3004 WESTCHESTER BOURNE SUBDIVISION

SERVICING REPORT

Prepared For

1000303629 Ontario Inc.

February 11, 2026

PLAN • SURVEY • ENGINEER

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Version Control

Issue	Revision No.	Date Issued	Note
1		Feb. 11, 2026	Issued for Draft Plan Approval

1.0 INTRODUCTION

This report was prepared in support of the proposed draft plan of subdivision at 3004 Westchester Bourne. The property is owned by 1000303629 Ontario Inc. and is located south of Donnybrook Drive and north of the Macdonald-Cartier Freeway (Hwy.401) in the Municipality of Thames Centre.

A topographic survey has defined the location of existing surface features such as existing streets, municipal drains and storm infrastructure that service the surrounding area of the proposed subdivision. Using this information, the internal servicing requirement in reference to storm sewers, stormwater management and roads have been established.

The purpose of this report is to present the proposed servicing strategies in support of the proposed subdivision. All design will be in accordance with the Municipality of Thames Centre design standards.

2.0 LOCATION AND DESCRIPTION

The 25.15 hectare parcel of land proposed for industrial development is located on the east side of the Westchester Bourne and Bradley Avenue intersection. The subject property is bound by Westchester Bourne along with a residential property to the west, industrial properties to the northwest and northeast, residential properties to the north known as "Cassidy Condominium Development" (Reference throughout this document as Cassidy Condos) and agricultural properties to the east and south (Figure 1). The neighbouring residential property (Mun. #3038 Westchester Bourne) will remain throughout the build-out of the proposed subdivision.

The development will consist of 15.90ha of developable area for industrial land use. The remaining lands will be utilized for a stormwater management facility, open space and right-of-way.

3.0 SUBDIVISION ACCESS

The subdivision will be accessible at one location. The entrance will be off of Westchester Bourne in alignment with Bradley Avenue. Revisions/upgrades will be made to the intersection as required to facilitate access to and from the subdivision. The existing dwelling on the subject lands will be demolished for the Bradley Avenue right-of-way to be extended within the subdivision.

4.0 SANITARY SERVICING

There are no existing sanitary sewers fronting the subdivision. Surrounding areas are generally serviced by private septic systems. Each industrial block within the subdivision will be serviced by a private septic system. Sanitary servicing will be addressed further at the detailed design stage and will need to be finalized for site plan approvals.

5.0 STORMWATER DRAINAGE

This section will detail the stormwater management strategy for the proposed development.

5.1. Hydrologic Modeling

Stormwater drainage and peak flow rates were determined by hydrologic modeling using SWMHYMO 99 (Stormwater Management Hydrologic Model). This program allows the user to test the impact on new and existing systems, utilizing accepted rainfall data to represent design storms of various durations and aid in the design of SWM facilities.

The Thames Centre IDF curve parameters were used for the rainfall data. The 3 hour, Chicago Storm Distribution model, with a time to peak ratio of 0.38, was used for determining peak flow rates and storage requirements for meeting the stormwater management targets.

Table 1 – Thames Centre Chicago Distribution Storm Parameters

Storm Event	A	B	C
2 Year	1290.00	8.500	0.860
5 Year	1183.74	7.641	0.838
10 Year	1574.382	9.025	0.860
25 Year	2019.372	9.824	0.875
50 Year	2270.665	9.984	0.876
100 Year	2619.363	10.5	0.884
250 Year	3048.22	10.03	0.888

The modeling parameters and SWMHYMO output can be seen in the Appendices.

5.2. Allowable Discharge

To the north of the proposed subdivision is the Harris Connors Drain, which conveys stormwater runoff generated from the subject property and surrounding areas. The Harris Connors Drain is approximately 624m north of the property.

The proposed subdivision contributes surface runoff to the Harris Connors Drain through three branches:

- The Alantra Drain to the northeast
- Branch 'C' of the Harris Connors Drain to the north
- The Anderson Drain to the northwest

Through correspondence with the Municipality's drainage superintendent and their drainage consultant, it was confirmed that a legal outlet for the proposed subdivision could be established via an extension and improvement of the Alantra Drain. It was recommended that this would be the preferred connection due to potential complications involved with improving the Harris Connors Branch 'C' to the north.

The Alantra Drain improvements would include extending the drain approximately 270m from the Donnybrook Drive culvert crossing to the proposed subdivision. See Figure 2 for existing stormwater features in the area and the alignment of the Alantra Drain extension.

As determined by the drainage consultant, Spriet Associates London Ltd., the allowable subsurface discharge rates for the subject property and southerly external area to the Alantra Drain is **587 L/s (0.587 m^3/s)**. For major system storm events, the allowable overland release rates (as determined by Spriet) to the north and northeast can be seen in Table 2.

Table 2 – Allowable Overland Flows

Storm Event	Overland Flows to the Northeast (m^3/s)	Overland Flows to Cassidy Condominiums (m^3/s)
Smaller than 10 Year	0	0
10 Year	0.106	0
25 Year	0.235	0.114
100 Year	0.453	0.204
250 Year	0.632	0.305

See Appendix A for the municipal drain network and correspondence.

5.3. Existing Drainage

The subject property is primarily used for agricultural purposes. A residential dwelling is situated on the west limit of the parcel, which will be removed to facilitate site works when development commences. Well records in the area indicate that the subsurface soils in the area are predominantly "clay and silt". These soils are known to have high runoff potential. Parameters for analyses were assigned accordingly.

Stormwater runoff is generally conveyed in a northerly direction through a series of troughs within the crop field toward three primary discharge points (Figure 3):

- A 5.44ha drainage area generates runoff that is conveyed to the northeast corner of the property. Surface drainage continues overland north to a culvert crossing Donnybrook Drive and is captured in the Alantra Drain.
- A 14.84ha drainage area, including a 2.73ha external area to the south, generates runoff that is conveyed to the north and is captured by the existing Cassidy Condominium's storm infrastructure, ultimately conveyed to the Harris Connors Drain Branch 'C'.
- An 8.55ha drainage area, including 2.67ha external area consisting of a portion of the Westchester Bourne right-of-way and residential properties, conveys stormwater runoff to the Anderson Drain by way of catchbasins in the roadside ditch.

The pre development peak flows to each respective outlet are shown in Table 3

Table 3 – Pre Development Flows

Storm Event	Flows to the Alantra Drain (m^3/s)	Flows to Cassidy Condominiums (m^3/s)	Flows to the Anderson Drain (m^3/s)
2 Year	0.179	0.428	0.267
5 Year	0.188	0.448	0.279
10 Year	0.262	0.625	0.386
25 Year	0.359	0.855	0.525
50 Year	0.436	1.037	0.635
100 Year	0.516	1.229	0.751
250 Year	0.648	1.539	0.939

See Appendix B for pre development modelling parameters and results.

5.4. Stormwater Management Plan

The design of the proposed stormwater management measures follows criteria presented in The Ministry of the Environment's *Stormwater Management Practices Planning and Design Manual* (2003), the Reference Manual for the Use of Precipitation Design Events in The Upper Thames River Watershed (December 2004), as well the *Engineering Design Standards* of Thames Centre (March 2023).

Post development runoff for the majority of the development and external agricultural areas to the south, will be directed to a stormwater management facility (wet pond) located near the northeast corner of the development (Figure 4). The facility will provide quality and quantity control including peak flow control for all required storm events.

Grassed portions of industrial blocks along the north boundary of the proposed subdivision will drain uncontrolled to either the Cassidy Condominiums or to the Anderson Drain. This is due to

grading constraints and to ensure major system overland flows generated by the industrial blocks are conveyed to the proposed on-site stormwater management pond.

5.5. Stormwater Management Pond

The 27.06ha drainage area tributary to the pond (Figure 5) includes a 23.01ha area internal to the subdivision, comprised of 13 industrial blocks, internal roads, the SWM pond and an open space block. A 4.05ha external area will also be tributary to the SWM pond consisting of agricultural lands to the south.

In the absence of site plan layouts for the industrial blocks, an impervious percent of 85% was assigned to these blocks for modelling purposes, with the zoning (M2 zone) and requirement for a private septic system on each block in mind. The total percent imperviousness of the 27.06ha area tributary to the SWM pond is 63%, consisting of the industrial blocks, open space blocks, internal right-of-ways and external agricultural lands.

5.5.1. Water Quality and Erosion Control

As outlined in the Ministry of the Environment's *Storm Water Management Practices Planning and Design Manual*, a Wet Pond receiving drainage from an area that is conservatively 63% impervious with a normal protection requires the storage of 121 m^3/hectare for water quality enhancement.

The required storage volume is comprised of 81 m^3/ha in the permanent pool (Dead Storage) and 40 m^3/ha for extended detention (Active Storage for erosion control). The storage requirement for extended detention is alternatively the runoff for a 2 year rainfall event if the volume exceeds the 40 m^3/ha criteria (per Policy Manual). The water stored in the extended detention zone is released over a 24 to 48 hour period.

5.5.2. Quantity Control

The stormwater management pond is to include additional storage to attenuate peak flow rates to below allowable discharge rates for the proposed development. The design storm events evaluated are the 2, 5, 10, 25, 50, 100 and 250 year storm events.

5.5.3. SWM Pond Configuration and Operation

The proposed SWM Block will accommodate a SWM Facility with a total storage volume of approximately 15,650m^3 with a total depth of 3.30m, 1.0m deep for the permanent pool, and 2.3m deep for extended detention and attenuation. The pond will include a 2.0m wide aquatic

safety bench (10:1 slope) above the permanent pool, along with a weir at the 3.0m level to allow for major system storms to discharge overland at levels below allowable rates (Figure 5).

The permanent pool will provide a total of 3,586m^3 (132.5 m^3/ha) of storage, including 950 m^3 within the Forebay. This meets the 81 m^3/ha storage requirement.

The storage in the pond is 6,922m^3 (255.8 m^3/ha) for extended detention. This far exceeds the 40m^3/ha criteria. During the 2 year storm event the peak storage volume is 6,804m^3 with a peak discharge of 0.223m^3/s, which means that sufficient extended detention will be provided to attenuate at least the 2 year storm event as stipulated by the Thames Centre *Engineering Design Standards*. Approximately 92% of the 2 year runoff will drain within 48 hours.

Additional storage is provided to attenuate post development peak flow rates for the 5, 10, 25, 50, 100 and 250 year storm events.

The pond outlet will consist of a headwall with a 150mm diameter steel plate orifice controlling discharge to a 250mm diameter outlet pipe set at the bottom of the extended detention zone (elevation 268.00m) and a 450mm diameter outlet pipe at elevation 269.00m (Figure 6). Peak flows through the two pipes will discharge to the Alantra Drain extension. A 3.0m wide weir is set at elevation 270.00m to control major system overland peak flows to below allowable discharge rates. Overland flows will continue to drain towards Donnybrook Drive as per the existing condition and converge with subsurface flows within the Alantra Drain.

See Table 4 for the stormwater management pond performance and Table 5 for the breakdown of peak flows to the Alantra Drain.

Table 4 – Stormwater Management Pond Performance

Storm Event	Storage (m^3)	Water Elevation (m)	Water Level (m)	150mm ø Orifice (m^3/s)	450mm ø Pipe Outlet (m^3/s)	Combined Pipe Discharge to Alantra Drain (m^3/s)
2 Year	6,804	269.18	1.18	0.051	0.172	0.223
5 Year	6,995	269.21	1.21	0.052	0.192	0.244
10 Year	8,304	269.39	1.39	0.055	0.266	0.321
25 Year	10,080	268.63	1.63	0.060	0.335	0.395
50 Year	11,520	269.81	1.81	0.063	0.381	0.444
100 Year	12,990	269.99	1.99	0.066	0.421	0.487
250 Year	14,480	270.17	2.17	0.069	0.459	0.528

* Storage volumes for peak flow control do not include dead storage in the permanent pool. The elevation of the pond at the top of the permanent pool is 268.00m.

Table 5 – Post Development Peak Flows to Alantra Drain

Storm Event	Pipe Discharge to Alantra Drain (m^3/s)	Allowable Pipe Discharge (m^3/s)	Overland Flow to the Northeast (m^3/s)	Allowable Overland Flow to NE (m^3/s)	Combined Post Dev. Discharge to Alantra Drain (m^3/s)
2 Year	0.223	0.587	0	0	0.223
5 Year	0.244	0.587	0	0	0.244
10 Year	0.321	0.587	0	0.106	0.321
25 Year	0.395	0.587	0	0.235	0.395
50 Year	0.444	0.587	0	--	0.444
100 Year	0.487	0.587	0	0.632	0.487
250 Year	0.528	0.587	0.477	0.632	1.005

-- 50 year storm event release rate not provided by drainage superintendent.

See Appendix C for post development modelling results.

Sufficient storage has been provided to convey all storm events evaluated with the proposed quantity control devices and a total active storage volume of 15,650m^3 available within the pond.

Stormwater peak flows generated by the proposed subdivision discharging to the Alantra Drain (subsurface and overland) are below the allowable release rates allotted for the development.

5.6. Uncontrolled Discharge to Cassidy Condominiums

As mentioned, due to anticipated grading constraints at the rear of the northerly industrial blocks, runoff generated by a 0.27ha drainage area will discharge directly to the Cassidy Condominiums to the north. This area will consist of grassed areas sloping up at a 3:1 slope from the common northerly lot line. This will ensure all major system overland flows generated by the industrial blocks are conveyed to the on-site SWM pond. See Table 6 for the post development peak flows to the Cassidy Condominiums.

Table 6 – Post Development Flows to Cassidy Condominiums

Storm Event	Post Dev Flows to Cassidy Condos (m^3/s)	Pre Dev Flows to Cassidy Condos (m^3/s)	Allowable Discharge to Cassidy Condos (m^3/s)
2 Year	0.026	0.428	0
5 Year	0.027	0.448	0
10 Year	0.038	0.625	0
25 Year	0.052	0.855	0.114
50 Year	0.064	1.037	--
100 Year	0.076	1.229	0.204
250 Year	0.100	1.539	0.305

See Appendix C for post development peak flows to the Cassidy Condominiums.

Although the post development peak flows conveyed to the Cassidy Condos are higher than the allowable release rates for the 2, 5 and 10 year storm events, there is a significant decrease compared to pre development peak flows to this location. It should also be noted that only clean runoff generated from grassed areas will be conveyed to the north.

5.7. Uncontrolled Discharge to Anderson Drain

Stormwater runoff generated by a 1.80ha area will drain uncontrolled to the Anderson Drain by way of catchbasins in the Westchester Bourne right-of-way ditch. 0.46ha of this drainage area will be internal to the development and will consist of the rear of an industrial block as well as a portion of the proposed road. The 1.34ha external area is made up of a portion of residential lots and half of the Westchester Bourne right-of-way.

See Table 7 for post development peak flows to the Anderson Drain.

Table 7 – Post Development Flows to the Anderson Drain

Storm Event	Post Dev Flows to Aderson Drain (m^3/s)	Pre Dev Flows to Anderson Drain (m^3/s)
2 Year	0.062	0.267
5 Year	0.065	0.279
10 Year	0.089	0.386
25 Year	0.121	0.525
50 Year	0.146	0.635
100 Year	0.173	0.751
250 Year	0.217	0.939

See Appendix C for post development peak flows to the Anderson Drain.

The grading design for the subdivision will be set to ensure that the area draining to the Anderson Drain results in a reduction in post development peak flows.

5.8. Summary

The proposed development will utilize an on-site wet pond to attenuate post development peak flows exiting the site to the Alantra Drain extension to less than allowable release rates. Stormwater runoff generated by rear yard grassed areas will be conveyed uncontrolled to both the Cassidy Condominiums to the north and to the Anderson Drain at rates less than pre development levels.

Water quality will be addressed within the wet pond and will provide the "Normal" level of water quality treatment as per the Ministry of the Environment's *Storm Water Management Practices Planning and Design Manual.*

6.0 WATER DISTRIBUTION

The fronting right-of-ways are currently not equipped with a water distribution system. Each industrial block within the subdivision will therefore be required to have a private well. The well on each block is to be located such that required setbacks from the septic system under the Ontario Building Code are met. Private well locations and design requirements will be addressed further in the detailed design stage.

7.0 Summary

Stormwater Discharge for the proposed subdivision at 3004 Westchester Bourne can be serviced by the planned Alantra Drain extension to the northeast corner of the property. Each block will be serviced with a private septic system and well. All detailed engineering design will be completed in accordance with Thames Centre Engineering Design Standards.

We trust that this satisfies your requirements for Draft Condition approval. If you have any questions or require additional information please contact our office.

Prepared By:

Archibald Gray & McKay Engineering Ltd.

[redacted]

Craig Colpaert
Engineer-in-Training

Steve Brown, P.Eng.
Manager of Engineering Services

FIGURES

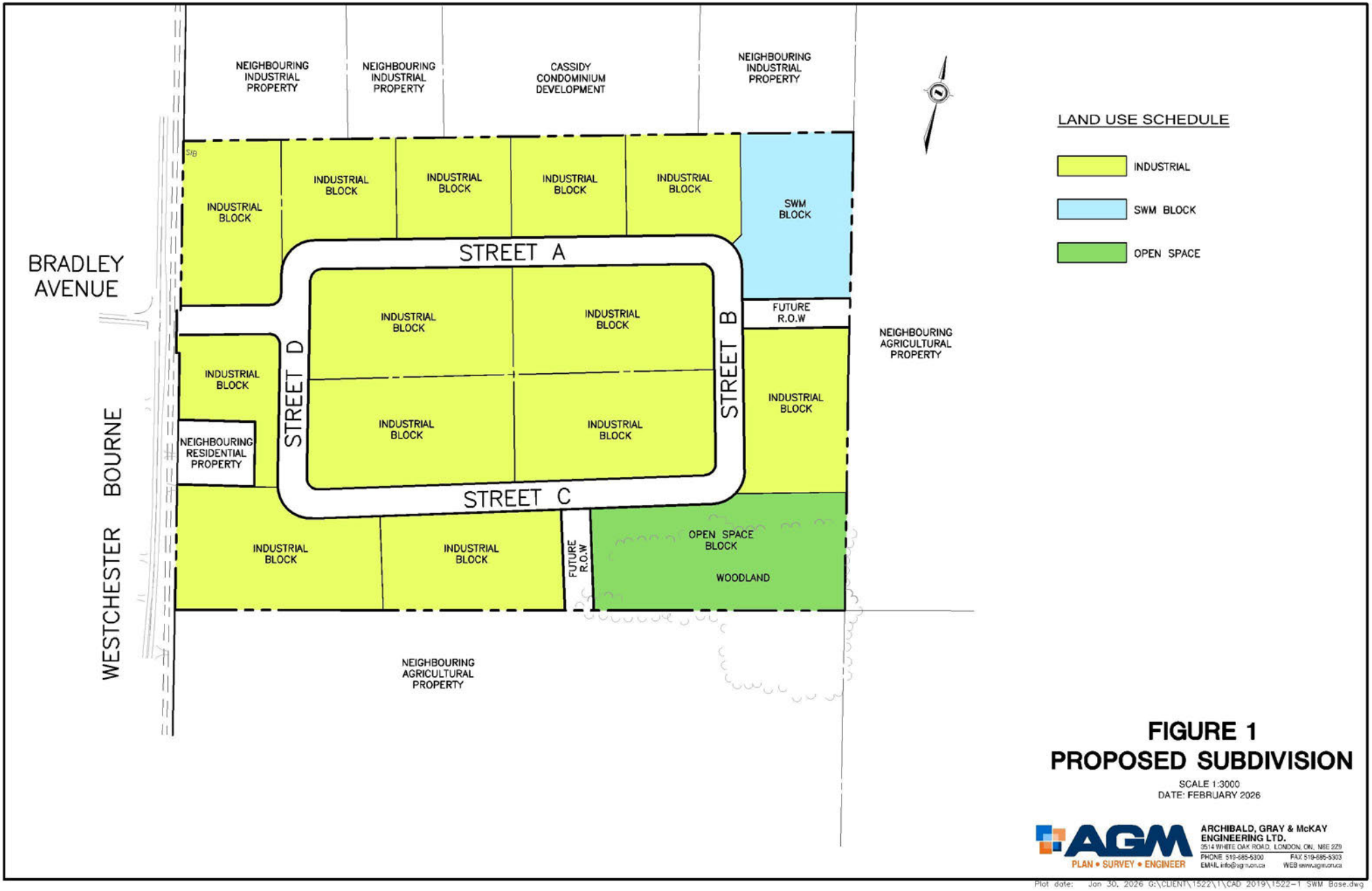

FIGURE 1
PROPOSED SUBDIVISION

SCALE 1:3000
DATE: FEBRUARY 2026

AGM
PLAN • SURVEY • ENGINEER
ARCHIBALD, GRAY & McKAY ENGINEERING LTD.
2514 WHITE OAK ROAD, LONDON, ON, N6E 2Z9
PHONE 519-685-5300 FAX 519-685-5303
EMAIL info@agmuon.ca WEB www.agmuon.ca

Plot date: Jan 30, 2026 G:\CLIENT\1522\1\CAD 2019\1522-1 SWM Base.dwg

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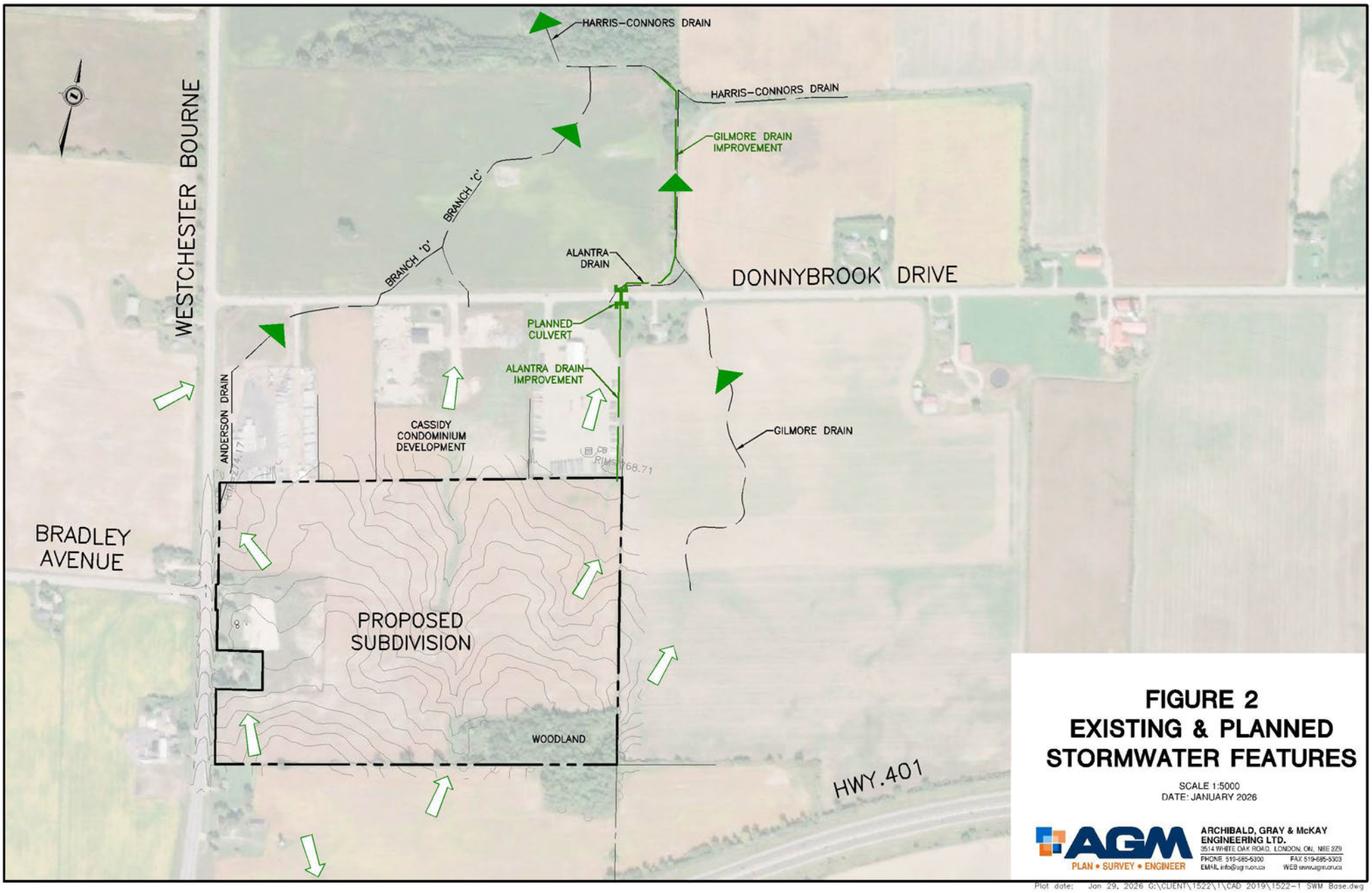

FIGURE 2
EXISTING & PLANNED STORMWATER FEATURES

SCALE 1:5000
DATE: JANUARY 2026

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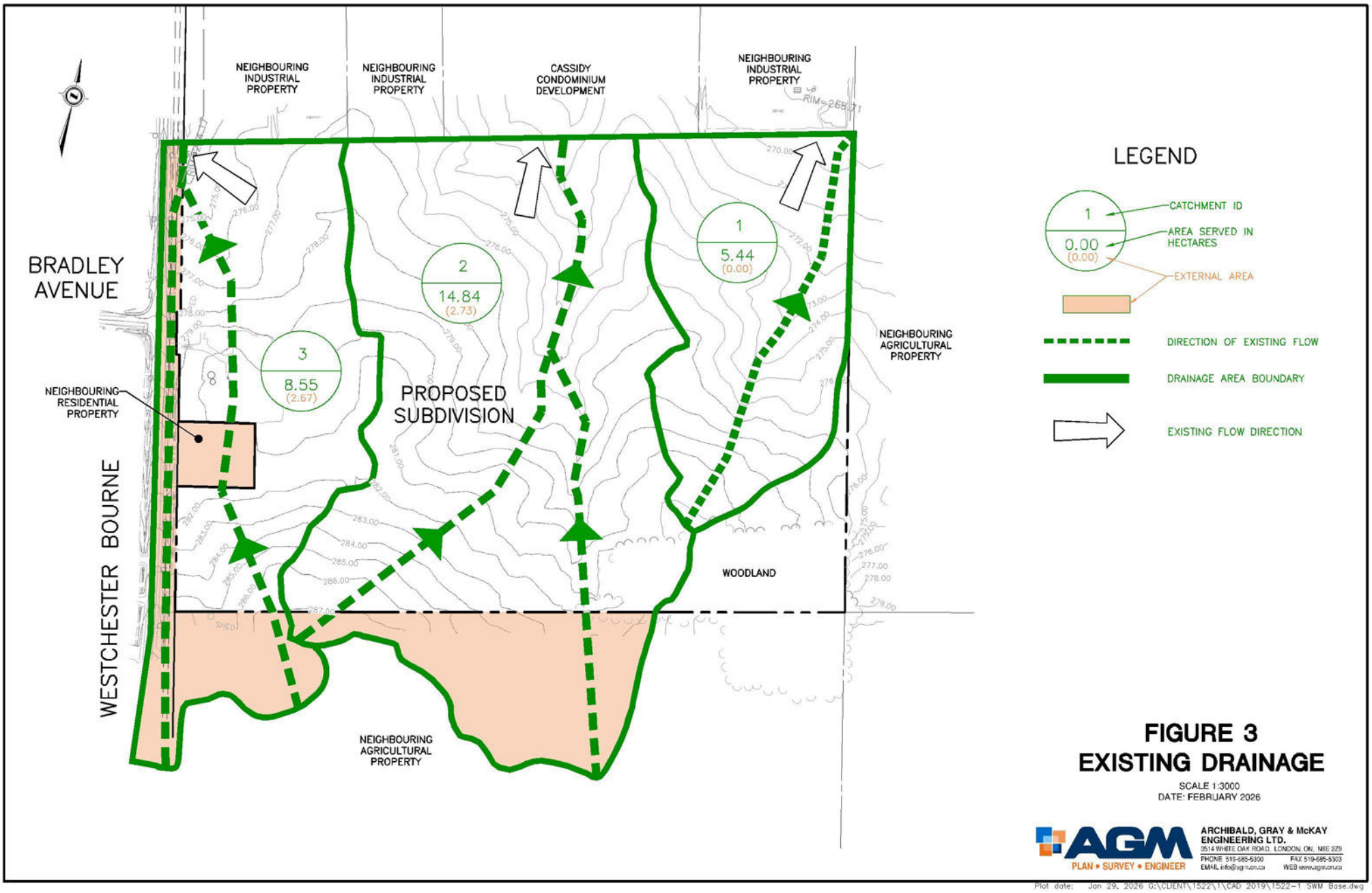

FIGURE 3
EXISTING DRAINAGE

SCALE 1:3000
DATE: FEBRUARY 2026

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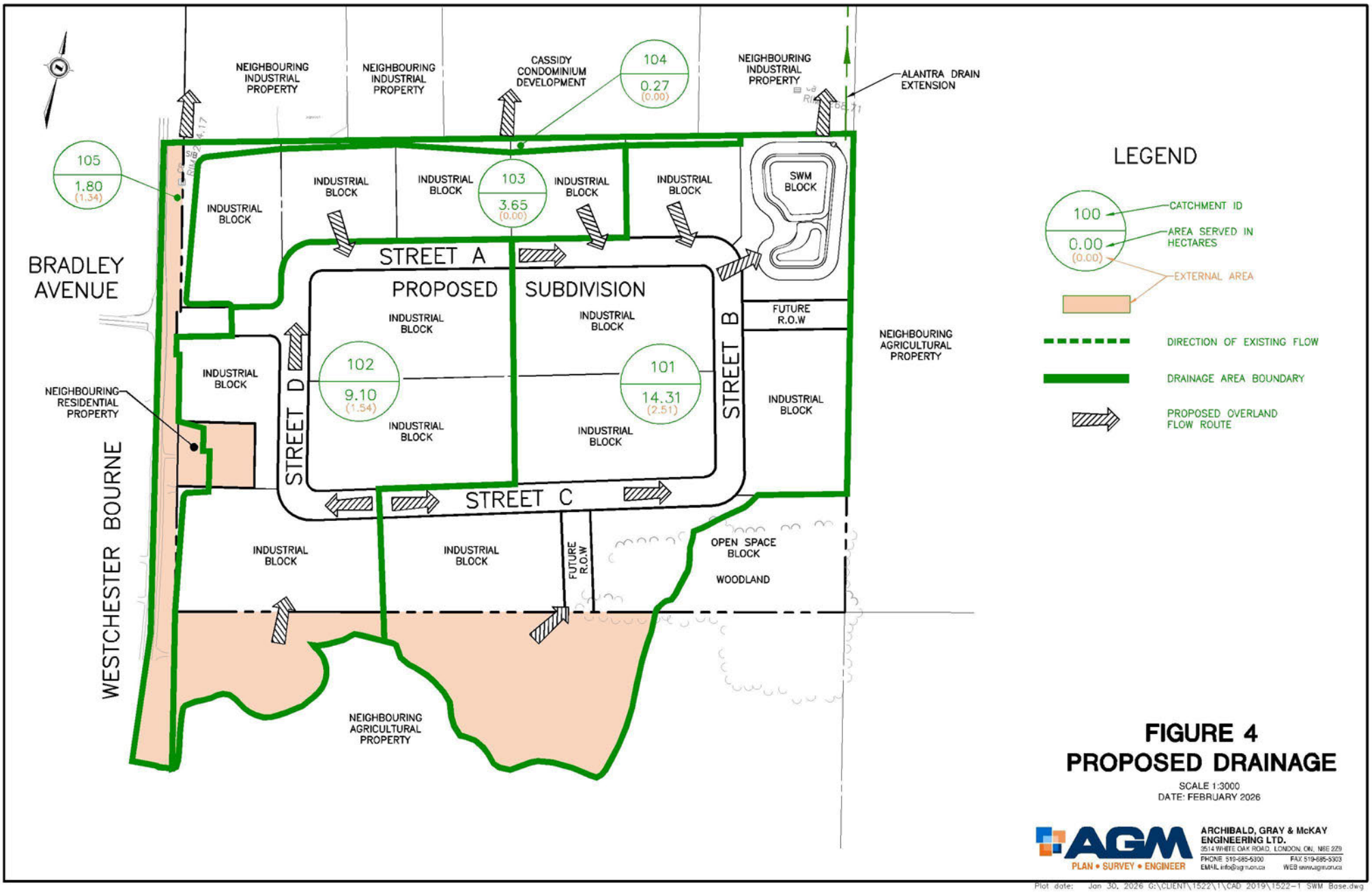

