



Cavallino Estates - Wildfield Town of Caledon

Functional Servicing and Stormwater Management Brief

November 2025

**TOWN OF CALEDON
PLANNING
RECEIVED**

November 14, 2025

Submitted by:

**SCS Consulting Group Ltd
30 Centurian Drive, Suite 100
Markham, ON L3R 8B8
Phone 905 475 1900
Fax 905 475 8335**

Project Number: 2831

File #: 2831

Date: November 7, 2025

Toula Nessinis

Cavallino Estates Inc.
8600 Dufferin Street
Vaughan, Ontario, L4K 5P5

Dear Ms. Nessinis:

**Re: Functional Servicing and Stormwater Management Brief
Cavalino Estates – Wildfield Village
Town of Caledon**

SCS Consulting Group Ltd. has been retained by Cavallino Estates Inc. to prepare a Functional Servicing and Stormwater Management Brief (FSSB) for a proposed development (referenced as the “Subject Lands”), in the Town of Caledon. The Subject Lands are located at the east side of Centreville Creek Road, approximately 950 m north of Mayfield Road and are situated within the Wildfield Village Secondary Plan (WVSP) Area as shown on **Figure 1**. The Subject Lands consist primarily of agricultural lands with an existing residence. The Subject Lands are within the West Humber River watershed.

The owner is an active member of the Wildfield Village Landowners’ Group (“LOG”). In December 2024, the LOG submitted an Official Plan Amendment (“OPA”) to establish a Secondary Plan for the area. The Wildfield Village Secondary Plan (“WV Secondary Plan”) was adopted by Town Council in July 2025 (OPA 285). Subsequent to this, the Town of Caledon Official Plan was adopted on October 22, 2025. Both establish a land use planning, urban design, transportation, and infrastructure framework to guide development in the Secondary Plan area, which is planned to accommodate a population of over 22,000 residents. Through a comprehensive Secondary Planning process, the location of parks, schools, and stormwater management facilities have been established.

As part of the WV Secondary Plan supporting studies a Local Subwatershed Study (LSS) has been initiated. At this time, the Phase 1 LSS (SCS and GEI, November 2024) which characterizes the existing conditions of the WVSP Area and Phase 2 LSS (SCS and GEI, January 2025) which determines the impacts of the proposed conditions associated with development within the WVSP Area, have been prepared and submitted with comments issued by the Town, Region and TRCA in February and March, 2025. The Phase 3 LSS will follow addressing the implementation, monitoring and adaptative management recommendations to mitigate the impacts identified in Phase 2.

SCS Consulting Group Ltd. and GEI Consulting are currently addressing the comments received by the Town, Region and TRCA staff for the Phase 1 and 2 LSS, along with undergoing the Comprehensive Servicing and Stormwater Management Study (CSSS) for the WVSP Area. The purpose of the CSSS is to provide an overall servicing, grading and stormwater management strategy that will form the basis for future Draft Plan submissions of lands with the WVSP Area, and ensure non-participating lands can be serviced.

This FSSB has been prepared in support of a Draft Plan Application for the Subject Lands, within the WVSP Area. The proposed Draft Plan has been included as **Attachment A**. The purpose of this report is to provide an overview of the preliminary servicing and stormwater management (SWM) of the development, until the details on how the site will be serviced is determined through the CSSS. A more detailed Functional Servicing and SWM Report (FSSR) outlining the servicing and grading for the subject lands will be completed, in combination with the Comprehensive Servicing and SWM Study (CSSS) as required by the Secondary Plan policies. The FSSR and CSSS are expected to be completed and provided to the Town in January 2026.



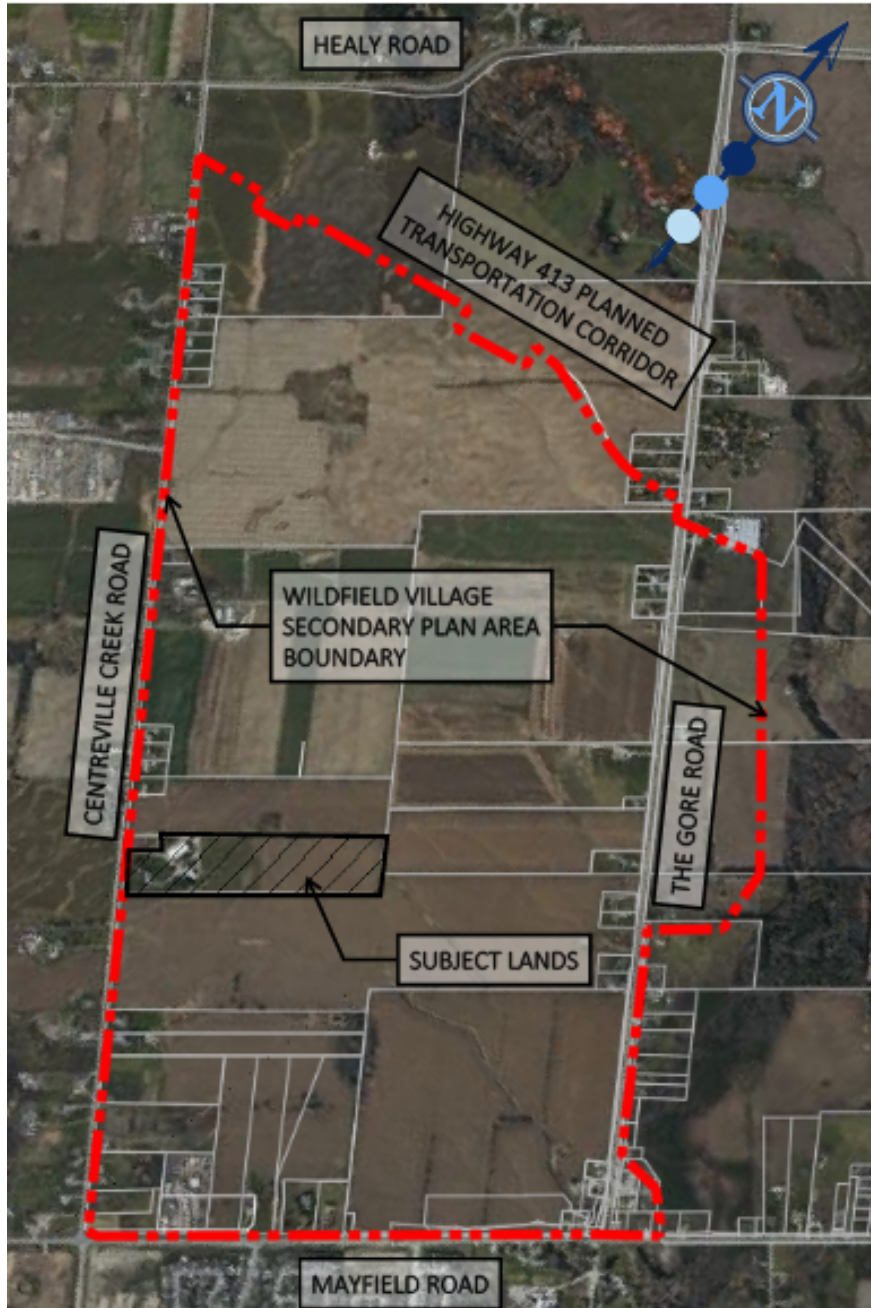


Figure 1 – Site Location

Existing Topography and Drainage

As noted above, the Subject Lands are within the West Humber River watershed. The drainage within the Subject Lands and external drainage areas, is generally split between two outlets, identified as Outlet 1 and 5 through the LSS, as shown on **Figure 2**:

- Outlet 1: Culvert # 6 as identified in the Phase 1 and 2 LSS, crossing under Centreville Creek Road (refer to Catchments 101, EXT1 and EXT2 on **Figure 2**), and
- Outlet 5: Culvert #11 as identified in the Phase 1 and 2 LSS, crossing under The Gore Road (refer to Catchments 102 and EXT3 on **Figure 2**).

Proposed Storm Drainage

In proposed conditions, the drainage will continue to be split between Outlets 1 and 5, in order to maintain the existing drainage conditions as closely as possible. Stormwater conveyance will be provided through a combination of municipal storm sewers sized to convey the 10 year storm and an overland flow system within the municipal right-of-way (ROW) and easements, if necessary, to convey up to the Regional (Hurricane Hazel) storm event. Ultimately, the Subject Lands will drain to one of two proposed stormwater management (SWM) facilities, which were identified through the LSS, and referred to as SWM Facility 1 and 5 as shown on **Figure 3**.

SWMF 1 ultimately will service a total area of 55.67 ha (refer to Catchment 201, EXT1 and EXT2 on **Figure 3**), which includes the Subject Lands, and discharges to Culvert #6, crossing under Centreville Creek Road at Outlet 1. If the Subject Lands are to proceed prior to the buildout of the neighboring properties and SWMF 1. An interim onsite SWM facility will be required, and will outlet to the existing ditch along Centreville Creek Road, where flows will continue to drain southerly to Culvert #6 as in existing conditions.

As discussed in the Functional Servicing and Stormwater Management Brief, Trinity Field – Wildfield Village (SCS, October 2025), SWMF 5 services a total area of 56.41 ha, which includes the Subject Lands. As noted above, if the subject lands are intended to proceed ahead of the neighboring properties, an interim onsite SWM facility will be required to provide SWM, discharging towards Outlet 5, where flows will follow the existing drainage patterns and be picked up by the proposed storm sewer system within the Trinity Field development, and conveyed to SWMF 5.

As noted above, an FSSR will be completed to outline the ultimate strategy to convey stormwater from the Subject Lands to SWMF 1 and 5 in more detail, as the servicing and grading for the WVSP area becomes available through the CSSS, and is expected to be completed and provided to the Town of Caledon in January 2026.

Stormwater Management

SWM will be provided for the site, and external lands, per the Ministry of Environment, Conservation, and Parks (MECP), TRCA, and the Town of Caledon design criteria, as established through the Phase 1 and 2 LSS.

The ultimate SWMF 1 and 5 are to be located offsite of the Subject Lands, and will provide water quality, erosion and quantity control for the areas serviced by these ponds. For quantity control, the off-site SWM facilities will control post development flows to the targets established in the Phase 1 and 2 LSS for the 2 through 100 year and Regional storm events.

The CSSS, will provide the ultimate stormwater management strategy for the lands serviced by SWMF 1, which include the Subject Lands. The Trinity Field – Wildfield, Functional Servicing and Stormwater Management Report (SCS, October 2025) has been prepared and provides discussion on the design of SWMF 5 and has accommodated the Subject Lands, based on the proposed Draft Plan included in **Appendix A**.

The quantity, type, location and sizing of Low Impact Development (LID) measures will be investigated through the FSSR. LID measures will be a part of a treatment train, providing quality and erosion control, as well as water balance benefits in accordance with the LSS requirements. The LID measures may include increased topsoil depth, roof drains to grassed areas and/or soak-away pits, infiltration trenches, bioretention areas, etc.

As noted above, an FSSR will be completed to outline the ultimate SWM strategy for the Subject Lands, illustrating that SWMF 1 and 5 will be sized appropriately to provide adequate SWM controls. The FSSR and CSSS are expected to be completed and provided to the Town of Caledon in January 2026.



End of Pipe SWM Facility

Quality Control

Quality controls will be provided off site through a permanent pool within SWMF 1 and 5. These SWM facilities will be sized in order to accommodate the proposed drainage from Catchments 201 and 202, and provide adequate quality control.

The purpose of the permanent pool is to provide sediment removal for the stormwater conveyed to the pond. The SWM Facilities will be sized to provide an 'Enhanced' level of protection (80% TSS removal) based on Table 3.2 of the MOE Stormwater Management Planning and Design Manual (SWMP Manual, 2003).

Further details on the permanent pool requirements for SWMF 1 will be provided through the forthcoming FSSR for the Subject Lands and ongoing CSSS for the WVSP Area, and will be provided to the Town for review January 2026.

The Trinity Field – Wildfield, Functional Servicing and Stormwater Management Report (SCS, October 2025) has been prepared and provides discussion on the design of SWMF 5 and has accommodated the Subject Lands, and provides the required quality control.

As noted above, LID measures will help provide quality controls under the interim conditions, as part of a treatment train, until SWMF 1 and 5 are constructed.

Erosion Control

To mitigate the potential for increases in erosion, attenuation of the extended detention volume within the proposed SWM Facilities 1 and 5 will be required to provide erosion protection for the receiving downstream watercourses.

Analysis to determine the extended detention duration within SWMF 1 and 5 to mitigate the increase of erosion occurrences and duration within the receiving watercourses will be completed as part of the CSSS.

Further details on the extended detention volume requirements for SWMF 1 will be provided through the forthcoming FSSR for the Subject Lands and ongoing CSSS for the WVSP Area, and will be provided to the Town for review January 2026.

The Trinity Field – Wildfield, Functional Servicing and Stormwater Management Report, (SCS, October 2025) has been prepared and provides discussion on the design of SWMF 5, which has accommodated the Subject Lands, and providing the required extended detention volumes for erosion control.

As noted above, LID measures will help provide erosion controls as part of a treatment train until such a time as SWMF 1 and 5 are constructed.

Quantity Control

As established in the Phase 2 LSS (SCS and GEI, January 2025), the proposed conditions uncontrolled peak flows for each outlet exceed the existing conditions; therefore, SWM controls for the 2 through 100 year and Regional storm events are required to mitigate downstream impacts.

As noted above, an interim onsite SWM facility is required to control proposed runoff from the Subject Lands to Outlets 1 and 5 should the lands proceed ahead of the neighboring properties. For each interim onsite SWM facility, the target flows for the 2 through 100 year storm events are determined using Equation F of the TRCA unit flow relationship for the Humber River and the existing drainage area to each outlet within the subject lands. Through the Phase 1 LSS (SCS and GEI, November 2024) a target unit release rate for each sub catchment of the Humber River watershed within the WVSP Area was established for the Regional storm event. The unit rate established for SWMF 1 is 0.070 m³/s/ha and 0.077m³/s/ha for SWMF 5.

As noted above, an interim onsite SWM facility is required to control proposed runoff from the Subject Lands to Outlets 1 and 5, until such a time that the neighboring properties develop and flows can be conveyed to SWM Facilities 1 and 5. The target release rates for each interim onsite SWM facility are summarized below in **Table 3**.

Table 3 – Interim Stormwater Management Facility Target Flow Rates¹ (m³/s)

	201	202
Existing Area (ha)	4.62	5.22
Proposed Area (ha)	4.80	5.04
2-yr	0.039	0.043
5-yr	0.060	0.067
10-yr	0.073	0.082
25-yr	0.092	0.103
50-yr	0.108	0.121
100-yr	0.122	0.136
Reg.	0.323	0.402

¹ Refer to **Attachment B** for target flow calculations

The interim onsite SWM facilities will control the flows from the proposed development to the target flow rates discharging toward Outlets 1 and 5. Proposed hydrologic modelling was completed using the Visual Otthymo model (Version 6.2) to determine the proposed release

rates and required storage volumes within the interim onsite SWM facilities for the 2 through 100 year and Regional storm events. Refer to the File Safe Cloud Link provided in **Attachment C** to download the VO hydrology model files.

Table 4 – Stormwater Management Facility Summary (m³/s)¹

	Interim Onsite SWMF 1		Interim Onsite SWMF 2	
Area (ha)	Target Flow Rate	Required Storage ²	Target Flow Rate	Required Storage ²
2-yr	0.039	1,074	0.043	1,084
5-yr	0.060	1,495	0.067	1,520
10-yr	0.073	1,741	0.082	1,770
25-yr	0.092	2,044	0.103	2,076
50-yr	0.108	2,257	0.121	2,289
100-yr	0.122	2,465	0.136	2,502
Reg. ¹	0.323	5,362	0.402	5,051

¹ Refer to **Attachment C** for modelling outputs.

² 12 Hour AES Distribution is summarized.

The outlet for the interim onsite SWM facilities will be sized to allow for the external areas to pass through the site uncontrolled, and continue to follow the existing drainage patterns to Outlet 1 and 5.

At this time, the Trinity Field – Wildfield, Functional Servicing and Stormwater Management Report (SCS, October 2025) has been prepared, and provides further detail for the SWM controls provided for SWMF 5.

No further detail on SWMF 1 is available at this time, further discussion on the ultimate conditions will be provided through the forthcoming FSSR and ongoing CSSS for the WVSP Area, which is to be provided to the Town January 2026. Through the ongoing CSSS work, the servicing strategy to convey flows from the Subject Lands to SWMF 1 and 5, through the non-participating lands will be provided.

Sanitary Servicing

As noted in the Phase 1 LSS (SCS and GEI, November 2024), there are no existing sanitary sewers within the WVSP Area or on the arterial roads immediately surrounding the WVSP Area. There is also an existing sanitary sewer (size to be confirmed) located on McVean Drive at the intersection with Countryside Drive approximately 1.25 km south of the WV Secondary Plan area.

Through the Phase 2 LSS (SCS and GEI, January 2025) it was indicated that the WV Secondary Plan area will be serviced via several connections to the future wastewater main on Mayfield Road as illustrated on Figure 5.2 of the Phase LSS (SCS and GEI, January 2025) included in **Attachment D**. The internal alignment and location of the stubs for the proposed sanitary sewers are preliminary only and subject to change. No external drainage is proposed to be conveyed through the WV Secondary Plan area in accordance with the latest Region of Peel Draft DC Project Mapping (2024), included in **Attachment D**.

The subject lands will be serviced through the sanitary sewers within the WVSP Area are anticipated to have slopes ranging between 0.5% and 2% (typically). Preliminary sanitary sewer schematic is illustrated on Figure 5.2 of the Phase 2 LSS (SCS and GEI, January 2024) included in **Attachment D**.

Slopes of less than 0.5% may be required for trunk sanitary sewers to limit the depth of trunk infrastructure while meeting minimum velocity criteria. The alignment and invert design of the trunk infrastructure is preliminary only and will be refined further through a more detailed Functional Servicing and Stormwater Management Report.

The sanitary sewer system will be designed in accordance with the Region of Peel and MECP criteria, including but not limited to:

Residential Sanitary Generation Rate: 290 L/c/d,

- Commercial Sanitary Generation Rate: 270 L/emp/ha
- Population Density:
 - Single detached: 4.2 person/unit,
 - Semi-detached: 4.2 person/unit,
 - Townhouse: 3.4 person/unit,
 - Large Apartment (greater than 1 bedroom): 3.1 person/unit,
 - Small Apartment (less than or equal to 1 bedroom): 1.7 person/unit,
- Peaking Factor: Harmon (Max. 4.0),
- Infiltration Rate: 0.26 L/s/ha,
- Minimum Pipe Size: 200 mm diameter,
- Minimum Pipe Cover: 2.5 m below centerline road elevation,
- Minimum Actual Velocity: 0.75 m/s, and
- Maximum Velocity: 3.0 m/s.

Through the ongoing CSSS work and forthcoming FSSR in January 2026, the servicing strategy to convey sanitary flows from the Subject Lands through the non-participating lands to the proposed sanitary sewers will be provided.

Water Servicing

As noted in the Phase 1 LSS (SCS and GEI, November 2024), there are existing watermain on several arterial roads surrounding the WVSP area including: a 200 mm diameter watermain on Centreville Creek Road, Healey Road, and The Gore Road; and a 300 mm diameter watermain, 600 mm diameter watermain (Pressure Zone 5), and 750 mm diameter watermain (Pressure Zone 6) on Mayfield Road.

Servicing for the Subject Lands will be provided by the distribution mains planned by the Region with connections to the existing distribution mains on Mayfield Road and the future distribution main on Centreville Creek Road. Refer to Figure 5.4 from the Phase 2 LSS (SCS and GEI, January 2025) included in **Attachment D**.

The watermain system will be designed in accordance with the Region of Peel and MECP criteria including:

- ➔ Residential water usage rate: 280 L/c/d,
- ➔ Commercial water usage rate: 300 L/emp/ha,
- ➔ Population Density:
 - Single detached: 4.2 person/unit,
 - Semi-detached: 4.2 person/unit,
 - Townhouse: 3.4 person/unit,
 - Large Apartment (greater than 1 bedroom): 3.1 person/unit,
 - Small Apartment (less than or equal to 1 bedroom): 1.7 person/unit,
- ➔ Minimum Pipe Size: 150 mm diameter,
- ➔ Minimum Pipe Depth: 1.7 m, and
- ➔ Maximum Hydrant Spacing: 150 m.

Refer to Figure 5.4 of the Phase 2 LSS (SCS and GEI, January 2025) included as **Attachment D**, to illustrated the general water servicing strategy of the WVSP Area.

Through the ongoing CSSS work and forthcoming FSSR in January 2026, the servicing strategy to provide water servicing for the Subject Lands will be provided, including a watermain hydraulic model to provide watermain sizes and confirm sufficient supply and pressure for the site.



Summary

This FSSB has been prepared in support of the Draft Plan application for the proposed residential development within the WVSP Area in the Town of Caledon. This brief outlines the means by which the proposed development can be serviced and provide stormwater management controls in the interim and ultimate conditions, in accordance with MECP, TRCA, and the Town of Caledon design criteria and policies, as established through the Phase 1 and 2 LSS.

Minor and major system storm drainage from the Subject Lands will be directed by a storm sewer system and overland flow routes, respectively, towards the proposed interim onsite SWM facilities discharging to existing grade where flows will follow existing drainage patterns to existing culverts crossing under Centreville Creek Road and Mayfield Road. Ultimately, drainage from this site will be conveyed to one of two SWM facilities, further details for the major and minor storm systems will be provided through the ongoing CSSS work.

