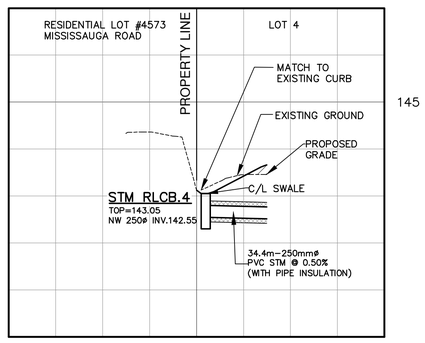
SECTION G-G

SCALE HOR: 1:300
VER: 1:50



SECTION H-H

SCALE HOR: 1:300
VER: 1:50



SECTION I-I

SCALE HOR: 1:300
VER: 1:50

EXISTING SERVICING INFORMATION FOR MISSISSAUGA ROAD AND THORNY-BRAE PLACE WAS OBTAINED FROM MUNICIPAL RECORD DRAWINGS: C-33221, C-33222, C-99829, 1156-D, 7235-D
EXISTING SERVICING AND UTILITIES INFORMATION SHOWN ON THIS DRAWING IS NOT TO BE RELIED ON. THE CONTRACTOR TO VERIFY INVERT ELEVATION AND LOCATION OF ALL UNDERGROUND SERVICES AND UTILITIES PRIOR TO COMMENCING WORK.

LIST OF DRAWINGS

SITE PLAN INFORMATION

SCHAEFFER DZALDOV BENNETT LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO L4K 3P3
PHONE: (416) 987-0101
FAX: (905) 761 - 0101

SURVEY INFORMATION

SCHAEFFER DZALDOV BENNETT LTD.
64 JARDIN DRIVE
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PHONE: (416) 987-0101
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BENCHMARK

ELEVATIONS SHOWN HEREON ARE REFERRED TO
CITY OF MISSISSAUGA BENCHMARK No. 970,
HAVING A PUBLISHED ELEVATION OF 148.702 METRES.

NO.	REVISION	DATE	BY
6.	REVISED PER REGION COMMENTS	OCT. 19, 2018	S.G.
5.	ISSUED FOR SPA #4	SEPT. 4, 2018	S.G.
4.	ISSUED FOR SPA #3	APR. 27, 2018	S.G.
3.	ISSUED FOR SPA #2	JULY 27, 2017	S.G.
2.	SPA #2	JULY 04, 2017	S.G.
1.	REVISED PER CVC & CITY COMMENTS	MAY 31, 2017	S.G.