FIGURE 4
PROPOSED DRAINAGE

SCALE 1:3000
DATE: FEBRUARY 2026

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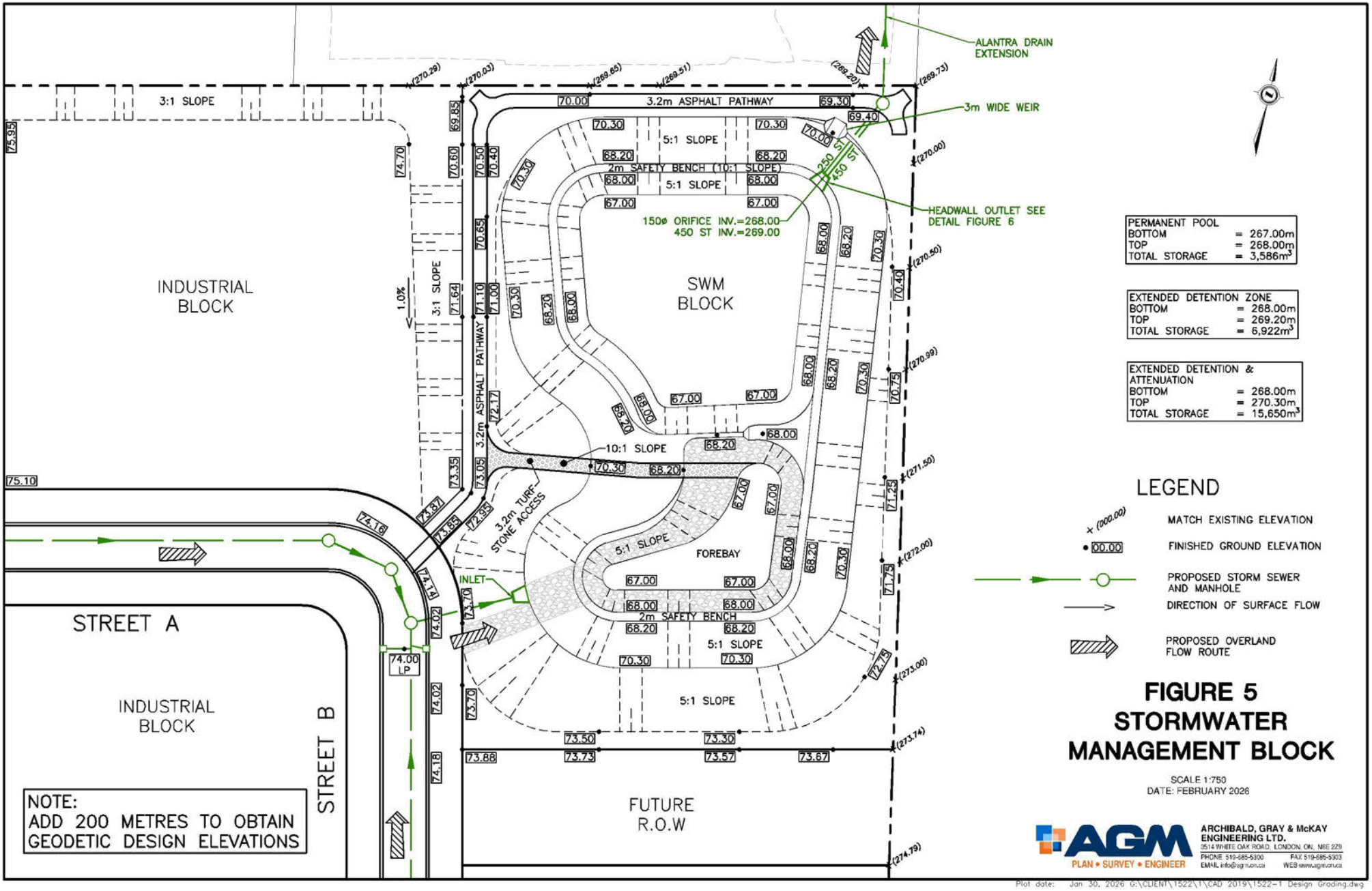

PERMANENT POOL	
BOTTOM	= 267.00m
TOP	= 268.00m
TOTAL STORAGE	= 3,586m³

EXTENDED DETENTION ZONE	
BOTTOM	= 268.00m
TOP	= 269.20m
TOTAL STORAGE	= 6,922m³

EXTENDED DETENTION & ATTENUATION	
BOTTOM	= 268.00m
TOP	= 270.30m
TOTAL STORAGE	= 15,650m³

LEGEND

- × (000.00) — MATCH EXISTING ELEVATION
- • 00.00 — FINISHED GROUND ELEVATION
- PROPOSED STORM SEWER AND MANHOLE
- DIRECTION OF SURFACE FLOW
- PROPOSED OVERLAND FLOW ROUTE

FIGURE 5
STORMWATER MANAGEMENT BLOCK

SCALE 1:750
DATE: FEBRUARY 2026

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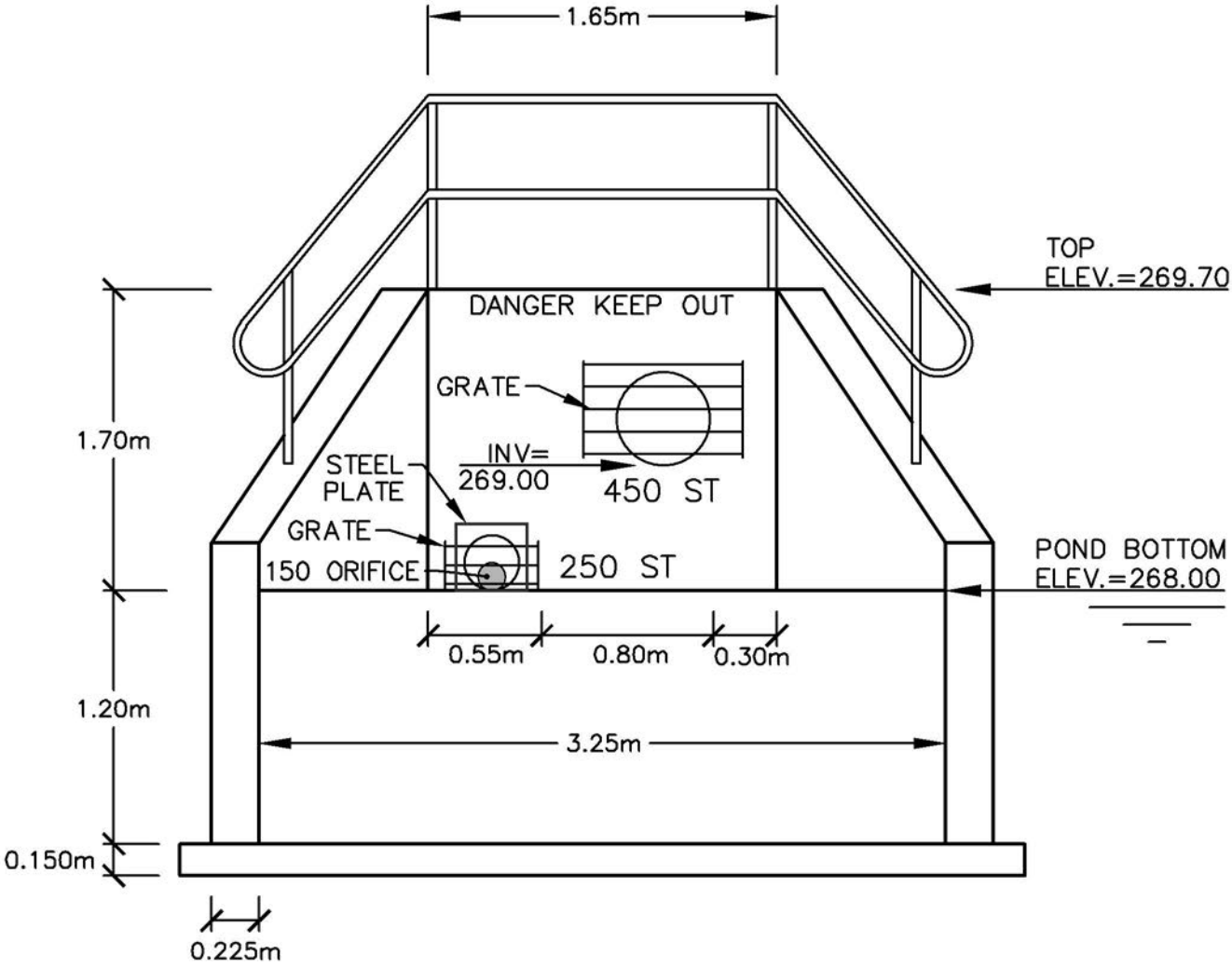
HEADWALL



OPSD 804.040 FOR A 1200ø PIPE (MODIFIED FOR TWO PIPES)

FIGURE 6
OUTLET STRUCTURE DETAIL

NOT TO SCALE
DATE: FEBRUARY 2026

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APPENDIX A
Allowable Discharge

Craig Colpaert

From: George Vereyken <George@spriet.on.ca>
Sent: June 28, 2023 4:31 PM
To: Steve Brown
Cc: Travis Pitt; Mike DeVos; Hendrik Schuurmans
Subject: Harris Connors Drain
Attachments: 219312-PL-Model.pdf

Good afternoon,

We have investigated the request to have a 2-year storm outlet for the proposed site. Please reference the attached sketch with explanations below.

Due to the topography of the existing Harris Conners 'C', we are suggesting that the best course of action is to improve the Alantra Drain and Gilmore Drain (see location in red). This would require some cooperation from the landowners but any route would as well. We believe this route has a lower chance of causing concerns. The Branch 'C' route would have significant technical challenges.

We have completed modelling for the site and found that the Harris Connors Drain currently receives 587 L/s from the proposed service area (indicated in green) – predevelopment. We therefore would recommend constructing a new piped outlet that would have a capacity of 587 L/s. During the 10-year storm and larger, overland flow could also be released. We would recommend the following release rates:

Storm	Pipe Release (Location 1) L/s	East Overland (Location 1) L/s	Central Overland (Location 2) L/s
Storms smaller than 10-year storm	587	0	0
10-year	587	106	0
25-year	587	235	114
100-year	587	453	204
250-year	587	632	305

We would also require the stormwater facility to have a quality drawdown/erosion control phase so that very small/common storm events are not released at 587 L/s. (ie. 25mm storm allowable release rate)

Detailed survey will need to be collected to confirm the feasibility of this route. All design and modeling are from a desktop information currently. Without survey information and detailed design, the cost of work can only be estimated at a very precursory level, but an initial ballpark is estimated at $470,000.00 which would be entirely assessed to the 50-357 property. If we need to go back to the original route, we anticipate the cost to be higher.

Let us know your thoughts and please let us know if you would like to meet and review.

Regards,

George Vereyken, P. Eng.
SPRIET ASSOCIATES LONDON LTD.
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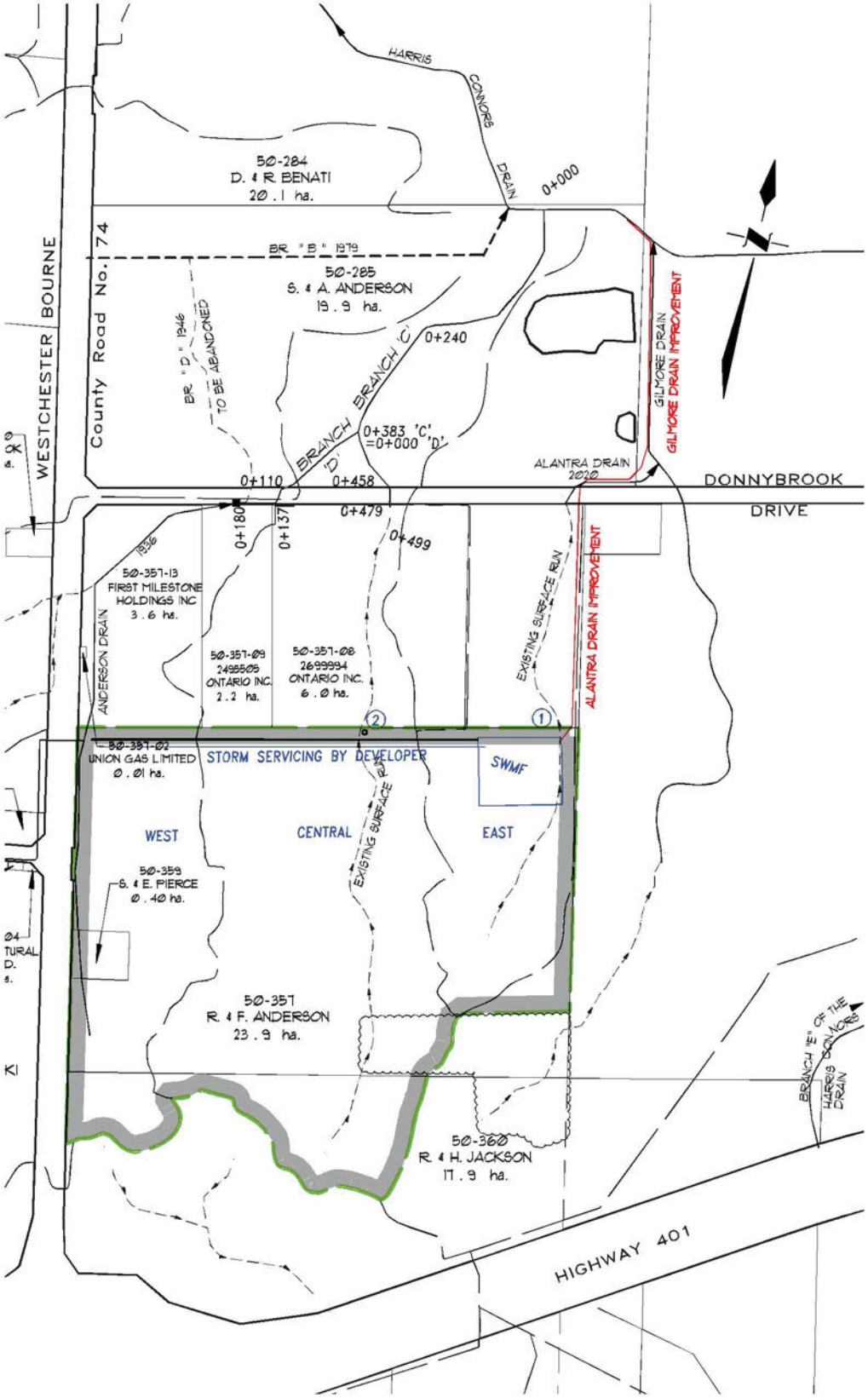
George@spriet.on.ca


HARRIS CONNORS DRAIN
0+000
50-284
D. & R. BENATI
20.1 ha.
BR. "B" 1979
50-285
S. & A. ANDERSON
19.9 ha.
County Road No. 74
WESTCHESTER BOURNE
BR. "D" 1946 TO BE ABANDONED
BRANCH 'C'
0+240
0+383 'C' =0+000 'D'
BRANCH 'D'
GILMORE DRAIN
GILMORE DRAIN IMPROVEMENT
ALANTRA DRAIN 2020
0+110
0+458
DONNYBROOK DRIVE
0+180
0+137
0+479
0+499
1956
50-357-13
FIRST MILESTONE HOLDINGS INC
3.6 ha.
ANDERSON DRAIN
50-357-09
2495505 ONTARIO INC.
2.2 ha.
50-357-08
2699984 ONTARIO INC.
6.0 ha.
EXISTING SURFACE RUN
ALANTRA DRAIN IMPROVEMENT
50-357-02
UNION GAS LIMITED
0.01 ha.
STORM SERVICING BY DEVELOPER
SWMF
WEST
CENTRAL
EAST
50-359
S. & E. PIERCE
0.40 ha.
50-357
R. & F. ANDERSON
23.9 ha.
50-360
R. & H. JACKSON
17.9 ha.
BRANCH "E" OF THE HARRIS CONNORS DRAIN
HIGHWAY 401

APPENDIX B
Pre Development Model

SCS CURVE NUMBER DETERMINATION

Land Use		Hydrologic Soil Type				
		A	B	C	D	
Meadow	"Good Condition"	30	58	71	78	MTO
Woodlot	"Fair Condition"	36	60	73	79	MTO
Pasture	"Good Condition"	39	61	74	80	MTO
Crop	"Straight Row, Contoured in Good Condition"	65	75	82	86	MTO
Lawns	*"Fair Condition"*	*49*	*69*	*79*	*84*	*USDA*
Gravel		76	85	89	91	USDA
Impervious		98	98	98	98	MTO

United States Department of Agriculture, Part 630 Hydrology National Engineering Handbook, July 2004 (USDA)
MTO Drainage Management Manual, Design Chart 1.09 (MTO)

Land Use Breakdown by Pervious Area (%) - Existing Condition

	Hydrologic Soil Type Classification							
Catchment	meadow (brush)	woodlot	Pasture	crop	lawns (modified)	gravel	impervious	TOTAL
1		0.0		100.0	0.0	0.0		100.0
2		3.0		97.0	0.0	0.0		100.0
3		0.0		49.5	44.5	6.0		100.0

Hydrologic Soil Type Breakdown (%) - Existing Condition

	Hydrologic Soil Type Classification							
Catchment	A	AB	B	BC	C	CD	D	TOTAL
1					100			100
2					100			100
3					100			100

SCS Curve Number Pervious - Existing Condition

	Hydrologic Soil Type Classification							
Catchment	meadow (brush)	woodlot	Pasture	crop	lawns (modified)	gravel	impervious	Weighted CN
1		73		82	79	89		82
2		73		82	79	89		82
3		73		82	79	89		81

Initial Abstraction - Existing Condition

	Initial Abstraction By Landuse							
Catchment	meadow (brush)	woodlot	Pasture	crop	lawns (modified)	gravel	impervious	Weighted Initial Abstraction
1		10		7	5	3		7.0
2		10		7	5	3		7.1
3		10		7	5	3		5.9

PRE DEVELOPMENT - MODELING DATA

CALIB NASH HYDROGRAPH (RURAL PERVIOUS AREAS)

CATCHMENT NO.	AREA (ha)	SCS CURVE #	BASE FLOW (cms)	Initial Abstraction (mm)	Time to Peak (hrs)	Time of concentration (hrs)	Runoff Coef., C	Watershed Length, L (m)	Watershed Slope, (%)
1	5.44	82	0.000	7.0	0.401	0.669	0.20	389.0	3.0
2	14.84	82	0.000	7.1	0.484	0.806	0.20	577.0	3.1
3	8.55	81	0.000	5.9	0.443	0.738	0.27	546.0	2.9
					0.6 x Tc	Airport Method			

Airport Method

$$T_C = \frac{3.26(1.1 - C)L^{0.5}}{S^{0.33}}$$

Input File

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO         999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O       9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##   9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9    =========
00008>                                                          9   9  9   9   # 2957874
00009>          StormWater Management HYdrologic Model           999    999    =========
00010>
00011> ********************************************************************************
00012> ****************************** SWMHYMO Ver/4.05 ********************************
00013> *********  A single event and continuous hydrologic simulation model  *********
00014> *********     based on the principles of HYMO and its successors       *********
00015> *********                 OTTHYMO-83 and OTTHYMO-89.                   *********
00016> ********************************************************************************
00017> ********* Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018> *********                  Ottawa,  Ontario: (613) 836-3884            *********
00019> *********                  Gatineau, Quebec: (819) 243-6858            *********
00020> *********                  E-Mail: swmhymo@jfsa.com                    *********
00021> ********************************************************************************
00022>
00023> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024> +++++++++ Licensed user: AGM Engineering Ltd.                          +++++++++
00025> +++++++++               London              SERIAL#:2957874           +++++++++
00026> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028> ********************************************************************************
00029> *********           ++++++ PROGRAM ARRAY DIMENSIONS ++++++             *********
00030> *********           Maximum value for ID numbers  :     10            *********
00031> *********           Max. number of rainfall points: 105408            *********
00032> *********           Max. number of flow points    : 105408            *********
00033> ********************************************************************************
00034>
00035> ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
00036> *****-------------------------------------------------------------------------*****
00037> *****    ID:  Hydrograph IDentification numbers, (1-10).                   *****
00038> *****  NHYD:  Hydrograph reference numbers, (6 digits or characters).      *****
00039> *****  AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).    *****
00040> ***** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).      *****
00041> ***** TpeakDate_hh:mm is the date and time of the peak flow.                *****
00042> *****  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).         *****
00043> *****  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).         *****
00044> *****    *:  see WARNING or NOTE message printed at end of run.            *****
00045> *****   **:  see  ERROR  message printed at end of run.                    *****
00046> ********************************************************************************
00047> ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051> ********************************************************************************
00052>
00053> ***********************   S U M M A R Y   O U T P U T   ***********************
00054> ********************************************************************************
00055> *          DATE: 2025-12-19     TIME: 09:51:45     RUN COUNTER: 000890          *
00056> ********************************************************************************
00057> * Input   filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre002.dat               *
00058> * Output  filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre002.out               *
00059> * Summary filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre002.sum               *
00060> * User comments:                                                               *
00061> * 1:_____________________________________________________________________________*
00062> * 2:_____________________________________________________________________________*
00063> * 3:_____________________________________________________________________________*
00064> ********************************************************************************
00065>
00066>
00067> #*************************************************************************
00068> #  Project Name: [Subdivision]    Project Number: [1522-1]
00069> #  Date        : 01-02-2026
00070> #  Modeller    : [CJC]
00071> #  Company     : AGM Engineering Ltd.
00072> #  License #   :  2957874
00073> #*************************************************************************
00074>  RUN:COMMAND#
00075>  001:0001----------------------------------------------------------------------
00076>      START
00077>       [TZERO =    .00 hrs on        0]
00078>       [METOUT=   2    (1=imperial, 2=metric output)]
00079>       [NSTORM=   0 ]
00080>       [NRUN  =   1 ]
00081> #MUNICIPALITY OF THAMES CENTRE IDF Curve-conversion to 3hr Chicago Distribution
00082>  001:0002----------------------------------------------------------------------
00083>      CHICAGO STORM
00084>       [SDT= 5.00:SDUR=   3.00:PTOT=  42.75]
00085>       [A/B/C=1290.000/   8.500/    .860]
00086> #EXISTING AGRICULTURAL PROPERTY - TRIBUTARY TO NORTHEAST CORNER OF SITE
00087>  001:0003---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00088>      CALIB NASHYD       01:CAT1           5.44     .179 No_date    1:42   13.97
00089>       [CN= 82.0: N= 3.00]
00090>       [Tp=  .40:DT= 1.00]
00091> #EXISTING AGRICULTURAL PROPERTY - TRIBUTARY TO NORTH BOUNDARY OF SITE
00092>  001:0004---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00093>      CALIB NASHYD       02:CAT2          14.84     .428 No_date    1:49   13.90
00094>       [CN= 82.0: N= 3.00]
00095>       [Tp=  .48:DT= 1.00]
00096> #EXISTING AGRICULTURAL PROPERTY, NEIGHBOURING RESIDENTIAL PROPERTIES
00097> #AND PORTION OF WESTCHESTER BOURNE RIGHT-OF-WAY
00098> #TRIBUTARY TO NORTHWEST CORNER OF SITE
00099>  001:0005---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00100>      CALIB NASHYD       04:CAT3           8.55     .267 No_date    1:45   14.08
00101>       [CN= 81.0: N= 3.00]
00102>       [Tp=  .44:DT= 1.00]
00103>  001:0006----------------------------------------------------------------------
00104>       FINISH
00105> ----------------------------------------------------------------------------------
00106> ********************************************************************************
00107>      WARNINGS / ERRORS / NOTES
00108>      -------------------------
00109>    Simulation ended on 2025-12-19     at 09:51:45
00110> ================================================================================
00111>
```

Output Files

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9    =========
00008>                                                          9   9  9   9   # 2957874
00009>          StormWater Management HYdrologic Model          999    999    =========
00010>
00011> ********************************************************************************
00012> ***************************** SWMHYMO Ver/4.05  ********************************
00013> *********  A single event and continuous hydrologic simulation model  *********
00014> *********     based on the principles of HYMO and its successors      *********
00015> *********               OTTHYMO-83 and OTTHYMO-89.                    *********
00016> ********************************************************************************
00017> ********* Distributed by:  J.F. Sabourin and Associates Inc.          *********
00018> *********                  Ottawa,  Ontario: (613) 836-3884           *********
00019> *********                  Gatineau, Quebec: (819) 243-6858           *********
00020> *********                  E-Mail: swmhymo@jfsa.com                   *********
00021> ********************************************************************************
00022>
00023> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024> +++++++++ Licensed user: AGM Engineering Ltd.                          +++++++++
00025> +++++++++               London              SERIAL#:2957874          +++++++++
00026> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028> ********************************************************************************
00029> *********           ++++++ PROGRAM ARRAY DIMENSIONS ++++++             *********
00030> *********           Maximum value for ID numbers  :     10            *********
00031> *********           Max. number of rainfall points: 105408            *********
00032> *********           Max. number of flow points    : 105408            *********
00033> ********************************************************************************
00034>
00035>
00036> **********************   D E T A I L E D   O U T P U T   **********************
00037> ********************************************************************************
00038> *         DATE: 2025-12-19     TIME: 09:51:45     RUN COUNTER: 000890          *
00039> ********************************************************************************
00040> * Input   filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre002.dat              *
00041> * Output  filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre002.out              *
00042> * Summary filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre002.sum              *
00043> * User comments:                                                              *
00044> * 1:_____________________________________________________________________     *
00045> * 2:_____________________________________________________________________     *
00046> * 3:_____________________________________________________________________     *
00047> ********************************************************************************
00048>
00049> --------------------------------------------------------------------------------
00050> 001:0001--------------------------------------------------------------------------
00051> *#*****************************************************************************
00052> *#  Project Name: [Subdivision]    Project Number: [1522-1]
00053> *#  Date        : 01-02-2026
00054> *#  Modeller    : [CJC]
00055> *#  Company     : AGM Engineering Ltd.
00056> *#  License #   :  2957874
00057> *#*****************************************************************************
00058>  ------------------
00059> | START            |  Project  dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\
00060>  ------------------  Rainfall dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\
00061>     TZERO =   .00 hrs on        0
00062>     METOUT=   2 (output = METRIC)
00063>     NRUN  = 001
00064>     NSTORM=   0
00065> --------------------------------------------------------------------------------
00066> 001:0002--------------------------------------------------------------------------
00067> *                  ["  "] <--storm filename, one per line for NSTORM time
00068> *#MUNICIPALITY OF THAMES CENTRE IDF Curve-conversion to 3hr Chicago Distribution
00069> *
00070> *
00071>  --------------------
00072> | CHICAGO STORM    |    IDF curve parameters: A=1290.000
00073> | Ptotal= 42.75 mm |                          B=   8.500
00074>  --------------------                         C=    .860
00075>                          used in:   INTENSITY =  A / (t + B)^C
00076>
00077>                          Duration of storm  =  3.00 hrs
00078>                          Storm time step    =  5.00 min
00079>                          Time to peak ratio =   .38
00080>
00081>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00082>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00083>               .08   2.713 |    .83  10.155 |   1.58  12.892 |   2.33   4.129
00084>               .17   2.951 |    .92  14.330 |   1.67  10.510 |   2.42   3.836
00085>               .25   3.236 |   1.00  23.413 |   1.75   8.843 |   2.50   3.582
00086>               .33   3.585 |   1.08  53.471 |   1.83   7.618 |   2.58   3.361
00087>               .42   4.019 |   1.17 137.563 |   1.92   6.684 |   2.67   3.165
00088>               .50   4.575 |   1.25  63.677 |   2.00   5.950 |   2.75   2.992
00089>               .58   5.311 |   1.33  34.355 |   2.08   5.360 |   2.83   2.837
00090>               .67   6.327 |   1.42  22.603 |   2.17   4.875 |   2.92   2.698
00091>               .75   7.810 |   1.50  16.524 |   2.25   4.471 |   3.00   2.572
00092>
00093> --------------------------------------------------------------------------------
00094> 001:0003--------------------------------------------------------------------------
00095> *
00096> *#EXISTING AGRICULTURAL PROPERTY - TRIBUTARY TO NORTHEAST CORNER OF SITE
00097> *
00098> *
00099>  ----------------------
00100> | CALIB NASHYD         |   Area    (ha)=    5.44   Curve Number   (CN)=82.00
00101> | 01:CAT1   DT= 1.00 |   Ia      (mm)=   7.000   # of Linear Res.(N)= 3.00
00102>  ----------------------   U.H. Tp(hrs)=    .401
00103>
00104>      Unit Hyd Qpeak  (cms)=     .518
00105>
00106>      PEAK FLOW       (cms)=     .179 (i)
00107>      TIME TO PEAK    (hrs)=    1.700
00108>      RUNOFF VOLUME    (mm)=   13.967
00109>      TOTAL RAINFALL   (mm)=   42.750
00110>      RUNOFF COEFFICIENT   =     .327
00111>
00112>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00113>
00114> --------------------------------------------------------------------------------
00115> 001:0004--------------------------------------------------------------------------
00116> *
00117> *#EXISTING AGRICULTURAL PROPERTY - TRIBUTARY TO NORTH BOUNDARY OF SITE
00118> *
00119> *
00120>  ----------------------
00121> | CALIB NASHYD         |   Area    (ha)=   14.84   Curve Number   (CN)=82.00
00122> | 02:CAT2   DT= 1.00 |   Ia      (mm)=   7.100   # of Linear Res.(N)= 3.00
00123>  ----------------------   U.H. Tp(hrs)=    .484
00124>
00125>      Unit Hyd Qpeak  (cms)=    1.171
00126>
00127>      PEAK FLOW       (cms)=     .428 (i)
00128>      TIME TO PEAK    (hrs)=    1.617
00129>      RUNOFF VOLUME    (mm)=   13.904
00130>      TOTAL RAINFALL   (mm)=   42.750
00131>      RUNOFF COEFFICIENT   =     .325
00132>
00133>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00134>
00135> --------------------------------------------------------------------------------
00136> 001:0005--------------------------------------------------------------------------
00137> *
00138> *#EXISTING AGRICULTURAL PROPERTY, NEIGHBOURING RESIDENTIAL PROPERTIES
00139> *#AND PORTION OF WESTCHESTER BOURNE RIGHT-OF-WAY
00140> *#TRIBUTARY TO NORTHWEST CORNER OF SITE
00141> *
00142> *
00143>  ----------------------
00144> | CALIB NASHYD         |   Area    (ha)=    8.55   Curve Number   (CN)=81.00
00145> | 04:CAT3   DT= 1.00 |   Ia      (mm)=   5.900   # of Linear Res.(N)= 3.00
00146>  ----------------------   U.H. Tp(hrs)=    .443
00147>
00148>      Unit Hyd Qpeak  (cms)=     .737
00149>
00150>      PEAK FLOW       (cms)=     .267 (i)
00151>      TIME TO PEAK    (hrs)=    1.750
00152>      RUNOFF VOLUME    (mm)=   14.082
00153>      TOTAL RAINFALL   (mm)=   42.750
00154>      RUNOFF COEFFICIENT   =     .329
00155>
00156>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00157>
00158> --------------------------------------------------------------------------------
00159> 001:0006--------------------------------------------------------------------------
00160> *
00161>       FINISH
00162> --------------------------------------------------------------------------------
00163> ********************************************************************************
00164>      WARNINGS / ERRORS / NOTES
00165>      -------------------------
00166>    Simulation ended on 2025-12-19     at 09:51:45
00167> ================================================================================
00168>
```