The Subject Lands will ultimately contribute to SWMF 1 and 5, the ongoing CSSS will provide further details on the SWM controls provided in SWMF 1. The Trinity Field – Wildfield, Functional Servicing and Stormwater Management Report (SCS, October 2025) provides further detail for the SWM controls provided for SWMF 5.

This FSSB has shown that the site can be serviced from the municipal wastewater and water systems through the current existing and planned infrastructure located adjacent to the site and WVSP Area. A more detailed Functional Servicing and SWM Report (FSSR) outlining the servicing and grading for the subject lands will be completed, in combination with the Comprehensive Servicing and SWM Study (CSSS) as required by the Secondary Plan policies. The FSSR and CSSS are expected to be completed and provided to the Town in January 2026.



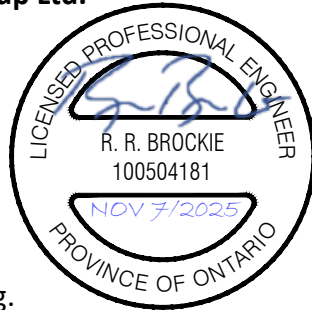
Re: | **Functional Servicing and Stormwater Management Brief**
Cavalino Estates – Wildfield Village
Town of Caledon

File #: 2831
November 7, 2025
Page 12 of 12

Please contact the undersigned if you have any questions or require additional information.

Sincerely,

SCS Consulting Group Ltd.



Ryan Brockie, P. Eng.
rbrockie@scsconsultinggroup.com

A handwritten signature in blue ink that reads "Andrea Keeping".

Andrea Keeping, P. Eng.
akeeping@scsconsultinggroup.com

Encl.

Attachment A: Preliminary Draft Plan

Attachment B: Quality Control Calculations

Attachment C: Hydrologic Modelling Files & Outputs

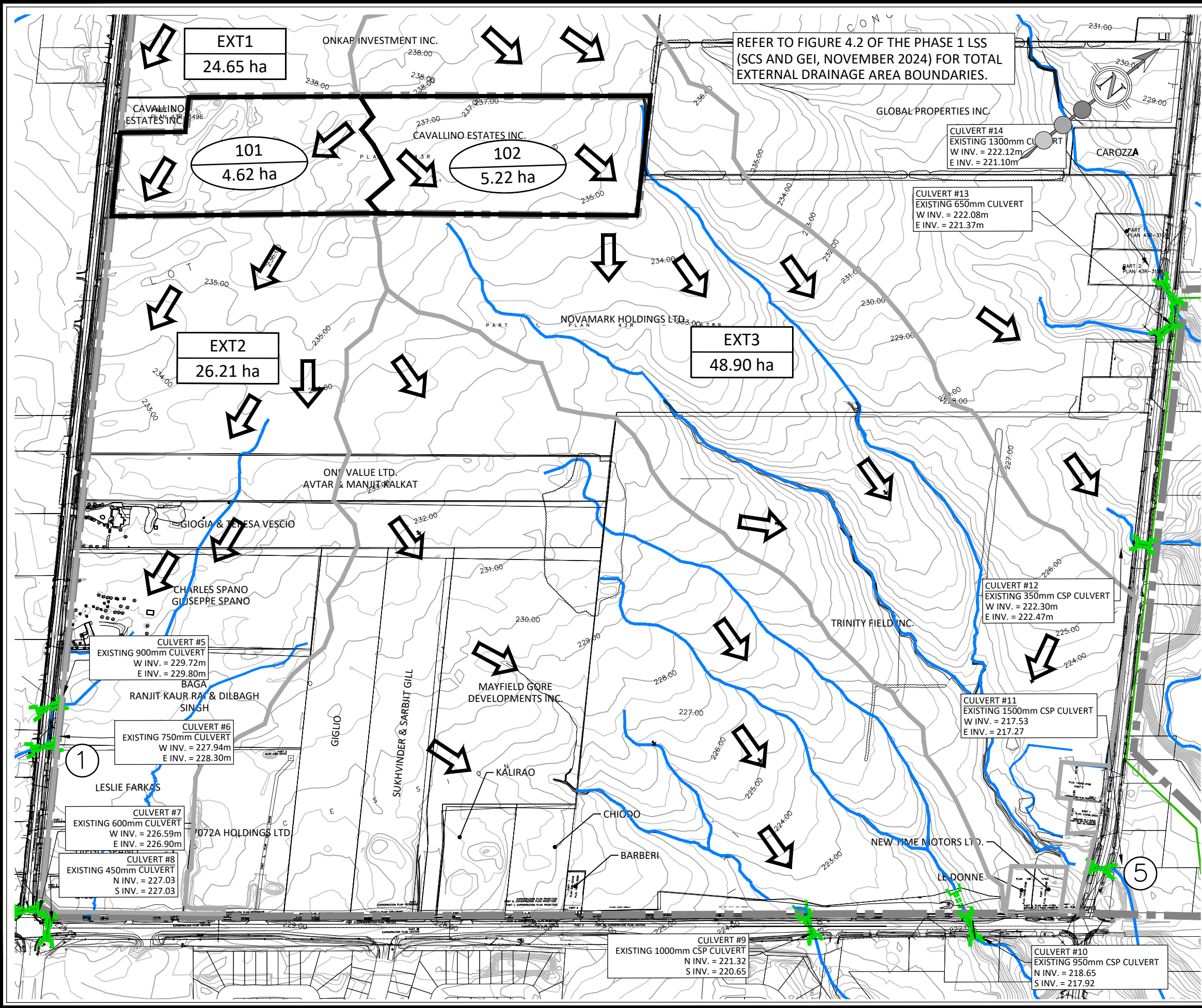
Attachment D: Phase 1 & 2 LSS Figures & Background Information

P:\2831 Wildfield - Trinison - Cavallino\Correspondence\Letters\2025 11(Nov) 11 - Preliminary Servicing and SWM Report\2831 - Preliminary Servicing and SWM Brief- 07 November 2025.docx



Figures

Attachments



LEGEND:

- LIMIT OF SUBJECT LANDS
- LIMIT OF WILDFIELD VILLAGE SECONDARY PLAN
- EXISTING CONTOUR AND ELEVATION
- STORM DRAINAGE BOUNDARY
- EXTERNAL STORM DRAINAGE BOUNDARY
- WATERCOURSE (TRCA, 2018)
- ➔ OVERLAND FLOW DIRECTION
- EXISTING CULVERT
- 101
7.32 ha CATCHMENT ID
DRAINAGE AREA (HECTARES)
- EXT1
20.67 ha CATCHMENT ID
EXTERNAL STORM DRAINAGE AREA (HECTARES)
- 1 OUTLET ID

*NOTE: LAYOUT IS SCHEMATIC ONLY, DETAILS TO BE PROVIDED AT DETAILED DESIGN STAGE.



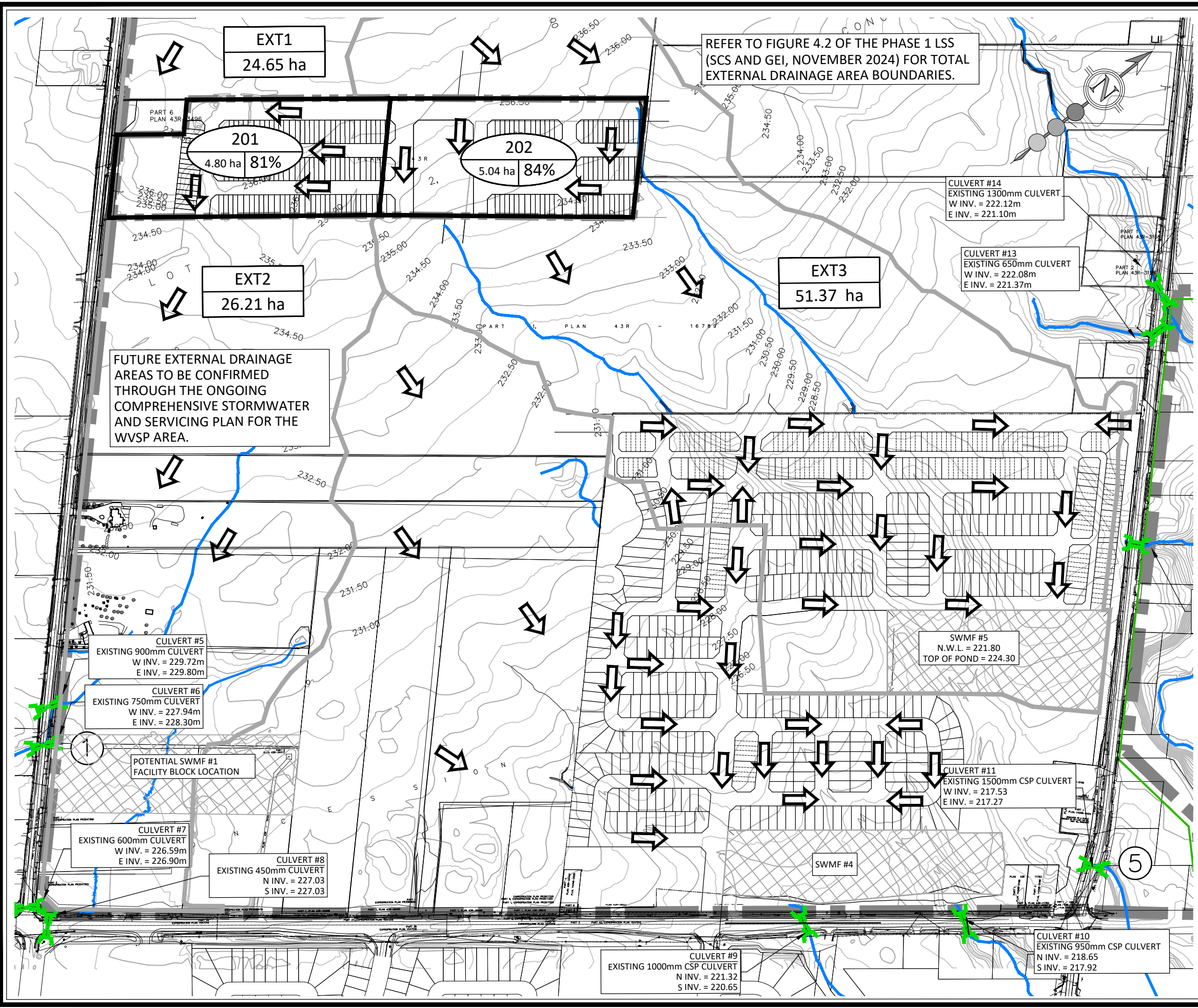
30 CENTURIAN DRIVE, SUITE 100
MARKHAM, ONTARIO L3R 8B8
TEL: (905) 475-1900
FAX: (905) 475-8335

WILDFIELD - CAVALINO
ESTATES

PSSB

EXISTING STORM
DRAINAGE PLAN

DESIGNED BY:	R.B.	CHECKED BY:	E.K.
SCALE:	1:5000	DATE:	AUGUST 2025
PROJECT No:	2831	FIGURE No:	2



LEGEND:

LIMIT OF SUBJECT LANDS

LIMIT OF WILDFIELD VILLAGE SECONDARY PLAN

230.00

EXISTING CONTOUR AND ELEVATION

STORM DRAINAGE BOUNDARY

EXTERNAL STORM DRAINAGE BOUNDARY

WATERCOURSE (TRCA, 2018)

OVERLAND FLOW DIRECTION

EXISTING CULVERT

201

4.80 ha

81%

CATCHMENT ID

20.15 ha

76%

PERCENT (%) IMPERVIOUS

DRAINAGE AREA (HECTARES)

EXT1

24.65 ha

CATCHMENT ID

EXTERNAL STORM DRAINAGE AREA (HECTARES)

STORMWATER MANAGEMENT FACILITY BLOCK

1

OUTLET ID

*NOTE: LAYOUT IS SCHEMATIC ONLY, DETAILS TO BE PROVIDED AT DETAILED DESIGN STAGE.

scs consulting group ltd

30 CENTURIAN DRIVE, SUITE 100
MARKHAM, ONTARIO L3R 8B8
TEL: (905) 475-1900
FAX: (905) 475-8335

WILDFIELD - CAVALLINO ESTATES

PSSB

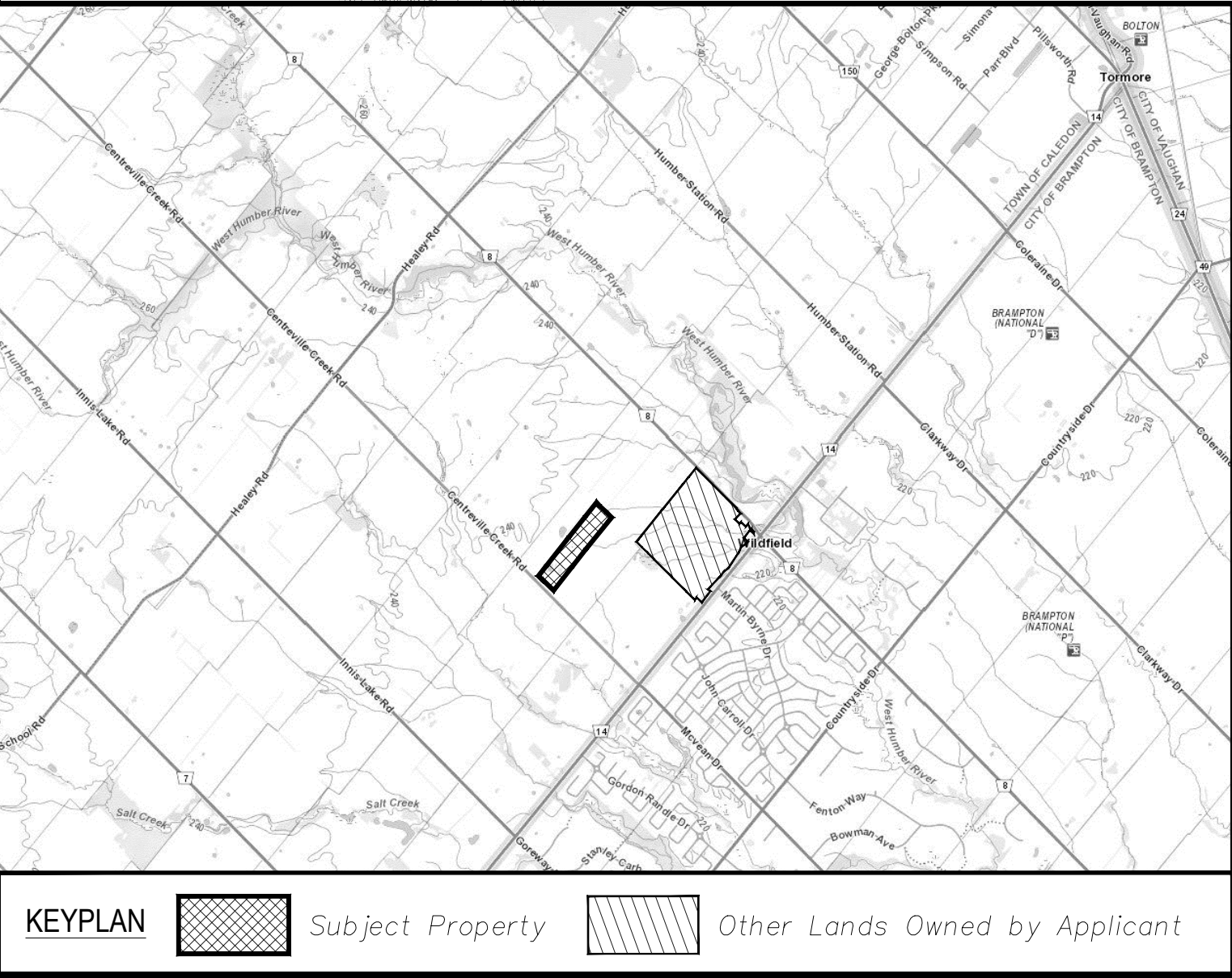
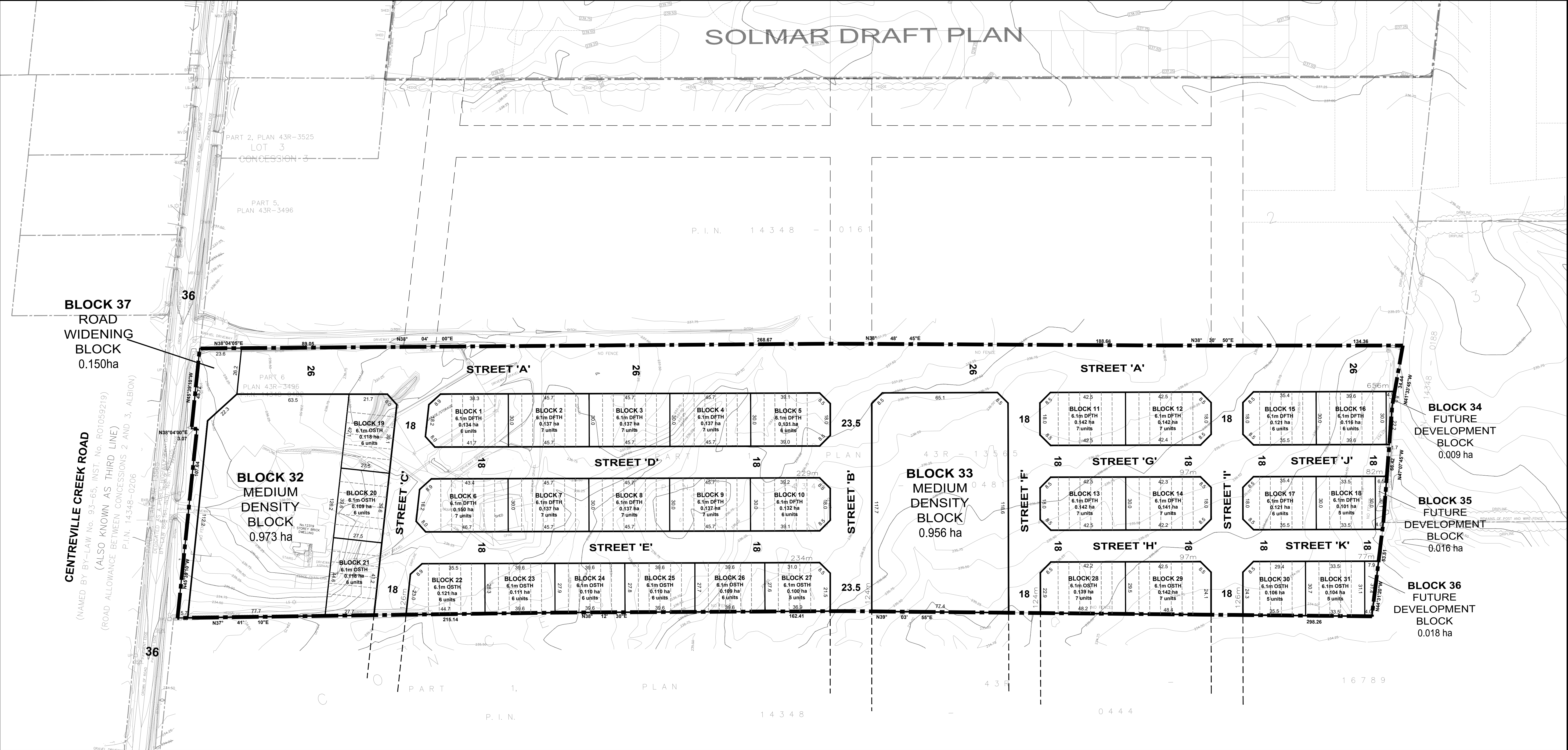
PROPOSED STORM DRAINAGE PLAN

DESIGNED BY:	R.B.	CHECKED BY:	E.K.
SCALE:	1:5000	DATE:	AUGUST 2025
PROJECT No:	2831	FIGURE No:	3

File: P:\2831 Wildfield - Trinison - Cavallino\Drawings\FSP\Fig\Report Figures\2831P-X.X-STRM-PROP.dwg - Revised by <DDILAY> : Wed, Aug 06 2025 - 11:26am

Attachment A Preliminary Draft Plan



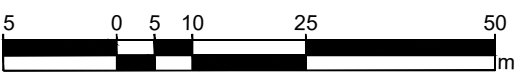
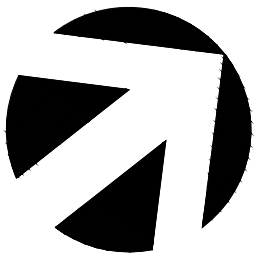


LEGEND

Subject Property

NOTES

All dimensions are in metres.
All area measurements are computer generated.
All elevations refer to Geodetic Datum.



LAND USE - AREA TABLE				
	24107-4A	12dp	Oct 14, 2025	
Double Frontage Townhouses	Blocks 1-18	23%	2,397 ha±	
On-Street Townhouses	Blocks 19-31	15%	1,498	
Medium Density Blocks	Blocks 32-33	19%	1,929	
Future Development Blocks	Blocks 34-36	0%	0,043	
Road Widening	Block 37	1%	0,150	
Roads		41%	4,261	
Total		100%	10,278 ha±	

ROADS		
26.0m Public R.O.W.	656 m	1,766
23.5m Public R.O.W.	124 m	0,294
18.0m Public R.O.W.	1,192 m	2,201
Total	1,316 m	4,261 ha

PRELIMINARY UNIT COUNT	
6.1m Double Frontage Townhouses	118 units
6.1m On-Street Townhouses	77
Medium Density Apartment Units (conceptual)	TBD *
Total	195 units*

* Final Unit Count to be determined at the time of Site Plan application

ADDITIONAL INFORMATION
REQUIRED UNDER SECTION 51(17)
OF THE PLANNING ACT

- A, B, E, F, G, J, L - As Shown on Plan
C. Additional lands owned by the applicant as shown on the key plan.
D. On-Street Townhouses, Double Frontage Townhouses, Medium Density Blocks, Roads and Road Widening.
H. Piped water to be provided.
I. Clay loam soil.
K. Sanitary & storm sewers to be provided.

