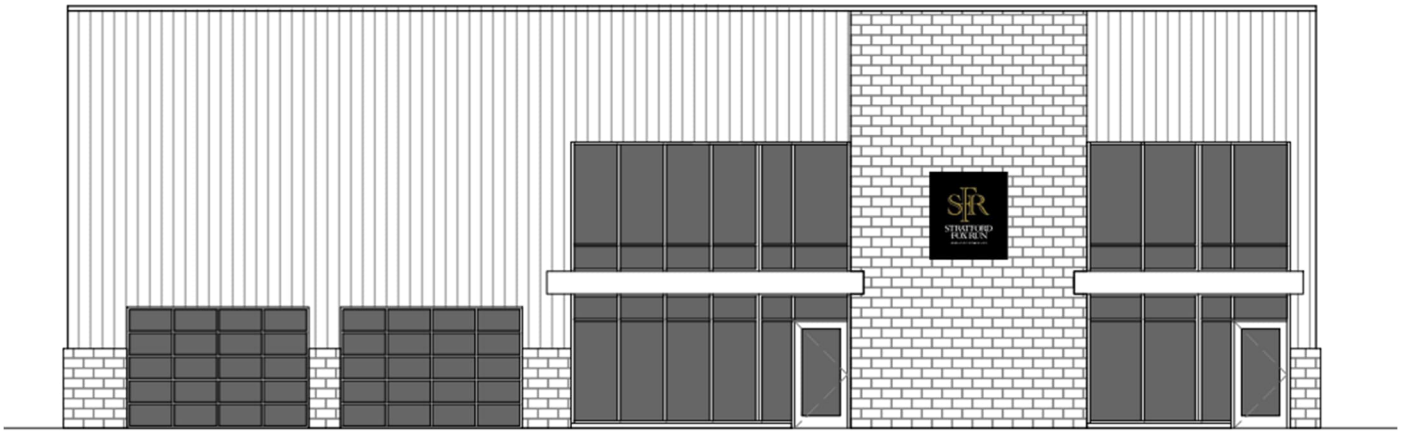
SERVICING & STORMWATER MANAGEMENT REPORT
DISTILLERY - 5923 OTTAWA STREET



Project No.: CCO-25-0415

City File No.: D07-12-25-0078

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Submitted: October 17, 2024
Revised: June 16, 2026

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1.0 PROJECT DESCRIPTION

1.1 Purpose

Egis Canada (Egis) has been retained by 99117756 Canada Inc. to prepare this Servicing and Stormwater Management Report in support of the Site Plan Control process for the proposed development located at 5923 Ottawa Street within the City of Ottawa (City).

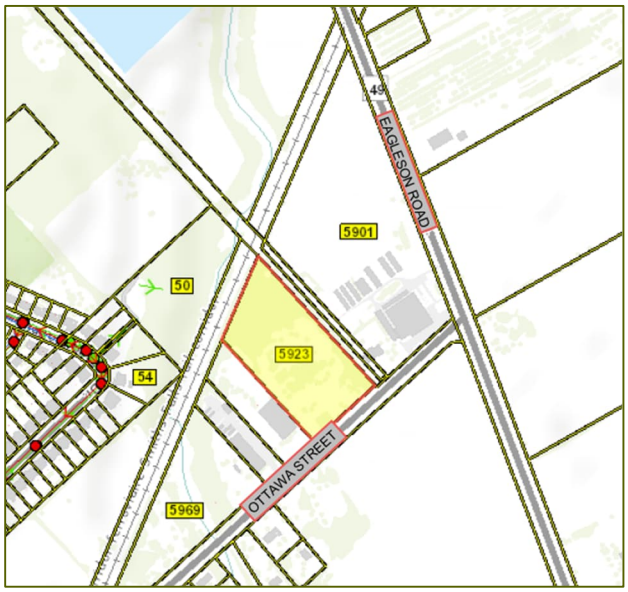
The main purpose of this report is to present a servicing design for the development in accordance with the recommendations and guidelines provided by the City, the Rideau Valley Conservation Authority (RVCA), and the Ministry of the Environment, Conservation and Parks (MECP). This report will address the water, sanitary, and storm sewer servicing for the development, ensuring that proposed services will adequately service the development.

This report should be read in conjunction with the following drawings:

- CCO-25-0415, C100 – Servicing Plan Details,
- CCO-25-0415, C101 – Lot Grading and Drainage Plan,
- CCO-25-0415, C102 – Site Servicing Plan,
- CCO-25-0415, C103 – Erosion & Sediment Control Plan,
- CCO-25-0415, PRE – Pre-Development Drainage Area Plan (Appendix 'E'), and
- CCO-25-0415, POST – Post-Development Drainage Area Plan (Appendix 'F').

1.2 Site Description

Figure 1: Site Map



The property is located at 5923 Ottawa Street within the City of Ottawa. It is described as Part of Unit 10, Index Plan D-26, geographic township of Goulbourn, City of Ottawa. The land in question covers approximately 2.27 ha and is located near the intersection of Ottawa Street and Eagleson Road. See Site Location Plan in Appendix 'A' for more details.

1.3 Proposed Development and Statistics

The proposed development consists of two phases. Phase 1 covers 1.17 ha and proposes a new 651 m^2 ground-floor area building with a distillery/warehouse, restaurant, and retail space. Phase 2 covers 1.10 ha and proposes a new 926 m^2 ground-floor area brewery building. Parking and drive aisles will be provided throughout each phase along with landscaping around the perimeter of the development area. The development will be accessed via the proposed site entrances from Ottawa Street.

1.4 Existing Conditions and Infrastructure

The existing site is currently undeveloped with no available municipal services. A municipal ditch fronts the subject site along Ottawa Street. The Smiths Falls Rail Corridor is located northwest of the subject site.

1.5 Approvals

The proposed development is subject to the City of Ottawa site plan control approval process. Site plan control requires the City to review, provided concurrence and approve the engineering design package. Permits to construct can be requested once the City has issued a site plan agreement.

An Environmental Activity and Sector Registry (EASR) through the MECP is expected to be required for stormwater management based on the industrial usage of the site. As industrial activities will only take place indoors and there will be no discharge of process water to the stormwater management system, an Environmental Compliance Approval is not anticipated to be required for stormwater management.

The septic system design has been completed by others with approval under the Ontario Building Code.

2.0 BACKGROUND STUDIES, STANDARDS, AND REFERENCES

2.1 Background Reports / Reference Information

Background plans and studies that have been completed for the proposed site are listed below:

- Plan of Survey, drawing CCO-25-0415 Ottawa St, prepared by Egis Surveying Inc. and dated July 9, 2024.
- Site Plan, drawing A-001, prepared by N45 Architecture Inc. and dated May 14, 2026.
- Geotechnical Investigation, Proposed Commercial Development, prepared by Paterson Group, and dated July 9, 2025.
- Ditch Hydrologic and Hydraulic Analysis, prepared by JFSA, and dated April 1, 2026.

- Sewage System Layout Plan, Drawing PH4924-1(rev.5), prepared by Paterson Group, and dated November 7, 2025.
- 5923 Ottawa Street Occupancy Alternative Solution Roadmap memorandum, prepared by LRI, and dated August 21, 2025.
- 5923 Ottawa Street Distillery water Storage Volume Estimate, prepared by LRI, and dated January 27, 2026.
- Anchor Detail – Fire Tanks, prepared by Paterson Group, and dated June 11, 2026.
- Village of Richmond Environmental Management Plan, dated June 17, 2010.

2.2 Applicable Guidelines and Standards

City of Ottawa:

- Ottawa Sewer Design Guidelines, City of Ottawa, SDG004, December 2025 (Ottawa Sewer Guidelines)
- Ottawa Design Guidelines – Water Distribution City of Ottawa, July 2010. (Ottawa Water Guidelines)
  - Technical Bulletin ISD-2010-2 City of Ottawa, December 15, 2010. (ISD-2010-2)
  - Technical Bulletin ISDTB-2014-02 City of Ottawa, May 2014. (ISDTB-2014-02)
  - Technical Bulletin ISTB-2018-02 City of Ottawa, March 2018. (ISTB-2018-02)
  - Technical Bulletin ISTB-2021-03 City of Ottawa, August 2021. (ISTB-2021-03)
  - Technical Bulletin IWSTB-2024-05 City of Ottawa, November 2024. (IWSTB-2024-05)

Ministry of Environment, Conservation and Parks:

- Stormwater Planning and Design Manual, Ministry of the Environment, March 2003. (MECP Stormwater Design Manual)
- Design Guidelines for Sewage Works, Ministry of the Environment, 2008. (MECP Sewer Design Guidelines)

Other:

- Water Supply for Public Fire Protection, Fire Underwriters Survey, 2020. (FUS Guidelines)

3.0 PRE-CONSULTATION SUMMARY

A pre-consultation meeting was conducted on March 21st, 2024, regarding the proposed site. Specific design parameters to be incorporated within this design include the following:

- Control post-development flows to the 2-year pre-development peak flow rate with C=0.5 or existing, whichever is lesser, for all storms up to and including the 100-year storm event.
- Quality control to be provided up to an enhanced level of treatment (80% TSS Removal).

The notes from the City of Ottawa can be found in Appendix 'B'.

4.0 WATER SERVICING

4.1 Existing Watermain

The subject site is currently undeveloped with no access to a municipal watermain. Neighbouring properties are serviced by private wells.

4.2 Proposed Water Servicing

A new private drilled well and pump system is proposed within each phase to provide the development with domestic water supply. The well servicing Phase 1 is existing, and the approximate location is indicated on the Site Servicing Plan. The Phase 2 well, which will be designed and specified by others, will be included on the Servicing Plan once the location has been confirmed. As the development will be phased, it is proposed to temporarily service the Phase 2 building via the Phase 1 well. After the Phase 2 well is drilled, the service from the Phase 1 well to Phase 2 will be abandoned and both buildings will be independently serviced. Please refer to the Hydrogeological Report and Terrain Analysis completed by Paterson Group for well capacity discussion.

Although the building will be serviced via a drilled well and pump system as described above, water demands based on occupancy areas are provided in Table 1, below, for information purposes only. The water demands have been calculated to adhere to the Ottawa Water Guidelines and can be found in Appendix 'C'.

Table 1: Water Supply Design Criteria and Water Demands

Proposed Development	Phase 1	Phase 2
Site Area	1.17 ha	1.10 ha
Commercial	28,000 L/gross ha/day	
Commercial Peaking Factor (Max Day)	1.5 x avg. day	
Commercial Peaking Factor (Peak Hour)	1.8 x max. day	
Industrial	35,000 L/gross ha/day	
Industrial Peaking Factor (Max Day)	1.5 x avg. day	
Industrial Peaking Factor (Peak Hour)	1.8 x max. day	
Average Day Demand (L/s)	0.02	0.04
Maximum Daily Demand (L/s)	0.04	0.06
Peak Hourly Demand (L/s)	0.06	0.11

Fire protection is proposed to be provided by a remote fire protection system comprised of underground water storage tanks, dry hydrants, and a 150 mm diameter private watermain. The underground storage tanks will provide water to the building sprinkler systems as well as the dry hydrants. Both buildings will be equipped with fully supervised sprinkler systems, which require a supervisory signal to indicate conditions that could impair the operation of the system, as well as a water flow alarm to indicate the sprinkler system has been activated. The alarms must be sent to approved receiving facilities identified by the Fire Underwriters Survey.

The minimum required on-site storage volume was determined by LRI and provided in the 5923 Ottawa Street Distillery Water Storage Volume Estimate memo. The recommended on-site storage volume was determined based on the OBC-mandated Q-values for a Group F, Division 1 occupancy for the distillery, and a Group F, Division 2 occupancy for the brewery and storage areas. No reduction for OFS water shuttling was accounted for. The results are summarized in Table 2, below.

Table 2: On-Site Storage Volume Summary

Proposed Development	Phase 1	Phase 2
OBC Flow Rate Requirement	5,400 L/min	5,400 L/min
OBC Volume Requirement	177,100 L	173,949 L
NFPA13 Volume Requirement	288,442 L	242,574 L
NFPA13 Evaluation w/Superior Tanker Shuttle Service Reduction	118,117 L	129,024 L

As per Table 2, above, a minimum on-site water supply of 180,000 litres has been recommended by LRI. Please refer to the 5923 Ottawa Street Distillery Water Storage Volume Estimate prepared by LRI and included within Appendix 'C' for additional information.

On-site storage for both phases is proposed to be provided by shared underground concrete water storage tanks connected to two dry hydrants and the building sprinkler systems The underground water storage tanks will be located adjacent to the Phase 2 layby area, and will include a draw pipe and chute as per City of Ottawa Figure 5, Figure 10, and standard drawings W51 and W52. A total of four 45,000 litre Boyd Bro's concrete water storage tanks (or approved equivalent) are proposed for a total on-site storage volume of 180,000 litres. Each phase will include a layby area near the site entrance adjacent a private hydrant for firefighting access. A Siamese connection will be located within 45m of each layby area to allow Ottawa Fire Services to supplement sprinkler supply as required.

Please refer to the Site Servicing plan for more information on the servicing layout.

As the site contains high groundwater, a buoyancy review of the underground storage tanks was completed by Paterson Group. Paterson has indicated that ballasting blocks will be required to mitigate flotation of the tanks. Please refer to the Anchor Detail – Fire Tanks memo prepared by Paterson Group and included within Appendix 'C' for additional information.

5.0 SANITARY SERVICING

5.1 Existing Sanitary Sewers

The subject site is currently undeveloped with no access to a municipal sanitary sewer. Neighbouring properties are serviced by private septic systems.

5.2 Proposed Sanitary Servicing

A new septic bed located north of the proposed buildings will be installed for each phase and sized to accommodate the development.

Total Daily Design Sanitary Sewage Flow (TDDSSF) for Phases 1 and 2 was calculated by Paterson as 9,367 L/day and 600 L/day, respectively. It is understood that approval of on-site septic treatment will be governed by OBC, as the TDDSSF for each system will be less than 10,000 L/day. Refer to the septic design completed by Paterson Group, which has been submitted to the Ottawa Septic System Office (OSSO) and approved through Septic File #25-176 and #25-177. The permits can be found within Appendix 'D'.

In summary, both the Phase 1 and Phase 2 systems have been designed using Class 4 raised leaching beds in combination with an Eljen GSF treatment system.

Phase 1 will treat up to 9,367 L/day of Effluent. The Phase 1 system will include a 28,101 L pretreatment tank and an 18,500 L balancing tank complete with a time operated control panel. The sanitary service exiting the building will be 100 mm diameter and sleeved through a 150 mm diameter pipe overlain by rigid insulation boards.

Phase 2 will treat up to 600 L/day of Effluent. The Phase 2 system will include a 3,600 L pretreatment tank and a 450 L balancing tank complete with a time operated control panel. The sanitary service exiting the building will be 100 mm diameter and sleeved through a 150 mm diameter pipe overlain by rigid insulation boards.

As the site contains high groundwater, a buoyancy review is required to mitigate flotation of the septic tanks. As per the Response to City Comments memorandum provided by Paterson Group and dated August 20th, 2025, this review was completed as part of the Sewage System Design process and no further action was deemed to be required.

For further design information pertaining to the on-site sewage system, please refer to the septic design completed by Paterson Group.

Although the building will be serviced via a septic system as described above, sanitary demands based on occupancy areas are provided below for information purposes only. The sanitary demands have been calculated to adhere to the Ottawa Sewer Guidelines and can be found in Appendix 'D'. Within the demand calculations, the restaurant area for Phase 1 has been increased to account for outdoor patio seating. The development area was considered instead of the full property area to provide a more reasonable infiltration allowance estimate, as

only a fraction of the property is being developed, and it is unlikely that downstream areas located a significant distance from the septic system will result in increased infiltration.

Sanitary Design Criteria are listed in Table 3, below.

Table 3: Sanitary Design Criteria

Design Parameter	Value
Phase 1 Development Area	0.48 ha
Phase 2 Development Area	0.45 ha
Commercial Area	280 L/person/day
Industrial – Light Area	35,000 L/gross ha/d
Restaurant Area	125 L/ (9.2 m^2/d)
Institutional/Commercial Peaking Factor	1.5
Extraneous Flow Allowance	0.33 L/s/ha

Table 4, below, summarizes the estimated wastewater flow from the proposed development. Refer to Appendix 'D' for detailed calculations.

Table 4: Summary of Estimated Sanitary Flow

Design Parameter	Total Flow (L/s)	
	Phase 1	Phase 2
Total Estimated Average Dry Weather Flow	0.10	0.04
Total Estimated Peak Dry Weather Flow	0.14	0.05
Total Estimated Peak Wet Weather Flow	0.27	0.17

As mentioned above, sanitary demand calculations based on the Ottawa Sewer Guidelines are provided for information only. The sanitary design and septic demand have been completed by Paterson Group based on OBC requirements.

6.0 STORM SEWER SERVICING

6.1 Existing Storm Sewers

There are no existing storm sewers within the subject site or the adjacent municipal ROW. A municipal ditch fronts the subject site along Ottawa Street. A secondary ditch runs along the south of the Smiths Falls Rail Corridor at the rear of the site.

6.2 Proposed Storm Servicing

Runoff collected on the roof of the proposed Phase 1 and 2 buildings will be stored and controlled using flow restricting roof drains. Surface runoff from landscaped areas will be conveyed towards depressed surface storage areas located within the front yard of each phase. One minimum sized orifice for each phase will be used to direct controlled runoff from the surface storage areas to the municipal ditch along Ottawa Street during smaller storm events, while runoff exceeding the release rate of the orifices will be stored within the depressed surface storage areas. A weir is proposed for each surface storage area which will be located above the 100-year storage elevation. The weir will permit greater outflow in the event of a blockage within the system or a storm exceeding the 100-year event.

Runoff will be directed towards oil and grit separator units before discharging to the municipal ditch along Ottawa Street.

See CCO-25-0415 - POST in Appendix 'F' of this report and drawing C102 for more details. The Stormwater Management design for the subject property will be outlined in Section 7.0.

7.0 PROPOSED STORMWATER MANAGEMENT

7.1 Design Criteria

Stormwater management for the proposed site will be maintained through positive drainage away from the proposed building and towards the proposed depressed surface storage areas. The proposed stormwater management areas will capture and restrict runoff with the use of minimum sized orifices. The emergency overland flow route for the proposed site will be directed southeast towards the municipal ditch along Ottawa Street.

The quantitative and qualitative properties of the storm runoff for both the pre & post development flows are further detailed below. Stormwater Best Management Practices (SWM BMP's) will be implemented at the "Lot level", "Conveyance" and "End of Pipe" locations. These concepts will be explained further in Section 7.7.

In summary, the following design criteria have been employed in developing the stormwater management design for the site as directed by the RVCA and City:

Quality Control

- The site has been designed to achieve an 80% total suspended solids removal (enhanced level of treatment) using oil & grit separator units as part of a treatment train approach.

Quantity Control

- Post development 100-year flow is to be restricted to match the 2-year pre-development flow.

7.2 Runoff Coefficient Calculations

Runoff values presented in the report have been derived from the Hydrologic & Hydraulic analysis completed by JFSA. Please refer to the "Stratford Foxrun Development – 5923 Ottawa Street, Richmond Ditch Hydrologic and Hydraulic Analysis" for additional information.

Egis provided JFSA with the site area and runoff coefficients to be incorporated into their larger drainage areas. The following coefficients were used to develop an average C for each area:

Roofs/Concrete/Asphalt	0.90
Gravel	0.60
Undeveloped and Grass	0.20

As per the Ottawa Sewer Guidelines, the 2/5-year balanced 'C' value must be increased by 25% for a 100-year storm event to a maximum of 1.0.

7.3 Pre-Development Drainage

The existing site drainage limits are demonstrated on the Pre-Development Drainage Area Plans included in Appendix 'E'. The site is 2.27 ha overall, but for the purposes of this report, the pre-development drainage is focused on the area of development. A summary of the Pre-Development Runoff Coefficient Calculations can be found in Table 5, below.

Table 5: Pre-Development Runoff Coefficients Summary

Drainage Area	Area (ha)	Runoff Coefficient (2/5-Year)	Runoff Coefficient (100-Year)
A1	0.22	0.20	0.25
A2	0.26	0.20	0.25
Total (Phase 1)	0.48	-	-
A3	0.16	0.20	0.25
A4	0.29	0.20	0.25
Total (Phase 2)	0.45		

Area A1 and A3 represents the portion of the Phase 1 and Phase 2 development directed towards the rear yard in the existing condition, respectively. Areas A2 and A4 represent the portion of the Phase 1 and Phase 2 development areas directed towards the Ottawa Street municipal ditch in the existing condition, respectively.

Runoff directed towards the rear yard is conveyed along the railway ditch before discharging through a 1500 mm diameter culvert to Marlborough Creek, a tributary of the Jock River.

Runoff directed towards Ottawa Street is conveyed along the Ottawa Street and Eagleson Road municipal ditches before turning towards the ditch along the railway track and ultimately discharging through the same 1500 mm diameter culvert to Marlborough Creek. A Ditch Figure can be found within Appendix 'G'.

7.4 Post-Development Drainage

The proposed site drainage limits are demonstrated on the Post-Development Drainage Area Plan. See CCO-25-0415 - POST in Appendix 'F' of this report for more details. A summary of the Post-Development Runoff Coefficients can be found in Table 6, below.

Table 6: Post-Development Runoff Coefficients Summary

Drainage Area	Area (ha)	Runoff Coefficient (2/5-Year)	Runoff Coefficient (100-Year)
B1	0.42	0.51	0.58
B2	0.07	0.90	1.00
Total (Phase 1)	0.48	-	-
B3	0.35	0.49	0.56
B4	0.09	0.90	1.00
Total (Phase 2)	0.45		

Areas B1 represents Phase 1 surface runoff, while area B2 represents the Phase 1 roof area. Area B3 represents Phase 2 surface runoff, and area B4 represents the Phase 2 roof area. See Appendix 'G' for calculations.

For each phase, controlled roof runoff and uncontrolled surface runoff will be directed towards a depressed surface storage area located within the front yard. Phase 1 and Phase 2 will each employ a 75 mm diameter orifice to control outflow from its respective storage area. Each storage area will also include a 0.30 m earth weir to allow for outflow in the event of a blockage within the system or a storm exceeding the 100-year event.

Runoff will be conveyed from the depressed surface storage areas to oil and grit separator units before discharging to the Ottawa Street municipal ditch.

Cutoff swales are proposed to redirect external drainage collected along the southwest and northeast property lines. Along the southwest property line, the proposed cutoff swale will direct external drainage towards the rear yard, generally matching existing drainage patterns. Along the northeast property line, the proposed cutoff swale will direct external drainage towards the Ottawa Street municipal ditch, generally matching existing drainage patterns.

7.5 Quantity Control

The 2- to 100-year post development runoff for the site must be restricted to match the 2-year pre-development flow rate.

JFSA was retained to complete a Hydrologic and Hydraulic analysis of the proposed stormwater management design to confirm there will be no negative impacts to the receiving ditch. A pre- and post-development hydrologic model was created with SWMHYMO, and hydraulic modeling was completed using HEC-RAS.

Table 7, below, summarizes the roof area release rates and storage volumes that were incorporated into JFSA's model. Runoff collected on the roof of the proposed buildings will be stored and controlled internally using roof drains. Roof drains will be used to limit the flow from the roof to the specified allowable release rate. For calculation purposes a Watts Accutrol roof drain in the "Open" position was used to estimate a reasonable roof flow. Other products may be specified at detailed building design provided that release rates and storage

volumes are respected. An example roof drain calculation demonstrating the release rate versus storage depth relationship can be found within Appendix 'G'.

Table 7: Roof Area Storage-Outflow Curves

	Phase 1 Roof (4 Roof Drains, 488 m^2 usable roof area)			Phase 2 Roof (6 Roof Drains, 694 m^2 usable roof area)		
Storage Depth (mm)	Flow Per Drain (L/s)	Total Flow (L/s)	Storage Volume (m^3)	Flow Per Drain (L/s)	Total Flow (L/s)	Storage Volume (m^3)
0	0.00	0.00	0.00	0.00	0.00	0.00
10	0.13	0.50	1.63	0.13	0.76	2.31
20	0.25	1.01	3.26	0.25	1.51	4.63
30	0.38	1.51	4.88	0.38	2.27	6.94
40	0.50	2.02	6.51	0.50	3.03	9.26
50	0.63	2.52	8.14	0.63	3.79	11.57
60	0.76	3.03	9.77	0.76	4.54	13.88
70	0.88	3.53	11.40	0.88	5.30	16.20
80	1.01	4.04	13.03	1.01	6.06	18.51
90	1.14	4.54	14.65	1.14	6.81	20.83
100	1.26	5.05	16.28	1.26	7.57	23.14
110	1.39	5.55	17.91	1.39	8.33	25.45
120	1.51	6.06	19.54	1.51	9.08	27.77
130	1.64	6.56	21.17	1.64	9.84	30.08
140	1.77	7.07	22.80	1.77	10.60	32.40
150	1.89	7.57	24.42	1.89	11.36	34.71

Table 8, below, summarizes the site release rates and required storage volumes for the post-development condition based on JFSA's analysis. For further information, including full stage-storage-discharge tables for the proposed roof and ponding areas, refer to the Hydrologic & Hydraulic Analysis prepared by JFSA and included in Appendix 'G'.

Table 8: Site Release Rates / Required Storage Volume / Ponding Elevation

	Phase 1 (0.48 ha)				Phase 2 (0.45 ha)			
Storm	Peak Outflow (m^3/s)	Required Storage (m^3)	Storage Elev. (m)	Depth (m)	Peak Outflow (m^3/s)	Required Storage (m^3)	Storage Elev. (m)	Depth (m)
2YrCHI3Hr	0.006	39	94.13	0.288	0.006	34	94.03	0.323
5YrCHI3Hr	0.007	71	94.20	0.363	0.008	61	94.15	0.443
10YrCHI3Hr	0.007	93	94.25	0.407	0.008	81	94.21	0.503
25YrCHI3Hr	0.008	123	94.30	0.463	0.009	108	94.28	0.567
50YrCHI3Hr	0.008	146	94.34	0.504	0.009	129	94.32	0.613
100YrCHI3Hr	0.009	172	94.39	0.547	0.009	152	94.37	0.660
2YrSCS24Hr	0.006	48	94.15	0.310	0.007	42	94.08	0.366
5YrSCS24Hr	0.007	78	94.22	0.377	0.008	68	94.18	0.467
10YrSCS24Hr	0.007	99	94.26	0.418	0.008	87	94.23	0.517
25YrSCS24Hr	0.008	126	94.31	0.468	0.009	111	94.28	0.574
50YrSCS24Hr	0.008	147	94.35	0.505	0.009	130	94.33	0.616
100YrSCS24Hr	0.008	169	94.38	0.542	0.009	150	94.37	0.656
100YrCHI+20%	0.016	216	94.46	0.618	0.016	194	94.45	0.743

As seen in Table 8, above, The restriction of runoff will result in 100-year ponding depth of 0.55 m for Phase 1, and 100-year ponding depth of 0.66 m for Phase 2. Freeboard during the 100-year event will be 0.31 - 0.33 m. During the stress test event (100 year + 20%), the ponding depth will be 0.62m for Phase 1, and 0.74 m for Phase 2. A minimum 24 cm freeboard will be provided during the stress test event.

Table 9, below, summarizes the Pre- and Post- development peak flow within the Ottawa Street Municipal Ditch at the southeast corner of the property (Junction J1 from the modeling results).

Table 9: Pre- and Post-Development Peak Flow Summary

	Peak Flow (m^3/s)		
Storm	Pre-Development	Post-Development	Difference
2YrCHI3Hr	0.015	0.019	0.004
5YrCHI3Hr	0.026	0.027	0.001
10YrCHI3Hr	0.035	0.032	-0.003
25YrCHI3Hr	0.047	0.038	-0.009
50YrCHI3Hr	0.057	0.043	-0.014
100YrCHI3Hr	0.067	0.048	-0.019
2YrSCS24Hr	0.024	0.024	0.000
5YrSCS24Hr	0.038	0.032	-0.006
10YrSCS24Hr	0.049	0.038	-0.011
25YrSCS24Hr	0.062	0.044	-0.018
50YrSCS24Hr	0.073	0.049	-0.024
100YrSCS24Hr	0.084	0.055	-0.029
100YrCHI+20%	0.090	0.065	-0.025

As seen in Table 9, above, there will be a minor increase in flow during smaller storm events. The increase in flow is the result of additional area being directed towards the Ottawa Street municipal ditch that was directed towards the rear yard in the existing condition. Outflow during smaller events is controlled by an orifice at the minimum allowable size, and so reducing flow by reducing orifice size is not recommended. Furthermore, based on JFSA's analysis, it has been determined that there will be no negative downstream impact to the roadway or existing buildings resulting from the minor increase in runoff during smaller events.

Please refer to JFSA's Hydrologic & Hydraulic analysis included within Appendix 'G' for the full stage-storage-discharge table for each ponding area.

During larger storm events, the modeling results indicate there will be a reduction in peak flow, and a reduction in the 100-year floodplain.

For more information on the Hydrologic and Hydraulic modeling completed by JFSA, please refer to the memo included in Appendix 'G'.

7.6 Quality Control

The development of this lot will employ Best Management Practices (BMP's) wherever possible. The intent of implementing stormwater BMP's is to ensure that water quality and quantity concerns are addressed at all stages of development. Lot level BMP's typically include temporary retention of the parking lot runoff, minimizing ground slopes and maximizing landscaped areas.

Within areas B1 and B3, surface runoff from the Phase 1 & 2 drive aisle, parking lots, and asphalt loading areas will be directed towards proposed grassed swales located along the phase line and property line. The grassed swales have been designed with minimal slope to reduce runoff velocity and promote filtration and settlement of suspended solids.

The proposed grassed swales will discharge to depressed surface storage areas located within Phase 1 and 2. The depressed surface storage areas will restrict runoff and provide further opportunity for suspended solids removal through filtration and settlement. Removal efficiency of the depressed surface storage area will be most comparable to a dry pond, given that runoff will be temporarily detained during storm events and then released at a controlled rate.

As per the Environmental Design Criteria section of the MECP Stormwater Design Manual, dry ponds can be credited with achieving a Basic 60% long-term suspended solid removal provided the storage volumes identified within Table 3.2 of the Manual are achieved.

For the Phase 1 site, with an imperviousness of 52%, a storage volume of 141 m^3/ha or 67.7 m^3 is required to achieve a basic long-term 60% TSS removal, based on Table 3.2 of the Manual. The Phase 1 surface storage area will provide up to 172 m^3 of stormwater storage, more than doubling the requirement.

For the Phase 2 site, with an imperviousness of 53%, a storage volume of 144 m^3/ha or 64.7 m^3 is required to achieve a basic long-term 60% TSS removal, based on Table 3.2 of the Manual. The Phase 2 surface storage area will provide up to 152 m^3 of stormwater storage, again more than doubling the requirement.

To ensure the quality control criteria are met, the depressed surface storage areas will discharge to Stormceptor EFO4 oil and grit separator units located at the outlet of each phase. The EFO4 unit is credited with achieving a TSS removal of 60% based on the ETV particle size distribution. Documentation supporting the 60% removal efficiency can be found within Appendix 'G'.

Given that runoff entering the EFO4 will already have undergone a 60% TSS removal within the depressed surface storage area, there will be a maximum remaining TSS of 40% of the baseline. As a result, runoff leaving the EFO4 units will have a remaining TSS of [40% – (60% * 40%)] = 16%, indicating a total TSS removal of 84%. It should be further noted that TSS reduction from the grassed swales has not been accounted for, and so the actual TSS removal efficiency of the site is expected to be increased.

7.7 Village of Richmond Environmental Management Plan

As the subject site is located within the Village of Richmond Environmental Management Plan (EMP) study area, the site must conform to the findings of the EMP. Concurrence with the findings and recommendations are listed below:

7.7.1 Treatment Train

The proposed stormwater management system will convey runoff within gently sloped swales to a depressed surface storage area where runoff will be stored and released at a controlled rate. This will provide an opportunity for filtration through the vegetated medium, infiltration, and settlement of suspended solids. Before leaving the site, controlled runoff will be directed to an Oil & Grit separator where additional quality treatment will be provided. These lot level, conveyance, and end-of-pipe controls will ensure stormwater quality is properly addressed and 80% TSS reduction is achieved.

7.7.2 Thermal Mitigation

As mentioned above, stormwater conveyance will primarily be through gently sloped grass swales, and stormwater will be stored within a landscaped depressed surface storage area before discharging to the municipal ditch. After leaving the site, runoff will travel a minimum 745m within the municipal and railroad ditches before discharging to Marlborough Creek. With on-site detention of stormwater within landscaped areas and the length of the flow path to the outlet, thermal impacts to the receiving watercourse are not anticipated.

7.7.3 Water Balance

Based on the findings of the Hydrogeological Report and Geotechnical Report prepared by Paterson, the site is heavily constrained by high groundwater and soils that are not suitable for infiltration. The borehole results identified that all soils warranted a description containing either clay, silt, clayey, or silty. As per Technical Bulletin IWSTB-2024-04, infiltration-type LID practices are not permitted in clay or silt soils, nor in soils that warrant a dual classification with silt or clay as per the USCS.

While the borehole logs identified some areas of glacial till consisting of silty sand that may be suitable for infiltration, the glacial till is most often described as “silty sand to sandy silt”, with a USCS soil classification of ML (inorganic silts of high plasticity) determined from BH3-24 SS3. The glacial till which solely consists of silty sand is also located below the high groundwater elevation of 93.79m – 93.86m identified by the Groundwater Monitoring Program. As per the Hydrogeological Report and Terrain Analysis, the highest elevation of the glacial till layer not containing “sandy silt” or “clayey silt” in the description was at BH2-25, where the top of the glacial till layer was noted at an elevation of 93.71m. As the glacial till layer comprised of silty sand is located below the seasonally high groundwater level, it cannot be incorporated into an infiltration-type LID. Furthermore, there is insufficient grade change within the site to allow for an infiltration-type LID to achieve minimum separation from the high groundwater level specified above.

While the site has been generally designed to promote infiltration with gently sloped grass conveyance swales and stormwater detention within landscaped surface storage areas, implementing an infiltration-type LID practice to ensure water balance will not be permitted, and so undertaking a water balance would not result in any changes to the design.

7.7.4 Volume Control (7 mm Storm Retention)

As mentioned above, an infiltration-type LID practice will not be permitted, and so the requirement to retain the first 7 mm of rainfall cannot be achieved through infiltration. Abstraction will be limited to depression storage within the gently sloped swales and stormwater management areas, and through evapotranspiration of the stored surface and roof runoff. Evapotranspiration has been promoted to the greatest extent possible within the design by providing orifice controls with the minimum permissible size. This will detain stormwater on site for long durations, resulting in maximum surface stormwater volumes of 172 m^3 for Phase 1 and 152 m^3 for Phase 2.

7.7.5 Control 100-Year Post to 2-Year Pre

Stormwater modeling has been completed by JFSA. The results indicated that while there will be a minor increase in runoff during smaller storm events, the 100-year peak flow will be a reduction compared to existing conditions. Additionally, the proposed stormwater management design will reduce the extent of the 100-year floodplain.

7.7.6 Erosion Potential vs Additional Retention

As previously mentioned, the design relies on detention of stormwater runoff and not retention, as an infiltration-based design will not be permitted. Minimum orifice sizes are proposed which result in the maximum on-site storage volume. Modeling has also been completed by JFSA which indicates there will be a reduction in flow leaving the site during larger stormer events.

7.7.7 Implementation of LID

LID has been implemented with vegetated swales and depressed vegetated surface storage areas.

8.0 EROSION AND SEDIMENT CONTROL

8.1 Temporary Measures

Before construction begins, temporary silt fence, straw bale or rock flow check dams will be installed at all natural runoff outlets from the property. It is crucial that these controls be maintained throughout construction and inspection of sediment and erosion control will be facilitated by the Contractor or Contract Administration staff throughout the construction period.

Silt fences will be installed where shown on the final engineering plans, specifically along the downstream property limits. The Contractor, at their discretion or at the instruction of the City, Conservation Authority or the Contract Administrator shall increase the quantity of sediment and erosion controls on-site to ensure that the site is operating as intended and no additional sediment finds its way off site. The straw bale check dams, silt fence, and rip rap outlet treatments shall be inspected weekly and after rainfall events. Care shall be taken to properly remove sediment from the silt fences and check dams as specified on the Erosion & Sediment Control Plan. Care shall be taken at the removal stage to ensure that any silt that has accumulated is properly handled and disposed of. Removal of silt fences without prior removal of the sediments shall not be permitted. Any erosion & sediment control measure that is observed to be deteriorating shall immediately be repaired or replaced.

Although not anticipated, work through winter months shall be closely monitored for erosion along sloped areas. Should erosion be noted, the Contractor shall be alerted and shall take all necessary steps to rectify the situation. Should the Contractor's efforts fail at remediating the eroded areas, the Contractor shall contact the City and/or Conservation Authority to review the site conditions and determine the appropriate course of action. As the ground begins to thaw, the Contractor shall place silt fencing at all required locations as soon as ground conditions warrant. Please see the Erosion & Sediment Control Plan for additional details regarding the temporary measures to be installed and their appropriate OPSD references.

8.2 Permanent Measures

Rip-rap will be placed at all locations that have the potential for concentrated flow. It is crucial that the Contractor ensure that the geotextile is keyed in properly to ensure runoff does not undermine the rip rapped area. Additional rip rap is to be placed at erosion prone locations as identified by the Contractor / Contract Administrator / City or Conservation Authority.

It is expected that the Contractor will promptly ensure that all disturbed areas receive topsoil and seed/sod and that grass be established as soon as possible. Any areas of excess fill shall be removed or levelled as soon as possible and must be located a sufficient distance from any ditch or watercourse to ensure that no sediment is washed out into the ditch watercourse. As the vegetation growth within the site provides a key component to the control of sediment for the site, it must be properly maintained once established. Once the construction is complete, it will be up to the landowner to maintain the vegetation and ensure that the vegetation is not overgrown or impeded by foreign objects.

9.0 SUMMARY

- A new 651 m^2 distillery and restaurant/retail building is proposed within Phase 1 at 5923 Ottawa Street.
- A new 926 m^2 distillery building is proposed within Phase 2.
- Domestic water servicing will be provided by a new drilled well for Phase 2, and an existing drilled well for Phase 1, designed by others.
- The Phase 2 building will be serviced by the Phase 1 well in the interim condition.
- Fire protection for Phases 1 and 2 will be provided by a remote hydrant system, sprinkler systems, and underground water storage tanks.
- Sanitary servicing will be provided by new on-site septic systems designed by Paterson.
- Storage for the 2- through 100-year storm events will be provided on the roof of the building and within proposed depressed surface storage areas. Runoff will discharge to the municipal ditch along Ottawa Street.
- Based on the hydrologic and hydraulic modeling completed by JFSA, there will be no negative downstream impact resulting from the stormwater management design.
- Quality control requirements will be achieved with oil and grit separator units as part of a treatment train approach.

10.0 CONCLUSIONS

This report has been provided to describe the servicing and stormwater management for the site located at 5923 Ottawa Street.

This report is respectfully being submitted for review.

Regards,

Egis Canada Ltd.

Jessica Burden, P.Eng.
Project Engineer, Land Development
E: Jessica.burden@egis-group.com

Francis Valenti, P.Eng.
Junior Project Engineer, Land Development
E: francis.valenti@egis-group.com

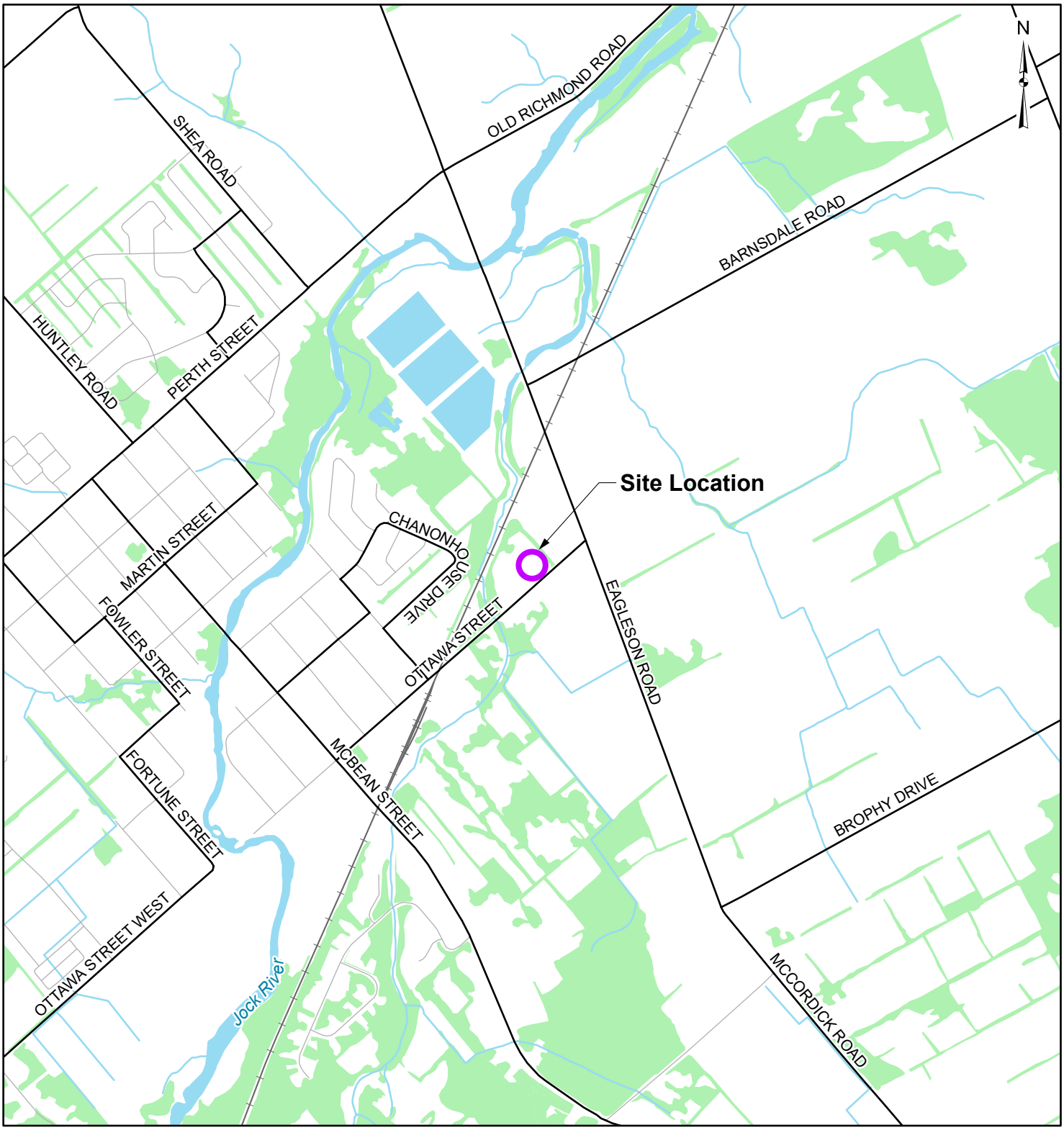
11.0 STATEMENT OF LIMITATIONS

This report was produced for the exclusive use of 99117756 Canada Inc. The purpose of the report is to assess the existing stormwater management system and provide recommendations and designs for the post-construction scenario that are in compliance with the guidelines and standards from the Ministry of the Environment, Conservation and Parks, City of Ottawa and local approval agencies. Egis Canada reviewed the site information and background documents listed in Section 2.0 of this report. While the previous data was reviewed by Egis Canada and site visits were performed, no field verification/measures of any information were conducted.

Any use of this review by a third party, or any reliance on decisions made based on it, without a reliance report is the responsibility of such third parties. Egis Canada accepts no responsibility for damages, if any, suffered by any third party as a result of decisions or actions made based on this review.

The findings, conclusions and/or recommendations of this report are only valid as of the date of this report. No assurance is made regarding any changes in conditions subsequent to this date. If additional information is discovered or becomes available at a future date, Egis Canada should be requested to re-evaluate the conclusions presented in this report, and provide amendments, if required.

APPENDIX A
KEY PLAN



LEGEND

- Site Location
- Local Road
- Major Road
- Railroad
- Watercourse
- Waterbody
- Wooded Area

600 300 0 600

Scale 1:20,000 Metres

REFERENCE

GIS data provided by the Ontario Ministry of Natural Resources and Forestry, 2024.

CLIENT: 99117756 CANADA INC.

PROJECT: 5923 OTTAWA STREET, RICHMOND

TITLE: SITE LOCATION PLAN

egis
115 Walgreen Road, RR3, Carp, ON K0A1L0
Tel: 613-836-2184 Fax: 613-836-3742

PROJECT NO: CCO-25-0415	FIGURE:
Date: Sep., 04, 2024	1
GIS: CZ	
Checked By: AG	

C:\Users\c.zander\EGIS Group\GIS - Documents\Projects\2025\CCO\CCO-25-0415 5923 Ottawa Street\aprx\Key Maps\Land Development\Site Location.aprx

APPENDIX B
BACKGROUND DOCUMENTS

File No.: PC2024-0092

March 27, 2024

Bridgette Alchawa
Egis Canada Ltd.
Via email: bridgette.alchawa@egis-group.com

Subject: Pre-Consultation: Meeting Feedback
Proposed Site Plan Control Application – 5923 Ottawa St

Please find below information regarding next steps as well as consolidated comments from the above-noted pre-consultation meeting held on March 21, 2024.

Pre-Consultation Preliminary Assessment

1 ☐	**2** ☐	**3** ☐	**4** ☒	**5** ☐

One (1) indicates that considerable major revisions are required while five (5) suggests that the proposal appears to meet the City's key land use policies and guidelines. This assessment is purely advisory and does not consider technical aspects of the proposal or in any way guarantee application approval.

Next Steps

1. A review of the proposal and materials submitted for the above-noted pre-consultation has been undertaken. Please proceed to complete a Phase 2 Pre-consultation Application Form and submit it together with the necessary studies and/or plans to planningcirculations@ottawa.ca.

2. In your subsequent pre-consultation submission, please ensure that all comments or issues detailed herein are addressed. A detailed cover letter stating how each issue has been addressed must be included with the submission materials. Please coordinate the numbering of your responses within the cover letter with the comment number(s) herein.

3. Please note, if your development proposal changes significantly in scope, design, or density before the Phase 3 pre-consultation, you may be required to complete or repeat the Phase 2 pre-consultation process.

Supporting Information and Material Requirements

1. The attached **Study and Plan Identification List** outlines the information and material that has been identified, during this phase of pre-consultation, as either required (R) or advised (A) as part of a future complete application submission.

a. The required plans and studies must meet the City's Terms of Reference (ToR) and/or Guidelines, as available on Ottawa.ca. These ToR and Guidelines outline the specific requirements that must be met for each plan or study to be deemed adequate.

Consultation with Technical Agencies

1. You are encouraged to consult with technical agencies early in the development process and throughout the development of your project concept. A list of technical agencies and their contact information is enclosed.