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   000         999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O       9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##   9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O        9999   9999   Sept 2011
00007>    SSSSS  W W W  M   M  H   H    Y    M   M   000             9      9   =========
00008>                                                           9   9  9   9   # 2957874
00009>          StormWater Management HYdrologic Model           999    999    =========
00010>
00011> ********************************************************************************
00012> ***************************** SWMHYMO Ver/4.05  ********************************
00013> *********  A single event and continuous hydrologic simulation model  *********
00014> *********     based on the principles of HYMO and its successors       *********
00015> *********               OTTHYMO-83 and OTTHYMO-89.                     *********
00016> ********************************************************************************
00017> ********* Distributed by:  J.F. Sabourin and Associates Inc.          *********
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00019> *********                  Gatineau, Quebec: (819) 243-6858           *********
00020> *********                  E-Mail: swmhymo@jfsa.com                   *********
00021> ********************************************************************************
00022>
00023> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024> +++++++++ Licensed user: AGM Engineering Ltd.                          +++++++++
00025> +++++++++               London              SERIAL#:2957874          +++++++++
00026> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028> ********************************************************************************
00029> *********           ++++++ PROGRAM ARRAY DIMENSIONS ++++++             *********
00030> *********           Maximum value for ID numbers  :     10            *********
00031> *********           Max. number of rainfall points: 105408            *********
00032> *********           Max. number of flow points    : 105408            *********
00033> ********************************************************************************
00034>
00035>
00036> **********************   D E T A I L E D   O U T P U T   **********************
00037> ********************************************************************************
00038> *         DATE: 2025-12-19     TIME: 09:52:06     RUN COUNTER: 000891          *
00039> ********************************************************************************
00040> * Input   filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre005.dat               *
00041> * Output  filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre005.out               *
00042> * Summary filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre005.sum               *
00043> * User comments:                                                               *
00044> * 1:_____________________________________________________________________________*
00045> * 2:_____________________________________________________________________________*
00046> * 3:_____________________________________________________________________________*
00047> ********************************************************************************
00048>
00049> --------------------------------------------------------------------------------
00050> 001:0001--------------------------------------------------------------------------
00051> *#*****************************************************************************
00052> *#  Project Name: [Subdivision]    Project Number: [1522-1]
00053> *#  Date        : 01-02-2026
00054> *#  Modeller    : [CJC]
00055> *#  Company     : AGM Engineering Ltd.
00056> *#  License #   :  2957874
00057> *#*****************************************************************************
00058> -------------------
00059> | START           |  Project  dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\
00060> -------------------  Rainfall dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\
00061>     TZERO =   .00 hrs on        0
00062>     METOUT=   2 (output = METRIC)
00063>     NRUN  = 001
00064>     NSTORM=   0
00065> --------------------------------------------------------------------------------
00066> 001:0002--------------------------------------------------------------------------
00067> *                    ["  "] <--storm filename, one per line for NSTORM time
00068> *#MUNICIPALITY OF THAMES CENTRE IDF Curve-conversion to 3hr Chicago Distribution
00069> *
00070> *
00071> --------------------
00072> | CHICAGO STORM    |    IDF curve parameters: A=1183.740
00073> | Ptotal= 44.19 mm |                          B=   7.641
00074> --------------------                          C=    .838
00075>                          used in:   INTENSITY =  A / (t + B)^C
00076>
00077>                          Duration of storm  =  3.00 hrs
00078>                          Storm time step    =  5.00 min
00079>                          Time to peak ratio =   .38
00080>
00081>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00082>              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00083>              .08   3.065 |    .83  10.643 |   1.58  13.354 |   2.33   4.554
00084>              .17   3.318 |    .92  14.771 |   1.67  10.997 |   2.42   4.249
00085>              .25   3.620 |   1.00  23.691 |   1.75   9.337 |   2.50   3.986
00086>              .33   3.986 |   1.08  53.533 |   1.83   8.109 |   2.58   3.751
00087>              .42   4.439 |   1.17 141.242 |   1.92   7.167 |   2.67   3.545
00088>              .50   5.016 |   1.25  63.748 |   2.00   6.423 |   2.75   3.362
00089>              .58   5.772 |   1.33  34.448 |   2.08   5.821 |   2.83   3.197
00090>              .67   6.806 |   1.42  22.896 |   2.17   5.325 |   2.92   3.049
00091>              .75   8.302 |   1.50  16.930 |   2.25   4.908 |   3.00   2.915
00092>
00093> --------------------------------------------------------------------------------
00094> 001:0003--------------------------------------------------------------------------
00095> *
00096> *#EXISTING AGRICULTURAL PROPERTY - TRIBUTARY TO NORTHEAST CORNER OF SITE
00097> *
00098> *
00099> ----------------------
00100> | CALIB NASHYD       |   Area    (ha)=    5.44   Curve Number   (CN)=82.00
00101> | 01:CAT1   DT= 1.00 |   Ia      (mm)=   7.000   # of Linear Res.(N)= 3.00
00102> ----------------------   U.H. Tp(hrs)=    .401
00103>
00104>      Unit Hyd Qpeak  (cms)=     .518
00105>
00106>      PEAK FLOW       (cms)=     .188 (i)
00107>      TIME TO PEAK    (hrs)=    1.700
00108>      RUNOFF VOLUME    (mm)=   14.880
00109>      TOTAL RAINFALL   (mm)=   44.189
00110>      RUNOFF COEFFICIENT   =     .337
00111>
00112>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00113>
00114> --------------------------------------------------------------------------------
00115> 001:0004--------------------------------------------------------------------------
00116> *
00117> *#EXISTING AGRICULTURAL PROPERTY - TRIBUTARY TO NORTH BOUNDARY OF SITE
00118> *
00119> *
00120> ----------------------
00121> | CALIB NASHYD       |   Area    (ha)=   14.84   Curve Number   (CN)=82.00
00122> | 02:CAT2   DT= 1.00 |   Ia      (mm)=   7.100   # of Linear Res.(N)= 3.00
00123> ----------------------   U.H. Tp(hrs)=    .484
00124>
00125>      Unit Hyd Qpeak  (cms)=    1.171
00126>
00127>      PEAK FLOW       (cms)=     .448 (i)
00128>      TIME TO PEAK    (hrs)=    1.617
00129>      RUNOFF VOLUME    (mm)=   14.816
00130>      TOTAL RAINFALL   (mm)=   44.189
00131>      RUNOFF COEFFICIENT   =     .335
00132>
00133>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00134>
00135> --------------------------------------------------------------------------------
00136> 001:0005--------------------------------------------------------------------------
00137> *
00138> *#EXISTING AGRICULTURAL PROPERTY, NEIGHBOURING RESIDENTIAL PROPERTIES
00139> *#AND PORTION OF WESTCHESTER BOURNE RIGHT-OF-WAY
00140> *#TRIBUTARY TO NORTHWEST CORNER OF SITE
00141> *
00142> *
00143> ----------------------
00144> | CALIB NASHYD       |   Area    (ha)=    8.55   Curve Number   (CN)=81.00
00145> | 04:CAT3   DT= 1.00 |   Ia      (mm)=   5.900   # of Linear Res.(N)= 3.00
00146> ----------------------   U.H. Tp(hrs)=    .443
00147>
00148>      Unit Hyd Qpeak  (cms)=     .737
00149>
00150>      PEAK FLOW       (cms)=     .279 (i)
00151>      TIME TO PEAK    (hrs)=    1.750
00152>      RUNOFF VOLUME    (mm)=   14.980
00153>      TOTAL RAINFALL   (mm)=   44.189
00154>      RUNOFF COEFFICIENT   =     .339
00155>
00156>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00157>
00158> --------------------------------------------------------------------------------
00159> 001:0006--------------------------------------------------------------------------
00160> *
00161>       FINISH
00162> --------------------------------------------------------------------------------
00163> ********************************************************************************
00164>      WARNINGS / ERRORS / NOTES
00165>      -------------------------
00166>    Simulation ended on 2025-12-19     at 09:52:06
00167> ================================================================================
00168>
```

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO         999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O       9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##   9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO            9      9   =========
00008>                                                           9   9  9   9   # 2957874
00009>          StormWater Management HYdrologic Model           999    999    =========
00010>
00011> ********************************************************************************
00012> ***************************** SWMHYMO Ver/4.05  ********************************
00013> *********  A single event and continuous hydrologic simulation model  *********
00014> *********     based on the principles of HYMO and its successors       *********
00015> *********               OTTHYMO-83 and OTTHYMO-89.                     *********
00016> ********************************************************************************
00017> ********* Distributed by:  J.F. Sabourin and Associates Inc.          *********
00018> *********                  Ottawa,  Ontario: (613) 836-3884           *********
00019> *********                  Gatineau, Quebec: (819) 243-6858           *********
00020> *********                  E-Mail: swmhymo@jfsa.com                   *********
00021> ********************************************************************************
00022>
00023> +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024> +++++++++ Licensed user: AGM Engineering Ltd.                          +++++++++
00025> +++++++++               London              SERIAL#:2957874          +++++++++
00026> +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028> ********************************************************************************
00029> *********           ++++++ PROGRAM ARRAY DIMENSIONS ++++++             *********
00030> *********           Maximum value for ID numbers  :     10            *********
00031> *********           Max. number of rainfall points: 105408            *********
00032> *********           Max. number of flow points    : 105408            *********
00033> ********************************************************************************
00034>
00035>
00036> **********************   D E T A I L E D   O U T P U T   **********************
00037> ********************************************************************************
00038> *         DATE: 2025-12-19     TIME: 09:52:19     RUN COUNTER: 000892          *
00039> ********************************************************************************
00040> * Input   filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre010.dat              *
00041> * Output  filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre010.out              *
00042> * Summary filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre010.sum              *
00043> * User comments:                                                              *
00044> * 1:_____________________________________________________________________     *
00045> * 2:_____________________________________________________________________     *
00046> * 3:_____________________________________________________________________     *
00047> ********************************************************************************
00048>
00049> --------------------------------------------------------------------------------
00050> 001:0001--------------------------------------------------------------------------
00051> *#*****************************************************************************
00052> *#  Project Name: [Subdivision]    Project Number: [1522-1]
00053> *#  Date        : 01-02-2026
00054> *#  Modeller    : [CJC]
00055> *#  Company     : AGM Engineering Ltd.
00056> *#  License #   :  2957874
00057> *#*****************************************************************************
00058> -------------------
00059> | START           |  Project  dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\
00060> -------------------  Rainfall dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\
00061>     TZERO =   .00 hrs on        0
00062>     METOUT=   2 (output = METRIC)
00063>     NRUN  = 001
00064>     NSTORM=   0
00065> --------------------------------------------------------------------------------
00066> 001:0002--------------------------------------------------------------------------
00067> *                  ["  "] <--storm filename, one per line for NSTORM time
00068> *#MUNICIPALITY OF THAMES CENTRE IDF Curve-conversion to 3hr Chicago Distribution
00069> *
00070> *
00071> --------------------
00072> | CHICAGO STORM    |    IDF curve parameters: A=1574.382
00073> | Ptotal= 52.05 mm |                          B=   9.025
00074> --------------------                          C=    .860
00075>                          used in:   INTENSITY =  A / (t + B)^C
00076>
00077>                          Duration of storm  =  3.00 hrs
00078>                          Storm time step    =  5.00 min
00079>                          Time to peak ratio =   .38
00080>
00081>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00082>              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00083>              .08   3.346 |    .83  12.602 |   1.58  15.997 |   2.33   5.107
00084>              .17   3.642 |    .92  17.776 |   1.67  13.043 |   2.42   4.742
00085>              .25   3.996 |   1.00  28.955 |   1.75  10.972 |   2.50   4.427
00086>              .33   4.430 |   1.08  65.171 |   1.83   9.449 |   2.58   4.151
00087>              .42   4.970 |   1.17 162.470 |   1.92   8.286 |   2.67   3.908
00088>              .50   5.662 |   1.25  77.353 |   2.00   7.373 |   2.75   3.693
00089>              .58   6.578 |   1.33  42.297 |   2.08   6.638 |   2.83   3.500
00090>              .67   7.842 |   1.42  27.968 |   2.17   6.035 |   2.92   3.328
00091>              .75   9.688 |   1.50  20.488 |   2.25   5.532 |   3.00   3.171
00092>
00093> --------------------------------------------------------------------------------
00094> 001:0003--------------------------------------------------------------------------
00095> *
00096> *#EXISTING AGRICULTURAL PROPERTY - TRIBUTARY TO NORTHEAST CORNER OF SITE
00097> *
00098> *
00099> ----------------------
00100> | CALIB NASHYD       |   Area    (ha)=    5.44   Curve Number   (CN)=82.00
00101> | 01:CAT1   DT= 1.00 |   Ia      (mm)=   7.000   # of Linear Res.(N)= 3.00
00102> ----------------------   U.H. Tp(hrs)=    .401
00103>
00104>      Unit Hyd Qpeak  (cms)=     .518
00105>
00106>      PEAK FLOW       (cms)=     .262 (i)
00107>      TIME TO PEAK    (hrs)=    1.700
00108>      RUNOFF VOLUME    (mm)=   20.132
00109>      TOTAL RAINFALL   (mm)=   52.049
00110>      RUNOFF COEFFICIENT   =     .387
00111>
00112>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00113>
00114> --------------------------------------------------------------------------------
00115> 001:0004--------------------------------------------------------------------------
00116> *
00117> *#EXISTING AGRICULTURAL PROPERTY - TRIBUTARY TO NORTH BOUNDARY OF SITE
00118> *
00119> *
00120> ----------------------
00121> | CALIB NASHYD       |   Area    (ha)=   14.84   Curve Number   (CN)=82.00
00122> | 02:CAT2   DT= 1.00 |   Ia      (mm)=   7.100   # of Linear Res.(N)= 3.00
00123> ----------------------   U.H. Tp(hrs)=    .484
00124>
00125>      Unit Hyd Qpeak  (cms)=    1.171
00126>
00127>      PEAK FLOW       (cms)=     .625 (i)
00128>      TIME TO PEAK    (hrs)=    1.800
00129>      RUNOFF VOLUME    (mm)=   20.063
00130>      TOTAL RAINFALL   (mm)=   52.049
00131>      RUNOFF COEFFICIENT   =     .385
00132>
00133>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00134>
00135> --------------------------------------------------------------------------------
00136> 001:0005--------------------------------------------------------------------------
00137> *
00138> *#EXISTING AGRICULTURAL PROPERTY, NEIGHBOURING RESIDENTIAL PROPERTIES
00139> *#AND PORTION OF WESTCHESTER BOURNE RIGHT-OF-WAY
00140> *#TRIBUTARY TO NORTHWEST CORNER OF SITE
00141> *
00142> *
00143> ----------------------
00144> | CALIB NASHYD       |   Area    (ha)=    8.55   Curve Number   (CN)=81.00
00145> | 04:CAT3   DT= 1.00 |   Ia      (mm)=   5.900   # of Linear Res.(N)= 3.00
00146> ----------------------   U.H. Tp(hrs)=    .443
00147>
00148>      Unit Hyd Qpeak  (cms)=     .737
00149>
00150>      PEAK FLOW       (cms)=     .386 (i)
00151>      TIME TO PEAK    (hrs)=    1.733
00152>      RUNOFF VOLUME    (mm)=   20.143
00153>      TOTAL RAINFALL   (mm)=   52.049
00154>      RUNOFF COEFFICIENT   =     .387
00155>
00156>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00157>
00158> --------------------------------------------------------------------------------
00159> 001:0006--------------------------------------------------------------------------
00160> *
00161>       FINISH
00162> --------------------------------------------------------------------------------
00163> ********************************************************************************
00164>      WARNINGS / ERRORS / NOTES
00165>      -------------------------
00166>    Simulation ended on 2025-12-19     at 09:52:19
00167> ================================================================================
00168>
```

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00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO         999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O       9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##   9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO            9      9   =========
00008>                                                           9   9  9   9   # 2957874
00009>          StormWater Management HYdrologic Model           999    999    =========
00010>
00011> ********************************************************************************
00012> ***************************** SWMHYMO Ver/4.05  ********************************
00013> *********  A single event and continuous hydrologic simulation model  *********
00014> *********     based on the principles of HYMO and its successors       *********
00015> *********               OTTHYMO-83 and OTTHYMO-89.                     *********
00016> ********************************************************************************
00017> ********* Distributed by:  J.F. Sabourin and Associates Inc.          *********
00018> *********                  Ottawa,  Ontario: (613) 836-3884           *********
00019> *********                  Gatineau, Quebec: (819) 243-6858           *********
00020> *********                  E-Mail: swmhymo@jfsa.com                   *********
00021> ********************************************************************************
00022>
00023> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024> +++++++++ Licensed user: AGM Engineering Ltd.                          +++++++++
00025> +++++++++               London              SERIAL#:2957874          +++++++++
00026> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028> ********************************************************************************
00029> *********           ++++++ PROGRAM ARRAY DIMENSIONS ++++++             *********
00030> *********           Maximum value for ID numbers  :     10            *********
00031> *********           Max. number of rainfall points: 105408            *********
00032> *********           Max. number of flow points    : 105408            *********
00033> ********************************************************************************
00034>
00035>
00036> **********************   D E T A I L E D   O U T P U T   **********************
00037> ********************************************************************************
00038> *         DATE: 2025-12-19     TIME: 09:52:32     RUN COUNTER: 000893          *
00039> ********************************************************************************
00040> * Input   filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre025.dat              *
00041> * Output  filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre025.out              *
00042> * Summary filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre025.sum              *
00043> * User comments:                                                              *
00044> * 1:_____________________________________________________________________     *
00045> * 2:_____________________________________________________________________     *
00046> * 3:_____________________________________________________________________     *
00047> ********************************************************************************
00048>
00049> --------------------------------------------------------------------------------
00050> 001:0001--------------------------------------------------------------------------
00051> *#*****************************************************************************
00052> *#  Project Name: [Subdivision]    Project Number: [1522-1]
00053> *#  Date        : 01-02-2026
00054> *#  Modeller    : [CJC]
00055> *#  Company     : AGM Engineering Ltd.
00056> *#  License #   :  2957874
00057> *#*****************************************************************************
00058> -------------------
00059> | START           |  Project  dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\
00060> -------------------  Rainfall dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\
00061>     TZERO =   .00 hrs on        0
00062>     METOUT=   2 (output = METRIC)
00063>     NRUN  = 001
00064>     NSTORM=   0
00065> --------------------------------------------------------------------------------
00066> 001:0002--------------------------------------------------------------------------
00067> *                  ["  "] <--storm filename, one per line for NSTORM time
00068> *#MUNICIPALITY OF THAMES CENTRE IDF Curve-conversion to 3hr Chicago Distribution
00069> *
00070> *
00071> --------------------
00072> | CHICAGO STORM    |    IDF curve parameters: A=2019.372
00073> | Ptotal= 61.48 mm |                          B=   9.824
00074> --------------------                          C=    .875
00075>                          used in:   INTENSITY =  A / (t + B)^C
00076>
00077>                          Duration of storm  =  3.00 hrs
00078>                          Storm time step    =  5.00 min
00079>                          Time to peak ratio =   .38
00080>
00081>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00082>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00083>               .08   3.728 |    .83  14.864 |   1.58  19.014 |   2.33   5.802
00084>               .17   4.073 |    .92  21.194 |   1.67  15.402 |   2.42   5.369
00085>               .25   4.489 |   1.00  34.880 |   1.75  12.876 |   2.50   4.996
00086>               .33   4.999 |   1.08  78.524 |   1.83  11.024 |   2.58   4.671
00087>               .42   5.639 |   1.17 190.819 |   1.92   9.617 |   2.67   4.386
00088>               .50   6.463 |   1.25  93.073 |   2.00   8.514 |   2.75   4.133
00089>               .58   7.559 |   1.33  51.133 |   2.08   7.631 |   2.83   3.908
00090>               .67   9.080 |   1.42  33.677 |   2.17   6.909 |   2.92   3.707
00091>               .75  11.315 |   1.50  24.517 |   2.25   6.308 |   3.00   3.525
00092>
00093> --------------------------------------------------------------------------------
00094> 001:0003--------------------------------------------------------------------------
00095> *
00096> *#EXISTING AGRICULTURAL PROPERTY - TRIBUTARY TO NORTHEAST CORNER OF SITE
00097> *
00098> *
00099> ----------------------
00100> | CALIB NASHYD       |   Area    (ha)=    5.44   Curve Number   (CN)=82.00
00101> | 01:CAT1   DT= 1.00 |   Ia      (mm)=   7.000   # of Linear Res.(N)= 3.00
00102> ----------------------   U.H. Tp(hrs)=    .401
00103>
00104>      Unit Hyd Qpeak  (cms)=     .518
00105>
00106>      PEAK FLOW       (cms)=     .359 (i)
00107>      TIME TO PEAK    (hrs)=    1.683
00108>      RUNOFF VOLUME    (mm)=   26.928
00109>      TOTAL RAINFALL   (mm)=   61.485
00110>      RUNOFF COEFFICIENT   =     .438
00111>
00112>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00113>
00114> --------------------------------------------------------------------------------
00115> 001:0004--------------------------------------------------------------------------
00116> *
00117> *#EXISTING AGRICULTURAL PROPERTY - TRIBUTARY TO NORTH BOUNDARY OF SITE
00118> *
00119> *
00120> ----------------------
00121> | CALIB NASHYD       |   Area    (ha)=   14.84   Curve Number   (CN)=82.00
00122> | 02:CAT2   DT= 1.00 |   Ia      (mm)=   7.100   # of Linear Res.(N)= 3.00
00123> ----------------------   U.H. Tp(hrs)=    .484
00124>
00125>      Unit Hyd Qpeak  (cms)=    1.171
00126>
00127>      PEAK FLOW       (cms)=     .855 (i)
00128>      TIME TO PEAK    (hrs)=    1.783
00129>      RUNOFF VOLUME    (mm)=   26.854
00130>      TOTAL RAINFALL   (mm)=   61.485
00131>      RUNOFF COEFFICIENT   =     .437
00132>
00133>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00134>
00135> --------------------------------------------------------------------------------
00136> 001:0005--------------------------------------------------------------------------
00137> *
00138> *#EXISTING AGRICULTURAL PROPERTY, NEIGHBOURING RESIDENTIAL PROPERTIES
00139> *#AND PORTION OF WESTCHESTER BOURNE RIGHT-OF-WAY
00140> *#TRIBUTARY TO NORTHWEST CORNER OF SITE
00141> *
00142> *
00143> ----------------------
00144> | CALIB NASHYD       |   Area    (ha)=    8.55   Curve Number   (CN)=81.00
00145> | 04:CAT3   DT= 1.00 |   Ia      (mm)=   5.900   # of Linear Res.(N)= 3.00
00146> ----------------------   U.H. Tp(hrs)=    .443
00147>
00148>      Unit Hyd Qpeak  (cms)=     .737
00149>
00150>      PEAK FLOW       (cms)=     .525 (i)
00151>      TIME TO PEAK    (hrs)=    1.733
00152>      RUNOFF VOLUME    (mm)=   26.828
00153>      TOTAL RAINFALL   (mm)=   61.485
00154>      RUNOFF COEFFICIENT   =     .436
00155>
00156>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00157>
00158> --------------------------------------------------------------------------------
00159> 001:0006--------------------------------------------------------------------------
00160> *
00161>       FINISH
00162> --------------------------------------------------------------------------------
00163> ********************************************************************************
00164>      WARNINGS / ERRORS / NOTES
00165>      -------------------------
00166>    Simulation ended on 2025-12-19     at 09:52:32
00167> ================================================================================
00168>
```

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO         999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O       9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##   9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO            9      9   =========
00008>                                                           9   9  9   9   # 2957874
00009>          StormWater Management HYdrologic Model           999    999    =========
00010>
00011> ********************************************************************************
00012> ***************************** SWMHYMO Ver/4.05  ********************************
00013> *********  A single event and continuous hydrologic simulation model  *********
00014> *********     based on the principles of HYMO and its successors       *********
00015> *********               OTTHYMO-83 and OTTHYMO-89.                     *********
00016> ********************************************************************************
00017> ********* Distributed by:  J.F. Sabourin and Associates Inc.          *********
00018> *********                  Ottawa,  Ontario: (613) 836-3884           *********
00019> *********                  Gatineau, Quebec: (819) 243-6858           *********
00020> *********                  E-Mail: swmhymo@jfsa.com                   *********
00021> ********************************************************************************
00022>
00023> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024> +++++++++ Licensed user: AGM Engineering Ltd.                          +++++++++
00025> +++++++++                London              SERIAL#:2957874         +++++++++
00026> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028> ********************************************************************************
00029> *********           ++++++ PROGRAM ARRAY DIMENSIONS ++++++             *********
00030> *********           Maximum value for ID numbers  :     10            *********
00031> *********           Max. number of rainfall points: 105408            *********
00032> *********           Max. number of flow points    : 105408            *********
00033> ********************************************************************************
00034>
00035>
00036> **********************   D E T A I L E D   O U T P U T   **********************
00037> ********************************************************************************
00038> *         DATE: 2025-12-19     TIME: 09:52:45     RUN COUNTER: 000894         *
00039> ********************************************************************************
00040> * Input   filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre050.dat              *
00041> * Output  filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre050.out              *
00042> * Summary filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre050.sum              *
00043> * User comments:                                                             *
00044> * 1:_____________________________________________________________________     *
00045> * 2:_____________________________________________________________________     *
00046> * 3:_____________________________________________________________________     *
00047> ********************************************************************************
00048>
00049> --------------------------------------------------------------------------------
00050> 001:0001--------------------------------------------------------------------------
00051> *#*****************************************************************************
00052> *#  Project Name: [Subdivision]    Project Number: [1522-1]
00053> *#  Date        : 01-02-2026
00054> *#  Modeller    : [CJC]
00055> *#  Company     : AGM Engineering Ltd.
00056> *#  License #   :  2957874
00057> *#*****************************************************************************
00058> -------------------
00059> | START           |  Project  dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\
00060> -------------------  Rainfall dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\
00061>     TZERO =   .00 hrs on        0
00062>     METOUT=   2 (output = METRIC)
00063>     NRUN  = 001
00064>     NSTORM=   0
00065> --------------------------------------------------------------------------------
00066> 001:0002--------------------------------------------------------------------------
00067> *                    ["  "] <--storm filename, one per line for NSTORM time
00068> *#MUNICIPALITY OF THAMES CENTRE IDF Curve-conversion to 3hr Chicago Distribution
00069> *
00070> *
00071> --------------------
00072> | CHICAGO STORM    |    IDF curve parameters: A=2270.665
00073> | Ptotal= 68.72 mm |                          B=   9.984
00074> --------------------                          C=    .876
00075>                          used in:   INTENSITY =  A / (t + B)^C
00076>
00077>                          Duration of storm  =  3.00 hrs
00078>                          Storm time step    =  5.00 min
00079>                          Time to peak ratio =   .38
00080>
00081>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00082>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00083>               .08   4.162 |    .83  16.675 |   1.58  21.340 |   2.33   6.489
00084>               .17   4.549 |    .92  23.789 |   1.67  17.280 |   2.42   6.003
00085>               .25   5.016 |   1.00  39.146 |   1.75  14.440 |   2.50   5.585
00086>               .33   5.588 |   1.08  87.868 |   1.83  12.358 |   2.58   5.220
00087>               .42   6.307 |   1.17 211.984 |   1.92  10.776 |   2.67   4.900
00088>               .50   7.232 |   1.25 104.071 |   2.00   9.537 |   2.75   4.616
00089>               .58   8.463 |   1.33  57.343 |   2.08   8.544 |   2.83   4.364
00090>               .67  10.173 |   1.42  37.800 |   2.17   7.732 |   2.92   4.138
00091>               .75  12.685 |   1.50  27.521 |   2.25   7.058 |   3.00   3.934
00092>
00093> --------------------------------------------------------------------------------
00094> 001:0003--------------------------------------------------------------------------
00095> *
00096> *#EXISTING AGRICULTURAL PROPERTY - TRIBUTARY TO NORTHEAST CORNER OF SITE
00097> *
00098> *
00099> ----------------------
00100> | CALIB NASHYD       |   Area    (ha)=    5.44   Curve Number   (CN)=82.00
00101> | 01:CAT1   DT= 1.00 |   Ia      (mm)=   7.000   # of Linear Res.(N)= 3.00
00102> ----------------------   U.H. Tp(hrs)=    .401
00103>
00104>      Unit Hyd Qpeak  (cms)=     .518
00105>
00106>      PEAK FLOW       (cms)=     .436 (i)
00107>      TIME TO PEAK    (hrs)=    1.667
00108>      RUNOFF VOLUME    (mm)=   32.429
00109>      TOTAL RAINFALL   (mm)=   68.724
00110>      RUNOFF COEFFICIENT   =     .472
00111>
00112>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00113>
00114> --------------------------------------------------------------------------------
00115> 001:0004--------------------------------------------------------------------------
00116> *
00117> *#EXISTING AGRICULTURAL PROPERTY - TRIBUTARY TO NORTH BOUNDARY OF SITE
00118> *
00119> *
00120> ----------------------
00121> | CALIB NASHYD       |   Area    (ha)=   14.84   Curve Number   (CN)=82.00
00122> | 02:CAT2   DT= 1.00 |   Ia      (mm)=   7.100   # of Linear Res.(N)= 3.00
00123> ----------------------   U.H. Tp(hrs)=    .484
00124>
00125>      Unit Hyd Qpeak  (cms)=    1.171
00126>
00127>      PEAK FLOW       (cms)=    1.037 (i)
00128>      TIME TO PEAK    (hrs)=    1.783
00129>      RUNOFF VOLUME    (mm)=   32.352
00130>      TOTAL RAINFALL   (mm)=   68.724
00131>      RUNOFF COEFFICIENT   =     .471
00132>
00133>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00134>
00135> --------------------------------------------------------------------------------
00136> 001:0005--------------------------------------------------------------------------
00137> *
00138> *#EXISTING AGRICULTURAL PROPERTY, NEIGHBOURING RESIDENTIAL PROPERTIES
00139> *#AND PORTION OF WESTCHESTER BOURNE RIGHT-OF-WAY
00140> *#TRIBUTARY TO NORTHWEST CORNER OF SITE
00141> *
00142> *
00143> ----------------------
00144> | CALIB NASHYD       |   Area    (ha)=    8.55   Curve Number   (CN)=81.00
00145> | 04:CAT3   DT= 1.00 |   Ia      (mm)=   5.900   # of Linear Res.(N)= 3.00
00146> ----------------------   U.H. Tp(hrs)=    .443
00147>
00148>      Unit Hyd Qpeak  (cms)=     .737
00149>
00150>      PEAK FLOW       (cms)=     .635 (i)
00151>      TIME TO PEAK    (hrs)=    1.717
00152>      RUNOFF VOLUME    (mm)=   32.244
00153>      TOTAL RAINFALL   (mm)=   68.724
00154>      RUNOFF COEFFICIENT   =     .469
00155>
00156>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00157>
00158> --------------------------------------------------------------------------------
00159> 001:0006--------------------------------------------------------------------------
00160> *
00161>       FINISH
00162> --------------------------------------------------------------------------------
00163> ********************************************************************************
00164>      WARNINGS / ERRORS / NOTES
00165>      -------------------------
00166>    Simulation ended on 2025-12-19     at 09:52:45
00167> ================================================================================
00168>
```