SURVEYOR'S CERTIFICATE

I certify that: the boundaries of the lands to be subdivided and their relationship to the adjacent lands are correctly shown.

S. Goonewardena, O.L.S.
R-PE Surveying Ltd.

OWNER'S AUTHORIZATION

I/we, CAVALLINO ESTATES INC.
being the registered owner(s) of the subject lands hereby authorize BOUSFIELDS INC. to prepare and submit a draft plan of subdivision for approval.

Muuro Baldessarra Day Month Year

DRAFT PLAN OF
PROPOSED SUBDIVISION
PART OF LOT 2
CONCESSION 3
(GEOGRAPHIC TOWNSHIP OF ALBION)
TOWN OF CALEDON

BOUSFIELDS INC.
3 Church Street, Suite 200
Toronto, Ontario M5E 1M2
P (416) 947-9744
F (416) 947-0781

Attachment B Release Rate Calculations

Drainage Area Characteristics and Release Rate Calculation

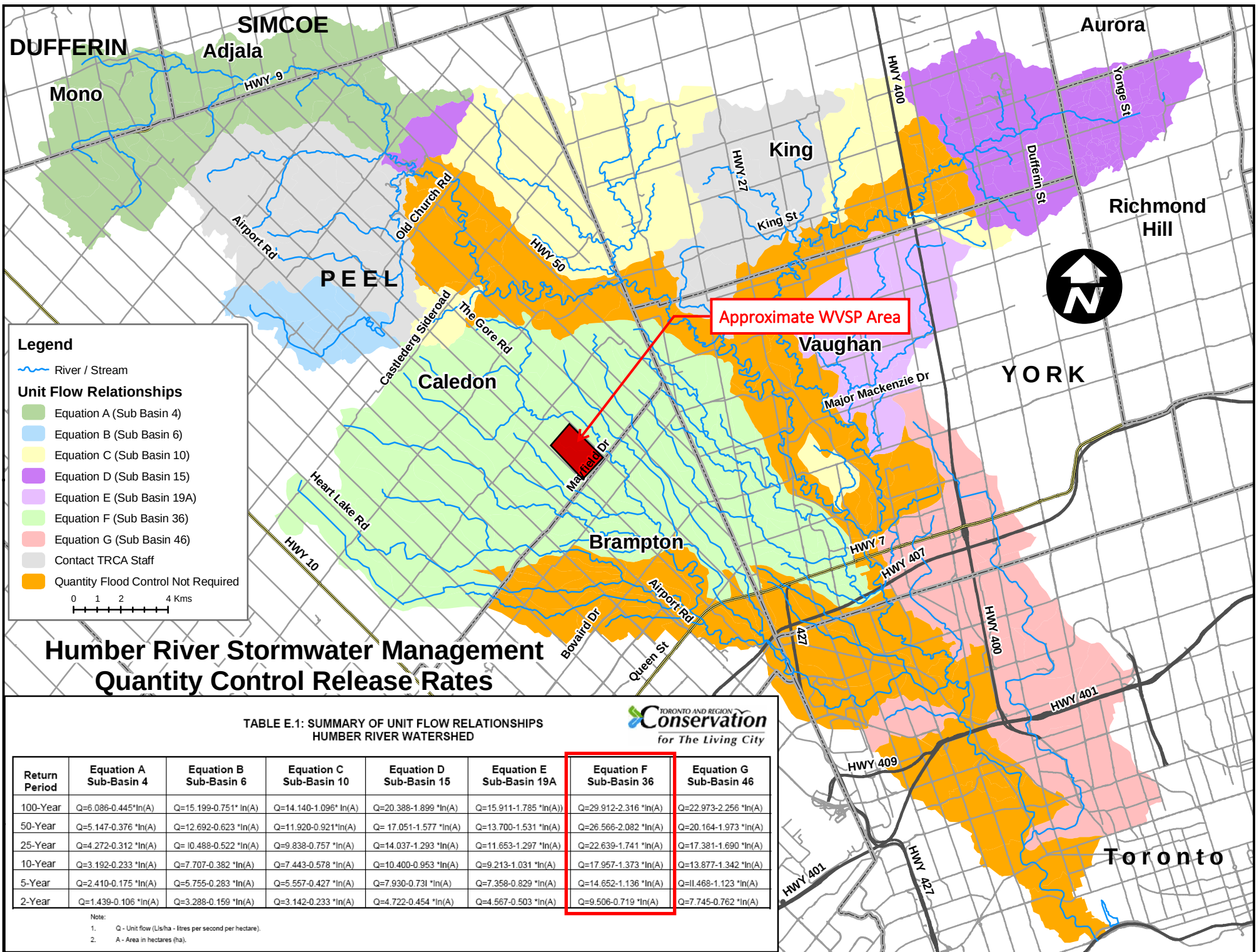
Project Number: 2709
Date: August 2025
Designer Initials: R.R.B.

Weighted Impervious Calculation

Catchment ID	Landuses	Total Area (ha)	Runoff Coefficient	Imperviousness (%)	Impervious Area (ha)
201	Townhouses	4.02	0.75	79%	3.16
	Medium Density Block	0.78	0.85	93%	0.72
	Total	4.80	-	81%	3.88
202	Townhouses	3.27	0.75	79%	2.57
	Medium Density Block	1.77	0.85	93%	1.64
	Total	5.04	-	84%	4.21

Allowable Release Rate

Storm	Target Release Rate (201)		Target Release Rate (202)	
	(m ³ /s)		(m ³ /s)	
Pre-Development Area (ha)	4.62		5.22	
2 Year	0.039	Based on the Humber River Watershed Unit Flow Relationship Equation F (Pre-Development Drainage Area to Culvert #6)	0.043	Based on the Humber River Watershed Unit Flow Relationship Equation F (Pre-Development Drainage Area to Culvert #10)
5 Year	0.060		0.067	
10 Year	0.073		0.082	
25 Year	0.092		0.103	
50 Year	0.108		0.121	
100 Year	0.122		0.136	
Regional	0.323	Based on Phase 1 LSS Regional Flow Unit Release Rate for 36.11 (0.070 m ³ /s per hectare of Proposed Drainage Area to Culvert #6)	0.402	Based on Phase 1 LSS Regional Flow Unit Release Rate for 38.04 (0.077 m ³ /s per hectare of Proposed Drainage Area to Culvert #10)



Attachment C Hydrologic Modelling Files & Outputs

The following secure link is being provided by SCS Consulting Group Ltd. to share the hydrologic modelling files related to the Preliminary Servicing and Stormwater Management Brief for Callvino Estates:

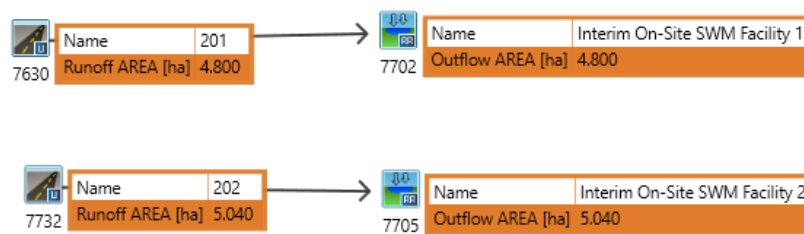
<https://filesafecloud.scsconsultinggroup.com/url/muzazkbjmr7krnmt>

Please click on the link and download all files from this location.

Hydrology Models – Visual Otthymo



Proposed Conditions Modelling Schematic



 ** SIMULATION:2.1 2yr-12hr **

Interim Onsite SWM Facility 1
 2 - 100 Year Storm Output

CALIB
 STANDHYD (7630)
 ID= 1 DT= 5.0 min

Area (ha)= 4.80
 Total Imp(%)= 84.00 Dir. Conn.(%)= 67.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.03	0.77
Dep. Storage	(mm)=	1.00	2.00
Average slope	(%)=	1.00	2.00
Length	(m)=	178.89	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	1.41	12.250	3.06	18.33	0.24
0.167	0.00	6.250	1.41	12.333	1.65	18.42	0.24
0.250	0.00	6.333	4.00	12.417	1.65	18.50	0.24
0.333	0.24	6.417	4.00	12.500	1.65	18.58	0.24
0.417	0.24	6.500	4.00	12.583	1.65	18.67	0.24
0.500	0.24	6.583	4.00	12.667	1.65	18.75	0.24
0.583	0.24	6.667	4.00	12.750	1.65	18.83	0.24
0.667	0.24	6.750	4.00	12.833	1.65	18.92	0.24
0.750	0.24	6.833	4.00	12.917	1.65	19.00	0.24
0.833	0.24	6.917	4.00	13.000	1.65	19.08	0.24
0.917	0.24	7.000	4.00	13.083	1.65	19.17	0.24
1.000	0.24	7.083	4.00	13.167	1.65	19.25	0.24
1.083	0.24	7.167	4.00	13.250	1.65	19.33	0.24
1.167	0.24	7.250	4.00	13.333	1.65	19.42	0.24
1.250	0.24	7.333	4.00	13.417	1.65	19.50	0.24
1.333	0.24	7.417	4.00	13.500	1.65	19.58	0.24
1.417	0.24	7.500	4.00	13.583	1.65	19.67	0.24
1.500	0.24	7.583	4.00	13.667	1.65	19.75	0.24
1.583	0.24	7.667	4.00	13.750	1.65	19.83	0.24
1.667	0.24	7.750	4.00	13.833	1.65	19.92	0.24
1.750	0.24	7.833	4.00	13.917	1.65	20.00	0.24
1.833	0.24	7.917	4.00	14.000	1.65	20.08	0.24
1.917	0.24	8.000	4.00	14.083	1.65	20.17	0.24
2.000	0.24	8.083	4.00	14.167	1.65	20.25	0.24
2.083	0.24	8.167	4.00	14.250	1.65	20.33	0.24
2.167	0.24	8.250	4.00	14.333	0.94	20.42	0.24
2.250	0.24	8.333	10.81	14.417	0.94	20.50	0.24
2.333	0.24	8.417	10.81	14.500	0.94	20.58	0.24
2.417	0.24	8.500	10.81	14.583	0.94	20.67	0.24
2.500	0.24	8.583	10.81	14.667	0.94	20.75	0.24
2.583	0.24	8.667	10.81	14.750	0.94	20.83	0.24
2.667	0.24	8.750	10.81	14.833	0.94	20.92	0.24
2.750	0.24	8.833	10.81	14.917	0.94	21.00	0.24
2.833	0.24	8.917	10.81	15.000	0.94	21.08	0.24
2.917	0.24	9.000	10.81	15.083	0.94	21.17	0.24
3.000	0.24	9.083	10.81	15.167	0.94	21.25	0.24
3.083	0.24	9.167	10.81	15.250	0.94	21.33	0.24
3.167	0.24	9.250	10.81	15.333	0.94	21.42	0.24
3.250	0.24	9.333	10.81	15.417	0.94	21.50	0.24
3.333	0.24	9.417	10.81	15.500	0.94	21.58	0.24
3.417	0.24	9.500	10.81	15.583	0.94	21.67	0.24
3.500	0.24	9.583	10.81	15.667	0.94	21.75	0.24
3.583	0.24	9.667	10.81	15.750	0.94	21.83	0.24
3.667	0.24	9.750	10.81	15.833	0.94	21.92	0.24
3.750	0.24	9.833	10.81	15.917	0.94	22.00	0.24
3.833	0.24	9.917	10.81	16.000	0.94	22.08	0.24
3.917	0.24	10.000	10.81	16.083	0.94	22.17	0.24
4.000	0.24	10.083	10.81	16.167	0.94	22.25	0.24
4.083	0.24	10.167	10.81	16.250	0.94	22.33	0.24
4.167	0.24	10.250	10.81	16.333	0.47	22.42	0.24
4.250	0.24	10.333	3.06	16.417	0.47	22.50	0.24
4.333	1.41	10.417	3.06	16.500	0.47	22.58	0.24
4.417	1.41	10.500	3.06	16.583	0.47	22.67	0.24
4.500	1.41	10.583	3.06	16.667	0.47	22.75	0.24
4.583	1.41	10.667	3.06	16.750	0.47	22.83	0.24
4.667	1.41	10.750	3.06	16.833	0.47	22.92	0.24
4.750	1.41	10.833	3.06	16.917	0.47	23.00	0.24
4.833	1.41	10.917	3.06	17.000	0.47	23.08	0.24
4.917	1.41	11.000	3.06	17.083	0.47	23.17	0.24
5.000	1.41	11.083	3.06	17.167	0.47	23.25	0.24
5.083	1.41	11.167	3.06	17.250	0.47	23.33	0.24
5.167	1.41	11.250	3.06	17.333	0.47	23.42	0.24
5.250	1.41	11.333	3.06	17.417	0.47	23.50	0.24

5.333	1.41	11.417	3.06	17.500	0.47	23.58	0.24
5.417	1.41	11.500	3.06	17.583	0.47	23.67	0.24
5.500	1.41	11.583	3.06	17.667	0.47	23.75	0.24
5.583	1.41	11.667	3.06	17.750	0.47	23.83	0.24
5.667	1.41	11.750	3.06	17.833	0.47	23.92	0.24
5.750	1.41	11.833	3.06	17.917	0.47	24.00	0.24
5.833	1.41	11.917	3.06	18.000	0.47	24.08	0.24
5.917	1.41	12.000	3.06	18.083	0.47	24.17	0.24
6.000	1.41	12.083	3.06	18.167	0.47	24.25	0.24
6.083	1.41	12.167	3.06	18.250	0.47		

Max.Eff.Inten.(mm/hr)= 10.81 17.47
over (min) 10.00 25.00
Storage Coeff. (min)= 8.82 (ii) 23.00 (ii)
Unit Hyd. Tpeak (min)= 10.00 25.00
Unit Hyd. peak (cms)= 0.12 0.05

TOTALS

PEAK FLOW (cms)= 0.10 0.03 0.131 (iii)
TIME TO PEAK (hrs)= 10.25 10.25 10.25
RUNOFF VOLUME (mm)= 46.08 29.07 40.46
TOTAL RAINFALL (mm)= 47.08 47.08 47.08
RUNOFF COEFFICIENT = 0.98 0.62 0.86

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7702)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 5.0 min				
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0920	0.2100
	0.0390	0.1100	0.1080	0.2300
	0.0600	0.1500	0.1220	0.2500
	0.0730	0.1800	0.3230	0.4800
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7630)	4.800	0.131	10.25	40.46
OUTFLOW: ID= 1 (7702)	4.800	0.038	12.25	40.31
	PEAK FLOW REDUCTION [Qout/Qin](%)= 28.95			
	TIME SHIFT OF PEAK FLOW (min)=120.00			
	MAXIMUM STORAGE USED (ha.m.)= 0.1074			

** SIMULATION:2.2 5yr-12hr **

CALIB	Area (ha)= 4.80	
STANDHYD (7630)	Total Imp(%)= 84.00	Dir. Conn.(%)= 67.00
ID= 1 DT= 5.0 min		
	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.03	0.77
Dep. Storage (mm)=	1.00	2.00
Average Slope (%)=	1.00	2.00
Length (m)=	178.89	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

----- TRANSFORMED HYETOGRAPH -----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.26	6.250	7.07	9.33	0.54
0.167	0.00	3.250	3.26	6.333	3.81	9.42	0.54
0.250	0.00	3.333	9.25	6.417	3.81	9.50	0.54
0.333	0.54	3.417	9.25	6.500	3.81	9.58	0.54
0.417	0.54	3.500	9.25	6.583	3.81	9.67	0.54
0.500	0.54	3.583	9.25	6.667	3.81	9.75	0.54
0.583	0.54	3.667	9.25	6.750	3.81	9.83	0.54
0.667	0.54	3.750	9.25	6.833	3.81	9.92	0.54
0.750	0.54	3.833	9.25	6.917	3.81	10.00	0.54
0.833	0.54	3.917	9.25	7.000	3.81	10.08	0.54
0.917	0.54	4.000	9.25	7.083	3.81	10.17	0.54
1.000	0.54	4.083	9.25	7.167	3.81	10.25	0.54

1.083	0.54	4.167	9.25	7.250	3.81	10.33	0.54
1.167	0.54	4.250	9.25	7.333	2.18	10.42	0.54
1.250	0.54	4.333	25.02	7.417	2.18	10.50	0.54
1.333	0.54	4.417	25.02	7.500	2.18	10.58	0.54
1.417	0.54	4.500	25.02	7.583	2.18	10.67	0.54
1.500	0.54	4.583	25.02	7.667	2.18	10.75	0.54
1.583	0.54	4.667	25.02	7.750	2.18	10.83	0.54
1.667	0.54	4.750	25.02	7.833	2.18	10.92	0.54
1.750	0.54	4.833	25.02	7.917	2.18	11.00	0.54
1.833	0.54	4.917	25.02	8.000	2.18	11.08	0.54
1.917	0.54	5.000	25.02	8.083	2.18	11.17	0.54
2.000	0.54	5.083	25.02	8.167	2.18	11.25	0.54
2.083	0.54	5.167	25.02	8.250	2.18	11.33	0.54
2.167	0.54	5.250	25.02	8.333	1.09	11.42	0.54
2.250	0.54	5.333	7.07	8.417	1.09	11.50	0.54
2.333	3.26	5.417	7.07	8.500	1.09	11.58	0.54
2.417	3.26	5.500	7.07	8.583	1.09	11.67	0.54
2.500	3.26	5.583	7.07	8.667	1.09	11.75	0.54
2.583	3.26	5.667	7.07	8.750	1.09	11.83	0.54
2.667	3.26	5.750	7.07	8.833	1.09	11.92	0.54
2.750	3.26	5.833	7.07	8.917	1.09	12.00	0.54
2.833	3.26	5.917	7.07	9.000	1.09	12.08	0.54
2.917	3.26	6.000	7.07	9.083	1.09	12.17	0.54
3.000	3.26	6.083	7.07	9.167	1.09	12.25	0.54
3.083	3.26	6.167	7.07	9.250	1.09		

Max.Eff.Inten.(mm/hr)= 25.02 41.97
over (min) 5.00 20.00
Storage Coeff. (min)= 6.30 (ii) 16.29 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.19 0.06

TOTALS

PEAK FLOW (cms)= 0.22 0.08 0.303 (iii)
TIME TO PEAK (hrs)= 5.25 5.25 5.25
RUNOFF VOLUME (mm)= 53.38 35.46 47.46
TOTAL RAINFALL (mm)= 54.38 54.38 54.38
RUNOFF COEFFICIENT = 0.98 0.65 0.87

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7702)					
IN= 2---> OUT= 1					
DT= 5.0 min					

OVERFLOW IS OFF					
		OUTFLOW	STORAGE	OUTFLOW	STORAGE
		(cms)	(ha.m.)	(cms)	(ha.m.)
		0.0000	0.0000	0.0920	0.2100
		0.0390	0.1100	0.1080	0.2300
		0.0600	0.1500	0.1220	0.2500
		0.0730	0.1800	0.3230	0.4800
		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (7630)		4.800	0.303	5.25	47.46
OUTFLOW: ID= 1 (7702)		4.800	0.060	6.50	47.32
PEAK FLOW REDUCTION [Qout/Qin](%)= 19.69					
TIME SHIFT OF PEAK FLOW (min)= 75.00					
MAXIMUM STORAGE USED (ha.m.)= 0.1495					

** SIMULATION:2.3 10yr-12hr **

CALIB					
STANDHYD (7630)					
ID= 1 DT= 5.0 min					

		Area (ha)=	4.80		
		Total Imp(%)=	84.00	Dir. Conn.(%)=	67.00
		IMPERVIOUS	PERVIOUS (i)		
Surface Area	(ha)=	4.03	0.77		
Dep. Storage	(mm)=	1.00	2.00		
Average slope	(%)=	1.00	2.00		
Length	(m)=	178.89	40.00		
Mannings n	=	0.013	0.250		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