LICENSED PROFESSIONAL ENGINEER
P. FILIPTSEV
100146817
OCT. 19/18
PROVINCE OF ONTARIO

CITY OF MISSISSAUGA
REGIONAL MUNICIPALITY OF PEEL

2462357 ONTARIO INC. (PACE DEVELOPMENTS)
THE ARCHWAYS
4583, 4589, 4601 MISSISSAUGA ROAD,
MISSISSAUGA, ON

CROSS - SECTIONS

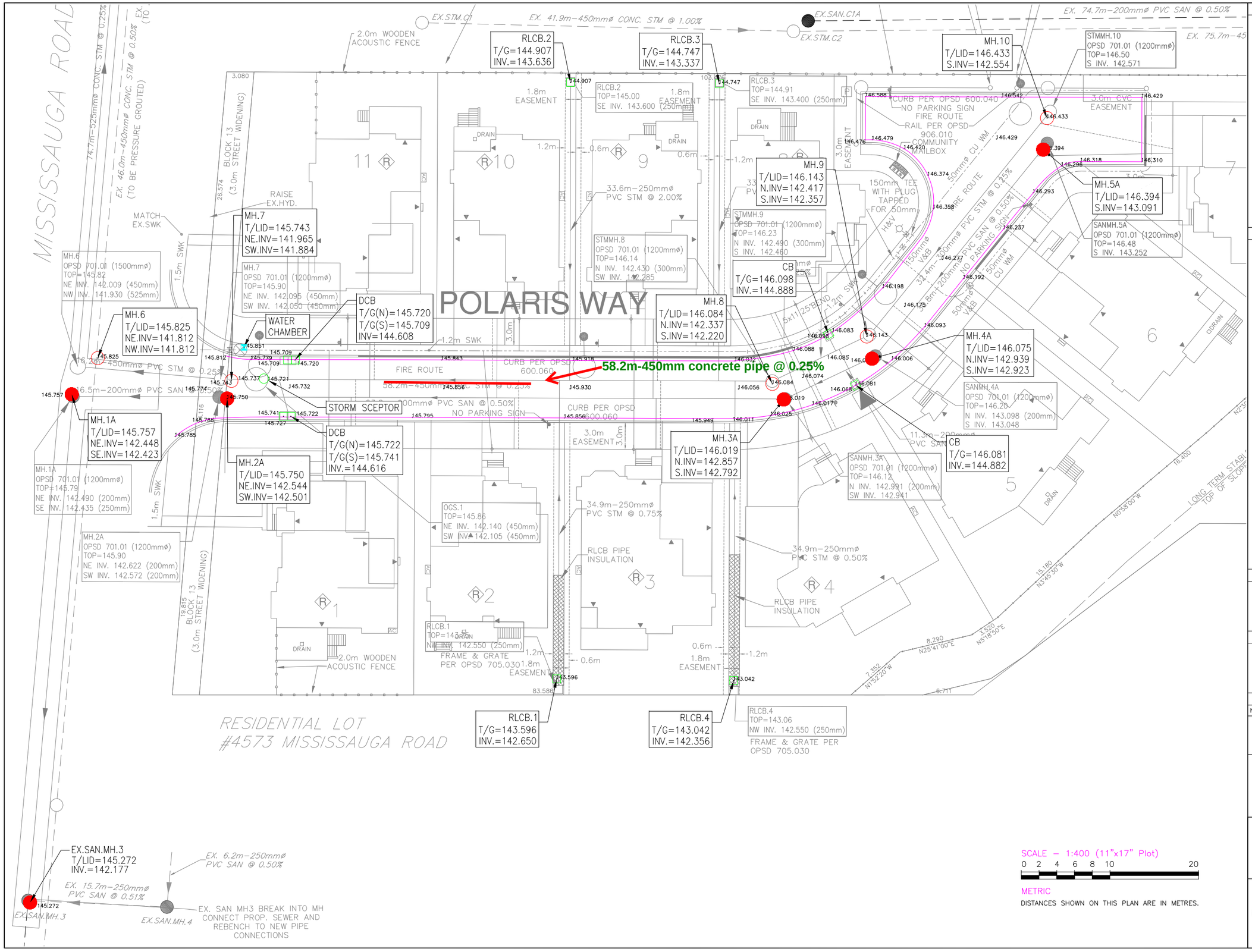
COLE ENGINEERING
70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5
T 416 987 8101 / 905 940 8181 F 905 940 2064

DESIGNED BY: P.F.	DATE: OCTOBER 2015		CHECKED BY: S.G.
DRAWN BY: P.F.	PROJECT No.		APPROVED BY: S.G.
SCALE: 1:300	UD15-0347		DRAWING No. DD-03

REFER TO DWG SG-01 FOR CROSS SECTION LOCATIONS

CITY FILE # OZ 09/004 W8
PEEL FILE# T-M09002 M
SP-16-147M

S:\2015 Projects\UD\SSM\UD15-0347 Pace\Dev_TheArchways_Mtss\400-CAD\402-Design\Sheet\UD15-0347 GRADING SECTIONS.dwg (DD-03)
Oct 24, 2018 - 10:08am By: PFilptsev



KEY PLAN (N.T.S.)

LEGEND

145.757 ASBUILT GRADES

NOTES

1.
2.
3.

REFERENCE

BENCHMARKS :

LEGAL DRAWINGS :

GEODETIC SYSTEM :

REVISIONS

NO.	DATE	DESCRIPTION	BY	CKD.
1.	20/01/22	UPDATED INVERTS FOR MH2A & RLCB1	RWS	AP
2.				
3.				