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO         999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O       9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##   9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O        9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO            9      9   =========
00008>                                                           9   9  9   9   # 2957874
00009>          StormWater Management HYdrologic Model           999    999    =========
00010>
00011> ********************************************************************************
00012> ***************************** SWMHYMO Ver/4.05  ********************************
00013> *********  A single event and continuous hydrologic simulation model  *********
00014> *********     based on the principles of HYMO and its successors       *********
00015> *********               OTTHYMO-83 and OTTHYMO-89.                     *********
00016> ********************************************************************************
00017> ********* Distributed by:  J.F. Sabourin and Associates Inc.          *********
00018> *********                  Ottawa, Ontario: (613) 836-3884            *********
00019> *********                  Gatineau, Quebec: (819) 243-6858           *********
00020> *********                  E-Mail: swmhymo@jfsa.com                   *********
00021> ********************************************************************************
00022>
00023> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024> +++++++++ Licensed user: AGM Engineering Ltd.                          +++++++++
00025> +++++++++               London              SERIAL#:2957874          +++++++++
00026> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028> ********************************************************************************
00029> *********           ++++++ PROGRAM ARRAY DIMENSIONS ++++++             *********
00030> *********           Maximum value for ID numbers  :     10            *********
00031> *********           Max. number of rainfall points: 105408            *********
00032> *********           Max. number of flow points    : 105408            *********
00033> ********************************************************************************
00034>
00035>
00036> **********************   D E T A I L E D   O U T P U T   **********************
00037> ********************************************************************************
00038> *         DATE: 2025-12-19     TIME: 09:52:57     RUN COUNTER: 000895         *
00039> ********************************************************************************
00040> * Input   filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre100.dat              *
00041> * Output  filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre100.out              *
00042> * Summary filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre100.sum              *
00043> * User comments:                                                              *
00044> * 1:_____________________________________________________________________     *
00045> * 2:_____________________________________________________________________     *
00046> * 3:_____________________________________________________________________     *
00047> ********************************************************************************
00048>
00049> --------------------------------------------------------------------------------
00050> 001:0001--------------------------------------------------------------------------
00051> *#*****************************************************************************
00052> *#  Project Name: [Subdivision]    Project Number: [1522-1]
00053> *#  Date        : 01-02-2026
00054> *#  Modeller    : [CJC]
00055> *#  Company     : AGM Engineering Ltd.
00056> *#  License #   :  2957874
00057> *#*****************************************************************************
00058> -------------------
00059> | START           |  Project  dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\
00060> -------------------  Rainfall dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\
00061>     TZERO =   .00 hrs on        0
00062>     METOUT=   2 (output = METRIC)
00063>     NRUN  = 001
00064>     NSTORM=   0
00065> --------------------------------------------------------------------------------
00066> 001:0002--------------------------------------------------------------------------
00067> *                  ["  "] <--storm filename, one per line for NSTORM time
00068> *#MUNICIPALITY OF THAMES CENTRE IDF Curve-conversion to 3hr Chicago Distribution
00069> *
00070> *
00071> --------------------
00072> | CHICAGO STORM    |    IDF curve parameters: A=2619.363
00073> | Ptotal= 75.84 mm |                          B=  10.500
00074> --------------------                          C=    .884
00075>                          used in:   INTENSITY =  A / (t + B)^C
00076>
00077>                          Duration of storm  =  3.00 hrs
00078>                          Storm time step    =  5.00 min
00079>                          Time to peak ratio =   .38
00080>
00081>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00082>              hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00083>              .08   4.457 |    .83  18.443 |   1.58  23.697 |   2.33   7.029
00084>              .17   4.883 |    .92  26.456 |   1.67  19.124 |   2.42   6.490
00085>              .25   5.397 |   1.00  43.730 |   1.75  15.929 |   2.50   6.026
00086>              .33   6.031 |   1.08  97.901 |   1.83  13.591 |   2.58   5.623
00087>              .42   6.827 |   1.17 232.243 |   1.92  11.815 |   2.67   5.269
00088>              .50   7.855 |   1.25 115.806 |   2.00  10.428 |   2.75   4.957
00089>              .58   9.228 |   1.33  64.111 |   2.08   9.318 |   2.83   4.679
00090>              .67  11.140 |   1.42  42.223 |   2.17   8.413 |   2.92   4.431
00091>              .75  13.958 |   1.50  30.659 |   2.25   7.661 |   3.00   4.207
00092>
00093> --------------------------------------------------------------------------------
00094> 001:0003--------------------------------------------------------------------------
00095> *
00096> *#EXISTING AGRICULTURAL PROPERTY - TRIBUTARY TO NORTHEAST CORNER OF SITE
00097> *
00098> *
00099> ----------------------
00100> | CALIB NASHYD       |   Area    (ha)=    5.44   Curve Number   (CN)=82.00
00101> | 01:CAT1   DT= 1.00 |   Ia      (mm)=   7.000   # of Linear Res.(N)= 3.00
00102> ----------------------   U.H. Tp(hrs)=    .401
00103>
00104>      Unit Hyd Qpeak  (cms)=     .518
00105>
00106>      PEAK FLOW       (cms)=     .516 (i)
00107>      TIME TO PEAK    (hrs)=    1.667
00108>      RUNOFF VOLUME    (mm)=   38.032
00109>      TOTAL RAINFALL   (mm)=   75.836
00110>      RUNOFF COEFFICIENT   =     .501
00111>
00112>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00113>
00114> --------------------------------------------------------------------------------
00115> 001:0004--------------------------------------------------------------------------
00116> *
00117> *#EXISTING AGRICULTURAL PROPERTY - TRIBUTARY TO NORTH BOUNDARY OF SITE
00118> *
00119> *
00120> ----------------------
00121> | CALIB NASHYD       |   Area    (ha)=   14.84   Curve Number   (CN)=82.00
00122> | 02:CAT2   DT= 1.00 |   Ia      (mm)=   7.100   # of Linear Res.(N)= 3.00
00123> ----------------------   U.H. Tp(hrs)=    .484
00124>
00125>      Unit Hyd Qpeak  (cms)=    1.171
00126>
00127>      PEAK FLOW       (cms)=    1.229 (i)
00128>      TIME TO PEAK    (hrs)=    1.767
00129>      RUNOFF VOLUME    (mm)=   37.952
00130>      TOTAL RAINFALL   (mm)=   75.836
00131>      RUNOFF COEFFICIENT   =     .500
00132>
00133>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00134>
00135> --------------------------------------------------------------------------------
00136> 001:0005--------------------------------------------------------------------------
00137> *
00138> *#EXISTING AGRICULTURAL PROPERTY, NEIGHBOURING RESIDENTIAL PROPERTIES
00139> *#AND PORTION OF WESTCHESTER BOURNE RIGHT-OF-WAY
00140> *#TRIBUTARY TO NORTHWEST CORNER OF SITE
00141> *
00142> *
00143> ----------------------
00144> | CALIB NASHYD       |   Area    (ha)=    8.55   Curve Number   (CN)=81.00
00145> | 04:CAT3   DT= 1.00 |   Ia      (mm)=   5.900   # of Linear Res.(N)= 3.00
00146> ----------------------   U.H. Tp(hrs)=    .443
00147>
00148>      Unit Hyd Qpeak  (cms)=     .737
00149>
00150>      PEAK FLOW       (cms)=     .751 (i)
00151>      TIME TO PEAK    (hrs)=    1.717
00152>      RUNOFF VOLUME    (mm)=   37.764
00153>      TOTAL RAINFALL   (mm)=   75.836
00154>      RUNOFF COEFFICIENT   =     .498
00155>
00156>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00157>
00158> --------------------------------------------------------------------------------
00159> 001:0006--------------------------------------------------------------------------
00160> *
00161>       FINISH
00162> --------------------------------------------------------------------------------
00163> ********************************************************************************
00164>      WARNINGS / ERRORS / NOTES
00165>      -------------------------
00166>    Simulation ended on 2025-12-19     at 09:52:57
00167> ================================================================================
00168>
```

```
 ================================================================================
 
    SSSSS  W   W  M   M  H   H  Y   Y  M   M   000         999    999    =========
    S      W W W  MM MM  H   H   Y Y   MM MM  O   O       9   9  9   9
    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##   9   9  9   9   Ver  4.05
        S  W W W  M   M  H   H    Y    M   M  O   O        9999   9999   Sept 2011
    SSSSS   W W   M   M  H   H    Y    M   M   000             9      9   =========
                                                           9   9  9   9   # 2957874
          StormWater Management HYdrologic Model           999    999    =========
 
  ********************************************************************************
  ***************************** SWMHYMO Ver/4.05 *********************************
  *********  A single event and continuous hydrologic simulation model  *********
  *********     based on the principles of HYMO and its successors      *********
  *********               OTTHYMO-83 and OTTHYMO-89.                    *********
  ********************************************************************************
  ********* Distributed by:  J.F. Sabourin and Associates Inc.          *********
  *********                  Ottawa, Ontario: (613) 836-3884            *********
  *********                  Gatineau, Quebec: (819) 243-6858           *********
  *********                  E-Mail: swmhymo@jfsa.com                   *********
  ********************************************************************************
 
  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
  +++++++++ Licensed user: AGM Engineering Ltd.                          +++++++++
  +++++++++                London              SERIAL#:2957874           +++++++++
  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 
  ********************************************************************************
  *********           ++++++ PROGRAM ARRAY DIMENSIONS ++++++             *********
  *********           Maximum value for ID numbers  :     10            *********
  *********           Max. number of rainfall points: 105408            *********
  *********           Max. number of flow points    : 105408            *********
  ********************************************************************************
 
 
  **********************   D E T A I L E D   O U T P U T   **********************
  ********************************************************************************
  *         DATE: 2025-12-19     TIME: 09:53:09     RUN COUNTER: 000896          *
  ********************************************************************************
  * Input   filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre250.dat               *
  * Output  filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre250.out               *
  * Summary filename: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\pre250.sum               *
  * User comments:                                                               *
  * 1:_____________________________________________________________________      *
  * 2:_____________________________________________________________________      *
  * 3:_____________________________________________________________________      *
  ********************************************************************************
 
 --------------------------------------------------------------------------------
 001:0001--------------------------------------------------------------------------
 *#*****************************************************************************
 *#  Project Name: [Subdivision]    Project Number: [1522-1]
 *#  Date        : 01-02-2026
 *#  Modeller    : [CJC]
 *#  Company     : AGM Engineering Ltd.
 *#  License #   :  2957874
 *#*****************************************************************************
 ------------------
 | START          |  Project  dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\
 ------------------  Rainfall dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\1-Pre\
     TZERO =   .00 hrs on        0
     METOUT=   2 (output = METRIC)
     NRUN  = 001
     NSTORM=   0
 --------------------------------------------------------------------------------
 001:0002--------------------------------------------------------------------------
 *                 ["  "] <--storm filename, one per line for NSTORM time
 *#MUNICIPALITY OF THAMES CENTRE IDF Curve-conversion to 3hr Chicago Distribution
 *
 *
 --------------------
 | CHICAGO STORM    |    IDF curve parameters: A=3048.220
 | Ptotal= 86.61 mm |                          B=  10.030
 --------------------                          C=    .888
                          used in:   INTENSITY =  A / (t + B)^C

                          Duration of storm  =  3.00 hrs
                          Storm time step    =  5.00 min
                          Time to peak ratio =   .38

              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
               .08   4.911 |    .83  20.544 |   1.58  26.471 |   2.33   7.766
               .17   5.383 |    .92  29.598 |   1.67  21.310 |   2.42   7.167
               .25   5.954 |   1.00  49.310 |   1.75  17.716 |   2.50   6.652
               .33   6.656 |   1.08 112.508 |   1.83  15.092 |   2.58   6.204
               .42   7.541 |   1.17 274.730 |   1.92  13.104 |   2.67   5.811
               .50   8.685 |   1.25 133.591 |   2.00  11.554 |   2.75   5.465
               .58  10.215 |   1.33  72.819 |   2.08  10.315 |   2.83   5.157
               .67  12.349 |   1.42  47.569 |   2.17   9.306 |   2.92   4.882
               .75  15.503 |   1.50  34.367 |   2.25   8.469 |   3.00   4.634

 --------------------------------------------------------------------------------
 001:0003--------------------------------------------------------------------------
 *
 *#EXISTING AGRICULTURAL PROPERTY - TRIBUTARY TO NORTHEAST CORNER OF SITE
 *
 *
 ----------------------
 | CALIB NASHYD       |   Area    (ha)=    5.44   Curve Number   (CN)=82.00
 | 01:CAT1   DT= 1.00 |   Ia      (mm)=   7.000   # of Linear Res.(N)= 3.00
 ----------------------   U.H. Tp(hrs)=    .401

      Unit Hyd Qpeak  (cms)=     .518

      PEAK FLOW       (cms)=     .648 (i)
      TIME TO PEAK    (hrs)=    1.667
      RUNOFF VOLUME    (mm)=   46.818
      TOTAL RAINFALL   (mm)=   86.609
      RUNOFF COEFFICIENT   =     .541

      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

 --------------------------------------------------------------------------------
 001:0004--------------------------------------------------------------------------
 *
 *#EXISTING AGRICULTURAL PROPERTY - TRIBUTARY TO NORTH BOUNDARY OF SITE
 *
 *
 ----------------------
 | CALIB NASHYD       |   Area    (ha)=   14.84   Curve Number   (CN)=82.00
 | 02:CAT2   DT= 1.00 |   Ia      (mm)=   7.100   # of Linear Res.(N)= 3.00
 ----------------------   U.H. Tp(hrs)=    .484

      Unit Hyd Qpeak  (cms)=    1.171

      PEAK FLOW       (cms)=    1.539 (i)
      TIME TO PEAK    (hrs)=    1.767
      RUNOFF VOLUME    (mm)=   46.735
      TOTAL RAINFALL   (mm)=   86.609
      RUNOFF COEFFICIENT   =     .540

      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

 --------------------------------------------------------------------------------
 001:0005--------------------------------------------------------------------------
 *
 *#EXISTING AGRICULTURAL PROPERTY, NEIGHBOURING RESIDENTIAL PROPERTIES
 *#AND PORTION OF WESTCHESTER BOURNE RIGHT-OF-WAY
 *#TRIBUTARY TO NORTHWEST CORNER OF SITE
 *
 *
 ----------------------
 | CALIB NASHYD       |   Area    (ha)=    8.55   Curve Number   (CN)=81.00
 | 04:CAT3   DT= 1.00 |   Ia      (mm)=   5.900   # of Linear Res.(N)= 3.00
 ----------------------   U.H. Tp(hrs)=    .443

      Unit Hyd Qpeak  (cms)=     .737

      PEAK FLOW       (cms)=     .939 (i)
      TIME TO PEAK    (hrs)=    1.717
      RUNOFF VOLUME    (mm)=   46.432
      TOTAL RAINFALL   (mm)=   86.609
      RUNOFF COEFFICIENT   =     .536

      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

 --------------------------------------------------------------------------------
 001:0006--------------------------------------------------------------------------
 *
       FINISH
 --------------------------------------------------------------------------------
 ********************************************************************************
      WARNINGS / ERRORS / NOTES
      -------------------------
    Simulation ended on 2025-12-19     at 09:53:09
 ================================================================================
```

APPENDIX C
Post Development Model

SCS CURVE NUMBER DETERMINATION

Land Use		Hydrologic Soil Type				
		A	B	C	D	
Meadow	"Good Condition"	30	58	71	78	MTO
Woodlot	"Fair Condition"	36	60	73	79	MTO
Pasture	"Good Condition"	39	61	74	80	MTO
Crop	"Straight Row, Contoured in Good Condition"	65	75	82	86	MTO
Lawns	*"Fair Condition"*	*49*	*69*	*79*	*84*	*USDA*
Gravel		76	85	89	91	USDA
Impervious		98	98	98	98	MTO

United States Department of Agriculture, Part 630 Hydrology National Engineering Handbook, July 2004 (USDA)
MTO Drainage Management Manual, Design Chart 1.09 (MTO)

Land Use Breakdown by Pervious Area (%) - Proposed Condition

	Hydrologic Soil Type Classification							
Catchment	meadow (brush)	woodlot	Pasture	crop	lawns (modified)	gravel	impervious	TOTAL
101		6.8		37.5	55.8	0.0		100.0
102		0		26.6	73.4	0.0		100.0
103		0		0.0	100.0	0.0		100.0
104		0		0.0	100.0	0.0		100.0
105		0		0.0	95.9	4.1		100.0

Hydrologic Soil Type Breakdown (%) - Proposed Condition

	Hydrologic Soil Type Classification							
Catchment	A	AB	B	BC	C	CD	D	TOTAL
101					100			100
102					100			100
103					100			100
104					100			100
105					100			100

SCS Curve Number Pervious - Proposed Condition

	Hydrologic Soil Type Classification							
Catchment	meadow (brush)	woodlot	Pasture	crop	lawns (modified)	gravel	impervious	Weighted CN
101		73		82	79	89		80
102		73		82	79	89		80
103		73		82	79	89		79
104		73		82	79	89		79
105		73		82	79	89		79

Initial Abstraction - Proposed Condition

	Initial Abstraction By Landuse							
Catchment	meadow (brush)	woodlot	Pasture	crop	lawns (modified)	gravel	impervious	Weighted Initial Abstraction
101		10		7	5	3		6.1
102		10		7	5	3		5.5
103		10		7	5	3		5.0
104		10		7	5	3		5.0
105		10		7	5	3		4.9

POST DEVELOPMENT - MODELING DATA

CALIB STANDARD HYDROGRAPH (URBAN AREAS)

CATCHMENT NO.	AREA (ha)	XIMP (%)	TIMP (%)	BASE FLOW (cms)	PERVIOUS LENGTH (m)	IMP. LENGTH (m)	Perv. Initial Abstraction (mm)	Imp. Initial Abstraction (mm)	PERVIOUS MANNINGS (n)	Pervious Slope (%)	Impervious Slope (%)	SCS CURVE #
101	14.31	43.9%	53.9%	0	45	385	6.1	2.0	0.25	2	1	80
102	9.10	58.0%	68.0%	0	45	644	5.5	2.0	0.25	2	1	80
103	3.65	75.0%	85.0%	0	40	340	5.0	2.0	0.25	2	1	79

CALIB NASH HYDROGRAPH (RURAL PERVIOUS AREAS)

CATCHMENT NO.	AREA (ha)	SCS CURVE #	BASE FLOW (cms)	Initial Abstraction (mm)	Time to Peak (hrs)	Time of concentration (hrs)	Runoff Coef., C	Watershed Length, L (m)	Watershed Slope, (%)
104	0.27	79	0.000	5.0	0.033	0.055	0.20	13.0	33.0
105	1.80	79	0.000	4.9	0.367	0.612	0.38	490.0	2.8

SWM POND STORAGE DATA

Elevation (m)	Area (m^2)	Storage		Discharge				Total Combined Discharge (m^3/s)	Description
		Storage Increment (m^3)	Total Storage (m^3)	150 mm ø (m^3/s)	450 mm ø (m^3/s)	Combined Pipe Discharge (m^3/s)	Overland Flow (m^3/s)		
Forebay (Dead Storage)									
267.00	546	0	0						
268.00	1354	950	950						
Permanent Pool (Dead Storage)									
267.00	2090	0	0						
268.00	3181	2636	2636						
268.00	-	-	**3586**						Top of Permanent Pool
Extended Detention and Attenuation (Active Storage)									
268.00	4706	0	0	0.000	0.000	0.000	0.000	0.000	Bottom of Extended Detention
268.20	5323	891.3	891.3	0.021	0.000	0.021	0.000	0.021	
268.40	5642	1062.3	1953.6	0.030	0.000	0.030	0.000	0.030	
268.60	5967	1135.0	3088.6	0.036	0.000	0.036	0.000	0.036	
268.80	6298	1206.3	4294.9	0.042	0.000	0.042	0.000	0.042	Top of Extended Detention = 269.00
269.00	6635	1277.6	5572.5	0.047	0.000	0.047	0.000	0.047	2 Year Water Elev. = 268.18
269.20	6978	1349.2	6921.7	0.051	0.189	0.240	0.000	0.240	5 Year Water Elev. = 268.21
269.40	7328	1421.1	8342.8	0.056	0.267	0.323	0.000	0.323	10 Year Water Elev. = 268.39
269.60	7684	1493.9	9836.7	0.059	0.327	0.387	0.000	0.387	25 / 50 Year Water Elev. = 268.63 / 269.81
269.80	8046	1567.3	11404.0	0.063	0.378	0.441	0.000	0.441	100 Year Water Elev. = 269.99
270.00	8415	1641.5	13045.5	0.066	0.423	0.489	0.000	0.489	Bottom of Weir = 270.00
270.15	8695	1280.5	14326.0	0.069	0.453	0.522	0.342	0.864	250 Year Water Elev. = 269.17
270.30	8979	1323.6	15649.6	0.071	0.482	0.553	1.094	1.648	Top of Pond = 269.65

$$Q = \underbrace{C_{RECT} L H^{1.5}}_{\text{RECTANGULAR WEIR EQUATION}} + \underbrace{C_{TRI} S H^{2.5}}_{\text{SLOPED WEIR EQUATION}}$$

Where,

C_{RECT}= 1.7

C_{TRI}= 1.3

H= Head in m

L= bottom width

S= Horizontal component of slope (H:1)

250 Year Overland Flow Calculation:

Where,

C_{TRI}= 1.3

Elevation= 270.17

H= 0.17m

S= 4:1

$$Q = C_{RECT} L H^{1.5} + C_{TRI} S H^{2.5}$$

$$Q = 1.5 \times 3 \times 0.17^{2.5} + 1.3 \times 4 \times 0.017^{2.5}$$

$$\boldsymbol{Q = 0.477 \frac{m^3}{s}}$$

SWM POND FOREBAY REQUIREMENTS

1) Settling Length: Length required to settle 150um size particles

Distance = $\sqrt{\frac{rQ_p}{Vs}}$ where

r=	4.4	:1	Length to width ratio of forebay
Q_p=	0.223	m^3/s	Peak outflow from extended detention zone
V_s=	0.0003	m/s	Settling velocity

Distance = 56.9 m

2) Dispersion Length: Length required for dispersion of incoming fluid jet

Distance = $\frac{8Q}{dV_f}$ where

Q=	3.53	m^3/s	for 2 year storm event
d=	1.00	m	Depth of permanent pool in forebay
V_f=	0.5	m/s	Desired velocity in forebay

Distance = 56.5 m

FOREBAY LENGTH PROVIDED = 57 m at bottom elevation from inlet to forebay berm

3) Bottom Width: Minimum forebay bottom width

Width = $\frac{Dist.}{8}$

Width = $\frac{53}{8}$

Width = 6.6 m

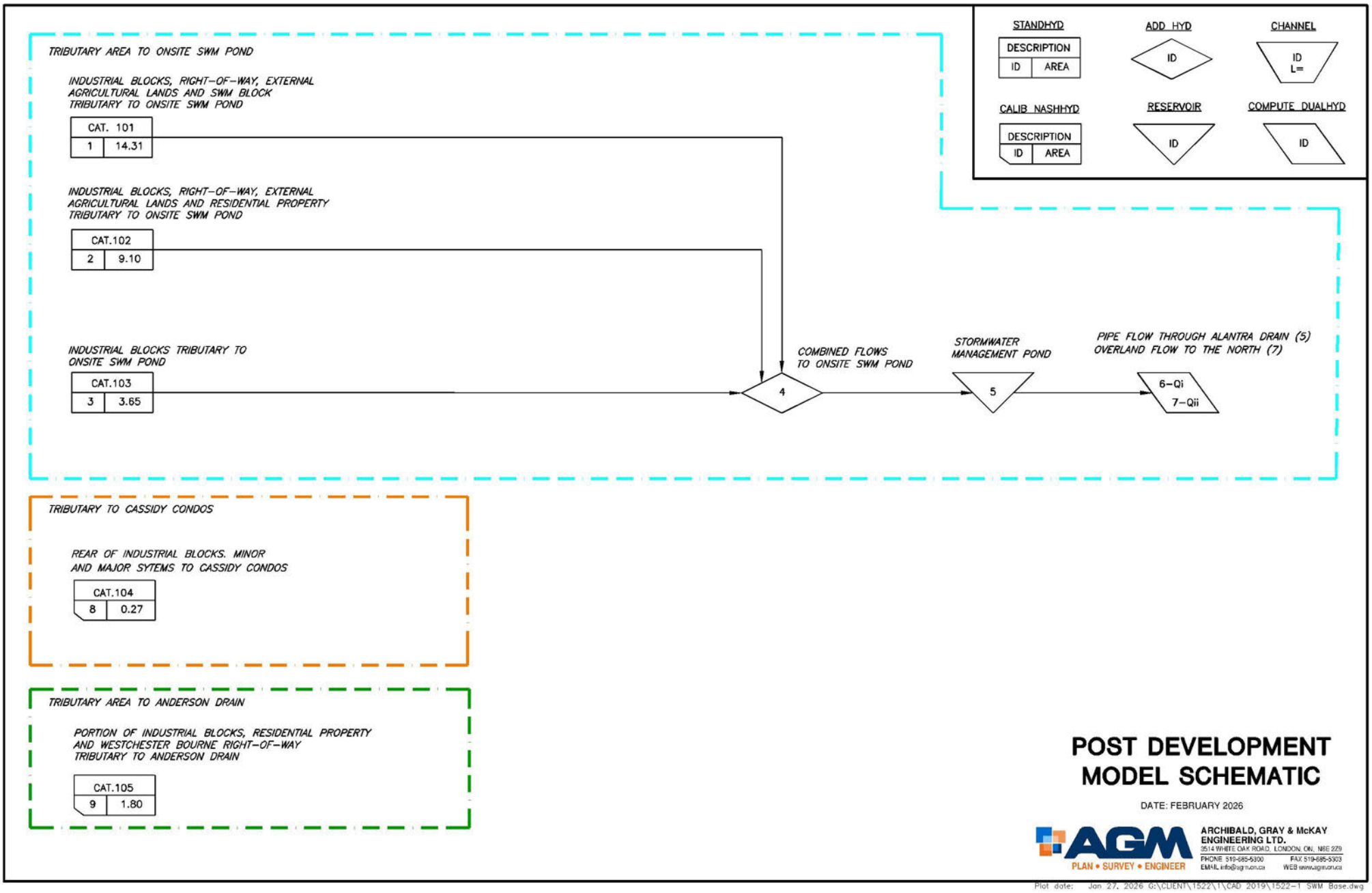
AVERAGE FOREBAY WIDTH PROVIDED = 13 m at bottom elevation

4) Maximum Area: Surface area of the forebay should not exceed 1/3 of the total permanent pool area

$A_{forebay}$ = 1354 m^2 at top elevation

$A_{perm.pool}$ = 4535 m^2 at top elevation

$A_{forebay}$ < 1/3 $A_{perm.pool}$



POST DEVELOPMENT MODEL SCHEMATIC

DATE: FEBRUARY 2026

ARCHIBALD, GRAY & McKAY ENGINEERING LTD.
2514 WHITE OAK ROAD, LONDON, ON, N6E 2Z9
PHONE 519-685-5300 FAX 519-685-5303
EMAIL info@agmuon.ca WEB www.agmuon.ca
PLAN • SURVEY • ENGINEER

Plot date: Jan 27, 2026 G:\CLIENT\1522\1\CAD 2019\1522-1 SWM Base.dwg
Plotted by Keagan Lovigne 2026-01-27 14:51

Input File

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999     =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9    =========
00008>                                                          9   9  9   9   # 2957874
00009>          StormWater Management HYdrologic Model           999    999    =========
00010>
00011>  ********************************************************************************
00012>  ***************************** SWMHYMO Ver/4.05  ********************************
00013>  *********  A single event and continuous hydrologic simulation model  *********
00014>  *********      based on the principles of HYMO and its successors      *********
00015>  *********                  OTTHYMO-83 and OTTHYMO-89.                  *********
00016>  ********************************************************************************
00017>  ********* Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018>  *********                  Ottawa,  Ontario: (613) 836-3884            *********
00019>  *********                  Gatineau, Quebec: (819) 243-6858            *********
00020>  *********                  E-Mail: swmhymo@jfsa.Com                    *********
00021>  ********************************************************************************
00022>
00023>  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024>  +++++++++ Licensed user: AGM Engineering Ltd.                           +++++++++
00025>  +++++++++                London                SERIAL#:2957874       +++++++++
00026>  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028>  ********************************************************************************
00029>  *********            ++++++ PROGRAM ARRAY DIMENSIONS ++++++            *********
00030>  *********            Maximum value for ID numbers  :   10             *********
00031>  *********            Max. number of rainfall points: 105408           *********
00032>  *********            Max. number of flow points    : 105408           *********
00033>  ********************************************************************************
00034>
00035>  ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
00036>  *****-------------------------------------------------------------------------*****
00037>  *****    ID:  Hydrograph IDentification numbers, (1-10).                  *****
00038>  *****  NHYD:  Hydrograph reference numbers, (6 digits or characters).     *****
00039>  *****  AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).   *****
00040>  ***** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).     *****
00041>  ***** TpeakDate_hh:mm is the date and time of the peak flow.              *****
00042>  *****  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).       *****
00043>  *****  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).       *****
00044>  *****    *:  see WARNING or NOTE message printed at end of run.          *****
00045>  *****   **:  see  ERROR  message printed at end of run.                  *****
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  **********************  S U M M A R Y   O U T P U T  **********************
00054>  ********************************************************************************
00055>  *         DATE: 2026-01-26     TIME: 14:21:32     RUN COUNTER: 002745          *
00056>  ********************************************************************************
00057>  * Input   filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post002.dat           *
00058>  * Output  filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post002.out           *
00059>  * Summary filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post002.sum           *
00060>  * User comments:                                                             *
00061>  * 1:_____________________________________________________________________   *
00062>  * 2:_____________________________________________________________________   *
00063>  * 3:_____________________________________________________________________   *
00064>  ********************************************************************************
00065>
00066>
00067> #*******************************************************************************
00068> #  Project Name: [3004 Westchester Bourne]    Project Number: [1522-1]
00069> #  Date        : 01-26-2026
00070> #  Modeller    : [CJC]
00071> #  Company     : AGM Engineering Ltd.
00072> #  License #   :  2957874
00073> #*******************************************************************************
00074>  RUN:COMMAND#
00075>  001:0001-------------------------------------------------------------------------
00076>      START
00077>        [TZERO =    .00 hrs on        0]
00078>        [METOUT=   2    (1=imperial, 2=metric output)]
00079>        [NSTORM=   0 ]
00080>        [NRUN  =   1 ]
00081> #MUNICIPALITY OF THAMES CENTRE IDF Curve-conversion to 3hr Chicago Distribution
00082>  001:0002-------------------------------------------------------------------------
00083>      CHICAGO STORM
00084>        [SDT= 5.00:SDUR=   3.00:PTOT=  42.75]
00085>        [A/B/C=1290.000/   8.500/    .860]
00086>  001:0003---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00087>      CALIB STANDHYD      01:CAT101         14.31    1.675 No_date    1:14   26.80
00088>        [XIMP=.44:TIMP=.54]
00089>        [LOSS= 2 :CN= 80.0]
00090>        [Pervious     area: IAper= 6.10:SLPP=2.00:LGP=  45.:MNP=.250:SCP=   .0]
00091>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 385.:MNI=.015:SCI=   .0]
00092>  001:0004---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00093>      CALIB STANDHYD      02:CAT102          9.10    1.187 No_date    1:17   30.82
00094>        [XIMP=.58:TIMP=.68]
00095>        [LOSS= 2 :CN= 80.0]
00096>        [Pervious     area: IAper= 5.50:SLPP=2.00:LGP=  45.:MNP=.250:SCP=   .0]
00097>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 644.:MNI=.015:SCI=   .0]
00098>  001:0005---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00099>      CALIB STANDHYD      03:CAT103          3.65     .739 No_date    1:13   35.48
00100>        [XIMP=.75:TIMP=.85]
00101>        [LOSS= 2 :CN= 79.0]
00102>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00103>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 340.:MNI=.015:SCI=   .0]
00104>  001:0006---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00105>      ADD HYD             01:CAT101         14.31    1.675 No_date    1:14   26.80
00106>                        + 02:CAT102          9.10    1.187 No_date    1:17   30.82
00107>                        + 03:CAT103          3.65     .739 No_date    1:13   35.48
00108>        [DT= 1.00]  SUM=  04:INLET          27.06    3.530 No_date    1:15   29.32
00109>  001:0007---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00110>      ROUTE RESERVOIR -> 04:INLET          27.06    3.530 No_date    1:15   29.32
00111>        [RDT= 1.00] out<- 05:POND          27.06     .223 No_date    2:50   29.32
00112>      (MxStoUsed=.6804E+00)
00113>  001:0008---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00114>      DIVERT HYD      -> 05:POND          27.06     .223 No_date    2:50   29.32
00115>             diverted <= 06:PIPE          27.06     .223 No_date    2:50   29.32
00116>             diverted <= 07:ORF             .00     .000 No_date    0:00     .00
00117>  001:0009---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00118>   *  CALIB NASHYD       08:CAT104           .27     .026 No_date    1:11   12.32
00119>        [CN= 79.0: N= 3.00]
00120>        [Tp=  .03:DT= 1.00]
00121>  001:0010---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00122>      CALIB NASHYD        02:CAT105          1.80     .062 No_date    1:39   13.60
00123>        [CN= 79.0: N= 3.00]
00124>        [Tp=  .37:DT= 1.00]
00125>  001:0011-------------------------------------------------------------------------
00126>        FINISH
00127> --------------------------------------------------------------------------------
00128> ********************************************************************************
00129>      WARNINGS / ERRORS / NOTES
00130>      -------------------------
00131>  001:0009 CALIB NASHYD
00132>         *** WARNING: Time step is too large for value of TP.
00133>                      R.V. may be ok.  Peak flow could be off.
00134>    Simulation ended on 2026-01-26     at 14:21:32
00135> ================================================================================
00136>
```