----- TRANSFORMED HYETOGRAPH -----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	3.167	3.76	6.250	8.15	9.33	0.63
0.167	0.00	3.250	3.76	6.333	4.39	9.42	0.63
0.250	0.00	3.333	10.66	6.417	4.39	9.50	0.63
0.333	0.63	3.417	10.66	6.500	4.39	9.58	0.63
0.417	0.63	3.500	10.66	6.583	4.39	9.67	0.63
0.500	0.63	3.583	10.66	6.667	4.39	9.75	0.63
0.583	0.63	3.667	10.66	6.750	4.39	9.83	0.63
0.667	0.63	3.750	10.66	6.833	4.39	9.92	0.63
0.750	0.63	3.833	10.66	6.917	4.39	10.00	0.63
0.833	0.63	3.917	10.66	7.000	4.39	10.08	0.63
0.917	0.63	4.000	10.66	7.083	4.39	10.17	0.63
1.000	0.63	4.083	10.66	7.167	4.39	10.25	0.63
1.083	0.63	4.167	10.66	7.250	4.39	10.33	0.63
1.167	0.63	4.250	10.66	7.333	2.51	10.42	0.63
1.250	0.63	4.333	28.84	7.417	2.51	10.50	0.63
1.333	0.63	4.417	28.84	7.500	2.51	10.58	0.63
1.417	0.63	4.500	28.84	7.583	2.51	10.67	0.63
1.500	0.63	4.583	28.84	7.667	2.51	10.75	0.63
1.583	0.63	4.667	28.84	7.750	2.51	10.83	0.63
1.667	0.63	4.750	28.84	7.833	2.51	10.92	0.63
1.750	0.63	4.833	28.84	7.917	2.51	11.00	0.63
1.833	0.63	4.917	28.84	8.000	2.51	11.08	0.63
1.917	0.63	5.000	28.84	8.083	2.51	11.17	0.63
2.000	0.63	5.083	28.84	8.167	2.51	11.25	0.63
2.083	0.63	5.167	28.84	8.250	2.51	11.33	0.63
2.167	0.63	5.250	28.84	8.333	1.25	11.42	0.63
2.250	0.63	5.333	8.15	8.417	1.25	11.50	0.63
2.333	3.76	5.417	8.15	8.500	1.25	11.58	0.63
2.417	3.76	5.500	8.15	8.583	1.25	11.67	0.63
2.500	3.76	5.583	8.15	8.667	1.25	11.75	0.63
2.583	3.76	5.667	8.15	8.750	1.25	11.83	0.63
2.667	3.76	5.750	8.15	8.833	1.25	11.92	0.63
2.750	3.76	5.833	8.15	8.917	1.25	12.00	0.63
2.833	3.76	5.917	8.15	9.000	1.25	12.08	0.63
2.917	3.76	6.000	8.15	9.083	1.25	12.17	0.63
3.000	3.76	6.083	8.15	9.167	1.25	12.25	0.63
3.083	3.76	6.167	8.15	9.250	1.25		

Max.Eff.Inten.(mm/hr)= 28.84 50.12
over (min) 5.00 20.00
Storage Coeff. (min)= 5.96 (ii) 15.26 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.19 0.07

PEAK FLOW (cms)= 0.26 0.10 *TOTALS*
TIME TO PEAK (hrs)= 5.25 5.25 0.355 (iii)
RUNOFF VOLUME (mm)= 61.71 42.94 55.51
TOTAL RAINFALL (mm)= 62.71 62.71 62.71
RUNOFF COEFFICIENT = 0.98 0.68 0.89

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7702)
IN= 2---> OUT= 1
DT= 5.0 min

OVERFLOW IS OFF

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0920	0.2100
0.0390	0.1100	0.1080	0.2300
0.0600	0.1500	0.1220	0.2500
0.0730	0.1800	0.3230	0.4800

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7630)	4.800	0.355	5.25	55.51
OUTFLOW: ID= 1 (7702)	4.800	0.070	6.50	55.37

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.85
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.1741

** SIMULATION:2.4 25yr-12hr **

CALIB
STANDHYD (7630)
ID= 1 DT= 5.0 min

Area (ha)= 4.80
Total Imp(%)= 84.00 Dir. Conn.(%)= 67.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.03	0.77
Dep. Storage (mm)=	1.00	2.00
Average Slope (%)=	1.00	2.00
Length (m)=	178.89	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	3.167	4.39	6.250	9.50	9.33	0.73
0.167	0.00	3.250	4.39	6.333	5.12	9.42	0.73
0.250	0.00	3.333	12.43	6.417	5.12	9.50	0.73
0.333	0.73	3.417	12.43	6.500	5.12	9.58	0.73
0.417	0.73	3.500	12.43	6.583	5.12	9.67	0.73
0.500	0.73	3.583	12.43	6.667	5.12	9.75	0.73
0.583	0.73	3.667	12.43	6.750	5.12	9.83	0.73
0.667	0.73	3.750	12.43	6.833	5.12	9.92	0.73
0.750	0.73	3.833	12.43	6.917	5.12	10.00	0.73
0.833	0.73	3.917	12.43	7.000	5.12	10.08	0.73
0.917	0.73	4.000	12.43	7.083	5.12	10.17	0.73
1.000	0.73	4.083	12.43	7.167	5.12	10.25	0.73
1.083	0.73	4.167	12.43	7.250	5.12	10.33	0.73
1.167	0.73	4.250	12.43	7.333	2.92	10.42	0.73
1.250	0.73	4.333	33.63	7.417	2.92	10.50	0.73
1.333	0.73	4.417	33.63	7.500	2.92	10.58	0.73
1.417	0.73	4.500	33.63	7.583	2.92	10.67	0.73
1.500	0.73	4.583	33.63	7.667	2.92	10.75	0.73
1.583	0.73	4.667	33.63	7.750	2.92	10.83	0.73
1.667	0.73	4.750	33.63	7.833	2.92	10.92	0.73
1.750	0.73	4.833	33.63	7.917	2.92	11.00	0.73
1.833	0.73	4.917	33.63	8.000	2.92	11.08	0.73
1.917	0.73	5.000	33.63	8.083	2.92	11.17	0.73
2.000	0.73	5.083	33.63	8.167	2.92	11.25	0.73
2.083	0.73	5.167	33.63	8.250	2.92	11.33	0.73
2.167	0.73	5.250	33.63	8.333	1.46	11.42	0.73
2.250	0.73	5.333	9.50	8.417	1.46	11.50	0.73
2.333	4.39	5.417	9.50	8.500	1.46	11.58	0.73
2.417	4.39	5.500	9.50	8.583	1.46	11.67	0.73
2.500	4.39	5.583	9.50	8.667	1.46	11.75	0.73
2.583	4.39	5.667	9.50	8.750	1.46	11.83	0.73
2.667	4.39	5.750	9.50	8.833	1.46	11.92	0.73
2.750	4.39	5.833	9.50	8.917	1.46	12.00	0.73
2.833	4.39	5.917	9.50	9.000	1.46	12.08	0.73
2.917	4.39	6.000	9.50	9.083	1.46	12.17	0.73
3.000	4.39	6.083	9.50	9.167	1.46	12.25	0.73
3.083	4.39	6.167	9.50	9.250	1.46		

Max.Eff.Inten.(mm/hr)=	33.63	60.38
over (min)	5.00	15.00
Storage Coeff. (min)=	5.60 (ii)	14.24 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.20	0.08

TOTALS

PEAK FLOW (cms)=	0.30	0.12	0.422 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	52.47	65.62
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.72	0.90

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7702)
IN= 2---> OUT= 1
DT= 5.0 min

OVERFLOW IS OFF

OUTFLOW	STORAGE	OUTFLOW	STORAGE
(cms)	(ha.m.)	(cms)	(ha.m.)
0.0000	0.0000	0.0920	0.2100
0.0390	0.1100	0.1080	0.2300
0.0600	0.1500	0.1220	0.2500

0.0730 0.1800 | 0.3230 0.4800

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (7630)	4.800	0.422	5.25	65.62
OUTFLOW: ID= 1 (7702)	4.800	0.088	6.42	65.47

PEAK FLOW REDUCTION [Qout/Qin](%)= 20.98
 TIME SHIFT OF PEAK FLOW (min)= 70.00
 MAXIMUM STORAGE USED (ha.m.)= 0.2044

 ** SIMULATION:2.5 50yr-12hr **

CALIB	
STANDHYD (7630)	Area (ha)= 4.80
ID= 1 DT= 5.0 min	Total Imp(%)= 84.00 Dir. Conn.(%)= 67.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.03	0.77
Dep. Storage (mm)=	1.00	2.00
Average slope (%)=	1.00	2.00
Length (m)=	178.89	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	3.167	4.85	6.250	10.50	9.33	0.81
0.167	0.00	3.250	4.85	6.333	5.66	9.42	0.81
0.250	0.00	3.333	13.74	6.417	5.66	9.50	0.81
0.333	0.81	3.417	13.74	6.500	5.66	9.58	0.81
0.417	0.81	3.500	13.74	6.583	5.66	9.67	0.81
0.500	0.81	3.583	13.74	6.667	5.66	9.75	0.81
0.583	0.81	3.667	13.74	6.750	5.66	9.83	0.81
0.667	0.81	3.750	13.74	6.833	5.66	9.92	0.81
0.750	0.81	3.833	13.74	6.917	5.66	10.00	0.81
0.833	0.81	3.917	13.74	7.000	5.66	10.08	0.81
0.917	0.81	4.000	13.74	7.083	5.66	10.17	0.81
1.000	0.81	4.083	13.74	7.167	5.66	10.25	0.81
1.083	0.81	4.167	13.74	7.250	5.66	10.33	0.81
1.167	0.81	4.250	13.74	7.333	3.23	10.42	0.81
1.250	0.81	4.333	37.17	7.417	3.23	10.50	0.81
1.333	0.81	4.417	37.17	7.500	3.23	10.58	0.81
1.417	0.81	4.500	37.17	7.583	3.23	10.67	0.81
1.500	0.81	4.583	37.17	7.667	3.23	10.75	0.81
1.583	0.81	4.667	37.17	7.750	3.23	10.83	0.81
1.667	0.81	4.750	37.17	7.833	3.23	10.92	0.81
1.750	0.81	4.833	37.17	7.917	3.23	11.00	0.81
1.833	0.81	4.917	37.17	8.000	3.23	11.08	0.81
1.917	0.81	5.000	37.17	8.083	3.23	11.17	0.81
2.000	0.81	5.083	37.17	8.167	3.23	11.25	0.81
2.083	0.81	5.167	37.17	8.250	3.23	11.33	0.81
2.167	0.81	5.250	37.17	8.333	1.62	11.42	0.81
2.250	0.81	5.333	10.50	8.417	1.62	11.50	0.81
2.333	4.85	5.417	10.50	8.500	1.62	11.58	0.81
2.417	4.85	5.500	10.50	8.583	1.62	11.67	0.81
2.500	4.85	5.583	10.50	8.667	1.62	11.75	0.81
2.583	4.85	5.667	10.50	8.750	1.62	11.83	0.81
2.667	4.85	5.750	10.50	8.833	1.62	11.92	0.81
2.750	4.85	5.833	10.50	8.917	1.62	12.00	0.81
2.833	4.85	5.917	10.50	9.000	1.62	12.08	0.81
2.917	4.85	6.000	10.50	9.083	1.62	12.17	0.81
3.000	4.85	6.083	10.50	9.167	1.62	12.25	0.81
3.083	4.85	6.167	10.50	9.250	1.62		

Max.Eff.Inten.(mm/hr)=	37.17	67.97
over (min)	5.00	15.00
Storage Coeff. (min)=	5.38 (ii)	13.62 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.21	0.08

TOTALS
 PEAK FLOW (cms)= 0.33 0.14 0.470 (iii)
 TIME TO PEAK (hrs)= 5.25 5.25 5.25
 RUNOFF VOLUME (mm)= 79.82 59.65 73.16
 TOTAL RAINFALL (mm)= 80.82 80.82 80.82
 RUNOFF COEFFICIENT = 0.99 0.74 0.91

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7702)		OVERFLOW IS OFF			
IN= 2---> OUT= 1					
DT= 5.0 min					
		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
		0.0000	0.0000	0.0920	0.2100
		0.0390	0.1100	0.1080	0.2300
		0.0600	0.1500	0.1220	0.2500
		0.0730	0.1800	0.3230	0.4800
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7630)		4.800	0.470	5.25	73.16
OUTFLOW: ID= 1 (7702)		4.800	0.104	6.33	73.02
PEAK FLOW REDUCTION [Qout/Qin](%)= 22.25					
TIME SHIFT OF PEAK FLOW (min)= 65.00					
MAXIMUM STORAGE USED (ha.m.)= 0.2257					

** SIMULATION:2.6 100yr-12hr **

CALIB					
STANDHYD (7630)					
ID= 1 DT= 5.0 min					
		Area (ha)=	4.80		
		Total Imp(%)=	84.00	Dir. Conn.(%)=	67.00
		IMPERVIOUS		PERVIOUS (i)	
Surface Area (ha)=		4.03	0.77		
Dep. Storage (mm)=		1.00	2.00		
Average Slope (%)=		1.00	2.00		
Length (m)=		178.89	40.00		
Mannings n =		0.013	0.250		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89
0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89
0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89
0.500	0.89	3.583	15.05	6.667	6.20	9.75	0.89
0.583	0.89	3.667	15.05	6.750	6.20	9.83	0.89
0.667	0.89	3.750	15.05	6.833	6.20	9.92	0.89
0.750	0.89	3.833	15.05	6.917	6.20	10.00	0.89
0.833	0.89	3.917	15.05	7.000	6.20	10.08	0.89
0.917	0.89	4.000	15.05	7.083	6.20	10.17	0.89
1.000	0.89	4.083	15.05	7.167	6.20	10.25	0.89
1.083	0.89	4.167	15.05	7.250	6.20	10.33	0.89
1.167	0.89	4.250	15.05	7.333	3.54	10.42	0.89
1.250	0.89	4.333	40.71	7.417	3.54	10.50	0.89
1.333	0.89	4.417	40.71	7.500	3.54	10.58	0.89
1.417	0.89	4.500	40.71	7.583	3.54	10.67	0.89
1.500	0.89	4.583	40.71	7.667	3.54	10.75	0.89
1.583	0.89	4.667	40.71	7.750	3.54	10.83	0.89
1.667	0.89	4.750	40.71	7.833	3.54	10.92	0.89
1.750	0.89	4.833	40.71	7.917	3.54	11.00	0.89
1.833	0.89	4.917	40.71	8.000	3.54	11.08	0.89
1.917	0.89	5.000	40.71	8.083	3.54	11.17	0.89
2.000	0.89	5.083	40.71	8.167	3.54	11.25	0.89
2.083	0.89	5.167	40.71	8.250	3.54	11.33	0.89
2.167	0.89	5.250	40.71	8.333	1.77	11.42	0.89
2.250	0.89	5.333	11.51	8.417	1.77	11.50	0.89
2.333	5.31	5.417	11.51	8.500	1.77	11.58	0.89
2.417	5.31	5.500	11.51	8.583	1.77	11.67	0.89
2.500	5.31	5.583	11.51	8.667	1.77	11.75	0.89
2.583	5.31	5.667	11.51	8.750	1.77	11.83	0.89
2.667	5.31	5.750	11.51	8.833	1.77	11.92	0.89
2.750	5.31	5.833	11.51	8.917	1.77	12.00	0.89
2.833	5.31	5.917	11.51	9.000	1.77	12.08	0.89
2.917	5.31	6.000	11.51	9.083	1.77	12.17	0.89
3.000	5.31	6.083	11.51	9.167	1.77	12.25	0.89

3.083 5.31 | 6.167 11.51 | 9.250 1.77 |

Max.Eff.Inten.(mm/hr)=	40.71	75.56	
over (min)	5.00	15.00	
Storage Coeff. (min)=	5.19 (ii)	13.08 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.21	0.08	
			TOTALS
PEAK FLOW (cms)=	0.36	0.15	0.518 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	66.91	80.73
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.76	0.91

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(7702) |
| IN= 2---> OUT= 1 |
DT= 5.0 min

OVERFLOW IS OFF

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0920	0.2100
0.0390	0.1100	0.1080	0.2300
0.0600	0.1500	0.1220	0.2500
0.0730	0.1800	0.3230	0.4800

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7630)	4.800	0.518	5.25	80.73
OUTFLOW: ID= 1 (7702)	4.800	0.120	6.33	80.58

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.09
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.2465

 ** SIMULATION:2.1 2yr-12hr **

Interim Onsite SWM Facility 2 2 - 100 Year Storm Output

READ STORM	Filename: C:\Users\rbrockie\AppData\Local\Temp\6e980299-db7c-4159-a488-249fb4cd0286\6fb9f58c
Ptotal= 47.08 mm	Comments: 2 Year 24 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.25	4.00	12.50	1.65	18.75	0.24
0.25	0.24	6.50	4.00	12.75	1.65	19.00	0.24
0.50	0.24	6.75	4.00	13.00	1.65	19.25	0.24
0.75	0.24	7.00	4.00	13.25	1.65	19.50	0.24
1.00	0.24	7.25	4.00	13.50	1.65	19.75	0.24
1.25	0.24	7.50	4.00	13.75	1.65	20.00	0.24
1.50	0.24	7.75	4.00	14.00	1.65	20.25	0.24
1.75	0.24	8.00	4.00	14.25	0.94	20.50	0.24
2.00	0.24	8.25	10.81	14.50	0.94	20.75	0.24
2.25	0.24	8.50	10.81	14.75	0.94	21.00	0.24
2.50	0.24	8.75	10.81	15.00	0.94	21.25	0.24
2.75	0.24	9.00	10.81	15.25	0.94	21.50	0.24
3.00	0.24	9.25	10.81	15.50	0.94	21.75	0.24
3.25	0.24	9.50	10.81	15.75	0.94	22.00	0.24
3.50	0.24	9.75	10.81	16.00	0.94	22.25	0.24
3.75	0.24	10.00	10.81	16.25	0.47	22.50	0.24
4.00	0.24	10.25	3.06	16.50	0.47	22.75	0.24
4.25	1.41	10.50	3.06	16.75	0.47	23.00	0.24
4.50	1.41	10.75	3.06	17.00	0.47	23.25	0.24
4.75	1.41	11.00	3.06	17.25	0.47	23.50	0.24
5.00	1.41	11.25	3.06	17.50	0.47	23.75	0.24
5.25	1.41	11.50	3.06	17.75	0.47	24.00	0.24
5.50	1.41	11.75	3.06	18.00	0.47		
5.75	1.41	12.00	3.06	18.25	0.24		
6.00	1.41	12.25	1.65	18.50	0.24		

CALIB STANDHYD (7732) ID= 1 DT= 5.0 min	Area (ha)= 5.04 Total Imp(%)= 81.00 Dir. Conn.(%)= 65.00
--	--

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.08	0.96
Dep. Storage (mm)=	1.00	2.00
Average Slope (%)=	1.00	2.00
Length (m)=	183.30	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.41	12.250	3.06	18.33	0.24
0.167	0.00	6.250	1.41	12.333	1.65	18.42	0.24
0.250	0.00	6.333	4.00	12.417	1.65	18.50	0.24
0.333	0.24	6.417	4.00	12.500	1.65	18.58	0.24
0.417	0.24	6.500	4.00	12.583	1.65	18.67	0.24
0.500	0.24	6.583	4.00	12.667	1.65	18.75	0.24
0.583	0.24	6.667	4.00	12.750	1.65	18.83	0.24
0.667	0.24	6.750	4.00	12.833	1.65	18.92	0.24
0.750	0.24	6.833	4.00	12.917	1.65	19.00	0.24
0.833	0.24	6.917	4.00	13.000	1.65	19.08	0.24
0.917	0.24	7.000	4.00	13.083	1.65	19.17	0.24
1.000	0.24	7.083	4.00	13.167	1.65	19.25	0.24
1.083	0.24	7.167	4.00	13.250	1.65	19.33	0.24
1.167	0.24	7.250	4.00	13.333	1.65	19.42	0.24
1.250	0.24	7.333	4.00	13.417	1.65	19.50	0.24
1.333	0.24	7.417	4.00	13.500	1.65	19.58	0.24
1.417	0.24	7.500	4.00	13.583	1.65	19.67	0.24
1.500	0.24	7.583	4.00	13.667	1.65	19.75	0.24
1.583	0.24	7.667	4.00	13.750	1.65	19.83	0.24
1.667	0.24	7.750	4.00	13.833	1.65	19.92	0.24
1.750	0.24	7.833	4.00	13.917	1.65	20.00	0.24
1.833	0.24	7.917	4.00	14.000	1.65	20.08	0.24
1.917	0.24	8.000	4.00	14.083	1.65	20.17	0.24
2.000	0.24	8.083	4.00	14.167	1.65	20.25	0.24
2.083	0.24	8.167	4.00	14.250	1.65	20.33	0.24
2.167	0.24	8.250	4.00	14.333	0.94	20.42	0.24