Planning

Comments:

Questions:

1. What is the intent for the proposed bar/pub use. Restaurants are a prohibited use per 385r.

   Response: It is understood that liquor can be sold if it is the product being produced. The current idea for the restaurant is to offer food that is easily prepared, (sandwiches, pizza, etc.) however, applicant suggested that they may be willing to consider different options based on zoning interpretation.

2. What is the idea for the severance component? May not have enough space to achieve the severance once the full build out of the lot is considered.

3. What is the timing of the severance? There are potential concerns regarding a pre-mature severance.

   Response: The idea is for the severance to occur after the site plan application/approval and the establishment of the site.

Official Plan

1. The subject site is designated Village on Schedule B9 of the Official Plan.

2. The subject site is designated Village Industrial Area on Schedule A of the Village of Richmond Secondary Plan – Volume 2.

   a. Uses permitted on lands designated Village Industrial Area include: light industrial uses, office, printing plant, service repair shop, small batch brewery, warehouse and heavy equipment and vehicle sales, rental and servicing, research, technology, nurseries, greenhouses, catering, places of assembly, broadcasting and training

b. Maximum building height - four storeys

c. Adequate buffering including landscaping and screening will be provided between uses in Industrial Areas to ensure that storage areas and parking areas are screened from adjacent properties

Zoning By-law

3. The subject site is zoned RG3 [385r] under the Zoning By-law. The purpose of the RG (Rural General Industrial) is to permit development of light industrial uses in Village designations; accommodate a range of light industrial uses and limited service commercial uses for the travelling public; and, regulate development in a manner that respects adjacent land uses and will have a minimal impact on the surrounding rural area. The RG3 subzone recognizes smaller parcels.

4. Permitted uses in the RG3 zone include [S.219 (1)]:

   n. Light industrial uses
   t. Warehouse

5. Conditional Permitted Uses - The following are permitted subject to the use being located on the same lot as a use listed above.

   c. Bar
      - A bar must be ancillary to a permitted brewery, winery or distillery and, may not have a gross floor area exceeding the lesser of:

        - 300 square metres, or

        - 25% of the floor area of the brewery, winery or distillery to which it is ancillary.

6. **The site is subject to Rural Exception 385r which lists restaurants as a prohibited use.**

7. The proposal must meet the following 385r Exception Provisions and the RG3 provisions provided in Section 219.

   a. Minimum front yard – 15m
   b. Maximum lot coverage – 35 percent
   c. No maximum building height

8. Minimum parking space rates as required by S.101, Table 101.

   a. Bars – 6 per 100sq.m of g.f.a
   b. Light industrial use – 0.8 per 100sq.m of g.f.a
   c. Retail Store – 3.4 per 100sq.m of g.f.a

9. A landscape buffer for the parking lot will be required in accordance Table 110.

10. Outdoor refuse collection and loading areas must be:

    a. Located at least 9 metres from a lot line abutting a public street
    b. Located at least 3 metres from any other lot line
    c. Screened from view by an opaque screen with a minimum height of 2.0 metres

11. Bicycle parking must be provided in accordance with Section 111.

12. If loading spaces are provided, they must be in accordance with Section 113.

Discussion and Submission Requirements

13. Subject Exception Zone prohibits restaurants as a use.

14. Zoning by-law interpretation staff have confirmed that a bar/pub serving food and drink ancillary to the distillery and contained within the same structure would be aligned with the intent of the zoning.

15. If the bar/pub component were to be contained in a separate structure, it would be more closely aligned with a restaurant and would not be permitted under the current zoning.

16. A Site Plan will be required. The plan must be prepared as per the City's Terms of Reference and must address the following:

    a. The site plan must clearly identify the required yard setbacks from all existing lot lines

    b. The Site Plan must clearly identify all existing buildings

    c. The required landscaped area must be included

    d. Parking spaces must be clearly defined, as well as the access driveway, and any drive aisles throughout the site

17. A Landscape Plan will be required. The plan must be prepared in accordance with the Landscape Plan Terms of Reference and include all of the listed general elements as well as detail existing and proposed vegetation.

18. Plan of Survey showing the current site conditions prepared in accordance with the City's Plan of Survey Terms of Reference.

Urban Design

Comments:

Submission Requirements:

19. Urban Design Brief is required.. Please see attached customized Terms of Reference to guide the preparation.

    i. The Urban Design Brief should be structured by generally following the headings highlighted under Section 3 – Contents of these Terms of Reference.

    ii. The proposal is not subject to the Urban Design Review Panel.

20. Additional drawings and studies are required as shown on the SPIL. Please follow the terms of references (Planning application submission information and materials | City of Ottawa) the prepare these drawings and studies.

    i. Design Brief

    ii. Site Plan

    iii. Landscape Plan

    iv. Elevations

Comments on Preliminary Design – Applicants are to provide a response to these comments in the Design Brief.

21. The following policies/guidelines apply:

    a. Village Industrial within the Richmond Secondary Plan

    b. Design Guidelines for Rural Villages

22. Please reference the direction within the Design Guidelines to help inform the design of the building as the design progresses. The architectural directions in the guidelines should guide the building design as closely as possible.

23. Please ensure that landscaping and tree planting is provided along Ottawa Street frontage.

24. Please ensure that the patio is a comfortable place for patrons and separated from road noise. Please provide screening and perimeter landscaping.

Feel free to contact Lisa Stern, Planner III, for follow-up questions.

Engineering

Comments:

25. Servicing

    a. A **Site Servicing Study** will be required with the Site Plan Control application. This report should be completed exceeding the minimum requirements laid out in the Site Servicing Study Terms of Reference. The report will serve to address how the design of the site complies with City design guidelines, Official Plan policies, among other evaluation criteria noted in the Terms of Reference. Stormwater management, which is a component of the Servicing Study, is required to mitigate the effects of urbanization on the hydrologic cycle including increased runoff and decreased infiltration, of rain and snowmelt. Without proper stormwater management, a site can negatively impact the environment by reducing baseflow, degrading water quality, and increasing flooding and erosion. This leads to reduced diversity of aquatic life, fewer opportunities for human uses of water resources, and loss of property and human life. The City looks to lessen these risks by reviewing development to ensure stormwater management practices are being implemented, infrastructure is resilient to future climate conditions, including extreme weather events, and using low impact development where feasible to manage smaller, infrequent events. The Official Plan, which receives authority through the Planning Act, identifies in Policy 6, section 2.2.3, that flooding is the costliest type of natural disaster in Canada.

    b. There is no public service capacity currently available to have the option of extending public services to the proposed development. Development therefore must be on the basis of private services. The Village has a limited municipal water network and limited sanitary network & pump station capacity. Any planned growth would need to include network, and possibly plant, upgrades to support proposed development, which is likely too onerous for the scope of this development.

    c. In terms of the Stormwater Management for the Site Plan Control application, the quantity criteria will be that the 100-yr post development peak flow rate must match the 2-year pre-development

peak flow rate. As part of complete Site Plan Control application, whether development or redevelopment, the report must identify and mitigate the impacts of additional runoff resulting from increased imperviousness through measures such as site-specific stormwater management postulated in policy 6, section 4.7.1 of the Official Plan.

d. In terms of a Stormwater Management approach, runoff volume control should proceed in the following hierarchical order, with each step exhausted before proceeding to the next:

    1. Retention (infiltration, reuse, or evapotranspiration),

    2. Low Impact Development (LID) filtration, and

    3. Conventional Stormwater management. Conventional stormwater management, should proceed only once Maximum Extent Possible has been attained for Steps 1 and 2 for retention and filtration.

e. The pre-development runoff coefficient or a maximum equivalent 'C' of 0.5, whichever is less as described in the Sewer Design Guidelines, Second Edition, document no. SDG002, October 2012, City of Ottawa, including technical bulletins ISDTB-2014-01, PIEDTB-2016-01, ISTB 2018-01, ISTB-2018-04, ISTB-2019-02, section 8.3.7.3.

f. A calculated time of concentration cannot be less than 10 minutes as described in section 5.1.4 of the Sewer Design Guidelines.

g. The water quality control should be an enhanced level treatment, 80% long term suspended sediment removal. The City will be looking for a treatment train approach for water quality treatment. Reporting of TSS removal shall be extensive and if peer reviewed and published papers are relied on for conclusions, the conclusions shall be patently clear and the report shall show overwhelming agreement.

h. Runoff will need to be conveyed to a legal and sufficient outlet. If it is proposed to discharge storm water to the existing ditches in the ROW, the ditches will need to be shown to provide continuous flow to an outlet. This comment is sourced from the Official Plan which notes in policy 8, section 4.7.1, that proof of legal and sufficient outlet for proposed stormwater management and drainage systems will be required as a condition of future Site Plan Control.

    i. The 1 in 100-year floodplain is present along the rear portion of the lot. Any site alteration within this area requires a permit from the Conservation Authority. The Official Plan, in section

10.1.1, notes that development and site alteration shall not be permitted in the 1 in 100 year flood plain.

j. Low Impact Development (LID) is to be implemented as per the bulletin from the former MOECC (now MECP) titled Expectations RE: Stormwater Management released in February 2015. The infiltration target for the site is typically determined from an applicable higher-level study, which is confirmed through on-site infiltration/percolation testing. The reporting should identify the treatment train of processes proposed for the development. The Official Plan defines LID as a stormwater management strategy that seeks to mitigate the impacts of increased runoff and stormwater pollution by managing runoff as close to its source as possible. LID comprises a set of site design strategies that minimize runoff through distributed, small scale structural practices that mimic natural or predevelopment hydrology through the processes of infiltration, evapotranspiration, harvesting, filtration and detention of stormwater. These practices can effectively remove nutrients, pathogens and metals from runoff, and they reduce the volume and intensity of stormwater flows. The City has released a document titled 'Low Impact Development Technical Guidance Report – Implementation in Areas with Potential Hydrogeological Constraints' which aids sites which may have constraints such as low permeability or high groundwater.

k. The anticipated water demands (average day, maximum daily, and maximum hour) must be presented and justified for any hydrogeological pumping test rate. The pumping rate should be the maximum daily demand rate. The Ottawa Design Guidelines – Water Distribution provide information for determining water demand rates for the proposed zoning or uses in Table 4.2 – Consumption Rates.

26. Fire Services

a. The Site Servicing Study must include a section addressing the provision of a **water supply for fire suppression**, determination of the required fire flow, and confirmation of whether any on-site storage will be required. It is the responsibility of the owner to ensure that an adequate water supply for firefighting is provided. The FUS (Fire Underwriters Survey) methodology, as opposed to the OBC methodology shall be applied for all rural areas.

    i. It is anticipated that mitigative measures, including on-site storage, will be required given the group F, division 1 for distilleries. This occupancy is considered a high hazard occupancy under the Ontario Building Code. There will be risks with regards to the flammable or explosive off-gasses or

vapours, that must be contemplated and appropriately mitigated by the reporting.

ii. The project, due to the proposed occupancy, will not be eligible to forgo the requirement for on-site fire retention storage.

iii. As mentioned the Phase 1 meeting, the applicant could retain a fire safety consultant to aid in the preparation of the FUS calculations. The specialist fire-fighting consultant would review a number of factors and could propose an alternative approach satisfactory to Development Review and the City's Fire Protection Engineer, Allan Evans.

iv. Enhanced review will be invoked should the construction coefficient chosen be less than 1.

b. Fire Routes now require designation with By-law through the Site Plan process by contacting fireroutes@ottawa.ca once preliminary Site Plan approval has been provided.

27. Grading

a. A **Grading and Drainage Plan** will be required with the Site Plan Control application identifying the existing and proposed drainage patterns and their relationship with the surface runoff control. As part of a complete Site Plan Control application, the Grading and Drainage Plan should identify and implement site, grading, building, and servicing design measures to protect new development from flooding as per policy 6, section 4.7.1 of the Official Plan. The Grading and Drainage Plan forms part of the requirements for Site Plan Control applications noted in the Studies and Plan Identification List, provided with the feedback documents.

b. The Plan should have a note that references the horizontal and vertical datums that were used and tied into to complete the project. The drawing should also make reference (on the face of the plan) to a site benchmark that can be used by anyone with a level to carry out checks on the particular project.

28. Erosion and Sediment Control

a. An **Erosion and Sediment Control Plan** will be required with the Site Plan Control Application. Erosion and sediment control plans shall have regard to Canadian Standards Association (CSA) W202 Erosion and Sediment Control Inspection and Monitoring Standard (as amended).

29. Geotechnical

a. A **Geotechnical Study** will be required with the Site Plan Control application. The report should provide sufficient soils and engineering information to confirm that the site(s) are suitable or can be made suitable for development based on the requirements of the Geotechnical Investigation and Reporting Guidelines for Development Applications in the City of Ottawa.

b. It is highly likely that sensitive marine clays will be encountered on the site. If the presence of clays is confirmed, enhanced investigations must be undertaken with vane shear, Atterberg limits, shrinkage, size, grade raise restriction, consolidation, sensitivity, and liquefaction analysis-amongst others.

c. As the site is potentially underlain by compressible marine clays, long term groundwater monitoring will be required to support the development. Groundwater elevations are anticipated to be high (shallow) given the location in Richmond. The capacity of the deposit to accept additional load depends on the groundwater level. The Stormwater Management and LID design will also be impacted by the groundwater level.

30. Hydrogeological and Terrain Analysis Requirements (private servicing)

a. A **Hydrogeological and Terrain Analysis** will be required for the Site Plan Control application to establish that there is an adequate quantity and quality of groundwater to support the proposed development(s). The requirements for the Hydrogeological and Terrain Analysis Report are outlined in the City of Ottawa Hydrogeological and Terrain Analysis Guidelines, Section 5.0 for Site Plans. The study forms part of the requirements for Site Plan Control applications noted in the Studies and Plan Identification List, provided with the feedback documents.

b. Note that the onsite well would provide groundwater which serves the public and thus may be considered a regulated small drinking water system under O.Reg. 319/08: Small Drinking Water Systems. The application would also need to contact and incorporate any requirements set by medical officers of health or Ottawa Public Health. Any requirements related to the regulated small drinking water system must be fulfilled prior to the use of the system. “drinking water system” means a system of works, excluding plumbing, that is established for the purpose of providing users of the system with drinking water and that includes, (a) any thing used for the collection, production, treatment, storage, supply or distribution of water and (b) a well or intake that serves as the source or entry point of raw water supply for the system;

c. The supply well must be tested to confirm water quantity and quality suitability prior to site plan approval. Support must be provided for the pump test rate; which should be the maximum day rate. The rate should consider the actual use, or potential uses permitted through zoning if unknown.

d. The parameters of water quality that will be tested will be the "subdivision suite" (known to local well testing laboratories), as well as trace metals and VOCs. Requirements are outlined in the Hydrogeological and Terrain Analysis Guidelines, City of Ottawa, March 2021. The report should also provide an assessment of adjacent land uses and concerns and determine if any other parameters need to be tested (e.g. petroleum hydrocarbons, etc.).

e. The Hydrogeological and Terrain Analysis Report should outline potential on-site activities and risks to existing groundwater users and identify measures that should be implemented to protect the aquifer in the long-term.

f. Bollards, or other means of preventing vehicle access, will need to be provided between areas with vehicle access and the existing or proposed well(s).

g. Results from nearby wells indicate a potential for exceedances for hardness, colour, total dissolved solids (TDS), turbidity, chloride, iron, and sodium.

h. A Septic System Impact Assessment must be completed as part of the Hydrogeological and Terrain Analysis Report, as per the City's Hydrogeological and Terrain Analysis Report Guidelines and MECP Guideline D-5-4, please refer to the HGTA for the predictive assessment for commercial/industrial developments (not residential developments).

    i. Note that compact gravel will be considered impermeable in the septic impact assessment unless accompanied by field testing to confirm infiltration rates.

    ii. Since this application is a site plan (not lot creation or zoning) septic treatment (i.e. tertiary treatment with nitrate dilution) may be considered as part of the septic impact assessment calculations. A system certified though NSF or BNQ should be recommended.

i. If the expected sewage daily design flow is 10,000 L/d or less, the septic permit from the Ottawa Septic System Office must be issued prior to Site Plan Approval being granted.

j. If the sewage design flow from sewage systems exceeds 10,000 L/d, a Reasonable Use Assessment must accompany the application to the City. Sewage systems with design flows exceeding 10,000 L/d require the issuance of an Environmental Compliance Approval (ECA) from the MECP prior to Site Plan Approval being granted.

k. Bollards, or other means of preventing vehicle access, will need to be provided between areas with vehicle access and the proposed septic system(s).

l. Technical consultation with the hydrogeological report reviewer is encouraged, please contact the City hydrogeologist, Obai Mohammed and copy the project manager listed below to schedule a technical consultation.

31. Noise and Vibration

a. A **Noise Control Study** is required with the Site Plan Control Application. Noise studies are required for new noise sensitive land uses in proximity to surface transportation (road and rail). The site is within the influence area of a Protected Transportation Corridor (identified on Schedule C2 of the Official Plan) for which the noise impacts must be contemplated. A Noise Feasibility Study is required for development proposals within 250 meters of a secondary main railway line or within 500 meters of a principal main railway line.

    i. The Ministry of Ontario's NPC-300 Environmental Noise Guideline, for which the City's ENCG were based, defines a noise sensitive land use as a property of a person that accommodates a building used for a noise sensitive commercial purpose. The definition goes on to say that from a land use planning perspective, a noise sensitive land use may be comprised of spaces that are noise sensitive and spaces that are not noise sensitive. The outdoor living area (OLA) associated with a noise sensitive land use is considered a noise sensitive space.

    ii. The City's Environmental Noise Control Guidelines identify that noise sensitive land uses includes other land uses that may contain outdoor and/or outdoor areas/spaces where an intruding noise may create an adverse effect, which appears to be the case for the proposal.

b. The City will require a vibration study if there is proposed development within 75 metres of the railway right of way, based on Official Plan section 10.2.1.

c. The owner of the rail corridor will be able to provide scoping for the future works in the rail corridor which will guide the classification as principal or secondary main rail line in terms of the preparation of the noise feasibility study.

32. Rail Safety

    a. A **Rail Proximity Study** will be required with the application to address rail safety, implement risk mitigation best practices, and to inform any development setbacks required based on proximity to the rail corridor. The Official Plan notes, in section 10.2.1, that land adjacent to all Protected Transportation Corridors and facilities shown on Schedule C2 must follow rail safety and risk mitigation best practices to determine appropriate development setbacks. The FCM-RAC Guidelines for New Development or its successor shall apply in this case.

        i. One of the elements of the report will be to contemplate the use of safety barriers to reduce the risks associated with railway incidents by intercepting or deflecting derailed cars in order to reduce or eliminate potential loss of life and damage to property. The standard safety barrier is an earthen berm, which is intended to absorb the energy of derailed cars, slowing them down and limiting the distance they travel outside of the railway right-of-way. The berm works by intercepting the movement of a derailed car. As the car travels into the berm, it is pulled down by gravity, causing the car to begin to dig into the earth, and pulling it into the intervening earthen mass, slowing it down, and eventually bringing it to a stop.

33. An MECP Environmental Compliance Approval would be required for the proposed stormwater management facilities, LID works, or sewage works if the exemption requirements of O.Reg. 525/98 are not met. It appears based on the proposal that an ECA would be required given the industrial use. Please contact the Ministry of the Environment, Conservation and Parks, Ottawa District Office to arrange a pre-submission consultation.

    a. Please note that the process for ECAs is undergoing changes and may be different upon time of submission. Currently, once the development application has been submitted, a request can be made to the City to consider a Transfer of Review (ToR) ECA for SWM works (ponds, ditches, culverts, etc.) for private property, instead of a direct submission ECA. This is subject to approval by the City and MECP. Note that the ECA requirements are currently in transition towards the linear ECA process and more details may become available depending on application submission timeline. It is

recommended to check with the City when the development application is submitted to confirm the ECA process at that time.

34. Phase One Environmental Site Assessment

    a. A **Phase One Environmental Site Assessment (ESA)**, and possibly Phase Two ESA as deemed required by the Phase 1 ESA, is required for the proposed Site Plan Control application. This mandatory report serves to ensure that development only takes place on sites where the environmental conditions are suitable for the proposed use in accordance with provincial legislation and regulations. The City's Historic Land Use Inventory identifies that there is a potentially contaminating use of a Motor Vehicle Repair Shop, repair and service at 5949 Ottawa which should be contemplated by the environmental consultant.

35. Construction constraints

    a. More detailed constraints may be provided in the Phase 2 Pre-Application Consultation Meeting as the conceptual drawing has provided more detail.

36. Background studies

    a. Village of Richmond Master Servicing Study

    b. Village of Richmond Environmental Management Plan

    c. Village of Richmond Community Design Plan

37. Severance

    a. In terms of the requirements for a future proposed severance, there will be engineering conditions placed on the application. It is recommended that the applicant reach out to the Development Review All Wards group who now handles commenting on Committee of Adjustment applications.

        i. It is anticipated that a condition will be for a Hydrogeological and Terrain Analysis report to demonstrate the adequacy of the groundwater and area/septic dilution to accommodate the development.

        ii. It is anticipated that a condition for independent water, sanitary and storm servicing will be place. Each lot should have their own independent systems which do not cross the property line.

iii. It is anticipated that Noise Studies, Phase 1 ESA, and Rail Safety reports would be required as conditions of the severance.

Feel free to contact Travis Smith, Infrastructure Project Manager, for follow-up questions.

Transportation

Comments:

38. A TIA is not required.

39. ROW Protection:

    a. Ensure that the development proposal complies with the Right-of-Way protection requirements of the Official Plan's Schedule C16.

    b. See Schedule C16 of the Official Plan.

    c. Any requests for exceptions to ROW protection requirements must be discussed with Transportation Planning and concurrence provided by Transportation Planning management.

    d. ROW must be unincumbered and conveyed at no cost to the City. Note that conveyance of the ROW/corner triangle will be required prior to registration of the SP agreement. Additional information on the conveyance process can be provided upon request.

40. Clear throat requirement is 8m. Ensure this length is provided. The clear throat length is measured from the ends of the driveway curb return radii at the roadway and the point of first conflict on-site. Note the minimum throat length provided must be maintained with the future ROW protection (as applicable).

41. Signalization of Eagleson Road and Ottawa Street is identified on the Development Charges Bylaw. Warrants have not yet been met for this intersection.

42. As the proposed site is commercial/industrial, AODA legislation applies.

    a. Ensure all crosswalks located internally on the site provide a TWSI at the depressed curb, per requirements of the Integrated Accessibility Standards Regulation under the AODA.

    b. Clearly define accessible parking stalls and ensure they meet AODA standards (include an access aisle next to the parking stall and a pedestrian curb ramp at the end of the access aisle, as required).

c. Please consider using the City's Accessibility Design Standards, which provide a summary of AODA requirements. https://ottawa.ca/en/city-hall/creating-equal-inclusive-and-diverse-city/accessibility-services/accessibility-design-standards-features#accessibility-design-standards

43. On site plan:

a. Ensure site access meets the City's Private Approach Bylaw.

b. Show all details of the roads abutting the site; include such items as pavement markings, accesses and/or sidewalks.

c. Turning movement diagrams required for all accesses showing the largest vehicle to access/egress the site.

d. Turning movement diagrams required for internal movements (loading areas, garbage).

e. Show all curb radii measurements; ensure that all curb radii are reduced as much as possible and fall within TAC guidelines (Figure 8.5.1).

f. Show dimensions for site elements (i.e. lane/aisle widths, access width and throat length, parking stalls, sidewalks, pedestrian pathways, etc.).

Feel free to contact Josiane Gervais, Transportation Project Manager, for follow-up questions.

Environment

Comments:

44. Backs onto floodplain associated with Marlborough Creek. The village of Richmond EMP (2010) indicates that the floodplain on this property contains a "local woodlot". Since the site plan indicates that the woodlot in the floodplain will be retained, we have no significant natural heritage concerns with the proposal.

45. There is potential for species at risk on the site, particularly in the wooded portion of the site this can be addressed through a Tree Conservation Report since the most likely concerns are related to forest dwelling species like butternut trees, black ash, and bats (addressed through timing windows). Accordingly we recommend a Tree Conservation Report be prepare to address the potential presences of these species within 25 m of

the proposed site alteration. The TCR will also need to address the concerns of our Planning Foresters as well as the information above.

46. Bird-safe design - Please review and incorporate bird safe design elements. Some of the risk factors include glass and related design traps such as corner glass and fly-through conditions, ventilation grates and open pipes, landscaping, light pollution. More guidance and solutions are available in the guidelines which can be found here: https://documents.ottawa.ca/sites/documents/files/birdsafedesign_guidelines_en.pdf

Feel free to contact Matthew Hayley, Environmental Planner, for follow-up questions.

Forestry

Comments:

47. A tree permit will not be required as part of this application, as there are no City Trees within the right-of-way fronting the site, and impacts to private trees in the rural area are not regulated by the tree by-law.

48. The following Tree Conservation Report (TCR) guidelines have been adapted from the Schedule E of the Tree Protection By-law – for more information on these requirements please contact julian.alvarez-barkham@ottawa.ca

    a. A Tree Conservation Report (TCR) must be supplied for review along with the suite of other plans/reports required by the City
        i. An approved TCR is a requirement of Site Plan approval.
    b. The TCR must contain 2 separate plans:
        i. Plan/Map 1 - show existing conditions with tree cover information.
        ii. Plan/Map 2 - show proposed development with tree cover information.
    c. The TCR must list all trees on site, as well as off-site trees if the CRZ (critical root zone) extends into the developed area, by species, diameter, and health condition.
        i. For ease of review, the Planning Forester suggests that all trees be numbered and referenced in an inventory table.
    d. Please identify trees by ownership – private onsite, private on adjoining site, city owned, co-owned (trees on a property line)

e. If trees are to be removed, the TCR must clearly show where they are, and document the reason they cannot be retained.
    i. Compensation may be required for the removal of city owned trees.
f. The removal of trees on a property line will require the permission of both property owners.
g. All retained trees must be shown, and all retained trees within the area impacted by the development process must be protected as per City guidelines available on the Tree Protection Specification or by searching Ottawa.ca.
    i. The location of tree protection fencing must be shown on the plan;
    ii. Show the critical root zone of the retained trees.
h. The City encourages the retention of healthy trees; if possible, please seek opportunities for retention of trees that will contribute to the design/function of the site.

49. The following Landscape Plan (LP) guidelines have been adapted from Schedule E of the Tree Protection By-law – for more information on these requirements please contact julian.alvarez-barkham@ottawa.ca

    a. Please ensure any retained trees are shown on the LP.
    b. Minimum Setbacks
        i. Maintain 1.5m from sidewalk or MUP/cycle track or water service laterals.
        ii. Maintain 2.5m from curb.
    c. Coniferous species require a minimum 4.5m setback from curb, sidewalk, or MUP/cycle track/pathway.
    d. Maintain 7.5m between large growing trees, and 4m between small growing trees. Park or open space planting should consider 10m spacing, except where otherwise approved in naturalization / afforestation areas.
    e. Adhere to Ottawa Hydro's planting guidelines (species and setbacks) when planting around overhead primary conductors.
    f. Tree specifications
        i. Minimum stock size: 50mm tree caliper for deciduous, 200cm height for coniferous.
        ii. Maximize the use of large deciduous species wherever possible to maximize future canopy coverage

g. Tree planting on city property shall be in accordance with the City of Ottawa's Tree Planting Specification; and if possible, include watering and warranty as described in the specification.

h. No root barriers, dead-man anchor systems, or planters are permitted.

i. No tree stakes unless necessary (and only 1 on the prevailing winds side of the tree)

j. Hard surface planting

   i. If there are hard surface plantings, a planting detail must be provided.

   ii. Curb style planter design is highly recommended.

   iii. No grates are to be used and if guards are required, City of Ottawa standard (which can be provided) shall be used.

k. Trees are to be planted at grade.

l. Soil Volume - Please demonstrate as per the **Landscape Plan Terms of Reference** that the available soil volumes for new plantings will meet or exceed the following:

Tree Type/Size	Single Tree Soil Volume (m3)	Multiple Tree Soil Volume (m3/tree)
Ornamental	15	9
Columnar	15	9
Small	20	12
Medium	25	15
Large	30	18
Conifer	25	15

   i. It is strongly suggested that the proposed species list include a column listing the available soil volume.

m. Sensitive Marine Clay - Please follow the City's 2017 Tree Planting in Sensitive Marine Clay guidelines.

n. The City requests that consideration be given to planting native species wherever there is a high probability of survival to maturity.

o. Efforts shall be made to provide as much future canopy cover as possible at a site level, through tree planting and tree retention. The Landscape Plan shall show/document that the proposed tree planting and retention will contribute to the City's overall canopy cover over time. **Please provide a projection of the future canopy cover for the site to 40 years.**

Feel free to contact Julian Alvarez-Barkham, Forester, for follow-up questions.

Parkland

Comments:

50. Parkland Dedication will be required in accordance with By-law No. 2022-280.

51. The applicable parkland dedication rate for Industrial and Commercial uses is 2% of the gross land area. For Commercial and Industrial redevelopment, gross land area means the portion of the property that is impacted by the development, but not including any hazard lands or natural heritage features identified in the Official Plan, an approved Secondary Plan, or through an environmental impact study accepted by the City;

52. The applicant is advised that they must identify on the survey, site plan or supporting plan the portion of the property impacted by the development, for the purpose of calculating gross land area. The property appears to be impacted by floodplain. Floodplains may be excluded from the area subject to parkland dedication.

53. Parks & Facilities Planning is requesting payment of **Cash-in-lieu-of-Parkland** for this development. The value of the land, equivalent to the Parkland Dedication requirement, will be determined as of the day before planning approval is given for the development. A property valuation will be completed by the City prior to site plan approval at the owner's cost.

54. The conveyance of parkland or the payment of cash-in-lieu of parkland is required unless it can be demonstrated, that the required parkland conveyance or cash-in-lieu of parkland, or combination thereof, has been previously satisfied in accordance with the Planning Act.

55. The application notes a future severance of the lot. The owner is advised that if they provide CIL of parkland for the entirety of the subject property prior to severance, they should not be required to provide further parkland dedication at the time of lot creation.

Feel free to contact Anissa McAlpine, Parks Planner, for follow-up questions.

Conservation Authority

Comments:

56. No concerns with the proposal as no physical development is occurring within the floodplain or regulated area.

Feel free to contact Eric Lalande, Rideau Valley Conservation Authority, for follow-up questions.

Other

The High Performance Development Standard (HPDS) is a collection of voluntary and required standards that raise the performance of new building projects to achieve sustainable and resilient design. The HPDS was passed by Council on April 13, 2022.

a. At this time, the HPDS is not in effect and Council has referred the 2023 HPDS Update Report back to staff with direction to bring forward an updated report to Committee with recommendations for revised phasing timelines, resource requirements and associated amendments to the Site Plan Control By-law by no later than Q1 2024.

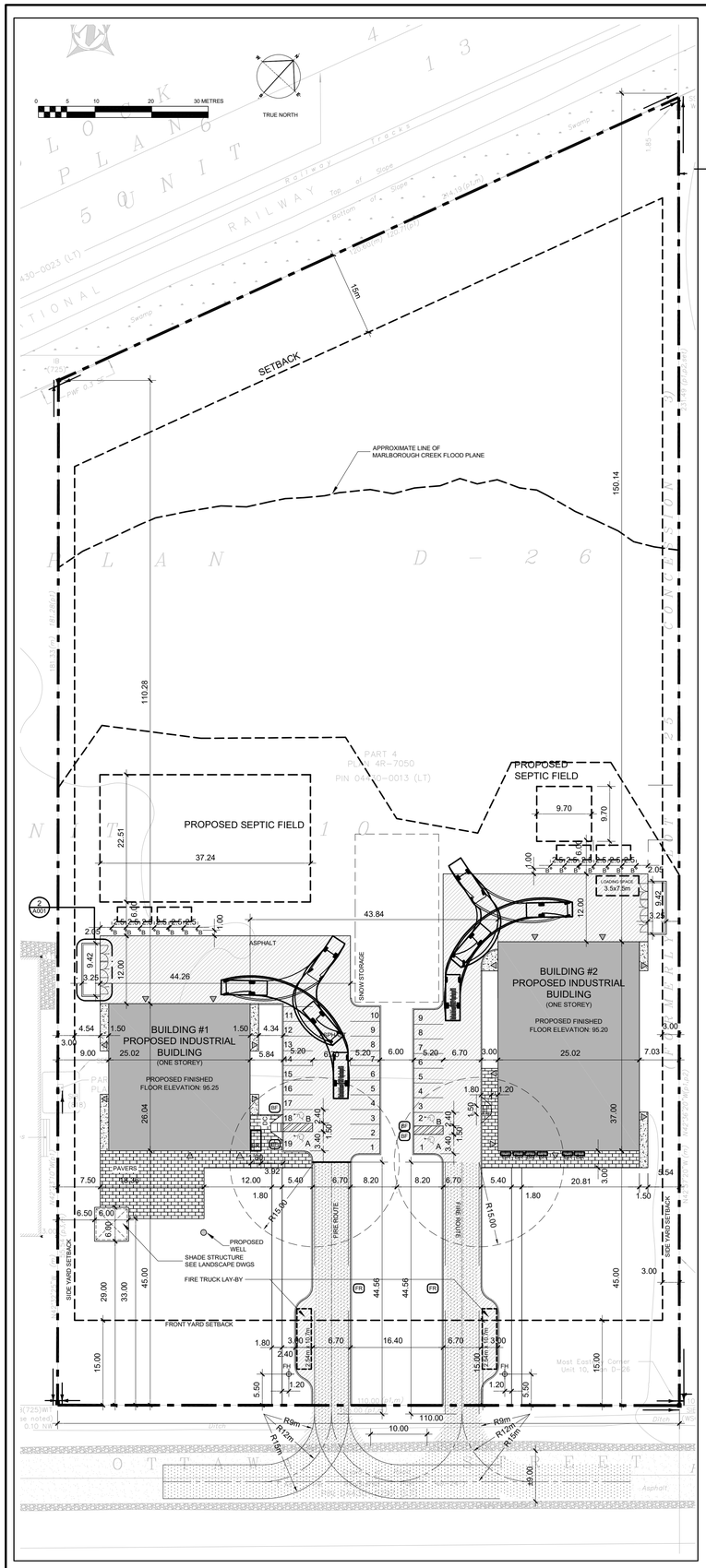
b. Please refer to the HPDS information attached and ottawa.ca/HPDS for more information.

Should there be any questions, please do not hesitate to contact myself or the contact identified for the above areas / disciplines.

Yours Truly,

Stephan Kukkonen

c.c. Smith Travis - Infrastructure Project Manager
Josiane Gervais - Transportation Project Manager
Lisa Stern – Planner III (Urban Design)
Matthew Hayley – Environmental Planner
Julian Alvarez-Barkham – Planning Forester
Anissa McAlpine – Parks Planner
Eric Lalande – Rideau Valley Conservation Authority



1 A-001 SITE PLAN
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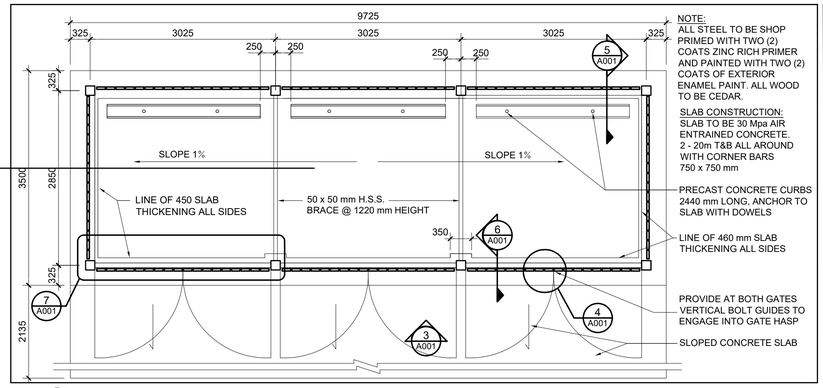
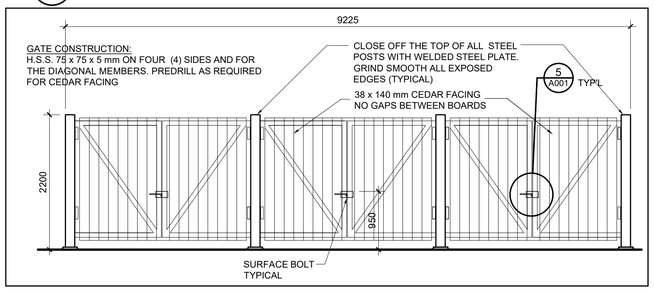
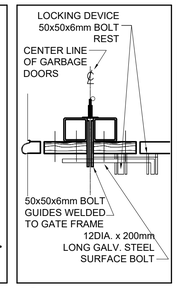


NOTE:
ALL STEEL TO BE SHOP PRIMED WITH TWO (2) COATS ZINC RICH PRIMER AND PAINTED WITH TWO (2) COATS OF EXTERIOR ENAMEL PAINT. ALL WOOD TO BE CEDAR.

SLAB CONSTRUCTION:
SLAB TO BE 30 Mpa AIR ENTRAINED CONCRETE. 2 - 20m T&B ALL AROUND WITH CORNER BARS 750 x 750 mm

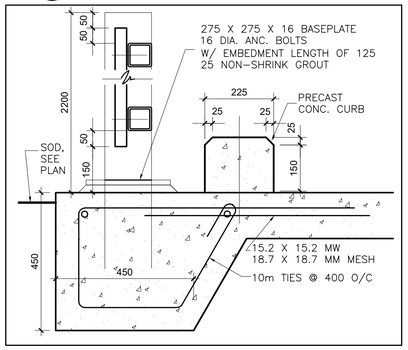
2 A001 GARBAGE ENCLOSURE PLAN
SCALE 1:50



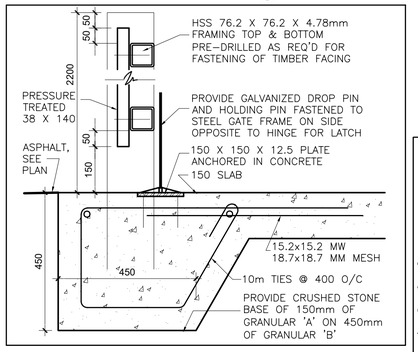


3 A001 GARBAGE ENCLOSURE ELEVATION
SCALE 1:50

4 A001 PLAN DETAIL
SCALE 1:10



5 A001 GARBAGE ENCLOSURE SECTION DETAIL
SCALE 1:10



6 A001 GARBAGE ENCLOSURE SECTION DETAIL
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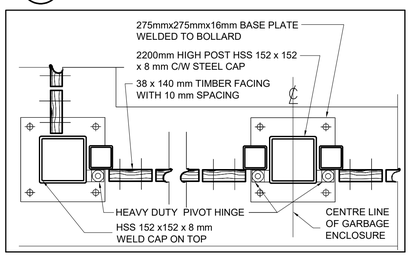
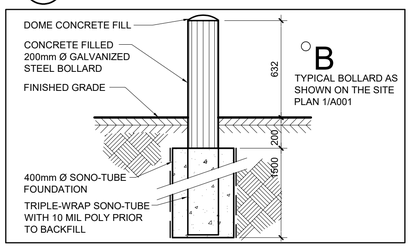


7 A001 GARBAGE ENCLOSURE PLAN DETAIL
SCALE 1:10



8 A001 BOLLARD DETAIL
SCALE 1:20

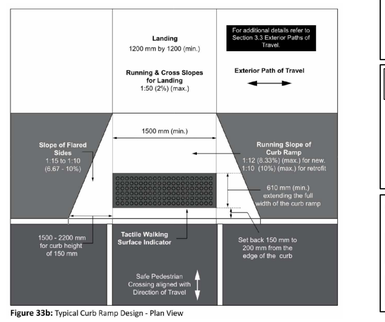


Figure 33b: Typical Curb Ramp Design - Plan View

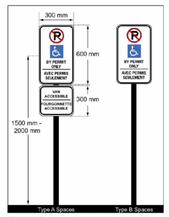


Figure 26: Accessible Parking Vertical Signage

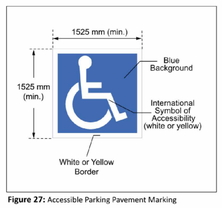
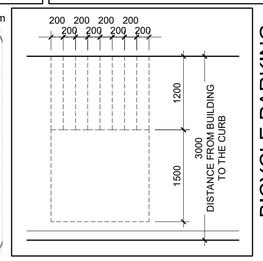


Figure 27: Accessible Parking Pavement Marking

FIRE ROUTE SIGNS 300x600mm



BICYCLE PARKING DIMENSIONS

ZONING INFORMATION

NOTE: ALL ZONING DEFINITIONS AND REQUIREMENTS AS PER CITY OF OTTAWA ZONING BY-LAW 2008-250

ZONING MECHANISM	REQUIRED	PROVIDED
DEFINITION	RG3 [385r] RURAL GENERAL INDUSTRIAL ZONE	BUILDING #1: WAREHOUSE, RETAIL STORE, BAR (25%) BUILDING #2: WAREHOUSE
MIN. LOT WIDTH	30.0 m	110.0 m
MIN. LOT AREA	2,000 m²	22,680 m² (± 5.6 Acres)
MIN. FRONT YARD SETBACK	15.0 m	45.0 m
MIN. REAR YARD SETBACK	15.0 m	110.0 m
MIN. INTERIOR SIDE YARD SETBACK	3.0 m	9.0 m
MAX. LOT COVERAGE	35%	2.85%
PARKING LANDSCAPE BUFFER	FOR A PARKING LOT CONTAINING 10-100 SPACES: ABUTTING A STREET = 3 m NOT ABUTTING A STREET = 1.5 m	ABUTTING A STREET 3 m NOT ABUTTING A STREET 3 m
STANDARD PARKING SPACE	2.6m WIDTH x 5.2m LENGTH	2.6m WIDTH x 5.2m LENGTH
PARALLEL PARKING SPACE	2.6m WIDTH x 6.7m LENGTH	2.6m WIDTH x 6.7m LENGTH
ACCESSIBLE PARKING SPACE	3.4x5.2m (A); 2.4x5.2m(B)	3.4x5.2m (A); 2.4x5.2m(B)
PARKING REQUIREMENTS	BUILDING#1: LIGHT INDUSTRIAL USE (N49): 0.8 PER 100 m2 FOR THE FIRST 5,000 m2 OF GFA (3.495 REQUIRED) RETAIL STORE (N79): 3.4 PER 100m2 OF GFA (2.75 REQUIRED) BAR (N15): 6 PER 100m2 OF GFA (6.48 REQUIRED) TOTAL REQUIRED: 12.725 BUILDING#2: LIGHT INDUSTRIAL USE (N49): 0.8 PER 100 m2 FOR THE FIRST 5,000 m2 OF GFA (8.336 REQUIRED)	BUILDING#1: 19 PARKING SPACES BUILDING#2: 9 PARKING SACES
BARRIER FREE ACCESSIBLE	AS PER CITY OF OTTAWA ACCESSIBILITY DESIGN STANDARDS, PARGRAPH 3.1.2, TABLE 3 1 TYPE 'A', 1 TYPE 'B'	BUILDING#1: 2 ACCESSIBLE PARKING SPACES (1xTYPE 'A' + 1xTYPE 'B') BUILDING#2: 2 ACCESSIBLE PARKING SPACES (1xTYPE 'A' + 1xTYPE 'B')
LOADING SPACES	GFA 350-999m2 - 0 required	0 PROVIDED
BICYCLE PARKING RATE	BUILDING#1: LIGHT INDUSTRIAL USE: 1 PER 1,000 m2 OF GFA (0.4365 REQUIRED) RETAIL STORE: 1 PER 250 m2 OF GFA (0.32 REQUIRED) BAR: 1 PER 1,500 m2 OF GFA (0.072) TOTAL REQUIRED: 0.8285 BUILDING#2: LIGHT INDUSTRIAL USE: 1 PER 1,000 m2 OF GFA (1.042 REQUIRED)	BUILDING#1: 6 BICYCLE SPACES BUILDING#2: 6 BICYCLE SPACES

BUILDING #1 GFA:		BUILDING #2 GFA:	
ROOM	AREA (m2)	ROOM	AREA (m2)
101 VESTIBULE	5.60	100 VESTIBULE	4.70
102 BAR	90.00	101 LOBBY	12.00
103 KITCHEN	13.00	102 CORRIDOR	21.00
104 STORAGE	3.50	103 OFFICE	9.50
105 WASHROOMS	33.00	104 OFFICE	9.50
106 RETAIL STORE	75.25	105 OFFICE	9.50
107 STORAGE	8.00	106 OFFICE	9.50
108 VESTIBULE	5.60	107 UNIVERSAL WASHROOM	6.70
109 WAREHOUSE (DISTILLERY)	355.00	108 WC	1.80
201 TASTING LOUNGE	17.00	109 WC	1.80
202 OFFICE	9.00	110 STAFF ROOM	13.50
203 OFFICE	9.00	111 STORAGE	6.00
204 OFFICE	9.00	112 WAREHOUSE (DESTILLERY)	220.00
205 OFFICE	9.00	113 WAREHOUSE (BREWERY)	562.00
206 BOARDROOM	17.00	200 MEZZANINE STORAGE	110.00

SYMBOL LEGEND:

- ▲ ▽ BLDNG ENTRANCE/EXIT
- FDC FIRE DEPARTMENT CON
- FH NEW FIRE HYDRANT
- WM WATER METER
- NEW DEPRESSED CURB
- DC NEW CURB
- PROPERTY LINE
- NEW CHAIN LINK FENCE
- B BOLLARD
- BR BIKE RACKS

SIGNAGE LEGEND:

- BF BF PARKING
- FR FIRE ROUTE

FIRE ROUTE (AS PER OBC 3.2.5):
- 6m WIDE
- 12m CENTRE LINE RADIUS
- 3m CLEAR OF ANY OBSTRUCTIONS AND/OR BUILDINGS
- 15m TO FRONT ENTRANCE
- 90m MAX TO TURN AROUND FACILITES

GROUND COVER LEGEND:

REFER TO LANDSCAPE

GRASS, CONCRETE, ASPHALT, PAVERS

PROJECT INFORMATION (BUILDING#1):

BUILDING CLASSIFICATION:
THE BUILDING IS CLASSIFIED AND DESIGNED TO CONFORM TO THE ONTARIO BUILDING CODE 2024 (CURRENT EDITION) PART 3

MAJOR OCCUPANCY:
GROUP F, DIVISION 2, SPRINKLERED, UP TO TWO STOREY (3.2.2.72)
MINOR OCCUPANCIES:
GROUP E, AND GROUP D

BUILDING STATISTICS:

BUILDING AREA (FOOTPRINT):	623 sq.m.
BUILDING GFA:	738 sq.m.
NUMBER OF STOREYS:	1 (+MEZZANINE)
BUILDING SPRINKLERED:	YES
# OF STREET ACCESS ROUTES:	1
CONSTRUCTION TYPE:	NON-COMB.
FLOOR ASSEMBLY & F.R.R.:	1 HOUR