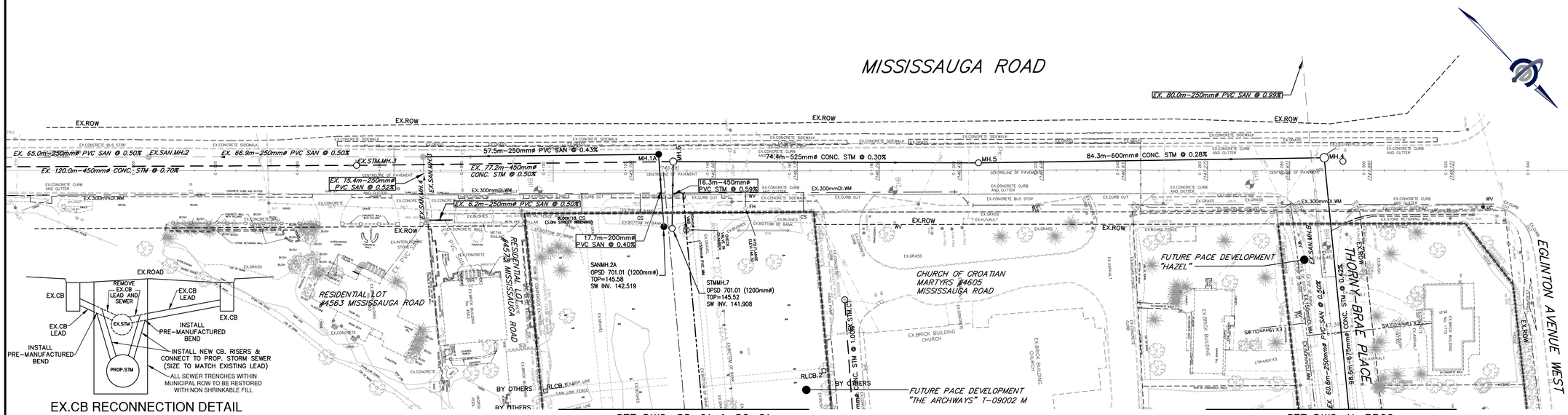
CSS INC.
COMPLETE SURVEY SOLUTIONS
22-2051 Williams Prkwy., Brampton, ON. L6S 5T3
Tel (905) 789-8338, Fax (905) 789-8227

SEWER ASBUILT
THE ARCHWAYS

PROJECT No.: 18-1016	DRAFTED BY: R.W.S.
CLIENTS BASE FILE NAME: UD15-0347 SS-01	CHECKED BY: A.P.
CADD FILE NAME: SEWER	DATE: 20/01/22

NORTH

Jan 22, 2020 - 10:57am - USER rsorrie
J:\2018\1000\18106 - Pace Developments - Silvio\Asbuilt\SEWER (UD15-0347 SS-01).dwg