2.250	0.24	8.333	10.81	14.417	0.94	20.50	0.24
2.333	0.24	8.417	10.81	14.500	0.94	20.58	0.24
2.417	0.24	8.500	10.81	14.583	0.94	20.67	0.24
2.500	0.24	8.583	10.81	14.667	0.94	20.75	0.24
2.583	0.24	8.667	10.81	14.750	0.94	20.83	0.24
2.667	0.24	8.750	10.81	14.833	0.94	20.92	0.24
2.750	0.24	8.833	10.81	14.917	0.94	21.00	0.24
2.833	0.24	8.917	10.81	15.000	0.94	21.08	0.24
2.917	0.24	9.000	10.81	15.083	0.94	21.17	0.24
3.000	0.24	9.083	10.81	15.167	0.94	21.25	0.24
3.083	0.24	9.167	10.81	15.250	0.94	21.33	0.24
3.167	0.24	9.250	10.81	15.333	0.94	21.42	0.24
3.250	0.24	9.333	10.81	15.417	0.94	21.50	0.24
3.333	0.24	9.417	10.81	15.500	0.94	21.58	0.24
3.417	0.24	9.500	10.81	15.583	0.94	21.67	0.24
3.500	0.24	9.583	10.81	15.667	0.94	21.75	0.24
3.583	0.24	9.667	10.81	15.750	0.94	21.83	0.24
3.667	0.24	9.750	10.81	15.833	0.94	21.92	0.24
3.750	0.24	9.833	10.81	15.917	0.94	22.00	0.24
3.833	0.24	9.917	10.81	16.000	0.94	22.08	0.24
3.917	0.24	10.000	10.81	16.083	0.94	22.17	0.24
4.000	0.24	10.083	10.81	16.167	0.94	22.25	0.24
4.083	0.24	10.167	10.81	16.250	0.94	22.33	0.24
4.167	0.24	10.250	10.81	16.333	0.47	22.42	0.24
4.250	0.24	10.333	3.06	16.417	0.47	22.50	0.24
4.333	1.41	10.417	3.06	16.500	0.47	22.58	0.24
4.417	1.41	10.500	3.06	16.583	0.47	22.67	0.24
4.500	1.41	10.583	3.06	16.667	0.47	22.75	0.24
4.583	1.41	10.667	3.06	16.750	0.47	22.83	0.24
4.667	1.41	10.750	3.06	16.833	0.47	22.92	0.24
4.750	1.41	10.833	3.06	16.917	0.47	23.00	0.24
4.833	1.41	10.917	3.06	17.000	0.47	23.08	0.24
4.917	1.41	11.000	3.06	17.083	0.47	23.17	0.24
5.000	1.41	11.083	3.06	17.167	0.47	23.25	0.24
5.083	1.41	11.167	3.06	17.250	0.47	23.33	0.24
5.167	1.41	11.250	3.06	17.333	0.47	23.42	0.24
5.250	1.41	11.333	3.06	17.417	0.47	23.50	0.24
5.333	1.41	11.417	3.06	17.500	0.47	23.58	0.24
5.417	1.41	11.500	3.06	17.583	0.47	23.67	0.24
5.500	1.41	11.583	3.06	17.667	0.47	23.75	0.24
5.583	1.41	11.667	3.06	17.750	0.47	23.83	0.24
5.667	1.41	11.750	3.06	17.833	0.47	23.92	0.24
5.750	1.41	11.833	3.06	17.917	0.47	24.00	0.24
5.833	1.41	11.917	3.06	18.000	0.47	24.08	0.24
5.917	1.41	12.000	3.06	18.083	0.47	24.17	0.24
6.000	1.41	12.083	3.06	18.167	0.47	24.25	0.24
6.083	1.41	12.167	3.06	18.250	0.47		

Max.Eff.Inten.(mm/hr)=	10.81	15.72	
over (min)	10.00	25.00	
Storage Coeff. (min)=	8.95 (ii)	23.74 (ii)	
Unit Hyd. Tpeak (min)=	10.00	25.00	
Unit Hyd. peak (cms)=	0.12	0.05	
			TOTALS
PEAK FLOW (cms)=	0.10	0.04	0.137 (iii)
TIME TO PEAK (hrs)=	10.25	10.25	10.25
RUNOFF VOLUME (mm)=	46.08	29.28	40.20
TOTAL RAINFALL (mm)=	47.08	47.08	47.08
RUNOFF COEFFICIENT =	0.98	0.62	0.85

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7705)	OVERFLOW IS OFF			
IN= 2----> OUT= 1				
DT= 5.0 min				
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1030	0.2100
	0.0430	0.1100	0.1210	0.2300
	0.0670	0.1500	0.1360	0.2500
	0.0820	0.1800	0.4020	0.6200
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7732)	5.040	0.137	10.25	40.20
OUTFLOW: ID= 1 (7705)	5.040	0.042	11.42	40.07
PEAK FLOW REDUCTION [Qout/Qin](%)= 30.82				

(min)= 70.00
(ha.m.)= 0.1084

READ STORM	Filename: C:\Users\rbrockie\AppData ata\Local\Temp\ 6e980299-db7c-4159-a488-249fb4cd0286\369eff41
Ptotal= 54.38 mm	Comments: 5 Year 12 Hour AES (Bloor, TRCA)

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	3.25	9.25	6.50	3.81	9.75	0.54
0.25	0.54	3.50	9.25	6.75	3.81	10.00	0.54
0.50	0.54	3.75	9.25	7.00	3.81	10.25	0.54
0.75	0.54	4.00	9.25	7.25	2.18	10.50	0.54
1.00	0.54	4.25	25.02	7.50	2.18	10.75	0.54
1.25	0.54	4.50	25.02	7.75	2.18	11.00	0.54
1.50	0.54	4.75	25.02	8.00	2.18	11.25	0.54
1.75	0.54	5.00	25.02	8.25	1.09	11.50	0.54
2.00	0.54	5.25	7.07	8.50	1.09	11.75	0.54
2.25	3.26	5.50	7.07	8.75	1.09	12.00	0.54
2.50	3.26	5.75	7.07	9.00	1.09		
2.75	3.26	6.00	7.07	9.25	0.54		
3.00	3.26	6.25	3.81	9.50	0.54		

CALIB				
STANDHYD (7732)	Area (ha)=	5.04		
ID= 1 DT= 5.0 min	Total Imp(%)=	81.00	Dir. Conn.(%)=	65.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.08	0.96
Dep. Storage	(mm)=	1.00	2.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	183.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.26	6.250	7.07	9.33	0.54
0.167	0.00	3.250	3.26	6.333	3.81	9.42	0.54
0.250	0.00	3.333	9.25	6.417	3.81	9.50	0.54
0.333	0.54	3.417	9.25	6.500	3.81	9.58	0.54
0.417	0.54	3.500	9.25	6.583	3.81	9.67	0.54
0.500	0.54	3.583	9.25	6.667	3.81	9.75	0.54
0.583	0.54	3.667	9.25	6.750	3.81	9.83	0.54
0.667	0.54	3.750	9.25	6.833	3.81	9.92	0.54
0.750	0.54	3.833	9.25	6.917	3.81	10.00	0.54
0.833	0.54	3.917	9.25	7.000	3.81	10.08	0.54
0.917	0.54	4.000	9.25	7.083	3.81	10.17	0.54
1.000	0.54	4.083	9.25	7.167	3.81	10.25	0.54
1.083	0.54	4.167	9.25	7.250	3.81	10.33	0.54
1.167	0.54	4.250	9.25	7.333	2.18	10.42	0.54
1.250	0.54	4.333	25.02	7.417	2.18	10.50	0.54
1.333	0.54	4.417	25.02	7.500	2.18	10.58	0.54
1.417	0.54	4.500	25.02	7.583	2.18	10.67	0.54
1.500	0.54	4.583	25.02	7.667	2.18	10.75	0.54
1.583	0.54	4.667	25.02	7.750	2.18	10.83	0.54
1.667	0.54	4.750	25.02	7.833	2.18	10.92	0.54
1.750	0.54	4.833	25.02	7.917	2.18	11.00	0.54
1.833	0.54	4.917	25.02	8.000	2.18	11.08	0.54
1.917	0.54	5.000	25.02	8.083	2.18	11.17	0.54
2.000	0.54	5.083	25.02	8.167	2.18	11.25	0.54
2.083	0.54	5.167	25.02	8.250	2.18	11.33	0.54
2.167	0.54	5.250	25.02	8.333	1.09	11.42	0.54
2.250	0.54	5.333	7.07	8.417	1.09	11.50	0.54
2.333	3.26	5.417	7.07	8.500	1.09	11.58	0.54
2.417	3.26	5.500	7.07	8.583	1.09	11.67	0.54
2.500	3.26	5.583	7.07	8.667	1.09	11.75	0.54
2.583	3.26	5.667	7.07	8.750	1.09	11.83	0.54
2.667	3.26	5.750	7.07	8.833	1.09	11.92	0.54
2.750	3.26	5.833	7.07	8.917	1.09	12.00	0.54
2.833	3.26	5.917	7.07	9.000	1.09	12.08	0.54

2.917	3.26	6.000	7.07	9.083	1.09	12.17	0.54
3.000	3.26	6.083	7.07	9.167	1.09	12.25	0.54
3.083	3.26	6.167	7.07	9.250	1.09		

Max.Eff.Inten.(mm/hr)=	25.02	37.43	
over (min)	5.00	20.00	
Storage Coeff. (min)=	6.40 (ii)	16.85 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.18	0.06	
			TOTALS
PEAK FLOW (cms)=	0.23	0.09	0.317 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	35.70	47.19
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.66	0.87

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7705)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 5.0 min				
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1030	0.2100
	0.0430	0.1100	0.1210	0.2300
	0.0670	0.1500	0.1360	0.2500
	0.0820	0.1800	0.4020	0.6200
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7732)	5.040	0.317	5.25	47.19
OUTFLOW: ID= 1 (7705)	5.040	0.068	6.42	47.06
	PEAK FLOW REDUCTION [Qout/Qin](%)=	21.45		
	TIME SHIFT OF PEAK FLOW (min)=	70.00		
	MAXIMUM STORAGE USED (ha.m.)=	0.1520		

** SIMULATION:2.3 10yr-12hr **

READ STORM	Filename: C:\Users\rbrockie\AppData\Local\Temp\6e980299-db7c-4159-a488-249fb4cd0286\23cb3106
Ptotal= 62.71 mm	Comments: 10 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	3.25	10.66	6.50	4.39	9.75	0.63
0.25	0.63	3.50	10.66	6.75	4.39	10.00	0.63
0.50	0.63	3.75	10.66	7.00	4.39	10.25	0.63
0.75	0.63	4.00	10.66	7.25	2.51	10.50	0.63
1.00	0.63	4.25	28.84	7.50	2.51	10.75	0.63
1.25	0.63	4.50	28.84	7.75	2.51	11.00	0.63
1.50	0.63	4.75	28.84	8.00	2.51	11.25	0.63
1.75	0.63	5.00	28.84	8.25	1.25	11.50	0.63
2.00	0.63	5.25	8.15	8.50	1.25	11.75	0.63
2.25	3.76	5.50	8.15	8.75	1.25	12.00	0.63
2.50	3.76	5.75	8.15	9.00	1.25		
2.75	3.76	6.00	8.15	9.25	0.63		
3.00	3.76	6.25	4.39	9.50	0.63		

CALIB	Area (ha)=	5.04	
STANDHYD (7732)	Total Imp(%)=	81.00	Dir. Conn.(%)= 65.00
ID= 1 DT= 5.0 min			
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	4.08	0.96	
Dep. Storage (mm)=	1.00	2.00	
Average Slope (%)=	1.00	2.00	
Length (m)=	183.30	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.76	6.250	8.15	9.33	0.63
0.167	0.00	3.250	3.76	6.333	4.39	9.42	0.63
0.250	0.00	3.333	10.66	6.417	4.39	9.50	0.63
0.333	0.63	3.417	10.66	6.500	4.39	9.58	0.63
0.417	0.63	3.500	10.66	6.583	4.39	9.67	0.63
0.500	0.63	3.583	10.66	6.667	4.39	9.75	0.63
0.583	0.63	3.667	10.66	6.750	4.39	9.83	0.63
0.667	0.63	3.750	10.66	6.833	4.39	9.92	0.63
0.750	0.63	3.833	10.66	6.917	4.39	10.00	0.63
0.833	0.63	3.917	10.66	7.000	4.39	10.08	0.63
0.917	0.63	4.000	10.66	7.083	4.39	10.17	0.63
1.000	0.63	4.083	10.66	7.167	4.39	10.25	0.63
1.083	0.63	4.167	10.66	7.250	4.39	10.33	0.63
1.167	0.63	4.250	10.66	7.333	2.51	10.42	0.63
1.250	0.63	4.333	28.84	7.417	2.51	10.50	0.63
1.333	0.63	4.417	28.84	7.500	2.51	10.58	0.63
1.417	0.63	4.500	28.84	7.583	2.51	10.67	0.63
1.500	0.63	4.583	28.84	7.667	2.51	10.75	0.63
1.583	0.63	4.667	28.84	7.750	2.51	10.83	0.63
1.667	0.63	4.750	28.84	7.833	2.51	10.92	0.63
1.750	0.63	4.833	28.84	7.917	2.51	11.00	0.63
1.833	0.63	4.917	28.84	8.000	2.51	11.08	0.63
1.917	0.63	5.000	28.84	8.083	2.51	11.17	0.63
2.000	0.63	5.083	28.84	8.167	2.51	11.25	0.63
2.083	0.63	5.167	28.84	8.250	2.51	11.33	0.63
2.167	0.63	5.250	28.84	8.333	1.25	11.42	0.63
2.250	0.63	5.333	8.15	8.417	1.25	11.50	0.63
2.333	3.76	5.417	8.15	8.500	1.25	11.58	0.63
2.417	3.76	5.500	8.15	8.583	1.25	11.67	0.63
2.500	3.76	5.583	8.15	8.667	1.25	11.75	0.63
2.583	3.76	5.667	8.15	8.750	1.25	11.83	0.63
2.667	3.76	5.750	8.15	8.833	1.25	11.92	0.63
2.750	3.76	5.833	8.15	8.917	1.25	12.00	0.63
2.833	3.76	5.917	8.15	9.000	1.25	12.08	0.63
2.917	3.76	6.000	8.15	9.083	1.25	12.17	0.63
3.000	3.76	6.083	8.15	9.167	1.25	12.25	0.63
3.083	3.76	6.167	8.15	9.250	1.25		

Max.Eff.Inten.(mm/hr)= 28.84 45.02
over (min) 5.00 20.00
Storage Coeff. (min)= 6.04 (ii) 15.75 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.19 0.07

TOTALS

PEAK FLOW (cms)= 0.26 0.11 0.371 (iii)
TIME TO PEAK (hrs)= 5.25 5.25 5.25
RUNOFF VOLUME (mm)= 61.71 43.21 55.23
TOTAL RAINFALL (mm)= 62.71 62.71 62.71
RUNOFF COEFFICIENT = 0.98 0.69 0.88

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7705)		OVERFLOW IS OFF			
IN= 2---> OUT= 1					
DT= 5.0 min					
		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
		0.0000	0.0000	0.1030	0.2100
		0.0430	0.1100	0.1210	0.2300
		0.0670	0.1500	0.1360	0.2500
		0.0820	0.1800	0.4020	0.6200
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7732)		5.040	0.371	5.25	55.23
OUTFLOW: ID= 1 (7705)		5.040	0.081	6.42	55.10

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.69
TIME SHIFT OF PEAK FLOW (min)= 70.00
MAXIMUM STORAGE USED (ha.m.)= 0.1770

 ** SIMULATION:2.4 25yr-12hr **

READ STORM	Filename: C:\Users\rbrockie\AppData\Local\Temp\6e980299-db7c-4159-a488-249fb4cd0286\2c6efae9
Ptotal= 73.10 mm	Comments: 25 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	3.25	12.43	6.50	5.12	9.75	0.73
0.25	0.73	3.50	12.43	6.75	5.12	10.00	0.73
0.50	0.73	3.75	12.43	7.00	5.12	10.25	0.73
0.75	0.73	4.00	12.43	7.25	2.92	10.50	0.73
1.00	0.73	4.25	33.63	7.50	2.92	10.75	0.73
1.25	0.73	4.50	33.63	7.75	2.92	11.00	0.73
1.50	0.73	4.75	33.63	8.00	2.92	11.25	0.73
1.75	0.73	5.00	33.63	8.25	1.46	11.50	0.73
2.00	0.73	5.25	9.50	8.50	1.46	11.75	0.73
2.25	4.39	5.50	9.50	8.75	1.46	12.00	0.73
2.50	4.39	5.75	9.50	9.00	1.46		
2.75	4.39	6.00	9.50	9.25	0.73		
3.00	4.39	6.25	5.12	9.50	0.73		

CALIB STANDHYD (7732) ID= 1 DT= 5.0 min	Area (ha)= 5.04 Total Imp(%)= 81.00 Dir. Conn.(%)= 65.00
--	--

	IMPERVIOUS (ha)=	PERVIOUS (i) (mm)=
Surface Area	4.08	0.96
Dep. Storage	1.00	2.00
Average Slope	1.00	2.00
Length	183.30	40.00
Mannings n	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.39	6.250	9.50	9.33	0.73
0.167	0.00	3.250	4.39	6.333	5.12	9.42	0.73
0.250	0.00	3.333	12.43	6.417	5.12	9.50	0.73
0.333	0.73	3.417	12.43	6.500	5.12	9.58	0.73
0.417	0.73	3.500	12.43	6.583	5.12	9.67	0.73
0.500	0.73	3.583	12.43	6.667	5.12	9.75	0.73
0.583	0.73	3.667	12.43	6.750	5.12	9.83	0.73
0.667	0.73	3.750	12.43	6.833	5.12	9.92	0.73
0.750	0.73	3.833	12.43	6.917	5.12	10.00	0.73
0.833	0.73	3.917	12.43	7.000	5.12	10.08	0.73
0.917	0.73	4.000	12.43	7.083	5.12	10.17	0.73
1.000	0.73	4.083	12.43	7.167	5.12	10.25	0.73
1.083	0.73	4.167	12.43	7.250	5.12	10.33	0.73
1.167	0.73	4.250	12.43	7.333	2.92	10.42	0.73
1.250	0.73	4.333	33.63	7.417	2.92	10.50	0.73
1.333	0.73	4.417	33.63	7.500	2.92	10.58	0.73
1.417	0.73	4.500	33.63	7.583	2.92	10.67	0.73
1.500	0.73	4.583	33.63	7.667	2.92	10.75	0.73
1.583	0.73	4.667	33.63	7.750	2.92	10.83	0.73
1.667	0.73	4.750	33.63	7.833	2.92	10.92	0.73
1.750	0.73	4.833	33.63	7.917	2.92	11.00	0.73
1.833	0.73	4.917	33.63	8.000	2.92	11.08	0.73
1.917	0.73	5.000	33.63	8.083	2.92	11.17	0.73
2.000	0.73	5.083	33.63	8.167	2.92	11.25	0.73
2.083	0.73	5.167	33.63	8.250	2.92	11.33	0.73
2.167	0.73	5.250	33.63	8.333	1.46	11.42	0.73
2.250	0.73	5.333	9.50	8.417	1.46	11.50	0.73
2.333	4.39	5.417	9.50	8.500	1.46	11.58	0.73
2.417	4.39	5.500	9.50	8.583	1.46	11.67	0.73
2.500	4.39	5.583	9.50	8.667	1.46	11.75	0.73
2.583	4.39	5.667	9.50	8.750	1.46	11.83	0.73
2.667	4.39	5.750	9.50	8.833	1.46	11.92	0.73
2.750	4.39	5.833	9.50	8.917	1.46	12.00	0.73
2.833	4.39	5.917	9.50	9.000	1.46	12.08	0.73
2.917	4.39	6.000	9.50	9.083	1.46	12.17	0.73
3.000	4.39	6.083	9.50	9.167	1.46	12.25	0.73
3.083	4.39	6.167	9.50	9.250	1.46		

Max.Eff.Inten.(mm/hr)=	33.63	54.20	
over (min)	5.00	15.00	
Storage Coeff. (min)=	5.68 (ii)	14.70 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.20	0.08	
			TOTALS
PEAK FLOW (cms)=	0.31	0.14	0.441 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	52.77	65.33
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.72	0.89

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7705)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 5.0 min				
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1030	0.2100
	0.0430	0.1100	0.1210	0.2300
	0.0670	0.1500	0.1360	0.2500
	0.0820	0.1800	0.4020	0.6200
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7732)	5.040	0.441	5.25	65.33
OUTFLOW: ID= 1 (7705)	5.040	0.101	6.33	65.20
	PEAK FLOW REDUCTION [Qout/Qin](%)= 22.96			
	TIME SHIFT OF PEAK FLOW (min)= 65.00			
	MAXIMUM STORAGE USED (ha.m.)= 0.2076			

** SIMULATION:2.5 50yr-12hr **

READ STORM	Filename: C:\Users\rbrockie\AppData\Local\Temp\6e980299-db7c-4159-a488-249fb4cd0286\4a30faeb				
Ptotal= 80.82 mm	Comments: 50 Year 12 Hour AES (Bloor, TRCA)				
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	3.25	13.74	6.50	5.66
0.25	0.81	3.50	13.74	6.75	5.66
0.50	0.81	3.75	13.74	7.00	5.66
0.75	0.81	4.00	13.74	7.25	3.23
1.00	0.81	4.25	37.17	7.50	3.23
1.25	0.81	4.50	37.17	7.75	3.23
1.50	0.81	4.75	37.17	8.00	3.23
1.75	0.81	5.00	37.17	8.25	1.62
2.00	0.81	5.25	10.50	8.50	1.62
2.25	4.85	5.50	10.50	8.75	1.62
2.50	4.85	5.75	10.50	9.00	1.62
2.75	4.85	6.00	10.50	9.25	0.81
3.00	4.85	6.25	5.66	9.50	0.81