PROJECT INFORMATION (BUILDING#2):

BUILDING CLASSIFICATION:
THE BUILDING IS CLASSIFIED AND DESIGNED TO CONFORM TO THE ONTARIO BUILDING CODE 2024 (CURRENT EDITION) PART 3

MAJOR OCCUPANCY:
GROUP F, DIVISION 2, SPRINKLERED, UP TO TWO STOREY (3.2.2.72)
MINOR OCCUPANCIES:
GROUP D

BUILDING STATISTICS:

BUILDING AREA (FOOTPRINT):	925 sq.m.
BUILDING GFA:	1,042 sq.m.
NUMBER OF STOREYS:	1 (+MEZZANINE)
BUILDING SPRINKLERED:	YES
# OF STREET ACCESS ROUTES:	1
CONSTRUCTION TYPE:	NON-COMB.
FLOOR ASSEMBLY & F.R.R.:	1 HOUR

TOPOGRAPHICAL PLAN INFORMATION:
SURVEY PROPERTY BOUNDARIES TAKEN FROM TOPOGRAPHICAL PLAN, PLAN OF SURVEY OF PART OF UNIT 10, INDEX PLAN D-26, GEOGRAPHIC TOWNSHIP OF GOULBOURN, CITY OF OTTAWA

PREPARED BY EGIS SURVEYING INC, JULY 9, 2024

STRATFORD FOX RUN
GROUP OF COMPANIES

OWNER:
STRATFORD FOX RUN
99117756 CANADA INC.
411 LEGGET DRIVE, SUITE 710,
OTTAWA, ONTARIO, K2K 3C9

ARCHITECT:
N45 ARCHITECTURE INC
71 BANK STREET
OTTAWA, ONTARIO, K1P 5N2

LANDSCAPE ARCHITECT:
LEVSTEK CONSULTANTS INC
5871 HUGH CRESCENT
OSGOODE ONTARIO K0A 2W0

CIVIL ENGINEER & SURVEYOR
EGIS CANADA LTD.
115 WALGREEN ROAD
CARP, ONTARIO, K0A 1L0

GEOTECHNICAL ENGINEER"
PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ONTARIO, K2E 2A9

RAIL SAFETY ENGINEER
ENTUITIVE
7-200 UNIVERSITY AVENUE
TORONTO ONTARIO, M5H 3C6

no.	revision	date
7	ISSUED FOR SPA	14MAY26
6	ISSUED FOR SPA	28JAN26
5	ISSUED FOR SPA	26NOV25
4	ISSUED FOR SPA	09OCT25
3	ISSUED FOR SPA	29JUL25
2	ISSUED FOR SPA	15MAY25
1	ISSUED FOR SITE PLAN CONTROL	07OCT24

N45 ARCHITECTURE INC.
71 Bank Street, 7th floor - Ottawa, Ontario, K1P 5N2
tel. 613.224.0095 fax 613.224.9811

project
FOXRUN RICHMOND

5923 OTTAWA STREET
OTTAWA, ON

project north

seal
ONTARIO ASSOCIATION OF ARCHITECTS
VLADIMIR POPOVIC
LICENCE 5918

drawing title
SITE PLAN

scale AS NOTED	drawn by NF
date JUNE 2022	checked by VP
project number 24-826	drawing number A-001

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE WORK COMMENCES.
DO NOT SCALE DRAWINGS.

revision -

APPENDIX C
WATERMAIN CALCULATIONS

CCO-25-0415 - 5923 Ottawa Street - Water Demands - Phase 1

Project:	5923 Ottawa Street
Project No.:	CCO-25-0415
Designed By:	FV
Checked By:	AG
Date:	September 10, 2025
Development Area:	0.48 gross ha

Commercial	190 m2
Industrial - Light (Distillery)	432 m2

AVERAGE DAILY DEMAND

DEMAND TYPE	AMOUNT	UNITS
Residential	280	L/c/d
Industrial - Light	35,000	L/gross ha/d
Industrial - Heavy	55,000	L/gross ha/d
Shopping Centres	2,500	L/(1000m² /d
Hospital	900	L/(bed/day)
Schools	70	L/(Student/d)
Trailer Park with no Hook-Ups	340	L/(space/d)
Trailer Park with Hook-Ups	800	L/(space/d)
Campgrounds	225	L/(campsite/d)
Mobile Home Parks	1,000	L/(Space/d)
Motels	150	L/(bed-space/d)
Hotels	225	L/(bed-space/d)
Tourist Commercial	28,000	L/gross ha/d
Other Commercial	28,000	L/gross ha/d

AVERAGE DAILY DEMAND	Residential	0.00	L/s
	Commercial/ Industrial/ Institutional	0.02	L/s

MAXIMUM DAILY DEMAND

DEMAND TYPE	AMOUNT		UNITS
Residential	9.5	x avg. day	L/c/d
Industrial	1.5	x avg. day	L/gross ha/d
Commercial	1.5	x avg. day	L/gross ha/d
Institutional	1.5	x avg. day	L/gross ha/d

MAXIMUM DAILY DEMAND	Residential	0.00	L/s
	Commercial/ Industrial/ Institutional	0.04	L/s

MAXIMUM HOUR DEMAND

DEMAND TYPE	AMOUNT		UNITS
Residential	14.3	x avg. day	L/c/d
Industrial	1.8	x max. day	L/gross ha/d
Commercial	1.8	x max. day	L/gross ha/d
Institutional	1.8	x max. day	L/gross ha/d

MAXIMUM HOUR DEMAND	Residential	0.00	L/s
	Commercial/ Industrial/ Institutional	0.06	L/s

WATER DEMAND DESIGN FLOWS PER UNIT COUNT
CITY OF OTTAWA - WATER DISTRIBUTION GUIDELINES, JULY 2010

AVERAGE DAILY DEMAND	0.02	L/s
MAXIMUM DAILY DEMAND	0.04	L/s
MAXIMUM HOUR DEMAND	0.06	L/s

CCO-25-0415 - 5923 Ottawa Street - Water Demands - Phase 2

Project:	5923 Ottawa Street
Project No.:	CCO-25-0415
Designed By:	FV
Checked By:	AG
Date:	September 10, 2025
Development Area:	0.45 gross ha

Industrial - Light (Brewery) 926 m2

AVERAGE DAILY DEMAND

DEMAND TYPE	AMOUNT	UNITS
Residential	280	L/c/d
Industrial - Light	35,000	L/gross ha/d
Industrial - Heavy	55,000	L/gross ha/d
Shopping Centres	2,500	L/(1000m² /d
Hospital	900	L/(bed/day)
Schools	70	L/(Student/d)
Trailer Park with no Hook-Ups	340	L/(space/d)
Trailer Park with Hook-Ups	800	L/(space/d)
Campgrounds	225	L/(campsite/d)
Mobile Home Parks	1,000	L/(Space/d)
Motels	150	L/(bed-space/d)
Hotels	225	L/(bed-space/d)
Tourist Commercial	28,000	L/gross ha/d
Other Commercial	28,000	L/gross ha/d

AVERAGE DAILY DEMAND	Residential	0.00	L/s
	Commercial/ Industrial/ Institutional	0.04	L/s

MAXIMUM DAILY DEMAND

DEMAND TYPE	AMOUNT		UNITS
Residential	9.5	x avg. day	L/c/d
Industrial	1.5	x avg. day	L/gross ha/d
Commercial	1.5	x avg. day	L/gross ha/d
Institutional	1.5	x avg. day	L/gross ha/d

MAXIMUM DAILY DEMAND	Residential	0.00	L/s
	Commercial/ Industrial/ Institutional	0.06	L/s

MAXIMUM HOUR DEMAND

DEMAND TYPE	AMOUNT		UNITS
Residential	14.3	x avg. day	L/c/d
Industrial	1.8	x max. day	L/gross ha/d
Commercial	1.8	x max. day	L/gross ha/d
Institutional	1.8	x max. day	L/gross ha/d

MAXIMUM HOUR DEMAND	Residential	0.00	L/s
	Commercial/ Industrial/ Institutional	0.10	L/s

WATER DEMAND DESIGN FLOWS PER UNIT COUNT
CITY OF OTTAWA - WATER DISTRIBUTION GUIDELINES, JULY 2010

AVERAGE DAILY DEMAND	0.04	L/s
MAXIMUM DAILY DEMAND	0.06	L/s
MAXIMUM HOUR DEMAND	0.10	L/s

PATERSON GROUP

memorandum

re: **Anchor Detail – Fire Tanks**
Proposed Commercial Development
5923 Ottawa Street, Richmond (Ottawa), Ontario

to: Stratford Foxrun **– Jack Gulas** – jack@stratfordfoxrun.com

date: June 11, 2026

file: PH4924-MEMO.06

Further to your request and authorization, Paterson Group (Paterson) prepared the following memorandum to provide an anchoring detail for the fire tanks at the aforementioned site.

The following memorandum should be read in conjunction with the Site Servicing Plan-C102 by Egis dated January 28, 2026 attached to this report. The calculations were completed assuming that the attached 45,000 L Fire Tank by Boyd Bros Concrete will be used.

Anchoring Requirements

A detail regarding the required anchoring for **each** of the proposed fire tanks, consisting of four (4) concrete blocks each of minimum 0.61 m (W) x 0.61 m (H) x 1.22 m (L) (2 ft x 2 ft x 4 ft) with an anchoring ring/hook to attach strapping/cables, has been attached to this Memo (Paterson drawing PH4926-MEMO.06 – Figure 1). The cable should consist of minimum 13 mm (0.5”) diameter galvanized aircraft cable with turnbuckle rods or equivalent strapping. All material should be resistant to degradation due to water for an extended period to prevent failure during the tank lifespan. A lean concrete slab of minimum 0.13 m thick is to be poured below the base of anchor blocks. Compacted Granular ‘A’ shall be placed between the slab and tank base.

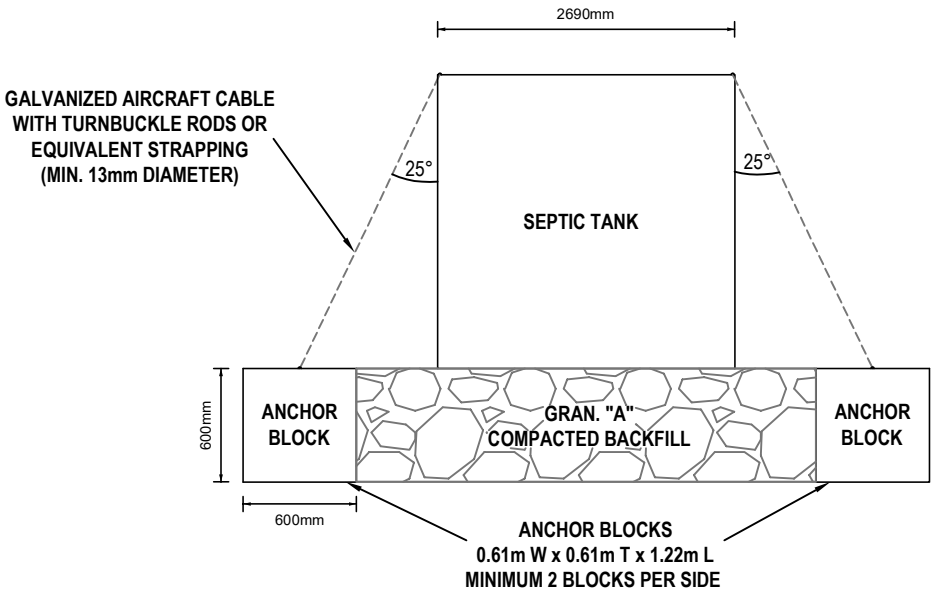
The calculations assumed 0.5 m of glacial till soil cover over the tanks and a high groundwater elevation of 1.46 m below ground surface based on the Paterson’s Groundwater Monitoring Program (PH4924-MEMO.01 dated August 5, 2025) and the proposed grade raises as per the Lot Grading & Drainage Plan completed by Egis (Drawing C101 dated January 28, 2026).

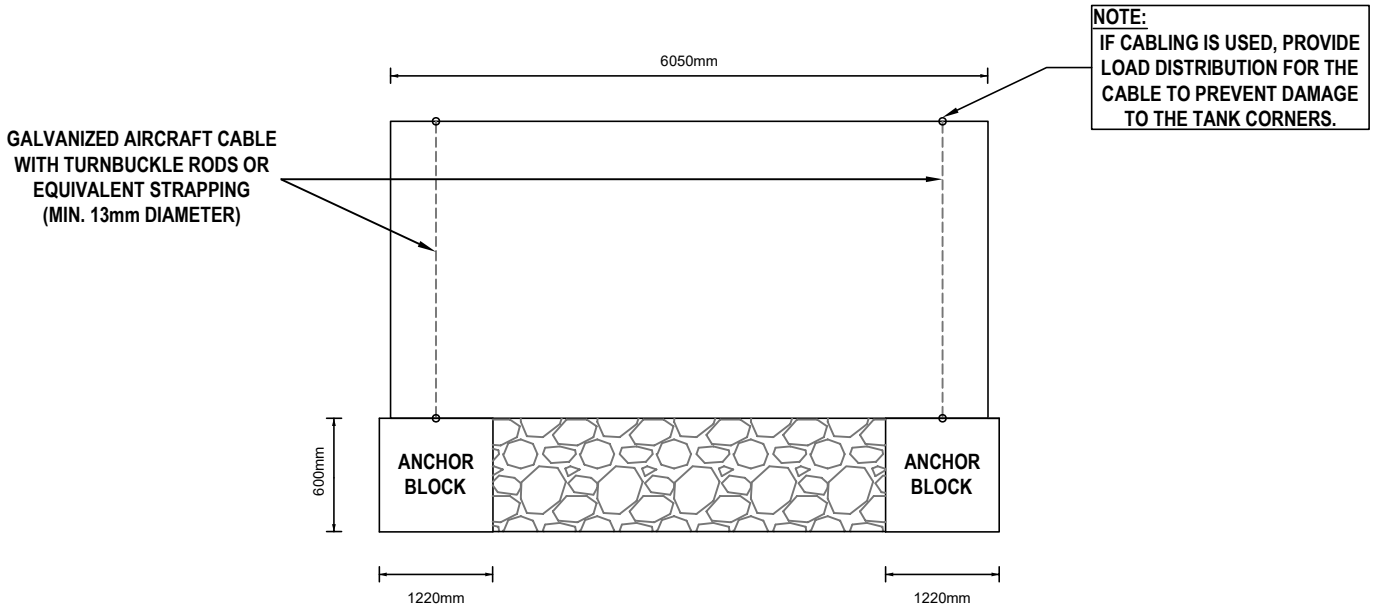
See attached drawing Figure 1 – Anchor Detail – Septic / Balancing Tank for specific placement of the anchor blocks. The review has only assessed the buoyancy impact on the proposed tanks due to an empty tank during seasonally high groundwater conditions.

We trust that the current submission meets your immediate requirements.

Best Regards,
Paterson Group Inc.

Michael S. Killam, P.Eng.
Attachment: Figure 1 – Anchor Detail – Septic / Balancing Tank





NOTE:

- STRAPPING TO BE PLACED SUCH AS TO NOT INTERFERE WITH THE TANK RISER ASSEMBLIES.
- HORIZONTAL PLACEMENT OF ANCHOR BLOCKS DEPENDENT UPON DIMENSIONS OF TANK (SEPTIC & BALANCING TANK).
- ANY STRAPPING OR CABLES USED SHOULD BE RESISTANT TO DEGRADATION DUE TO WATER FOR AN EXTENDED PERIOD OF TIME.

ASSUMPTIONS:

- GROUNDWATER AT A MAX. OF 93.63m
- SOIL COVER OF 500mm.

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

STRATFORD FOXRUN
BUOYANCY REVIEW
5923 OTTAWA STREET
OTTAWA (RICHMOND), ONTARIO

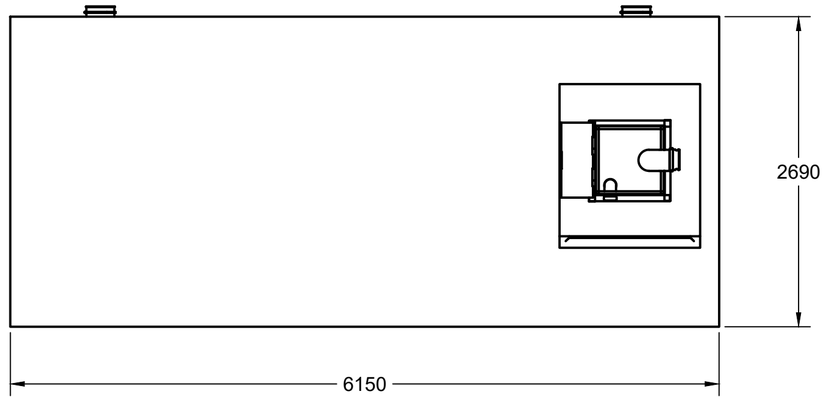
Title:

ANCHOR DETAIL - FIRE WATER STORAGE TANKS

Date:	Report No.:
06/2026	PH4924 - MEMO.06
Scale:	Drawing No.:
NTS	FIGURE 1
Drawn by: HV	Checked by: AS

p:\hydrogeological\ph49xx\ph4924 - stratford foxrun - jack gulas - 5923 ottawa street richmond\tank buoyancy calculations - august 14\june 1 2026\anchordetail - figure 4.dwg

8-1/2x11



TOTAL VOLUME: 45000L

CONCRETE: 35MPa WITH 5-8% AIR ENTRAINMENT
NON SULPHATE RESISTANT

REINFORCING: GRADE 400W CONFORMING TO CSA G30.18
15M @ 200mm ON CENTRE EACH WAY
ADDITIONAL 15M AROUND PERIMETER AT SEAM BETWEEN SECTIONS
15M x900mm ON DIAGONAL AT EACH CORNER OF LID OPENING

WEIGHT:

TOP SECTION	19000KGS
BOTTOM SECTION	19000KGS
TOTAL	38000KGS

MAXIMUM BURIAL DEPTH: 1200MM OF GROUND COVER IN AREA OF NON-VEHICULAR TRAFFIC

WATER TIGHTNESS: 2X ROWS CON-SEAL CS-102 MASTIC SEALANT BETWEEN SECTIONS. SEALANT APPLIED ONSITE BY BOYD BROS CONCRETE ACCORDING TO MANUFACTURER'S RECOMMENDED METHOD

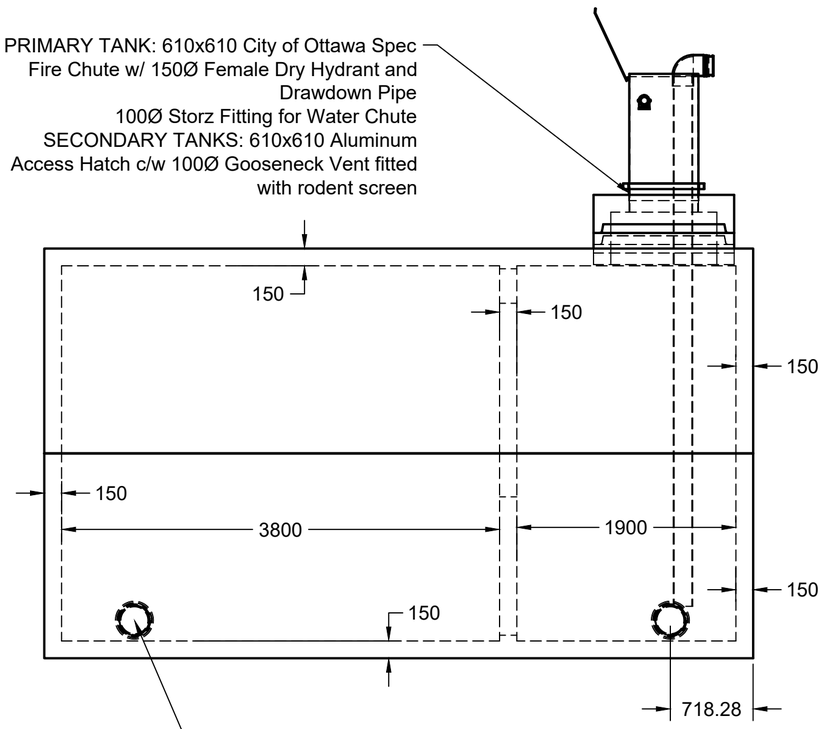
PIPE/WALL CONNECTIONS: 200mmØ Flexible Rubber Bootseal for PVC Supply Line

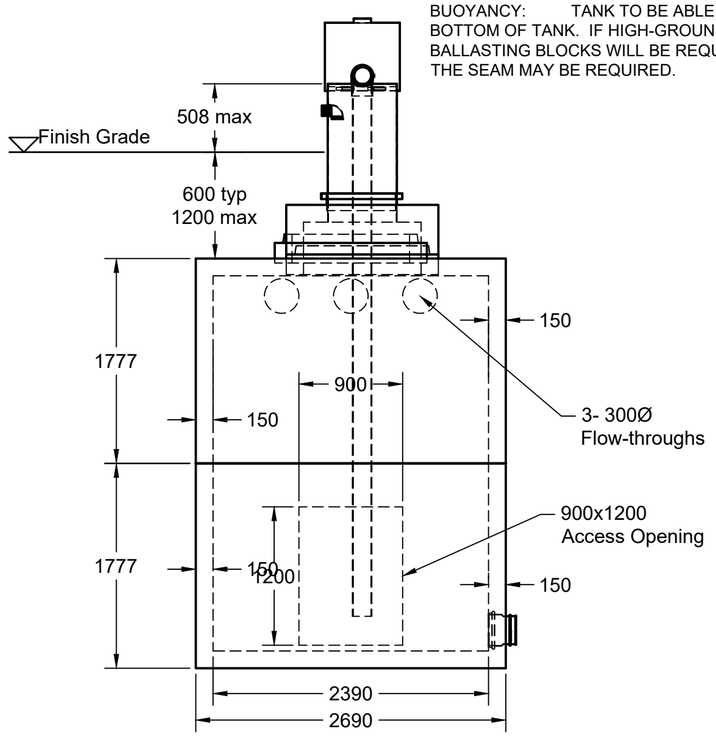
ACCESS OPENINGS:
PRIMARY TANK: 610X610 CITY OF OTTAWA SPEC FIRE CHUTE FOR FIRETRUCK CONNECTION
SECONDARY ACCESS (OPTIONAL) :1200x1300 CAST-IN RISER FLANGE WITH 610X610 DRIP PROOF ALUMINUM ACCESS HATCH
900X1200 OPENING IN DIVIDER WALL FOR ACCESS TO BOTH CHAMBERS FROM ONE ACCESS POINT

OPTIONAL STAINLESS STEEL BOLT-ON LADDER OPTIONAL

TANK DESIGN CONFORMS TO CSA STANDARD B66-15 WITH A NON-TRAFFIC LOAD ON TOP, AND WITH HEAVY TRUCK LOADING DIRECTLY ADJACENT TO TANK TO ACCOMODATE FIRE TRUCK TO BE WITHIN 1M OF WATER DRAW-DOWN CHUTE, AS PER FIRE DEPT.

BUOYANCY: TANK TO BE ABLE TO WITHSTAND GROUNDWATER UP 2.0M FROM BOTTOM OF TANK. IF HIGH-GROUNDWATER LEVEL IS IN EXCESS OF THIS, ADDITIONAL BALLASTING BLOCKS WILL BE REQUIRED. ADDITIONAL WATERPROOFING MEASURES AT THE SEAM MAY BE REQUIRED.





bb boyd bros concrete products
5450 Cuddy St Osgoode, ON K0A 2W0
tel: (613) 826.2318 fax: (613) 826.3679
toll free: 888.846.6664
website: www.boydbrosconcrete.ca
email: info@boydbrosconcrete.ca

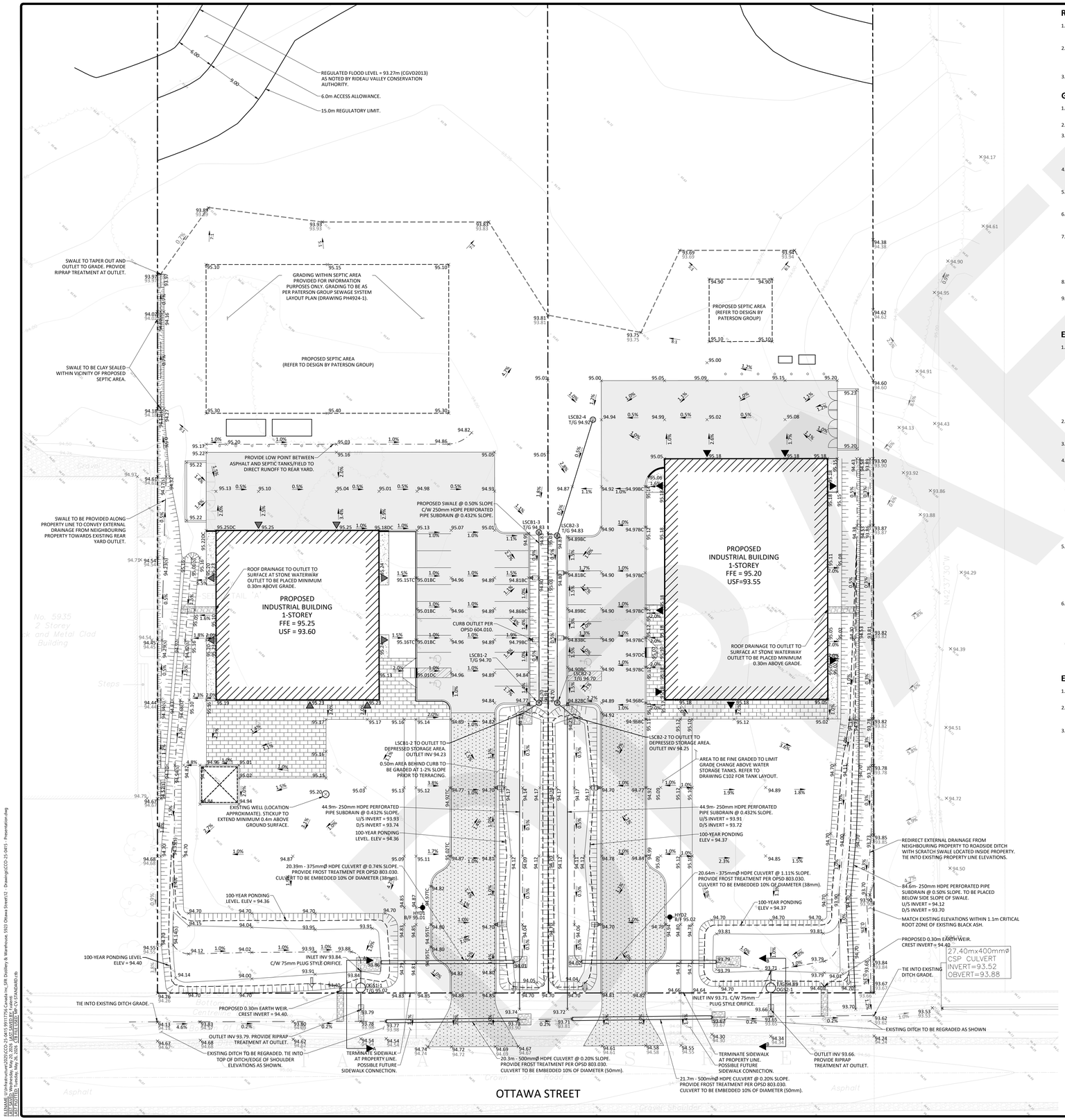
PROJECT
Boyd Bros Concrete

TITLE
45000 Fire Tank

DRAWN Rob Sanna 6/19/23 APPROVED

SIZE	DWG NAME	REV
C	45000 Fire Tank	3

SCALE 1:40 | WEIGHT 35000kgs | SHEET 1/1



ROADWAY NOTES

1. RESTORE ANY TRENCHES AND DISTURBED SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF CITY AUTHORITIES.
2. CONCRETE CURB AND SIDEWALK SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD SC1.1 (BARRIER CURB), SC2 (MONOLITHIC SIDEWALK & CURB), AND SC4 (STANDARD SIDEWALK) AS NOTED. PROVISIONS SHALL BE MADE FOR CURB DEPRESSIONS AT SIDEWALKS, DRIVEWAYS AND RAMPS.
3. PAVEMENT REINSTATEMENT TO BE ACCORDANCE WITH CITY OF OTTAWA DETAIL R10 WITHIN THE CITY ROW.AS WELL AS WITHIN PRIVATE LAND
4. GRANULAR "A" SHALL BE PLACED TO A MINIMUM THICKNESS OF 300mm AROUND ALL STRUCTURES WITHIN PAVEMENT AREA.
5. ALL GRANULAR FOR ROADS SHALL BE COMPACTED TO A MINIMUM OF 100% SPMDD.
6. ASPHALT WEAR COURSE SHALL NOT BE PLACED UNTIL THE VIDEO INSPECTION OF SEWERS & NECESSARY REPAIRS HAVE BEEN CARRIED OUT TO THE SATISFACTION OF THE ENGINEER.
7. SUB- EXCAVATE SOFT AREAS AND FILL WITH GRANULAR 'B' COMPACTED IN MAXIMUM 300mm LIFTS.
8. PAVEMENT STRUCTURE: REFER TO DETAIL.

   SUPPLY, INSTALLATION, AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS.
10. DO NOT ALTER GRADING OF THE SITE WITHOUT PRIOR APPROVAL OF THE ENGINEER/CITY.
11. ALL ROADWAY, PARKING LOT, AND GRADING WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS. THE CONTRACTOR IS TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING.
12. CONTACT THE CITY FOR INSPECTION OF ROUGH GRADING OF PARKING LOTS, ROADWAYS AND LANDSCAPED AREAS PRIOR TO PLACEMENT OF ASPHALT AND TOPSOIL. ALL DEFICIENCIES NOTED SHALL BE RECTIFIED TO THE CITY'S SATISFACTION PRIOR TO PLACEMENT OF ANY ASPHALT, TOPSOIL, SEED & MULCH AND/OR SOD.
13. ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION, IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
14. ELECTRICAL, GAS, TELEPHONE AND TELEVISION SERVICE LOCATIONS ARE SUBJECT TO THE INDIVIDUAL AGENCY:
    - ELECTRICAL SERVICE - HYDRO ONE,
    - GAS SERVICE - ENBRIDGE,
    - TELEPHONE SERVICE - BELL CANADA,
    - TELEVISION SERVICE - ROGERS.
16. INSTALLATION TO BE IN ACCORDANCE WITH CURRENT CODES AND STANDARDS OF APPROVAL AGENCIES HYDRO ONE, BELL AND THE CITY.
17. CONTRACTOR TO ENSURE ALL APPLICABLE OPS SPECIFICATIONS ARE FOLLOWED DURING CONSTRUCTION
18. ALL PROPOSED CURB TO BE CONCRETE BARRIER CURB UNLESS OTHERWISE SPECIFIED.
19. THIS PLAN MUST BE READ IN CONJUNCTION WITH THE GEOTECHNICAL INVESTIGATION COMPLETED BY PATERSON GROUP, DATED JULY 9, 2025.

GENERAL NOTES

1. THE CONTRACTOR IS TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY BEFORE COMMENCING CONSTRUCTION.
2. THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT.
3. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME ALL RESPONSIBILITY FOR EXISTING UTILITIES WHETHER OR NOT SHOWN ON THESE DRAWINGS. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
4. RESTORE ALL TRENCHES AND SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF THE CITY AUTHORITIES.
5. EXCAVATE AND DISPOSE OF ALL EXCESS EXCAVATED MATERIAL, SUCH AS ASPHALT, CURBING AND DEBRIS, OFF SITE AS DIRECTED BY THE ENGINEER AND THE CITY.
6. TOPSOIL TO BE STRIPPED AND STOCKPILED FOR REHABILITATION. CLEAN FILL TO BE PLACED IN FILL AREAS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
7. CONTRACTOR TO MINIMIZE THE ACTUAL LIMITS OF REMOVALS AND DISTURBED AREA WHEREVER POSSIBLE, AND SHALL MAKE THEIR OWN JUDGEMENT AND ACCOUNT FOR ALL MATERIAL AND LABOUR REQUIRED FOR ADEQUATELY REINSTATING THE AREA TO PRE-CONSTRUCTION CONDITIONS OR BETTER, AND BEAR THE COST OF THE SAME. NO ADDITIONAL PAYMENT WILL BE MADE FOR REINSTATEMENT WORK NOT SHOWN ON THE CONTRACT DRAWING AS A DIRECT RESULT FROM CONSTRUCTION.
8. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE

EROSION AND SEDIMENT CONTROL

1. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THIS INCLUDES LIMITING THE AMOUNT OF EXPOSED SOIL, TEMPORARY SEDIMENT CONTROL (GEOSOCK INSERTS WITH AN OVERFLOW UNDER GRATE OR COVER) TO BE IMPLEMENTED DURING CONSTRUCTION ON ALL PROPOSED CATCHBASINS, REARYARD CATCHBASINS AND CATCHBASIN MANHOLES AND OTHER SEDIMENT TRAPS. NO RECYCLED GEOSOCK MATERIAL SHALL BE PERMITTED FOR USE ON SITE. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
2. AT THE DISCRETION OF THE PROJECT MANAGER, CONSERVATION AUTHORITY, OR MUNICIPAL STAFF, ADDITIONAL SILT CONTROL DEVICES SHALL BE INSTALLED AT DESIGNATED LOCATIONS.
3. FOR SILT FENCE BARRIER, USE OPSD 219.110. GEOTEXTILE FOR SILT FENCE AS PER OPSS 1860, TABLE 3.
4. EXCEPT AS PROVIDED IN PARAGRAPHS 4.1., AND 4.2. BELOW, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS FEASIBLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.
   - 4.1. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASE IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS FEASIBLE.
   - 4.2. WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITIES CEASED, (E.G. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED.
5. ALTHOUGH NOT ANTICIPATED, WORK THROUGH WINTER MONTHS SHALL BE CLOSELY MONITORED FOR EROSION ALONG SLOPED AREAS. SHOULD EROSION BE NOTED, THE CONTRACTOR SHALL BE ALERTED AND SHALL TAKE ALL NECESSARY STEPS TO RECTIFY THE SITUATION. SHOULD THE CONTRACTOR'S EFFORTS FAIL AT REMEDIATING THE ERODED AREAS, THE CONTRACTOR SHALL CONTACT THE CITY AND/OR CONSERVATION AUTHORITY TO REVIEW THE SITE CONDITIONS AND DETERMINE THE APPROPRIATE COURSE OF ACTION. AS THE GROUND BEGINS TO THAW, THE CONTRACTOR SHALL PLACE SILT FENCING AT ALL REQUIRED LOCATIONS AS SOON AS GROUND CONDITIONS WARRANT.
6. SEDIMENT THAT IS ACCUMULATED BY THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED IN A MANNER THAT AVOIDS ESCAPE OF THE SEDIMENT TO THE ENVIRONMENT OUTSIDE OF THE CONTROL MEASURE AND AVOIDS DAMAGE TO THE CONTROL MEASURE. SEDIMENT SHALL BE REMOVED TO THE LEVEL OF THE GRADE EXISTING AT THE TIME THE CONTROL MEASURE WAS CONSTRUCTED AND BE ACCORDING TO THE FOLLOWING:
   - 6.1. FOR LIGHT-DUTY SEDIMENT BARRIERS, ACCUMULATED SEDIMENT SHALL BE REMOVED ONCE IT REACHES THE LESSER OF THE FOLLOWING:
     - 6.1.1. A DEPTH OF ONE-HALF THE EFFECTIVE HEIGHT OF THE CONTROL MEASURE.
     - 6.1.2. A DEPTH OF 300 MM IMMEDIATELY UPSTREAM OF THE CONTROL MEASURE.
   - 6.2. FOR ALL CONTROL MEASURES, ACCUMULATED SEDIMENT SHALL BE REMOVED AS NECESSARY TO PERFORM MAINTENANCE REPAIRS.
   - 6.3. ACCUMULATED SEDIMENT SHALL BE REMOVED PRIOR TO THE REMOVAL OF THE CONTROL MEASURE. ACCUMULATED SEDIMENT IS TO BE REMOVED AND DISPOSED OF AS PER OPSS 180.
7. CARE SHALL BE TAKEN AT THE REMOVAL STAGE TO ENSURE THAT ANY SILT THAT HAS ACCUMULATED IS PROPERLY HANDLED AND DISPOSED OF.
8. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MONITORED TO ENSURE THEY ARE IN EFFECTIVE WORKING ORDER. THE CONDITION OF THE CONTROL MEASURES SHALL BE MONITORED WEEKLY AS WELL AS PRIOR TO ANY FORECAST STORM EVENT AND FOLLOWING A STORM EVENT.
9. SHOULD DETERIORATION OF ANY EROSION & SEDIMENT CONTROL MEASURE BE OBSERVED, IT SHALL BE IMMEDIATELY REPAIRED OR REPLACED.
10. DUST CONTROL MEASURES SHOULD BE CONSIDERED PRIOR TO CLEARING AND GRADING. THE USE OF WATER, CALCIUM CHLORIDE FLAKES/SOLUTION OR MAGNESIUM CHLORIDE FLAKES/SOLUTION SHALL BE USED AS DUST SUPPRESSANTS AS PER OPSS 506. THIS IS TO LIMIT WIND EROSION OF SOILS WHICH MAY TRANSPORT SEDIMENTS OFFSITE, WHERE THEY MAY BE WASHED INTO THE RECEIVING WATER BY THE NEXT RAINSTORM.
11. ALL 'GREEN AREAS' TO BE TREATED WITH 150mm TOPSOIL AND SOD AS SOON AS FEASIBLE, AS PER OPSS 570.
12. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED
13. ANY AREAS OF EXCESS FILL SHALL BE REMOVED OR LEVELED AS SOON AS POSSIBLE AND MUST BE LOCATED A SUFFICIENT DISTANCE FROM ANY DITCH OR WATERCOURSE TO ENSURE THAT NO SEDIMENT IS WASHED OUT INTO THE DITCH/WATERCOURSE.
14. STOCKPILED MATERIAL IS TO BE STORED AWAY FROM POTENTIAL RECEIVERS (E.G. LANDSCAPING CATCHBASINS, MANHOLES), AND BE SURROUNDED BY EROSION CONTROL MEASURES WHERE MATERIAL IS LEFT IN PLACE IN EXCESS OF 14 DAYS.
15. IF REQUIRED, DEWATERING/SETTLING BASINS SHALL BE CONSTRUCTED AS PER OPSD 219.240 AND LOCATED ON FLAT GRADE UPSTREAM OF OTHER EXISTING MITIGATION MEASURES. DITCHES SHALL NOT BE DIVERTED, OR BLOCKED, AND TEMPORARY DITCH CROSSINGS SHALL NOT BE CONSTRUCTED OR UTILIZED, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT.
16. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL CONFORM TO OPSS 577
17. WHERE DEWATERING IS REQUIRED, THE DISCHARGED WATER SHALL BE CONTROLLED IN ACCORDANCE WITH OPSS 518.
18. ALL SETTLING/FILTRATION BASINS, IF REQUIRED, SHALL BE EQUIPPED WITH TERRAFIX 270R GEOTEXTILE (OR APPROVED EQUIVALENT) AND SHALL BE CLEANED AND REPLACED AS REQUIRED.

ELEVATION NOTES

1. THE ORIGINAL TOPOGRAPHY, GROUND ELEVATION AND SURVEY DATA SHOWN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY, AND IMPLY NO GUARANTEE OF ACCURACY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.
2. REFER TO EGIS SURVEYING INC. DRAWING #CCO-25-0415 OTTAWA ST INTEGRATION DATA NOTE. BEARING ARE UTM GRID BEARINGS, DERIVED BY REAL TIME NETWORK GNSS OBSERVATIONS ON OBSERVED REFERENCE POINTS 'A' AND 'B' SHOWN ON DRAWING #CCO-25-0415 OTTAWA ST, AND ARE REFERRED TO THE NAD83 CSRS (2010) MTM ZONE 9 COORDINATE SYSTEM.
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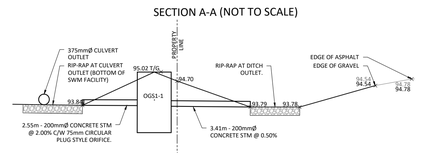
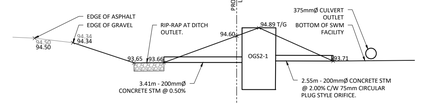
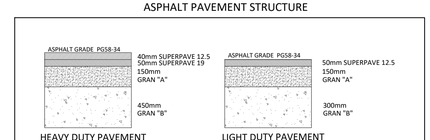
SECTION A-A (NOT TO SCALE)



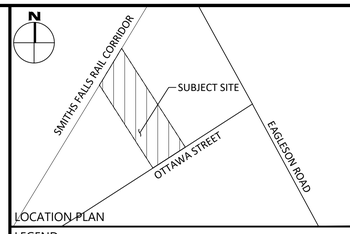
SECTION B-B (NOT TO SCALE)



ASPHALT PAVEMENT STRUCTURE



ASPHALT CROSS-SECTIONS TO CONFORM TO GEOTECHNICAL REPORT COMPLETED BY PATERSON GROUP, DATED JULY 9, 2025



LOCATION PLAN

LEGEND

- CONCRETE BARRIER CURB
- CONCRETE WALKWAY
- PROPOSED ASPHALT
- PROPOSED HEAVY DUTY ASPHALT
- LSCB# LANDSCAPING CATCHBASIN
- CBMH# T/G CATCHBASIN MANHOLE
- CB# T/G CATCHBASIN
- MH#A T/G SANITARY SEWER MANHOLE
- HYD B/F FIRE HYDRANT
- WATER VALVE
- WATER METER
- REMOTE WATER METER
- RETAINING WALL
- OGS# OIL & GRIT SEPARATOR UNIT
- LIMIT OF CONSTRUCTION
- DRAINAGE SWALE
- DRAINAGE DITCH
- SLOPING AT 3:1 UNLESS SPECIFIED
- 95.50 SURFACE ELEVATION
- 95.50 (S) SWALE ELEVATION
- T/W 95.50 B/W 94.25 TOP OF WALL ELEVATION BOTTOM OF WALL ELEVATION
- OVERLAND FLOW ROUTE
- SILT FENCE BARRIER
- STRAW BALE CHECK DAM
- MUD MAT
- CURB OUTLET PER OPSD 604.010
- PROPERTY BOUNDARY

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2	ISSUED FOR SITE PLAN CONTROL	OCT. 17, 2024
1	ISSUED FOR COORDINATION	OCT. 11, 2024

Check and verify all dimensions before proceeding with the work

Do not scale drawings

SCALE 1 : 300

0 5 10 15 20 25 30 Metres

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Stamp:

Client:

99117756 CANADA INC.
411 LEGGET DRIVE, SUITE 710
OTTAWA, ON K2K 3C9

Project:

DISTILLERY & WAREHOUSE
5923 OTTAWA STREET

Drawing Title:

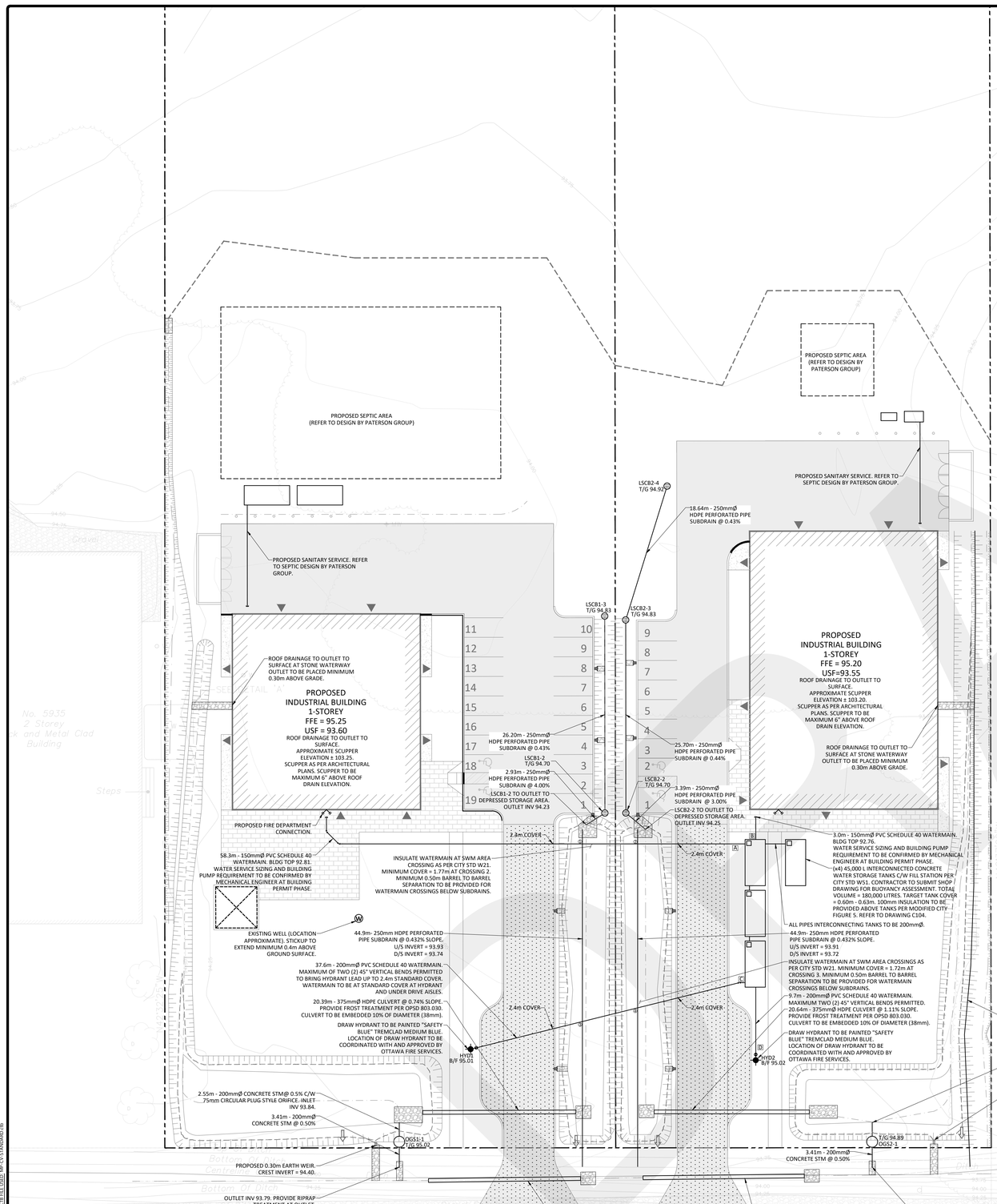
LOT GRADING & DRAINAGE PLAN

Scale: 1:300	Project Number: CCO-25-0415
Drawn By: FV	
Checked By: JB	Drawing Number: C101
Designed By: AG	

D07-12-25-0078

#19400

FILENAME: U:\Infrastructure\2025\CCO-25-0415 99117756 Canada Inc, DR, Distillery & Warehouse, 5923 Ottawa Street\12 - Drawings\CCO-25-0415 - Presentation.dwg
LAST EDITED: Tuesday, May 26, 2026 - 08:11:16 (EDT) by: JOSEPH BOUTROS
LAST PLOTTED: Tuesday, May 26, 2026 - 08:11:16 (EDT) by: O:\STANDARD.ctb



GENERAL NOTES

1. THE CONTRACTOR IS TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY BEFORE COMMENCING CONSTRUCTION.
2. THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT.
3. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME ALL RESPONSIBILITY FOR EXISTING UTILITIES WHETHER OR NOT SHOWN ON THESE DRAWINGS. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
4. RESTORE ALL TRENCHES AND SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF THE CITY AUTHORITIES.
5. EXCAVATE AND DISPOSE OF ALL EXCESS EXCAVATED MATERIAL, SUCH AS ASPHALT, CURBING AND DEBRIS, OFF SITE AS DIRECTED BY THE ENGINEER AND THE CITY.
6. TOPSOIL TO BE STRIPPED AND STOCKPILED FOR REHABILITATION. CLEAN FILL TO BE PLACED IN FILL AREAS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
7. CONTRACTOR TO MINIMIZE THE ACTUAL LIMITS OF REMOVALS AND DISTURBED AREA WHEREVER POSSIBLE, AND SHALL MAKE THEIR OWN JUDGEMENT AND ACCOUNT FOR ALL MATERIAL AND LABOUR REQUIRED FOR ADEQUATELY REINSTATING THE AREA TO PRE-CONSTRUCTION CONDITIONS OR BETTER, AND BEAR THE COST OF THE SAME. NO ADDITIONAL PAYMENT WILL BE MADE FOR REINSTATEMENT WORK NOT SHOWN ON THE CONTRACT DRAWING AS A DIRECT RESULT FROM CONSTRUCTION.
8. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION, AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS.
10. DO NOT ALTER GRADING OF THE SITE WITHOUT PRIOR APPROVAL OF THE ENGINEER/CITY.
11. ALL ROADWAY, PARKING LOT, AND GRADING WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS. THE CONTRACTOR IS TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING.
12. CONTACT THE CITY FOR INSPECTION OF ROUGH GRADING OF PARKING LOTS, ROADWAYS AND LANDSCAPED AREAS PRIOR TO PLACEMENT OF ASPHALT AND TOPSOIL. ALL DEFICIENCIES NOTED SHALL BE RECTIFIED TO THE CITY'S SATISFACTION PRIOR TO PLACEMENT OF ANY ASPHALT, TOPSOIL, SEED & MULCH AND/OR SOD.
13. ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION, IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
14. ELECTRICAL, GAS, TELEPHONE AND TELEVISION SERVICE LOCATIONS ARE SUBJECT TO THE INDIVIDUAL AGENCY:
    - ELECTRICAL SERVICE - HYDRO ONE,
    - GAS SERVICE - ENBRIDGE,
    - TELEPHONE SERVICE - BELL CANADA,
    - TELEVISION SERVICE - ROGERS.
16. INSTALLATION TO BE IN ACCORDANCE WITH CURRENT CODES AND STANDARDS OF APPROVAL AGENCIES HYDRO ONE, BELL AND THE CITY.
17. CONTRACTOR TO ENSURE ALL APPLICABLE OPS SPECIFICATIONS ARE FOLLOWED DURING CONSTRUCTION
18. ALL PROPOSED CURB TO BE CONCRETE BARRIER CURB UNLESS OTHERWISE SPECIFIED.
19. THIS PLAN MUST BE READ IN CONJUNCTION WITH THE GEOTECHNICAL INVESTIGATION COMPLETED BY PATERSON GROUP, DATED JULY 9, 2025.