MISSISSAUGA ROAD
EX.ROW
EX. 65.0m–250mmø PVC SAN @ 0.50%
EX.SAN.MH.2
EX. 120.0m–450mmø CONC. STM @ 0.70%
EX. 66.9m–250mmø PVC SAN @ 0.50%
EX.STM.MH.3
EX. 15.4m–250mmø PVC SAN @ 0.52%
EX.SAN.MH.4
EX. 77.2m–450mmø CONC. STM @ 0.50%
EX. 6.2m–250mmø PVC SAN @ 0.50%
57.5m–250mmø PVC SAN @ 0.43%
MH.1A
MH.6
16.3m–450mmø PVC STM @ 0.59%
17.7m–200mmø PVC SAN @ 0.40%
SANMH.2A
OPSD 701.01 (1200mmø)
TOP=145.58
SW INV. 142.519
STMMH.7
OPSD 701.01 (1200mmø)
TOP=145.52
SW INV. 141.908
74.4m–525mmø CONC. STM @ 0.30%
MH.5
84.3m–600mmø CONC. STM @ 0.28%
MH.4
EX. 60.0m–250mmø PVC SAN @ 0.39%
EX.SAN.MH.5
EX. 60.6m–250mmø PVC SAN @ 0.50%
EX. 150mmø CONC. STM @ 1.00%
EX. 300mmø D.I.WM
EX.CURB CUT
EX.CONCRETE CURB AND GUTTER
EX.CONCRETE SIDEWALK
EX.CONCRETE BUS STOP
EX.GRASS
EX.BUSHES
EX.BOTTOM OF BANK
EX.TOP OF BANK
EX.CHAIN LINK FENCE
EX.WOOD FENCE
EX.CONCRETE RETAINING WALL
EX.INTERLOCKING STONE
EX.CONCRETE WALL
EX.METAL RAILING
EX.ASPHALT
EX.BRICK BUILDING
EX.BRICK BUILDING CHURCH
EX.CONCRETE
EX.GAS VALVE
EX.GAS VAULT
EX.HYDRO POLE
EX.HYDRO VAULT
EX.HYDRO TRANSFORMER
EX.HYDRO MANHOLE
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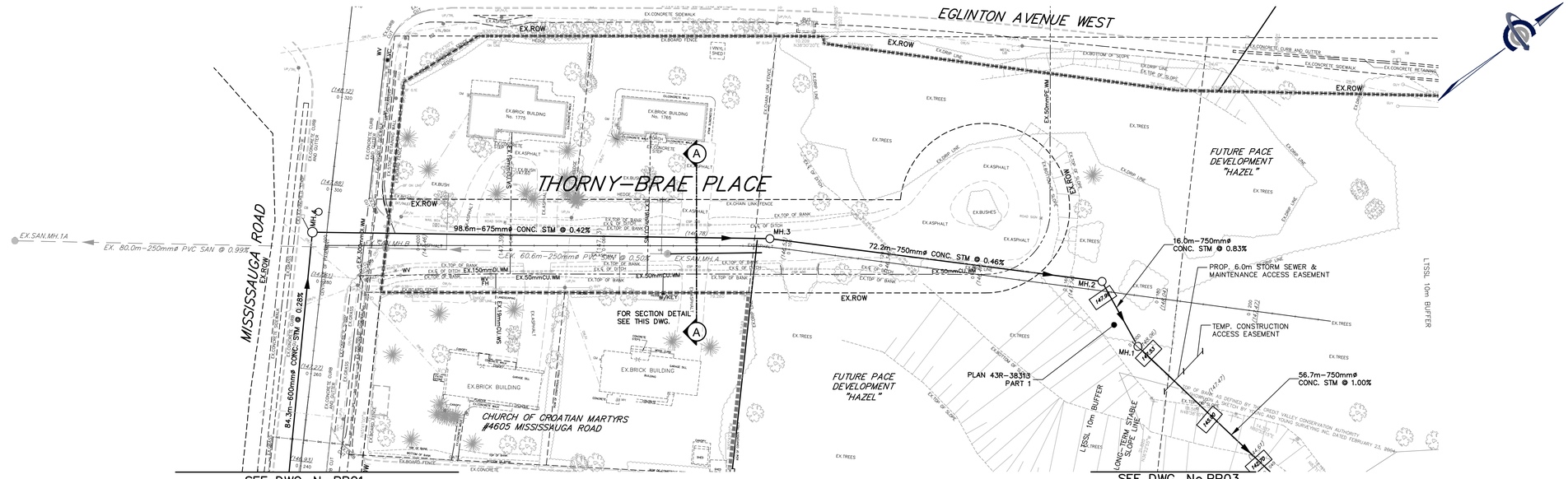
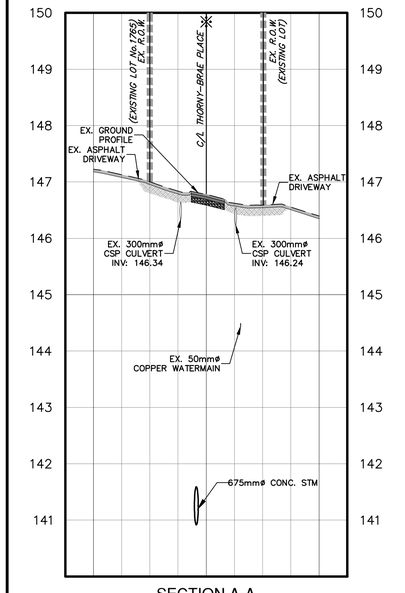
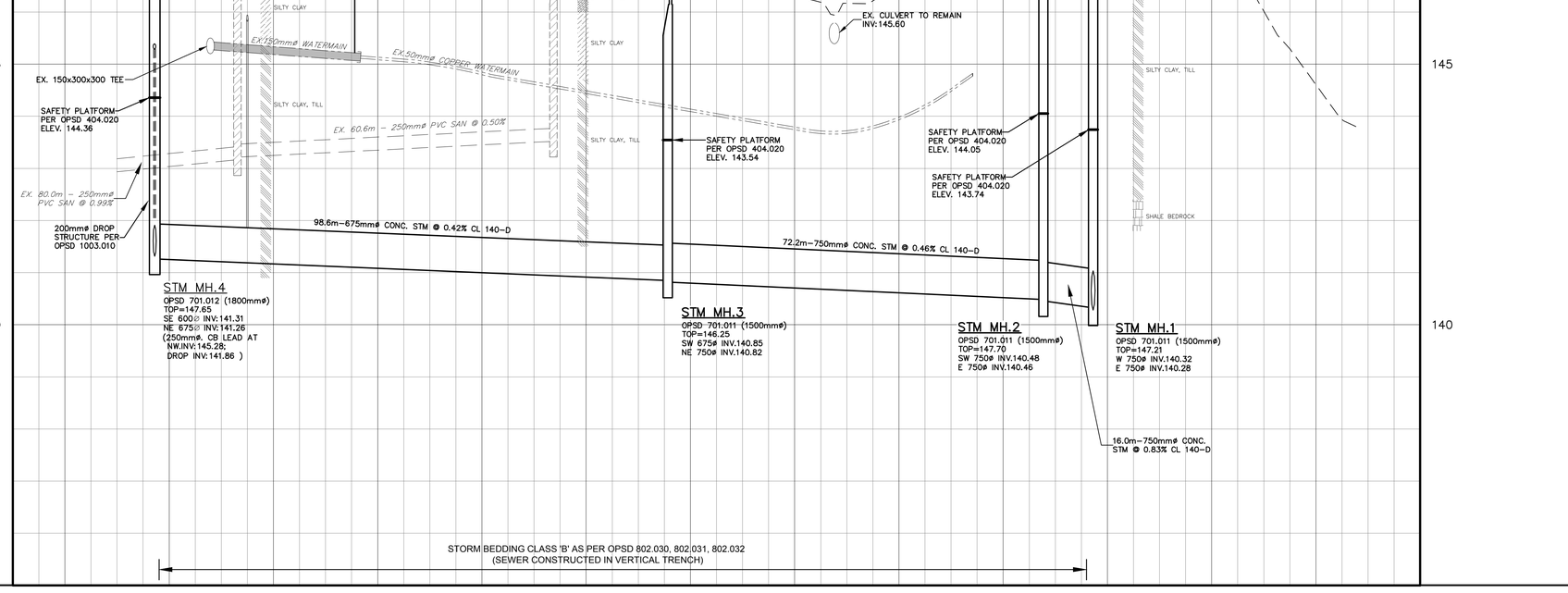
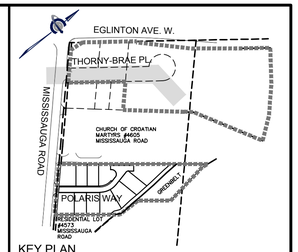
EX.WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER VAULT
EX.WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER PEDESTAL
EX.WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER BOOTH
EX.WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER BOX
EX.WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER POLE
EX.WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER WATER BOOSTER TREE
EX.WATER B