Output Files

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9    =========
00008>                                                          9   9  9   9   # 2957874
00009>         StormWater Management HYdrologic Model           999    999    =========
00010>
00011> ********************************************************************************
00012> ****************************** SWMHYMO Ver/4.05  *******************************
00013> *********  A single event and continuous hydrologic simulation model  *********
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00015> *********                    OTTHYMO-83 and OTTHYMO-89.                *********
00016> ********************************************************************************
00017> ********* Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018> *********                  Ottawa,  Ontario: (613) 836-3884            *********
00019> *********                  Gatineau, Quebec: (819) 243-6858            *********
00020> *********                  E-Mail: swmhymo@jfsa.Com                    *********
00021> ********************************************************************************
00022>
00023> ********************************************************************************
00024> ********* Licensed user: AGM Engineering Ltd.                          *********
00025> *********                London                SERIAL#:2957874         *********
00026> ********************************************************************************
00027>
00028> ********************************************************************************
00029> *********             ++++++ PROGRAM ARRAY DIMENSIONS ++++++            *********
00030> *********             Maximum value for ID numbers  :    10            *********
00031> *********             Max. number of rainfall points: 105408           *********
00032> *********             Max. number of flow points    : 105408           *********
00033> ********************************************************************************
00034>
00035>
00036> *********************   D E T A I L E D   O U T P U T   **********************
00037> ********************************************************************************
00038> *         DATE: 2026-01-26      TIME: 14:21:32      RUN COUNTER: 002745         *
00039> ********************************************************************************
00040> * Input   filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post002.dat             *
00041> * Output  filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post002.out             *
00042> * Summary filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post002.sum             *
00043> * User comments:                                                              *
00044> * 1:_____________________________________________________________________     *
00045> * 2:_____________________________________________________________________     *
00046> * 3:_____________________________________________________________________     *
00047> ********************************************************************************
00048>
00049> --------------------------------------------------------------------------------
00050> 001:0001--------------------------------------------------------------------------
00051> *#*****************************************************************************
00052> *#  Project Name: [3004 Westchester Bourne]    Project Number: [1522-1]
00053> *#  Date        : 01-26-2026
00054> *#  Modeller    : [CJC]
00055> *#  Company     : AGM Engineering Ltd.
00056> *#  License #   :  2957874
00057> *#*****************************************************************************
00058> --------------------
00059> | START            |  Project  dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\
00060> --------------------  Rainfall dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\
00061>     TZERO =   .00 hrs on      0
00062>     METOUT=  2 (output = METRIC)
00063>     NRUN  = 001
00064>     NSTORM=   0
00065> --------------------------------------------------------------------------------
00066> 001:0002--------------------------------------------------------------------------
00067> *                [" "] <--storm filename, one per line for NSTORM time
00068> *#MUNICIPALITY OF THAMES CENTRE IDF Curve-conversion to 3hr Chicago Distribution
00069> *
00070> *
00071> --------------------
00072> | CHICAGO STORM    |    IDF curve parameters: A=1290.000
00073> | Ptotal= 42.75 mm |                          B=   8.500
00074> --------------------                          C=    .860
00075>                          used in:   INTENSITY =  A / (t + B)^C
00076>
00077>                          Duration of storm  =  3.00 hrs
00078>                          Storm time step    =  5.00 min
00079>                          Time to peak ratio =   .38
00080>
00081>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00082>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00083>               .08   2.713 |    .83  10.155 |   1.58  12.892 |   2.33   4.129
00084>               .17   2.951 |    .92  14.330 |   1.67  10.510 |   2.42   3.836
00085>               .25   3.236 |   1.00  23.413 |   1.75   8.843 |   2.50   3.582
00086>               .33   3.585 |   1.08  53.471 |   1.83   7.618 |   2.58   3.361
00087>               .42   4.019 |   1.17 137.563 |   1.92   6.684 |   2.67   3.165
00088>               .50   4.575 |   1.25  63.677 |   2.00   5.950 |   2.75   2.992
00089>               .58   5.311 |   1.33  34.355 |   2.08   5.360 |   2.83   2.837
00090>               .67   6.327 |   1.42  22.603 |   2.17   4.875 |   2.92   2.698
00091>               .75   7.810 |   1.50  16.524 |   2.25   4.471 |   3.00   2.572
00092>
00093> --------------------------------------------------------------------------------
00094> 001:0003--------------------------------------------------------------------------
00095> ********************************************************************************
00096> *                                                                              *
00097> *                POST DEVELOPMENT CONDITION TO ONSITE SWM POND                 *
00098> *                                                                              *
00099> ********************************************************************************
00100> *
00101> * CATCHMENT 101 - INDUSTRIAL BLOCKS, RIGHT-OF-WAY, EXTERNAL AGRICULTURAL LANDS
00102> *                 AND SWM BLOCK. MINOR AND MAJOR SYSTEMS TO ONSITE SWM POND
00103> *
00104> ----------------------
00105> | CALIB STANDHYD     |   Area    (ha)=   14.31
00106> | 01:CAT101 DT= 1.00 |   Total Imp(%)=   54.00   Dir. Conn.(%)=   44.00
00107> ----------------------
00108>                                IMPERVIOUS    PERVIOUS (i)
00109>      Surface Area      (ha)=       7.73          6.58
00110>      Dep. Storage      (mm)=       2.00          6.10
00111>      Average Slope      (%)=       1.00          2.00
00112>      Length             (m)=     385.00         45.00
00113>      Mannings n             =       .015          .250
00114>
00115>      Max.eff.Inten.(mm/hr)=     125.25         36.67
00116>                 over (min)       6.00         17.00
00117>      Storage Coeff.  (min)=      5.71 (ii)     17.03 (ii)
00118>      Unit Hyd. Tpeak (min)=      6.00          17.00
00119>      Unit Hyd. peak  (cms)=       .19           .07
00120>                                                          *TOTALS*
00121>      PEAK FLOW       (cms)=      1.55           .39          1.675 (iii)
00122>      TIME TO PEAK    (hrs)=      1.23          1.48          1.233
00123>      RUNOFF VOLUME    (mm)=     40.75         15.84         26.801
00124>      TOTAL RAINFALL   (mm)=     42.75         42.75         42.750
00125>      RUNOFF COEFFICIENT   =       .95           .37           .627
00126>
00127>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00128>            CN* =  80.0    Ia = Dep. Storage  (Above)
00129>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00130>            THAN THE STORAGE COEFFICIENT.
00131>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00132>
00133> --------------------------------------------------------------------------------
00134> 001:0004--------------------------------------------------------------------------
00135> *
00136> * CATCHMENT 102 - INDUSTRIAL BLOCKS, RIGHT-OF-WAY, EXTERNAL AGRICULTURAL LANDS
00137> *                 AND RESIDNETIAL PROPERTY. MINOR AND MAJOR SYSTEMS
00138> *                 TRIBUTARY TO ONSITE SWM POND
00139> *
00140> ----------------------
00141> | CALIB STANDHYD     |   Area    (ha)=    9.10
00142> | 02:CAT102 DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   58.00
00143> ----------------------
00144>                                IMPERVIOUS    PERVIOUS (i)
00145>      Surface Area      (ha)=       6.19          2.91
00146>      Dep. Storage      (mm)=       2.00          5.50
00147>      Average Slope      (%)=       1.00          2.00
00148>      Length             (m)=     644.00         45.00
00149>      Mannings n             =       .015          .250
00150>
00151>      Max.eff.Inten.(mm/hr)=     109.86         40.16
00152>                 over (min)       8.00         19.00
00153>      Storage Coeff.  (min)=      8.20 (ii)     19.11 (ii)
00154>      Unit Hyd. Tpeak (min)=      8.00          19.00
00155>      Unit Hyd. peak  (cms)=       .14           .06
00156>                                                          *TOTALS*
00157>      PEAK FLOW       (cms)=      1.11           .19          1.187 (iii)
00158>      TIME TO PEAK    (hrs)=      1.27          1.52          1.283
00159>      RUNOFF VOLUME    (mm)=     40.75         17.10         30.817
00160>      TOTAL RAINFALL   (mm)=     42.75         42.75         42.750
00161>      RUNOFF COEFFICIENT   =       .95           .40           .721
00162>
00163>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00164>            CN* =  80.0    Ia = Dep. Storage  (Above)
00165>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00166>            THAN THE STORAGE COEFFICIENT.
00167>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00168>
00169> --------------------------------------------------------------------------------
00170> 001:0005--------------------------------------------------------------------------
00171> *
00172> * CATCHMENT 103 - INDUSTRIAL BLOCKS MINOR SYSTEM AND MAJOR SYSTEM TRIBUTARY
00173> *                 TO ONSITE SWM POND
00174> *
00175> ----------------------
00176> | CALIB STANDHYD     |   Area    (ha)=    3.65
00177> | 03:CAT103 DT= 1.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   75.00
00178> ----------------------
00179>                                IMPERVIOUS    PERVIOUS (i)
00180>      Surface Area      (ha)=       3.10           .55
00181>      Dep. Storage      (mm)=       2.00          5.00
00182>      Average Slope      (%)=       1.00          2.00
00183>      Length             (m)=     340.00         40.00
00184>      Mannings n             =       .015          .250
00185>
00186>      Max.eff.Inten.(mm/hr)=     137.56         72.46
00187>                 over (min)       5.00         13.00
00188>      Storage Coeff.  (min)=      5.11 (ii)     13.13 (ii)
00189>      Unit Hyd. Tpeak (min)=      5.00          13.00
00190>      Unit Hyd. peak  (cms)=       .22           .09
00191>                                                          *TOTALS*
00192>      PEAK FLOW       (cms)=       .71           .07           .739 (iii)
00193>      TIME TO PEAK    (hrs)=      1.22          1.40          1.217
00194>      RUNOFF VOLUME    (mm)=     40.75         19.69         35.484
00195>      TOTAL RAINFALL   (mm)=     42.75         42.75         42.750
00196>      RUNOFF COEFFICIENT   =       .95           .46           .830
00197>
00198>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00199>            CN* =  79.0    Ia = Dep. Storage  (Above)
00200>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00201>            THAN THE STORAGE COEFFICIENT.
00202>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00203>
00204> --------------------------------------------------------------------------------
00205> 001:0006--------------------------------------------------------------------------
00206> *
00207> * COMBINED INLET FLOWS TO ONSITE SWM POND
00208> *
00209> ----------------------
00210> | ADD HYD (INLET     ) | ID: NHYD        AREA     QPEAK   TPEAK   R.V.    DWF
00211> ----------------------                  (ha)     (cms)   (hrs)   (mm)    (cms)
00212>                        ID1 01:CAT101     14.31    1.675    1.23  26.80    .000
00213>                       +ID2 02:CAT102      9.10    1.187    1.28  30.82    .000
00214>                       +ID3 03:CAT103      3.65     .739    1.22  35.48    .000
00215>                        ==========================================================
00216>                        SUM 04:INLET       27.06    3.530    1.25  29.32    .000
00217>
00218>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00219>
00220> --------------------------------------------------------------------------------
00221> 001:0007--------------------------------------------------------------------------
00222> *
00223> * PROPOSED ONSITE SWM POND WITH OUTLET PIPE DISCHARGING TO ALANTRA DRAIN AND
00224> * WEIR CONVEYING MAJOR SYSTEM FLOWS OVERLAND TO THE NORTH
00225> *
00226> *
00227> ----------------------
00228> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
00229> |  IN>04:(INLET )    |
00230> | OUT<05:(POND  )    |    =========  OUTFLOW STORAGE TABLE  =========
00231> ----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
00232>                             (cms)     (ha.m.)  |    (cms)     (ha.m.)
00233>                              .000  .0000E+00    |     .323  .8343E+00
00234>                              .021  .8913E-01    |     .387  .9837E+00
00235>                              .030  .1954E+00    |     .441  .1140E+01
00236>                              .036  .3089E+00    |     .489  .1305E+01
00237>                              .042  .4295E+00    |     .864  .1423E+01
00238>                              .047  .5573E+00    |    1.648  .1565E+01
00239>                              .240  .6922E+00    |     .000  .0000E+00
00240>
00241>      ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
00242>      ---------------            (ha)     (cms)     (hrs)       (mm)
00243>      INFLOW >04: (INLET )      27.06    3.530     1.250      29.323
00244>      OUTFLOW<05: (POND  )      27.06     .223     2.833      29.322
00245>
00246>                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=    6.323
00247>                    TIME SHIFT OF PEAK FLOW          (min)=   95.00
00248>                    MAXIMUM  STORAGE   USED        (ha.m.)=.6804E+00
00249>
00250> --------------------------------------------------------------------------------
00251> 001:0008--------------------------------------------------------------------------
00252> *
00253> * SPLITTING OUTFLOW FROM POND TO ILLUSTRATE STORM FLOWS PIPED DIRECTLY TO
00254> * ALANTRA DRAIN AND OVERLAND FLOWS TO THE NORTH.
```

```
00255> *
00256> -------------------
00257> | DIVERT HYD      |
00258> | INID=05  (POND  )|
00259> -------------------
00260>       Outflow / Inflow  Relationships
00261>       Flow 06 +  Flow 07 =  Total
00262>        (cms)      (cms)      (cms)
00263>          .000       .000       .000
00264>          .021       .000       .021
00265>          .030       .000       .030
00266>          .036       .000       .036
00267>          .042       .000       .042
00268>          .047       .000       .047
00269>          .240       .000       .240
00270>          .323       .000       .323
00271>          .387       .000       .387
00272>          .441       .000       .441
00273>          .489       .000       .489
00274>          .522       .342       .864
00275>          .553      1.094      1.648
00276>
00277>              NHYD       AREA    QPEAK  TpeakDate_hh:mm       R.V.  NFE WetHrs
00278>                          (ha)    (cms)                       (mm)       (hrs)
00279>    IDin = 05:POND      27.06     .223  No_date    2:50     29.322    1   189.
00280>    ==========================================================================
00281>    IDout= 06:PIPE      27.06     .223  No_date    2:50     29.322    1   189.
00282>    IDout= 07:ORF         .00     .000  No_date    0:00       .000    0     0.
00283> --------------------------------------------------------------------------------
00284> 001:0009-----------------------------------------------------------------------
00285> ********************************************************************************
00286> *                                                                              *
00287> *                 POST DEVELOPMENT PEAK FLOWS TO CASSIDY CONDOS                *
00288> *                                                                              *
00289> ********************************************************************************
00290> *
00291> * CATCHMENT 104 - REAR OF INDUSTRIAL BLOCKS TRIBUTARY TO CASSIDY CONDOS
00292> *
00293> ----------------------
00294> | CALIB NASHYD       |   Area    (ha)=     .27   Curve Number   (CN)=79.00
00295> | 08:CAT104 DT= 1.00 |   Ia      (mm)=   7.100   # of Linear Res.(N)= 3.00
00296> ----------------------   U.H. Tp(hrs)=    .033
00297>
00298>      Unit Hyd Qpeak  (cms)=     .313
00299>
00300>      PEAK FLOW       (cms)=     .026 (i)
00301>      TIME TO PEAK    (hrs)=    1.183
00302>      RUNOFF VOLUME    (mm)=   12.318
00303>      TOTAL RAINFALL   (mm)=   42.750
00304>      RUNOFF COEFFICIENT   =     .288
00305>
00306>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00307>
00308>       *** WARNING: Time step is too large for value of TP.
00309>                    R.V. may be ok.  Peak flow could be off.
00310> --------------------------------------------------------------------------------
00311> 001:0010-----------------------------------------------------------------------
00312> ********************************************************************************
00313> *                                                                              *
00314> *                 POST DEVELOPMENT PEAK FLOWS TO ANDERSON DRAIN                *
00315> *                                                                              *
00316> ********************************************************************************
00317> *
00318> * CATCHMENT 105 - PORTION OF INDUSTRIAL BLOCK, RESIDENTIAL PROPERTY AND
00319> *                  WESTCHESTER BOURNE ROW. MINOR AND MAJOR SYSTEMS TO ANDERSON
00320> *
00321> ----------------------
00322> | CALIB NASHYD       |   Area    (ha)=    1.80   Curve Number   (CN)=79.00
00323> | 02:CAT105 DT= 1.00 |   Ia      (mm)=   4.900   # of Linear Res.(N)= 3.00
00324> ----------------------   U.H. Tp(hrs)=    .367
00325>
00326>      Unit Hyd Qpeak  (cms)=     .187
00327>
00328>      PEAK FLOW       (cms)=     .062 (i)
00329>      TIME TO PEAK    (hrs)=    1.650
00330>      RUNOFF VOLUME    (mm)=   13.596
00331>      TOTAL RAINFALL   (mm)=   42.750
00332>      RUNOFF COEFFICIENT   =     .318
00333>
00334>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00335>
00336> --------------------------------------------------------------------------------
00337> 001:0011-----------------------------------------------------------------------
00338>       FINISH
00339> --------------------------------------------------------------------------------
00340> ********************************************************************************
00341>      WARNINGS / ERRORS / NOTES
00342>      -------------------------
00343>  001:0009 CALIB NASHYD
00344>       *** WARNING: Time step is too large for value of TP.
00345>                    R.V. may be ok.  Peak flow could be off.
00346>    Simulation ended on 2026-01-26     at 14:21:32
00347> ================================================================================
00348>
```

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00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9    =========
00008>                                                          9   9  9   9   # 2957874
00009>         StormWater Management HYdrologic Model           999    999    =========
00010>
00011> ********************************************************************************
00012> ****************************** SWMHYMO Ver/4.05  *******************************
00013> *********  A single event and continuous hydrologic simulation model  *********
00014> *********      based on the principles of HYMO and its successors      *********
00015> *********                    OTTHYMO-83 and OTTHYMO-89.                *********
00016> ********************************************************************************
00017> ********* Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018> *********                  Ottawa,  Ontario: (613) 836-3884            *********
00019> *********                  Gatineau, Quebec: (819) 243-6858            *********
00020> *********                  E-Mail: swmhymo@jfsa.Com                    *********
00021> ********************************************************************************
00022>
00023> ********************************************************************************
00024> ********* Licensed user: AGM Engineering Ltd.                          *********
00025> *********                London                SERIAL#:2957874         *********
00026> ********************************************************************************
00027>
00028> ********************************************************************************
00029> *********             ++++++ PROGRAM ARRAY DIMENSIONS ++++++            *********
00030> *********             Maximum value for ID numbers  :    10            *********
00031> *********             Max. number of rainfall points: 105408           *********
00032> *********             Max. number of flow points    : 105408           *********
00033> ********************************************************************************
00034>
00035>
00036> *********************   D E T A I L E D   O U T P U T   **********************
00037> ********************************************************************************
00038> *         DATE: 2026-01-26      TIME: 14:21:50      RUN COUNTER: 002746         *
00039> ********************************************************************************
00040> * Input   filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post005.dat             *
00041> * Output  filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post005.out             *
00042> * Summary filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post005.sum             *
00043> * User comments:                                                              *
00044> * 1:_____________________________________________________________________     *
00045> * 2:_____________________________________________________________________     *
00046> * 3:_____________________________________________________________________     *
00047> ********************************************************************************
00048>
00049> --------------------------------------------------------------------------------
00050> 001:0001--------------------------------------------------------------------------
00051> *#*****************************************************************************
00052> *#  Project Name: [Subdivision]    Project Number: [1522-1]
00053> *#  Date        : 01-26-2026
00054> *#  Modeller    : [CJC]
00055> *#  Company     : AGM Engineering Ltd.
00056> *#  License #   :  2957874
00057> *#*****************************************************************************
00058> --------------------
00059> | START            |  Project  dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\
00060> --------------------  Rainfall dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\
00061>     TZERO =   .00 hrs on      0
00062>     METOUT=  2 (output = METRIC)
00063>     NRUN  = 001
00064>     NSTORM=   0
00065> --------------------------------------------------------------------------------
00066> 001:0002--------------------------------------------------------------------------
00067> *                  [" "] <--storm filename, one per line for NSTORM time
00068> *#MUNICIPALITY OF THAMES CENTRE IDF Curve-conversion to 3hr Chicago Distribution
00069> *
00070> *
00071> --------------------
00072> | CHICAGO STORM    |    IDF curve parameters: A=1183.740
00073> | Ptotal= 44.19 mm |                          B=   7.641
00074> --------------------                          C=    .838
00075>                          used in:   INTENSITY =  A / (t + B)^C
00076>
00077>                          Duration of storm  =  3.00 hrs
00078>                          Storm time step    =  5.00 min
00079>                          Time to peak ratio =   .38
00080>
00081>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00082>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00083>               .08   3.065 |    .83  10.643 |   1.58  13.354 |   2.33   4.554
00084>               .17   3.318 |    .92  14.771 |   1.67  10.997 |   2.42   4.249
00085>               .25   3.620 |   1.00  23.691 |   1.75   9.337 |   2.50   3.984
00086>               .33   3.986 |   1.08  53.533 |   1.83   8.109 |   2.58   3.751
00087>               .42   4.439 |   1.17 141.242 |   1.92   7.167 |   2.67   3.545
00088>               .50   5.016 |   1.25  63.748 |   2.00   6.423 |   2.75   3.362
00089>               .58   5.772 |   1.33  34.448 |   2.08   5.821 |   2.83   3.197
00090>               .67   6.806 |   1.42  22.896 |   2.17   5.325 |   2.92   3.049
00091>               .75   8.302 |   1.50  16.930 |   2.25   4.908 |   3.00   2.915
00092>
00093> --------------------------------------------------------------------------------
00094> 001:0003--------------------------------------------------------------------------
00095> ********************************************************************************
00096> *                                                                              *
00097> *                POST DEVELOPMENT CONDITION TO ONSITE SWM POND                 *
00098> *                                                                              *
00099> ********************************************************************************
00100> *
00101> * CATCHMENT 101 - INDUSTRIAL BLOCKS, RIGHT-OF-WAY, EXTERNAL AGRICULTURAL LANDS
00102> *                 AND SWM BLOCK. MINOR AND MAJOR SYSTEMS TO ONSITE SWM POND
00103> *
00104> ----------------------
00105> | CALIB STANDHYD     |   Area    (ha)=   14.31
00106> | 01:CAT101 DT= 1.00 |   Total Imp(%)=   54.00   Dir. Conn.(%)=   44.00
00107> ----------------------
00108>                                IMPERVIOUS    PERVIOUS (i)
00109>      Surface Area      (ha)=       7.73         6.58
00110>      Dep. Storage      (mm)=       2.00         6.10
00111>      Average Slope      (%)=       1.00         2.00
00112>      Length             (m)=     385.00        45.00
00113>      Mannings n             =       .015         .250
00114>
00115>      Max.eff.Inten.(mm/hr)=     128.33        38.12
00116>                 over (min)         6.00        17.00
00117>      Storage Coeff.  (min)=       5.66 (ii)   16.80 (ii)
00118>      Unit Hyd. Tpeak (min)=       6.00        17.00
00119>      Unit Hyd. peak  (cms)=        .20          .07
00120>                                                          *TOTALS*
00121>      PEAK FLOW       (cms)=       1.58          .41        1.722 (iii)
00122>      TIME TO PEAK    (hrs)=       1.23         1.48        1.233
00123>      RUNOFF VOLUME    (mm)=      42.19        16.80       27.974
00124>      TOTAL RAINFALL   (mm)=      44.19        44.19       44.189
00125>      RUNOFF COEFFICIENT   =        .95          .38         .633
00126>
00127>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00128>            CN* =  80.0    Ia = Dep. Storage  (Above)
00129>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00130>            THAN THE STORAGE COEFFICIENT.
00131>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00132>
00133> --------------------------------------------------------------------------------
00134> 001:0004--------------------------------------------------------------------------
00135> *
00136> * CATCHMENT 102 - INDUSTRIAL BLOCKS, RIGHT-OF-WAY, EXTERNAL AGRICULTURAL LANDS
00137> *                 AND RESIDNETIAL PROPERTY. MINOR AND MAJOR SYSTEMS
00138> *                 TRIBUTARY TO ONSITE SWM POND
00139> *
00140> ----------------------
00141> | CALIB STANDHYD     |   Area    (ha)=    9.10
00142> | 02:CAT102 DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   58.00
00143> ----------------------
00144>                                IMPERVIOUS    PERVIOUS (i)
00145>      Surface Area      (ha)=       6.19         2.91
00146>      Dep. Storage      (mm)=       2.00         5.50
00147>      Average Slope      (%)=       1.00         2.00
00148>      Length             (m)=     644.00        45.00
00149>      Mannings n             =       .015         .250
00150>
00151>      Max.eff.Inten.(mm/hr)=     112.18        41.64
00152>                 over (min)         8.00        19.00
00153>      Storage Coeff.  (min)=       8.13 (ii)   18.88 (ii)
00154>      Unit Hyd. Tpeak (min)=       8.00        19.00
00155>      Unit Hyd. peak  (cms)=        .14          .06
00156>                                                          *TOTALS*
00157>      PEAK FLOW       (cms)=       1.14          .20        1.216 (iii)
00158>      TIME TO PEAK    (hrs)=       1.27         1.52        1.267
00159>      RUNOFF VOLUME    (mm)=      42.19        18.10       32.073
00160>      TOTAL RAINFALL   (mm)=      44.19        44.19       44.189
00161>      RUNOFF COEFFICIENT   =        .95          .41         .726
00162>
00163>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00164>            CN* =  80.0    Ia = Dep. Storage  (Above)
00165>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00166>            THAN THE STORAGE COEFFICIENT.
00167>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00168>
00169> --------------------------------------------------------------------------------
00170> 001:0005--------------------------------------------------------------------------
00171> *
00172> * CATCHMENT 103 - INDUSTRIAL BLOCKS MINOR SYSTEM AND MAJOR SYSTEM TRIBUTARY
00173> *                 TO ONSITE SWM POND
00174> *
00175> ----------------------
00176> | CALIB STANDHYD     |   Area    (ha)=    3.65
00177> | 03:CAT103 DT= 1.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   75.00
00178> ----------------------
00179>                                IMPERVIOUS    PERVIOUS (i)
00180>      Surface Area      (ha)=       3.10          .55
00181>      Dep. Storage      (mm)=       2.00         5.00
00182>      Average Slope      (%)=       1.00         2.00
00183>      Length             (m)=     340.00        40.00
00184>      Mannings n             =       .015         .250
00185>
00186>      Max.eff.Inten.(mm/hr)=     141.24        75.07
00187>                 over (min)         5.00        13.00
00188>      Storage Coeff.  (min)=       5.05 (ii)   12.97 (ii)
00189>      Unit Hyd. Tpeak (min)=       5.00        13.00
00190>      Unit Hyd. peak  (cms)=        .22          .09
00191>                                                          *TOTALS*
00192>      PEAK FLOW       (cms)=        .73          .07         .758 (iii)
00193>      TIME TO PEAK    (hrs)=       1.22         1.38        1.217
00194>      RUNOFF VOLUME    (mm)=      42.19        20.77       36.833
00195>      TOTAL RAINFALL   (mm)=      44.19        44.19       44.189
00196>      RUNOFF COEFFICIENT   =        .95          .47         .834
00197>
00198>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00199>            CN* =  79.0    Ia = Dep. Storage  (Above)
00200>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00201>            THAN THE STORAGE COEFFICIENT.
00202>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00203>
00204> --------------------------------------------------------------------------------
00205> 001:0006--------------------------------------------------------------------------
00206> *
00207> * COMBINED INLET FLOWS TO ONSITE SWM POND
00208> *
00209> ----------------------
00210> | ADD HYD (INLET     ) | ID: NHYD        AREA     QPEAK   TPEAK   R.V.    DWF
00211> ----------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
00212>                        ID1 01:CAT101     14.31    1.722    1.23  27.97    .000
00213>                       +ID2 02:CAT102      9.10    1.216    1.27  32.07    .000
00214>                       +ID3 03:CAT103      3.65     .758    1.22  36.83    .000
00215>                        ==========================================================
00216>                        SUM 04:INLET       27.06    3.619    1.25  30.55    .000
00217>
00218>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00219>
00220> --------------------------------------------------------------------------------
00221> 001:0007--------------------------------------------------------------------------
00222> *
00223> * PROPOSED ONSITE SWM POND WITH OUTLET PIPE DISCHARGING TO ALANTRA DRAIN AND
00224> * WEIR CONVEYING MAJOR SYSTEM FLOWS OVERLAND TO THE NORTH
00225> *
00226> *
00227> --------------------
00228> | ROUTE RESERVOIR  |    Requested routing time step =  1.0 min.
00229> |  IN>04:(INLET )  |
00230> | OUT<05:(POND  )  |    =========  OUTLFOW STORAGE TABLE  =========
00231> --------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
00232>                           (cms)     (ha.m.)  |    (cms)     (ha.m.)
00233>                           .000  .0000E+00    |     .323  .8343E+00
00234>                           .021  .8913E-01    |     .387  .9837E+00
00235>                           .030  .1954E+00    |     .441  .1140E+01
00236>                           .036  .3089E+00    |     .489  .1305E+01
00237>                           .042  .4295E+00    |     .864  .1423E+01
00238>                           .047  .5573E+00    |    1.648  .1565E+01
00239>                           .240  .6922E+00    |     .000  .0000E+00
00240>
00241>      ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
00242>      ---------------            (ha)     (cms)     (hrs)       (mm)
00243>      INFLOW >04: (INLET )      27.06    3.619     1.250      30.547
00244>      OUTFLOW<05: (POND  )      27.06     .244     2.867      30.547
00245>
00246>                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=    6.750
00247>                    TIME SHIFT OF PEAK FLOW          (min)=   97.00
00248>                    MAXIMUM  STORAGE   USED        (ha.m.)=.6995E+00
00249>
00250> --------------------------------------------------------------------------------
00251> 001:0008--------------------------------------------------------------------------
00252> *
00253> * SPLITTING OUTFLOW FROM POND TO ILLUSTRATE STORM FLOWS PIPED DIRECTLY TO
00254> * ALANTRA DRAIN AND OVERLAND FLOWS TO THE NORTH.
```

```
00255> *
00256> -------------------
00257> | DIVERT HYD      |
00258> | INID=05  (POND  )|
00259> -------------------
00260>       Outflow / Inflow  Relationships
00261>       Flow 06 +  Flow 07 =  Total
00262>        (cms)      (cms)      (cms)
00263>          .000       .000       .000
00264>          .021       .000       .021
00265>          .030       .000       .030
00266>          .036       .000       .036
00267>          .042       .000       .042
00268>          .047       .000       .047
00269>          .240       .000       .240
00270>          .323       .000       .323
00271>          .387       .000       .387
00272>          .441       .000       .441
00273>          .489       .000       .489
00274>          .522       .342       .864
00275>          .553      1.094      1.648
00276>
00277>              NHYD       AREA    QPEAK  TpeakDate_hh:mm       R.V.  NFE WetHrs
00278>                          (ha)    (cms)                       (mm)       (hrs)
00279>    IDin = 05:POND      27.06     .244  No_date    2:52     30.547    1   189.
00280>    ==========================================================================
00281>    IDout= 06:PIPE      27.06     .244  No_date    2:52     30.547    1   189.
00282>    IDout= 07:ORF         .00     .000  No_date    0:00       .000    0     0.
00283> --------------------------------------------------------------------------------
00284> 001:0009-------------------------------------------------------------------------
00285> ********************************************************************************
00286> *                                                                              *
00287> *                 POST DEVELOPMENT PEAK FLOWS TO CASSIDY CONDOS                *
00288> *                                                                              *
00289> ********************************************************************************
00290> *
00291> * CATCHMENT 104 - REAR OF INDUSTRIAL BLOCKS TRIBUTARY TO CASSIDY CONDOS
00292> *
00293> ----------------------
00294> | CALIB NASHYD       |   Area    (ha)=     .27   Curve Number   (CN)=79.00
00295> | 08:CAT104 DT= 1.00 |   Ia      (mm)=   7.100   # of Linear Res.(N)= 3.00
00296> ----------------------   U.H. Tp(hrs)=    .033
00297>
00298>      Unit Hyd Qpeak  (cms)=     .313
00299>
00300>      PEAK FLOW       (cms)=     .027 (i)
00301>      TIME TO PEAK    (hrs)=    1.183
00302>      RUNOFF VOLUME    (mm)=   13.150
00303>      TOTAL RAINFALL   (mm)=   44.189
00304>      RUNOFF COEFFICIENT   =     .298
00305>
00306>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00307>
00308>       *** WARNING: Time step is too large for value of TP.
00309>                    R.V. may be ok.  Peak flow could be off.
00310> --------------------------------------------------------------------------------
00311> 001:0010-------------------------------------------------------------------------
00312> ********************************************************************************
00313> *                                                                              *
00314> *                 POST DEVELOPMENT PEAK FLOWS TO ANDERSON DRAIN                *
00315> *                                                                              *
00316> ********************************************************************************
00317> *
00318> * CATCHMENT 105 - PORTION OF INDUSTRIAL BLOCK, RESIDENTIAL PROPERTY AND
00319> *                  WESTCHESTER BOURNE ROW. MINOR AND MAJOR SYSTEMS TO ANDERSON
00320> *
00321> ----------------------
00322> | CALIB NASHYD       |   Area    (ha)=    1.80   Curve Number   (CN)=79.00
00323> | 02:CAT105 DT= 1.00 |   Ia      (mm)=   4.900   # of Linear Res.(N)= 3.00
00324> ----------------------   U.H. Tp(hrs)=    .367
00325>
00326>      Unit Hyd Qpeak  (cms)=     .187
00327>
00328>      PEAK FLOW       (cms)=     .065 (i)
00329>      TIME TO PEAK    (hrs)=    1.650
00330>      RUNOFF VOLUME    (mm)=   14.452
00331>      TOTAL RAINFALL   (mm)=   44.189
00332>      RUNOFF COEFFICIENT   =     .327
00333>
00334>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00335>
00336> --------------------------------------------------------------------------------
00337> 001:0011-------------------------------------------------------------------------
00338>       FINISH
00339> --------------------------------------------------------------------------------
00340> ********************************************************************************
00341>      WARNINGS / ERRORS / NOTES
00342>      -------------------------
00343>  001:0009 CALIB NASHYD
00344>       *** WARNING: Time step is too large for value of TP.
00345>                    R.V. may be ok.  Peak flow could be off.
00346>    Simulation ended on 2026-01-26     at 14:21:51
00347> ================================================================================
00348>
```