ELEVATION NOTES

1. THE ORIGINAL TOPOGRAPHY, GROUND ELEVATION AND SURVEY DATA SHOWN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY, AND IMPLY NO GUARANTEE OF ACCURACY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.
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SEWER NOTES:

1. CONSTRUCT ALL SEWERS, CATCH BASINS, MANHOLES AND APPURTENANCES IN ACCORDANCE WITH OPSD STANDARDS AND SPECIFICATIONS, AS WELL AS CITY.
2. SEWER TRENCHING AND BEDDING SHALL CONFORM TO OPSD 802.010 AND 802.013 UNLESS NOTED OTHERWISE.
    2.1. BEDDING SHALL BE A MINIMUM 150mm OF GRANULAR "A", COMPACTED TO MINIMUM 95% STANDARD PROCTOR DRY DENSITY. CLEAR STONE BEDDING SHALL NOT BE PERMITTED.
    2.2. SUB-BEDDING, IF REQUIRED SHALL CONSIST OF 450mm OF COMPACTED GRANULAR "B" TYPE 1.
    2.3. BACKFILL TO AT LEAST 300mm ABOVE TOP OF PIPE WITH GRANULAR "A" OR GRANULAR "B" TYPE 1.
    2.4. TO MINIMIZE DIFFERENTIAL FROST HEAVING, TRENCH BACKFILL (FROM PAVEMENT SUBGRADE TO 2.0 METRES BELOW FINISHED GRADE) SHALL MATCH EXISTING SOIL CONDITIONS.
3. SANITARY SEWERS AND CONNECTIONS 150mmØ AND SMALLER TO BE PVC SDR-28.
4. SEWERS AND CONNECTIONS 200mmØ AND LARGER TO BE PVC SDR-35, BEDDING TO BE TYPE "B" EXCEPT AT RISERS, UNLESS NOTED OTHERWISE.
5. SEWERS AND WATERMAINS LOCATED PARALLEL TO EACH OTHER SHOULD BE CONSTRUCTED IN SEPARATE TRENCHES. WHEN IT IS IMPOSSIBLE OR NOT PRACTICAL TO MAINTAIN VERTICAL AND/OR HORIZONTAL SEPARATION PER MECP STANDARDS, ALL SEWERS SHOULD BE CONSTRUCTED OF WATERMAIN QUALITY PIPE, PRESSURE TESTED IN PLACE AT A PRESSURE OF 350 kPa (50 psi) WITHOUT LEAKAGE USING THE TESTING METHODOLOGY IN ONTARIO PROVINCIAL STANDARD SPECIFICATION 701 (OPSS 701) OF THE OPS.
6. INSULATE ALL STORM AND SANITARY SEWERS/SERVICES THAT HAVE LESS THAN 2.0m OF COVER WITH THERMAL INSULATION AS PER CITY DETAIL S35, OPTION A.
7. SUPPLY AND INSTALL ALL PIPING AND APPURTENANCES AS SHOWN AND DETAILED TO WITHIN 1.0m OF BUILDING. ALL ENDS OF SERVICES TO BE PROPERLY CAPPED AND LOCATED WITH 2"x4"X8' LONG MARKER.
8. CONTRACTOR TO TELEVISE (CCTV) ALL PROPOSED SEWERS ON SITE, OUTLET CONNECTION TO THE MAIN AND PIPES 150mmØ OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES.
9. DYE TESTING IS TO BE COMPLETED ON SANITARY SERVICE TO CONFIRM PROPER CONNECTION TO SANITARY SEWER MAIN.

ROADWAY NOTES

1. RESTORE ANY TRENCHES AND DISTURBED SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF CITY AUTHORITIES.
2. CONCRETE CURB AND SIDEWALK SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD SC1.1 (BARRIER CURB), SC2 (MONOLITHIC SIDEWALK & CURB), AND SC4 (STANDARD SIDEWALK) AS NOTED. PROVISIONS SHALL BE MADE FOR CURB DEPRESSIONS AT SIDEWALKS, DRIVEWAYS AND RAMPS.
3. PAVEMENT REINSTATEMENT TO BE ACCORDANCE WITH CITY OF OTTAWA DETAIL R10 WITHIN THE CITY ROW AS WELL AS WITHIN PRIVATE LAND.
4. GRANULAR "A" SHALL BE PLACED TO A MINIMUM THICKNESS OF 300mm AROUND ALL STRUCTURES WITHIN PAVEMENT AREA.
5. ALL GRANULAR FOR ROADS SHALL BE COMPACTED TO A MINIMUM OF 100% SPMDD.
6. ASPHALT WEAR COURSE SHALL NOT BE PLACED UNTIL THE VIDEO INSPECTION OF SEWERS & NECESSARY REPAIRS HAVE BEEN CARRIED OUT TO THE SATISFACTION OF THE ENGINEER.
7. SUB- EXCAVATE SOFT AREAS AND FILL WITH GRANULAR 'B' COMPACTED IN MAXIMUM 300mm LIFTS.
8. PAVEMENT STRUCTURE: REFER TO DETAIL ON DRAWING C101.

WATERMAIN NOTES

1. CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS.
2. WATERMAINS AND/OR WATER SERVICES ARE TO HAVE A MINIMUM COVER OF 2.4m. INSULATE ALL WATERMAINS AND SERVICES THAT HAVE LESS THAN 2.4m COVER WITH THERMAL INSULATION AS PER CITY DETAIL W22.
3. IF THE WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS EQUAL TO OR LESS THAN THAT WHICH IS RECOMMENDED BY THE MANUFACTURER AND CITY OF OTTAWA STANDARDS W25 AND W25.2.
4. THERMAL INSULATION OF WATERMAINS AT SWM AREA CROSSING AS PER CITY DETAIL W21.
5. CONCRETE THRUST BLOCKS TO CONFORM TO CITY STANDARD W25.3.
6. WATERMAIN TO BE SCHEDULE 40 PVC OR APPROVED EQUIVALENT WITH SOLVENT-WELDED JOINTS.
7. ALL PVC WATERMAIN SHALL BE INSTALLED WITH A 10 GAUGE STRANDED COPPER TWU OR RWU TRACER WIRE IN ACCORDANCE WITH CITY STANDARD W36.
8. FIRE HYDRANTS SHALL CONFORM TO CITY STANDARD W18 AND W19.
9. VALVE BOXES SHALL CONFORM TO CITY STANDARD W24.
10. VALVES TO BE INSTALLED WITH VALVE BOXES AS PER CITY STANDARD W24.
11. AS PER CITY GUIDELINE, THE MINIMUM VERTICAL CLEARANCE BETWEEN WATERMAIN/WATER SERVICE AND SEWER/UTILITY IS 0.25m FOR CROSSING OVER THE SEWER, AS PER CITY DETAIL W.25.2 FOR CROSSING UNDER SEWER, THE MINIMUM VERTICAL CLEARANCE IS 0.5m AS PER CITY DETAIL W25. FOR CROSSING UNDER SEWER, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWERS IS REQUIRED TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING. THE LENGTH OF WATER PIPE SHALL BE CENTERED AT THE POINT OF CROSSING SO THAT THE JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER.
12. WATER STORAGE TANKS TO BE BOYD BROS 45,000 OR APPROVED EQUIVALENT.

STM STRUCTURE TABLE

NAME	RIM ELEV.	INVERT IN	INVERT OUT	DESCRIPTION
LSCB1-2	94.70	NW94.350	S94.347	PER CITY STANDARD S30
LSCB1-3	94.83		SE94.463	PER CITY STANDARD S31
LSCB2-2	94.70	NW94.350	E94.350	PER CITY STANDARD S30
LSCB2-3	94.83	NW94.470	SE94.463	PER CITY STANDARD S30
LSCB2-4	94.92		SE94.551	PER CITY STANDARD S31
OGS1-1	95.02	NW93.832	SE93.807	STORMCEPTOR EFO4 60% TSS REMOVAL
OGS2-1	94.89	NW93.698	SE93.673	STORMCEPTOR EFO4 60% TSS REMOVAL

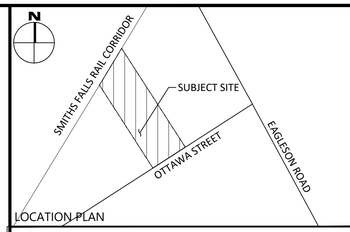
CROSSING CONFLICT TABLE

LOCATION	DESCRIPTION	SEPARATION
1	250mmØ HDPE SUBDRAIN INV 93.93 150mmØ WTR MAIN OBV 92.41	1.52
2	250mmØ HDPE SUBDRAIN INV 93.91 150mmØ WTR MAIN OBV 92.45	1.46
3	250mmØ HDPE SUBDRAIN INV 93.82 200mmØ WTR MAIN OBV 92.35	1.47
4	250mmØ HDPE SUBDRAIN INV 93.81 200mmØ WTR MAIN OBV 92.36	1.45

WATER COVER TABLE

LOCATION	STATION	FINISHED GRADE	TOP OF PIPE	COVER
A - STORAGE TANK	0+100.00	95.11	91.29	3.82
45° BEND	0+154.08	95.18	92.78	2.40
45° BEND	0+156.39	95.19	92.79	2.40
PHASE 1 BUILDING	0+158.32	95.21	92.81	2.40
B - STORAGE TANK	0+200.00	95.12	91.29	3.83
PHASE 2 BUILDING	0+203.03	95.15	92.75	2.40
C- STORAGE TANK	0+300.00	95.10	91.29	3.81
150mmØ VALVE	0+308.97	94.92	92.52	2.40
HYD2	0+309.72	94.92	92.52	2.40
D - STORAGE TANK	0+400.00	95.09	91.29	3.80
11.25° BEND	0+400.78	95.05	91.29	3.76
150mmØ VALVE	0+436.84	94.94	92.54	2.40
HYD1	0+437.94	94.91	92.51	2.40

WATERMAIN ELEVATION AT STORAGE TANK AS PER BOYD BROS 45,000L FIRE TANK SHOP DRAWING. PROVIDE VERTICAL BENDS AS REQUIRED TO MEET TARGET COVER AT BUILDINGS. MAXIMUM 2 VERTICAL BENDS PERMITTED ON DRY HYDRANT LEADS.



LOCATION PLAN

LEGEND

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- CONCRETE WALKWAY
- PROPOSED ASPHALT
- PROPOSED HEAVY DUTY ASPHALT
- LSCB# LANDSCAPING CATCHBASIN
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411 LEGGET DRIVE, SUITE 710
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Project:
DISTILLERY & WAREHOUSE
5923 OTTAWA STREET

Drawing Title:
SITE SERVICING PLAN

Scale: 1:300	Project Number: CCO-25-0415
Drawn By: FV	
Checked By: JB	Drawing Number: C102
Designed By: AG	

D07-12-25-0078

#19400

FILENAME: U:\Infrastructure\2025\CCO-25-0415 99117756 Canada Inc, SPR Distillery & Warehouse, 5923 Ottawa Street\12 - Drawings\CCO-25-0415 - Presentation.dwg
PLOTTED: Tuesday, May 26, 2026 @ 08:51:03 AM By: CV-STANDARD.ctb

January 27, 2026

Jack Gulas
Stratford Foxrun
6286 Prince of Wales Drive
North Gower, ON
K0A 2T0

EMAIL: jack@stratfordfoxrun.com
CC: josh.laginski@outlook.com

Dear Jack:

RE: 5923 OTTAWA STREET DISTILLERY WATER STORAGE VOLUME ESTIMATE LRI FILE 2025-04-0654

PROJECT DESCRIPTION

The project at 5923 Ottawa Street, Ottawa, ON includes two buildings on one site to be used for a mix of industrial and assembly occupancies. Building 1 includes a distillery, mezzanine-level offices, a bar/tasting area, a retail store, and an outdoor patio. Building 2 includes a brewery, some storage space, a bottling line, and associated office space for staff of the site's operations.

The buildings are subject to the 2024 Ontario Building Code (OBC), and as such, are required to be supplied with water for firefighting purposes. The site and surrounding area are not connected to a municipal water supply for firefighting. As a result, water must be stored on site for this purpose. This letter is intended to summarize LRI's analysis of the buildings, the OBC, and OFS documentation regarding the applicable rules and regulations which help assess the required amount of water to be stored on site.

For clarity, the analysis below is based upon the design information available at this time, and is considered an order of magnitude estimate, subject to refinement when the sprinkler and fire pump systems for the buildings are designed. This detailed design is most commonly completed following building permit submission. The objective of the analysis is to explain the fire safety rationale applied to the buildings and to assist the design team and reviewers in aligning on an acceptable water volume to be stored on a general basis.

BUILDING DESCRIPTION

The subject site includes two buildings: Building 1, and Building 2. These buildings have the following characteristics based on the provided architectural drawings:

Building 1:

- One storey in building height, with mezzanine
- 8.5 m in height
- 647 m^2 in building area
- Sprinklered throughout
- Occupancies include:
  - Distillery
  - Offices
  - Bar/assembly
  - Retail

Building 2:

- One storey in building height, with mezzanine
- 8.5 m in height
- 926 m^2 in building area
- Sprinklered throughout
- Occupancies include:
  - Mashing/bottling
  - Brewery
  - Storage mezzanine
  - Offices

CODE REQUIREMENTS

In conformance with OBC 3.2.5.7 “every building shall be provided with an adequate water supply for firefighting”. As clarified by OBC Appendix A-3.2.5.7.(2) for sprinklered buildings, “water supply additional to that required by the sprinkler systems should be provided for firefighting using fire hoses in accordance with the hose stream demands and water supply durations for different hazard classifications as specified in NFPA 13, “Installation of Sprinkler Systems”.

Since the buildings are sprinklered, the water storage volume estimate, therefore, needs to provide sufficient water for the sprinklers to operate, plus necessary hose demands from fire crews.

In conformance with Technical Bulletin IWSTB-2024-05, rural fire flow calculation methods are to follow the Appendix J flow chart. Specifically, since both buildings are required to be sprinklered for insurance reasons, the highlighted green path will be followed:

Appendix J RURAL FIRE FLOW CALCULATION PROCESS

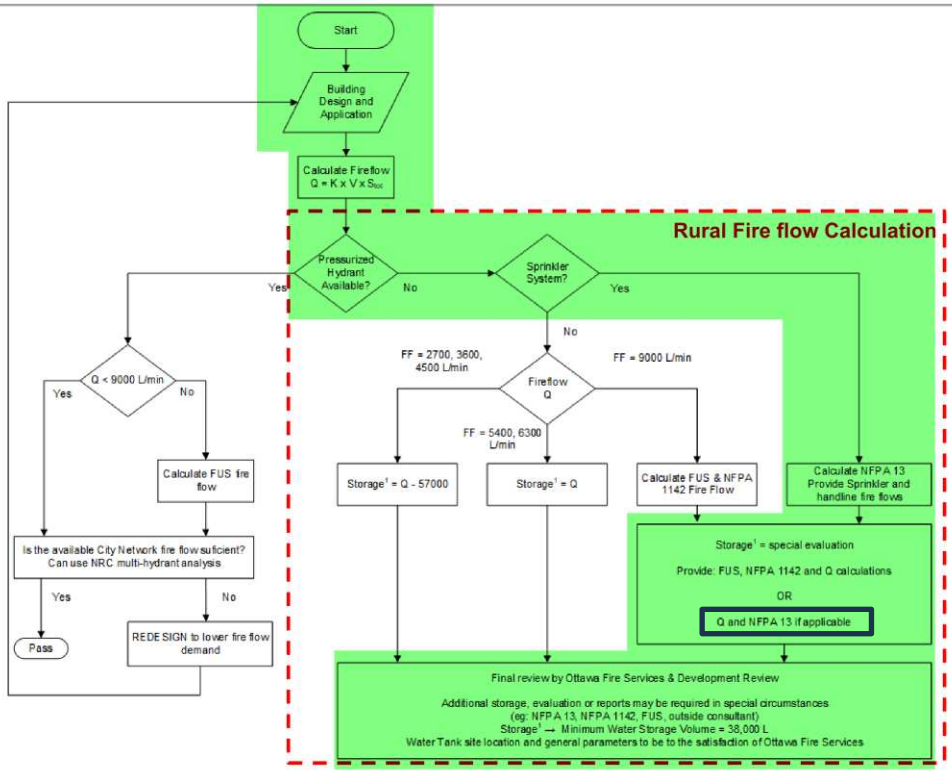


Figure J.1: Rural Fire Flow Calculation Process.

City of Ottawa Appendix J-2 November 2024

The following section outlines the methodology used for the storage volume estimates to permit OFS review.

METHODOLOGY

OBC-based Q volume analysis:

The following analysis uses the OBC-prescribed method to assess volumes based on the following inputs:

Q = K x V x Stot, where

Q = minimum supply of water in litres
K = water supply coefficient from the OBC
V = total building volume in cubic metres (m^3)
Stot = total of spatial coefficient values from property line exposures on all sides.

Building 1:

Variable	Value	Notes
Q	177,100 L, with 5,400 LPM minimum flow rate	
K	23	Conservatively assumes Group F, Division 1 occupancy despite pending alternative solution. Also assumes compliant 3.2.2. noncombustible construction.
V	5,500	Based on area and building height
Stot	1.4	0.4 penalty assigned to southwest face with limiting distance of 9 m

Building 2:

Variable	Value	Notes
Q	173,949 L, with 5,400 LPM minimum flow rate	
K	17	Assumes Group F, Division 2 occupancy. Also assumes compliant 3.2.2. noncombustible construction.
V	7,871	Based on area and building height
Stot	1.3	0.3 penalty assigned to southeast face with limiting distance of 7 m

Based on the OBC volume Q analysis presented above, the calculated minimum supply of water required storage volumes of up to approximately 177,100 L for Building 1, or 173,949 L for Building 2. This translates to a minimum required flowrate of 5,400 LPM for both buildings at 30 minutes of supply duration.

As outlined in IWST-2024-05, for a proposed building equipped with a sprinkler system designed in accordance with NFPA 13, the OBC calculations noted above should be completed, and an additional NFPA 13 special evaluation may be carried out to determine the sprinkler water storage requirements.

NFPA 13-based volume analysis:

As the buildings will both be protected by automatic sprinkler systems, Appendix A demonstrates water volume calculations for the sprinkler systems anticipated to be designed for each building. It should be noted that these volumes are estimates, and final hydraulic designs will dictate the final volume requirements. At this time, the expected volume is to include sufficient water to supply the most demanding hydraulic area assuming one fire in one building at a time, includes for a 20% factor calculated based on water volumes discharged by the sprinklers, and considers NFPA 13-mandated hose demand calculations.

The calculations assume a sprinkler design on a "room area" method wherein different rooms must be individual enclosed fire compartments to permit the hydraulic area to be shrunk to the size of the room. This assumes that a fire separation will contain the fire during the time required for sprinkler operation.

The following tables summarize the assumed hazard classifications for the rooms. These assumptions are based off a combination of NFPA 13 compliance requirements, requirements described by the Distilled Spirits Council of the United States (DISCUS), and based on LRI's expectation that the distillery/bar occupancy approach will require an alternative solution and correspondingly increases sprinkler density to improve suppression potential in support of that effort.

Room	Area (ft^2)	Expected Occupancy Classification
Building 1		
Grain Handling	238	Ordinary Hazard Group 2
Brewing/bottling	2,383	Ordinary Hazard Group 2 (aligns with DISCUS recommendations)
Boiler Room	277	Ordinary Hazard Group 1
Still house/still room	965	Extra Hazard Group 1 to support alternative solution approach
Office Mezzanine	1,182	Light Hazard
Kitchen	190	Ordinary Hazard Group 1*
Bar	1,632 (hydraulic area assumed limited to 1500 ft^2)	Light Hazard*
Retail	885	Ordinary Hazard Group 2
Building 2		
Mashing/brewing	6,050 (hydraulic area assumed limited to 2000 ft^2 per DISCUS)	Ordinary Hazard Group 2
Bottling	2,370 (hydraulic area assumed limited to 3000 ft^2 or room area DISCUS)	Ordinary Hazard Group 2
Office and admin area	1,095	Light Hazard
Storage mezzanine	1,185	Ordinary Hazard Group 2

* Note that depending on the hydraulic design, the kitchen and portions of the bar may end up being calculated together as a remote area. Their cumulative effect has been considered in Appendix A

As depicted in Appendix A, based on the NFPA 13 analysis presented above, expected storage volumes for both sprinkler and hose demand would result in required storage volumes of up to approximately 288,000 L for Building 1, or 243,000 L for Building 2. Both of these values are very high, and represent the provision of at least 100% of the NFPA 13-mandated volumes for both sprinkler operation and hose demands, for durations ranging between 30 minutes and 90 minutes (depending on NFPA 13 criteria). In order to provide a more reasonable estimate, in light of the IWSTB documentation and OFS firefighting capacity, the following section evaluates the impact that water shuttling can have on the required storage volume.

Influence of OFS Superior Tanker Shuttle level on the required storage volume:

IWSTB 2024-05 does not explicitly clarify if or how OFS Superior Tanker Shuttle service contributes to NFPA 13-derived water storage volume analysis. As a result, engineering judgement and alignment with the AHJ is necessary.

In conformance with IWSTB 2024-05, OFS is capable of delivering 1,900 LPM within 5 minutes of arrival. As such, some credit should be permissible to account for the fire department's ability to replenish stored water volumes during a fire. As a result, the proposed storage volumes consider a reduction of 1,900 LPM for the NFPA 13 mandated duration of the fire as a reasonable value. This effectively replenishes the hose demand required for higher hazard occupancies and exceeds that required for lower hazard occupancies. The resultant conclusions presented below and in Appendix A represent an amount of water stored that exceeds the minimum required by IWSTB 2024-05, is comparable to OBC-required amounts for unsprinklered buildings, and represents the ability of the system to automatically supply the sprinklers for the NFPA 13-derived duration of the fire without extra volumes. In other words, sufficient water is expected to be stored to supply the sprinklers automatically, allow initial fire crews to have access to water for hose lines, and provide time for shuttling water to start supplementing the available stored water.

	Building 1	Building 2
OBC based Q Evaluation	177,100 L	173,949 L
NFPA 13 Evaluation	288,442 L	242,574 L
NFPA 13 Evaluation w/Superior Tanker Shuttle Service Reduction	118,117 L	129,024 L

CONCLUSION

This letter summarizes LRI's review of the proposed building project at 5923 Ottawa Street, and the required firefighting water volumes to be stored on site.

As the buildings are sprinklered, and in conformance with IWSTB 2024-05, a special assessment aligning with NFPA 13 has been provided. This is summarized in Appendix A.

The resultant water volume to be stored is expected to be designed to accommodate the highest required volume of either building, is to be shared between both buildings, and assumes one fire in one building at a time. This assumption is reasonable, especially given the large separation distance between both buildings on the same property.

At this time, for the purpose of development permitting and planning purposes and until the design develops such that proper fire protection design can be completed, it is recommended that the water storage volume match the OBC-mandated Q-values for a Group F, Division 1 occupancy for the distillery, and a Group F, Division 2 occupancy for the brewery and storage area. No reduction for OFS water shuttling has been accounted for in the recommended Q-value, and represents a conservative assumption. Based on this analysis, stored water volumes of 180,000 L are recommended at this time, with final volumes being determined based on detailed sprinkler and fire pump design criteria.

Sincerely,
LRI ENGINEERING

Matthew Hopley, M.Eng., P.Eng [AB]
Branch Manager - Alberta

Reviewed by,
LRI ENGINEERING

Jin Chen, P.Eng.
Associate

NFPA 13 Water Volume Estimate Analysis	
LRI Engineering	
Date	21-Aug-25
Site	5923 Ottawa Street
Prepared By	Matthew Hopley
Reviewed By	Jin Chen

Building 1

Safety Margin on Sprinkler only
20%

	Area (ft2)	Density (gpm/ft2)	Volume (gpm)	Duration (minutes)	Capacity (L)	Hose Demand (gpm)	Duration (minutes)	Capacity (L)	Combined (L)	Shuttling Allowance (lpm)	Duration (minutes)	Total Storage Volume (L)
Grain Handling (OH2)	238	0.2	47.6	60	**10,810**	250	60	56,700	69,672	-1,893	60	-43,878
Brewing and Bottling/Process (DISCUS)	3000	0.2	600	60	**136,260**	250	60	56,700	220,212	-1,893	60	106,662
Boiler Room (OH1)	277	0.15	41.55	60	**9,436**	250	60	56,700	68,023	-1,893	60	-45,527
Distillery (DISCUS)	965	0.2	193	90	**65,745**	500	90	170,100	248,995	-1,893	90	78,670
Distillery (as EH1 for AS)	965	0.3	289.5	90	**98,618**	500	90	170,100	288,442	-1,893	90	**118,117**
Office Mezzanine (LH)	1182	0.1	118.2	30	**13,422**	100	30	11,340	27,446	-1,893	30	-29,329
Kitchen (OH1)	190	0.15	28.5	60	**6,472**	250	60	56,700	64,467	-1,893	60	
Bar (LH) (limited to 1500 ft2)	1632	0.1	150	30	**17,033**	100	30	11,340	31,779	-1,893	30	
Kitchen + Bar					**23,505**	250	60	56,700	84,906	-1,893	60	-28,644
Retail (OH2)	885	0.15	132.75	60	**30,148**	250	60	56,700	92,877	-1,893	60	-20,673

Building 2

Safety Margin on Sprinkler only
20%

	Area (ft2)	Density (gpm/ft2)	Volume (gpm)	Duration (minutes)	Capacity (L)	Hose Demand (gpm)	Duration (minutes)	Capacity (L)	Combined (L)	Shuttling Allowance (lpm)	Duration (minutes)	Total Storage Volume (L)
Mashing (DISCUS), 2000 sqft max area	6050	0.2	400	60	**90,840**	250	60	56,700	165,708	-1,893	60	52,158
Bottling, 3000 sqft max area	2370	0.2	474	60	**107,645**	500	60	113,400	242,574	-1,893	60	**129,024**
Office and admin (light hazard)	1095	0.1	109.5	30	**12,434**	100	30	11,340	26,260	-1,893	30	-30,515
Storage mezzanine (OH2)	1185	0.2	237	60	**53,823**	250	60	56,700	121,287	-1,893	60	7,737

August 21, 2025

Jack Gulas
Stratford Foxrun
6286 Prince of Wales Drive
North Gower, ON
K0A 2T0

EMAIL: jack@stratfordfoxrun.com
CC: josh.laginski@outlook.com

Dear Jack:

RE: 5923 OTTAWA STREET OCCUPANCY ALTERNATIVE SOLUTION ROADMAP LRI FILE 2025-08-0269

INTRODUCTION

The project at 5923 Ottawa Street, Ottawa, ON includes two buildings on one site to be used for a mix of industrial and assembly occupancies. This letter is intended to help provide relevant information regarding the intended design and compliance process relative to the occupancy classification for the distillery building (Building 1). This letter's framework (or roadmap) summarizes important parts of the analysis that have been undertaken for the project, as well as future elements to be incorporated into the design of the building to align the design and use of the building to meet the level of safety required by the OBC. The overall approach will require an alternative solution to be submitted as part of the building permit process. This letter is not considered to be a formal alternative solution, but is instead, intended to allow project stakeholders to understand what future submissions will include to help inform processes such as development permit approval.

CONCEPT DISCUSSION

Building 1 at 5923 Ottawa Street, Ottawa, ON will include a distillery, some mezzanine offices, a bar/tasting area, a retail store, and an outdoor patio. The second building (Building 2) is an industrial building intended to comply with the acceptable solutions of the building code and is understood to be treated primarily as a Group F, Division 2 major occupancy (with other lower hazard subsidiary occupancies).

Buildings are required to be classified as a function of their major occupancies. OBC Article 3.1.2.1 specifies that a building is to be classified in conformance with this Article and includes Appendix A, Division B-3.1.2.1.(1) which gives examples of various occupancies, including distilleries as an example of a Group F, Division 1 high hazard industrial occupancy.

Similarly, OFC Sentence 4.9.1.1.(2) outlines that the "parts of a building in which distilled beverage alcohol is distilled, processed or stored in bulk shall be classified as high hazard industrial occupancies".

The definition of distillery is generally understood to have not considered the potential for smaller operations. Conversely, "craft" or "micro" distilleries are not defined in any meaningful sense within the Building/Fire codes. Notwithstanding, absent a definition of "sufficient quantities" and "special fire hazard", the strict application of the Code to all distilleries in all cases fails to acknowledge that where the quantities of alcohol are moderate and where fire safety features are sufficient, the level of risk of craft distilleries can be managed to an extent where the hazard is comparable to a medium-hazard industrial occupancy.

As a result, consideration pertaining to the OBC and the construction of distilleries must be reviewed in order to develop a compliant structure. The approach to protection in this design intends to incorporate features which limit the potential for fires and explosion with multiple layers of active and passive fire safety features. Explosion risks are mitigated by reducing the probability of an explosion occurring in the first place, rather than mitigating the consequence of the explosion through deflagration venting which offers little protection to those near the hazard. In addition to the use of mitigating design features, the use of a risk index serves to quantify what can be considered a "special fire hazard", and at what point a fire hazard is no longer "special". This risk indexing demonstrates that in combination with the safety features described in this report, that restricting the size and risks posed by the distillery itself further meets the requirements of the Code.

As this is a small craft distillery which processes and produces significantly smaller amounts of products, it is proposed that the hazard associated with the operation is considerably lower than the original intent of the Code, which did not consider the potential for smaller craft-style distilleries. The conclusion of this report is that where a sufficiently small, appropriately fire-protected distillery is installed in a building, the level of risk presented by the craft distillery is at least as low as a comparable medium-hazard industrial Group F, Division 2 occupancy. The future alternative solution will also provide details on requirements from the Building and Fire Codes which are considered essential for distillery operations of any size. The sections of this letter below provide an overview of how the subject distillery will be assessed in terms of occupancy classification, and outline the provided means to mitigate the design related risk to a level that aligns with the OBC requirements for medium-hazard industrial occupancies.

BUILDING DESCRIPTION

The subject site includes a distillery within Building 1, which consists of the following:

- One storey in building height, with mezzanine
- 8.5 m in height
- 647 m^2 in building area
- Sprinklered throughout
- Occupancies include:
    - Distillery
    - Offices
    - Bar/assembly
    - Retail

DISTILLERY PROCESS DESCRIPTION

The distillery portion of the building (still house) consists of distillation equipment located in one fire compartment within Building 1. The still house will be fire separated from the remainder of the building and includes the following equipment that includes alcohol above 20% ABV (which is the concentration at which the OFC defines the subject liquids as distilled beverage alcohol).

- Four totes containing 2,000 L each (8,000 L);
- One Doubler containing 500 L;
- One Pot Still containing 3,500 L;
- Two column Stills containing approximately 100 L each during use (200 L);

The total volume of higher proof ethanol above 20% ABV then totals approximately 12,200 L at varying concentrations above 20% ABV, ranging up to 95% ABV at the highest concentration.

CODE REQUIREMENTS

When assessing required fire safety features, it is important to assess the overall risk that a given process presents, which considers both the probability and magnitude of various hazards. In order to effectively analyze, identify, and mitigate the relevant hazards, a rigorous, practical, repeatable, and industry-accepted methodology needs to be applied. The objective of the assessment is to review a proposed process (the distillery), assess the hazards, and where necessary, add mitigating measures to reduce the level of risk such that it aligns with that accepted by the OBC.

Ultimately, the assessment in the future alternative solution will demonstrate that the occupancy will present a comparable level of risk as that posed by a medium-hazard industrial occupancy. The assessment considers more simplistic properties, such as fuel load concentrations, but also incorporates more advanced assessments to better highlight where necessary process changes or additional protection may be required.

METHODOLOGY

To mitigate the potential damage and harm that could arise from a fire or explosion occurring from within the distillery portion of the building, extra protection measures will be provided to both reduce the probability of explosions and limit the consequences of a fire or explosion should one occur. A measure must be provided to demonstrate that the proposed design mitigates the risks of fires and explosions to the level required by Code to permit the classification of the unit as a Group F, Division 2 major occupancy. For this project, it is proposed to use the DOW Fire and Explosion risk index (DOW F&EI) to provide a quantitative, relative measurement of the site's risk profile.

Fire risk indexes serve a role in fire protection by striking a balance between qualitative approaches which may or may not provide adequate detail or granularity, and fully quantitative methods which can be expensive, labour intensive, slow, and which tend to require specialist knowledge to adequately judge. "[The DOW F&EI guide] is intended to provide a direct and logical approach for determining the probable "risk exposure" of a process plant and to suggest approaches to fire protection and loss prevention design. An important application of the F&EI is to help decide when a more detailed quantitative risk analysis is warranted, as well as the appropriate depth of such a study"[1].

[1] Society of Fire Protection Engineers, SFPE Handbook of Fire Protection Engineering, 5th Edition, page 3162

The DOW F&EI method was developed by the Dow Chemical corporation where the first edition was released in 1964. Since its first release, the index has been used by DOW and other entities in the chemical industry. The current version, the 7th edition was released in 1994 and is still in use today. The DOW F&EI is "the leading hazard index recognized by the chemical industry" and "provides key information to help evaluate the overall risk from fire and explosion"[2]. The method follows a regimented step-by-step process which is applied to each process unit of a plant. Expertise in selecting specific penalty values is needed, but the available guide to how each should be applied helps explain the rationale behind selecting certain values.

The full DOW F&EI follows a thirteen-step process to determine a variety of outputs which includes the index score, the area of exposure, a damage factor, and additional economic measurements used to analyse process plant layouts and designs. For the purpose of this analysis, the critical output of the analysis is to assess the F&EI score. This score is a function of the process material factor, general process hazard penalties, and special process hazard penalties.

The base score without loss control credit factors applied will be reviewed. Furthermore, an offset version of the score will be reviewed considering the methods proposed by Gupta3. The base DOW F&EI score will be considered appropriate where it does not exceed the threshold for "intermediate" hazards (a score of 127 or lower in the DOW F&EI). The offset score will be evaluated, and relevant mitigating features will be added to achieve an offset score in the "moderate" hazard range (a score of 96 or lower). Scores below this threshold can generally be managed through standard fire protection and building design measures, would not represent a special fire hazard, and would more closely align with the hazards typical of a medium-hazard industrial occupancy.

DEGREE OF HAZARD FOR F&EI	
F&EI INDEX RANGE	**DEGREE OF HAZARD**
1 - 60	Light
61 - 96	Moderate
97 - 127	Intermediate
128 - 158	Heavy
159 - up	Severe

TYPICAL MITIGATING MEASURES

As outlined in the previous section, the use of the DOW F&EI analysis will firstly evaluate the proposed process and associated process units within the still house. Where a given process unit (or the collective group of units) produces an unacceptably high index score, the process can be adjusted to present a lower overall risk. Ways to address the raw hazard index score include process equipment changes like volume or operating pressure, ventilation within the process unit area, improving spill control or drainage, amongst other inherent features within the distillery area. The processes would be adjusted such that the raw score remains in the acceptable range (127 or lower) as indicated above, and then

[2] American Institute of Chemical Engineers, DOW's Fire & Explosion Index Hazard Classification Guide, 7th Edition, 1994, Page 1.
[3] J.P Gupta, G. Khemani, M. S. Mannan, "Calculation of Fire and Explosion Index (F&EI) value for the Dow Guide taking credit for the loss control measures", Journal of Loss Prevention in the Process Industries, Issue 16, 2003, pages 235-241.

mitigating features are added to the building design to reduce that score to an "offset" value that is in the "moderate" range or below.

The following offset measures are used in the DOW F&EI and can be considered as the design develops and have been used in various distilleries, but for clarity, are not all necessarily required pending design development:

- Emergency power;
- Emergency cooling systems;
- Explosion control;
- Emergency shutdown systems;
- Computer control (as opposed to manual process units);
- Written/detailed operating instructions (including emergency procedures);
- Leak detection;
- Sprinkler systems;
- Hand extinguishers/monitors.

From an OBC and OFC perspective, the following features must be considered and, where deemed necessary, incorporated into a given design in order to assess a given craft distillery as a medium-hazard industrial occupancy and to meet the objective and functional statements:

Rapid fire spread mitigation	**Explosion risk mitigation**
Limited maximum capacities of flammable liquids	Flammable vapour detection
Emergency containment and drainage	Closures and if they must be integrated with an LEL detection system
Enhanced sprinkler protection within the distillery	Integration of LEL detection system and fire alarm system
Fire separations between occupancies and from exits	Ventilation throughout distillery
Noncombustible construction, with combustible elements only where it is permissible	Still pressure relief and tank venting routed to the outside, with flame arrestors on vents
Combustible content limits below those historically associated with high-hazard industrial occupancies, and which align well with modern medium-hazard industrial occupancies	Appropriate pressure relief of still equipment
	Still pressure monitoring
	Process interlocks (both for still piping and ventilation)
	Classified electrical equipment within hazardous areas
	Indirect fired stills, no open flames to heat process equipment
	Computer temperature still control

By completing this analysis, adjusting necessary design parameters within the context of the building permit submission package alongside the responsible Professionals, it will be shown that the process units and proposed occupancy classification can align with the requirements for a Group F, Division 2 medium-hazard industrial occupancy.

OTHER APPROVED DISTILLERIES

A range of distilleries have been analyzed and approved using the method outlined above, with LRI's involvement including:

- Ogham Craft Spirits Micro-Distillery, Ottawa, ON
- Burwood Distillery, Calgary, AB
- True Wild Distillery, Calgary, AB
- Spirit in Niagara Distillery, Niagara, ON

CONCLUSION

The proposed project to be located at 5923 Ottawa Street, Ottawa, includes two buildings located on one site. Building 1 includes a distillery area within the building to be used for the production of craft spirits. Since this necessarily involves the production and handling of distilled beverage alcohol, as indicated by the OBC Appendix and OFC, the acceptable solutions would ordinary mandate this be classified as a Group F, Division 1 high hazard industrial occupancy. As explained in this letter, these requirements have historically been included as a result of prior production volume mandates and used for large-scale industrial processes. No consideration is given in either code for the size, volume, and protective features that might be included in a distillery which can thereby reduce the overall risk to a level below a "special fire hazard", the defining characteristic of this occupancy's definition.

As such, the distillery occupancy in Building 1 is proposed to be analyzed using a combination of fuel load assessment and semi-quantitative risk indexing to confirm the overall risk level that the craft distillery poses. Once analyzed, appropriate and necessary fire and explosion protection features will be added in order to mitigate the level of risk presented by the distillery to align with that permitted by Group F, Division 2, medium hazard industrial occupancies. As such, the OBC-related design features, and related engineering design, should consider the building as a Group F, Division 2 occupancy, while distillery-specific protective features will be incorporated as outlined above to protect the distillery and adjacent areas. This approach has been applied, accepted, and built in a number of jurisdictions using the same rationale and design approach, further demonstrating its acceptability in principal.

Sincerely,
LRI ENGINEERING

Matthew Hopley, M.Eng., P.Eng [AB]
Branch Manager - Alberta

Reviewed by,
LRI ENGINEERING

Jin Chen, M.Eng., P.Eng.
Associate

APPENDIX D
SANITARY DESIGN

CCO-25-0415 - 5923 Ottawa Street - Sanitary Demands - Phase 1

Project:	5923 Ottawa Street
Project No.:	CCO-25-0415
Designed By:	FV
Checked By:	JB
Date:	May 5, 2025

Site Area	0.48	Gross ha

Commercial Area (Retail)	90	m^2
Industrial - Light (Distillery)	432	m^2
Restaurant	363	m^2

DESIGN PARAMETERS

Institutional/Commercial Peaking Factor	1.5	
Mannings coefficient (n)	0.013	
Infiltration allowance	0.33	L/s/Ha

EXTRANEOUS FLOW ALLOWANCES

Infiltration / Inflow	Flow (L/s)
Dry	0.02
Wet	0.13
Total	0.16

AVERAGE DAILY DEMAND

DEMAND TYPE	AMOUNT	UNITS	POPULATION / AREA	Flow (L/s)
Residential	280	L/c/d		0.0
Industrial - Light**	35,000	L/gross ha/d	0.04	0.02
Industrial - Heavy**	55,000	L/gross ha/d		0
Commercial / Amenity	2,800	L/(1000m^2/d)	90	0.00
Restaurant	125	L/(9.2m^2/d)	363	0.06
Schools	70	L/(Student/d)		0
Trailer Parks no Hook-Ups	340	L/(space/d)		0
Trailer Park with Hook-Ups	800	L/(space/d)		0
Campgrounds	225	L/(campsite/d)		0
Mobile Home Parks	1,000	L/(Space/d)		0
Motels	150	L/(bed-space/d)		0
Hotels	225	L/(bed-space/d)		0
Office	75	L/7.0m^2/d		0
Tourist Commercial	28,000	L/gross ha/d		0
Other Commercial	28,000	L/gross ha/d		0

AVERAGE RESIDENTIAL FLOW	0.00	L/s
PEAK RESIDENTIAL FLOW	0.00	L/s
AVERAGE ICI FLOW	0.08	L/s
TOTAL PEAK ICI FLOW	0.12	L/s

TOTAL SANITARY DEMAND

TOTAL ESTIMATED AVERAGE DRY WEATHER FLOW	0.10	L/s
TOTAL ESTIMATED PEAK DRY WEATHER FLOW	0.14	L/s
TOTAL ESTIMATED PEAK WET WEATHER FLOW	0.27	L/s

CCO-25-0415 - 5923 Ottawa Street - Sanitary Demands - Phase 2

Project:	5923 Ottawa Street
Project No.:	CCO-25-0415
Designed By:	FV
Checked By:	JB
Date:	May 5, 2025

Site Area	0.45	Gross ha
Industrial - Light (Distillery)	926	m^2

DESIGN PARAMETERS

Institutional/Commercial Peaking Factor	1.5	
Mannings coefficient (n)	0.013	
Infiltration allowance	0.33	L/s/Ha

EXTRANEOUS FLOW ALLOWANCES

Infiltration / Inflow	Flow (L/s)
Dry	0.02
Wet	0.13
Total	0.15

AVERAGE DAILY DEMAND

DEMAND TYPE	AMOUNT	UNITS	POPULATION / AREA	Flow (L/s)
Residential	280	L/c/d		0
Industrial - Light**	35,000	L/gross ha/d	0.04	0.02
Industrial - Heavy**	55,000	L/gross ha/d		0
Commercial / Amenity	2,800	L/(1000m²/d)		0
Restaurant	125	L/(9.2m²/d)		0
Schools	70	L/(Student/d)		0
Trailer Parks no Hook-Ups	340	L/(space/d)		0
Trailer Park with Hook-Ups	800	L/(space/d)		0
Campgrounds	225	L/(campsite/d)		0
Mobile Home Parks	1,000	L/(Space/d)		0
Motels	150	L/(bed-space/d)		0
Hotels	225	L/(bed-space/d)		0
Office	75	L/7.0m^2/d		0
Tourist Commercial	28,000	L/gross ha/d		0
Other Commercial	28,000	L/gross ha/d		0

AVERAGE RESIDENTIAL FLOW	0.00	L/s
PEAK RESIDENTIAL FLOW	0.00	L/s
AVERAGE ICI FLOW	0.02	L/s
TOTAL PEAK ICI FLOW	0.03	L/s

TOTAL SANITARY DEMAND

TOTAL ESTIMATED AVERAGE DRY WEATHER FLOW	0.04	L/s
TOTAL ESTIMATED PEAK DRY WEATHER FLOW	0.05	L/s
TOTAL ESTIMATED PEAK WET WEATHER FLOW	0.17	L/s

Rideau Valley Conservation Authority

Application for a Permit to Construct or Demolish

This form is authorized under subsection 8(1.1) of the *Building Code Act, 1992*

For use by Principal Authority	
Application number:	Permit number (if different):
Date received:	Roll number:

RVCA RECEIVED
JUN 09 2025
REFER TO:

SEPTIC FILE # 25-176
OTTAWA

Application submitted to: Ottawa Septic System Office
(Name of municipality, upper-tier municipality, board of health or conservation authority)

A. Project information

Building number, street name	Unit number	Lot/con.
5923 Ottawa street		

Municipality	Postal code	Plan number/other description
Ottawa (Richmond)	K0A 2Z0	

Project value est. $	Area of work (m^2)

B. Purpose of application

☑ New construction ☐ Addition to an existing building ☐ Alteration/repair ☐ Demolition ☐ Conditional Permit

Proposed use of building	Current use of building
Commercial	

Description of proposed work

To construct a new class 4 sewage system, Eljen NSF 245 Denitrification treatment system: Eljen DN450

Sewage System 'A'

C. Applicant

Applicant is: ☐ Owner or ☑ Authorized agent of owner

Last name	First name	Corporation or partnership	
Van de Glind	Hendrik	Paterson Group Inc.	
Street address		**Unit number**	**Lot/con.**
9 Auriga Drive			
Municipality	**Postal code**	**Province**	**E-mail**
Ottawa	K2E 7T9	ON	hvandeglind@patersongroup.ca
Telephone number	**Fax**		**Cell number**
613-226-7381			

D. Owner (if different from applicant)

Last name	First name	Corporation or partnership	
Gulas	Jack	99117756 Canada Inc.	
Street address		**Unit number**	**Lot/con.**
411 Leggett Drive, Suite 710			
Municipality	**Postal code**	**Province**	**E-mail**
Ottawa	K2K 3C9	ON	jack@stratfordfoxrun.com
Telephone number	**Fax**		**Cell number**
613-862-0087			

E. Builder (optional)

Last name	First name	Corporation or partnership (if applicable)	
Street address		Unit number	Lot/con.
Municipality	Postal code	Province	E-mail
Telephone number	Fax	Cell number	

SEPTIC FILE
25-176
OTTAWA

RVCA RECEIVED
JUN 09 2025
REFER TO:

F. Tarion Warranty Corporation (Ontario New Home Warranty Program)

i. Is proposed construction for a new home as defined in the *Ontario New Home Warranties Plan Act*? If no, go to section G.	☐ Yes	☑ No
ii. Is registration required under the *Ontario New Home Warranties Plan Act*?	☐ Yes	☑ No

iii. If yes to (ii) provide registration number(s): _____

G. Required Schedules

i) Attach Schedule 1 for each individual who reviews and takes responsibility for design activities.

ii) Attach Schedule 2 where application is to construct on-site, install or repair a sewage system.