PROPOSED CENTRELINE ELEVATIONS		147.72	147.46	147.39	147.13	146.78	146.53	146.34	146.41	147.74	148.04	147.47	144.61		PROPOSED CENTRELINE ELEVATIONS
EXISTING CENTRELINE ELEVATIONS		147.72	147.46	147.39	147.13	146.78	146.53	146.34	146.41	147.74	148.04	147.47	144.61		EXISTING CENTRELINE ELEVATIONS
CENTRELINE CHAINAGE	0+020	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	CENTRELINE CHAINAGE



KEY PLAN
N.T.S.

LEGEND

- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED DOUBLE CATCH BASIN
- PROPOSED VALVE & BOX
- PROPOSED VALVE & BOX
- PROPOSED HYDRANT & VALVE
- EXISTING STORM MANHOLE
- EXISTING SANITARY MANHOLE
- EXISTING CATCHBASIN (EX.CB)
- EXISTING VALVE & CHAMBER (EX.V&C)
- EXISTING HYDRANT & VALVE (EX.H&V)
- 135 PROPOSED LOT NUMBERS
- PROPOSED 2.0m HIGH ACOUSTIC FENCE
- PROPOSED 2.0m HIGH LIGHT DUTY ACOUSTIC FENCE
- PROPERTY LINE (2462357 ONTARIO INC.)
- ×(147.99) EXISTING ELEVATION
- ×(147.99) EXISTING ELEVATION TO REMAIN
- 147.99 PROPOSED ELEVATION

THE DEVELOPER TO VERIFY INVERT ELEVATION AND LOCATION OF ALL UNDERGROUND SERVICES AND UTILITIES PRIOR TO COMMENCING WITH WORK.