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9    =========
00008>                                                          9   9  9   9   # 2957874
00009>         StormWater Management HYdrologic Model           999    999    =========
00010>
00011> ********************************************************************************
00012> ****************************** SWMHYMO Ver/4.05  *******************************
00013> *********  A single event and continuous hydrologic simulation model  *********
00014> *********      based on the principles of HYMO and its successors      *********
00015> *********                   OTTHYMO-83 and OTTHYMO-89.                 *********
00016> ********************************************************************************
00017> ********* Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018> *********                  Ottawa,  Ontario: (613) 836-3884            *********
00019> *********                  Gatineau, Quebec: (819) 243-6858            *********
00020> *********                  E-Mail: swmhymo@jfsa.Com                    *********
00021> ********************************************************************************
00022>
00023> ********************************************************************************
00024> ********* Licensed user: AGM Engineering Ltd.                          *********
00025> *********                London                SERIAL#:2957874         *********
00026> ********************************************************************************
00027>
00028> ********************************************************************************
00029> *********             ++++++ PROGRAM ARRAY DIMENSIONS ++++++            *********
00030> *********             Maximum value for ID numbers  :    10            *********
00031> *********             Max. number of rainfall points: 105408           *********
00032> *********             Max. number of flow points    : 105408           *********
00033> ********************************************************************************
00034>
00035>
00036> *********************   D E T A I L E D   O U T P U T   **********************
00037> ********************************************************************************
00038> *         DATE: 2026-01-26     TIME: 14:22:05     RUN COUNTER: 002747          *
00039> ********************************************************************************
00040> * Input   filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post010.dat             *
00041> * Output  filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post010.out             *
00042> * Summary filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post010.sum             *
00043> * User comments:                                                              *
00044> * 1:_____________________________________________________________________     *
00045> * 2:_____________________________________________________________________     *
00046> * 3:_____________________________________________________________________     *
00047> ********************************************************************************
00048>
00049> --------------------------------------------------------------------------------
00050> 001:0001--------------------------------------------------------------------------
00051> *#*****************************************************************************
00052> *#  Project Name: [Subdivision]    Project Number: [1522-1]
00053> *#  Date        : 01-26-2026
00054> *#  Modeller    : [CJC]
00055> *#  Company     : AGM Engineering Ltd.
00056> *#  License #   :  2957874
00057> *#*****************************************************************************
00058> --------------------
00059> | START            |  Project  dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\
00060> --------------------  Rainfall dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\
00061>    TZERO =   .00 hrs on      0
00062>    METOUT=  2 (output = METRIC)
00063>    NRUN  = 001
00064>    NSTORM=   0
00065> --------------------------------------------------------------------------------
00066> 001:0002--------------------------------------------------------------------------
00067> *                  [" "] <--storm filename, one per line for NSTORM time
00068> *#MUNICIPALITY OF THAMES CENTRE IDF Curve-conversion to 3hr Chicago Distribution
00069> *
00070> *
00071> --------------------
00072> | CHICAGO STORM    |    IDF curve parameters: A=1574.382
00073> | Ptotal= 52.05 mm |                          B=   9.025
00074> --------------------                          C=    .860
00075>                          used in:   INTENSITY =  A / (t + B)^C
00076>
00077>                          Duration of storm  =  3.00 hrs
00078>                          Storm time step    =  5.00 min
00079>                          Time to peak ratio =   .38
00080>
00081>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00082>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00083>               .08   3.346 |    .83  12.602 |   1.58  15.997 |   2.33   5.107
00084>               .17   3.642 |    .92  17.776 |   1.67  13.043 |   2.42   4.742
00085>               .25   3.996 |   1.00  28.955 |   1.75  10.972 |   2.50   4.427
00086>               .33   4.430 |   1.08  65.171 |   1.83   9.449 |   2.58   4.151
00087>               .42   4.970 |   1.17 162.470 |   1.92   8.286 |   2.67   3.908
00088>               .50   5.662 |   1.25  77.353 |   2.00   7.373 |   2.75   3.693
00089>               .58   6.578 |   1.33  42.297 |   2.08   6.638 |   2.83   3.500
00090>               .67   7.842 |   1.42  27.968 |   2.17   6.035 |   2.92   3.328
00091>               .75   9.688 |   1.50  20.488 |   2.25   5.532 |   3.00   3.171
00092>
00093> --------------------------------------------------------------------------------
00094> 001:0003--------------------------------------------------------------------------
00095> ********************************************************************************
00096> *                                                                              *
00097> *                POST DEVELOPMENT CONDITION TO ONSITE SWM POND                 *
00098> *                                                                              *
00099> ********************************************************************************
00100> *
00101> * CATCHMENT 101 - INDUSTRIAL BLOCKS, RIGHT-OF-WAY, EXTERNAL AGRICULTURAL LANDS
00102> *                 AND SWM BLOCK. MINOR AND MAJOR SYSTEMS TO ONSITE SWM POND
00103> *
00104> ----------------------
00105> | CALIB STANDHYD     |   Area    (ha)=   14.31
00106> | 01:CAT101 DT= 1.00 |   Total Imp(%)=   54.00   Dir. Conn.(%)=   44.00
00107> ----------------------
00108>                                IMPERVIOUS    PERVIOUS (i)
00109>      Surface Area      (ha)=       7.73          6.58
00110>      Dep. Storage      (mm)=       2.00          6.10
00111>      Average Slope      (%)=       1.00          2.00
00112>      Length             (m)=     385.00         45.00
00113>      Mannings n             =       .015          .250
00114>
00115>      Max.eff.Inten.(mm/hr)=     162.47         55.25
00116>                  over (min)       5.00         15.00
00117>      Storage Coeff.  (min)=       5.15 (ii)    14.75 (ii)
00118>      Unit Hyd. Tpeak (min)=       5.00         15.00
00119>      Unit Hyd. peak  (cms)=        .22           .08
00120>                                                          *TOTALS*
00121>      PEAK FLOW       (cms)=       1.94           .60        2.151 (iii)
00122>      TIME TO PEAK    (hrs)=       1.22          1.43        1.233
00123>      RUNOFF VOLUME    (mm)=      50.05         22.30       34.512
00124>      TOTAL RAINFALL   (mm)=      52.05         52.05       52.049
00125>      RUNOFF COEFFICIENT   =        .96           .43         .663
00126>
00127>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00128>            CN* =  80.0    Ia = Dep. Storage  (Above)
00129>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00130>            THAN THE STORAGE COEFFICIENT.
00131>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00132>
00133> --------------------------------------------------------------------------------
00134> 001:0004--------------------------------------------------------------------------
00135> *
00136> * CATCHMENT 102 - INDUSTRIAL BLOCKS, RIGHT-OF-WAY, EXTERNAL AGRICULTURAL LANDS
00137> *                 AND RESIDNETIAL PROPERTY. MINOR AND MAJOR SYSTEMS
00138> *                 TRIBUTARY TO ONSITE SWM POND
00139> *
00140> ----------------------
00141> | CALIB STANDHYD     |   Area    (ha)=    9.10
00142> | 02:CAT102 DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   58.00
00143> ----------------------
00144>                                IMPERVIOUS    PERVIOUS (i)
00145>      Surface Area      (ha)=       6.19          2.91
00146>      Dep. Storage      (mm)=       2.00          5.50
00147>      Average Slope      (%)=       1.00          2.00
00148>      Length             (m)=     644.00         45.00
00149>      Mannings n             =       .015          .250
00150>
00151>      Max.eff.Inten.(mm/hr)=     130.55         59.13
00152>                  over (min)       8.00         17.00
00153>      Storage Coeff.  (min)=       7.65 (ii)    17.00 (ii)
00154>      Unit Hyd. Tpeak (min)=       8.00         17.00
00155>      Unit Hyd. peak  (cms)=        .15           .07
00156>                                                          *TOTALS*
00157>      PEAK FLOW       (cms)=       1.36           .29        1.505 (iii)
00158>      TIME TO PEAK    (hrs)=       1.27          1.47        1.283
00159>      RUNOFF VOLUME    (mm)=      50.05         23.80       39.024
00160>      TOTAL RAINFALL   (mm)=      52.05         52.05       52.049
00161>      RUNOFF COEFFICIENT   =        .96           .46         .750
00162>
00163>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00164>            CN* =  80.0    Ia = Dep. Storage  (Above)
00165>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00166>            THAN THE STORAGE COEFFICIENT.
00167>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00168>
00169> --------------------------------------------------------------------------------
00170> 001:0005--------------------------------------------------------------------------
00171> *
00172> * CATCHMENT 103 - INDUSTRIAL BLOCKS MINOR SYSTEM AND MAJOR SYSTEM TRIBUTARY
00173> *                 TO ONSITE SWM POND
00174> *
00175> ----------------------
00176> | CALIB STANDHYD     |   Area    (ha)=    3.65
00177> | 03:CAT103 DT= 1.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   75.00
00178> ----------------------
00179>                                IMPERVIOUS    PERVIOUS (i)
00180>      Surface Area      (ha)=       3.10           .55
00181>      Dep. Storage      (mm)=       2.00          5.00
00182>      Average Slope      (%)=       1.00          2.00
00183>      Length             (m)=     340.00         40.00
00184>      Mannings n             =       .015          .250
00185>
00186>      Max.eff.Inten.(mm/hr)=     162.47        101.79
00187>                  over (min)       5.00         12.00
00188>      Storage Coeff.  (min)=       4.78 (ii)    11.79 (ii)
00189>      Unit Hyd. Tpeak (min)=       5.00         12.00
00190>      Unit Hyd. peak  (cms)=        .23           .10
00191>                                                          *TOTALS*
00192>      PEAK FLOW       (cms)=        .86           .10         .912 (iii)
00193>      TIME TO PEAK    (hrs)=       1.22          1.37        1.217
00194>      RUNOFF VOLUME    (mm)=      50.05         26.86       44.252
00195>      TOTAL RAINFALL   (mm)=      52.05         52.05       52.049
00196>      RUNOFF COEFFICIENT   =        .96           .52         .850
00197>
00198>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00199>            CN* =  79.0    Ia = Dep. Storage  (Above)
00200>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00201>            THAN THE STORAGE COEFFICIENT.
00202>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00203>
00204> --------------------------------------------------------------------------------
00205> 001:0006--------------------------------------------------------------------------
00206> *
00207> * COMBINED INLET FLOWS TO ONSITE SWM POND
00208> *
00209> ----------------------
00210> | ADD HYD (INLET     ) | ID: NHYD          AREA     QPEAK   TPEAK   R.V.    DWF
00211> ----------------------                     (ha)     (cms)   (hrs)   (mm)   (cms)
00212>                        ID1 01:CAT101       14.31    2.151   1.23   34.51    .000
00213>                       +ID2 02:CAT102        9.10    1.505   1.28   39.02    .000
00214>                       +ID3 03:CAT103        3.65     .912   1.22   44.25    .000
00215>                        ==========================================================
00216>                        SUM 04:INLET         27.06    4.453   1.23   37.34    .000
00217>
00218>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00219>
00220> --------------------------------------------------------------------------------
00221> 001:0007--------------------------------------------------------------------------
00222> *
00223> * PROPOSED ONSITE SWM POND WITH OUTLET PIPE DISCHARGING TO ALANTRA DRAIN AND
00224> * WEIR CONVEYING MAJOR SYSTEM FLOWS OVERLAND TO THE NORTH
00225> *
00226> *
00227> --------------------
00228> | ROUTE RESERVOIR  |    Requested routing time step =  1.0 min.
00229> |  IN>04:(INLET )  |
00230> | OUT<05:(POND  )  |    =========  OUTFLOW STORAGE TABLE  =========
00231> --------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
00232>                           (cms)     (ha.m.)  |    (cms)     (ha.m.)
00233>                           .000  .0000E+00    |     .323  .8343E+00
00234>                           .021  .8913E-01    |     .387  .9837E+00
00235>                           .030  .1954E+00    |     .441  .1140E+01
00236>                           .036  .3089E+00    |     .489  .1305E+01
00237>                           .042  .4295E+00    |     .864  .1423E+01
00238>                           .047  .5573E+00    |    1.648  .1565E+01
00239>                           .240  .6922E+00    |     .000  .0000E+00
00240>
00241>      ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
00242>      ---------------            (ha)     (cms)     (hrs)       (mm)
00243>      INFLOW >04: (INLET )      27.06    4.453     1.233      37.343
00244>      OUTFLOW<05: (POND  )      27.06     .321     2.667      37.343
00245>
00246>                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=    7.203
00247>                    TIME SHIFT OF PEAK FLOW          (min)=   86.00
00248>                    MAXIMUM  STORAGE   USED        (ha.m.)=.8304E+00
00249>
00250> --------------------------------------------------------------------------------
00251> 001:0008--------------------------------------------------------------------------
00252> *
00253> * SPLITTING OUTFLOW FROM POND TO ILLUSTRATE STORM FLOWS PIPED DIRECTLY TO
00254> * ALANTRA DRAIN AND OVERLAND FLOWS TO THE NORTH.
```

```
00255> *
00256> -------------------
00257> | DIVERT HYD      |
00258> | INID=05  (POND  )|
00259> -------------------
00260>       Outflow / Inflow  Relationships
00261>       Flow 06 +  Flow 07 =  Total
00262>        (cms)      (cms)      (cms)
00263>          .000       .000       .000
00264>          .021       .000       .021
00265>          .030       .000       .030
00266>          .036       .000       .036
00267>          .042       .000       .042
00268>          .047       .000       .047
00269>          .240       .000       .240
00270>          .323       .000       .323
00271>          .387       .000       .387
00272>          .441       .000       .441
00273>          .489       .000       .489
00274>          .522       .342       .864
00275>          .553      1.094      1.648
00276>
00277>              NHYD       AREA    QPEAK  TpeakDate_hh:mm       R.V.  NFE WetHrs
00278>                          (ha)    (cms)                       (mm)       (hrs)
00279>    IDin = 05:POND      27.06     .321  No_date    2:40     37.343    1   190.
00280>    ==========================================================================
00281>    IDout= 06:PIPE      27.06     .321  No_date    2:40     37.343    1   190.
00282>    IDout= 07:ORF         .00     .000  No_date    0:00       .000    0     0.
00283> --------------------------------------------------------------------------------
00284> 001:0009-------------------------------------------------------------------------
00285> ********************************************************************************
00286> *                                                                              *
00287> *                 POST DEVELOPMENT PEAK FLOWS TO CASSIDY CONDOS                *
00288> *                                                                              *
00289> ********************************************************************************
00290> *
00291> * CATCHMENT 104 - REAR OF INDUSTRIAL BLOCKS TRIBUTARY TO CASSIDY CONDOS
00292> *
00293> ----------------------
00294> | CALIB NASHYD       |   Area    (ha)=     .27   Curve Number   (CN)=79.00
00295> | 08:CAT104 DT= 1.00 |   Ia      (mm)=   7.100   # of Linear Res.(N)= 3.00
00296> ----------------------   U.H. Tp(hrs)=    .033
00297>
00298>      Unit Hyd Qpeak  (cms)=     .313
00299>
00300>      PEAK FLOW       (cms)=     .038 (i)
00301>      TIME TO PEAK    (hrs)=    1.183
00302>      RUNOFF VOLUME    (mm)=   17.964
00303>      TOTAL RAINFALL   (mm)=   52.049
00304>      RUNOFF COEFFICIENT   =     .345
00305>
00306>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00307>
00308>       *** WARNING: Time step is too large for value of TP.
00309>                    R.V. may be ok.  Peak flow could be off.
00310> --------------------------------------------------------------------------------
00311> 001:0010-------------------------------------------------------------------------
00312> ********************************************************************************
00313> *                                                                              *
00314> *                 POST DEVELOPMENT PEAK FLOWS TO ANDERSON DRAIN                *
00315> *                                                                              *
00316> ********************************************************************************
00317> *
00318> * CATCHMENT 105 - PORTION OF INDUSTRIAL BLOCK, RESIDENTIAL PROPERTY AND
00319> *                  WESTCHESTER BOURNE ROW. MINOR AND MAJOR SYSTEMS TO ANDERSON
00320> *
00321> ----------------------
00322> | CALIB NASHYD       |   Area    (ha)=    1.80   Curve Number   (CN)=79.00
00323> | 02:CAT105 DT= 1.00 |   Ia      (mm)=   4.900   # of Linear Res.(N)= 3.00
00324> ----------------------   U.H. Tp(hrs)=    .367
00325>
00326>      Unit Hyd Qpeak  (cms)=     .187
00327>
00328>      PEAK FLOW       (cms)=     .089 (i)
00329>      TIME TO PEAK    (hrs)=    1.633
00330>      RUNOFF VOLUME    (mm)=   19.387
00331>      TOTAL RAINFALL   (mm)=   52.049
00332>      RUNOFF COEFFICIENT   =     .372
00333>
00334>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00335>
00336> --------------------------------------------------------------------------------
00337> 001:0011-------------------------------------------------------------------------
00338>       FINISH
00339> --------------------------------------------------------------------------------
00340> ********************************************************************************
00341>      WARNINGS / ERRORS / NOTES
00342>      -------------------------
00343>  001:0009 CALIB NASHYD
00344>       *** WARNING: Time step is too large for value of TP.
00345>                    R.V. may be ok.  Peak flow could be off.
00346>    Simulation ended on 2026-01-26     at 14:22:06
00347> ================================================================================
00348>
```

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9    =========
00008>                                                          9   9  9   9   # 2957874
00009>         StormWater Management HYdrologic Model           999    999    =========
00010>
00011> ********************************************************************************
00012> ****************************** SWMHYMO Ver/4.05  *******************************
00013> *********  A single event and continuous hydrologic simulation model  *********
00014> *********      based on the principles of HYMO and its successors      *********
00015> *********                    OTTHYMO-83 and OTTHYMO-89.                *********
00016> ********************************************************************************
00017> ********* Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018> *********                  Ottawa,  Ontario: (613) 836-3884            *********
00019> *********                  Gatineau, Quebec: (819) 243-6858            *********
00020> *********                  E-Mail: swmhymo@jfsa.Com                    *********
00021> ********************************************************************************
00022>
00023> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024> +++++++++ Licensed user: AGM Engineering Ltd.                          +++++++++
00025> +++++++++                London                SERIAL#:2957874       +++++++++
00026> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028> ********************************************************************************
00029> *********            ++++++ PROGRAM ARRAY DIMENSIONS ++++++            *********
00030> *********            Maximum value for ID numbers  :    10            *********
00031> *********            Max. number of rainfall points: 105408           *********
00032> *********            Max. number of flow points    : 105408           *********
00033> ********************************************************************************
00034>
00035>
00036> *********************   D E T A I L E D   O U T P U T   **********************
00037> ********************************************************************************
00038> *        DATE: 2026-01-26     TIME: 14:22:30     RUN COUNTER: 002748          *
00039> ********************************************************************************
00040> * Input   filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post025.dat            *
00041> * Output  filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post025.out            *
00042> * Summary filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post025.sum            *
00043> * User comments:                                                             *
00044> * 1:_____________________________________________________________________     *
00045> * 2:_____________________________________________________________________     *
00046> * 3:_____________________________________________________________________     *
00047> ********************************************************************************
00048>
00049> --------------------------------------------------------------------------------
00050> 001:0001--------------------------------------------------------------------------
00051> *#*****************************************************************************
00052> *#  Project Name: [Subdivision]    Project Number: [1522-1]
00053> *#  Date        : 01-26-2026
00054> *#  Modeller    : [CJC]
00055> *#  Company     : AGM Engineering Ltd.
00056> *#  License #   :  2957874
00057> *#*****************************************************************************
00058> --------------------
00059> | START            |  Project  dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\
00060> --------------------  Rainfall dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\
00061>     TZERO =   .00 hrs on      0
00062>     METOUT=  2 (output = METRIC)
00063>     NRUN  = 001
00064>     NSTORM=   0
00065> --------------------------------------------------------------------------------
00066> 001:0002--------------------------------------------------------------------------
00067> *                  [" "] <--storm filename, one per line for NSTORM time
00068> *#MUNICIPALITY OF THAMES CENTRE IDF Curve-conversion to 3hr Chicago Distribution
00069> *
00070> *
00071> --------------------
00072> | CHICAGO STORM    |    IDF curve parameters: A=2019.372
00073> | Ptotal= 61.48 mm |                          B=   9.824
00074> --------------------                          C=    .875
00075>                          used in:   INTENSITY =  A / (t + B)^C
00076>
00077>                          Duration of storm  =  3.00 hrs
00078>                          Storm time step    =  5.00 min
00079>                          Time to peak ratio =   .38
00080>
00081>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00082>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00083>               .08   3.728 |    .83  14.864 |   1.58  19.014 |   2.33   5.802
00084>               .17   4.073 |    .92  21.194 |   1.67  15.402 |   2.42   5.369
00085>               .25   4.489 |   1.00  34.880 |   1.75  12.876 |   2.50   4.996
00086>               .33   4.999 |   1.08  78.524 |   1.83  11.024 |   2.58   4.671
00087>               .42   5.639 |   1.17 190.819 |   1.92   9.617 |   2.67   4.386
00088>               .50   6.463 |   1.25  93.073 |   2.00   8.514 |   2.75   4.133
00089>               .58   7.559 |   1.33  51.133 |   2.08   7.631 |   2.83   3.908
00090>               .67   9.080 |   1.42  33.677 |   2.17   6.909 |   2.92   3.707
00091>               .75  11.315 |   1.50  24.517 |   2.25   6.308 |   3.00   3.525
00092>
00093> --------------------------------------------------------------------------------
00094> 001:0003--------------------------------------------------------------------------
00095> ********************************************************************************
00096> *                                                                              *
00097> *                POST DEVELOPMENT CONDITION TO ONSITE SWM POND                 *
00098> *                                                                              *
00099> ********************************************************************************
00100> *
00101> * CATCHMENT 101 - INDUSTRIAL BLOCKS, RIGHT-OF-WAY, EXTERNAL AGRICULTURAL LANDS
00102> *                 AND SWM BLOCK. MINOR AND MAJOR SYSTEMS TO ONSITE SWM POND
00103> *
00104> ---------------------
00105> | CALIB STANDHYD     |   Area    (ha)=   14.31
00106> | 01:CAT101 DT= 1.00 |   Total Imp(%)=   54.00   Dir. Conn.(%)=   44.00
00107> ---------------------
00108>                                IMPERVIOUS    PERVIOUS (i)
00109>      Surface Area      (ha)=       7.73          6.58
00110>      Dep. Storage      (mm)=       2.00          6.10
00111>      Average Slope      (%)=       1.00          2.00
00112>      Length             (m)=     385.00         45.00
00113>      Mannings n             =       .015          .250
00114>
00115>      Max.eff.Inten.(mm/hr)=     190.82         78.59
00116>                 over (min)          5.00         13.00
00117>      Storage Coeff.  (min)=       4.83 (ii)    13.17 (ii)
00118>      Unit Hyd. Tpeak (min)=       5.00         13.00
00119>      Unit Hyd. peak  (cms)=        .23           .09
00120>                                                          *TOTALS*
00121>      PEAK FLOW       (cms)=       2.34           .87        2.733 (iii)
00122>      TIME TO PEAK    (hrs)=       1.22          1.40        1.233
00123>      RUNOFF VOLUME    (mm)=      59.48         29.36       42.614
00124>      TOTAL RAINFALL   (mm)=      61.48         61.48       61.485
00125>      RUNOFF COEFFICIENT   =        .97           .48         .693
00126>
00127>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00128>            CN* =  80.0    Ia = Dep. Storage  (Above)
00129>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00130>            THAN THE STORAGE COEFFICIENT.
00131>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00132>
00133> --------------------------------------------------------------------------------
00134> 001:0004--------------------------------------------------------------------------
00135> *
00136> * CATCHMENT 102 - INDUSTRIAL BLOCKS, RIGHT-OF-WAY, EXTERNAL AGRICULTURAL LANDS
00137> *                 AND RESIDNETIAL PROPERTY. MINOR AND MAJOR SYSTEMS
00138> *                 TRIBUTARY TO ONSITE SWM POND
00139> *
00140> ---------------------
00141> | CALIB STANDHYD     |   Area    (ha)=    9.10
00142> | 02:CAT102 DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   58.00
00143> ---------------------
00144>                                IMPERVIOUS    PERVIOUS (i)
00145>      Surface Area      (ha)=       6.19          2.91
00146>      Dep. Storage      (mm)=       2.00          5.50
00147>      Average Slope      (%)=       1.00          2.00
00148>      Length             (m)=     644.00         45.00
00149>      Mannings n             =       .015          .250
00150>
00151>      Max.eff.Inten.(mm/hr)=     162.89         84.06
00152>                 over (min)          7.00         15.00
00153>      Storage Coeff.  (min)=       7.00 (ii)    15.12 (ii)
00154>      Unit Hyd. Tpeak (min)=       7.00         15.00
00155>      Unit Hyd. peak  (cms)=        .16           .08
00156>                                                          *TOTALS*
00157>      PEAK FLOW       (cms)=       1.69           .41        1.910 (iii)
00158>      TIME TO PEAK    (hrs)=       1.25          1.43        1.267
00159>      RUNOFF VOLUME    (mm)=      59.48         31.06       47.548
00160>      TOTAL RAINFALL   (mm)=      61.48         61.48       61.485
00161>      RUNOFF COEFFICIENT   =        .97           .51         .773
00162>
00163>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00164>            CN* =  80.0    Ia = Dep. Storage  (Above)
00165>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00166>            THAN THE STORAGE COEFFICIENT.
00167>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00168>
00169> --------------------------------------------------------------------------------
00170> 001:0005--------------------------------------------------------------------------
00171> *
00172> * CATCHMENT 103 - INDUSTRIAL BLOCKS MINOR SYSTEM AND MAJOR SYSTEM TRIBUTARY
00173> *                 TO ONSITE SWM POND
00174> *
00175> ---------------------
00176> | CALIB STANDHYD     |   Area    (ha)=    3.65
00177> | 03:CAT103 DT= 1.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   75.00
00178> ---------------------
00179>                                IMPERVIOUS    PERVIOUS (i)
00180>      Surface Area      (ha)=       3.10           .55
00181>      Dep. Storage      (mm)=       2.00          5.00
00182>      Average Slope      (%)=       1.00          2.00
00183>      Length             (m)=     340.00         40.00
00184>      Mannings n             =       .015          .250
00185>
00186>      Max.eff.Inten.(mm/hr)=     190.82        138.54
00187>                 over (min)          4.00         11.00
00188>      Storage Coeff.  (min)=       4.48 (ii)    10.67 (ii)
00189>      Unit Hyd. Tpeak (min)=       4.00         11.00
00190>      Unit Hyd. peak  (cms)=        .26           .10
00191>                                                          *TOTALS*
00192>      PEAK FLOW       (cms)=       1.06           .13        1.125 (iii)
00193>      TIME TO PEAK    (hrs)=       1.20          1.33        1.200
00194>      RUNOFF VOLUME    (mm)=      59.48         34.55       53.252
00195>      TOTAL RAINFALL   (mm)=      61.48         61.48       61.485
00196>      RUNOFF COEFFICIENT   =        .97           .56         .866
00197>
00198>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00199>            CN* =  79.0    Ia = Dep. Storage  (Above)
00200>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00201>            THAN THE STORAGE COEFFICIENT.
00202>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00203>
00204> --------------------------------------------------------------------------------
00205> 001:0006--------------------------------------------------------------------------
00206> *
00207> * COMBINED INLET FLOWS TO ONSITE SWM POND
00208> *
00209> ----------------------
00210> | ADD HYD (INLET     ) | ID: NHYD          AREA     QPEAK   TPEAK   R.V.    DWF
00211> ----------------------                     (ha)     (cms)   (hrs)   (mm)   (cms)
00212>                        ID1 01:CAT101       14.31    2.733   1.23   42.61    .000
00213>                       +ID2 02:CAT102        9.10    1.910   1.27   47.55    .000
00214>                       +ID3 03:CAT103        3.65    1.125   1.20   53.25    .000
00215>                        ==========================================================
00216>                        SUM 04:INLET         27.06    5.635   1.23   45.71    .000
00217>
00218>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00219>
00220> --------------------------------------------------------------------------------
00221> 001:0007--------------------------------------------------------------------------
00222> *
00223> * PROPOSED ONSITE SWM POND WITH OUTLET PIPE DISCHARGING TO ALANTRA DRAIN AND
00224> * WEIR CONVEYING MAJOR SYSTEM FLOWS OVERLAND TO THE NORTH
00225> *
00226> *
00227> ---------------------
00228> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
00229> |  IN>04:(INLET )    |
00230> |  OUT<05:(POND  )   |    =========  OUTLFOW STORAGE TABLE  =========
00231> ---------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
00232>                            (cms)     (ha.m.)  |    (cms)     (ha.m.)
00233>                             .000  .0000E+00    |     .323  .8343E+00
00234>                             .021  .8913E-01    |     .387  .9837E+00
00235>                             .030  .1954E+00    |     .441  .1140E+01
00236>                             .036  .3089E+00    |     .489  .1305E+01
00237>                             .042  .4295E+00    |     .864  .1423E+01
00238>                             .047  .5573E+00    |    1.648  .1565E+01
00239>                             .240  .6922E+00    |     .000  .0000E+00
00240>
00241>      ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
00242>      ---------------            (ha)     (cms)     (hrs)       (mm)
00243>      INFLOW >04: (INLET )      27.06    5.635     1.233      45.708
00244>      OUTFLOW<05: (POND  )      27.06     .395     2.567      45.707
00245>
00246>                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=    7.019
00247>                    TIME SHIFT OF PEAK FLOW          (min)=   80.00
00248>                    MAXIMUM  STORAGE   USED        (ha.m.)=.1008E+01
00249>
00250> --------------------------------------------------------------------------------
00251> 001:0008--------------------------------------------------------------------------
00252> *
00253> * SPLITTING OUTFLOW FROM POND TO ILLUSTRATE STORM FLOWS PIPED DIRECTLY TO
00254> * ALANTRA DRAIN AND OVERLAND FLOWS TO THE NORTH.
```

```
00255> *
00256> --------------------
00257> | DIVERT HYD       |
00258> | INID=05  (POND  )|
00259> --------------------
00260>       Outflow / Inflow  Relationships
00261>       Flow 06 +  Flow 07 =  Total
00262>        (cms)      (cms)      (cms)
00263>          .000       .000       .000
00264>          .021       .000       .021
00265>          .030       .000       .030
00266>          .036       .000       .036
00267>          .042       .000       .042
00268>          .047       .000       .047
00269>          .240       .000       .240
00270>          .323       .000       .323
00271>          .387       .000       .387
00272>          .441       .000       .441
00273>          .489       .000       .489
00274>          .522       .342       .864
00275>          .553      1.094      1.648
00276>
00277>              NHYD       AREA    QPEAK  TpeakDate_hh:mm       R.V.  NFE WetHrs
00278>                          (ha)    (cms)                       (mm)       (hrs)
00279>    IDin = 05:POND      27.06     .395  No_date    2:34     45.707    1   191.
00280>    ==========================================================================
00281>    IDout= 06:PIPE      27.06     .395  No_date    2:34     45.707    1   191.
00282>    IDout= 07:ORF         .00     .000  No_date    0:00       .000    0     0.
00283> --------------------------------------------------------------------------------
00284> 001:0009-----------------------------------------------------------------------
00285> ********************************************************************************
00286> *                                                                              *
00287> *                 POST DEVELOPMENT PEAK FLOWS TO CASSIDY CONDOS                *
00288> *                                                                              *
00289> ********************************************************************************
00290> *
00291> * CATCHMENT 104 - REAR OF INDUSTRIAL BLOCKS TRIBUTARY TO CASSIDY CONDOS
00292> *
00293> ----------------------
00294> | CALIB NASHYD       |   Area    (ha)=     .27   Curve Number   (CN)=79.00
00295> | 08:CAT104 DT= 1.00 |   Ia      (mm)=   7.100   # of Linear Res.(N)= 3.00
00296> ----------------------   U.H. Tp(hrs)=    .033
00297>
00298>      Unit Hyd Qpeak  (cms)=     .313
00299>
00300>      PEAK FLOW       (cms)=     .052 (i)
00301>      TIME TO PEAK    (hrs)=    1.167
00302>      RUNOFF VOLUME    (mm)=   24.262
00303>      TOTAL RAINFALL   (mm)=   61.485
00304>      RUNOFF COEFFICIENT   =     .395
00305>
00306>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00307>
00308>       *** WARNING: Time step is too large for value of TP.
00309>                    R.V. may be ok.  Peak flow could be off.
00310> --------------------------------------------------------------------------------
00311> 001:0010-----------------------------------------------------------------------
00312> ********************************************************************************
00313> *                                                                              *
00314> *                 POST DEVELOPMENT PEAK FLOWS TO ANDERSON DRAIN                *
00315> *                                                                              *
00316> ********************************************************************************
00317> *
00318> * CATCHMENT 105 - PORTION OF INDUSTRIAL BLOCK, RESIDENTIAL PROPERTY AND
00319> *                  WESTCHESTER BOURNE ROW. MINOR AND MAJOR SYSTEMS TO ANDERSON
00320> *
00321> ----------------------
00322> | CALIB NASHYD       |   Area    (ha)=    1.80   Curve Number   (CN)=79.00
00323> | 02:CAT105 DT= 1.00 |   Ia      (mm)=   4.900   # of Linear Res.(N)= 3.00
00324> ----------------------   U.H. Tp(hrs)=    .367
00325>
00326>      Unit Hyd Qpeak  (cms)=     .187
00327>
00328>      PEAK FLOW       (cms)=     .121 (i)
00329>      TIME TO PEAK    (hrs)=    1.633
00330>      RUNOFF VOLUME    (mm)=   25.800
00331>      TOTAL RAINFALL   (mm)=   61.485
00332>      RUNOFF COEFFICIENT   =     .420
00333>
00334>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00335>
00336> --------------------------------------------------------------------------------
00337> 001:0011-----------------------------------------------------------------------
00338>       FINISH
00339> --------------------------------------------------------------------------------
00340> ********************************************************************************
00341>      WARNINGS / ERRORS / NOTES
00342>      -------------------------
00343>  001:0009 CALIB NASHYD
00344>       *** WARNING: Time step is too large for value of TP.
00345>                    R.V. may be ok.  Peak flow could be off.
00346>    Simulation ended on 2026-01-26     at 14:22:31
00347> ================================================================================
00348>
```