H. Completeness and compliance with applicable law

i) This application meets all the requirements of clauses 1.3.1.3 (5) (a) to (d) of Division C of the Building Code (the application is made in the correct form and by the owner or authorized agent, all applicable fields have been completed on the application and required schedules, and all required schedules are submitted).	☑ Yes	☐ No
Payment has been made of all fees that are required, under the applicable by-law, resolution or regulation made under clause 7(1)(c) of the *Building Code Act, 1992*, to be paid when the application is made.	☑ Yes	☐ No
ii) This application is accompanied by the plans and specifications prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992*.	☑ Yes	☐ No
iii) This application is accompanied by the information and documents prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992* which enable the chief building official to determine whether the proposed building, construction or demolition will contravene any applicable law.	☑ Yes	☐ No
iv) The proposed building, construction or demolition will not contravene any applicable law.	☑ Yes	☐ No

I. Declaration of applicant

I Hendrik Van de Glind, L.E.T., C.E.T. - Paterson Group declare that:
(print name)

1. The information contained in this application, attached schedules, attached plans and specifications, and other attached documentation is true to the best of my knowledge.
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

June 6, 2025 _____
Date Signature of applicant

Personal information contained in this form and schedules is collected under the authority of subsection 8(1.1) of the *Building Code Act, 1992*, and will be used in the administration and enforcement of the *Building Code Act, 1992*. Questions about the collection of personal information may be addressed to: a) the Chief Building Official of the municipality or upper-tier municipality to which this application is being made, or, b) the inspector having the powers and duties of a chief building official in relation to sewage systems or plumbing for an upper-tier municipality, board of health or conservation authority to whom this application is made, or, c) Director, Building and Development Branch, Ministry of Municipal Affairs and Housing 777 Bay St., 2nd Floor. Toronto, M5G 2E5 (416) 585-6666.

Rideau Valley Conservation Authority

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information

Building number, street name	Unit no.	Lot/con.
5923 Ottawa Street		

Municipality	Postal code	Plan number/ other description
Ottawa (Richmond)	K0A 2Z0	

B. Individual who reviews and takes responsibility for design activities

Name	Firm
Hendrik Van de Glind, L.E.T., C.E.T.	Paterson Group Inc.

Street address	Unit no.	Lot/con.
9 Auriga Drive		

Municipality	Postal code	Province	E-mail
Ottawa	K2E 7T9	ON	hvandeglind@patersongroup.ca

Telephone number	Fax number	Cell number
613-226-7381		

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☐ Building Structural
☐ Small Buildings	☐ Building Services	☐ Plumbing – House
☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☑ On-site Sewage Systems

Description of designer's work: On-site Sewage System Design

SEPTIC FILE # 25 - 176

OTTAWA

D. Declaration of Designer

I Hendrik Van de Glind, L.E.T., C.E.T. - Paterson Group declare that (choose one as appropriate):

(print name)

I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: 111499

Firm BCIN: 29346

RVCA RECEIVED
JUN 09 2025

I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.

Individual BCIN: _____

Basis for exemption from registration: _____

The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

June 6, 2025
Date

Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) (c).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

Rideau Valley Conservation Authority

Schedule 2: Sewage System Installer Information

A. Project Information			
Building number, street name: 5923 Ottawa Street		Unit number	Lot/con.
Municipality: Ottawa (Richmond)	Postal code: K0A 2Z0	Plan number/ other description	

B. Sewage system installer

Is the installer of the sewage system engaged in the business of constructing on-site, installing, repairing, servicing, cleaning or emptying sewage systems, in accordance with Building Code Article 3.3.1.1, Division C?

☐ Yes (Continue to Section C) ☐ No (Continue to Section E) ☑ Installer unknown at time of application (Continue to Section E)

C. Registered installer information (where answer to B is "Yes")			
Name			BCIN
Street address			Unit number / Lot/con.
Municipality	Postal code	Province	E-mail
Telephone number	Fax		Cell number

D. Qualified supervisor information (where answer to section B is "Yes")	
Name of qualified supervisor(s)	Building Code Identification Number (BCIN)

SEPTIC FILE # 25-176 OTTAWA

E. Declaration of Applicant:

I Hendrik Van de Glind, L.E.T., C.E.T. - Paterson Group declare that:
(print name)

I am the applicant for the permit to construct the sewage system. If the installer is unknown at time of application, I shall submit a new Schedule 2 prior to construction when the installer is known;

OR

I am the holder of the permit to construct the sewage system, and am submitting a new Schedule 2, now that the installer is known.

RVCA RECEIVED JUN 09 2025 REFER TO:

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

June 6, 2025 (Date)

Hy Van de Glind (Signature of applicant)

Rideau Valley Conservation Authority

Schedule 4: Proposed Services

Complete Sections ❶ through ❼

Do Not Complete

Permit number:	Revision number:	Date

❶ Engineered
- ☒ Yes
- ☐ No

❷ Water supply
- ☒ Proposed
- ☐ Existing

❸ Use
- ☐ Apartment
- ☐ Dwelling
- ☒ Commercial
- ☐ Industrial

SEPTIC FILE # 25-176 OTTAWA

❹ Type of work proposed
- ☒ New Installation
- ☐ Replacement
- ☐ Alteration

❺ Type of Well
- ☐ Dug/Bored/Sandpoint well
- ☒ Drilled well
- ☐ Municipal
- ☐ Other

❻ Residential Sewage Design Flow Info.

Bedrooms _____

House (floor area) _____ m^2

People _____

Total Fixture Units _____ (Schedule 8)

Residential Flow _____ L/day

❼ Sewage Design Flow Other Occupancies

Design Flow 9367 L/day

Detailed sewage flow calculations:

Refer to PGI Drawings No. PH4924-2(rev.3)

RVCA RECEIVED JUN 09 2025 REFER TO:

❽ Type of System

- ☐ Class 2 – Leaching Pit
- ☐ Class 3 – Cesspool

Treatment Unit Eljen GSF A-42 (DN450)

- ☐ **Class 4 – Trench** (Schedule 9)
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 4 – Filter Media** (Schedule 10)
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 4 – Shallow Buried Trench**
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☒ **Class 4 – BMEC Area Bed** (Schedule 11)
  - ☒ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 4 – "Type A" Dispersal** (Schedule 13)
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 4 – "Type B" Dispersal** (Schedule 14)
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 5 – Holding Tank** (9000L min)
  - ☐ Tank/TreatmentUnit/PumpChamber ONLY
  - ☐ Effluent Filter/Risers ONLY
  - ☐ Other _____

SEPTIC FILE # 25-176 OTTAWA

Rideau Valley Conservation Authority

Schedule 5: Sewage System Details

Do Not Complete

Permit number:	Revision number:	Date

Complete below

Type of System Eljen GSF A-42 Modules (DN 450) (Schedule 4)

Septic/Holding Tank Size: 28,101 (Litres) Make: _____

Septic Tank Effluent Filter Make: OBC Approved Model: (Polylok PL-525 or equivalent)

Treatment Unit - Make & Model: Eljen GSF A-42 Modules (DN450)

Number of Units: 110

Refer to Typical Drawing #: PH4924-1&2(rev.3)

Pump ■ Syphon ☐

Pump(s) required: Yes

Pump Rate: 391 + Charge L/~~15min~~ Hour

Mantle Information

Native or imported=min. 15m in N/A direction(s)

Slope subgrade _____ % slope

_____ direction(s)

Note: Alarm required for all pumping systems

Installed ☐ Inside ☐ Outside TBD By Installer @ time of Installation

Site to be Scarified (If clay) Yes ■ No ☐ Clay Seal Required (If bedrock) Yes ☐ No ☐

☐ **Trench**

Distribution Pipe Length _____ m

Loading Area _____ m^2

Type of Chamber _____

Length of Chamber _____ m

☐ **Dispersal Bed**

■ **BMEC** ☐ **Type A** ☐ **Type B**

Stone N/A m^2

Sand 837.9 m^2

Pipe 134.2 m^2

Linear Loading 11.2 L/m^2

☐ **Shallow Buried Trench**

Pipe Length _____ m^2

Pipe _____

☐ **Filter Media Bed**

Stone _____ m

Extended Base _____ m^2

Pipe _____

Weight of Filter Media _____ Kg

Loading Area _____ m^2

RVCA RECEIVED JUN 09 2025 REFER TO: _____

☐ Tank/Treatment Unit/Pump Chamber Replacement **ONLY**

☐ Effluent Filter & Riser **ONLY**

Construction Notes: _____

SEPTIC FILE # 25-176

RVCA RECEIVED
JUN 09 2025
TO: OTTAWA

Rideau Valley Conservation Authority

Schedule 6: Soil and Water Table Information (Minimum depth of test pit: 2 metres)

Do Not Complete

Permit number:	Revision number:	Date

Name of Applicant/Agent: Paterson Group Inc.

Date: June 17, 2024 Time: _____

Applicant/Agent Signiture: _____

Inspector: _____

Date: _____ Time: _____

Inspector Signiture: _____

EG (__) | **Soil Description**

___ m — Refer to PGI DWG

___ m — PH4924-2(rev.3)

___ m

___ m

___ m

___ m

Professional Engineers Ontario

Licensed Engineering Technologist

Name: H. G. VAN DE GLIND
Number: 100647862
Limitations: Inspecting, designing, and assessing residential and commercial sewage systems, grading designs and soil analysis, and overseeing installation and compliance

Association of Professional Engineers of Ontario

T-time 35 **Min/cm**

EG (__) | **Soil Description**

___ m

___ m

___ m

___ m

___ m

___ m

Test pits not available for inspection. Engineer assumes all liability for soil and HGWT info/elev's.

T-time _____ **Min/cm**

EG (__) | **Soil Description**

___ m

___ m

___ m

___ m

___ m

___ m

T-time _____ **Min/cm**

EG (__) | **Soil Description**

___ m

___ m

___ m

___ m

___ m

___ m

T-time _____ **Min/cm**

Legend

BR	Bedrock	**GWT**	Ground water table
HGWT	High ground water table	**M**	metres
EG	Existing grade	**T**	percolation rate

Schedule 7: Layout Section

Do Not Complete

Permit number:	Revision number:	Date

Scale: 1 Block = _____

○ Dug Well
● Drilled Well
▲ Neighbouring Homes
◊ Benchmark
----- Tile Drainage
___ Property Line

SEPTIC FILE #
25-176
OTTAWA

RVCA RECEIVED
JUN 09 2025
REFER TO: _____

Elevations (metric only)
B.M. 94.86 m
B.M Description Top of spike in hydro pole across from East Property Line of 5935 Ottawa Street
Exact Loaction _____

Min. of 5 elevations in proposed system area (in X pattern)

X_1 _____ X_2 _____
X_3 _____ X_4 _____
X_5 _____ X_6 (toe) _____
X_7 _____ X_8 _____

SEPTIC FILE # 25-176

RVCA RECEIVED JUN 09 2025 REFER TO:

Rideau Valley Conservation Authority

Schedule 8: Fixture unit count

Do Not Complete

Permit number:	Revision number:	Date

Fixtures	# Existing	+	# Proposed	X	unit count	=	Fixture Count
Bathroom							
Bathroom group (toilet, sink and tub or shower) installed in the **same room**		+		X	6	=	0.00
Bathtub with/without overhead shower		+		X	1.5	=	0.00
Shower stall		+		X	1.5	=	0.00
Wash basin (SINK) (1½ inch trap)	6	+		X	1.5	=	9.00
Watercloset (TOILET) tank operated	6	+		X	4	=	24.00
Bidet		+		X	1	=	0.00
Kitchen							
Dishwasher	2	+		X	1	=	2.00
Sink with/without garbage grinder(s), domestic and other small type single, double or 2 single with a common trap	5	+		X	1.5	=	7.50
Other							
Domestic washing machine		+		X	1.5	=	0.00
Combination sink and laundry tray single or double (Installed on 1½ trap)		+		X	1.5	=	0.00
					Total*	=	42.50

***Insert the TOTAL in section 5 of Schedule 4 (0.Reg 151/13 Table 7.4.9.3)**

1. Sump pumps and floor drains are not to be connected to the sewage system. Connection of such fixtures to a sewage system may lead to a hydraulic failure of the said system. The above mentioned fixtures should be discharged separately to an approved Class 2 (leaching pit) sewage system.

2. Where laundry waste is not more than 20% of the total daily design sanitary sewage flow, it may discharge to a sewage system (Part 8, OBC, 8.1.3.1(2)).

Agent/Owner signature

June 6, 2025

Date

ROAD ALLOWANCE BETWEEN LOTS 25 & 26 CONCESSION 3

TIC FILE # 25 - 177 OTTAWA

SEPTIC FILE # 25 - 176 OTTAWA

RECEIVED 9 2025

NOTE:

SEWAGE SYSTEM 'B' HAS BEEN DESIGNED BASED ON *PATERSON GROUP REPORT PH4924-LET.01*

TOTAL DESIGN DAILY SANITARY SEWAGE FLOW (T.D.D.S.S.F.) OR "Q" = 600 L/DAY WHEN BALANCED OVER 7 DAYS.

NATIVE SOILS = GLACIAL TILL TO SILTY CLAY = T = 40 min/cm

MINIMUM NITRATE REDUCTION LEVEL REQUIRED = 50% AS PER PATERSON GROUP REPORT No. *PH4924-LET.01*

ELJEN DN450 SHALL BE USED TO ACHIEVE THE MINIMUM REQUIRED NITRATE REDUCTION.

PRESENTLY PROPOSED ELEVATIONS ARE BASED OFF THE EXISTING TOPOGRAPHIC INFORMATION. THE PROPOSED LOT GRADING AND DRAINAGE ASSOCIATED WITH THE PROPOSED ADDITION MAY AFFECT THESE ELEVATIONS.

NOTE:

SEWAGE SYSTEM 'A' HAS BEEN DESIGNED BASED ON *PATERSON GROUP REPORT PH4924-LET.01*

TOTAL DESIGN DAILY SANITARY SEWAGE FLOW (T.D.D.S.S.F.) OR "Q" = 9,367 L/DAY WHEN BALANCED OVER 7 DAYS.

NATIVE SOILS = GLACIAL TILL TO SILTY CLAY = T = 35 min/cm

MINIMUM NITRATE REDUCTION LEVEL REQUIRED = 50% AS PER PATERSON GROUP REPORT No. *PH4924-LET.01*

ELJEN DN450 SHALL BE USED TO ACHIEVE THE MINIMUM REQUIRED NITRATE REDUCTION.

PRESENTLY PROPOSED ELEVATIONS ARE BASED OFF THE EXISTING TOPOGRAPHIC INFORMATION. THE PROPOSED LOT GRADING AND DRAINAGE ASSOCIATED WITH THE PROPOSED ADDITION MAY AFFECT THESE ELEVATIONS.

PART 1 R.P 4R-13387

PART 4 R.P 4R-7050

N42°37'20"W

N42°32'25"W

100mmØ PVC PIPE TO BE INSTALLED @ 2% (min.) SLOPE AND SHALL BE SLEEVED THROUGH A 150mm Ø PVC SDR28 PIPE AND OVERLAIN BY 75mm T x 600mm W RIGID INSULATION BOARDS UNDER ASPHALT. PATERSON TO REVIEW COVER UPON COMPLETION OF LOT GRADING AND DRAINAGE.

3m L - 100mmØ PVC PIPE WITH ELBOW @ 2% (min.) SLOPE

TYP.
2 OUTLET DISTRIBUTION BOX C/W INLET BAFFLE AND POLYLOK FLOW EQUALIZERS
INLET INV. 94.90m(min.)
OUTLET INV. = 94.80m (min.)

ELJEN SAMPLING PAN
- INSTALL COLLECTION PLATES AS PER MANUFACTURER SPECIFICATIONS

2 RUNS OF 4 ELJEN GSF A-42 MODULES
MODULAR BASE ELEV. @ HEAD = 94.42m
MODULAR BASE ELEV. @ FOOT = 94.40m

TYP.
100mmØ VENT PIPE INSTALLED IN 150mmØ LANDSCAPE VALVE COVER

TYP.
100mmØ SOLID PVC FOOTER PIPE
INV. = 94.58m

SS 'B'

BH 1-25
94.07
(93.63)

NOTE:
SNOW STORAGE SHALL NOT BE LOCATED OVER OR UPGRADIENT OF THE PROPOSED SEWAGE SYSTEM.

NOTE:
SNOW STORAGE SHALL NOT BE LOCATED OVER OR UPGRADIENT OF THE PROPOSED SEWAGE SYSTEM.

TYP.
100mmØ VENT PIPE INSTALLED IN 150mmØ LANDSCAPE VALVE COVER

TYP.
100mmØ SOLID PVC FOOTER PIPE
INV. = 94.78m

100mmØ PERFORATED PVC SEPTIC PIPE INSTALLED @ APPROX. 0.5% ON ELJEN MODULES
HEAD INV. = 94.83m
FOOT INV. = 94.78m

3m L - 100mmØ PVC PIPE WITH ELBOW @ 2% (min.) SLOPE

2 CELLS OF 5 RUNS OF 11 ELJEN GSF A-42 MODULES
MODULAR BASE ELEV. @ HEAD = 94.65m
MODULAR BASE ELEV. @ FOOT = 94.60m

ELJEN SAMPLING PAN
- INSTALL COLLECTION PLATES AS PER MANUFACTURER SPECIFICATIONS

ELJEN SPECIFIED SAND AREA
- 630 mm THICK (TOP OF MODULE TO BASE)
- 37.24m x 22.50m
- FOLLOWED BY 300 mm THICK OF SAND/LIGNOCELLULOSE LAYER
- FOLLOWED BY 50 mm THICK LAYER OF LIMESTONE

SS 'A'

BH 4-24
94.11
(94.01)

NEW 3,600L PRETREATMENT TANK c/w
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- POLYLOK PL-525 EFFLUENT FILTER
- POLY RISER & COVER ASSEMBLY (2)
- INLET INV. = 94.27m±
- OUTLET INV. = 94.22m±
- TOP OF TANK = 94.55m±
- FINISHED GRADE = 95.15m

BH 2-24
93.69
(93.69)

PROPOSED INDUSTRIAL BUILDING
(ONE STOREY)

450L (min.) BALANCING TANK c/w TIME OPERATED EFFLUENT 1/2 H.P. SIMPLEX PUMP AND AUDIBLE / VISUAL HIGH WATER ALARM.
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- POLY RISER AND COVER ASSEMBLY
- INLET INV. = 94.17m
- FINISHED GRADE = 95.15m

38mmØ PVC SCH 40 PIPE FORCEMAIN
- SHALL BE INSTALLED TO GRAVITY DRAIN TO THE TANK.
- ENTIRE LENGTH OF FORCEMAIN SHALL BE BEDDED OF A MINIMUM OF 150mm OF OPSS GRANULAR A, AND SHALL BE COVERED WITH A MINIMUM OF 300mm OF OPSS GRANULAR A.
- ALL GRANULAR A MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 98% SPMDD.

100mmØ PERFORATED PVC SEPTIC PIPE INSTALLED @ APPROX. 0.5% ON ELJEN MODULES
HEAD INV. = 94.60m
FOOT INV. = 94.58m

ELJEN SPECIFIED SAND AREA
- 630 mm THICK (TOP OF MODULE TO BASE)
- 9.60m x 9.68m
- FOLLOWED BY 300 mm THICK OF SAND/LIGNOCELLULOSE LAYER
- FOLLOWED BY 50 mm THICK LAYER OF LIMESTONE

TYP.
2 x LARGE 4 OUTLET DISTRIBUTION BOX C/W INLET BAFFLE AND POLYLOK FLOW EQUALIZERS
INLET INV. 95.10m(min.)
OUTLET INV. = 95.00m (min.)

EXISTING MONITORING WELL TO BE DECOMMISSIONED

EXISTING DRILLED WELL TO BE DECOMMISSIONED

EXISTING DRILLED WELL

No. 5935 2 Storey Block and Metal Clad Building

2 x 38mmØ PVC SCH 40 PIPE FORCEMAIN
- SHALL BE INSTALLED TO GRAVITY DRAIN TO THE TANK.
- ENTIRE LENGTH OF FORCEMAIN SHALL BE BEDDED OF A MINIMUM OF 150mm OF OPSS GRANULAR A, AND SHALL BE COVERED WITH A MINIMUM OF 300mm OF OPSS GRANULAR A.
- ALL GRANULAR A MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 98% SPMDD.

PROPOSED INDUSTRIAL BUILDING
(ONE STOREY)

PROPOSED FINISHED FLOOR ELEVATION: 95.25

NOTE:
INTERNAL GREASE TRAPS SHALL BE PROVIDED ON KITCHEN FIXTURES.

BH 3-24
93.85
(93.85)

100mmØ PVC PIPE TO BE INSTALLED @ 2% (min.) SLOPE AND SHALL BE SLEEVED THROUGH A 150mm Ø PVC SDR28 PIPE AND OVERLAIN BY 75mm T x 600mm W RIGID INSULATION BOARDS UNDER ASPHALT.
OUTLET ELEV. @ PROPOSED BUILDING = 94.79m±

BH 1-24
94.20
(93.63)

NEW 28,101L PRETREATMENT TANK c/w
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS
- POLYLOK PL-525 EFFLUENT FILTER
- POLY RISER & COVER ASSEMBLY (2)
- INLET INV. = 94.50m±
- OUTLET INV. = 94.45m±
- TOP OF TANK = 94.80m±
- FINISHED GRADE = 95.40m

18,500L (min.) BALANCING TANK c/w TIME OPERATED EFFLUENT 1/2 H.P. DUPLEX PUMPS AND AUDIBLE / VISUAL HIGH WATER ALARM.
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- PUMPING SYSTEM SHALL BE TIME DOSED TO OPERATE EVERY HOUR AND ALTERNATE BETWEEN CELLS.
- POLY RISER AND COVER ASSEMBLY
- INLET INV. = 94.40m±
- TOP OF TANK (max.) = 94.75m±
- FINISHED GRADE = 95.40m

BH 5-24
93.92
(93.72)

TBM:
TOP OF SPIKE IN HYDRO POLE ACROSS FROM EAST PROPERTY LINE OF 5935 OTTAWA STREET
GEODETIC ELEV. = 94.86m

ASPHALT
CONCRETE
PAVERS
SNOW STORAGE
180.06
110.00
SSIB ± (918)
SIB (WSG)
Ditch
Asphalt
Gravel Shoulder
STREET
OTTAWA
NATIONAL ROAD
Top of Slope
Bottom of Slope
12.77(m)

Professional Engineers Ontario

Licensed Engineering Technologist

Name: H. G. VAN DE GLIND
Number: 100647862
Limitations: Inspecting, designing, and assessing residential and commercial sewage systems, grading designs and soil analysis, and overseeing installation and compliance.

Association of Professional Engineers of Ontario

LEGEND:

- Bore Hole Location
- 70.81 Existing Ground Surface Elev. (m)
- x 72.70 Proposed Ground Surface Elev. (m)
- 72.70 Proposed Subgrade Elev. (m)
- (70.7) Groundwater Elev. (m) - Mar.6/22
- F.F.E. Finished Floor Elev. (m)
- Existing Structure
- Proposed Structure

All Units are in meters unless otherwise specified

BENCHMARK INFORMATION:

TBM: Top of Spike in Hydro Pole Across from East Property Line of 5935 Ottawa Street
Approximate Geodetic Elevation = 94.86m

REFERENCE:

Topographic Information obtained from Plan of Survey of Part of Unit 10 Index Plan D-26 Geographic Township of Goulbourn City of Ottawa, dated July 9, 2024, by egis Surveying Inc.

Baseplan Obtained from Site Plan No. A-001, dated May 2025, by N45 Architecture Inc.

Consultant

PATERSON GROUP
5 AURIGA DRIVE OTTAWA, ON K2E 7S8 TEL (613) 226-7381

DD/MM/YY	Description	Rev.
04/06/25	Issued for Septic Permit	3
14/05/25	Issued with Revised Site Plan	2
03/10/24	Issued with Revised Site Plan	1
20/09/24	Issued for Preliminary Review	0

Client: **STRATFORD FOXRUN**

Project: **PROPOSED WAREHOUSE / RESTAURANT**
5923 OTTAWA STREET
OTTAWA (RICHMOND), ONTARIO

Drawing: **SEWAGE SYSTEM LAYOUT PLAN**
SEWAGE SYSTEM 'A' AND 'B'

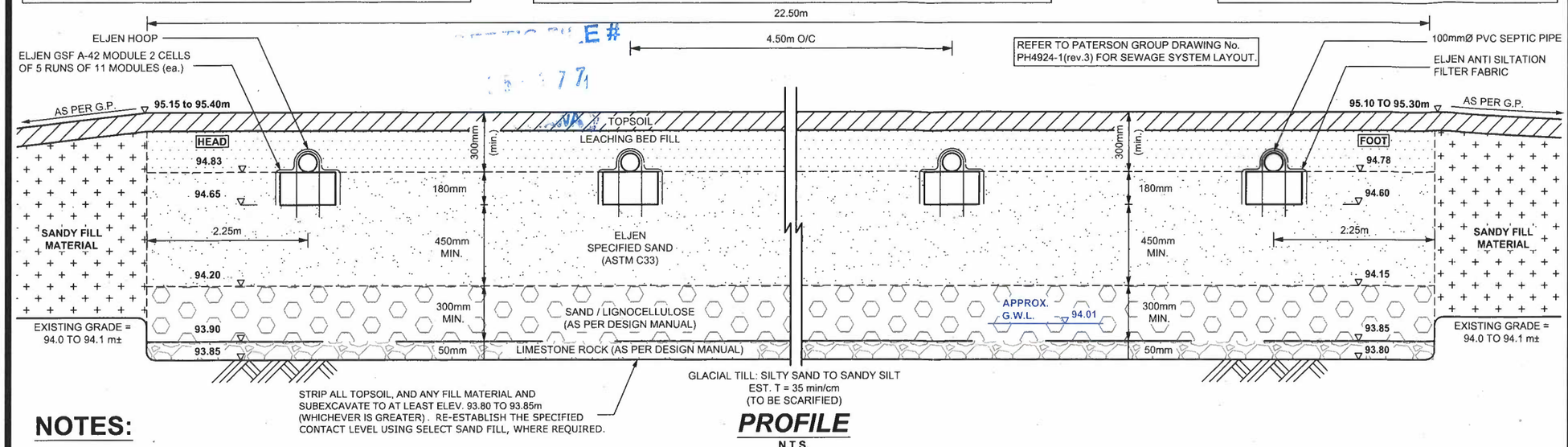
Scale: 1:600 | Drawn by: HV
Date: 06/2025 | Checked by: MK
Drawing no.: **PH4924-1(rev.3)**

p:\autocad drawings\hydrogeology\ph49xx\ph4924 - stratford foxrun - jack gulas - 5923 ottawa street richmond\ph4924-1(rev.3).dwg

COVER MATERIAL TO CONSIST OF LEACHING BED FILL FOLLOWED BY APPROX. 100mm OF SANDY TOPSOIL. LEACHING BED TO BE VEGETATED AS SOON AS POSSIBLE.

SEWAGE SYSTEM DESIGN, SPECIFICATION, DETAILS AND NOTES HAVE BEEN COMPLETED IN ACCORDANCE WITH ELJEN DENITRIFICATION SUPPLEMENTAL DESIGN AND INSTALLATION MANUAL.

FINAL GRADING SHALL BE SUITABLY SHAPED TO DIRECT SURFACE WATER AWAY FROM THE PROPOSED SEWAGE SYSTEM.



PROFILE

N.T.S.

NOTES:

1) ESTIMATE OF DAILY SEWAGE FLOW (Q)

THE PROPOSED SEWAGE SYSTEM HAS BEEN DESIGNED TO SUPPORT A COMMERCIAL TYPE USAGE CONSISTING OF OFFICE, STORE, WAREHOUSE AND RESTAURANT SPACE. THE DAILY DESIGN SEWAGE FLOW RATE IS CALCULATED IN ACCORDANCE WITH O.B.C. TABLE 8.2.1.3.B. **INTERNAL GREASE TRAP SHALL BY PROVIDED FOR KITCHEN FIXTURES.**

OFFICE SPACE:
- (70m² / 9.3) x 75 L/DAY = 565 L/DAY

STORE SPACE:
- 75.25m² x 5 L/DAY = 376.25 L/DAY

WAREHOUSE SPACE:
- 2 LOADING BAY x 150 L/DAY = 300 L/DAY

RESTAURANT/BAR:
65 SEATS x 125 L/DAY = 8,125 L/DAY

TOTAL DESIGN DAILY SANITARY SEWAGE FLOW = 9,367 L/DAY

RVCA RECEIVED
JUN 09 2025
REFER TO:

2) SOIL CONDITIONS

SOILS INFORMATION GATHERED BY PATERSON GROUP INC. ON JUNE 17, 2024. REFER TO PATERSON GROUP REPORT PG7381-1 FOR FULL SOILS BREAKDOWN.

BH 4-24, ELEV. 94.11m

0-0.13 TOPSOIL AND ORGANICS
0.13-3.33 GLACIAL TILL: DENSE BROWN SILTY SAND, TO SANDY SILT WITH GRAVEL, COBBLES AND BOULDERS, SOME TO TRACE CLAY

- G.W.L. @ 0.10m DEPTH (94.01m)

3) PRETREATMENT TANK

- TANK SHALL BE CONNECTED TO BUILDING BY A 150mm Ø PVC PIPE SLEEVED THROUGH A 200mmØ PVC SDR 28 PIPE AND OVERLAIN WITH 50mm T x 600mm W RIGID INSULATION BOARDS (UNDER ROADWAY) AND SHALL BE INSTALLED AT 2.0% (min.) SLOPE TO THE PRETREATMENT TANK.
- MINIMUM WORKING CAPACITY OF PRETREATMENT TANK = (3 x Q) = 3 x 9,367 L/DAY = 28,101 L (min.)
- IT IS RECOMMENDED THAT A NEW 28,101L (min.) TWO-COMPARTMENT SEPTIC TANK BE INSTALLED.
- AN OBC APPROVED EFFLUENT FILTER (I.E. POLYLOK PL-525 EFFLUENT FILTER, OR EQUIVALENT) SHALL BE INSTALLED ON THE OUTLET PIPE IN THE PRETREATMENT TANK.
- THE ACCESS LIDS TO THE TANK OPENINGS SHALL BE EXTENDED TO THE GROUND SURFACE. INSTALL RISERS AND COVERS TO SUIT.
- ACCESS LIDS SHALL INCLUDE SAFETY DEVICES AS PER CSA B66-21.
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER MATERIAL.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.

4) BALANCING TANK

- INSTALL A 18,500L (min.) BALANCING TANK IN SERIES AND DOWNSTREAM FROM THE NEW SEPTIC TANK.
- A TIME OPERATED ALTERNATING DUPLEX PUMPING SYSTEM (I.E. MYERS ME3F, OR SIMILAR) AND A HIGH WATER ALARM SHALL BE INSTALLED IN THE BALANCING TANK.
- THE TIME OPERATIONAL PUMPING SYSTEM SHALL OPERATE EVERY HOUR (I.E. 391 L/DOSE + VOLUME TO CHARGE THE SYSTEM) AND SHALL ALTERNATE BETWEEN EACH CELL.
- A 3mmØ DRAIN HOLE SHALL BE INSTALLED IN THE UNDERSIDE OF THE FORCEMAIN IN THE BALANCING TANK NEAR THE WALL CONNECTION.
- RISERS WITH A COVER SHALL BE INSTALLED OVER THE BALANCING TANK TO PROVIDE ACCESS FROM THE GROUND SURFACE.
- DISCHARGE PIPING FOR PUMP SHALL BE CONFIGURED SUCH THAT THE PUMP IS EASILY SERVICED FROM THE GROUND SURFACE.

5) DISTRIBUTION BOX / FORCEMAIN

- A 38mmØ (NOMINAL) PVC SCH 40 FORCEMAIN (2) SHALL BE USED TO CARRY THE EFFLUENT FROM THE BALANCING TANK TO EACH 3m L x 100mm Ø PVC SEWER PIPE.
- 100mm SEWER PIPE SHALL DRAIN BY GRAVITY TO A 5 OUTLET DISTRIBUTION BOX.
- THE FORCE MAIN SHALL BE INSTALLED TO GRAVITY DRAIN TO THE BALANCING TANK
- THE FORCE MAIN SHALL BE OVERLAIN WITH 50mm T x 600mm C/W RIGID INSULATION.
- THE DISTRIBUTION BOX SHALL BE EQUIPPED WITH AN INLET BAFFLE AND OUTLET PIPES (5).
- EACH PIPING RUN SHALL BE FED BY A 5 OUTLET DISTRIBUTION BOX.
- THE DISTRIBUTION BOX SHALL BE CONNECTED TO THE DISTRIBUTION PIPING RUNS USING 100mmØ SOLID PVC SEWER PIPE @ 2% (min.) SLOPE.

6) LEACHING BED SIZING CRITERIA

- NO. OF MODULES REQUIRED = Q/95 = 9,367/95 = 98.6 MODULES
- USE 2 CELLS OF 5 RUNS OF 11 (110) ELJEN GSF A-42 MODULES EACH
- SAND AREA REQUIRED = QT/400 = 9,367(35)/400 = 819.7m²
- SAND AREA PROVIDED = 37.24m x 22.50m = 837.90m² (min.)

7) LEACHING BED CONSTRUCTION GUIDELINES

- REMOVE ALL EXISTING TOPSOIL, AND ANY FILL WITHIN LIMITS OF THE SAND AREA AND SUBEXCAVATE TO AT LEAST ELEVATION 93.60m TO 93.85m, WHICHEVER IS GREATER. RE-ESTABLISH THE SPECIFIED CONTACT LEVEL USING SELECT SAND FILL, WHERE REQUIRED.
- THE SUBGRADE SURFACE SHALL BE SCARIFIED, **UNDER DRY CONDITIONS.**
- PLACE A 50mm MIN. THICK LAYER OF LIMESTONE ROCK OVER THE SUITABLY PREPARED SUBGRADE.
- LIMESTONE ROCK SHALL NO SMALLER THAN 25mm IN DIAMETER UP TO 50mm IN DIAMETER. THE ROCK SHALL CONTAIN GREATER THAN 15% LIMESTONE AS PER ELJEN DENITRIFICATION SUPPLEMENTAL DESIGN AND INSTALLATION MANUAL.
- PLACE A 300mm THICK LAYER OF SAND / LIGNOCELLULOSE OVER THE LIMESTONE ROCK LAYER.
- SAND / LIGNOCELLULOSE SHALL CONSIST OF WOOD CHIPS OR SAW DUST FROM HARD WOOD TREES THAT HAVE NOT BEEN FURTHER PROCESSED BY CHEMICALS. THE 300mm SAND AND LIGNOCELLULOSE LAYER SHALL BE 50/50 EQUAL MIXTURE OF ASTM C33 SAND AND WOOD CHIPS FROM HARD WOOD TREES. THE MIXTURE MUST NOT EXCEED 60/40 IN FAVOR OF THE MORE WOOD TO SAND.
- PLACE A 450mm MIN. THICK LAYER OF ELJEN SPECIFIED SAND FILL OVER THE LEACHING BED FILL.
- THE ELJEN SPECIFIED SAND FILL SHALL CONSIST OF WASHED SAND MEETING THE REQUIREMENTS OF ASTM C33 "STANDARD SPECIFICATION FOR CONCRETE AGGREGATES" WITH LESS THAN THAN 5% PASSING 0.075mm SIEVE. ELJEN SPECIFIED SAND FILL SHALL BE PRE-APPROVED BY THE CONSULTANT.
- THE MODULES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- THE MODULES SHALL BE INSTALLED AT A SLOPE OF 0.3%(min.) to 0.5%(max.), END TO END AND WITH THE WHITE DEMARCATION LINE FACING UP.
- THE MODULAR BASE LEVEL (ELEV. 94.60m AT THE FOOT, TO 94.65m AT THE HEAD) SHALL BE ESTABLISHED WITH ELJEN SPECIFIED SAND FILL, HAVING A MINIMUM THICKNESS OF 450mm BELOW THE MODULES.
- THE ELJEN MODULES SHALL BE FED BY GRAVITY BY A 100mmØ PVC SEWER PIPE @ 2% (min.) SLOPE FROM THE DISTRIBUTION BOX
- THE DISTRIBUTION PIPE SHALL CONSIST OF A 100mmØ PERFORATED PVC PIPE CENTRED OVER THE MODULES. THE PIPE SHALL BE SECURED TO THE TOP OF THE MODULES USING AN ELJEN HOOP (MINIMUM 1 HOOP PER MODULE).
- THE INVERT LEVEL OF THE DISTRIBUTION PIPE SHALL BE SET ON THE MODULES AT ELEVATION 94.78m AT THE FOOT TO 94.83m AT THE HEAD. THE END OF THE PIPE RUNS SHALL BE CONNECTED TO A 100mmØ SOLID PVC FOOTER PIPE
- INSTALL ELJEN SYSTEM SAMPLING DEVICE AS PER MANUFACTURER'S RECOMMENDATIONS.
- THE ELJEN ANTI-SILTATION FILTER FABRIC SHALL BE SPREAD LENGTHWISE OVER THE PERFORATED SEPTIC PIPE AND DOWN THE SIDES OF THE MODULES. ENSURE ENDS OF MODULES ARE ALSO COVERED WITH FABRIC.
- THE MODULES SHALL BE BACKFILLED, WITH ELJEN SPECIFIED SAND FILL TO AT LEAST THE TOP OF THE ELJEN MODULES, FOLLOWED BY 200mm (min.) OF LEACHING BED FILL, FOLLOWED BY 100mm OF SANDY TOPSOIL, WITHIN THE LIMITS OF THE SAND AREA. THE BED AREA SHOULD BE VEGETATED AS SOON AS POSSIBLE.
- LEACHING BED SAND FILL SHALL BE UNIFORM SAND WITH GRADING LIMITS SIMILAR TO 100% PASSING 13.2mm SIEVE, LESS THAN 5% PASSING 0.075mm SIEVE, AND HAVING A PERCOLATION TIME OF 6 TO 8 min/cm. LEACHING BED FILL SHALL BE PRE- APPROVED BY THE CONSULTANT.
- THE SIDES OF THE BED SHOULD BE SLOPED AT 3H:1V OR SHALLOWER.
- VENT SYSTEM SHALL BE INSTALLED ON THE FOOTER PIPE. CONNECT A 100mmØ PVC VENT PIPE TO FOOTER PIPE, EXTENDING TO GROUND SURFACE. VENT PIPE TO BE INSTALLED IN 150mmØ LANDSCAPE VALVE COVER.

8) MINIMUM CLEARANCE DISTANCE FROM DISTRIBUTION PIPE

- 5.6m FROM ANY PROPERTY LINE
- 7.6m FROM ANY STRUCTURE: 5.0m FROM ANY BASEMENTLESS STRUCTURE
- 17.6m FROM ANY DRILLED WELL
- 5.0m FROM ANY TREE (UNLESS OTHERWISE APPROVED)

9) MINIMUM CLEARANCE DISTANCE FROM TANK(S)

- 1.5m FROM ANY STRUCTURE
- 15.0m FROM ANY DRILLED OR DUG WELL
- 3.0m FROM ANY PROPERTY LINE

10) GENERAL

- SNOW STORAGE SHALL NOT BE LOCATED OVER OR UPGRADIENT OF THE PROPOSED SEWAGE SYSTEM.
- THE SEWAGE SYSTEM HAS NOT BEEN DESIGNED TO SUPPORT TRAFFIC LOADING.
- THE BACKFILLING OF THE SEWAGE SYSTEM SHOULD MINIMIZE THE RISK OF OVER COMPACTION WITH THE USE RUBBER TRACKED EQUIPMENT AND BY AVOIDING THE CREATION OF ANY CONSTRUCTION ROUTES OR PATHWAYS OVER THE SYSTEM.
- ANY NEW IRRIGATION / SPRINKLER SYSTEM SHOULD NOT BE USED IN PROXIMITY OF THE PROPOSED SEWAGE SYSTEM.
- ENSURE WALKWAYS AND/OR SHURBBERY ARE NOT PLACED WITHIN PROXIMITY OF THE TANKAGE.
- THE BACKWASH WATERS FROM ANY WATER TREATMENT UNIT, SUCH AS WATER SOFTENER, SHOULD NOT DISCHARGE INTO THE SEWAGE SYSTEM.
- THE SEWAGE SYSTEM HAS NOT BEEN DESIGNED FOR THE USE OF A GARBAGE DISPOSAL.
- SEWAGE SYSTEM INSTALLER SHALL BE QUALIFIED AND REGISTERED UNDER PART 8 OF THE ONTARIO BUILDING CODE AND SHALL BE AN AUTHORIZED EJLEN TREATMENT SYSTEM INSTALLER.
- ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE LATEST BY-LAWS, CODES AND REGULATIONS.
- CONTRACTOR SHALL REVIEW DRAWINGS IN DETAIL AND SHALL INFORM THE CONSULTANT OF ANY ERRORS AND/OR OMISSIONS ON DESIGN DRAWINGS IMMEDIATELY.
- CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT ALL EXISTING UNDERGROUND SERVICES.
- CONTRACTOR SHALL VISIT THE SITE AND REVIEW ALL DOCUMENTATION TO BECOME FAMILIAR WITH THE SITE AND SUBSURFACE SOIL CONDITIONS TO DETERMINE SUITABLE METHODS OF CONSTRUCTION.
- THE MANUFACTURER PROVIDES A LIMITED WARRANTY OF THE SYSTEM COMPONENTS. THE OWNER OF THE SYSTEM MUST SIGN A MAINTENANCE AGREEMENT WITH THE MANUFACTURER'S REPRESENTATIVE. THE HOMEOWNER IS RESPONSIBLE FOR THE ANNUAL FEES ASSOCIATED WITH THE MAINTENANCE.
- THE FIRM OF PATERSON GROUP INC. HAS PROVIDED DESIGN SERVICES ONLY FOR THE SUBJECT SEWAGE SYSTEM. THE DESIGN HAS BEEN CARRIED OUT IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES AND OUR INTERPRETATION OF PART 8 OF THE ONTARIO BUILDING CODE.
- INSPECTIONS BY THE CONSULTANT DURING THE INSTALLATION OF THE SYSTEM IS A REQUIREMENT OF SOME REGULATING AUTHORITIES AND IS STRONGLY RECOMMENDED BY THIS FIRM.
- THE PROPERTY LINE / SEPARATION DISTANCES SHOULD BE CONFIRMED PRIOR TO CONSTRUCTION.
- CONSTRUCTION INSPECTIONS DURING THE INSTALLATION OF THE SEWAGE SYSTEM MAY BE REQUIRED BY THE REGULATING AUTHORITY AND ARE STRONGLY RECOMMENDED BY THIS FIRM. IF THIS FIRM IS TO COMPLETE ANY CONSTRUCTION INSPECTION(S), ADDITIONAL FEES MAY BE APPLIED. CONFIRMATION OF PAYMENT WILL BE REQUIRED PRIOR TO THE INSPECTION.
- THE TEST HOLE INFORMATION PROVIDED, IS INTENDED TO BE USED FOR DESIGN PURPOSES ONLY, AND SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES. IF DISCREPANCIES ARE FOUND DURING THE CONSTRUCTION PROCESS, IT IS THE CLIENT'S RESPONSIBILITY TO CONTACT THIS FIRM TO MAKE ANY NECESSARY COMMENTS OR REVISIONS. ADDITIONAL REVISIONS ARE NOT CONSIDERED PART OF THE DESIGN WORKS AND WILL BE CONSIDERED AS AN ADDITIONAL COST.

SEPTIC FILE #
25-176
OTTAWA

Professional Engineers Ontario

Licensed Engineering Technologist

Name: H. G. VAN DE GLIND
Number: 100647862
Limitations: Inspecting, designing, and assessing residential and commercial sewage systems, grading designs and soil analysis, and overseeing installation and compliance.