LIST OF DRAWINGS

SITE PLAN INFORMATION

SCHAEFFER DZALDOV BENNETT LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO L4K 3P3
PHONE: (416) 987-0101
FAX: (905) 761 - 0101

SURVEY INFORMATION

SCHAEFFER DZALDOV BENNETT LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO L4K 3P3
PHONE: (416) 987-0101
FAX: (905) 761 - 0101

BENCHMARK

ELEVATIONS SHOWN HEREON ARE REFERRED TO CITY OF MISSISSAUGA BENCHMARK No. 970, HAVING A PUBLISHED ELEVATION OF 148.702 METRES.

NO.	REVISION	DATE	BY
1.	AS CONSTRUCTED	March 2019	P.F.

FIRST	SECOND	INTERIM	FINAL
DATE	DATE	DATE	DATE SEP. 12, 2019

Region of Peel
working with you

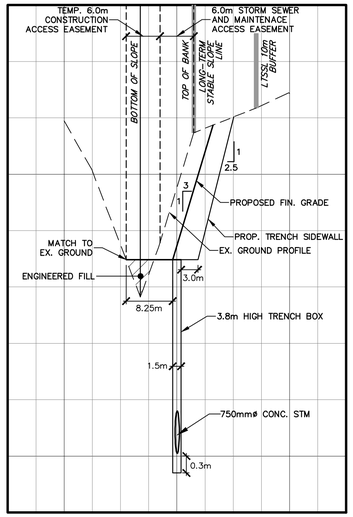
MISSISSAUGA

2462357 ONTARIO INC. (PACE DEVELOPMENTS)
THE ARCHWAYS
4583, 4589, 4601 MISSISSAUGA ROAD,
MISSISSAUGA, ON
THORNY-BRAE PLACE
STA 0+000 to 0+160

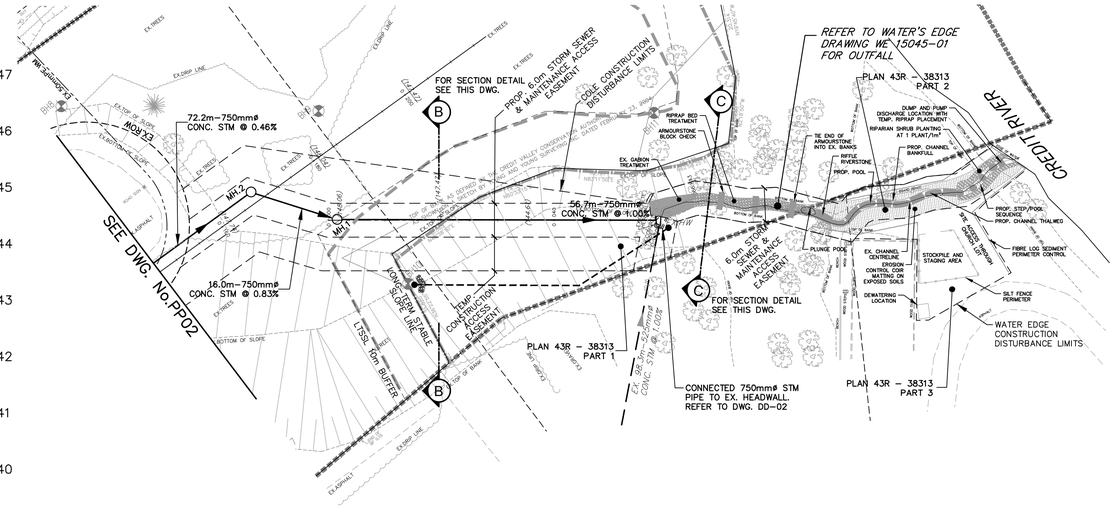
COLE ENGINEERING
70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5
T 416 987 6161 / 905 940 6161 F 905 940 2064