CALIB STANDHYD (7732)	Area (ha)= 5.04	
ID= 1 DT= 5.0 min	Total Imp(%)= 81.00	Dir. Conn.(%)= 65.00
	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.08	0.96
Dep. Storage (mm)=	1.00	2.00
Average slope (%)=	1.00	2.00
Length (m)=	183.30	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.85	6.250	10.50	9.33	0.81
0.167	0.00	3.250	4.85	6.333	5.66	9.42	0.81
0.250	0.00	3.333	13.74	6.417	5.66	9.50	0.81
0.333	0.81	3.417	13.74	6.500	5.66	9.58	0.81
0.417	0.81	3.500	13.74	6.583	5.66	9.67	0.81
0.500	0.81	3.583	13.74	6.667	5.66	9.75	0.81
0.583	0.81	3.667	13.74	6.750	5.66	9.83	0.81
0.667	0.81	3.750	13.74	6.833	5.66	9.92	0.81
0.750	0.81	3.833	13.74	6.917	5.66	10.00	0.81
0.833	0.81	3.917	13.74	7.000	5.66	10.08	0.81
0.917	0.81	4.000	13.74	7.083	5.66	10.17	0.81
1.000	0.81	4.083	13.74	7.167	5.66	10.25	0.81
1.083	0.81	4.167	13.74	7.250	5.66	10.33	0.81
1.167	0.81	4.250	13.74	7.333	3.23	10.42	0.81
1.250	0.81	4.333	37.17	7.417	3.23	10.50	0.81
1.333	0.81	4.417	37.17	7.500	3.23	10.58	0.81
1.417	0.81	4.500	37.17	7.583	3.23	10.67	0.81
1.500	0.81	4.583	37.17	7.667	3.23	10.75	0.81
1.583	0.81	4.667	37.17	7.750	3.23	10.83	0.81
1.667	0.81	4.750	37.17	7.833	3.23	10.92	0.81
1.750	0.81	4.833	37.17	7.917	3.23	11.00	0.81
1.833	0.81	4.917	37.17	8.000	3.23	11.08	0.81
1.917	0.81	5.000	37.17	8.083	3.23	11.17	0.81
2.000	0.81	5.083	37.17	8.167	3.23	11.25	0.81
2.083	0.81	5.167	37.17	8.250	3.23	11.33	0.81
2.167	0.81	5.250	37.17	8.333	1.62	11.42	0.81
2.250	0.81	5.333	10.50	8.417	1.62	11.50	0.81
2.333	4.85	5.417	10.50	8.500	1.62	11.58	0.81
2.417	4.85	5.500	10.50	8.583	1.62	11.67	0.81
2.500	4.85	5.583	10.50	8.667	1.62	11.75	0.81
2.583	4.85	5.667	10.50	8.750	1.62	11.83	0.81
2.667	4.85	5.750	10.50	8.833	1.62	11.92	0.81
2.750	4.85	5.833	10.50	8.917	1.62	12.00	0.81
2.833	4.85	5.917	10.50	9.000	1.62	12.08	0.81
2.917	4.85	6.000	10.50	9.083	1.62	12.17	0.81
3.000	4.85	6.083	10.50	9.167	1.62	12.25	0.81
3.083	4.85	6.167	10.50	9.250	1.62		

Max.Eff.Inten.(mm/hr)= 37.17 60.98
over (min) 5.00 15.00
Storage Coeff. (min)= 5.46 (ii) 14.06 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.20 0.08

PEAK FLOW (cms)= 0.34 0.15 *TOTALS*
TIME TO PEAK (hrs)= 5.25 5.25 0.492 (iii)
RUNOFF VOLUME (mm)= 79.82 59.98 72.87
TOTAL RAINFALL (mm)= 80.82 80.82 80.82
RUNOFF COEFFICIENT = 0.99 0.74 0.90

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7705)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 5.0 min				
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1030	0.2100
	0.0430	0.1100	0.1210	0.2300
	0.0670	0.1500	0.1360	0.2500
	0.0820	0.1800	0.4020	0.6200
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7732)	5.040	0.492	5.25	72.87
OUTFLOW: ID= 1 (7705)	5.040	0.120	6.33	72.75

PEAK FLOW REDUCTION [Qout/Qin](%)= 24.38
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.2289

** SIMULATION:2.6 100yr-12hr **

READ STORM	Filename: C:\Users\rbrockie\AppData Local\Temp\6e980299-db7c-4159-a488-249fb4cd0286\eb7441f0
Ptotal= 88.54 mm	Comments: 100 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	3.25	15.05	6.50	6.20	9.75	0.89
0.25	0.89	3.50	15.05	6.75	6.20	10.00	0.89
0.50	0.89	3.75	15.05	7.00	6.20	10.25	0.89
0.75	0.89	4.00	15.05	7.25	3.54	10.50	0.89
1.00	0.89	4.25	40.71	7.50	3.54	10.75	0.89
1.25	0.89	4.50	40.71	7.75	3.54	11.00	0.89
1.50	0.89	4.75	40.71	8.00	3.54	11.25	0.89
1.75	0.89	5.00	40.71	8.25	1.77	11.50	0.89
2.00	0.89	5.25	11.51	8.50	1.77	11.75	0.89
2.25	5.31	5.50	11.51	8.75	1.77	12.00	0.89
2.50	5.31	5.75	11.51	9.00	1.77		
2.75	5.31	6.00	11.51	9.25	0.89		
3.00	5.31	6.25	6.20	9.50	0.89		

CALIB STANDHYD (7732) ID= 1 DT= 5.0 min	Area (ha)= 5.04 Total Imp(%)= 81.00	Dir. Conn.(%)= 65.00
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	IMPERVIOUS (ha)	PERVIOUS (i)
Surface Area	(ha)= 4.08	0.96
Dep. Storage	(mm)= 1.00	2.00
Average Slope	(%)= 1.00	2.00
Length	(m)= 183.30	40.00
Mannings n	= 0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89
0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89
0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89
0.500	0.89	3.583	15.05	6.667	6.20	9.75	0.89
0.583	0.89	3.667	15.05	6.750	6.20	9.83	0.89
0.667	0.89	3.750	15.05	6.833	6.20	9.92	0.89
0.750	0.89	3.833	15.05	6.917	6.20	10.00	0.89
0.833	0.89	3.917	15.05	7.000	6.20	10.08	0.89
0.917	0.89	4.000	15.05	7.083	6.20	10.17	0.89
1.000	0.89	4.083	15.05	7.167	6.20	10.25	0.89
1.083	0.89	4.167	15.05	7.250	6.20	10.33	0.89
1.167	0.89	4.250	15.05	7.333	3.54	10.42	0.89
1.250	0.89	4.333	40.71	7.417	3.54	10.50	0.89
1.333	0.89	4.417	40.71	7.500	3.54	10.58	0.89
1.417	0.89	4.500	40.71	7.583	3.54	10.67	0.89
1.500	0.89	4.583	40.71	7.667	3.54	10.75	0.89
1.583	0.89	4.667	40.71	7.750	3.54	10.83	0.89
1.667	0.89	4.750	40.71	7.833	3.54	10.92	0.89
1.750	0.89	4.833	40.71	7.917	3.54	11.00	0.89
1.833	0.89	4.917	40.71	8.000	3.54	11.08	0.89
1.917	0.89	5.000	40.71	8.083	3.54	11.17	0.89
2.000	0.89	5.083	40.71	8.167	3.54	11.25	0.89
2.083	0.89	5.167	40.71	8.250	3.54	11.33	0.89
2.167	0.89	5.250	40.71	8.333	1.77	11.42	0.89
2.250	0.89	5.333	11.51	8.417	1.77	11.50	0.89
2.333	5.31	5.417	11.51	8.500	1.77	11.58	0.89
2.417	5.31	5.500	11.51	8.583	1.77	11.67	0.89
2.500	5.31	5.583	11.51	8.667	1.77	11.75	0.89
2.583	5.31	5.667	11.51	8.750	1.77	11.83	0.89
2.667	5.31	5.750	11.51	8.833	1.77	11.92	0.89
2.750	5.31	5.833	11.51	8.917	1.77	12.00	0.89
2.833	5.31	5.917	11.51	9.000	1.77	12.08	0.89
2.917	5.31	6.000	11.51	9.083	1.77	12.17	0.89
3.000	5.31	6.083	11.51	9.167	1.77	12.25	0.89
3.083	5.31	6.167	11.51	9.250	1.77		

Max.Eff.Inten.(mm/hr)=	40.71	67.76
over (min)	5.00	15.00
Storage Coeff. (min)=	5.26 (ii)	13.51 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00

Unit Hyd. peak	(cms)=	0.21	0.08	
PEAK FLOW	(cms)=	0.37	0.17	*TOTALS*
TIME TO PEAK	(hrs)=	5.25	5.25	0.542 (iii)
RUNOFF VOLUME	(mm)=	87.54	67.26	5.25
TOTAL RAINFALL	(mm)=	88.54	88.54	80.44
RUNOFF COEFFICIENT	=	0.99	0.76	88.54
				0.91

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7705)				
IN= 2---> OUT= 1				
DT= 5.0 min				

OVERFLOW IS OFF				

OUTFLOW		STORAGE	OUTFLOW	
(cms)		(ha.m.)	(cms)	
0.0000		0.0000	0.1030	
0.0430		0.1100	0.1210	
0.0670		0.1500	0.1360	
0.0820		0.1800	0.4020	
			0.6200	

		AREA	QPEAK	TPEAK
		(ha)	(cms)	(hrs)
INFLOW : ID= 2 (7732)		5.040	0.542	5.25
OUTFLOW: ID= 1 (7705)		5.040	0.136	6.33

PEAK FLOW REDUCTION [Qout/Qin](%)= 25.08				
TIME SHIFT OF PEAK FLOW (min)= 65.00				
MAXIMUM STORAGE USED (ha.m.)= 0.2502				

 ** SIMULATION:Haze11000 **

Interim Onsite SWM Facility 1 Regional Storm Output

READ STORM	Filename: C:\Users\rbrockie\AppData\Local\Temp\46d12564-3938-4d2e-bb42-4b5c5892ce03\7713d240
Ptotal=212.00 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	6.00	3.00	13.00	6.00	23.00	9.00	53.00
1.00	4.00	4.00	17.00	7.00	13.00	10.00	38.00
2.00	6.00	5.00	13.00	8.00	13.00	11.00	13.00

CALIB STANDHYD (7728) ID= 1 DT= 5.0 min	Area (ha)= 4.80 Total Imp(%)= 84.00 Dir. Conn.(%)= 67.00
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	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.03	0.77
Dep. Storage (mm)=	1.00	2.00
Average Slope (%)=	1.00	2.00
Length (m)=	178.89	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.00	3.083	13.00	6.083	23.00	9.08	53.00
0.167	6.00	3.167	13.00	6.167	23.00	9.17	53.00
0.250	6.00	3.250	13.00	6.250	23.00	9.25	53.00
0.333	6.00	3.333	13.00	6.333	23.00	9.33	53.00
0.417	6.00	3.417	13.00	6.417	23.00	9.42	53.00
0.500	6.00	3.500	13.00	6.500	23.00	9.50	53.00
0.583	6.00	3.583	13.00	6.583	23.00	9.58	53.00
0.667	6.00	3.667	13.00	6.667	23.00	9.67	53.00
0.750	6.00	3.750	13.00	6.750	23.00	9.75	53.00
0.833	6.00	3.833	13.00	6.833	23.00	9.83	53.00
0.917	6.00	3.917	13.00	6.917	23.00	9.92	53.00
1.000	6.00	4.000	13.00	7.000	23.00	10.00	53.00
1.083	4.00	4.083	17.00	7.083	13.00	10.08	38.00
1.167	4.00	4.167	17.00	7.167	13.00	10.17	38.00
1.250	4.00	4.250	17.00	7.250	13.00	10.25	38.00
1.333	4.00	4.333	17.00	7.333	13.00	10.33	38.00
1.417	4.00	4.417	17.00	7.417	13.00	10.42	38.00
1.500	4.00	4.500	17.00	7.500	13.00	10.50	38.00
1.583	4.00	4.583	17.00	7.583	13.00	10.58	38.00
1.667	4.00	4.667	17.00	7.667	13.00	10.67	38.00
1.750	4.00	4.750	17.00	7.750	13.00	10.75	38.00
1.833	4.00	4.833	17.00	7.833	13.00	10.83	38.00
1.917	4.00	4.917	17.00	7.917	13.00	10.92	38.00
2.000	4.00	5.000	17.00	8.000	13.00	11.00	38.00
2.083	6.00	5.083	13.00	8.083	13.00	11.08	13.00
2.167	6.00	5.167	13.00	8.167	13.00	11.17	13.00
2.250	6.00	5.250	13.00	8.250	13.00	11.25	13.00
2.333	6.00	5.333	13.00	8.333	13.00	11.33	13.00
2.417	6.00	5.417	13.00	8.417	13.00	11.42	13.00
2.500	6.00	5.500	13.00	8.500	13.00	11.50	13.00
2.583	6.00	5.583	13.00	8.583	13.00	11.58	13.00
2.667	6.00	5.667	13.00	8.667	13.00	11.67	13.00
2.750	6.00	5.750	13.00	8.750	13.00	11.75	13.00
2.833	6.00	5.833	13.00	8.833	13.00	11.83	13.00
2.917	6.00	5.917	13.00	8.917	13.00	11.92	13.00
3.000	6.00	6.000	13.00	9.000	13.00	12.00	13.00

Max.Eff.Inten.(mm/hr)=	53.00	109.14
over (min)	5.00	15.00
Storage Coeff. (min)=	4.67 (ii)	11.48 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.22	0.09

TOTALS			
PEAK FLOW (cms)=	0.47	0.23	0.705 (iii)
TIME TO PEAK (hrs)=	10.00	10.00	10.00
RUNOFF VOLUME (mm)=	211.00	204.74	208.93
TOTAL RAINFALL (mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT =	1.00	0.97	0.99

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 95.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7704)		OVERFLOW IS OFF			
IN= 2---> OUT= 1					
DT= 5.0 min					
		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
		0.0000	0.0000	0.0920	0.2100
		0.0390	0.1100	0.1080	0.2300
		0.0600	0.1500	0.1220	0.2500
		0.0730	0.1800	0.3230	0.5400

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7728)	4.800	0.705	10.00	208.93
OUTFLOW: ID= 1 (7704)	4.800	0.320	11.08	208.78

PEAK FLOW REDUCTION [Qout/Qin](%)= 45.43
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.5362

CALIB STANDHYD (7732) ID= 1 DT= 5.0 min		Area (ha)= 5.04 Total Imp(%)= 81.00	Dir. Conn.(%)= 65.00	Interim Onsite SWM Facility 2 Regional Storm Output
		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	4.08	0.96	
Dep. Storage	(mm)=	1.00	2.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	183.30	40.00	
Mannings n	=	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.00	3.083	13.00	6.083	23.00	9.08	53.00
0.167	6.00	3.167	13.00	6.167	23.00	9.17	53.00
0.250	6.00	3.250	13.00	6.250	23.00	9.25	53.00
0.333	6.00	3.333	13.00	6.333	23.00	9.33	53.00
0.417	6.00	3.417	13.00	6.417	23.00	9.42	53.00
0.500	6.00	3.500	13.00	6.500	23.00	9.50	53.00
0.583	6.00	3.583	13.00	6.583	23.00	9.58	53.00
0.667	6.00	3.667	13.00	6.667	23.00	9.67	53.00
0.750	6.00	3.750	13.00	6.750	23.00	9.75	53.00
0.833	6.00	3.833	13.00	6.833	23.00	9.83	53.00
0.917	6.00	3.917	13.00	6.917	23.00	9.92	53.00
1.000	6.00	4.000	13.00	7.000	23.00	10.00	53.00
1.083	4.00	4.083	17.00	7.083	13.00	10.08	38.00
1.167	4.00	4.167	17.00	7.167	13.00	10.17	38.00
1.250	4.00	4.250	17.00	7.250	13.00	10.25	38.00
1.333	4.00	4.333	17.00	7.333	13.00	10.33	38.00
1.417	4.00	4.417	17.00	7.417	13.00	10.42	38.00
1.500	4.00	4.500	17.00	7.500	13.00	10.50	38.00
1.583	4.00	4.583	17.00	7.583	13.00	10.58	38.00
1.667	4.00	4.667	17.00	7.667	13.00	10.67	38.00
1.750	4.00	4.750	17.00	7.750	13.00	10.75	38.00
1.833	4.00	4.833	17.00	7.833	13.00	10.83	38.00
1.917	4.00	4.917	17.00	7.917	13.00	10.92	38.00
2.000	4.00	5.000	17.00	8.000	13.00	11.00	38.00
2.083	6.00	5.083	13.00	8.083	13.00	11.08	13.00
2.167	6.00	5.167	13.00	8.167	13.00	11.17	13.00
2.250	6.00	5.250	13.00	8.250	13.00	11.25	13.00
2.333	6.00	5.333	13.00	8.333	13.00	11.33	13.00
2.417	6.00	5.417	13.00	8.417	13.00	11.42	13.00
2.500	6.00	5.500	13.00	8.500	13.00	11.50	13.00
2.583	6.00	5.583	13.00	8.583	13.00	11.58	13.00
2.667	6.00	5.667	13.00	8.667	13.00	11.67	13.00
2.750	6.00	5.750	13.00	8.750	13.00	11.75	13.00
2.833	6.00	5.833	13.00	8.833	13.00	11.83	13.00
2.917	6.00	5.917	13.00	8.917	13.00	11.92	13.00
3.000	6.00	6.000	13.00	9.000	13.00	12.00	13.00

Max.Eff.Inten.(mm/hr)=	53.00	97.25	
over (min)	5.00	15.00	
Storage Coeff. (min)=	4.74 (ii)	11.87 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.22	0.09	
			TOTALS
PEAK FLOW (cms)=	0.48	0.26	0.739 (iii)
TIME TO PEAK (hrs)=	10.00	10.00	10.00
RUNOFF VOLUME (mm)=	211.00	201.02	207.51
TOTAL RAINFALL (mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT =	1.00	0.95	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

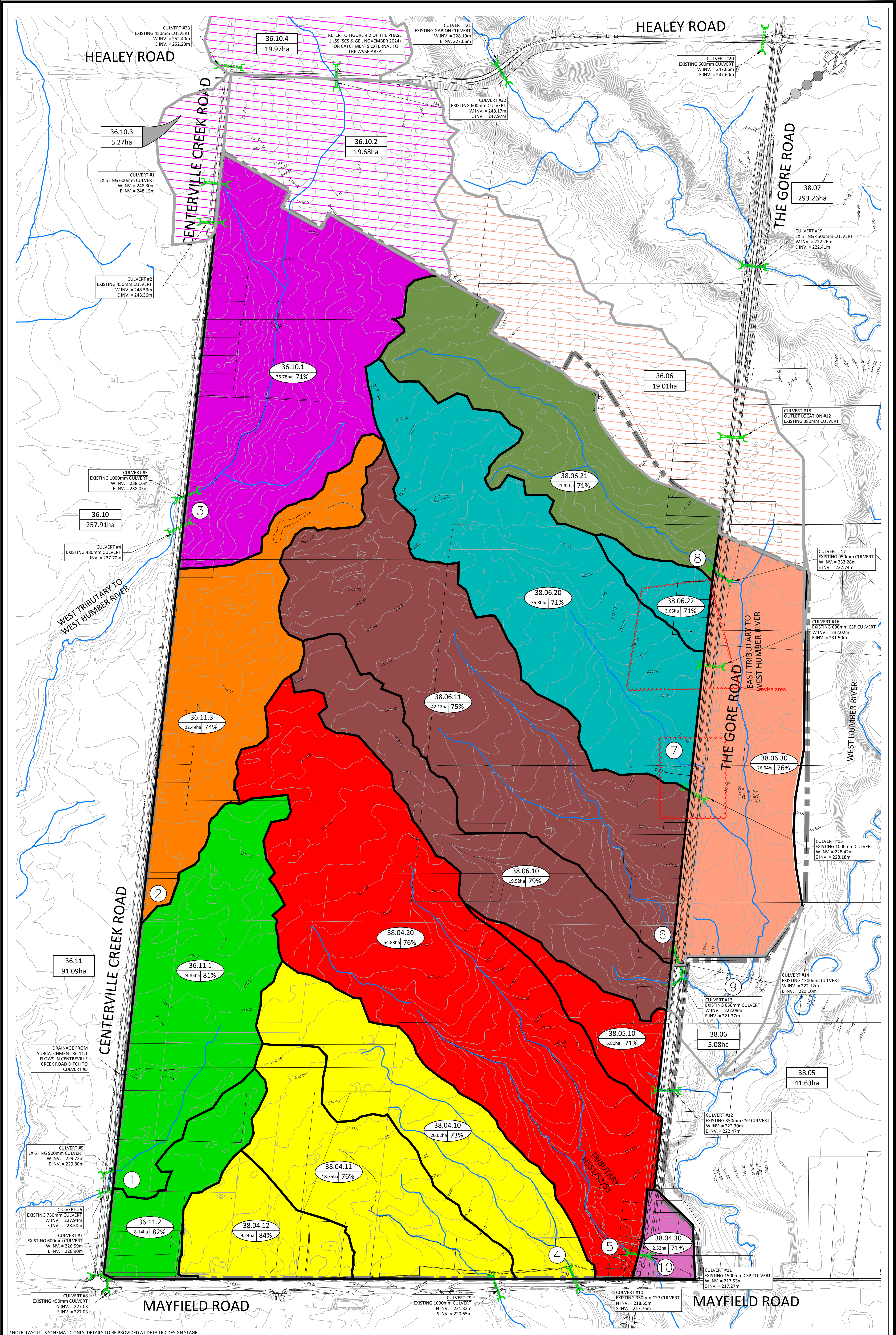
- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7705)		OVERFLOW IS OFF		
IN= 2--> OUT= 1				
DT= 5.0 min				

	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.1030	0.2100
	0.0430	0.1100	0.1210	0.2300
	0.0670	0.1500	0.1360	0.2500
	0.0820	0.1800	0.4020	0.5100
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (7732)	5.040	0.739	10.00	207.51
OUTFLOW: ID= 1 (7705)	5.040	0.397	11.08	207.38
PEAK FLOW REDUCTION	[Qout/Qin](%)= 53.70			
TIME SHIFT OF PEAK FLOW	(min)= 65.00			
MAXIMUM STORAGE USED	(ha.m.)= 0.5051			

Attachment D LSS Figures & Background Information





NOTE: LAYOUT IS SCHEMATIC ONLY. DETAILS TO BE PROVIDED AT DETAILED DESIGN STAGE



30 CENTURIAN DRIVE, SUITE 100
MARKHAM, ONTARIO L3R 8B8
TEL: (905) 475-1900
FAX: (905) 475-8335

LEGEND:

—

 LIMIT OF DEVELOPMENT

—

 STORM DRAINAGE BOUNDARY

—

 EXISTING CULVERT

—

 EXTERNAL STORM DRAINAGE BOUNDARY

DRAINAGE AREAS

OUTLET 1

OUTLET 2

OUTLET 3

OUTLET 4

OUTLET 5

OUTLET 6

OUTLET 7

OUTLET 8

OUTLET 9

OUTLET 10

OUTLET 3 EXTERNAL

OUTLET 9 EXTERNAL

OUTLET ID

36.10.2
19.68ha

36.10.1
36.78ha | 71%

CATCHMENT ID

EXTERNAL DRAINAGE AREA (HECTARES)

CATCHMENT ID

PERCENT (%) IMPERVIOUS DRAINAGE AREA (HECTARES)

WILDFIELD VILLAGE

DESIGNED BY: A.T.