Association of Professional Engineers of Ontario

DD/MM/YY	DESCRIPTION	REV.
04/06/25	Issued for Septic Permit	3
14/05/25	Issued with Revised Site Plan	2
03/10/24	Issued with Revised Site Plan	1
20/09/24	Issued for Preliminary Review	0

Consultant:

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7Z7
TEL (613) 226-7381

Client:

STRATFORD FOXRUN

Project:

PROPOSED WAREHOUSE / RESTAURANT

5923 OTTAWA STREET
OTTAWA (RICHMOND), ONTARIO

Drawing:

SEWAGE SYSTEM DETAILS AND NOTES SEWAGE SYSTEM 'A'

Scale:	Drawn by:
N.T.S.	HV
Date: 06/2025	Checked by: MK

Drawing No.: **PH4924-2(rev.3)**

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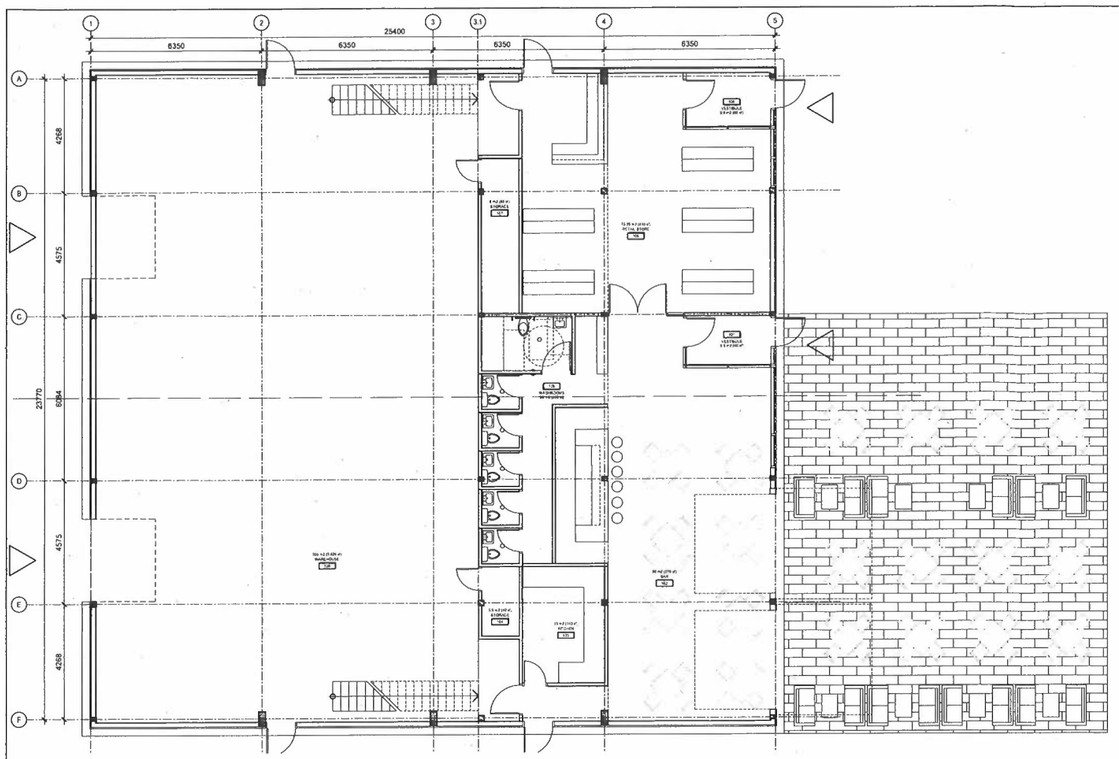
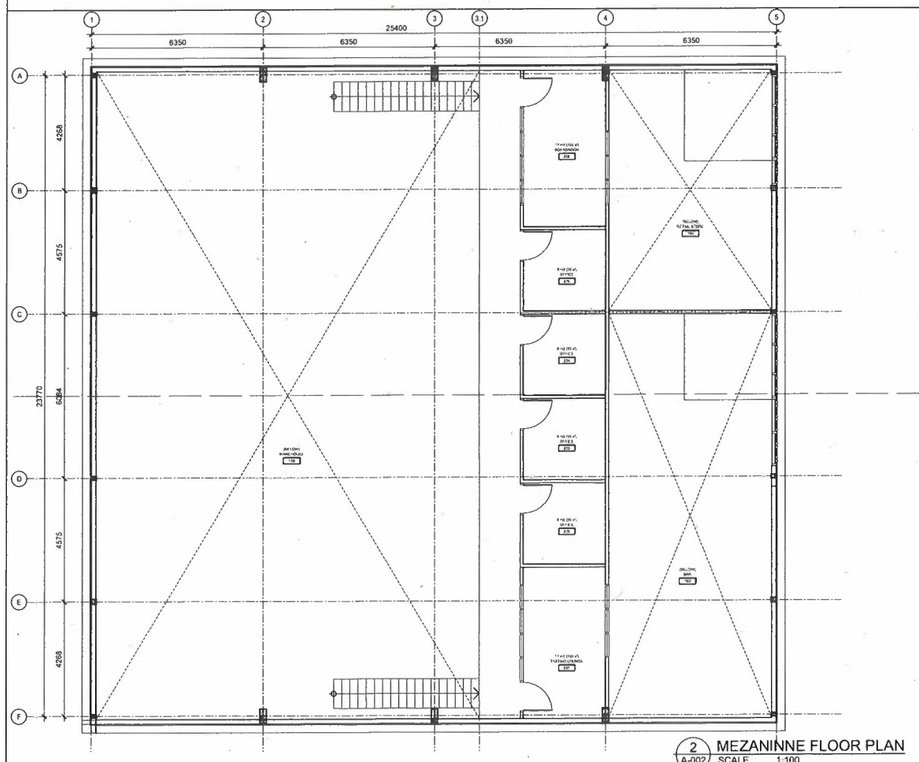
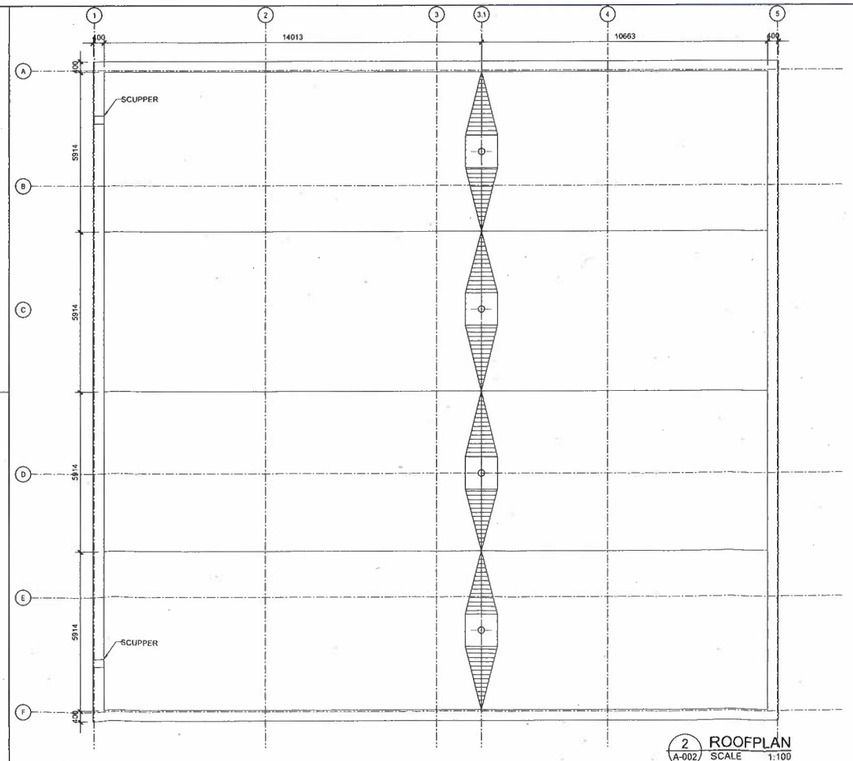


1 GROUND FLOOR PLAN
A-002 SCALE 1:100

BUILDING 1
SEWAGE SYSTEM "A"
25-176



2 MEZANINNE FLOOR PLAN
A-002 SCALE 1:100



2 ROOFPLAN
A-002 SCALE 1:100

no.	revision	date
3	ISSUED FOR SPA	08MAY25
2	ISSUED FOR SITE PLAN CONTROL	19NOV24
1	ISSUED FOR SITE PLAN CONTROL	07OCT24

N45 ARCHITECTURE INC.
71 Bank Street, 7th floor - Ottawa, Ontario, K1P 5N2
tel. 613.224.0095 fax 613.224.9811

project
FOXRUN RICHMOND

5923 OTTAWA STREET
OTTAWA, ON

project north

seal
ONTARIO ASSOCIATION OF ARCHITECTS
VLADIMIR POPOVIC
LICENCE
5918

drawing title
FLOOR PLANS

scale AS NOTED	drawn by NF
date OCT 2022	checked by VP
project number 24-826	drawing number A-002

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE WORK COMMENCES.
DO NOT SCALE DRAWINGS.

revision
-

Rideau Valley Conservation Authority

Permit
Part 8 – Sewage System
Ontario Building Code

Do Not Complete
Permit No 25-176
Revision No
Date
Related Application

A copy of this permit must be posted on the property at all time during construction. OBC, Division C — Part 1, Section 1.3.2.1

This permit verifies that the on-site sewage system was reviewed and approved for construction under the Ontario Building Code Act (Building Code Act, 1992, S.O. 1992, c. 23) and Ontario Building Code (O. Reg. 163/24) as amended.

Inspected & Recommended by: Matt Panciuk
Owner: 99117756 Canada Inc.
Inspection Date & Time:
Weather:
Address: 5923 Ottawa Street - System A
Legal:
In the former Township/City of Goulbourn

Design Flow for Commercial / Institutional / Industrial (as per Table 8.2.1.3.B)

Q: 9,367 L/day

septic tank 28,101(min) L
effluent filter Required
pump rate 391 + Charge L/15 MIN
treatment unit Eljen GSF A42(DN 450)
number of units 110

weigh bills for Eljen Sand	■ yes	❒ no
grain size analysis required	■ yes	❒ no
site to be scarified	■ yes	❒ no
clay seal inspection	❒ yes	■ no
mantle required	❒ yes	■ no
sub-grade inspection	■ yes	❒ no

ELEVATION ☐ In Ground ☐ Partially Raised ☒ Fully Raised

TYPE OF SYSTEM

❒ **Trench**
◯ **Pipe and Stone or** ◯ **Chambers**
type of chamber
loading area m^2
total trench length m
trench configuration

■ **Dispersal Bed**
◉ BMEC ◯ Type A ◯ Type B
stone m^2
sand 837.9 m^2
pipe 2 cells of 5 runs of 11 modules @ 4.5m o/c
weight of sand kg

❒ **Shallow Buried Trench**
pipe length m
orifice spacing m

❒ **Filter Media Bed**
stone m^2
extended base m^2
pipe
weight of filter media kg
loading area m^2

❒ **Class 5 Holding Tank**

❒ **Septic Tank Only**

Manager, Septic System Approvals: Jason Hull Permit Date: August 5, 2025

Comments: 1. Scarification inspection required prior to placement of sand fill.
2. One existing monitoring well and one existing drilled well to be decommissioned on site by a licensed well driller and documentation of the decommissioned wells provided to the RVCA.

■ maintenance/pumping required ■ ESA permit # required ❒ engineer to verify ■ subgrade ❒ squirt height

❒ Class 5 Holding Tank approval only valid for three years from date of issue

Manager, Septic System Approvals: Revision Date:

Comments:

NOTE: For further details, refer to corresponding application.

June 2025

Rideau Valley Conservation Authority

Application for a Permit to Construct or Demolish

This form is authorized under subsection 8(1.1) of the *Building Code Act, 1992*

For use by Principal Authority	
Application number:	Permit number (if different):
Date received:	Roll number:

RVCA RECEIVED JUN 09 2025 REFER TO:

SEPTIC FILE # 25-177 OTTAWA

Application submitted to: Ottawa Septic System Office

(Name of municipality, upper-tier municipality, board of health or conservation authority)

A. Project information

Building number, street name	Unit number	Lot/con.
5923 Ottawa street		

Municipality	Postal code	Plan number/other description
Ottawa (Richmond)	K0A 2Z0	

Project value est. $	Area of work (m^2)

B. Purpose of application

☑ New construction ☐ Addition to an existing building ☐ Alteration/repair ☐ Demolition ☐ Conditional Permit

Proposed use of building	Current use of building
Commercial	

Description of proposed work

To construct a new class 4 sewage system, Eljen NSF 245 Denitrification treatment system: Eljen DN450

Sewage System 'B'

C. Applicant

Applicant is: ☐ Owner or ☑ Authorized agent of owner

Last name	First name	Corporation or partnership	
Van de Glind	Hendrik	Paterson Group Inc.	
Street address		**Unit number**	**Lot/con.**
9 Auriga Drive			
Municipality	**Postal code**	**Province**	**E-mail**
Ottawa	K2E 7T9	ON	hvandeglind@patersongroup.ca
Telephone number	**Fax**		**Cell number**
613-226-7381			

D. Owner (if different from applicant)

Last name	First name	Corporation or partnership	
Gulas	Jack	99117756 Canada Inc.	
Street address		**Unit number**	**Lot/con.**
411 Legget Drive, Suite 710			
Municipality	**Postal code**	**Province**	**E-mail**
Ottawa	K2K 3C9	ON	jack@stratfordfoxrun.com
Telephone number	**Fax**		**Cell number**
613.862.0087			

E. Builder (optional)

Last name	First name	Corporation or partnership (if applicable)	
Street address		Unit number	Lot/con.
Municipality	Postal code	Province	E-mail
Telephone number	Fax	Cell number	

SEPTIC FILE # 25-177 OTTAWA

F. Tarion Warranty Corporation (Ontario New Home Warranty Program)

i. Is proposed construction for a new home as defined in the *Ontario New Home Warranties Plan Act*? If no, go to section G.	☐ Yes	☑ No
ii. Is registration required under the *Ontario New Home Warranties Plan Act*?	☐ Yes	☑ No

iii. If yes to (ii) provide registration number(s): _____

G. Required Schedules

i) Attach Schedule 1 for each individual who reviews and takes responsibility for design activities.

ii) Attach Schedule 2 where application is to construct on-site, install or repair a sewage system.

H. Completeness and compliance with applicable law

i) This application meets all the requirements of clauses 1.3.1.3 (5) (a) to (d) of Division C of the Building Code (the application is made in the correct form and by the owner or authorized agent, all applicable fields have been completed on the application and required schedules, and all required schedules are submitted).	☑ Yes	☐ No
Payment has been made of all fees that are required, under the applicable by-law, resolution or regulation made under clause 7(1)(c) of the *Building Code Act, 1992*, to be paid when the application is made.	☑ Yes	☐ No
ii) This application is accompanied by the plans and specifications prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992.*	☑ Yes	☐ No
iii) This application is accompanied by the information and documents prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992* which enable the chief building official to determine whether the proposed building, construction or demolition will contravene any applicable law.	☑ Yes	☐ No
iv) The proposed building, construction or demolition will not contravene any applicable law.	☑ Yes	☐ No

I. Declaration of applicant

RVCA RECEIVED JUN 0 9 2025 REFER TO:

I Hendrik Van de Glind, L.E.T., C.E.T. - Paterson Group declare that:
(print name)

1. The information contained in this application, attached schedules, attached plans and specifications, and other attached documentation is true to the best of my knowledge.
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

June 6, 2025 _____
Date Signature of applicant

Personal information contained in this form and schedules is collected under the authority of subsection 8(1.1) of the *Building Code Act, 1992*, and will be used in the administration and enforcement of the *Building Code Act, 1992*. Questions about the collection of personal information may be addressed to: a) the Chief Building Official of the municipality or upper-tier municipality to which this application is being made, or, b) the inspector having the powers and duties of a chief building official in relation to sewage systems or plumbing for an upper-tier municipality, board of health or conservation authority to whom this application is made, or, c) Director, Building and Development Branch, Ministry of Municipal Affairs and Housing 777 Bay St., 2nd Floor. Toronto, M5G 2E5 (416) 585-6666.

Rideau Valley Conservation Authority

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information

Building number, street name	Unit no.	Lot/con.
5923 Ottawa Street		

Municipality	Postal code	Plan number/ other description
Ottawa (Richmond)	K0A 2Z0	

B. Individual who reviews and takes responsibility for design activities

Name	Firm
Hendrik Van de Glind, L.E.T., C.E.T.	Paterson Group Inc.

Street address	Unit no.	Lot/con.
9 Auriga Drive		

Municipality	Postal code	Province	E-mail
Ottawa	K2E 7T9	ON	hvandeglind@patersongroup.ca

Telephone number	Fax number	Cell number
613-226-7381		

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☐ Building Structural
☐ Small Buildings	☐ Building Services	☐ Plumbing – House
☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☑ On-site Sewage Systems

Description of designer's work: On-site Sewage System Design

D. Declaration of Designer

I Hendrik Van de Glind, L.E.T., C.E.T. - Paterson Group declare that (choose one as appropriate):

(print name)

I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: 111499

Firm BCIN: 29346

SEPTIC FILE # 25-177

OTTAWA

I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.

Individual BCIN: _____

Basis for exemption from registration: _____

The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration and qualification: _____

RVCA RECEIVED
JUN 09 2025
REFER TO: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

June 6, 2025 _____

Date Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) (c).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

Rideau Valley Conservation Authority

Schedule 2: Sewage System Installer Information

A. Project Information			
Building number, street name 5923 Ottawa Street		Unit number	Lot/con.
Municipality Ottawa (Richmond)	Postal code K0A 2Z0	Plan number/ other description	

B. Sewage system installer

Is the installer of the sewage system engaged in the business of constructing on-site, installing, repairing, servicing, cleaning or emptying sewage systems, in accordance with Building Code Article 3.3.1.1, Division C?

☐ Yes (Continue to Section C) ☐ No (Continue to Section E) ☑ Installer unknown at time of application (Continue to Section E)

C. Registered installer information (where answer to B is "Yes")

Name			BCIN	
Street address			Unit number	Lot/con.
Municipality	Postal code	Province	E-mail	
Telephone number	Fax		Cell number	

D. Qualified supervisor information (where answer to section B is "Yes")

Name of qualified supervisor(s)	Building Code Identification Number (BCIN)

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JUN 09 2025
REFER TO:

E. Declaration of Applicant:

I Hendrik Van de Glind, L.E.T., C.E.T. - Paterson Group declare that:
(print name)

I am the applicant for the permit to construct the sewage system. If the installer is unknown at time of application, I shall submit a new Schedule 2 prior to construction when the installer is known;

OR

I am the holder of the permit to construct the sewage system, and am submitting a new Schedule 2, now that the installer is known.

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

SEPTIC FILE # 25-177 OTTAWA

June 6, 2025
Date

Signature of applicant

Rideau Valley Conservation Authority

Schedule 4: Proposed Services
Complete Sections ❶ through ❼

Do Not Complete

Permit number:	Revision number:	Date

❶ Engineered
- ■ Yes
- ☐ No

❷ Water supply
- ■ Proposed
- ☐ Existing

SEPTIC FILE # 25-177

❸ Use
- ☐ Apartment
- ☐ Dwelling
- ■ Commercial
- ☐ Industrial

❹ Type of work proposed
- ■ New Installation
- ☐ Replacement
- ☐ Alteration

❺ Type of Well
- ☐ Dug/Bored/Sandpoint well
- ■ Drilled well
- ☐ Municipal
- ☐ Other

OTTAWA

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JUN 09 2025
REFER TO:

❻ Residential Sewage Design Flow Info.

Bedrooms _____

House (floor area) _____ m^2

People _____

Total Fixture Units _____ (Schedule 8)

Residential Flow _____ L/day

❼ Sewage Design Flow Other Occupancies

Design Flow 600 L/day

Detailed sewage flow calculations:
Refer to PGI Drawings No. PH4924-3(rev.3)

❽ Type of System

- ☐ Class 2 – Leaching Pit
- ☐ Class 3 – Cesspool

Treatment Unit Eljen GSF A-42 (DN450)

- ☐ **Class 4 – Trench** (Schedule 9)
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 4 – Filter Media** (Schedule 10)
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 4 – Shallow Buried Trench**
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ■ **Class 4 – BMEC Area Bed** (Schedule 11)
  - ■ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 4 – "Type A" Dispersal** (Schedule 13)
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 4 – "Type B" Dispersal** (Schedule 14)
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 5 – Holding Tank** (9000L min)
- ☐ Tank/TreatmentUnit/PumpChamber ONLY
- ☐ Effluent Filter/Risers ONLY
- ☐ Other _____

SEPTIC FILE #
25 - 177
OTTAWA

Rideau Valley Conservation Authority

Schedule 5: Sewage System Details

RVCA RECEIVED
JUN 09 2025
REFER TO:
Date

Do Not Complete

Permit number:	Revision number:	Date

Complete below

Type of System Eljen GSF A-42 Modules (DN 450) (Schedule 4)

Septic/Holding Tank Size: 3,600 (Litres) Make: _____

Septic Tank Effluent Filter Make: OBC Approved Model: (Polylok PL-250 or equivalent)

Treatment Unit - Make & Model: Eljen GSF A-42 Modules (DN450)

Number of Units: 8

Refer to Typical Drawing #: PH4924-1&3(rev.3)

Pump ■ Syphon ☐

Pump(s) required: Yes

Pump Rate: 25 + Charge L/~~15min~~ Hour

Mantle Information

Native or imported=min. 15m in N/A direction(s)

Slope subgrade _____ % slope

_____ direction(s)

Note: Alarm required for all pumping systems

Installed ☐ Inside ☐ Outside TBD By Installer @ time of Installation

Site to be Scarified (If clay) Yes ■ No ☐ Clay Seal Required (If bedrock) Yes ☐ No ☐

☐ **Trench**
- Distribution Pipe Length _____ m
- Loading Area _____ m^2
- Type of Chamber _____
- Length of Chamber _____ m

☐ **Dispersal Bed**

■ **BMEC** ☐ **Type A** ☐ **Type B**
- Stone N/A _____ m^2
- Sand 92.9 _____ m^2
- Pipe 9.76 _____ m^2
- Linear Loading 6.5 _____ L/m^2

☐ **Shallow Buried Trench**
- Pipe Length _____ m^2
- Pipe _____

☐ **Filter Media Bed**
- Stone _____ m
- Extended Base _____ m^2
- Pipe _____
- Weight of Filter Media _____ Kg
- Loading Area _____ m^2

☐ Tank/Treatment Unit/Pump Chamber Replacement **ONLY**

☐ Effluent Filter & Riser **ONLY**

Construction Notes: _____

SEPTIC FILE #
5 - 177

RVCA RECEIVED
JUN 0 9 2025
OTTAWA

Rideau Valley Conservation Authority

Schedule 6: Soil and Water Table Information (Minimum depth of test pit: 2 metres)

Do Not Complete

Permit number:	Revision number:	Date

Name of Applicant/Agent: Paterson Group Inc.
Date: April 17, 2025 Time:
Applicant/Agent Signiture:

Inspector:
Date: Time:
Inspector Signiture:

EG (__) **Soil Description**

__ m
__ m
__ m
__ m
__ m
__ m

Refer to PGI DWG
PH4924-2(rev.3)

Professional Engineers Ontario
Licensed Engineering Technologist
Name: H. G. VAN DE GLIND
Number: 100647862
Limitations: Inspecting, designing, and assessing residential and commercial sewage systems, grading designs and soil analysis, and overseeing installation and compliance
Association of Professional Engineers of Ontario

T-time 40 Min/cm

EG (__) **Soil Description**

__ m
__ m
__ m
__ m
__ m
__ m

Test pits not available for inspection. Engineer assumes all liability for soil and HGWT info/elev's.

T-time _____ Min/cm

EG (__) **Soil Description**

__ m
__ m
__ m
__ m
__ m
__ m

T-time _____ Min/cm

EG (__) **Soil Description**

__ m
__ m
__ m
__ m
__ m
__ m

T-time _____ Min/cm

Legend

BR	Bedrock	**GWT**	Ground water table
HGWT	High ground water table	**M**	metres
EG	Existing grade	**T**	percolation rate

Rideau Valley Conservation Authority

Schedule 7: Layout Section

Do Not Complete		
Permit number:	Revision number:	Date

Scale: 1 Block = _____

O Dug Well
● Drilled Well
▲ Neighbouring Homes
◊ Benchmark
----- Tile Drainage
___ Property Line

SEPTIC FILE # 25-177 OTTAWA

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JUL 09 2025
REFER TO: _____

Elevations (metric only)
B.M. 94.86 m
B.M Description Top of spike in hydro pole across from East Property Line of 5935 Ottawa Street
Exact Loaction _____

Min. of 5 elevations in proposed system area (in X pattern)

X_1 _____ X_2 _____
X_3 _____ X_4 _____
X_5 _____ X_6 **(toe)** _____
X_7 _____ X_8 _____

RVCA RECEIVED
JUN 09 2025

SEPTIC FILE #
25-177
OTTAWA

Rideau Valley Conservation Authority

Schedule 8: Fixture unit count

Do Not Complete

Permit number:	Revision number:	Date

Fixtures	# Existing	+	# Proposed	X	unit count	=	Fixture Count
Bathroom							
Bathroom group (toilet, sink and tub or shower) installed in the **same room**		+		X	6	=	0.00
Bathtub with/without overhead shower		+		X	1.5	=	0.00
Shower stall		+		X	1.5	=	0.00
Wash basin (SINK) (1½ inch trap)	3	+		X	1.5	=	4.50
Watercloset (TOILET) tank operated	3	+		X	4	=	12.00
Bidet		+		X	1	=	0.00
Kitchen							
Dishwasher	1	+		X	1	=	1.00
Sink with/without garbage grinder(s), domestic and other small type single, double or 2 single with a common trap	1	+		X	1.5	=	1.50
Other							
Domestic washing machine		+		X	1.5	=	0.00
Combination sink and laundry tray single or double (Installed on 1½ trap)		+		X	1.5	=	0.00
					Total*	=	19.00

***Insert the TOTAL in section 5 of Schedule 4 (0.Reg 151/13 Table 7.4.9.3)**

1. Sump pumps and floor drains are not to be connected to the sewage system. Connection of such fixtures to a sewage system may lead to a hydraulic failure of the said system. The above mentioned fixtures should be discharged separately to an approved Class 2 (leaching pit) sewage system.

2. Where laundry waste is not more than 20% of the total daily design sanitary sewage flow, it may discharge to a sewage system (Part 8, OBC, 8.1.3.1(2)).

Agent/Owner signature

June 6, 2025

Date

ROAD ALLOWANCE BETWEEN LOTS 25 & 26 CONCESSION 3

STREET

OTTAWA

PART 1
R.P 4R-13387

PART 4
R.P 4R-7050

N42°37'20"W

N42°32'25"W

N47°26'50"E

180.06

100mmØ PVC PIPE TO BE INSTALLED @ 2% (min.) SLOPE AND SHALL BE SLEEVED THROUGH A 150mm Ø PVC SDR28 PIPE AND OVERLAIN BY 75mm T x 600mm W RIGID INSULATION BOARDS UNDER ASPHALT. PATERSON TO REVIEW COVER UPON COMPLETION OF LOT GRADING AND DRAINAGE.

NEW 3,600L PRETREATMENT TANK c/w
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- POLYLOK PL-525 EFFLUENT FILTER
- POLY RISER & COVER ASSEMBLY (2)
- INLET INV. = 94.27m±
- OUTLET INV. = 94.22m±
- TOP OF TANK = 94.55m±
- FINISHED GRADE = 95.15m

3m L - 100mmØ PVC PIPE WITH ELBOW @ 2% (min.) SLOPE

TYP.
2 OUTLET DISTRIBUTION BOX C/W INLET BAFFLE AND POLYLOK FLOW EQUALIZERS
INLET INV. 94.90m(min.)
OUTLET INV. = 94.80m (min.)

SS 'B'

ELJEN SAMPLING PAN
- INSTALL COLLECTION PLATES AS PER MANUFACTURER SPECIFICATIONS

2 RUNS OF 4 ELJEN GSF A-42 MODULES
MODULAR BASE ELEV. @ HEAD = 94.42m
MODULAR BASE ELEV. @ FOOT = 94.40m

TYP.
100mmØ VENT PIPE INSTALLED IN 150mmØ LANDSCAPE VALVE COVER

TYP.
100mmØ SOLID PVC FOOTER PIPE
INV. = 94.58m

BH 1-25
94.07
(93.63)

BH 2-24
93.69
(93.69)

PROPOSED INDUSTRIAL BUILDING
(ONE STOREY)

450L (min.) BALANCING TANK c/w TIME OPERATED EFFLUENT 1/2 H.P. SIMPLEX PUMP AND AUDIBLE / VISUAL HIGH WATER ALARM.
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- POLY RISER AND COVER ASSEMBLY
- INLET INV. = 94.17m
- FINISHED GRADE = 95.15m

38mmØ PVC SCH 40 PIPE FORCEMAIN
- SHALL BE INSTALLED TO GRAVITY DRAIN TO THE TANK.
- ENTIRE LENGTH OF FORCEMAIN SHALL BE BEDDED OF A MINIMUM OF 150mm OF OPSS GRANULAR A, AND SHALL BE COVERED WITH A MINIMUM OF 300mm OF OPSS GRANULAR A.
- ALL GRANULAR A MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 98% SPMDD.

100mmØ PERFORATED PVC SEPTIC PIPE INSTALLED @ APPROX. 0.5% ON ELJEN MODULES
HEAD INV. = 94.60m
FOOT INV. = 94.58m

ELJEN SPECIFIED SAND AREA
- 630 mm THICK (TOP OF MODULE TO BASE)
- 9.60m x 9.68m
- FOLLOWED BY 300 mm THICK OF SAND/LIGNOCELLULOSE LAYER
- FOLLOWED BY 50 mm THICK LAYER OF LIMESTONE

NOTE:
SNOW STORAGE SHALL NOT BE LOCATED OVER OR UPGRADIENT OF THE PROPOSED SEWAGE SYSTEM.

SNOW STORAGE

ASPHALT

PAVERS

CONCRETE

BH 5-24
93.92
(93.72)

NOTE:
SEWAGE SYSTEM 'B' HAS BEEN DESIGNED BASED ON *PATERSON GROUP REPORT PH4924-LET.01*

TOTAL DESIGN DAILY SANITARY SEWAGE FLOW (T.D.D.S.S.F.) OR "Q" = 600 L/DAY WHEN BALANCED OVER 7 DAYS.

NATIVE SOILS = GLACIAL TILL TO SILTY CLAY = T = 40 min/cm

MINIMUM NITRATE REDUCTION LEVEL REQUIRED = 50% AS PER PATERSON GROUP REPORT No. *PH4924-LET.01*

ELJEN DN450 SHALL BE USED TO ACHIEVE THE MINIMUM REQUIRED NITRATE REDUCTION.

PRESENTLY PROPOSED ELEVATIONS ARE BASED OFF THE EXISTING TOPOGRAPHIC INFORMATION. THE PROPOSED LOT GRADING AND DRAINAGE ASSOCIATED WITH THE PROPOSED ADDITION MAY AFFECT THESE ELEVATIONS.

NOTE:
SEWAGE SYSTEM 'A' HAS BEEN DESIGNED BASED ON *PATERSON GROUP REPORT PH4924-LET.01*

TOTAL DESIGN DAILY SANITARY SEWAGE FLOW (T.D.D.S.S.F.) OR "Q" = 9,367 L/DAY WHEN BALANCED OVER 7 DAYS.

NATIVE SOILS = GLACIAL TILL TO SILTY CLAY = T = 35 min/cm

MINIMUM NITRATE REDUCTION LEVEL REQUIRED = 50% AS PER PATERSON GROUP REPORT No. *PH4924-LET.01*

ELJEN DN450 SHALL BE USED TO ACHIEVE THE MINIMUM REQUIRED NITRATE REDUCTION.

PRESENTLY PROPOSED ELEVATIONS ARE BASED OFF THE EXISTING TOPOGRAPHIC INFORMATION. THE PROPOSED LOT GRADING AND DRAINAGE ASSOCIATED WITH THE PROPOSED ADDITION MAY AFFECT THESE ELEVATIONS.

NOTE:
SNOW STORAGE SHALL NOT BE LOCATED OVER OR UPGRADIENT OF THE PROPOSED SEWAGE SYSTEM.

SNOW STORAGE

TYP.
100mmØ SOLID PVC FOOTER PIPE
INV. = 94.78m

TYP.
100mmØ VENT PIPE INSTALLED IN 150mmØ LANDSCAPE VALVE COVER

TYP.
2 x LARGE 4 OUTLET DISTRIBUTION BOX C/W INLET BAFFLE AND POLYLOK FLOW EQUALIZERS
INLET INV. 95.10m(min.)
OUTLET INV. = 95.00m (min.)

100mmØ PERFORATED PVC SEPTIC PIPE INSTALLED @ APPROX. 0.5% ON ELJEN MODULES
HEAD INV. = 94.83m
FOOT INV. = 94.78m

SS 'A'

BH 4-24
94.11
(94.01)

EXISTING MONITORING WELL TO BE DECOMMISSIONED

2 x 38mmØ PVC SCH 40 PIPE FORCEMAIN
- SHALL BE INSTALLED TO GRAVITY DRAIN TO THE TANK.
- ENTIRE LENGTH OF FORCEMAIN SHALL BE BEDDED OF A MINIMUM OF 150mm OF OPSS GRANULAR A, AND SHALL BE COVERED WITH A MINIMUM OF 300mm OF OPSS GRANULAR A.
- ALL GRANULAR A MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 98% SPMDD.

PROPOSED INDUSTRIAL BUILDING
(ONE STOREY)

PROPOSED FINISHED FLOOR ELEVATION: 95.25

NOTE:
INTERNAL GREASE TRAPS SHALL BE PROVIDED ON KITCHEN FIXTURES.

3m L - 100mmØ PVC PIPE WITH ELBOW @ 2% (min.) SLOPE

2 CELLS OF 5 RUNS OF 11 ELJEN GSF A-42 MODULES
MODULAR BASE ELEV. @ HEAD = 94.65m
MODULAR BASE ELEV. @ FOOT = 94.60m

ELJEN SAMPLING PAN
- INSTALL COLLECTION PLATES AS PER MANUFACTURER SPECIFICATIONS

ELJEN SPECIFIED SAND AREA
- 630 mm THICK (TOP OF MODULE TO BASE)
- 37.24m x 22.50m
- FOLLOWED BY 300 mm THICK OF SAND/LIGNOCELLULOSE LAYER
- FOLLOWED BY 50 mm THICK LAYER OF LIMESTONE

BH 3-24
93.85
(93.85)

100mmØ PVC PIPE TO BE INSTALLED @ 2% (min.) SLOPE AND SHALL BE SLEEVED THROUGH A 150mm Ø PVC SDR28 PIPE AND OVERLAIN BY 75mm T x 600mm W RIGID INSULATION BOARDS UNDER ASPHALT.
OUTLET ELEV. @ PROPOSED BUILDING = 94.79m±

BH 1-24
94.20
(93.63)

EXISTING DRILLED WELL TO BE DECOMMISSIONED

EXISTING DRILLED WELL

No. 5935
2 Storey
Block and Metal Clad Building

NEW 28,101L PRETREATMENT TANK c/w
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS
- POLYLOK PL-525 EFFLUENT FILTER
- POLY RISER & COVER ASSEMBLY (2)
- INLET INV. = 94.50m±
- OUTLET INV. = 94.45m±
- TOP OF TANK = 94.80m±
- FINISHED GRADE = 95.40m

18,500L (min.) BALANCING TANK c/w TIME OPERATED EFFLUENT 1/2 H.P. DUPLEX PUMPS AND AUDIBLE / VISUAL HIGH WATER ALARM.
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- PUMPING SYSTEM SHALL BE TIME DOSED TO OPERATE EVERY HOUR AND ALTERNATE BETWEEN CELLS.
- POLY RISER AND COVER ASSEMBLY
- INLET INV. = 94.40m±
- TOP OF TANK (max.) = 94.75m±
- FINISHED GRADE = 95.40m

TBM:
TOP OF SPIKE IN HYDRO POLE ACROSS FROM EAST PROPERTY LINE OF 5935 OTTAWA STREET
GEODETIC ELEV. = 94.86m

SSIB (918)
SIB (WSG)
Ditch
Gravel Shoulder
Asphalt
Ditch

Professional Engineers Ontario

Licensed Engineering Technologist
Name: H. G. VAN DE GLIND
Number: 100647862
Limitations: Inspecting, designing, and assessing residential and commercial sewage systems, grading designs and soil analysis, and overseeing installation and compliance.
Association of Professional Engineers of Ontario

LEGEND:

⊕	Bore Hole Location
x 70.81	Existing Ground Surface Elev. (m)
x 72.70	Proposed Ground Surface Elev. (m)
72.70	Proposed Subgrade Elev. (m)
(70.7)	Groundwater Elev. (m) - Mar.6/22
F.F.E.	Finished Floor Elev. (m)
	Existing Structure
	Proposed Structure

All Units are in meters unless otherwise specified

BENCHMARK INFORMATION:

TBM: Top of Spike in Hydro Pole Across from East Property Line of 5935 Ottawa Street
Approximate Geodetic Elevation = 94.86m

REFERENCE:

Topographic Information obtained from Plan of Survey of Part of Unit 10 Index Plan D-26 Geographic Township of Goulbourn City of Ottawa, dated July 9, 2024, by egis Surveying Inc.

Baseplan Obtained from Site Plan No. A-001, dated May 2025, by N45 Architecture Inc.

Consultant

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7S8
TEL (613) 226-7381

DD/MM/YY	Description	Rev.
04/06/25	Issued for Septic Permit	3
14/05/25	Issued with Revised Site Plan	2
03/10/24	Issued with Revised Site Plan	1
20/09/24	Issued for Preliminary Review	0

Client: **STRATFORD FOXRUN**

Project: **PROPOSED WAREHOUSE / RESTAURANT**
5923 OTTAWA STREET
OTTAWA (RICHMOND), ONTARIO

Drawing: **SEWAGE SYSTEM LAYOUT PLAN**
SEWAGE SYSTEM 'A' AND 'B'

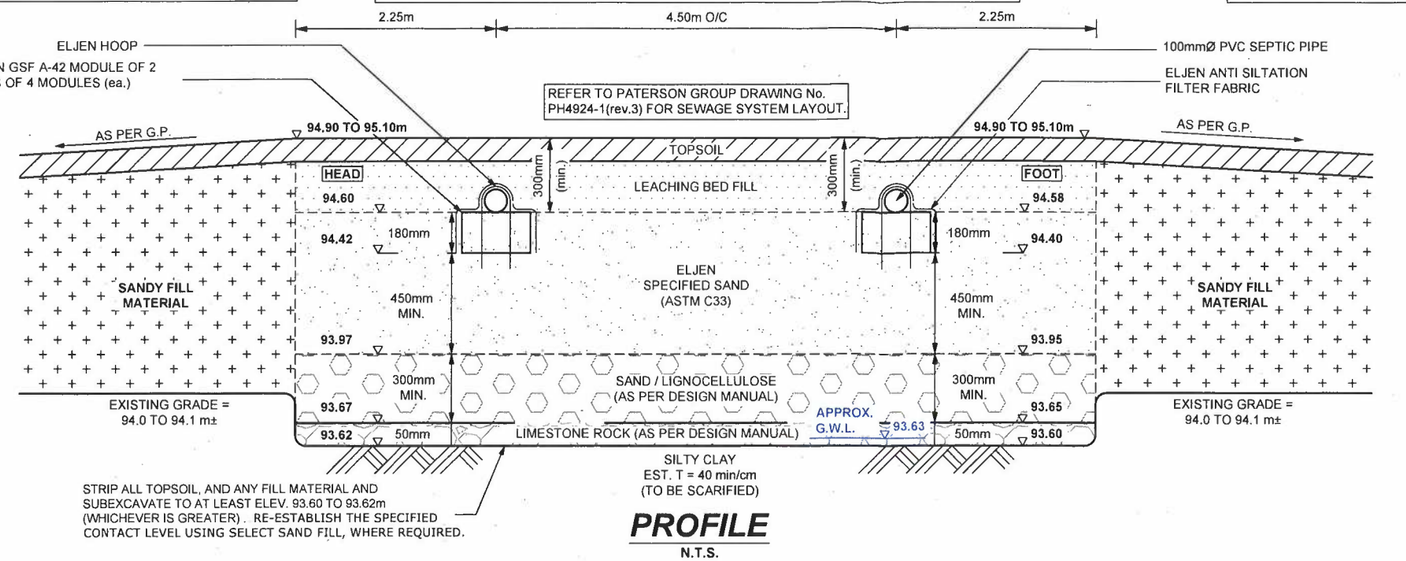
Scale: 1:600
Drawn by: HV
Date: 06/2025
Checked by: MK
Drawing no.: **PH4924-1(rev.3)**

p:\autocad drawings\hydrogeology\ph49xx\ph4924 - stratford foxrun - jack gulas - 5923 ottawa street richmond\ph4924-1(rev.3).dwg

COVER MATERIAL TO CONSIST OF LEACHING BED FILL FOLLOWED BY APPROX. 100mm OF SANDY TOPSOIL. LEACHING BED TO BE VEGETATED AS SOON AS POSSIBLE.

SEWAGE SYSTEM DESIGN, SPECIFICATION, DETAILS AND NOTES HAVE BEEN COMPLETED IN ACCORDANCE WITH ELJEN DENITRIFICATION SUPPLEMENTAL DESIGN AND INSTALLATION MANUAL.

FINAL GRADING SHALL BE SUITABLY SHAPED TO DIRECT SURFACE WATER AWAY FROM THE PROPOSED SEWAGE SYSTEM.



PROFILE
N.T.S.

NOTES:

1) ESTIMATE OF DAILY SEWAGE FLOW (Q)

THE PROPOSED SEWAGE SYSTEM HAS BEEN DESIGNED TO SUPPORT A COMMERCIAL TYPE USAGE CONSISTING OF OFFICE, AND WAREHOUSE SPACE. THE DAILY DESIGN SEWAGE FLOW RATE IS CALCULATED IN ACCORDANCE WITH O.B.C. TABLE 8.2.1.3.B.

OFFICE SPACE:
- 4 EMPLOYEES x 75 L/DAY = 300 L/DAY

WAREHOUSE SPACE:
- 2 LOADING BAY x 150 L/DAY = 300 L/DAY

TOTAL DESIGN DAILY SANITARY SEWAGE FLOW = 600 L/DAY

2) SOIL CONDITIONS

SOILS INFORMATION GATHERED BY PATERSON GROUP INC. ON APRIL 17, 2025. REFER TO PATERSON GROUP REPORT PG73781-1Rev.2 FOR FULL SOILS BREAKDOWN.

BH 1-25, ELEV. 94.07m

0-0.08	TOPSOIL AND ORGANICS
0.08-1.45	BROWN SILTY CLAY
1.45-6.60	GLACIAL TILL: BROWN SILTY SAND WITH GRAVEL, COBBLES BOULDERS AND CLAY (GREY @ 3.73 m DEPTH)

- G.W.L: @ 0.05m DEPTH (93.64m)

1) PRETREATMENT TANK

- TANK SHALL BE CONNECTED TO BUILDING BY A 150mm Ø PVC PIPE SLEEVED THROUGH A 200mmØ PVC SDR 28 PIPE AND OVERLAIN WITH 50mm T x 600mm W RIGID INSULATION BOARDS (UNDER ROADWAY) AND SHALL BE INSTALLED AT 2.0% (min.) SLOPE TO THE PETREATMENT TANK.
- MINIMUM WORKING CAPACITY OF PRETREATMENT TANK = (3 x Q) OR 3,600 L (min.) = 3,600 L (min.)
- IT IS RECOMMENDED THAT A NEW 3,600L (min.) TWO-COMPARTMENT SEPTIC TANK BE INSTALLED.
- AN OBC APPROVED EFFLUENT FILTER (I.E. POLYLOK PL-525 EFFLUENT FILTER, OR EQUIVALENT) SHALL BE INSTALLED ON THE OUTLET PIPE IN THE PRETREATMENT TANK.
- THE ACCESS LIDS TO THE TANK OPENINGS SHALL BE EXTENDED TO THE GROUND SURFACE. INSTALL RISERS AND COVERS TO SUIT.
- ACCESS LIDS SHALL INCLUDE SAFETY DEVICES AS PER CSA B66-21.
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER MATERIAL.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.

4) BALANCING TANK

- INSTALL A 450L (min.) BALANCING TANK IN SERIES AND DOWNSTREAM FROM THE NEW SEPTIC TANK.
- A TIME OPERATED ALTERNATING DUPLEX PUMPING SYSTEM (I.E. MYERS ME3F, OR SIMILAR) AND A HIGH WATER ALARM SHALL BE INSTALLED IN THE BALANCING TANK.
- THE TIME OPERATIONAL PUMPING SYSTEM SHALL OPERATE EVERY HOUR (I.E. 25 L/DOSE + VOLUME TO CHARGE THE SYSTEM) AND SHALL.
  ALTERNATE BETWEEN EACH CELL.
- A 3mmØ DRAIN HOLE SHALL BE INSTALLED IN THE UNDERSIDE OF THE FORCEMAIN IN THE BALANCING TANK NEAR THE WALL CONNECTION.
- RISERS WITH A COVER SHALL BE INSTALLED OVER THE BALANCING TANK TO PROVIDE ACCESS FROM THE GROUND SURFACE.
- DISCHARGE PIPING FOR PUMP SHALL BE CONFIGURED SUCH THAT THE PUMP IS EASILY SERVICED FROM THE GROUND SURFACE.

5) DISTRIBUTION BOX / FORCEMAIN

- A 38mmØ (NOMINAL) PVC SCH 40 FORCEMAIN (2) SHALL BE USED TO CARRY THE EFFLUENT FROM THE BALANCING TANK TO EACH 3m L x 100mm Ø PVC SEWER PIPE.
- 100mm SEWER PIPE SHALL DRAIN BY GRAVITY TO A 2 OUTLET DISTRIBUTION BOX.
- THE FORCE MAIN SHALL BE INSTALLED TO GRAVITY DRAIN TO THE BALANCING TANK
- THE FORCE MAIN SHALL BE OVERLAIN WITH 50mm T x 600mm C/W RIGID INSULATION.
- THE DISTRIBUTION BOX SHALL BE EQUIPPED WITH AN INLET BAFFLE AND OUTLET PIPES (2).
- EACH PIPING RUN SHALL BE FED BY A 2 OUTLET DISTRIBUTION BOX.
- THE DISTRIBUTION BOX SHALL BE CONNECTED TO THE DISTRIBUTION PIPING RUNS USING 100mmØ SOLID PVC SEWER PIPE @ 2% (min.) SLOPE.

6) LEACHING BED SIZING CRITERIA

- NO. OF MODULES REQUIRED = Q/95 = 600/95 = 6.3 MODULES
- USE 2 RUNS OF 4 (8) ELJEN GSF A-42 MODULES EACH
- SAND AREA REQUIRED = QT/400 = 600(40)/400 = 60m²
- SAND AREA PROVIDED = 9.60m x 9.68m = 92.9m² (min.)