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9    =========
00008>                                                          9   9  9   9   # 2957874
00009>         StormWater Management HYdrologic Model           999    999    =========
00010>
00011> ********************************************************************************
00012> ****************************** SWMHYMO Ver/4.05  *******************************
00013> *********  A single event and continuous hydrologic simulation model  *********
00014> *********      based on the principles of HYMO and its successors      *********
00015> *********                    OTTHYMO-83 and OTTHYMO-89.                *********
00016> ********************************************************************************
00017> ********* Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018> *********                  Ottawa,  Ontario: (613) 836-3884            *********
00019> *********                  Gatineau, Quebec: (819) 243-6858            *********
00020> *********                  E-Mail: swmhymo@jfsa.Com                    *********
00021> ********************************************************************************
00022>
00023> ********************************************************************************
00024> ********* Licensed user: AGM Engineering Ltd.                          *********
00025> *********                London                SERIAL#:2957874         *********
00026> ********************************************************************************
00027>
00028> ********************************************************************************
00029> *********             ++++++ PROGRAM ARRAY DIMENSIONS ++++++           *********
00030> *********             Maximum value for ID numbers  :    10           *********
00031> *********             Max. number of rainfall points: 105408          *********
00032> *********             Max. number of flow points    : 105408          *********
00033> ********************************************************************************
00034>
00035>
00036> *********************   D E T A I L E D   O U T P U T   **********************
00037> ********************************************************************************
00038> *        DATE: 2026-01-26     TIME: 14:22:45     RUN COUNTER: 002749          *
00039> ********************************************************************************
00040> * Input   filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post050.dat            *
00041> * Output  filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post050.out            *
00042> * Summary filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post050.sum            *
00043> * User comments:                                                             *
00044> * 1:_____________________________________________________________________    *
00045> * 2:_____________________________________________________________________    *
00046> * 3:_____________________________________________________________________    *
00047> ********************************************************************************
00048>
00049> --------------------------------------------------------------------------------
00050> 001:0001--------------------------------------------------------------------------
00051> *#*****************************************************************************
00052> *#  Project Name: [Subdivision]    Project Number: [1522-1]
00053> *#  Date        : 01-26-2026
00054> *#  Modeller    : [CJC]
00055> *#  Company     : AGM Engineering Ltd.
00056> *#  License #   :  2957874
00057> *#*****************************************************************************
00058> --------------------
00059> | START            |  Project  dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\
00060> --------------------  Rainfall dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\
00061>    TZERO =   .00 hrs on      0
00062>    METOUT=  2 (output = METRIC)
00063>    NRUN  = 001
00064>    NSTORM=   0
00065> --------------------------------------------------------------------------------
00066> 001:0002--------------------------------------------------------------------------
00067> *                [" "] <--storm filename, one per line for NSTORM time
00068> *#MUNICIPALITY OF THAMES CENTRE IDF Curve-conversion to 3hr Chicago Distribution
00069> *
00070> *
00071> --------------------
00072> | CHICAGO STORM    |    IDF curve parameters: A=2270.665
00073> | Ptotal= 68.72 mm |                          B=   9.984
00074> --------------------                          C=    .876
00075>                          used in:   INTENSITY =  A / (t + B)^C
00076>
00077>                          Duration of storm  =  3.00 hrs
00078>                          Storm time step    =  5.00 min
00079>                          Time to peak ratio =   .38
00080>
00081>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00082>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00083>               .08   4.162 |    .83  16.675 |   1.58  21.340 |   2.33   6.489
00084>               .17   4.549 |    .92  23.789 |   1.67  17.280 |   2.42   6.003
00085>               .25   5.016 |   1.00  39.146 |   1.75  14.440 |   2.50   5.585
00086>               .33   5.588 |   1.08  87.868 |   1.83  12.358 |   2.58   5.220
00087>               .42   6.307 |   1.17 211.984 |   1.92  10.776 |   2.67   4.900
00088>               .50   7.232 |   1.25 104.071 |   2.00   9.537 |   2.75   4.616
00089>               .58   8.463 |   1.33  57.343 |   2.08   8.544 |   2.83   4.364
00090>               .67  10.173 |   1.42  37.800 |   2.17   7.732 |   2.92   4.138
00091>               .75  12.685 |   1.50  27.521 |   2.25   7.058 |   3.00   3.934
00092>
00093> --------------------------------------------------------------------------------
00094> 001:0003--------------------------------------------------------------------------
00095> ********************************************************************************
00096> *                                                                              *
00097> *              POST DEVELOPMENT CONDITION TO ONSITE SWM POND                   *
00098> *                                                                              *
00099> ********************************************************************************
00100> *
00101> * CATCHMENT 101 - INDUSTRIAL BLOCKS, RIGHT-OF-WAY, EXTERNAL AGRICULTURAL LANDS
00102> *                 AND SWM BLOCK. MINOR AND MAJOR SYSTEMS TO ONSITE SWM POND
00103> *
00104> ----------------------
00105> | CALIB STANDHYD     |   Area    (ha)=   14.31
00106> | 01:CAT101 DT= 1.00 |   Total Imp(%)=   54.00   Dir. Conn.(%)=   44.00
00107> ----------------------
00108>                                IMPERVIOUS    PERVIOUS (i)
00109>      Surface Area      (ha)=       7.73          6.58
00110>      Dep. Storage      (mm)=       2.00          6.10
00111>      Average Slope      (%)=       1.00          2.00
00112>      Length             (m)=     385.00         45.00
00113>      Mannings n             =       .015          .250
00114>
00115>      Max.eff.Inten.(mm/hr)=     211.98         97.62
00116>                 over (min)          5.00         12.00
00117>      Storage Coeff.  (min)=       4.63 (ii)     12.28 (ii)
00118>      Unit Hyd. Tpeak (min)=       5.00         12.00
00119>      Unit Hyd. peak  (cms)=        .24           .09
00120>                                                          *TOTALS*
00121>      PEAK FLOW       (cms)=       2.63          1.09         3.198 (iii)
00122>      TIME TO PEAK    (hrs)=       1.22          1.38         1.233
00123>      RUNOFF VOLUME    (mm)=      66.72         35.03        48.977
00124>      TOTAL RAINFALL   (mm)=      68.72         68.72        68.724
00125>      RUNOFF COEFFICIENT   =        .97           .51          .713
00126>
00127>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00128>            CN* =  80.0    Ia = Dep. Storage  (Above)
00129>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00130>            THAN THE STORAGE COEFFICIENT.
00131>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00132>
00133> --------------------------------------------------------------------------------
00134> 001:0004--------------------------------------------------------------------------
00135> *
00136> * CATCHMENT 102 - INDUSTRIAL BLOCKS, RIGHT-OF-WAY, EXTERNAL AGRICULTURAL LANDS
00137> *                 AND RESIDNETIAL PROPERTY. MINOR AND MAJOR SYSTEMS
00138> *                 TRIBUTARY TO ONSITE SWM POND
00139> *
00140> ----------------------
00141> | CALIB STANDHYD     |   Area    (ha)=    9.10
00142> | 02:CAT102 DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   58.00
00143> ----------------------
00144>                                IMPERVIOUS    PERVIOUS (i)
00145>      Surface Area      (ha)=       6.19          2.91
00146>      Dep. Storage      (mm)=       2.00          5.50
00147>      Average Slope      (%)=       1.00          2.00
00148>      Length             (m)=     644.00         45.00
00149>      Mannings n             =       .015          .250
00150>
00151>      Max.eff.Inten.(mm/hr)=     181.15        102.88
00152>                 over (min)          7.00         14.00
00153>      Storage Coeff.  (min)=       6.71 (ii)     14.20 (ii)
00154>      Unit Hyd. Tpeak (min)=       7.00         14.00
00155>      Unit Hyd. peak  (cms)=        .17           .08
00156>                                                          *TOTALS*
00157>      PEAK FLOW       (cms)=       1.91           .51         2.212 (iii)
00158>      TIME TO PEAK    (hrs)=       1.25          1.42         1.267
00159>      RUNOFF VOLUME    (mm)=      66.72         36.88        54.190
00160>      TOTAL RAINFALL   (mm)=      68.72         68.72        68.724
00161>      RUNOFF COEFFICIENT   =        .97           .54          .789
00162>
00163>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00164>            CN* =  80.0    Ia = Dep. Storage  (Above)
00165>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00166>            THAN THE STORAGE COEFFICIENT.
00167>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00168>
00169> --------------------------------------------------------------------------------
00170> 001:0005--------------------------------------------------------------------------
00171> *
00172> * CATCHMENT 103 - INDUSTRIAL BLOCKS MINOR SYSTEM AND MAJOR SYSTEM TRIBUTARY
00173> *                 TO ONSITE SWM POND
00174> *
00175> ----------------------
00176> | CALIB STANDHYD     |   Area    (ha)=    3.65
00177> | 03:CAT103 DT= 1.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   75.00
00178> ----------------------
00179>                                IMPERVIOUS    PERVIOUS (i)
00180>      Surface Area      (ha)=       3.10           .55
00181>      Dep. Storage      (mm)=       2.00          5.00
00182>      Average Slope      (%)=       1.00          2.00
00183>      Length             (m)=     340.00         40.00
00184>      Mannings n             =       .015          .250
00185>
00186>      Max.eff.Inten.(mm/hr)=     211.98        171.89
00187>                 over (min)          4.00         10.00
00188>      Storage Coeff.  (min)=       4.30 (ii)     9.98 (ii)
00189>      Unit Hyd. Tpeak (min)=       4.00         10.00
00190>      Unit Hyd. peak  (cms)=        .27           .11
00191>                                                          *TOTALS*
00192>      PEAK FLOW       (cms)=       1.19           .16         1.285 (iii)
00193>      TIME TO PEAK    (hrs)=       1.20          1.32         1.200
00194>      RUNOFF VOLUME    (mm)=      66.72         40.66        60.208
00195>      TOTAL RAINFALL   (mm)=      68.72         68.72        68.724
00196>      RUNOFF COEFFICIENT   =        .97           .59          .876
00197>
00198>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00199>            CN* =  79.0    Ia = Dep. Storage  (Above)
00200>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00201>            THAN THE STORAGE COEFFICIENT.
00202>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00203>
00204> --------------------------------------------------------------------------------
00205> 001:0006--------------------------------------------------------------------------
00206> *
00207> * COMBINED INLET FLOWS TO ONSITE SWM POND
00208> *
00209> ----------------------
00210> | ADD HYD (INLET     ) | ID: NHYD        AREA     QPEAK   TPEAK   R.V.    DWF
00211> ----------------------                  (ha)     (cms)   (hrs)   (mm)    (cms)
00212>                        ID1 01:CAT101     14.31    3.198   1.23   48.98    .000
00213>                       +ID2 02:CAT102      9.10    2.212   1.27   54.19    .000
00214>                       +ID3 03:CAT103      3.65    1.285   1.20   60.21    .000
00215>                        ==========================================================
00216>                        SUM 04:INLET       27.06    6.538   1.23   52.24    .000
00217>
00218>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00219>
00220> --------------------------------------------------------------------------------
00221> 001:0007--------------------------------------------------------------------------
00222> *
00223> * PROPOSED ONSITE SWM POND WITH OUTLET PIPE DISCHARGING TO ALANTRA DRAIN AND
00224> * WEIR CONVEYING MAJOR SYSTEM FLOWS OVERLAND TO THE NORTH
00225> *
00226> *
00227> ----------------------
00228> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
00229> |  IN>04:(INLET )    |
00230> | OUT<05:(POND  )    |    =========  OUTFLOW STORAGE TABLE  =========
00231> ----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
00232>                             (cms)     (ha.m.)  |    (cms)     (ha.m.)
00233>                              .000  .0000E+00    |     .323  .8343E+00
00234>                              .021  .8913E-01    |     .387  .9837E+00
00235>                              .030  .1954E+00    |     .441  .1140E+01
00236>                              .036  .3089E+00    |     .489  .1305E+01
00237>                              .042  .4295E+00    |     .864  .1423E+01
00238>                              .047  .5573E+00    |    1.648  .1565E+01
00239>                              .240  .6922E+01    |     .000  .0000E+00
00240>
00241>      ROUTING RESULTS          AREA     QPEAK     TPEAK       R.V.
00242>      ---------------          (ha)     (cms)     (hrs)       (mm)
00243>      INFLOW >04: (INLET )    27.06    6.538     1.233      52.245
00244>      OUTFLOW<05: (POND  )    27.06     .444     2.550      52.243
00245>
00246>                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=    6.796
00247>                    TIME SHIFT OF PEAK FLOW          (min)=   79.00
00248>                    MAXIMUM  STORAGE   USED        (ha.m.)=.1152E+01
00249>
00250> --------------------------------------------------------------------------------
00251> 001:0008--------------------------------------------------------------------------
00252> *
00253> * SPLITTING OUTFLOW FROM POND TO ILLUSTRATE STORM FLOWS PIPED DIRECTLY TO
00254> * ALANTRA DRAIN AND OVERLAND FLOWS TO THE NORTH.
```