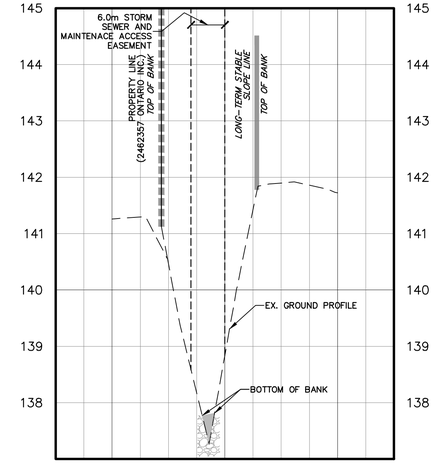
DESIGNED BY: P.F.	DATE: OCTOBER 2015	CHECKED BY: S.G.
DRAWN BY: P.F.	PROJECT No. UD15-0347 T-09002 M	APPROVED BY: S.G.
SCALE: 1:500		DRAWING No. PP-02

S:\2015 Projects\UD\STM\UD15-0347 Porch\Dwg_Mxds\499-CAD\1401-AsBuilts\Sheets\MUNICIPAL\UD15-0347 PP02.dwg (PP02)
Mar 27, 2019–10:50am By: jkong

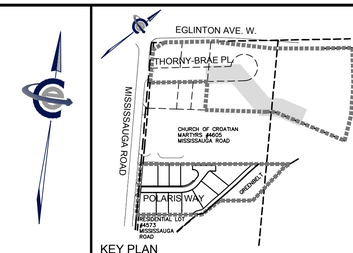


SECTION B-B
AS SHOWN





SECTION C-C
AS SHOWN



KEY PLAN
N.T.S.

LEGEND

- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED DOUBLE CATCH BASIN
- PROPOSED VALVE & BOX
- PROPOSED VALVE & BOX
- PROPOSED HYDRANT & VALVE
- EXISTING STORM MANHOLE
- EXISTING SANITARY MANHOLE
- EX.CB. EXISTING CATCHBASIN
- EX.V&C EXISTING VALVE & CHAMBER
- EX.H&V EXISTING HYDRANT & VALVE
- 135 PROPOSED LOT NUMBERS
- PROPOSED 2.0m HIGH WOODEN ACOUSTIC FENCE
- PROPOSED 2.0m HIGH WOODEN LIGHT DUTY NOISE FENCE
- PROPOSED 1.5m HIGH CHAIN LINK FENCE
- PROPERTY LINE (2462357 ONTARIO INC.)
- ×(141.50) EXISTING ELEVATION
- ×(141.50) EXISTING ELEVATIONS TO REMAIN
- 141.50 PROPOSED GRADE

THE DEVELOPER TO VERIFY INVERT ELEVATION AND LOCATION OF ALL UNDERGROUND SERVICES AND UTILITIES PRIOR TO COMMENCING WITH WORK.