7) LEACHING BED CONSTRUCTION GUIDELINES

- REMOVE ALL EXISTING TOPSOIL, AND ANY FILL WITHIN LIMITS OF THE SAND AREA AND SUBEXCAVATE TO AT LEAST ELEVATION 93.60m TO 93.62m, WHICHEVER IS GREATER. RE-ESTABLISH THE SPECIFIED CONTACT LEVEL USING SELECT SAND FILL, WHERE REQUIRED.
- THE SUBGRADE SURFACE SHALL BE SCARIFIED, **UNDER DRY CONDITIONS.**
- PLACE A 50mm MIN. THICK LAYER OF LIMESTONE ROCK OVER THE SUITABLY PREPARED SUBGRADE.
- LIMESTONE ROCK SHALL NO SMALLER THAN 25mm IN DIAMETER UP TO 50mm IN DIAMETER. THE ROCK SHALL CONTAIN GREATER THAN 15% LIMESTONE AS PER ELJEN DENITRIFICATION SUPPLEMENTAL DESIGN AND INSTALLATION MANUAL.
- PLACE A 300mm THICK LAYER OF SAND / LIGNOCELLULOSE OVER THE LIMESTONE ROCK LAYER.
- SAND / LIGNOCELLULOSE SHALL CONSIST OF WOOD CHIPS OR SAW DUST FROM HARD WOOD TREES THAT HAVE NOT BEEN FURTHER PROCESSED BY CHEMICALS. THE 300mm SAND AND LIGNOCELLULOSE LAYER SHALL BE 50/50 EQUAL MIXTURE OF ASTM C33 SAND AND WOOD CHIPS FROM HARD WOOD TREES. THE MIXTURE MUST NOT EXCEED 60/40 IN FAVOR OF THE MORE WOOD TO SAND.
- PLACE A 450mm MIN. THICK LAYER OF ELJEN SPECIFIED SAND FILL OVER THE LEACHING BED FILL.
- THE ELJEN SPECIFIED SAND FILL SHALL CONSIST OF WASHED SAND MEETING THE REQUIREMENTS OF ASTM C33 "STANDARD SPECIFICATION FOR CONCRETE AGGREGATES" WITH LESS THAN THAN 5% PASSING 0.075mm SIEVE. ELJEN SPECIFIED SAND FILL SHALL BE PRE-APPROVED BY THE CONSULTANT.
- THE MODULES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- THE MODULES SHALL BE INSTALLED AT A SLOPE OF 0.3%(min.) to 0.5%(max.), END TO END AND WITH THE WHITE DEMARCATION LINE FACING UP.
- THE MODULAR BASE LEVEL (ELEV. 94.40m AT THE FOOT, TO 94.42m AT THE HEAD) SHALL BE ESTABLISHED WITH ELJEN SPECIFIED SAND FILL, HAVING A MINIMUM THICKNESS OF 450mm BELOW THE MODULES.
- THE ELJEN MODULES SHALL BE FED BY GRAVITY BY A 100mmØ PVC SEWER PIPE @ 2% (min.) SLOPE FROM THE DISTRIBUTION BOX
- THE DISTRIBUTION PIPE SHALL CONSIST OF A 100mmØ PERFORATED PVC PIPE CENTRED OVER THE MODULES. THE PIPE SHALL BE SECURED TO THE TOP OF THE MODULES USING AN ELJEN HOOP (MINIMUM 1 HOOP PER MODULE).
- THE INVERT LEVEL OF THE DISTRIBUTION PIPE SHALL BE SET ON THE MODULES AT ELEVATION 94.58m AT THE FOOT TO 94.60m AT THE HEAD. THE END OF THE PIPE RUNS SHALL BE CONNECTED TO A 100mmØ SOLID PVC FOOTER PIPE
- INSTALL ELJEN SYSTEM SAMPLING DEVICE AS PER MANUFACTURER'S RECOMMENDATIONS.
- THE ELJEN ANTI-SILTATION FILTER FABRIC SHALL BE SPREAD LENGTHWISE OVER THE PERFORATED SEPTIC PIPE AND DOWN THE SIDES OF THE MODULES. ENSURE ENDS OF MODULES ARE ALSO COVERED WITH FABRIC.
- THE MODULES SHALL BE BACKFILLED, WITH ELJEN SPECIFIED SAND FILL TO AT LEAST THE TOP OF THE ELJEN MODULES, FOLLOWED BY 200mm (min.) OF LEACHING BED FILL, FOLLOWED BY 100mm OF SANDY TOPSOIL, WITHIN THE LIMITS OF THE SAND AREA. THE BED AREA SHOULD BE VEGETATED AS SOON AS POSSIBLE.
- LEACHING BED SAND FILL SHALL BE UNIFORM SAND WITH GRADING LIMITS SIMILAR TO 100% PASSING 13.2mm SIEVE, LESS THAN 5% PASSING 0.075mm SIEVE, AND HAVING A PERCOLATION TIME OF 6 TO 8 min/cm. LEACHING BED FILL SHALL BE PRE- APPROVED BY THE CONSULTANT.
- THE SIDES OF THE BED SHOULD BE SLOPED AT 3H:1V OR SHALLOWER.
- VENT SYSTEM SHALL BE INSTALLED ON THE FOOTER PIPE. CONNECT A 100mmØ PVC VENT PIPE TO FOOTER PIPE, EXTENDING TO GROUND SURFACE. VENT PIPE TO BE INSTALLED IN 150mmØ LANDSCAPE VALVE COVER.

8) MINIMUM CLEARANCE DISTANCE FROM DISTRIBUTION PIPE

- 5.6m FROM ANY PROPERTY LINE
- 7.6m FROM ANY STRUCTURE: 5.0m FROM ANY BASEMENTLESS STRUCTURE
- 17.6m FROM ANY DRILLED WELL
- 5.0m FROM ANY TREE (UNLESS OTHERWISE APPROVED)

9) MINIMUM CLEARANCE DISTANCE FROM TANK(S)

- 1.5m FROM ANY STRUCTURE
- 15.0m FROM ANY DRILLED OR DUG WELL
- 3.0m FROM ANY PROPERTY LINE

10) GENERAL

- SNOW STORAGE SHALL NOT BE LOCATED OVER OR UPGRADIENT OF THE PROPOSED SEWAGE SYSTEM.
- THE SEWAGE SYSTEM HAS NOT BEEN DESIGNED TO SUPPORT TRAFFIC LOADING.
- THE BACKFILLING OF THE SEWAGE SYSTEM SHOULD MINIMIZE THE RISK OF OVER COMPACTION WITH THE USE RUBBER TRACKED EQUIPMENT AND BY AVOIDING THE CREATION OF ANY CONSTRUCTION ROUTES OR PATHWAYS OVER THE SYSTEM.
- ANY NEW IRRIGATION / SPRINKLER SYSTEM SHOULD NOT BE USED IN PROXIMITY OF THE PROPOSED SEWAGE SYSTEM.
- ENSURE WALKWAYS AND/OR SHURBBERY ARE NOT PLACED WITHIN PROXIMITY OF THE TANKAGE.
- THE BACKWASH WATERS FROM ANY WATER TREATMENT UNIT, SUCH AS WATER SOFTENER, SHOULD NOT DISCHARGE INTO THE SEWAGE SYSTEM.
- THE SEWAGE SYSTEM HAS NOT BEEN DESIGNED FOR THE USE OF A GARBAGE DISPOSAL.
- SEWAGE SYSTEM INSTALLER SHALL BE QUALIFIED AND REGISTERED UNDER PART 8 OF THE ONTARIO BUILDING CODE AND SHALL BE AN AUTHORIZED EJLEN TREATMENT SYSTEM INSTALLER.
- ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE LATEST BY-LAWS, CODES AND REGULATIONS.
- CONTRACTOR SHALL REVIEW DRAWINGS IN DETAIL AND SHALL INFORM THE CONSULTANT OF ANY ERRORS AND/OR OMISSIONS ON DESIGN DRAWINGS IMMEDIATELY.
- CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT ALL EXISTING UNDERGROUND SERVICES.
- CONTRACTOR SHALL VISIT THE SITE AND REVIEW ALL DOCUMENTATION TO BECOME FAMILIAR WITH THE SITE AND SUBSURFACE SOIL CONDITIONS TO DETERMINE SUITABLE METHODS OF CONSTRUCTION.
- THE MANUFACTURER PROVIDES A LIMITED WARRANTY OF THE SYSTEM COMPONENTS. THE OWNER OF THE SYSTEM MUST SIGN A MAINTENANCE AGREEMENT WITH THE MANUFACTURER'S REPRESENTATIVE. THE HOMEOWNER IS RESPONSIBLE FOR THE ANNUAL FEES ASSOCIATED WITH THE MAINTENANCE.
- THE FIRM OF PATERSON GROUP INC. HAS PROVIDED DESIGN SERVICES ONLY FOR THE SUBJECT SEWAGE SYSTEM. THE DESIGN HAS BEEN CARRIED OUT IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES AND OUR INTERPRETATION OF PART 8 OF THE ONTARIO BUILDING CODE.
- INSPECTIONS BY THE CONSULTANT DURING THE INSTALLATION OF THE SYSTEM IS A REQUIREMENT OF SOME REGULATING AUTHORITIES AND IS STRONGLY RECOMMENDED BY THIS FIRM.
- THE PROPERTY LINE / SEPARATION DISTANCES SHOULD BE CONFIRMED PRIOR TO CONSTRUCTION.
- CONSTRUCTION INSPECTIONS DURING THE INSTALLATION OF THE SEWAGE SYSTEM MAY BE REQUIRED BY THE REGULATING AUTHORITY AND ARE STRONGLY RECOMMENDED BY THIS FIRM. IF THIS FIRM IS TO COMPLETE ANY CONSTRUCTION INSPECTION(S), ADDITIONAL FEES MAY BE APPLIED. CONFIRMATION OF PAYMENT WILL BE REQUIRED PRIOR TO THE INSPECTION.
- THE TEST HOLE INFORMATION PROVIDED, IS INTENDED TO BE USED FOR DESIGN PURPOSES ONLY, AND SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES. IF DISCREPANCIES ARE FOUND DURING THE CONSTRUCTION PROCESS, IT IS THE CLIENT'S RESPONSIBILITY TO CONTACT THIS FIRM TO MAKE ANY NECESSARY COMMENTS OR REVISIONS. ADDITIONAL REVISIONS ARE NOT CONSIDERED PART OF THE DESIGN WORKS AND WILL BE CONSIDERED AS AN ADDITIONAL COST.

Professional Engineers Ontario

Licensed Engineering Technologist

Name: H. G. VAN DE GLIND
Number: 100647862
Limitations: Inspecting, designing, and assessing residential and commercial sewage systems, grading designs and soil analysis, and overseeing installation and compliance.

Association of Professional Engineers of Ontario

DD/MM/YY	DESCRIPTION	REV.
04/06/25	Issued for Septic Permit	3
14/05/25	Issued with Revised Site Plan	2
03/10/24	Issued with Revised Site Plan	1
20/09/24	Issued for Preliminary Review	0

Consultant:

PATERSON GROUP
9 AURIGA DRIVE OTTAWA ON K2E 7Z9 TEL (613) 226-7381

Client:

STRATFORD FOXRUN

Project:

PROPOSED WAREHOUSE / RESTAURANT

5923 OTTAWA STREET OTTAWA (RICHMOND), ONTARIO

Drawing:

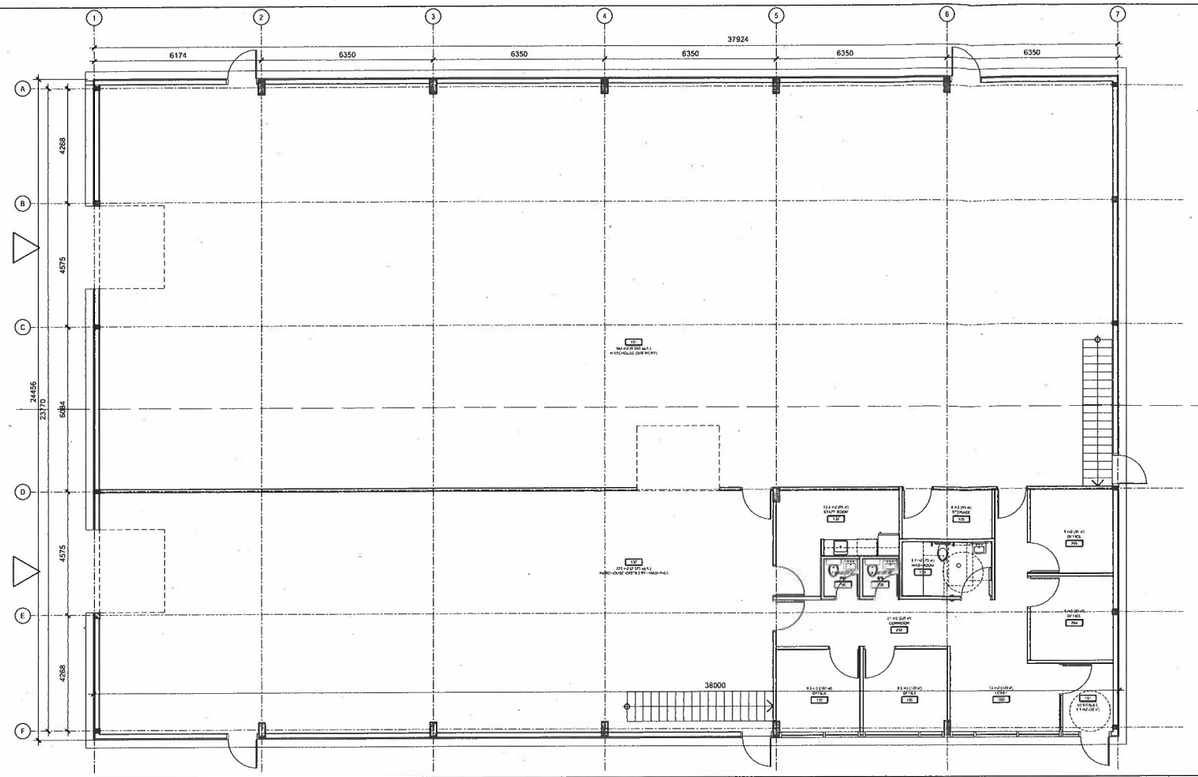
SEWAGE SYSTEM DETAILS AND NOTES SEWAGE SYSTEM 'B'

Scale:	Drawn by:
N.T.S.	HV
Date: 06/2025	Checked by: MK

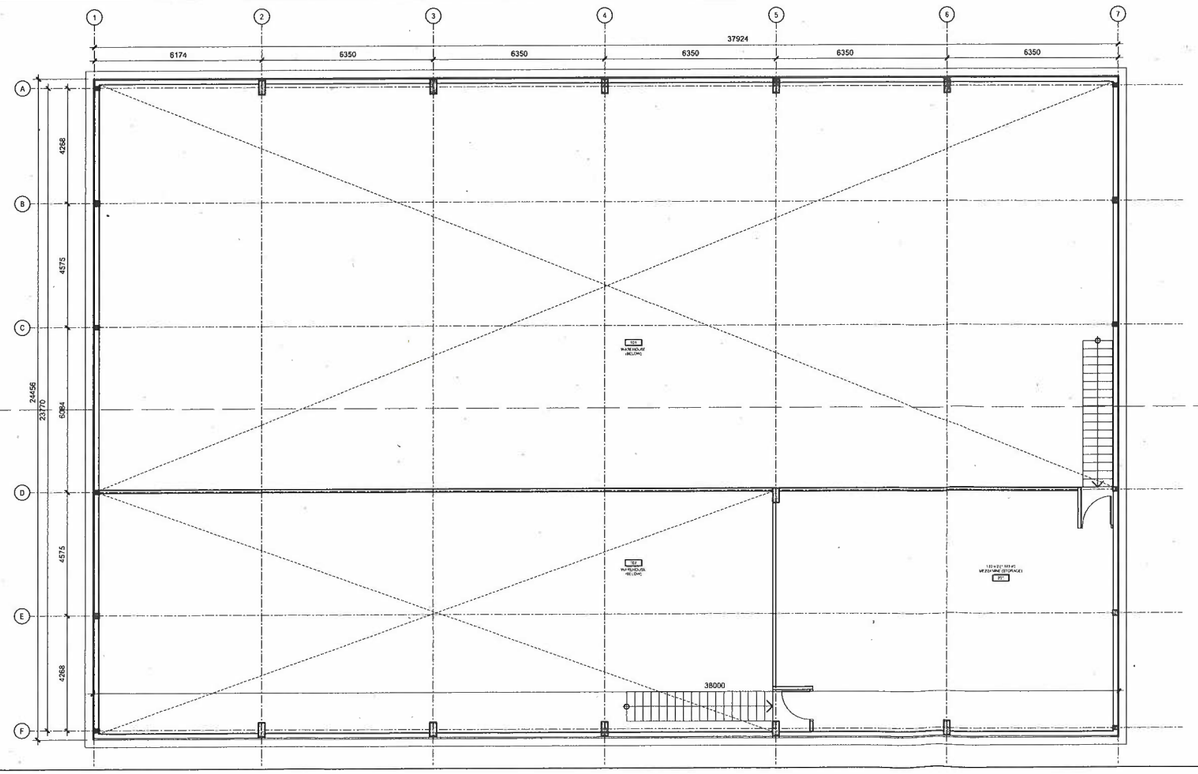
Drawing No.:

PH4924-3(rev.3)

p:\autocad drawings\hydrogeology\ph49xx\ph4924 - stratford foxrun - jack gulas - 5923 ottawa street richmond\ph4924-3(rev.3).dwg



1 A-004 GROUND FLOOR PLAN
SCALE 1:100



BUILDING 2
SEWAGE SYSTEM "B"
25-177

2 A-004 MEZZANINE FLOOR PLAN
SCALE 1:100

STRATFORD FOX RUN
GROUP OF COMPANIES

no.	revision	date
-		
01	ISSUED FOR SPA	08MAY25

N45 ARCHITECTURE INC.
71 Bank Street, 7th floor - Ottawa, Ontario, K1P 5N2
tel. 613.224.0095 fax 613.224.9811

project
FOXRUN RICHMOND

5923 OTTAWA STREET
OTTAWA, ON

project north

seal
ONTARIO ASSOCIATION OF ARCHITECTS
VLADIMIR POPOVIC
LICENCE
5918

drawing title
BREWERY BUILDING

scale AS NOTED	drawn by NF
date MARCH 2025	checked by VP
project number 24-826	drawing number A-004

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE WORK COMMENCES.
DO NOT SCALE DRAWINGS.

revision -

Rideau Valley Conservation Authority

Permit
Part 8 – Sewage System
Ontario Building Code

Do Not Complete
Permit No 25-177
Revision No
Date
Related Application

A copy of this permit must be posted on the property at all time during construction. OBC, Division C — Part 1, Section 1.3.2.1

This permit verifies that the on-site sewage system was reviewed and approved for construction under the Ontario Building Code Act (Building Code Act, 1992, S.O. 1992, c. 23) and Ontario Building Code (O. Reg. 163/24) as amended.

Inspected & Recommended by: Matt Panciuk
Owner: 99117756 Canada Inc.
Inspection Date & Time:
Weather:
Address: 5923 Ottawa Street - System B
Legal:
In the former Township/City of Goulbourn

Design Flow for Commercial / Institutional / Industrial (as per Table 8.2.1.3.B)

Q: 600 L/day

septic tank 3600(min) L
effluent filter YES
pump rate 25 + Charge L/15 MIN
treatment unit Eljen GSF A42(DN 450)
number of units 8

weigh bills for Eljen Sand	■ yes	❒ no
grain size analysis required	■ yes	❒ no
site to be scarified	■ yes	❒ no
clay seal inspection	❒ yes	■ no
mantle required	❒ yes	■ no
sub-grade inspection	■ yes	❒ no

ELEVATION ☐ In Ground ☐ Partially Raised ☒ Fully Raised

TYPE OF SYSTEM

❒ **Trench**
◯ **Pipe and Stone or** ◯ **Chambers**
type of chamber
loading area m^2
total trench length m
trench configuration

■ **Dispersal Bed**
◉ BMEC ◯ Type A ◯ Type B
stone m^2
sand 92.9 m^2
pipe 2 runs of 4 modules @ 4.5m o/c
weight of sand kg

❒ **Shallow Buried Trench**
pipe length m
orifice spacing m

❒ **Filter Media Bed**
stone m^2
extended base m^2
pipe
weight of filter media kg
loading area m^2

❒ **Class 5 Holding Tank**

❒ **Septic Tank Only**

Manager, Septic System Approvals: Jason Hull Permit Date: August 5, 2025
Comments: 1. Scarification inspection required prior to placement of sand fill.

■ maintenance/pumping required ■ ESA permit # required ❒ engineer to verify ■ subgrade ❒ squirt height
❒ Class 5 Holding Tank approval only valid for three years from date of issue

Manager, Septic System Approvals: Revision Date:
Comments:

NOTE: For further details, refer to corresponding application.

June 2025

ROAD ALLOWANCE BETWEEN LOTS 25 & 26 CONCESSION 3

PART 1
R.P 4R-13387

N42°37'20"W

100mmØ PVC PIPE TO BE INSTALLED @ 2% (min.) SLOPE AND SHALL BE SLEEVED THROUGH A 150mm Ø PVC SDR28 PIPE AND OVERLAIN BY 75mm T x 600mm W RIGID INSULATION BOARDS UNDER ASPHALT. PATERSON TO REVIEW COVER UPON COMPLETION OF LOT GRADING AND DRAINAGE.

NEW 3,600L PRETREATMENT TANK c/w
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- POLYLOK PL-525 EFFLUENT FILTER
- POLY RISER & COVER ASSEMBLY (2)
- INLET INV. = 94.27m±
- OUTLET INV. = 94.22m±
- TOP OF TANK = 94.55m±
- FINISHED GRADE = 95.15m

3m L - 100mmØ PVC PIPE WITH ELBOW @ 2% (min.) SLOPE

TYP.
2 OUTLET DISTRIBUTION BOX C/W INLET BAFFLE AND POLYLOK FLOW EQUALIZERS
INLET INV. 94.90m(min.)
OUTLET INV. = 94.80m (min.)

SS 'B'

ELJEN SAMPLING PAN
- INSTALL COLLECTION PLATES AS PER MANUFACTURER SPECIFICATIONS

2 RUNS OF 4 ELJEN GSF A-42 MODULES
MODULAR BASE ELEV. @ HEAD = 94.42m
MODULAR BASE ELEV. @ FOOT = 94.40m

TYP.
100mmØ VENT PIPE INSTALLED IN 150mmØ LANDSCAPE VALVE COVER

TYP.
100mmØ SOLID PVC FOOTER PIPE
INV. = 94.58m

BH 1-25
94.07
(93.63)

TYP.
BOLLARDS

PROPOSED INDUSTRIAL BUIDLING
(ONE STOREY)

38mmØ PVC SCH 40 PIPE FORCEMAIN
- SHALL BE INSTALLED TO GRAVITY DRAIN TO THE TANK.
- ENTIRE LENGTH OF FORCEMAIN SHALL BE BEDDED OF A MINIMUM OF 150mm OF OPSS GRANULAR A, AND SHALL BE COVERED WITH A MINIMUM OF 300mm OF OPSS GRANULAR A.
- ALL GRANULAR A MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 98% SPMDD.

450L (min.) BALANCING TANK c/w TIME OPERATED EFFLUENT 1/2 H.P. SIMPLEX PUMP AND AUDIBLE / VISUAL HIGH WATER ALARM.
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- POLY RISER AND COVER ASSEMBLY
- INLET INV. = 94.17m
- FINISHED GRADE = 95.15m

BH 2-24
93.69
(93.69)

100mmØ PERFORATED PVC SEPTIC PIPE INSTALLED @ APPROX. 0.5% ON ELJEN MODULES
HEAD INV. = 94.60m
FOOT INV. = 94.58m

ELJEN SPECIFIED SAND AREA
- 630 mm THICK (TOP OF MODULE TO BASE)
- 9.60m x 9.68m
- FOLLOWED BY 300 mm THICK OF SAND/LIGNOCELLULOSE LAYER
- FOLLOWED BY 50 mm THICK LAYER OF LIMESTONE

NOTE:
SNOW STORAGE SHALL NOT BE LOCATED OVER OR UPGRADIENT OF THE PROPOSED SEWAGE SYSTEM.

SNOW STORAGE

ASPHALT

PAVERS

BH 5-24
93.92
(93.72)

SSIB (1916)

SIB (WSG)

Ditch

180.06

110.00

STREET

Gravel Shoulder

94.66 Asphalt

94.75

NOTE:
SEWAGE SYSTEM 'B' HAS BEEN DESIGNED BASED ON *PATERSON GROUP REPORT PH4924-LET.01*

TOTAL DESIGN DAILY SANITARY SEWAGE FLOW (T.D.D.S.S.F.) OR "Q" = 600 L/DAY

NATIVE SOILS = GLACIAL TILL TO SILTY CLAY = T = 40 min/cm

MINIMUM NITRATE REDUCTION LEVEL REQUIRED = 50% AS PER PATERSON GROUP REPORT No. *PH4924-LET.01*

ELJEN DN450 SHALL BE USED TO ACHIEVE THE MINIMUM REQUIRED NITRATE REDUCTION.

PRESENTLY PROPOSED ELEVATIONS ARE BASED OFF THE EXISTING TOPOGRAPHIC INFORMATION. THE PROPOSED LOT GRADING AND DRAINAGE ASSOCIATED WITH THE PROPOSED ADDITION MAY AFFECT THESE ELEVATIONS.

NOTE:
SEWAGE SYSTEM 'A' HAS BEEN DESIGNED BASED ON *PATERSON GROUP REPORT PH4924-LET.01*

TOTAL DESIGN DAILY SANITARY SEWAGE FLOW (T.D.D.S.S.F.) OR "Q" = 9,367 L/DAY

NATIVE SOILS = GLACIAL TILL TO SILTY CLAY = T = 35 min/cm

MINIMUM NITRATE REDUCTION LEVEL REQUIRED = 50% AS PER PATERSON GROUP REPORT No. *PH4924-LET.01*

ELJEN DN450 SHALL BE USED TO ACHIEVE THE MINIMUM REQUIRED NITRATE REDUCTION.

PRESENTLY PROPOSED ELEVATIONS ARE BASED OFF THE EXISTING TOPOGRAPHIC INFORMATION. THE PROPOSED LOT GRADING AND DRAINAGE ASSOCIATED WITH THE PROPOSED ADDITION MAY AFFECT THESE ELEVATIONS.

NATIONAL ROAD (RR 174)

Slope to Ditch

Ditch to Slope

PART 4
R.P 4R-7050

NOTE:
SNOW STORAGE SHALL NOT BE LOCATED OVER OR UPGRADIENT OF THE PROPOSED SEWAGE SYSTEM.

SNOW STORAGE

TYP.
100mmØ VENT PIPE INSTALLED IN 150mmØ LANDSCAPE VALVE COVER

TYP.
100mmØ SOLID PVC FOOTER PIPE
INV. = 94.78m

2.25 4.50 4.50 4.50 4.50 2.25

93.80

100mmØ PERFORATED PVC SEPTIC PIPE INSTALLED @ APPROX. 0.5% ON ELJEN MODULES
HEAD INV. = 94.83m
FOOT INV. = 94.78m

SS 'A'

3m L - 100mmØ PVC PIPE WITH ELBOW @ 2% (min.) SLOPE

2 CELLS OF 5 RUNS OF 11 ELJEN GSF A-42 MODULES
MODULAR BASE ELEV. @ HEAD = 94.65m
MODULAR BASE ELEV. @ FOOT = 94.60m

ELJEN SAMPLING PAN
- INSTALL COLLECTION PLATES AS PER MANUFACTURER SPECIFICATIONS

ELJEN SPECIFIED SAND AREA
- 630 mm THICK (TOP OF MODULE TO BASE)
- 37.24m x 22.50m
- FOLLOWED BY 300 mm THICK OF SAND/LIGNOCELLULOSE LAYER
- FOLLOWED BY 50 mm THICK LAYER OF LIMESTONE

TYP.
2 x LARGE 4 OUTLET DISTRIBUTION BOX C/W INLET BAFFLE AND POLYLOK FLOW EQUALIZERS
INLET INV. 95.10m(min.)
OUTLET INV. = 95.00m (min.)

BH 4-24
94.11
(94.01)

EXISTING MONITORING WELL TO BE DECOMMISSIONED

CONCRETE

2 x 38mmØ PVC SCH 40 PIPE FORCEMAIN
- SHALL BE INSTALLED TO GRAVITY DRAIN TO THE TANK.
- ENTIRE LENGTH OF FORCEMAIN SHALL BE BEDDED OF A MINIMUM OF 150mm OF OPSS GRANULAR A, AND SHALL BE COVERED WITH A MINIMUM OF 300mm OF OPSS GRANULAR A.
- ALL GRANULAR A MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 98% SPMDD.

PROPOSED INDUSTRIAL BUIDLING
(ONE STOREY)

PROPOSED FINISHED FLOOR ELEVATION: 95.25

EXISTING DRILLED WELL - TW1

NOTE:
INTERNAL GREASE TRAPS SHALL BE PROVIDED ON KITCHEN FIXTURES.

TYP.
BOLLARDS

PAVERS

BH 3-24
93.85
(93.85)

100mmØ PVC PIPE TO BE INSTALLED @ 2% (min.) SLOPE AND SHALL BE SLEEVED THROUGH A 150mm Ø PVC SDR28 PIPE AND OVERLAIN BY 75mm T x 600mm W RIGID INSULATION BOARDS UNDER ASPHALT.
OUTLET ELEV. @ PROPOSED BUILDING = 94.79m±

BH 1-24
94.20
(93.63)

CONC.

CONCRETE

EXISTING DRILLED WELL TO BE DECOMMISSIONED

NEW 28,101L PRETREATMENT TANK c/w
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS
- POLYLOK PL-525 EFFLUENT FILTER
- POLY RISER & COVER ASSEMBLY (2)
- INLET INV. = 94.50m±
- OUTLET INV. = 94.45m±
- TOP OF TANK = 94.80m±
- FINISHED GRADE = 95.40m

18,500L (min.) BALANCING TANK c/w TIME OPERATED EFFLUENT 1/2 H.P. DUPLEX PUMPS AND AUDIBLE / VISUAL HIGH WATER ALARM.
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- PUMPING SYSTEM SHALL BE TIME DOSED TO OPERATE EVERY HOUR AND ALTERNATE BETWEEN CELLS.
- POLY RISER AND COVER ASSEMBLY
- INLET INV. = 94.40m±
- TOP OF TANK (max.) = 94.75m±
- FINISHED GRADE = 95.40m

NEIGHBOURING EXISTING DRILLED WELL

No. 5935
2 Storey
Block and Metal Clad
Building

TBM:
TOP OF SPIKE IN HYDRO POLE ACROSS FROM EAST PROPERTY LINE OF 5935 OTTAWA STREET
GEODETIC ELEV. = 94.86m

N42°32'25"W

N47°26'50"E

OTTAWA

Ditch

Gravel Shoulder

Professional Engineers Ontario

Licensed Engineering Technologist

Name: H. G. VAN DE GLIND
Number: 100647862
Limitations: Inspecting, designing, and assessing residential and commercial sewage systems, grading designs and soil analysis, and overseeing installation and compliance.

Association of Professional Engineers of Ontario

LEGEND:

- Bore Hole Location
- x 70.81 — Existing Ground Surface Elev. (m)
- **x 72.70** — Proposed Ground Surface Elev. (m)
- **72.70** — Proposed Subgrade Elev. (m)
- (70.7) — Groundwater Elev. (m) - Mar.6/22
- F.F.E. — Finished Floor Elev. (m)
- Existing Structure
- Proposed Structure

All Units are in meters unless otherwise specified

BENCHMARK INFORMATION:

TBM: Top of Spike in Hydro Pole Across from East Property Line of 5935 Ottawa Street
Approximate Geodetic Elevation = 94.86m

REFERENCE:

Topographic Information obtained from Plan of Survey of Part of Unit 10 Index Plan D-26 Geographic Township of Goulbourn City of Ottawa, dated July 9, 2024, by egis Surveying Inc.

Baseplan Obtained from Site Plan No. A-001, dated May 2025, by N45 Architecture Inc.

Consultant

PATERSON GROUP

9 AURIGA DRIVE
OTTAWA, ON
K2E 7S9
TEL: (613) 226-7381

07/11/25	Well Information Revised	5
14/08/25	Revised as per City of Ottawa Comments	4
04/06/25	Issued for Septic Permit	3
14/05/25	Issued with Revised Site Plan	2
DD/MM/YY	Description	Rev.

Client: **STRATFORD FOXRUN**

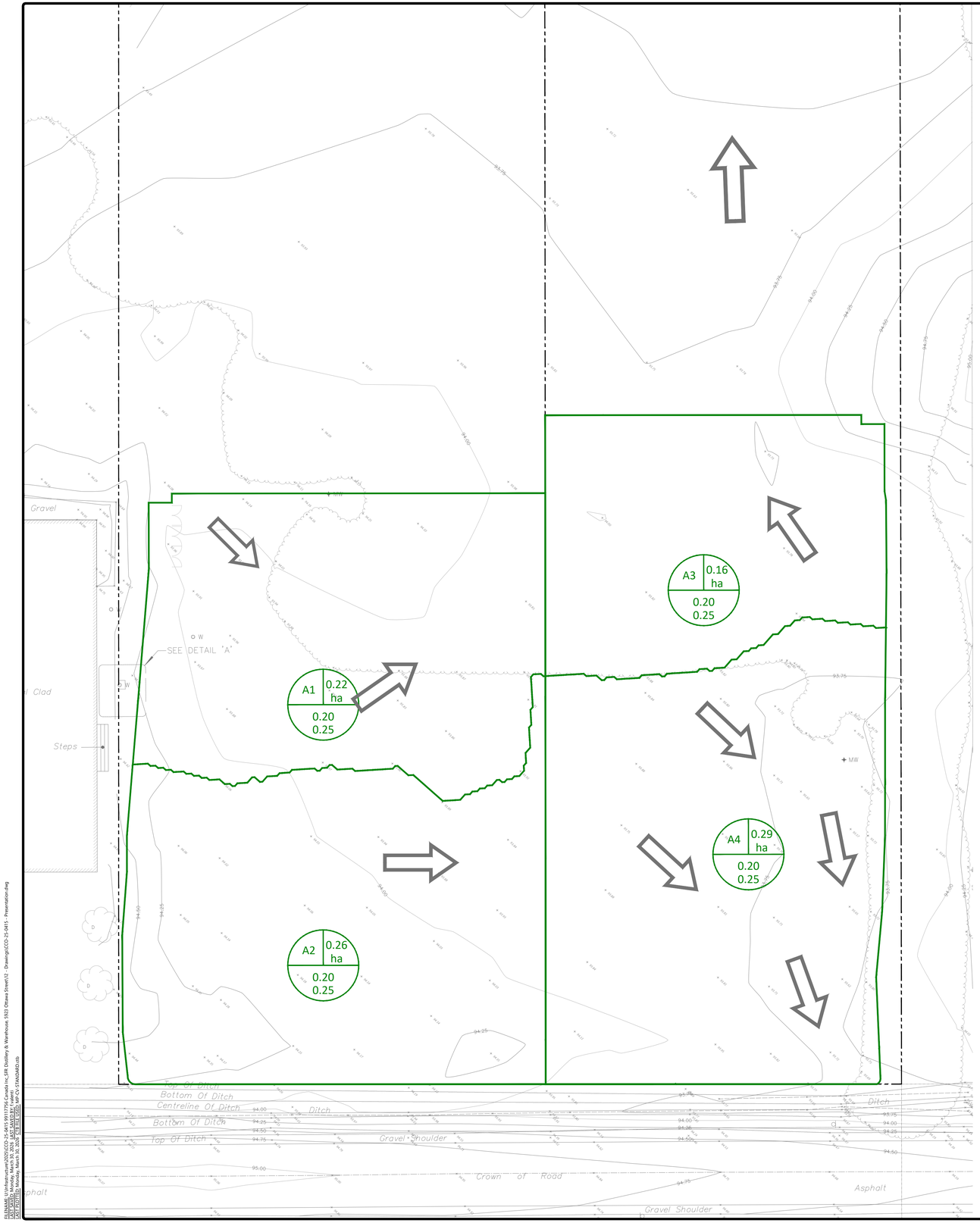
Project: **PROPOSED WAREHOUSE / RESTAURANT**
5923 OTTAWA STREET
OTTAWA (RICHMOND), ONTARIO

Drawing: **SEWAGE SYSTEM LAYOUT PLAN**
SEWAGE SYSTEM 'A' AND 'B'

Scale: 1:600
Drawn by: HV
Date: 11/2025
Checked by: MK
Drawing no.: **PH4924-1(rev.5)**

p:\autocad drawings\hydrogeology\ph4924-1 (rev.5).dwg

APPENDIX E
PRE-DEVELOPMENT DRAINAGE PLAN



GENERAL NOTES

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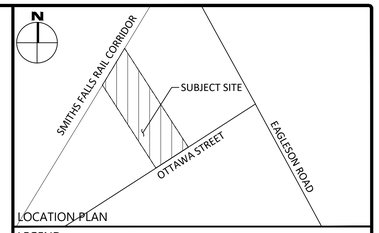
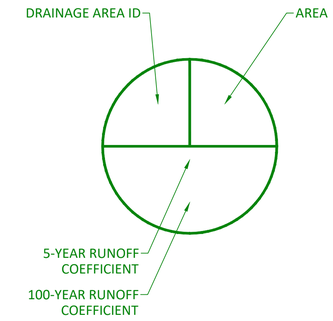
17. CONTRACTOR TO ENSURE ALL APPLICABLE OPS SPECIFICATIONS ARE FOLLOWED DURING CONSTRUCTION
18. ALL PROPOSED CURB TO BE CONCRETE BARRIER CURB UNLESS OTHERWISE SPECIFIED.



LOCATION PLAN

LEGEND



FOR REVIEW ONLY
NOT FOR CONSTRUCTION

No.	Revisions	Date
3	ISSUED FOR REVIEW	MAR. 30, 2026
2	ISSUED FOR REVIEW	AUG. 12, 2025
1	ISSUED FOR SITE PLAN CONTROL	JUN. 06, 2025

Check and verify all dimensions before proceeding with the work

Do not scale drawings

SCALE 1 : 300

0 5 10 15 20 25 30 Metres

egis
750 Palladium Drive, Suite 310
Kanata, ON K2V 1C7
Tel: 613-836-2184
Fax: 613-836-3742
www.egis-group.com

Stamp:

Client:

99117756 CANADA INC.
411 LEGGET DRIVE, SUITE 710
OTTAWA, ON K2K 3C9

Project:

DISTILLERY & WAREHOUSE
5923 OTTAWA STREET

Drawing Title:

PRE-DEVELOPMENT DRAINAGE AREA PLAN

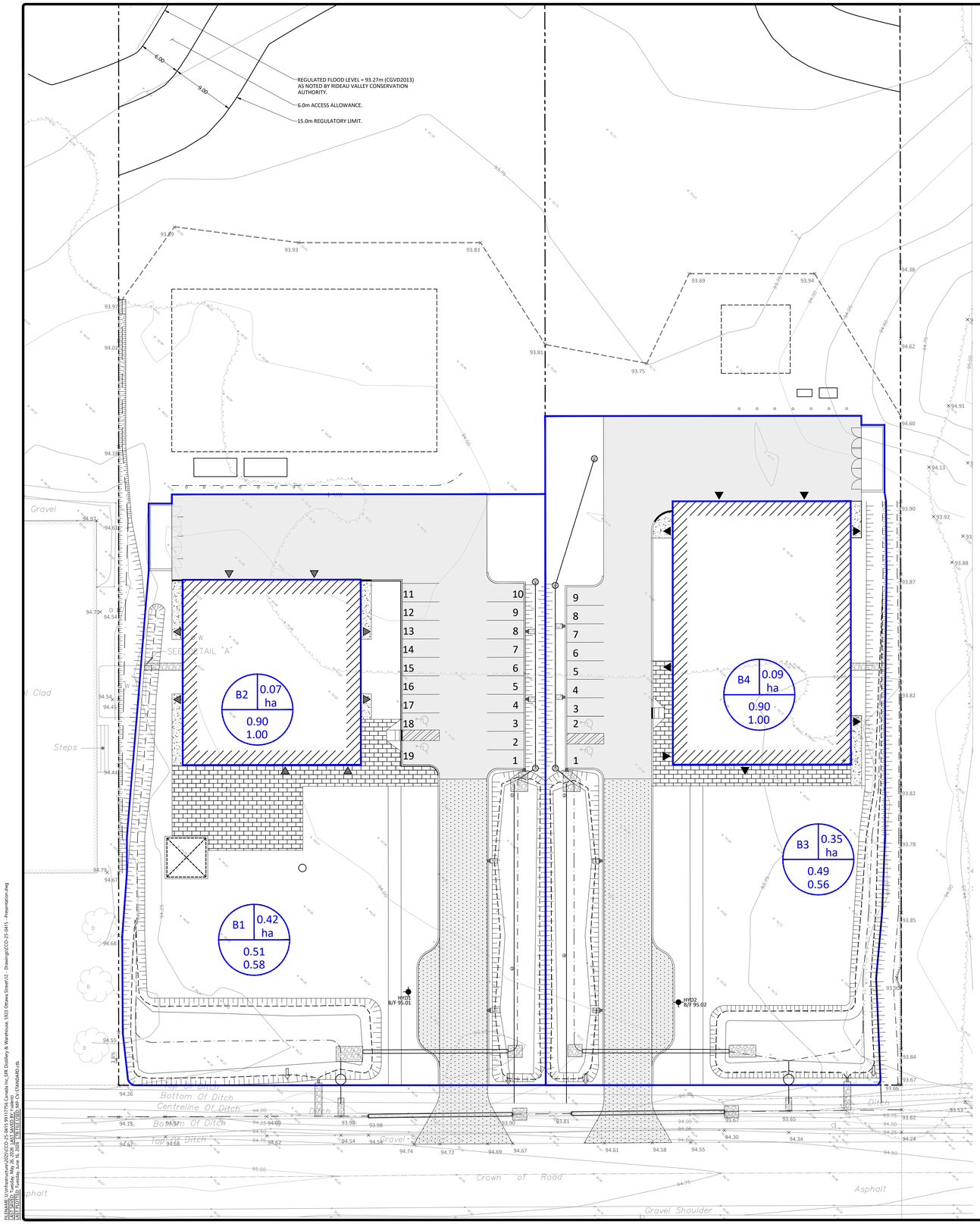
Scale: 1:300	Project Number: CCO-25-0415
Drawn By: FV	
Checked By: AG	Drawing Number: PRE
Designed By: AG	

D07-12-25-0078

#19400

FILENAME: U:\Infrastructure\2025\CCO-25-0415 99117756 Canada Inc_5PR Distillery & Warehouse, 5923 Ottawa Street\12 - Drawings\CCO-25-0415 - Presentation.dwg
LAYOUT: PRE-DEVELOPMENT Modified: Monday, March 30, 2026 - 11:11:11 AM by: Fabian Vargas
DATE PLOTTED: Monday, March 30, 2026 - 11:11:11 AM PLOTTED BY: Fabian Vargas
PLOTTED: Monday, March 30, 2026 - 11:11:11 AM PLOTTED BY: Fabian Vargas
CAD SETTING: Modified: Monday, March 30, 2026 - 11:11:11 AM by: Fabian Vargas
PLOTTED: Monday, March 30, 2026 - 11:11:11 AM PLOTTED BY: Fabian Vargas
CAD SETTING: MP-CV-STANDARD.ctb

APPENDIX F
POST-DEVELOPMENT DRAINAGE PLAN



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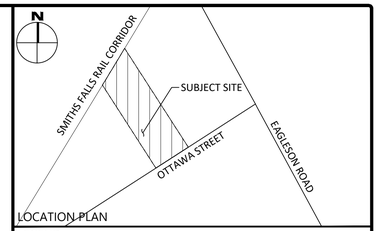
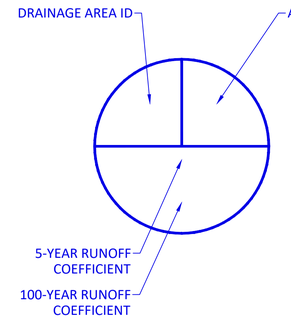


LOCATION PLAN

LEGEND



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No.	Revisions	Date
4	ISSUED FOR REVIEW	JUNE 16, 2026
3	ISSUED FOR REVIEW	NOV. 17, 2025
2	ISSUED FOR REVIEW	AUG. 11, 2025
1	ISSUED FOR SITE PLAN CONTROL	JUN. 06, 2025

Check and verify all dimensions before proceeding with the work

Do not scale drawings

SCALE 1 : 300

0 5 10 15 20 25 30 Metres

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750 Palladium Drive, Suite 310
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Fax: 613-836-3742
www.egis-group.com

Stamp:

Client:
99117756 CANADA INC.
411 LEGGET DRIVE, SUITE 710
OTTAWA, ON K2K 3C9

Project:
DISTILLERY & WAREHOUSE
5923 OTTAWA STREET

Drawing Title:
POST-DEVELOPMENT DRAINAGE AREA PLAN

Scale: 1:300	Project Number: CCO-25-0415
Drawn By: FV	
Checked By: AG	Drawing Number: POST
Designed By: AG	

D07-12-25-0078

#19400

FILENAME: U:\Infrastructure\2025\CCO-25-0415 99117756 Canada Inc_5PR Distillery & Warehouse, 5923 Ottawa Street\12 - Drawings\CCO-25-0415 - Presentation.dwg
PLOT DATE: Tuesday, June 16, 2026 - 2:48:51 PM
LAST REVISED: Tuesday, June 16, 2026 - 2:48:51 PM
LAST REVISED BY: MP
PLOT CFG: STANDARD.ctb

APPENDIX G
STORMWATER MANAGEMENT CALCULATIONS

Tc (min)	Intensity (mm/hr)		
	2-Year	5-Year	100-Year
20	52.0	70.3	120.0
10	76.8	104.2	178.6

C-Values	
Impervious	0.90
Gravel	0.60
Pervious	0.20

Pre-Development Runoff Coefficient

Drainage Area	Impervious Area (m^2)	Gravel (m^2)	Pervious Area (m^2)	Average C (2-Year)	Average C (100-Year)	
A1	0	0	2,219	0.20	0.25	Ph.1 Drainage to Rear Yard
A2	0	0	2,583	0.20	0.25	Ph.1 Drainage to Ottawa Street

Pre-Development Runoff Calculations

Drainage Area	Area (ha)	C 2/5-Year	C 100-Year	
A1	0.222	0.20	0.25	Ph.1 Drainage to Rear Yard
A2	0.258	0.20	0.25	Ph.1 Drainage to Ottawa Street
Total	0.480			

Post-Development Runoff Coefficient

Drainage Area	Impervious Area (m^2)	Gravel (m^2)	Pervious Area (m^2)	Average C (2-year)	Average C (100-year)	
B1	1,844	0	2,307	0.51	0.58	Ph.1 Surface Restricted
B2	651	0	0	0.90	1.00	Ph.1 Building - Restricted