```
00255> *
00256> -------------------
00257> | DIVERT HYD      |
00258> | INID=05  (POND  )|
00259> -------------------
00260>       Outflow / Inflow  Relationships
00261>       Flow 06 +  Flow 07 =  Total
00262>        (cms)      (cms)      (cms)
00263>          .000       .000       .000
00264>          .021       .000       .021
00265>          .030       .000       .030
00266>          .036       .000       .036
00267>          .042       .000       .042
00268>          .047       .000       .047
00269>          .240       .000       .240
00270>          .323       .000       .323
00271>          .387       .000       .387
00272>          .441       .000       .441
00273>          .489       .000       .489
00274>          .522       .342       .864
00275>          .553      1.094      1.648
00276>
00277>              NHYD       AREA    QPEAK  TpeakDate_hh:mm       R.V.  NFE WetHrs
00278>                          (ha)    (cms)                       (mm)       (hrs)
00279>    IDin = 05:POND      27.06     .444  No_date    2:33     52.243    1   192.
00280>    ==========================================================================
00281>    IDout= 06:PIPE      27.06     .444  No_date    2:33     52.243    1   192.
00282>    IDout= 07:ORF         .00     .000  No_date    0:00       .000    0     0.
00283> --------------------------------------------------------------------------------
00284> 001:0009-------------------------------------------------------------------------
00285> ********************************************************************************
00286> *                                                                              *
00287> *                 POST DEVELOPMENT PEAK FLOWS TO CASSIDY CONDOS                *
00288> *                                                                              *
00289> ********************************************************************************
00290> *
00291> * CATCHMENT 104 - REAR OF INDUSTRIAL BLOCKS TRIBUTARY TO CASSIDY CONDOS
00292> *
00293> ----------------------
00294> | CALIB NASHYD       |   Area    (ha)=     .27   Curve Number   (CN)=79.00
00295> | 08:CAT104 DT= 1.00 |   Ia      (mm)=   7.100   # of Linear Res.(N)= 3.00
00296> ----------------------   U.H. Tp(hrs)=    .033
00297>
00298>      Unit Hyd Qpeak  (cms)=     .313
00299>
00300>      PEAK FLOW       (cms)=     .064 (i)
00301>      TIME TO PEAK    (hrs)=    1.167
00302>      RUNOFF VOLUME    (mm)=   29.405
00303>      TOTAL RAINFALL   (mm)=   68.724
00304>      RUNOFF COEFFICIENT   =     .428
00305>
00306>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00307>
00308>       *** WARNING: Time step is too large for value of TP.
00309>                    R.V. may be ok.  Peak flow could be off.
00310> --------------------------------------------------------------------------------
00311> 001:0010-------------------------------------------------------------------------
00312> ********************************************************************************
00313> *                                                                              *
00314> *                 POST DEVELOPMENT PEAK FLOWS TO ANDERSON DRAIN                *
00315> *                                                                              *
00316> ********************************************************************************
00317> *
00318> * CATCHMENT 105 - PORTION OF INDUSTRIAL BLOCK, RESIDENTIAL PROPERTY AND
00319> *                  WESTCHESTER BOURNE ROW. MINOR AND MAJOR SYSTEMS TO ANDERSON
00320> *
00321> ----------------------
00322> | CALIB NASHYD       |   Area    (ha)=    1.80   Curve Number   (CN)=79.00
00323> | 02:CAT105 DT= 1.00 |   Ia      (mm)=   4.900   # of Linear Res.(N)= 3.00
00324> ----------------------   U.H. Tp(hrs)=    .367
00325>
00326>      Unit Hyd Qpeak  (cms)=     .187
00327>
00328>      PEAK FLOW       (cms)=     .146 (i)
00329>      TIME TO PEAK    (hrs)=    1.633
00330>      RUNOFF VOLUME    (mm)=   31.014
00331>      TOTAL RAINFALL   (mm)=   68.724
00332>      RUNOFF COEFFICIENT   =     .451
00333>
00334>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00335>
00336> --------------------------------------------------------------------------------
00337> 001:0011-------------------------------------------------------------------------
00338>       FINISH
00339> --------------------------------------------------------------------------------
00340> ********************************************************************************
00341>      WARNINGS / ERRORS / NOTES
00342>      -------------------------
00343>  001:0009 CALIB NASHYD
00344>       *** WARNING: Time step is too large for value of TP.
00345>                    R.V. may be ok.  Peak flow could be off.
00346>    Simulation ended on 2026-01-26     at 14:22:46
00347> ================================================================================
00348>
```

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00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9    =========
00008>                                                          9   9  9   9   # 2957874
00009>         StormWater Management HYdrologic Model           999    999    =========
00010>
00011> ********************************************************************************
00012> ****************************** SWMHYMO Ver/4.05  *******************************
00013> *********  A single event and continuous hydrologic simulation model  *********
00014> *********      based on the principles of HYMO and its successors      *********
00015> *********                    OTTHYMO-83 and OTTHYMO-89.                *********
00016> ********************************************************************************
00017> ********* Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018> *********                  Ottawa,  Ontario: (613) 836-3884            *********
00019> *********                  Gatineau, Quebec: (819) 243-6858            *********
00020> *********                  E-Mail: swmhymo@jfsa.com                    *********
00021> ********************************************************************************
00022>
00023> ********************************************************************************
00024> ********* Licensed user: AGM Engineering Ltd.                          *********
00025> *********                London                SERIAL#:2957874         *********
00026> ********************************************************************************
00027>
00028> ********************************************************************************
00029> *********             ++++++ PROGRAM ARRAY DIMENSIONS ++++++           *********
00030> *********             Maximum value for ID numbers  :    10           *********
00031> *********             Max. number of rainfall points: 105408          *********
00032> *********             Max. number of flow points    : 105408          *********
00033> ********************************************************************************
00034>
00035>
00036> *********************   D E T A I L E D   O U T P U T   **********************
00037> ********************************************************************************
00038> *        DATE: 2026-01-26      TIME: 14:22:59      RUN COUNTER: 002750         *
00039> ********************************************************************************
00040> * Input   filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post100.dat            *
00041> * Output  filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post100.out            *
00042> * Summary filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post100.sum            *
00043> * User comments:                                                             *
00044> * 1:_____________________________________________________________________     *
00045> * 2:_____________________________________________________________________     *
00046> * 3:_____________________________________________________________________     *
00047> ********************************************************************************
00048>
00049> --------------------------------------------------------------------------------
00050> 001:0001--------------------------------------------------------------------------
00051> *#*****************************************************************************
00052> *#  Project Name: [Subdivision]    Project Number: [1522-1]
00053> *#  Date        : 01-26-2026
00054> *#  Modeller    : [CJC]
00055> *#  Company     : AGM Engineering Ltd.
00056> *#  License #   :  2957874
00057> *#*****************************************************************************
00058> --------------------
00059> | START            |  Project  dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\
00060> --------------------  Rainfall dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\
00061>    TZERO =   .00 hrs on      0
00062>    METOUT=  2 (output = METRIC)
00063>    NRUN  = 001
00064>    NSTORM=   0
00065> --------------------------------------------------------------------------------
00066> 001:0002--------------------------------------------------------------------------
00067> *                [" "] <--storm filename, one per line for NSTORM time
00068> *#MUNICIPALITY OF THAMES CENTRE IDF Curve-conversion to 3hr Chicago Distribution
00069> *
00070> *
00071> --------------------
00072> | CHICAGO STORM    |    IDF curve parameters: A=2619.363
00073> | Ptotal= 75.84 mm |                          B=  10.500
00074> --------------------                          C=   .884
00075>                          used in:   INTENSITY =  A / (t + B)^C
00076>
00077>                          Duration of storm  =  3.00 hrs
00078>                          Storm time step    =  5.00 min
00079>                          Time to peak ratio =   .38
00080>
00081>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00082>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00083>               .08   4.457 |    .83  18.443 |   1.58  23.697 |   2.33   7.029
00084>               .17   4.883 |    .92  26.456 |   1.67  19.124 |   2.42   6.490
00085>               .25   5.397 |   1.00  43.730 |   1.75  15.929 |   2.50   6.026
00086>               .33   6.031 |   1.08  97.901 |   1.83  13.591 |   2.58   5.623
00087>               .42   6.827 |   1.17 232.243 |   1.92  11.815 |   2.67   5.269
00088>               .50   7.855 |   1.25 115.806 |   2.00  10.428 |   2.75   4.957
00089>               .58   9.228 |   1.33  64.111 |   2.08   9.318 |   2.83   4.679
00090>               .67  11.140 |   1.42  42.223 |   2.17   8.413 |   2.92   4.431
00091>               .75  13.958 |   1.50  30.659 |   2.25   7.661 |   3.00   4.207
00092>
00093> --------------------------------------------------------------------------------
00094> 001:0003--------------------------------------------------------------------------
00095> ********************************************************************************
00096> *                                                                              *
00097> *              POST DEVELOPMENT CONDITION TO ONSITE SWM POND                   *
00098> *                                                                              *
00099> ********************************************************************************
00100> *
00101> * CATCHMENT 101 - INDUSTRIAL BLOCKS, RIGHT-OF-WAY, EXTERNAL AGRICULTURAL LANDS
00102> *                 AND SWM BLOCK. MINOR AND MAJOR SYSTEMS TO ONSITE SWM POND
00103> *
00104> ----------------------
00105> | CALIB STANDHYD     |   Area    (ha)=   14.31
00106> | 01:CAT101 DT= 1.00 |   Total Imp(%)=   54.00   Dir. Conn.(%)=   44.00
00107> ----------------------
00108>                                IMPERVIOUS    PERVIOUS (i)
00109>      Surface Area      (ha)=       7.73          6.58
00110>      Dep. Storage      (mm)=       2.00          6.10
00111>      Average Slope      (%)=       1.00          2.00
00112>      Length             (m)=     385.00         45.00
00113>      Mannings n             =       .015          .250
00114>
00115>      Max.eff.Inten.(mm/hr)=     232.24        114.01
00116>                 over (min)         4.00         12.00
00117>      Storage Coeff.  (min)=       4.46 (ii)    11.65 (ii)
00118>      Unit Hyd. Tpeak (min)=       4.00         12.00
00119>      Unit Hyd. peak  (cms)=        .26           .10
00120>                                                          *TOTALS*
00121>      PEAK FLOW       (cms)=       2.98          1.31        3.591 (iii)
00122>      TIME TO PEAK    (hrs)=       1.20          1.37        1.217
00123>      RUNOFF VOLUME    (mm)=      73.84         40.79       55.329
00124>      TOTAL RAINFALL   (mm)=      75.84         75.84       75.836
00125>      RUNOFF COEFFICIENT   =        .97           .54         .730
00126>
00127>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00128>            CN* =  80.0    Ia = Dep. Storage  (Above)
00129>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00130>            THAN THE STORAGE COEFFICIENT.
00131>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00132>
00133> --------------------------------------------------------------------------------
00134> 001:0004--------------------------------------------------------------------------
00135> *
00136> * CATCHMENT 102 - INDUSTRIAL BLOCKS, RIGHT-OF-WAY, EXTERNAL AGRICULTURAL LANDS
00137> *                 AND RESIDNETIAL PROPERTY. MINOR AND MAJOR SYSTEMS
00138> *                 TRIBUTARY TO ONSITE SWM POND
00139> *
00140> ----------------------
00141> | CALIB STANDHYD     |   Area    (ha)=    9.10
00142> | 02:CAT102 DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   58.00
00143> ----------------------
00144>                                IMPERVIOUS    PERVIOUS (i)
00145>      Surface Area      (ha)=       6.19          2.91
00146>      Dep. Storage      (mm)=       2.00          5.50
00147>      Average Slope      (%)=       1.00          2.00
00148>      Length             (m)=     644.00         45.00
00149>      Mannings n             =       .015          .250
00150>
00151>      Max.eff.Inten.(mm/hr)=     212.84        123.84
00152>                 over (min)         6.00         13.00
00153>      Storage Coeff.  (min)=       6.29 (ii)    13.24 (ii)
00154>      Unit Hyd. Tpeak (min)=       6.00         13.00
00155>      Unit Hyd. peak  (cms)=        .18           .09
00156>                                                          *TOTALS*
00157>      PEAK FLOW       (cms)=       2.17           .62        2.541 (iii)
00158>      TIME TO PEAK    (hrs)=       1.23          1.38        1.250
00159>      RUNOFF VOLUME    (mm)=      73.84         42.77       60.787
00160>      TOTAL RAINFALL   (mm)=      75.84         75.84       75.836
00161>      RUNOFF COEFFICIENT   =        .97           .56         .802
00162>
00163>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00164>            CN* =  80.0    Ia = Dep. Storage  (Above)
00165>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00166>            THAN THE STORAGE COEFFICIENT.
00167>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00168>
00169> --------------------------------------------------------------------------------
00170> 001:0005--------------------------------------------------------------------------
00171> *
00172> * CATCHMENT 103 - INDUSTRIAL BLOCKS MINOR SYSTEM AND MAJOR SYSTEM TRIBUTARY
00173> *                 TO ONSITE SWM POND
00174> *
00175> ----------------------
00176> | CALIB STANDHYD     |   Area    (ha)=    3.65
00177> | 03:CAT103 DT= 1.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   75.00
00178> ----------------------
00179>                                IMPERVIOUS    PERVIOUS (i)
00180>      Surface Area      (ha)=       3.10           .55
00181>      Dep. Storage      (mm)=       2.00          5.00
00182>      Average Slope      (%)=       1.00          2.00
00183>      Length             (m)=     340.00         40.00
00184>      Mannings n             =       .015          .250
00185>
00186>      Max.eff.Inten.(mm/hr)=     232.24        203.24
00187>                 over (min)         4.00          9.00
00188>      Storage Coeff.  (min)=       4.14 (ii)     9.46 (ii)
00189>      Unit Hyd. Tpeak (min)=       4.00          9.00
00190>      Unit Hyd. peak  (cms)=        .28           .12
00191>                                                          *TOTALS*
00192>      PEAK FLOW       (cms)=       1.32           .20        1.447 (iii)
00193>      TIME TO PEAK    (hrs)=       1.20          1.30        1.200
00194>      RUNOFF VOLUME    (mm)=      73.84         46.80       67.078
00195>      TOTAL RAINFALL   (mm)=      75.84         75.84       75.836
00196>      RUNOFF COEFFICIENT   =        .97           .62         .885
00197>
00198>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00199>            CN* =  79.0    Ia = Dep. Storage  (Above)
00200>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00201>            THAN THE STORAGE COEFFICIENT.
00202>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00203>
00204> --------------------------------------------------------------------------------
00205> 001:0006--------------------------------------------------------------------------
00206> *
00207> * COMBINED INLET FLOWS TO ONSITE SWM POND
00208> *
00209> ----------------------
00210> | ADD HYD (INLET     ) | ID: NHYD          AREA     QPEAK   TPEAK   R.V.    DWF
00211> ----------------------                     (ha)     (cms)   (hrs)   (mm)   (cms)
00212>                        ID1 01:CAT101       14.31    3.591   1.22   55.33    .000
00213>                       +ID2 02:CAT102        9.10    2.541   1.25   60.79    .000
00214>                       +ID3 03:CAT103        3.65    1.447   1.20   67.08    .000
00215>                        ==========================================================
00216>                        SUM 04:INLET         27.06    7.451   1.22   58.75    .000
00217>
00218>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00219>
00220> --------------------------------------------------------------------------------
00221> 001:0007--------------------------------------------------------------------------
00222> *
00223> * PROPOSED ONSITE SWM POND WITH OUTLET PIPE DISCHARGING TO ALANTRA DRAIN AND
00224> * WEIR CONVEYING MAJOR SYSTEM FLOWS OVERLAND TO THE NORTH
00225> *
00226> *
00227> ----------------------
00228> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
00229> |  IN>04:(INLET )    |
00230> | OUT<05:(POND  )    |    =========  OUTFLOW STORAGE TABLE  =========
00231> ----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
00232>                             (cms)     (ha.m.)  |    (cms)     (ha.m.)
00233>                             .000  .0000E+00    |     .323  .8343E+00
00234>                             .021  .8913E-01    |     .387  .9837E+00
00235>                             .030  .1954E+00    |     .441  .1140E+01
00236>                             .036  .3089E+00    |     .489  .1305E+01
00237>                             .042  .4295E+00    |     .864  .1423E+01
00238>                             .047  .5573E+00    |    1.648  .1565E+01
00239>                             .240  .6922E+01    |     .000  .0000E+00
00240>
00241>      ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
00242>      ---------------           (ha)     (cms)     (hrs)       (mm)
00243>      INFLOW >04: (INLET )     27.06    7.451     1.217      58.749
00244>      OUTFLOW<05: (POND  )     27.06     .487     2.533      58.748
00245>
00246>                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=    6.543
00247>                    TIME SHIFT OF PEAK FLOW          (min)=   79.00
00248>                    MAXIMUM  STORAGE   USED        (ha.m.)=.1299E+01
00249>
00250> --------------------------------------------------------------------------------
00251> 001:0008--------------------------------------------------------------------------
00252> *
00253> * SPLITTING OUTFLOW FROM POND TO ILLUSTRATE STORM FLOWS PIPED DIRECTLY TO
00254> * ALANTRA DRAIN AND OVERLAND FLOWS TO THE NORTH.
```

```
00255> *
00256> --------------------
00257> | DIVERT HYD       |
00258> | INID=05  (POND  )|
00259> --------------------
00260>       Outflow / Inflow  Relationships
00261>       Flow 06 +  Flow 07 =  Total
00262>        (cms)      (cms)      (cms)
00263>          .000       .000       .000
00264>          .021       .000       .021
00265>          .030       .000       .030
00266>          .036       .000       .036
00267>          .042       .000       .042
00268>          .047       .000       .047
00269>          .240       .000       .240
00270>          .323       .000       .323
00271>          .387       .000       .387
00272>          .441       .000       .441
00273>          .489       .000       .489
00274>          .522       .342       .864
00275>          .553      1.094      1.648
00276>
00277>              NHYD       AREA    QPEAK  TpeakDate_hh:mm       R.V.  NFE WetHrs
00278>                          (ha)    (cms)                       (mm)       (hrs)
00279>    IDin = 05:POND      27.06     .487  No_date    2:32     58.748    1   193.
00280>    ==========================================================================
00281>    IDout= 06:PIPE      27.06     .487  No_date    2:32     58.748    1   193.
00282>    IDout= 07:ORF         .00     .000  No_date    0:00       .000    0     0.
00283> --------------------------------------------------------------------------------
00284> 001:0009-------------------------------------------------------------------------
00285> ********************************************************************************
00286> *                                                                              *
00287> *                 POST DEVELOPMENT PEAK FLOWS TO CASSIDY CONDOS                *
00288> *                                                                              *
00289> ********************************************************************************
00290> *
00291> * CATCHMENT 104 - REAR OF INDUSTRIAL BLOCKS TRIBUTARY TO CASSIDY CONDOS
00292> *
00293> ----------------------
00294> | CALIB NASHYD       |   Area    (ha)=     .27   Curve Number   (CN)=79.00
00295> | 08:CAT104 DT= 1.00 |   Ia      (mm)=   7.100   # of Linear Res.(N)= 3.00
00296> ----------------------   U.H. Tp(hrs)=    .033
00297>
00298>      Unit Hyd Qpeak  (cms)=     .313
00299>
00300>      PEAK FLOW       (cms)=     .076 (i)
00301>      TIME TO PEAK    (hrs)=    1.167
00302>      RUNOFF VOLUME    (mm)=   34.675
00303>      TOTAL RAINFALL   (mm)=   75.836
00304>      RUNOFF COEFFICIENT   =     .457
00305>
00306>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00307>
00308>       *** WARNING: Time step is too large for value of TP.
00309>                    R.V. may be ok.  Peak flow could be off.
00310> --------------------------------------------------------------------------------
00311> 001:0010-------------------------------------------------------------------------
00312> ********************************************************************************
00313> *                                                                              *
00314> *                 POST DEVELOPMENT PEAK FLOWS TO ANDERSON DRAIN                *
00315> *                                                                              *
00316> ********************************************************************************
00317> *
00318> * CATCHMENT 105 - PORTION OF INDUSTRIAL BLOCK, RESIDENTIAL PROPERTY AND
00319> *                  WESTCHESTER BOURNE ROW. MINOR AND MAJOR SYSTEMS TO ANDERSON
00320> *
00321> ----------------------
00322> | CALIB NASHYD       |   Area    (ha)=    1.80   Curve Number   (CN)=79.00
00323> | 02:CAT105 DT= 1.00 |   Ia      (mm)=   4.900   # of Linear Res.(N)= 3.00
00324> ----------------------   U.H. Tp(hrs)=    .367
00325>
00326>      Unit Hyd Qpeak  (cms)=     .187
00327>
00328>      PEAK FLOW       (cms)=     .173 (i)
00329>      TIME TO PEAK    (hrs)=    1.617
00330>      RUNOFF VOLUME    (mm)=   36.344
00331>      TOTAL RAINFALL   (mm)=   75.836
00332>      RUNOFF COEFFICIENT   =     .479
00333>
00334>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00335>
00336> --------------------------------------------------------------------------------
00337> 001:0011-------------------------------------------------------------------------
00338>       FINISH
00339> --------------------------------------------------------------------------------
00340> ********************************************************************************
00341>      WARNINGS / ERRORS / NOTES
00342>      -------------------------
00343>  001:0009 CALIB NASHYD
00344>       *** WARNING: Time step is too large for value of TP.
00345>                    R.V. may be ok.  Peak flow could be off.
00346>    Simulation ended on 2026-01-26     at 14:23:00
00347> ================================================================================
00348>
```

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9    =========
00008>                                                          9   9  9   9   # 2957874
00009>          StormWater Management HYdrologic Model          999    999    =========
00010>
00011> ********************************************************************************
00012> ****************************** SWMHYMO Ver/4.05  *******************************
00013> *********  A single event and continuous hydrologic simulation model  *********
00014> *********      based on the principles of HYMO and its successors      *********
00015> *********                    OTTHYMO-83 and OTTHYMO-89.                *********
00016> ********************************************************************************
00017> ********* Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018> *********                  Ottawa,  Ontario: (613) 836-3884            *********
00019> *********                  Gatineau, Quebec: (819) 243-6858            *********
00020> *********                  E-Mail: swmhymo@jfsa.Com                    *********
00021> ********************************************************************************
00022>
00023> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024> +++++++++ Licensed user: AGM Engineering Ltd.                          +++++++++
00025> +++++++++                London                SERIAL#:2957874       +++++++++
00026> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028> ********************************************************************************
00029> *********            ++++++ PROGRAM ARRAY DIMENSIONS ++++++            *********
00030> *********            Maximum value for ID numbers  :    10            *********
00031> *********            Max. number of rainfall points: 105408           *********
00032> *********            Max. number of flow points    : 105408           *********
00033> ********************************************************************************
00034>
00035>
00036> *********************   D E T A I L E D   O U T P U T   **********************
00037> ********************************************************************************
00038> *         DATE: 2026-01-26      TIME: 14:23:14     RUN COUNTER: 002751         *
00039> ********************************************************************************
00040> * Input   filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post250.dat            *
00041> * Output  filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post250.out            *
00042> * Summary filename: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\post250.sum            *
00043> * User comments:                                                             *
00044> * 1:_____________________________________________________________________    *
00045> * 2:_____________________________________________________________________    *
00046> * 3:_____________________________________________________________________    *
00047> ********************************************************************************
00048>
00049> --------------------------------------------------------------------------------
00050> 001:0001--------------------------------------------------------------------------
00051> *#*****************************************************************************
00052> *#  Project Name: [Subdivision]    Project Number: [1522-1]
00053> *#  Date        : 01-26-2026
00054> *#  Modeller    : [CJC]
00055> *#  Company     : AGM Engineering Ltd.
00056> *#  License #   :  2957874
00057> *#*****************************************************************************
00058> --------------------
00059> | START            |  Project  dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\
00060> --------------------  Rainfall dir.: G:\CLIENT\1522\1\SWM\SWMHYMO\2-Post\
00061>     TZERO =   .00 hrs on      0
00062>     METOUT=  2 (output = METRIC)
00063>     NRUN  = 001
00064>     NSTORM=   0
00065> --------------------------------------------------------------------------------
00066> 001:0002--------------------------------------------------------------------------
00067> *                [" "] <--storm filename, one per line for NSTORM time
00068> *#MUNICIPALITY OF THAMES CENTRE IDF Curve-conversion to 3hr Chicago Distribution
00069> *
00070> *
00071> --------------------
00072> | CHICAGO STORM    |    IDF curve parameters: A=3048.220
00073> | Ptotal= 86.61 mm |                          B=  10.030
00074> --------------------                          C=    .888
00075>                          used in:   INTENSITY =  A / (t + B)^C
00076>
00077>                          Duration of storm  =  3.00 hrs
00078>                          Storm time step    =  5.00 min
00079>                          Time to peak ratio =   .38
00080>
00081>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00082>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00083>               .08   4.911 |    .83  20.544 |   1.58  26.471 |   2.33   7.766
00084>               .17   5.383 |    .92  29.598 |   1.67  21.310 |   2.42   7.167
00085>               .25   5.954 |   1.00  49.310 |   1.75  17.716 |   2.50   6.652
00086>               .33   6.656 |   1.08 112.508 |   1.83  15.092 |   2.58   6.204
00087>               .42   7.541 |   1.17 274.730 |   1.92  13.104 |   2.67   5.811
00088>               .50   8.685 |   1.25 133.591 |   2.00  11.554 |   2.75   5.465
00089>               .58  10.215 |   1.33  72.819 |   2.08  10.315 |   2.83   5.157
00090>               .67  12.349 |   1.42  47.569 |   2.17   9.306 |   2.92   4.882
00091>               .75  15.503 |   1.50  34.367 |   2.25   8.469 |   3.00   4.634
00092>
00093> --------------------------------------------------------------------------------
00094> 001:0003--------------------------------------------------------------------------
00095> ********************************************************************************
00096> *                                                                              *
00097> *              POST DEVELOPMENT CONDITION TO ONSITE SWM POND                   *
00098> *                                                                              *
00099> ********************************************************************************
00100> *
00101> * CATCHMENT 101 - INDUSTRIAL BLOCKS, RIGHT-OF-WAY, EXTERNAL AGRICULTURAL LANDS
00102> *                 AND SWM BLOCK. MINOR AND MAJOR SYSTEMS TO ONSITE SWM POND
00103> *
00104> ----------------------
00105> | CALIB STANDHYD     |   Area    (ha)=   14.31
00106> | 01:CAT101 DT= 1.00 |   Total Imp(%)=   54.00   Dir. Conn.(%)=   44.00
00107> ----------------------
00108>                                IMPERVIOUS    PERVIOUS (i)
00109>      Surface Area      (ha)=       7.73          6.58
00110>      Dep. Storage      (mm)=       2.00          6.10
00111>      Average Slope      (%)=       1.00          2.00
00112>      Length             (m)=     385.00         45.00
00113>      Mannings n             =       .015          .250
00114>
00115>      Max.eff.Inten.(mm/hr)=     274.73        150.09
00116>                  over (min)       4.00         11.00
00117>      Storage Coeff.  (min)=       4.17 (ii)    10.61 (ii)
00118>      Unit Hyd. Tpeak (min)=       4.00         11.00
00119>      Unit Hyd. peak  (cms)=        .27           .11
00120>                                                          *TOTALS*
00121>      PEAK FLOW       (cms)=       3.57          1.74        4.478 (iii)
00122>      TIME TO PEAK    (hrs)=       1.20          1.33        1.217
00123>      RUNOFF VOLUME    (mm)=      84.61         49.78       65.104
00124>      TOTAL RAINFALL   (mm)=      86.61         86.61       86.609
00125>      RUNOFF COEFFICIENT   =        .98           .57         .752
00126>
00127>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00128>            CN* =  80.0    Ia = Dep. Storage  (Above)
00129>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00130>            THAN THE STORAGE COEFFICIENT.
00131>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00132>
00133> --------------------------------------------------------------------------------
00134> 001:0004--------------------------------------------------------------------------
00135> *
00136> * CATCHMENT 102 - INDUSTRIAL BLOCKS, RIGHT-OF-WAY, EXTERNAL AGRICULTURAL LANDS
00137> *                 AND RESIDNETIAL PROPERTY. MINOR AND MAJOR SYSTEMS
00138> *                 TRIBUTARY TO ONSITE SWM POND
00139> *
00140> ----------------------
00141> | CALIB STANDHYD     |   Area    (ha)=    9.10
00142> | 02:CAT102 DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   58.00
00143> ----------------------
00144>                                IMPERVIOUS    PERVIOUS (i)
00145>      Surface Area      (ha)=       6.19          2.91
00146>      Dep. Storage      (mm)=       2.00          5.50
00147>      Average Slope      (%)=       1.00          2.00
00148>      Length             (m)=     644.00         45.00
00149>      Mannings n             =       .015          .250
00150>
00151>      Max.eff.Inten.(mm/hr)=     251.21        160.94
00152>                  over (min)       6.00         12.00
00153>      Storage Coeff.  (min)=       5.89 (ii)    12.15 (ii)
00154>      Unit Hyd. Tpeak (min)=       6.00         12.00
00155>      Unit Hyd. peak  (cms)=        .19           .09
00156>                                                          *TOTALS*
00157>      PEAK FLOW       (cms)=       2.60           .81        3.131 (iii)
00158>      TIME TO PEAK    (hrs)=       1.23          1.37        1.250
00159>      RUNOFF VOLUME    (mm)=      84.61         51.93       70.885
00160>      TOTAL RAINFALL   (mm)=      86.61         86.61       86.609
00161>      RUNOFF COEFFICIENT   =        .98           .60         .818
00162>
00163>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00164>            CN* =  80.0    Ia = Dep. Storage  (Above)
00165>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00166>            THAN THE STORAGE COEFFICIENT.
00167>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00168>
00169> --------------------------------------------------------------------------------
00170> 001:0005--------------------------------------------------------------------------
00171> *
00172> * CATCHMENT 103 - INDUSTRIAL BLOCKS MINOR SYSTEM AND MAJOR SYSTEM TRIBUTARY
00173> *                 TO ONSITE SWM POND
00174> *
00175> ----------------------
00176> | CALIB STANDHYD     |   Area    (ha)=    3.65
00177> | 03:CAT103 DT= 1.00 |   Total Imp(%)=   85.00   Dir. Conn.(%)=   75.00
00178> ----------------------
00179>                                IMPERVIOUS    PERVIOUS (i)
00180>      Surface Area      (ha)=       3.10           .55
00181>      Dep. Storage      (mm)=       2.00          5.00
00182>      Average Slope      (%)=       1.00          2.00
00183>      Length             (m)=     340.00         40.00
00184>      Mannings n             =       .015          .250
00185>
00186>      Max.eff.Inten.(mm/hr)=     274.73        252.57
00187>                  over (min)       4.00          9.00
00188>      Storage Coeff.  (min)=       3.87 (ii)     8.74 (ii)
00189>      Unit Hyd. Tpeak (min)=       4.00          9.00
00190>      Unit Hyd. peak  (cms)=        .29           .13
00191>                                                          *TOTALS*
00192>      PEAK FLOW       (cms)=       1.59           .25        1.748 (iii)
00193>      TIME TO PEAK    (hrs)=       1.20          1.30        1.200
00194>      RUNOFF VOLUME    (mm)=      84.61         56.32       77.537
00195>      TOTAL RAINFALL   (mm)=      86.61         86.61       86.609
00196>      RUNOFF COEFFICIENT   =        .98           .65         .895
00197>
00198>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00199>            CN* =  79.0    Ia = Dep. Storage  (Above)
00200>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00201>            THAN THE STORAGE COEFFICIENT.
00202>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00203>
00204> --------------------------------------------------------------------------------
00205> 001:0006--------------------------------------------------------------------------
00206> *
00207> * COMBINED INLET FLOWS TO ONSITE SWM POND
00208> *
00209> ----------------------
00210> | ADD HYD (INLET     ) | ID: NHYD          AREA     QPEAK   TPEAK   R.V.    DWF
00211> ----------------------                     (ha)     (cms)   (hrs)   (mm)    (cms)
00212>                        ID1 01:CAT101       14.31    4.478   1.22   65.10    .000
00213>                       +ID2 02:CAT102        9.10    3.131   1.25   70.88    .000
00214>                       +ID3 03:CAT103        3.65    1.748   1.20   77.54    .000
00215>                        ==========================================================
00216>                        SUM 04:INLET         27.06    9.197   1.22   68.72    .000
00217>
00218>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00219>
00220> --------------------------------------------------------------------------------
00221> 001:0007--------------------------------------------------------------------------
00222> *
00223> * PROPOSED ONSITE SWM POND WITH OUTLET PIPE DISCHARGING TO ALANTRA DRAIN AND
00224> * WEIR CONVEYING MAJOR SYSTEM FLOWS OVERLAND TO THE NORTH
00225> *
00226> *
00227> ---------------------
00228> | ROUTE RESERVOIR   |    Requested routing time step =  1.0 min.
00229> |  IN>04:(INLET )   |
00230> | OUT<05:(POND  )   |    =========  OUTFLOW STORAGE TABLE  =========
00231> ---------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
00232>                            (cms)     (ha.m.)  |    (cms)     (ha.m.)
00233>                            .000  .0000E+00    |     .323  .8343E+00
00234>                            .021  .8913E-01    |     .387  .9837E+00
00235>                            .030  .1954E+00    |     .441  .1140E+01
00236>                            .036  .3089E+00    |     .489  .1305E+01
00237>                            .042  .4295E+00    |     .864  .1423E+01
00238>                            .047  .5573E+00    |    1.648  .1565E+01
00239>                            .240  .6922E+01    |     .000  .0000E+00
00240>
00241>      ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
00242>      ---------------            (ha)     (cms)     (hrs)       (mm)
00243>      INFLOW >04: (INLET )      27.06     9.197     1.217      68.725
00244>      OUTFLOW<05: (POND  )      27.06     1.005     2.067      68.723
00245>
00246>                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=   10.927
00247>                    TIME SHIFT OF PEAK FLOW          (min)=    51.00
00248>                    MAXIMUM  STORAGE   USED        (ha.m.)=.1448E+01
00249>
00250> --------------------------------------------------------------------------------
00251> 001:0008--------------------------------------------------------------------------
00252> *
00253> * SPLITTING OUTFLOW FROM POND TO ILLUSTRATE STORM FLOWS PIPED DIRECTLY TO
00254> * ALANTRA DRAIN AND OVERLAND FLOWS TO THE NORTH.
```

```
00255> *
00256> --------------------
00257> | DIVERT HYD       |
00258> | INID=05  (POND  )|
00259> --------------------
00260>       Outflow / Inflow  Relationships
00261>       Flow 06 +  Flow 07 =  Total
00262>        (cms)      (cms)      (cms)
00263>          .000       .000       .000
00264>          .021       .000       .021
00265>          .030       .000       .030
00266>          .036       .000       .036
00267>          .042       .000       .042
00268>          .047       .000       .047
00269>          .240       .000       .240
00270>          .323       .000       .323
00271>          .387       .000       .387
00272>          .441       .000       .441
00273>          .489       .000       .489
00274>          .522       .342       .864
00275>          .553      1.094      1.648
00276>
00277>              NHYD       AREA    QPEAK  TpeakDate_hh:mm       R.V.  NFE WetHrs
00278>                          (ha)    (cms)                       (mm)       (hrs)
00279>    IDin = 05:POND      27.06    1.005  No_date    2:04     68.723    1   194.
00280>    ==========================================================================
00281>    IDout= 06:PIPE      24.56     .528  No_date    2:04     68.723    1   194.
00282>    IDout= 07:ORF        2.50     .477  No_date    2:04     68.723    1     2.
00283> --------------------------------------------------------------------------------
00284> 001:0009-------------------------------------------------------------------------
00285> ********************************************************************************
00286> *                                                                              *
00287> *                 POST DEVELOPMENT PEAK FLOWS TO CASSIDY CONDOS                *
00288> *                                                                              *
00289> ********************************************************************************
00290> *
00291> * CATCHMENT 104 - REAR OF INDUSTRIAL BLOCKS TRIBUTARY TO CASSIDY CONDOS
00292> *
00293> ----------------------
00294> | CALIB NASHYD       |   Area    (ha)=     .27   Curve Number   (CN)=79.00
00295> | 08:CAT104 DT= 1.00 |   Ia      (mm)=   7.100   # of Linear Res.(N)= 3.00
00296> ----------------------   U.H. Tp(hrs)=    .033
00297>
00298>      Unit Hyd Qpeak  (cms)=     .313
00299>
00300>      PEAK FLOW       (cms)=     .100 (i)
00301>      TIME TO PEAK    (hrs)=    1.167
00302>      RUNOFF VOLUME    (mm)=   42.996
00303>      TOTAL RAINFALL   (mm)=   86.609
00304>      RUNOFF COEFFICIENT   =     .496
00305>
00306>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00307>
00308>       *** WARNING: Time step is too large for value of TP.
00309>                    R.V. may be ok.  Peak flow could be off.
00310> --------------------------------------------------------------------------------
00311> 001:0010-------------------------------------------------------------------------
00312> ********************************************************************************
00313> *                                                                              *
00314> *                 POST DEVELOPMENT PEAK FLOWS TO ANDERSON DRAIN                *
00315> *                                                                              *
00316> ********************************************************************************
00317> *
00318> * CATCHMENT 105 - PORTION OF INDUSTRIAL BLOCK, RESIDENTIAL PROPERTY AND
00319> *                  WESTCHESTER BOURNE ROW. MINOR AND MAJOR SYSTEMS TO ANDERSON
00320> *
00321> ----------------------
00322> | CALIB NASHYD       |   Area    (ha)=    1.80   Curve Number   (CN)=79.00
00323> | 02:CAT105 DT= 1.00 |   Ia      (mm)=   4.900   # of Linear Res.(N)= 3.00
00324> ----------------------   U.H. Tp(hrs)=    .367
00325>
00326>      Unit Hyd Qpeak  (cms)=     .187
00327>
00328>      PEAK FLOW       (cms)=     .217 (i)
00329>      TIME TO PEAK    (hrs)=    1.617
00330>      RUNOFF VOLUME    (mm)=   44.739
00331>      TOTAL RAINFALL   (mm)=   86.609
00332>      RUNOFF COEFFICIENT   =     .517
00333>
00334>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00335>
00336> --------------------------------------------------------------------------------
00337> 001:0011-------------------------------------------------------------------------
00338>       FINISH
00339> --------------------------------------------------------------------------------
00340> ********************************************************************************
00341>      WARNINGS / ERRORS / NOTES
00342>      -------------------------
00343>  001:0009 CALIB NASHYD
00344>       *** WARNING: Time step is too large for value of TP.
00345>                    R.V. may be ok.  Peak flow could be off.
00346>    Simulation ended on 2026-01-26     at 14:23:15
00347> ================================================================================
00348>
```