LIST OF DRAWINGS

SITE PLAN INFORMATION

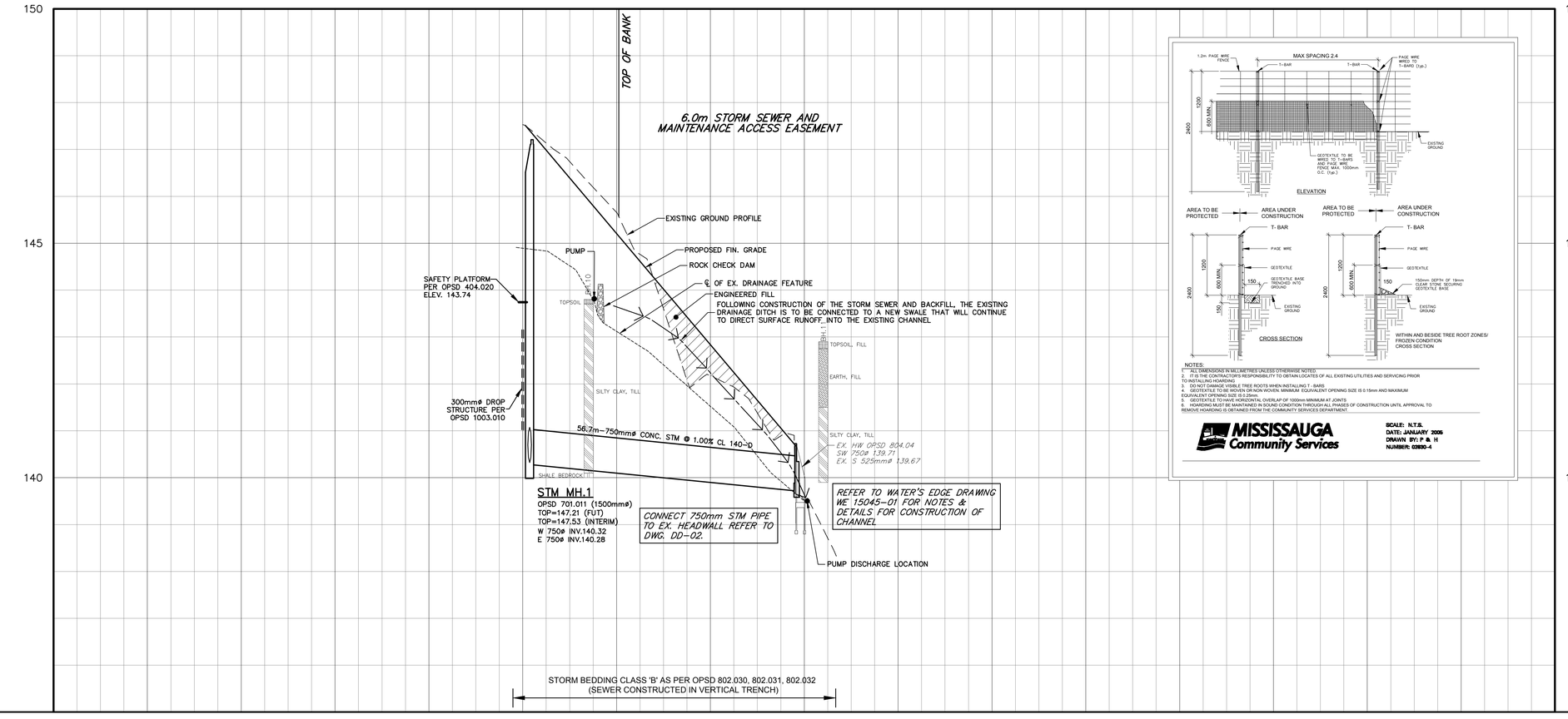
SCHAEFFER DZALDOV BENNETT LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO L4K 3P3
PHONE: (416) 987-0101
FAX: (905) 761 - 0101

SURVEY INFORMATION

SCHAEFFER DZALDOV BENNETT LTD.
64 JARDIN DRIVE
CONCORD, ONTARIO L4K 3P3
PHONE: (416) 987-0101
FAX: (905) 761 - 0101

BENCHMARK

ELEVATIONS SHOWN HEREON ARE REFERRED TO CITY OF MISSISSAUGA BENCHMARK No. 970, HAVING A PUBLISHED ELEVATION OF 148.702 METRES.



NO.	REVISION	DATE	BY
1.	AS CONSTRUCTED	March 2019	P.F.

FIRST (DATE) | SECOND (DATE) | INTERIM (DATE) | FINAL (DATE: SEP. 12, 2018)

Region of Peel working with you

MISSISSAUGA

2462357 ONTARIO INC. (PACE DEVELOPMENTS)
THE ARCHWAYS
4583, 4589, 4601 MISSISSAUGA ROAD,
MISSISSAUGA, ON

STORM OUTFALL
STA 0+000 to 0+120

COLE ENGINEERING
70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5
T 416.987.8161 / 905.940.8161 F 905.940.2064

DESIGNED BY: P.F.	DATE: OCTOBER 2015	CHECKED BY: S.G.
DRAWN BY: P.F.	PROJECT No. UD15-0347 T-09002 M	APPROVED BY: S.G.
SCALE: 1:500		DRAWING No. PP-03

EXISTING CENTRELINE ELEVATIONS: 147.53 | 145.66 | 142.17 | 139.52

CENTRELINE CHAINAGE: 0+100 | 0+080 | 0+060 | 0+040 | 0+020 | 0+000 | 0+020 | 0+040 | 0+060 | 0+080 | 0+100 | 0+120 | 0+140 | 0+160 | 0+180 | 0+200 | 0+220

EXISTING CENTRELINE ELEVATIONS
CENTRELINE CHAINAGE

Arcadis Professional Services (Canada) Inc.
8133 Warden Ave, Unit 300
Markham, ON L6G 1B3
Canada
Phone: 1 905 763 2322
www.arcadis.com