CHECKED BY: A.R.K.

SCALE: 1:4000

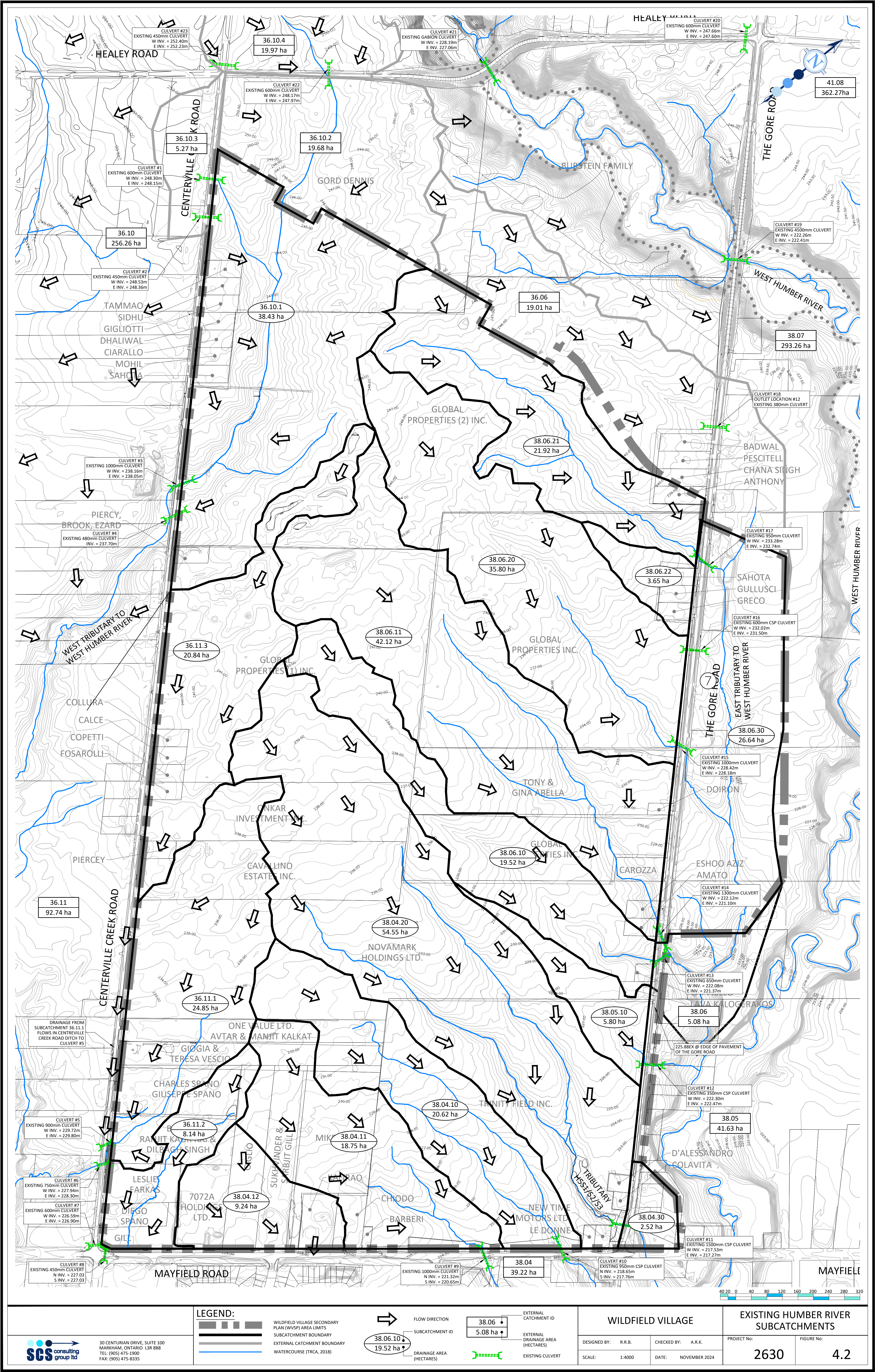
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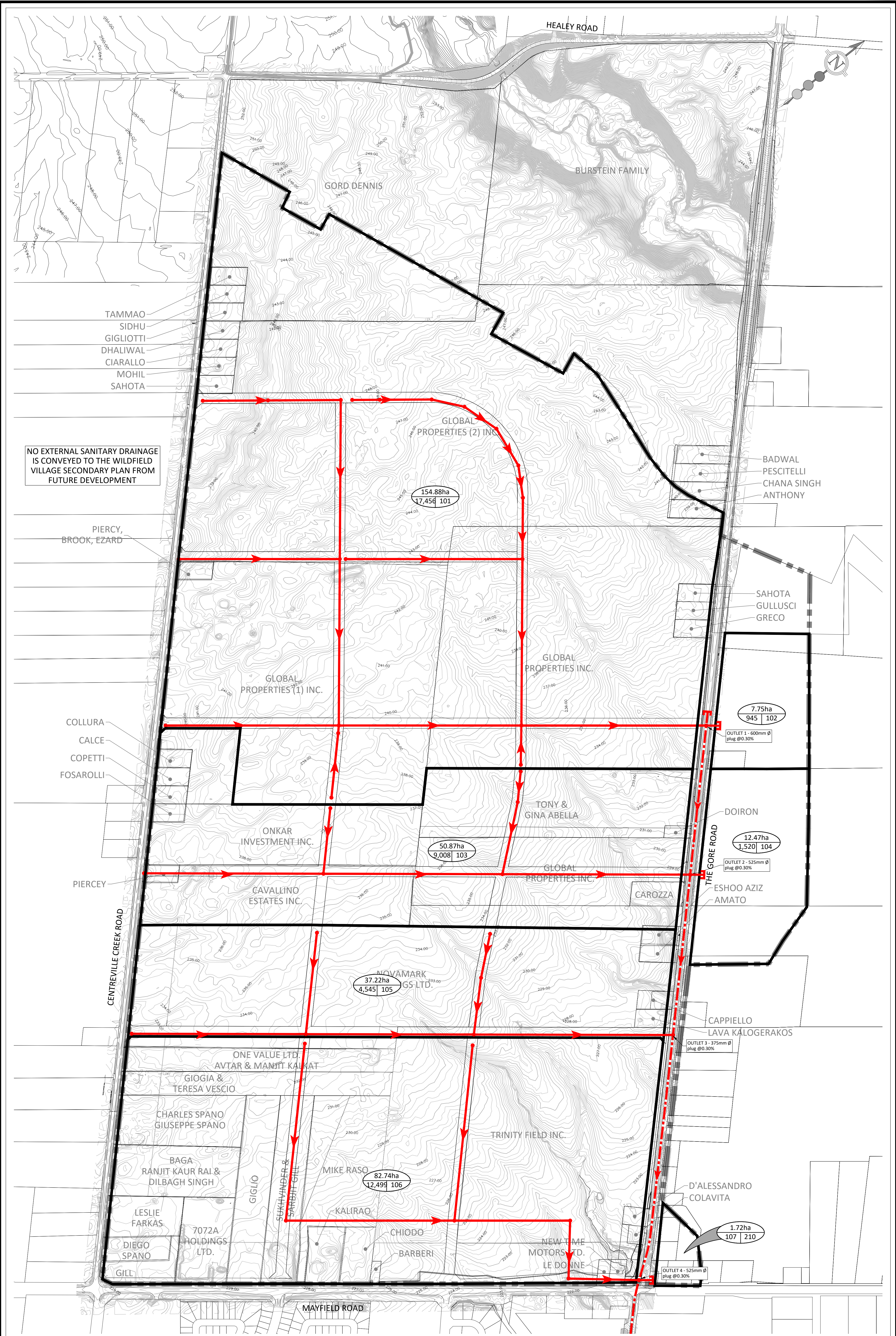
PROPOSED CONDITIONS STORM DRAINAGE PLAN

PROJECT No: 2630

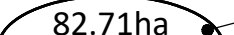
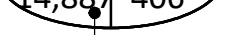
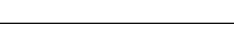
FIGURE No: 4.1

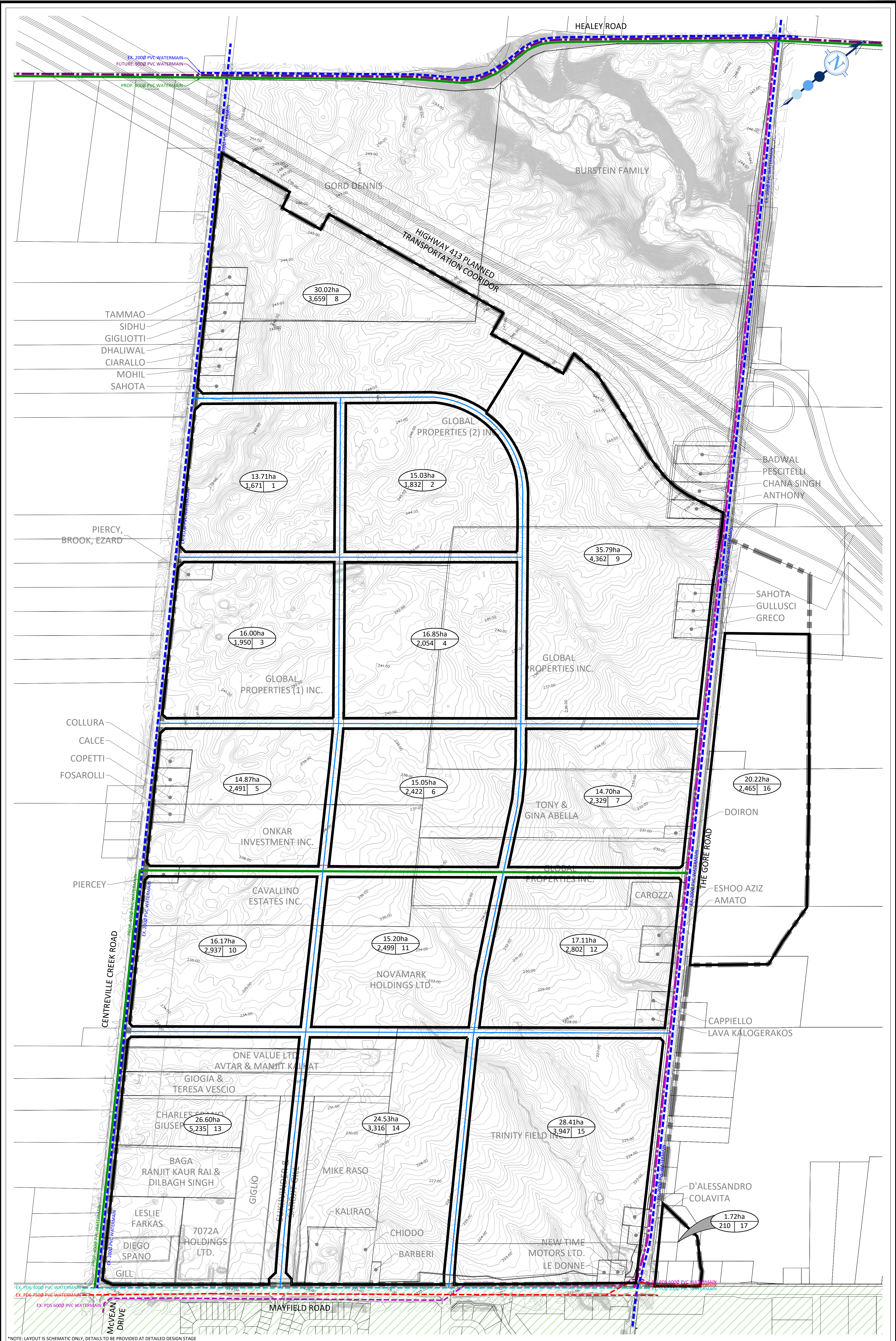
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*NOTE: LAYOUT IS SCHEMATIC ONLY, DETAILS TO BE PROVIDED AT DETAILED DESIGN STAGE

 30 CENTURIAN DRIVE, SUITE 100 MARKHAM, ONTARIO L3R 8B8 TEL: (905) 475-1900 FAX: (905) 475-8335	LEGEND:  WILDFIELD VILLAGE SECONDARY PLAN (WVSP) AREA LIMITS  SANITARY DRAINAGE BOUNDARY  PROPOSED SANITARY SEWER AND MAINTENANCE HOLE	 FUTURE 750mm SANITARY SEWER AND MAINTENANCE HOLE  DRAINAGE AREA (HECTARES)  CATCHMENT ID  POPULATION	WILDFIELD VILLAGE DESIGNED BY: A.T. CHECKED BY: A.R.K. SCALE: 1:4000 DATE: JANUARY 2025	PROPOSED SANITARY DRAINAGE PLAN PROJECT No: 2630 FIGURE No: 5.2
--	---	--	--	--



30 CENTURION DRIVE, SUITE 100
MARKHAM, ONTARIO L3R 8B8
TEL: (905) 475-1900
FAX: (905) 475-8335

LEGEND:

WILDFIELD VILLAGE SECONDARY PLAN (WVSP) AREA LIMITS

PROPOSED LOCAL DISTRIBUTION WATERMAIN

4000 PROPOSED DISTRIBUTION WATERMAIN

6000 FUTURE DISTRIBUTION WATERMAIN

9000 FUTURE TRANSMISSION WATERMAIN

2000 EXISTING WATERMAIN

3000 EXISTING WATERMAIN

6000 EXISTING WATERMAIN

7500 EXISTING WATERMAIN

APPROXIMATE EXTENT OF PRESSURE ZONE 5 (182.4 - 236.2m)

APPROXIMATE EXTENT OF PRESSURE ZONE 6E (214.5 - 259.1m)

DRAINAGE AREA (HECTARES)

BLOCK NUMBER

POPULATION

WILDFIELD VILLAGE

DESIGNED BY: A.T.

CHECKED BY: A.R.K.

SCALE: 1:4000

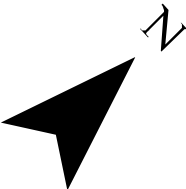
DATE: JANUARY 2025

MASTER WATER SERVICING PLAN

PROJECT No: 2630

FIGURE No: 5.4

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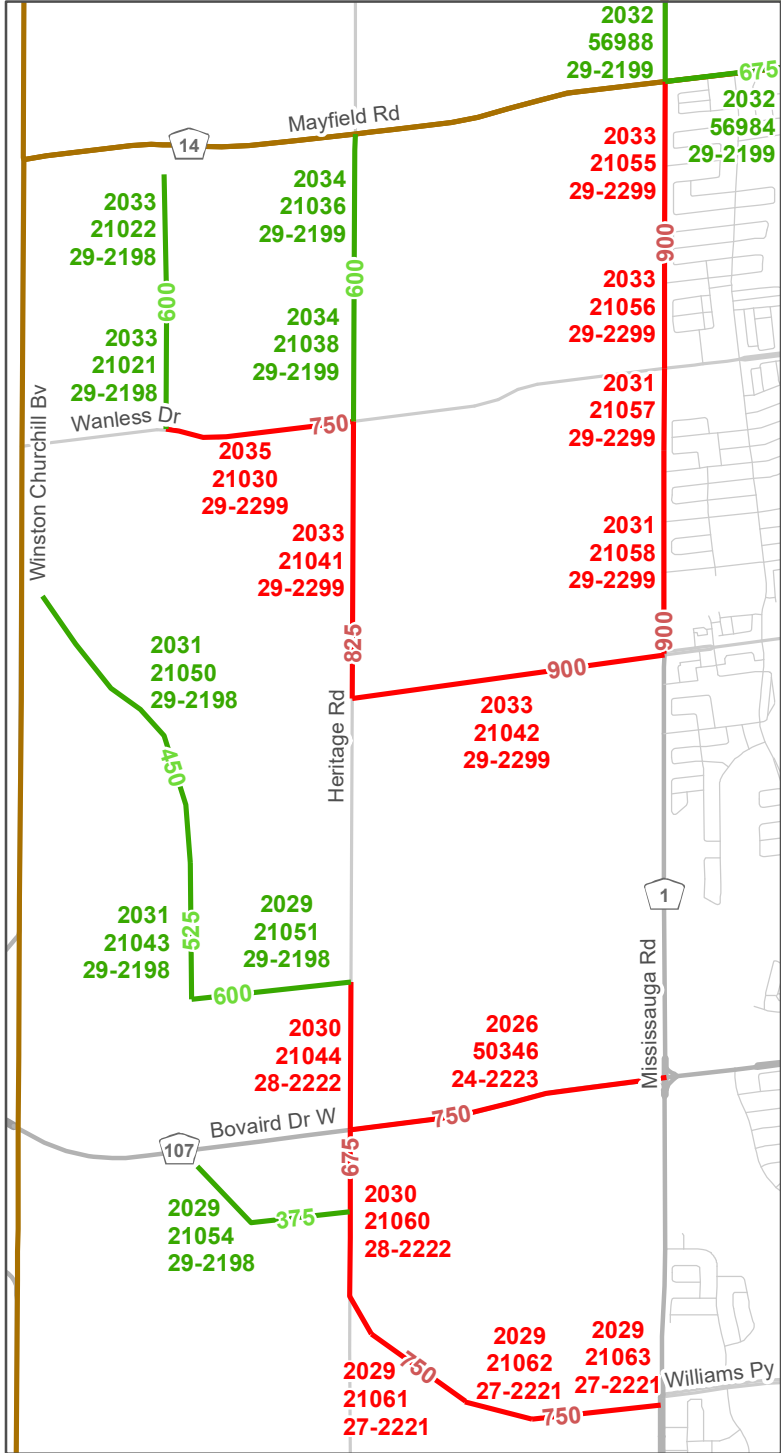


Wastewater Development Charges 2024

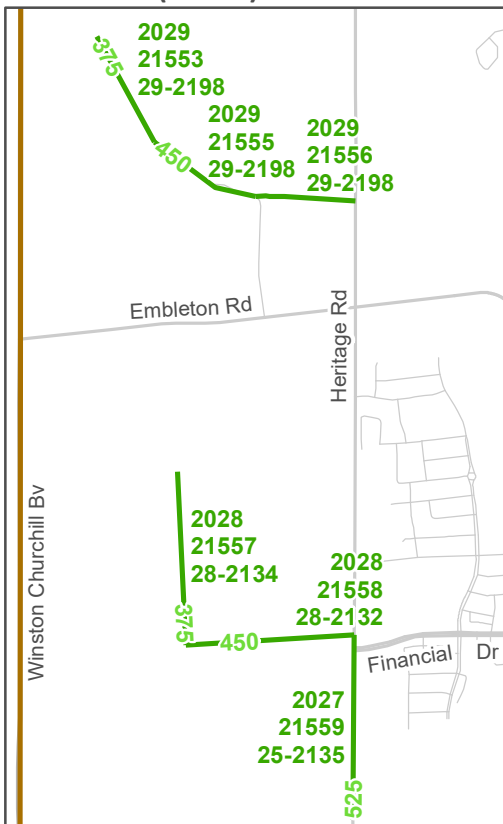
Wastewater Servicing Infrastructure
Treatment and Trunk Sewer System
2024-2041 Development Charges

Draft – Not Approved by Council

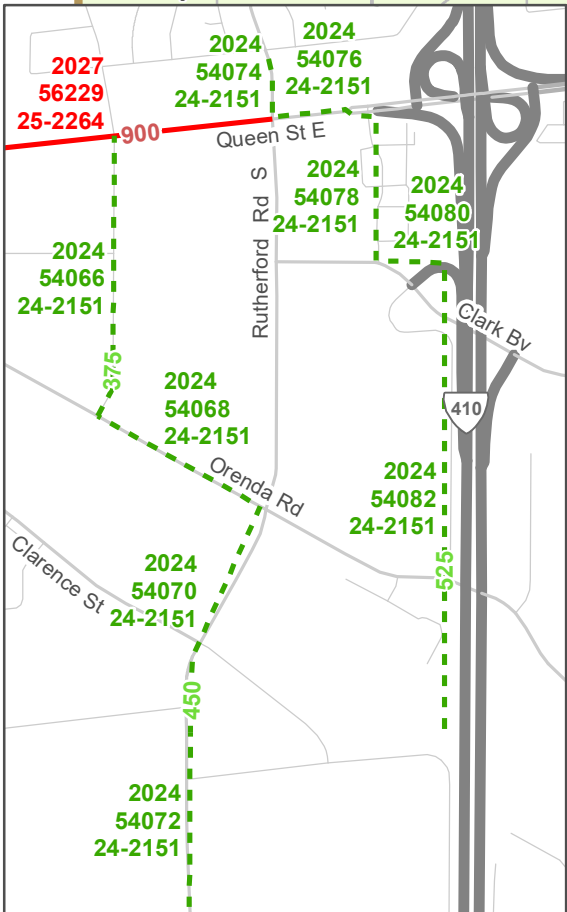
Northwest Brampton (SPA52, SPA53)



Bram West (SPA40)



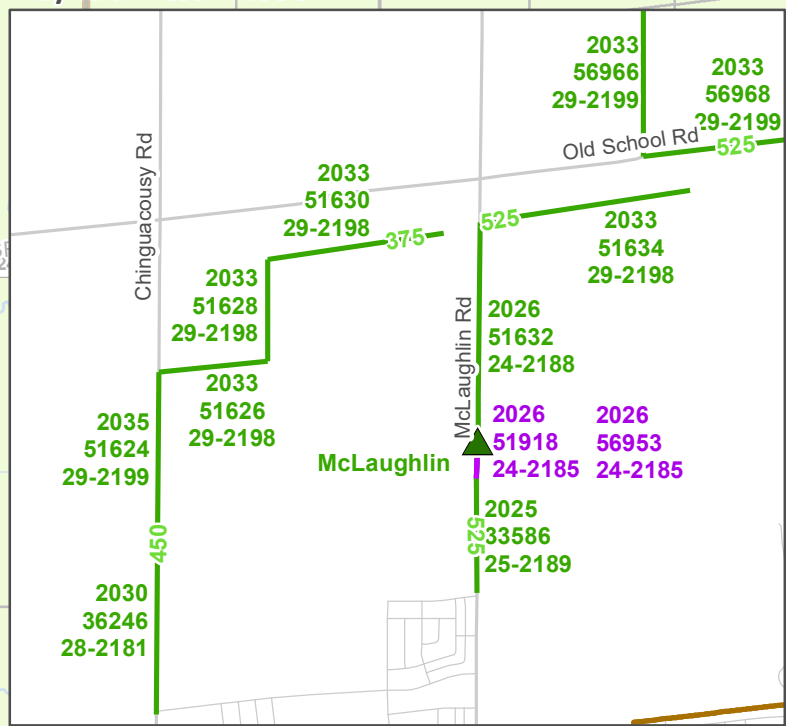
Central Brampton



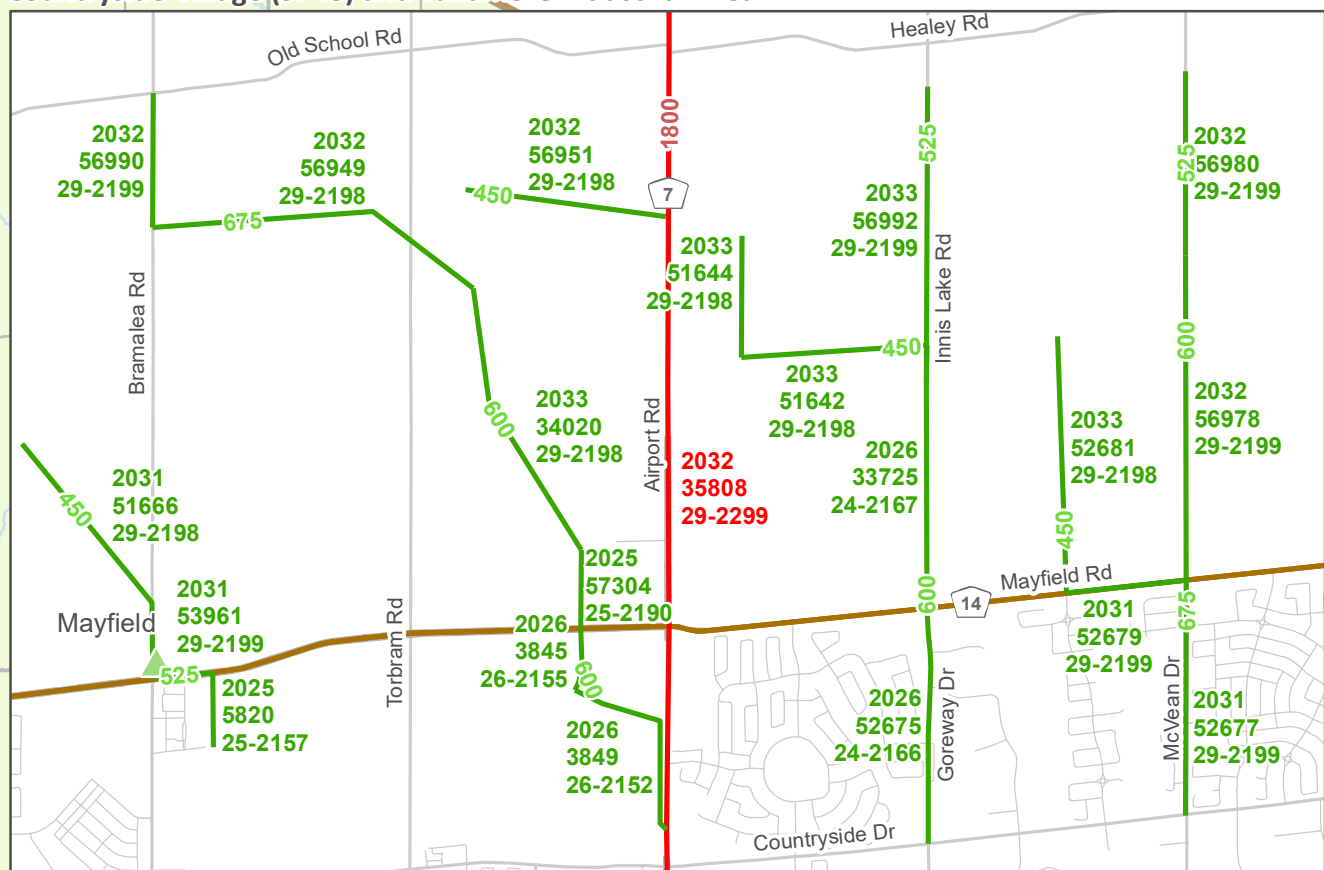
Ninth Line Lands



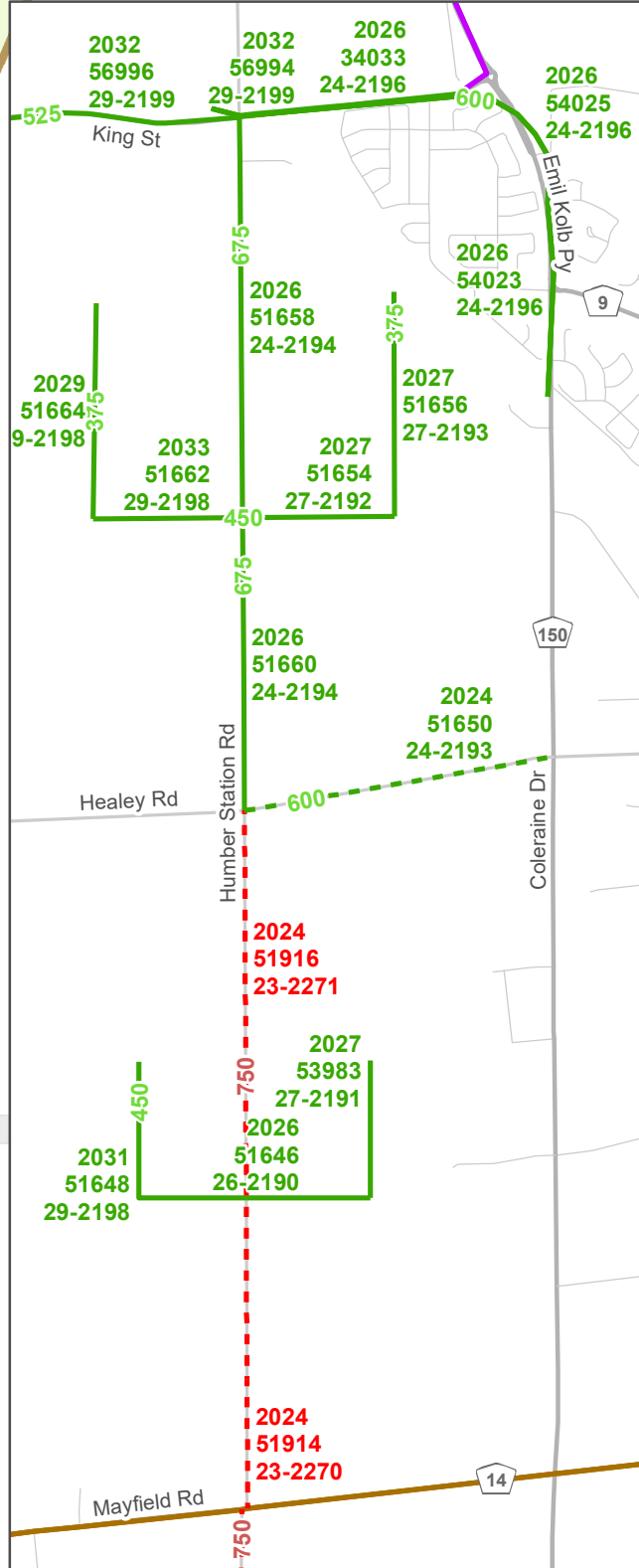
Mayfield West Phase 3



Countryside Village (SP48) and Tullamore Industrial Area

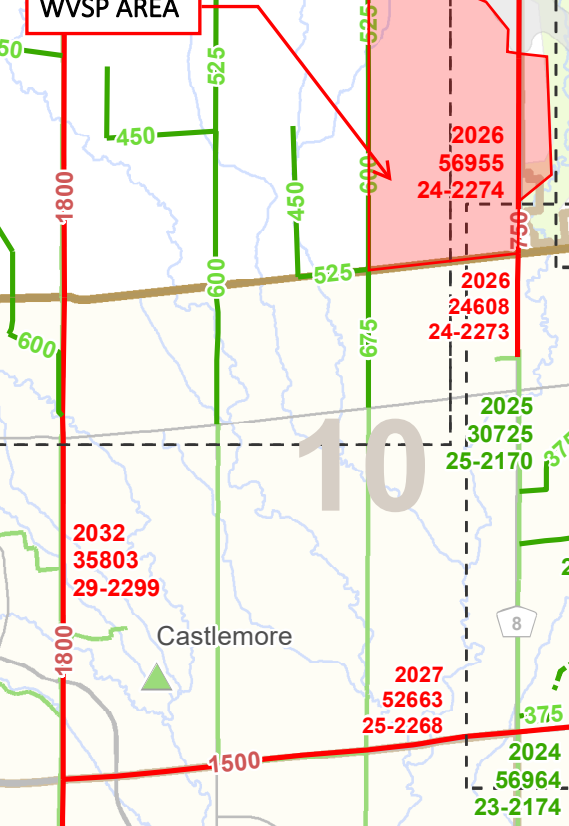


West Bolton

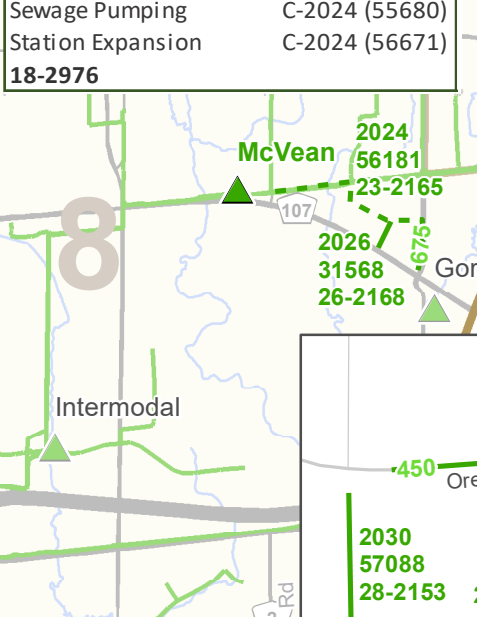


Number	
New Sewage Pumping Station	C-2024 (56676)
Station	P-2024 (56677)
24-2984	C-2026 (56678)

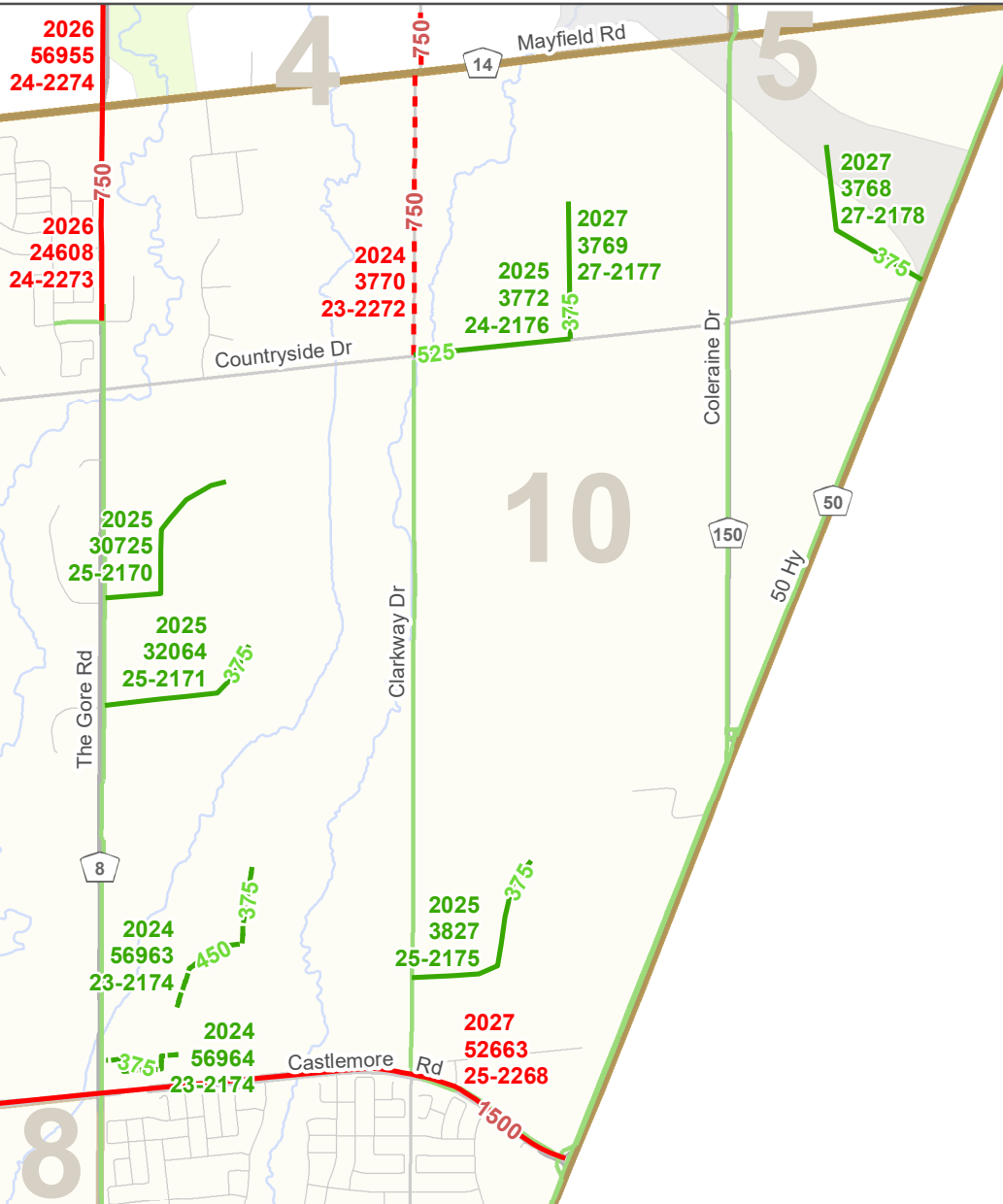
WSP AREA



McVean



Highway 427 Industrial (SPA47)



Bramalea GO

Mississauga Uptown

Mississauga Uptown

Mississauga Uptown

Mississauga Uptown

Mississauga Uptown

Mississauga Uptown

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Mississauga Uptown

Various Dosing Stations	
New Dosing Stations	D-2029 (35383)
25-2960	P-2029 (35224)
	C-2030 (34287)

Clarkson Wastewater Treatment Plant	
Facility	C-2024 (56232)
20-2951	
Automation Consolidation	C-2024 (56108)
19-2934	C-2025 (56109)
Treatment Expansion	D-2025 (51956)
22-2950	C-2024 (51958)
	C-2025 (51959)
	C-2026 (53368)
Standby Power Expansion	D-2029 (52214)
23-2952	C-2031 (52215)
	D-2024 (56234)
	D-2025 (56235)
	C-2026 (54572)
	C-2028 (56236)
	C-2028 (56237)
New Operations Building	C-2026 (56884)
26-2956	D-2026 (56885)
	EA-2025 (57068)

Sanitary Pumping Stations	
Decommissioning	D-2026 (52841)
26-2978	C-2028 (52842)

Beach Street Sanitary Pumping Station	
Upgrades	D-2024 (52754)
24-2971	C-2026 (52755)

Lakeview Village	
New Sewage Pumping Station	D-2025 (27417)
25-2982	C-2027 (27418)

G.E. Booth Wastewater Treatment Plant	
Automation Consolidation	C-2024 (56106)
19-2934	C-2025 (56107)
Odour Control Improvements	C-2024 (38871)
20-2961	
Plant 2 Blower Replacement	C-2024 (38871)
22-2923	
New Outfall	D-2025 (56297)
22-2944	C-2027 (51949)
Ash Management Facility	D-2024 (52833)
24-2942	C-2026 (52834)
Administration Building	D-2026 (51946)
26-2943	C-2028 (51947)
Treatment Expansion	D-2025 (38620)
25-2945	D-2027 (38621)
	C-2027 (51944)
	C-2028 (51945)
	C-2029 (52838)
Biosolids Expansion	EA-2029 (38619)
29-2599	D-2032 (51950)
	D-2032 (51952)
	D-2036 (51951)
Standby Power Expansion	D-2028 (52214)
28-2999	C-2030 (52215)
Ash Management Facility	C-2032 (37812)
28-2999	C-2034 (37813)
Biosolids Expansion	C-2034 (51953)
29-2999	C-2036 (35964)
Ash Term Relocation	D-2024 (56879)
29-2947	C-2025 (56880)
Capacity Restoration	D-2024 (56890)
19-2940	C-2024 (56891)
Digesters and Beneficial Gas Reuse	D-2025 (56886)
25-2941	C-2028 (56887)
Ultraviolet Disinfection	D-2025 (56888)
25-2949	D-2027 (38621)
	C-2027 (51944)
	C-2036 (51945)
	C-2036 (52838)

Approved Infrastructure 2024

- ▲ Sewer Pumping Station
- Odour Control Facility
- Wastewater Treatment Plant
- Approved Local Wastewater Main 2024
- - - Approved Primary Wastewater Main 2024

Proposed Infrastructure 2025-2041

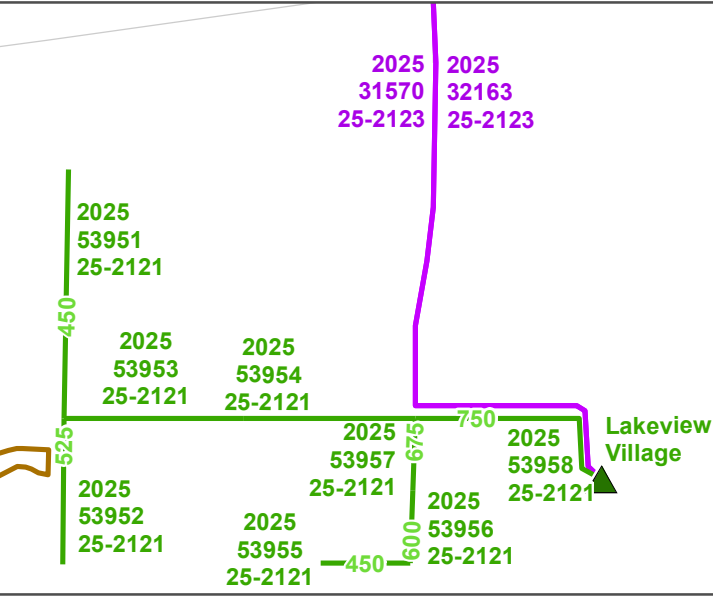
- ▲ Sewer Pumping Station
- Odour Control Facility
- Wastewater Treatment Plant
- Proposed Local Wastewater Main > 2024
- - - Proposed Primary Wastewater Main > 2024
- Proposed Force Main

Existing Wastewater Infrastructure

- ▲ Sanitary Pumping Station
- Existing Wastewater Main
- Highway 413
- Watercourse
- Greenbelt Boundary
- Urban Boundary
- Municipal Boundary
- Ward Boundary

Label Legend
2031 - Construction Year
30713 - Component Number
25-2199 - Project Number

Lakeview Village



October 2023
Water & Wastewater Planning, Public Works
Map ID: 3871-WW-DC Wastewater Map 2024
Data Source: Region of Peel
Scale: 1:68,000 | NAD83 UTM zone 17N

DISCLAIMER
The proposed capital projects shown on this map are subject to annual review and approval by Regional Council. As such, project schedules and project scopes are subject to change.



Bram West (SPA40)
Northwest Brampton (SPA52, SPA53)

Water Development Charges 2024

Water Servicing Infrastructure
Water Production, Transmission Systems
and Distribution Systems
2024-2041 Development Charges

Draft – Not Approved by Council