Post-Development Runoff Calculations

Drainage Area	Area (ha)	C 2-Year	C 100-Year	
B1	0.415	0.51	0.58	Ph.1 Surface Restricted
B2	0.065	0.90	1.00	Ph.1 Building - Restricted
Total	0.480			

Tc (min)	Intensity (mm/hr)		
	2-Year	5-Year	100-Year
20	52.0	70.3	120.0
10	76.8	104.2	178.6

C-Values	
Impervious	0.90
Gravel	0.60
Pervious	0.20

Pre-Development Runoff Coefficient

Drainage Area	Impervious Area (m^2)	Gravel (m^2)	Pervious Area (m^2)	Average C (2-Year)	Average C (100-Year)	
A3	0	0	1,604	0.20	0.25	Ph.2 Drainage to Rear Yard
A4	0	0	2,858	0.20	0.25	Ph.2 Drainage to Ottawa Street

Pre-Development Runoff Calculations

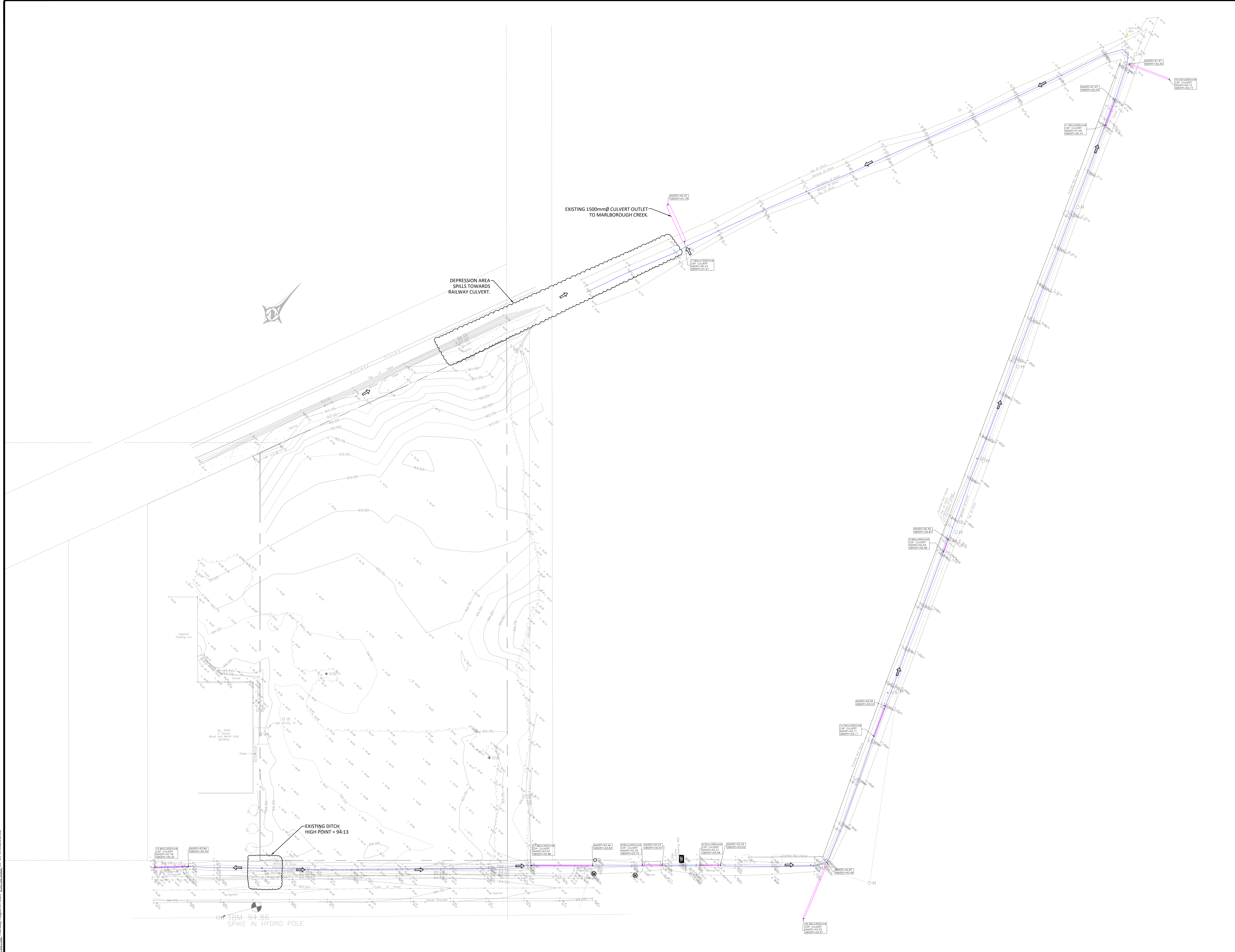
Drainage Area	Area (ha)	C 2/5-Year	C 100-Year	
A3	0.160	0.20	0.25	Ph.2 Drainage to Rear Yard
A4	0.286	0.20	0.25	Ph.2 Drainage to Ottawa Street
Total	0.446			

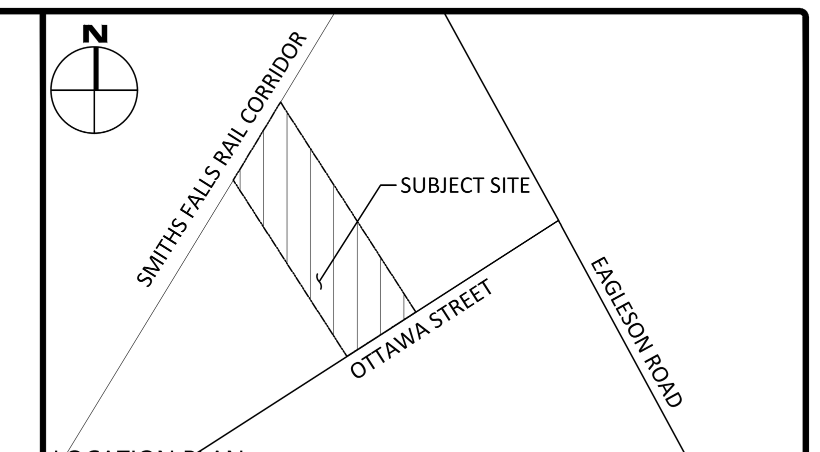
Post-Development Runoff Coefficient

Drainage Area	Impervious Area (m^2)	Gravel (m^2)	Pervious Area (m^2)	Average C (2-year)	Average C (100-year)	
B3	1,460	0	2,076	0.49	0.56	Ph.2 Surface Restricted
B4	926	0	0	0.90	1.00	Ph.2 Building - Restricted

Post-Development Runoff Calculations

Drainage Area	Area (ha)	C 2-Year	C 100-Year	
B3	0.354	0.49	0.56	Ph.2 Surface Restricted
B4	0.093	0.90	1.00	Ph.2 Building - Restricted
Total	0.446			





LOCATION PLAN

LEGEND

DRAINAGE DIRECTION

DRAINAGE DITCH

EXISTING CULVERT

FOR REVIEW ONLY
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No.	Revisions	Date
1	ISSUED FOR REVIEW	AUG. 07, 2025

Check and verify all dimensions before proceeding with the work

Do not scale drawings

SCALE 1 : 750 (0 – 25 – 50 – 75 Metres)

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Carp, ON K0A 1L0
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Fax: 613-836-3742
www.egis-group.com

Stamp:

Client:

99117756 CANADA INC.
411 LEGGET DRIVE, SUITE 710
OTTAWA, ON K2K 3C9

Project:

DISTILLERY & WAREHOUSE
5923 OTTAWA STREET

Drawing Title:

EXISTING DITCH DRAINAGE FIGURE

Scale: 1:750	Project Number: CCO-25-0415
Drawn By: FV	
Checked By: CJM	Drawing Number: C104
Designed By: FV	

D07-12-XX-XXXX

#XXXXX

FILENAME: U:\Infrastructure\2025\CCO-25-0415 99117756 Canada Inc_SFR Distillery & Warehouse, 5923 Ottawa Street\12 - Drawings\Ditch Figure\CCO-25-0415 - Presentation - Ditch.dwg
LAST SAVED: Thursday, August 07, 2025 LAST SAVED BY: F.Valenti
LAST PLOTTED: Thursday, August 07, 2025 CTB FILE USED: MP-CV-STANDARD.ctb

WATTS®	Adjustable Accutrol Weir Tag: _____	Adjustable Flow Control for Roof Drains

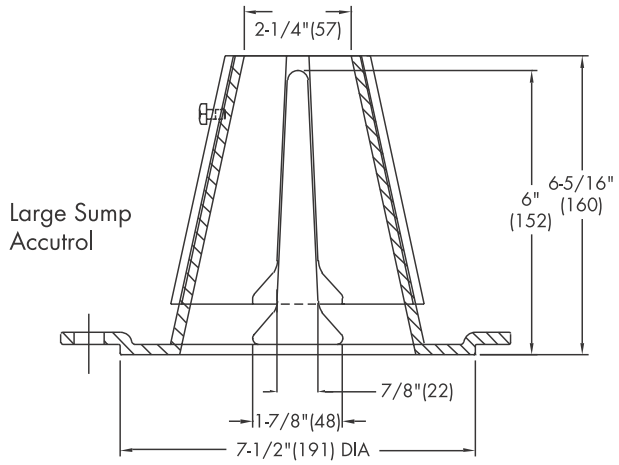
ADJUSTABLE ACCUTROL (for Large Sump Roof Drains only)

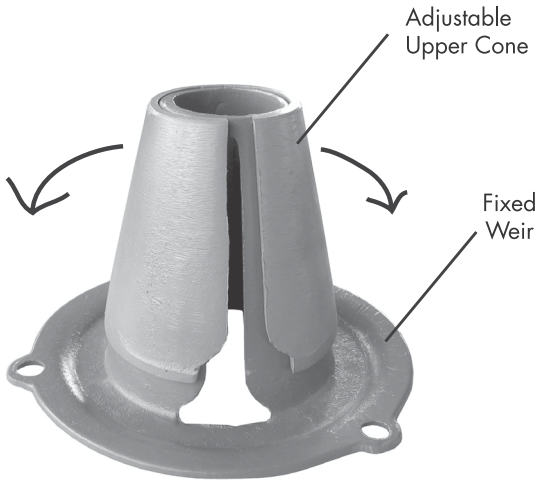
For more flexibility in controlling flow with heads deeper than 2", Watts Drainage offers the Adjustable Accutrol. The Adjustable Accutrol Weir is designed with a single parabolic opening that can be covered to restrict flow above 2" of head to less than 5 gpm per inch, up to 6" of head. To adjust the flow rate for depths over 2" of head, set the slot in the adjustable upper cone according to the flow rate required. Refer to Table 1 below.
Note: Flow rates are directly proportional to the amount of weir opening that is exposed.

EXAMPLE:

For example, if the adjustable upper cone is set to cover 1/2 of the weir opening, flow rates above 2"of head will be restricted to 2-1/2 gpm per inch of head.

Therefore, at 3"of head, the flow rate through the Accutrol Weir that has 1/2 the slot exposed will be:
[5 gpm (per inch of head) x 2 inches of head] + 2-1/2 gpm (for the third inch of head) = 12-1/2 gpm.





1/2 Weir Opening Exposed Shown Above

TABLE 1. Adjustable Accutrol Flow Rate Settings

Weir Opening Exposed	1"	2"	3"	4"	5"	6"
	Flow Rate (gallons per minute)					
Fully Exposed	5	10	15	20	25	30
3/4	5	10	13.75	17.5	21.25	25
1/2	5	10	12.5	15	17.5	20
1/4	5	10	11.25	12.5	13.75	15
Closed	5	5	5	5	5	5

Job Name _____ Contractor _____

Job Location _____ Contractor's P.O. No. _____

Engineer _____ Representative _____

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.

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Stormceptor® EF Sizing Report

Imbrium® Systems
ESTIMATED NET ANNUAL SEDIMENT (TSS) LOAD REDUCTION

08/14/2025

Province:	Ontario
City:	Ottawa
Nearest Rainfall Station:	OTTAWA CDA RCS
Climate Station Id:	6105978
Years of Rainfall Data:	20

Site Name:	Phase 1

Drainage Area (ha):	0.48
Runoff Coefficient 'c':	0.59

Particle Size Distribution:	CA ETV
Target TSS Removal (%):	60.0

Required Water Quality Runoff Volume Capture (%):	90.00
Estimated Water Quality Flow Rate (L/s):	9.14
Oil / Fuel Spill Risk Site?	Yes
Upstream Flow Control?	No
Peak Conveyance (maximum) Flow Rate (L/s):	18.00
Influent TSS Concentration (mg/L):	200
Estimated Average Annual Sediment Load (kg/yr):	189
Estimated Average Annual Sediment Volume (L/yr):	154

Project Name:	5923 Ottawa St. (Distillery and Warehouse)
Project Number:	CC0-25-0415
Designer Name:	Jessica Steffler
Designer Company:	Forterra Pipe & Precast
Designer Email:	jessica.steffler@RinkerPipe.com
Designer Phone:	519-239-6958
EOR Name:	Francis VALENTI
EOR Company:	EGIS
EOR Email:	Francis.VALENTI@egis-group.com
EOR Phone:	613-714-6895

Net Annual Sediment (TSS) Load Reduction Sizing Summary

Stormceptor Model	TSS Removal Provided (%)
EFO4	60
EFO5	63
EFO6	65
EFO8	68
EFO10	69
EFO12	70

Recommended Stormceptor EFO Model:	EFO4
Estimated Net Annual Sediment (TSS) Load Reduction (%):	60
Water Quality Runoff Volume Capture (%):	> 90

THIRD-PARTY TESTING AND VERIFICATION

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

PERFORMANCE

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

PARTICLE SIZE DISTRIBUTION (PSD)

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

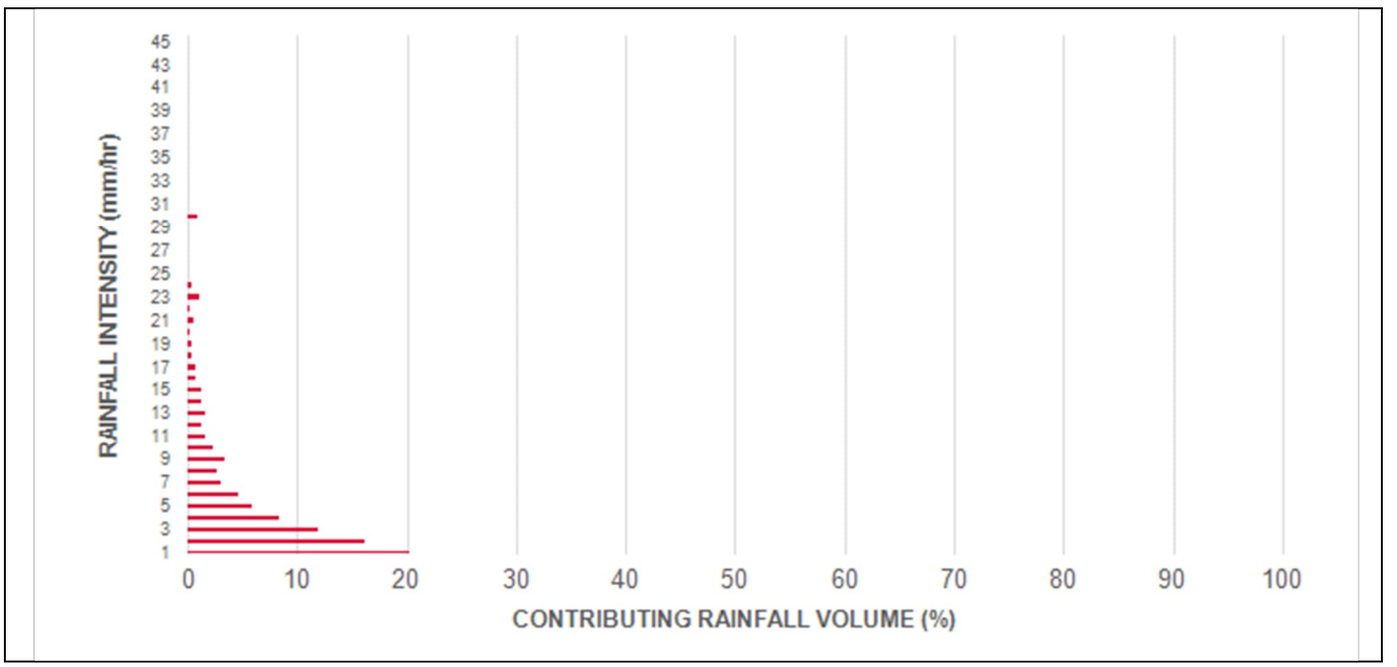
Particle Size (µm)	Percent Less Than	Particle Size Fraction (µm)	Percent
1000	100	500-1000	5
500	95	250-500	5
250	90	150-250	15
150	75	100-150	15
100	60	75-100	10
75	50	50-75	5
50	45	20-50	10
20	35	8-20	15
8	20	5-8	10
5	10	2-5	5
2	5	<2	5

Stormceptor® EF Sizing Report

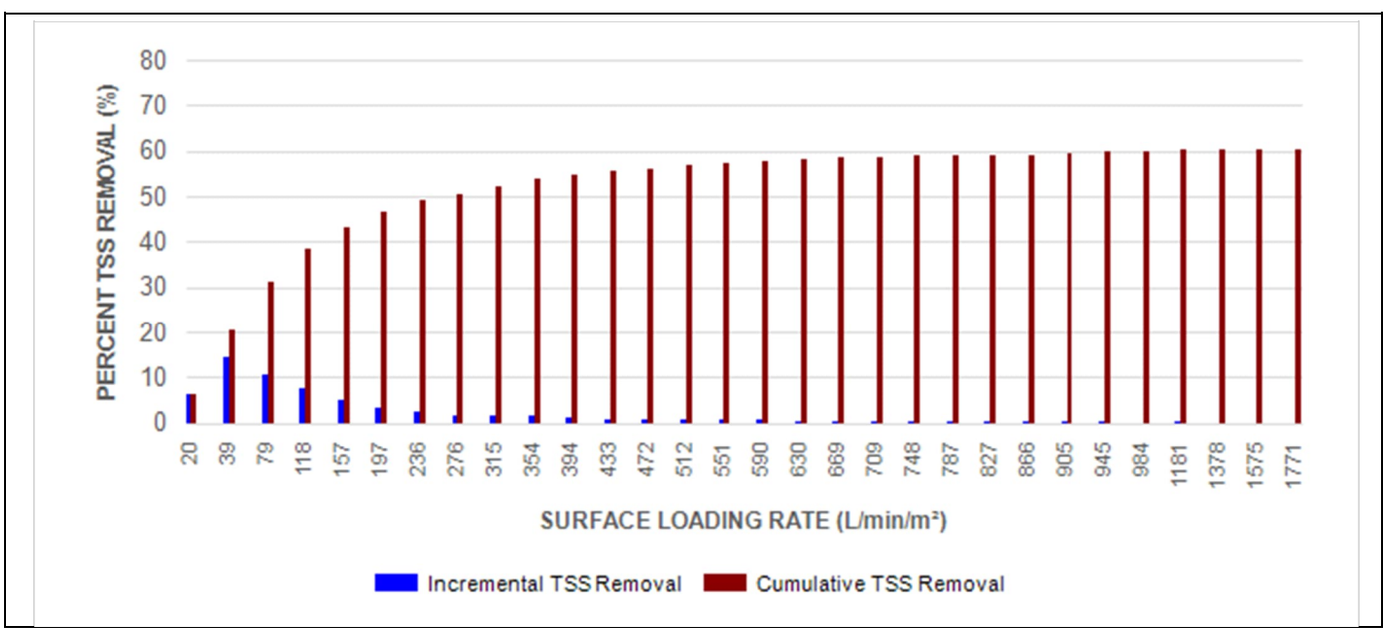
Rainfall Intensity (mm / hr)	Percent Rainfall Volume (%)	Cumulative Rainfall Volume (%)	Flow Rate (L/s)	Flow Rate (L/min)	Surface Loading Rate (L/min/m²)	Removal Efficiency (%)	Incremental Removal (%)	Cumulative Removal (%)
0.50	8.6	8.6	0.39	24.0	20.0	70	6.1	6.1
1.00	20.3	29.0	0.79	47.0	39.0	70	14.3	20.4
2.00	16.2	45.2	1.57	94.0	79.0	66	10.6	31.0
3.00	12.0	57.2	2.36	142.0	118.0	62	7.4	38.4
4.00	8.4	65.6	3.15	189.0	157.0	58	4.9	43.3
5.00	5.9	71.6	3.94	236.0	197.0	55	3.3	46.6
6.00	4.6	76.2	4.72	283.0	236.0	53	2.5	49.0
7.00	3.1	79.3	5.51	331.0	276.0	52	1.6	50.6
8.00	2.7	82.0	6.30	378.0	315.0	51	1.4	52.0
9.00	3.3	85.3	7.09	425.0	354.0	50	1.7	53.7
10.00	2.3	87.6	7.87	472.0	394.0	48	1.1	54.8
11.00	1.6	89.2	8.66	520.0	433.0	47	0.7	55.5
12.00	1.3	90.5	9.45	567.0	472.0	46	0.6	56.1
13.00	1.7	92.2	10.23	614.0	512.0	45	0.8	56.9
14.00	1.2	93.5	11.02	661.0	551.0	44	0.5	57.4
15.00	1.2	94.6	11.81	709.0	590.0	42	0.5	57.9
16.00	0.7	95.3	12.60	756.0	630.0	42	0.3	58.2
17.00	0.7	96.1	13.38	803.0	669.0	42	0.3	58.5
18.00	0.4	96.5	14.17	850.0	709.0	42	0.2	58.7
19.00	0.4	96.9	14.96	898.0	748.0	41	0.2	58.8
20.00	0.2	97.1	15.75	945.0	787.0	41	0.1	58.9
21.00	0.5	97.5	16.53	992.0	827.0	41	0.2	59.1
22.00	0.2	97.8	17.32	1039.0	866.0	41	0.1	59.2
23.00	1.0	98.8	18.11	1086.0	905.0	41	0.4	59.6
24.00	0.3	99.1	18.90	1134.0	945.0	40	0.1	59.7
25.00	0.0	99.1	19.68	1181.0	984.0	40	0.0	59.7
30.00	0.9	100.0	23.62	1417.0	1181.0	37	0.3	60.1
35.00	0.0	100.0	27.56	1653.0	1378.0	34	0.0	60.1
40.00	0.0	100.0	31.49	1890.0	1575.0	30	0.0	60.1
45.00	0.0	100.0	35.43	2126.0	1771.0	27	0.0	60.1
Estimated Net Annual Sediment (TSS) Load Reduction =								60 %

Climate Station ID: 6105978 *Years of Rainfall Data*: 20

RAINFALL DATA FROM OTTAWA CDA RCS RAINFALL STATION



INCREMENTAL AND CUMULATIVE TSS REMOVAL
FOR THE RECOMMENDED STORMCEPTOR® MODEL



Maximum Pipe Diameter / Peak Conveyance

Stormceptor EF / EFO	Model Diameter		Min Angle Inlet / Outlet Pipes	Max Inlet Pipe Diameter		Max Outlet Pipe Diameter		Peak Conveyance Flow Rate	
	(m)	(ft)		(mm)	(in)	(mm)	(in)	(L/s)	(cfs)
EF4 / EFO4	1.2	4	90	609	24	609	24	425	15
EF5 / EFO5	1.5	5	90	762	30	762	30	710	25
EF6 / EFO6	1.8	6	90	914	36	914	36	990	35
EF8 / EFO8	2.4	8	90	1219	48	1219	48	1700	60
EF10 / EFO10	3.0	10	90	1828	72	1828	72	2830	100
EF12 / EFO12	3.6	12	90	1828	72	1828	72	2830	100

SCOUR PREVENTION AND ONLINE CONFIGURATION

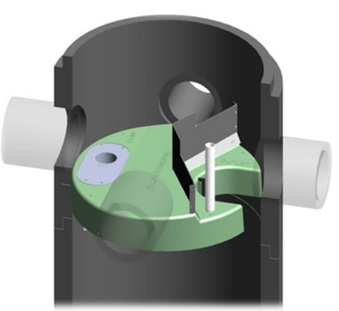
► Stormceptor® EF and EFO feature an internal bypass and superior scour prevention technology that have been demonstrated in third-party testing according to the scour testing provisions of the Canadian ETV Procedure for Laboratory Testing of Oil-Grit Separators, and the exceptional scour test performance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

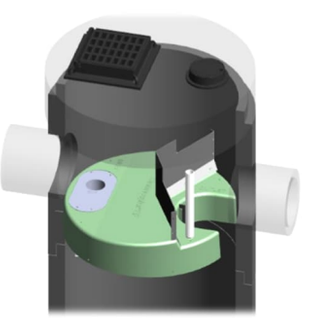
DESIGN FLEXIBILITY

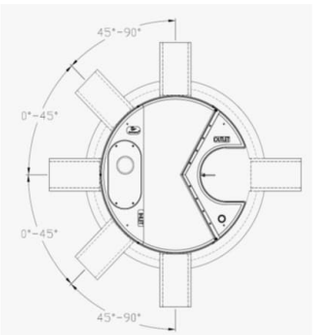
► Stormceptor® EF and EFO offers design flexibility in one simplified platform, accepting stormwater flow from a single inlet pipe or multiple inlet pipes, and/or surface runoff through an inlet grate. The device can also serve as a junction structure, accommodate a 90-degree inlet-to-outlet bend angle,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

OIL CAPTURE AND RETENTION

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







INLET-TO-OUTLET DROP

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

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

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

HEAD LOSS

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

Pollutant Capacity

Stormceptor EF / EFO	Model Diameter		Depth (Outlet Pipe Invert to Sump Floor)		Oil Volume		Recommended Sediment Maintenance Depth *		Maximum Sediment Volume *		Maximum Sediment Mass **	
	(m)	(ft)	(m)	(ft)	(L)	(Gal)	(mm)	(in)	(L)	(ft³)	(kg)	(lb)
EF4 / EFO4	1.2	4	1.52	5.0	265	70	203	8	1190	42	1904	5250
EF5 / EFO5	1.5	5	1.62	5.3	420	111	305	10	2124	75	2612	5758
EF6 / EFO6	1.8	6	1.93	6.3	610	160	305	12	3470	123	5552	15375
EF8 / EFO8	2.4	8	2.59	8.5	1070	280	610	24	8780	310	14048	38750
EF10 / EFO10	3.0	10	3.25	10.7	1670	440	610	24	17790	628	28464	78500
EF12 / EFO12	3.6	12	3.89	12.8	2475	655	610	24	31220	1103	49952	137875

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

** Average density of wet packed sediment in sump = 1.6 kg/L (100 lb/ft³)

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

STANDARD STORMCEPTOR EF/ EFO DRAWINGS

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

STANDARD STORMCEPTOR EF/ EFO SPECIFICATION

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

imbrium

Table of TSS Removal vs Surface Loading Rate Based on Third-Party Test Results
Stormceptor® EFO

SLR (L/min/m²)	TSS % REMOVAL	SLR (L/min/m²)	TSS % REMOVAL	SLR (L/min/m²)	TSS % REMOVAL	SLR (L/min/m²)	TSS % REMOVAL
1	70	660	42	1320	35	1980	24
30	70	690	42	1350	35	2010	24
60	67	720	41	1380	34	2040	23
90	63	750	41	1410	34	2070	23
120	61	780	41	1440	33	2100	23
150	58	810	41	1470	32	2130	22
180	56	840	41	1500	32	2160	22
210	54	870	41	1530	31	2190	22
240	53	900	41	1560	31	2220	21
270	52	930	40	1590	30	2250	21
300	51	960	40	1620	29	2280	21
330	50	990	40	1650	29	2310	21
360	49	1020	40	1680	28	2340	20
390	48	1050	39	1710	28	2370	20
420	47	1080	39	1740	27	2400	20
450	47	1110	38	1770	27	2430	20
480	46	1140	38	1800	26	2460	19
510	45	1170	37	1830	26	2490	19
540	44	1200	37	1860	26	2520	19
570	43	1230	37	1890	25	2550	19
600	42	1260	36	1920	25	2580	18
630	42	1290	36	1950	24	2600	26

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

PART 1 – GENERAL

1.1 WORK INCLUDED

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

1.2 REFERENCE STANDARDS & PROCEDURES

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

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

1.3 SUBMITTALS

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

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

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

PART 2 – PRODUCTS

2.1 OGS POLLUTANT STORAGE

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

2.1.1	4 ft (1219 mm) Diameter OGS Units:	1.19 m^3 sediment / 265 L oil
	5 ft (1524 mm) Diameter OGS Units:	1.95 m^3 sediment / 420 L oil
	6 ft (1829 mm) Diameter OGS Units:	3.48 m^3 sediment / 609 L oil
	8 ft (2438 mm) Diameter OGS Units:	8.78 m^3 sediment / 1,071 L oil
	10 ft (3048 mm) Diameter OGS Units:	17.78 m^3 sediment / 1,673 L oil
	12 ft (3657 mm) Diameter OGS Units:	31.23 m^3 sediment / 2,476 L oil

PART 3 – PERFORMANCE & DESIGN

3.1 GENERAL

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

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

3.2 SIZING METHODOLOGY

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

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

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

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

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

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

3.3 CANADIAN ETV or ISO 14034 ETV VERIFICATION OF SCOUR TESTING

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

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

3.4 LIGHT LIQUID RE-ENTRAINMENT SIMULATION TESTING

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

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

Stormceptor® EF Sizing Report

Imbrium® Systems
ESTIMATED NET ANNUAL SEDIMENT (TSS) LOAD REDUCTION

08/14/2025

Province:	Ontario
City:	Ottawa
Nearest Rainfall Station:	OTTAWA CDA RCS
Climate Station Id:	6105978
Years of Rainfall Data:	20

Site Name:	Phase 2

Drainage Area (ha):	0.45
Runoff Coefficient 'c':	0.60

Particle Size Distribution:	CA ETV
Target TSS Removal (%):	60.0

Required Water Quality Runoff Volume Capture (%):	90.00
Estimated Water Quality Flow Rate (L/s):	8.71
Oil / Fuel Spill Risk Site?	Yes
Upstream Flow Control?	No
Peak Conveyance (maximum) Flow Rate (L/s):	18.00
Influent TSS Concentration (mg/L):	200
Estimated Average Annual Sediment Load (kg/yr):	184
Estimated Average Annual Sediment Volume (L/yr):	149

Project Name:	5923 Ottawa St. (Distillery and Warehouse)
Project Number:	CC0-25-0415
Designer Name:	Jessica Steffler
Designer Company:	Forterra Pipe & Precast
Designer Email:	jessica.steffler@RinkerPipe.com
Designer Phone:	519-239-6958
EOR Name:	Francis VALENTI
EOR Company:	EGIS
EOR Email:	Francis.VALENTI@egis-group.com
EOR Phone:	613-714-6895

Net Annual Sediment (TSS) Load Reduction Sizing Summary

Stormceptor Model	TSS Removal Provided (%)
EFO4	60
EFO5	63
EFO6	66
EFO8	68
EFO10	69
EFO12	70

Recommended Stormceptor EFO Model:	EFO4
Estimated Net Annual Sediment (TSS) Load Reduction (%):	60
Water Quality Runoff Volume Capture (%):	> 90

THIRD-PARTY TESTING AND VERIFICATION

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

PERFORMANCE

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

PARTICLE SIZE DISTRIBUTION (PSD)

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

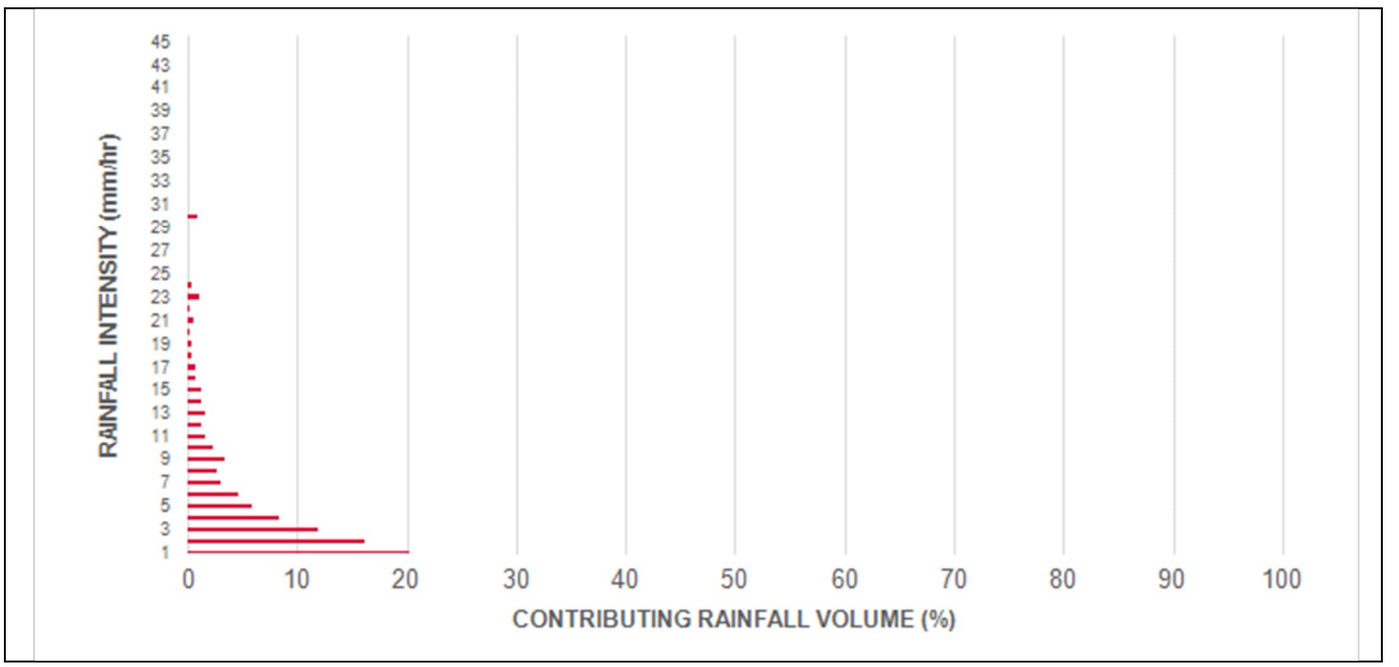
Particle Size (µm)	Percent Less Than	Particle Size Fraction (µm)	Percent
1000	100	500-1000	5
500	95	250-500	5
250	90	150-250	15
150	75	100-150	15
100	60	75-100	10
75	50	50-75	5
50	45	20-50	10
20	35	8-20	15
8	20	5-8	10
5	10	2-5	5
2	5	<2	5

Stormceptor® EF Sizing Report

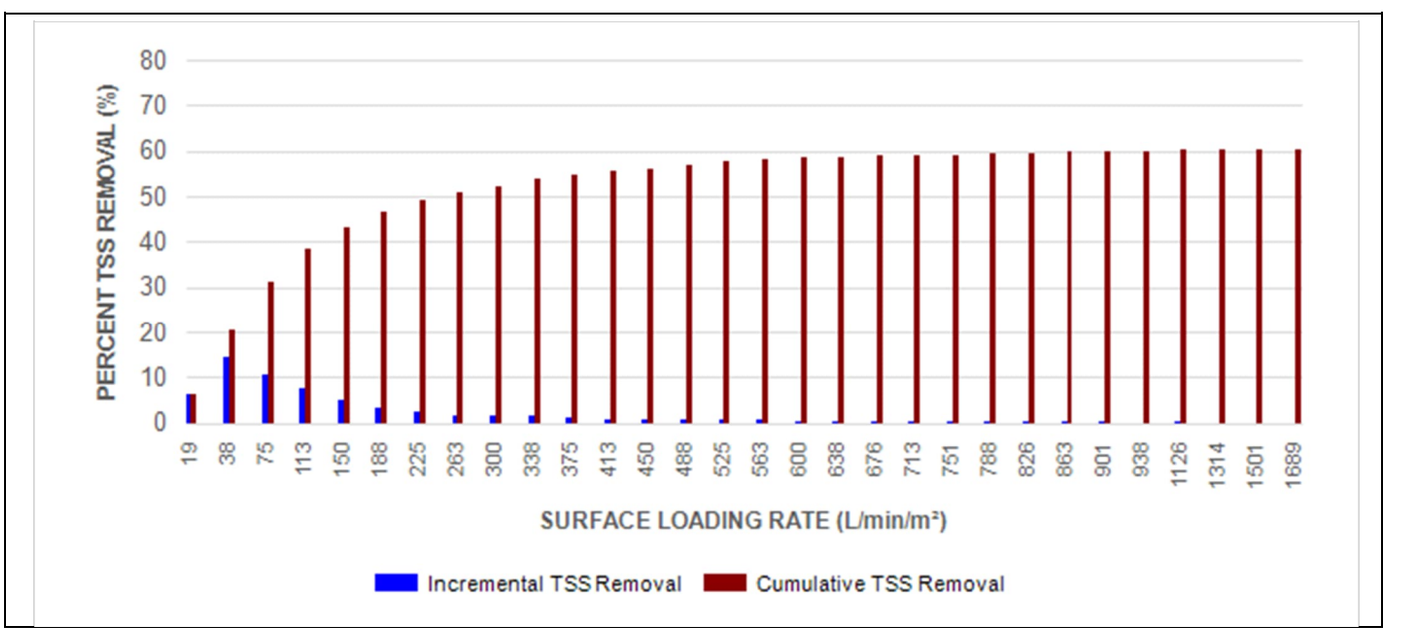
Rainfall Intensity (mm / hr)	Percent Rainfall Volume (%)	Cumulative Rainfall Volume (%)	Flow Rate (L/s)	Flow Rate (L/min)	Surface Loading Rate (L/min/m²)	Removal Efficiency (%)	Incremental Removal (%)	Cumulative Removal (%)
0.50	8.6	8.6	0.38	23.0	19.0	70	6.1	6.1
1.00	20.3	29.0	0.75	45.0	38.0	70	14.3	20.4
2.00	16.2	45.2	1.50	90.0	75.0	66	10.6	31.0
3.00	12.0	57.2	2.25	135.0	113.0	62	7.4	38.4
4.00	8.4	65.6	3.00	180.0	150.0	58	4.9	43.3
5.00	5.9	71.6	3.75	225.0	188.0	56	3.3	46.6
6.00	4.6	76.2	4.50	270.0	225.0	53	2.5	49.1
7.00	3.1	79.3	5.25	315.0	263.0	52	1.6	50.7
8.00	2.7	82.0	6.00	360.0	300.0	51	1.4	52.1
9.00	3.3	85.3	6.76	405.0	338.0	50	1.7	53.8
10.00	2.3	87.6	7.51	450.0	375.0	49	1.1	54.9
11.00	1.6	89.2	8.26	495.0	413.0	48	0.7	55.6
12.00	1.3	90.5	9.01	540.0	450.0	47	0.6	56.2
13.00	1.7	92.2	9.76	585.0	488.0	46	0.8	57.0
14.00	1.2	93.5	10.51	631.0	525.0	44	0.5	57.6
15.00	1.2	94.6	11.26	676.0	563.0	43	0.5	58.1
16.00	0.7	95.3	12.01	721.0	600.0	42	0.3	58.4
17.00	0.7	96.1	12.76	766.0	638.0	42	0.3	58.7
18.00	0.4	96.5	13.51	811.0	676.0	42	0.2	58.8
19.00	0.4	96.9	14.26	856.0	713.0	41	0.2	59.0
20.00	0.2	97.1	15.01	901.0	751.0	41	0.1	59.1
21.00	0.5	97.5	15.76	946.0	788.0	41	0.2	59.3
22.00	0.2	97.8	16.51	991.0	826.0	41	0.1	59.4
23.00	1.0	98.8	17.26	1036.0	863.0	41	0.4	59.8
24.00	0.3	99.1	18.01	1081.0	901.0	41	0.1	59.9
25.00	0.0	99.1	18.77	1126.0	938.0	40	0.0	59.9
30.00	0.9	100.0	22.52	1351.0	1126.0	38	0.4	60.3
35.00	0.0	100.0	26.27	1576.0	1314.0	35	0.0	60.3
40.00	0.0	100.0	30.02	1801.0	1501.0	32	0.0	60.3
45.00	0.0	100.0	33.78	2027.0	1689.0	28	0.0	60.3
Estimated Net Annual Sediment (TSS) Load Reduction =								60 %

Climate Station ID: 6105978 *Years of Rainfall Data*: 20

RAINFALL DATA FROM OTTAWA CDA RCS RAINFALL STATION



INCREMENTAL AND CUMULATIVE TSS REMOVAL
FOR THE RECOMMENDED STORMCEPTOR® MODEL



Maximum Pipe Diameter / Peak Conveyance

Stormceptor EF / EFO	Model Diameter		Min Angle Inlet / Outlet Pipes	Max Inlet Pipe Diameter		Max Outlet Pipe Diameter		Peak Conveyance Flow Rate	
	(m)	(ft)		(mm)	(in)	(mm)	(in)	(L/s)	(cfs)
EF4 / EFO4	1.2	4	90	609	24	609	24	425	15
EF5 / EFO5	1.5	5	90	762	30	762	30	710	25
EF6 / EFO6	1.8	6	90	914	36	914	36	990	35
EF8 / EFO8	2.4	8	90	1219	48	1219	48	1700	60
EF10 / EFO10	3.0	10	90	1828	72	1828	72	2830	100
EF12 / EFO12	3.6	12	90	1828	72	1828	72	2830	100

SCOUR PREVENTION AND ONLINE CONFIGURATION

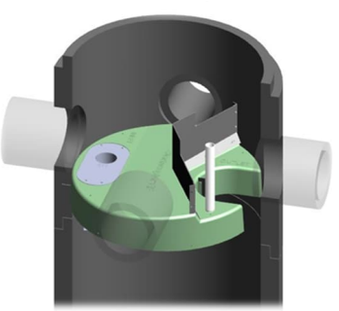
► Stormceptor® EF and EFO feature an internal bypass and superior scour prevention technology that have been demonstrated in third-party testing according to the scour testing provisions of the Canadian ETV Procedure for Laboratory Testing of Oil-Grit Separators, and the exceptional scour test performance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

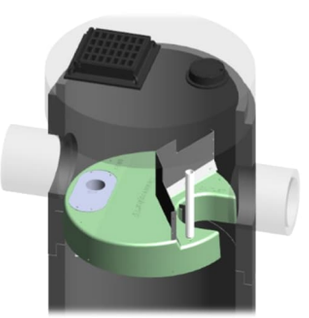
DESIGN FLEXIBILITY

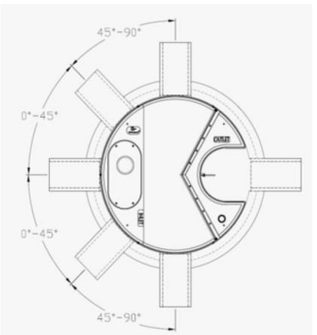
► Stormceptor® EF and EFO offers design flexibility in one simplified platform, accepting stormwater flow from a single inlet pipe or multiple inlet pipes, and/or surface runoff through an inlet grate. The device can also serve as a junction structure, accommodate a 90-degree inlet-to-outlet bend angle,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

OIL CAPTURE AND RETENTION

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







INLET-TO-OUTLET DROP

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

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

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

HEAD LOSS

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

Pollutant Capacity

Stormceptor EF / EFO	Model Diameter		Depth (Outlet Pipe Invert to Sump Floor)		Oil Volume		Recommended Sediment Maintenance Depth *		Maximum Sediment Volume *		Maximum Sediment Mass **	
	(m)	(ft)	(m)	(ft)	(L)	(Gal)	(mm)	(in)	(L)	(ft³)	(kg)	(lb)
EF4 / EFO4	1.2	4	1.52	5.0	265	70	203	8	1190	42	1904	5250
EF5 / EFO5	1.5	5	1.62	5.3	420	111	305	10	2124	75	2612	5758
EF6 / EFO6	1.8	6	1.93	6.3	610	160	305	12	3470	123	5552	15375
EF8 / EFO8	2.4	8	2.59	8.5	1070	280	610	24	8780	310	14048	38750
EF10 / EFO10	3.0	10	3.25	10.7	1670	440	610	24	17790	628	28464	78500
EF12 / EFO12	3.6	12	3.89	12.8	2475	655	610	24	31220	1103	49952	137875

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

** Average density of wet packed sediment in sump = 1.6 kg/L (100 lb/ft³)

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

STANDARD STORMCEPTOR EF/ EFO DRAWINGS

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

STANDARD STORMCEPTOR EF/ EFO SPECIFICATION

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

imbrium

Table of TSS Removal vs Surface Loading Rate Based on Third-Party Test Results
Stormceptor® EFO

SLR (L/min/m²)	TSS % REMOVAL	SLR (L/min/m²)	TSS % REMOVAL	SLR (L/min/m²)	TSS % REMOVAL	SLR (L/min/m²)	TSS % REMOVAL
1	70	660	42	1320	35	1980	24
30	70	690	42	1350	35	2010	24
60	67	720	41	1380	34	2040	23
90	63	750	41	1410	34	2070	23
120	61	780	41	1440	33	2100	23
150	58	810	41	1470	32	2130	22
180	56	840	41	1500	32	2160	22
210	54	870	41	1530	31	2190	22
240	53	900	41	1560	31	2220	21
270	52	930	40	1590	30	2250	21
300	51	960	40	1620	29	2280	21
330	50	990	40	1650	29	2310	21
360	49	1020	40	1680	28	2340	20
390	48	1050	39	1710	28	2370	20
420	47	1080	39	1740	27	2400	20
450	47	1110	38	1770	27	2430	20
480	46	1140	38	1800	26	2460	19
510	45	1170	37	1830	26	2490	19
540	44	1200	37	1860	26	2520	19
570	43	1230	37	1890	25	2550	19
600	42	1260	36	1920	25	2580	18
630	42	1290	36	1950	24	2600	26

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

PART 1 – GENERAL

1.1 WORK INCLUDED

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

1.2 REFERENCE STANDARDS & PROCEDURES

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

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

1.3 SUBMITTALS

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

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

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

PART 2 – PRODUCTS

2.1 OGS POLLUTANT STORAGE

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

2.1.1	4 ft (1219 mm) Diameter OGS Units:	1.19 m^3 sediment / 265 L oil
	5 ft (1524 mm) Diameter OGS Units:	1.95 m^3 sediment / 420 L oil
	6 ft (1829 mm) Diameter OGS Units:	3.48 m^3 sediment / 609 L oil
	8 ft (2438 mm) Diameter OGS Units:	8.78 m^3 sediment / 1,071 L oil
	10 ft (3048 mm) Diameter OGS Units:	17.78 m^3 sediment / 1,673 L oil
	12 ft (3657 mm) Diameter OGS Units:	31.23 m^3 sediment / 2,476 L oil

PART 3 – PERFORMANCE & DESIGN

3.1 GENERAL

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

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

3.2 SIZING METHODOLOGY

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

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

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

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

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

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

3.3 CANADIAN ETV or ISO 14034 ETV VERIFICATION OF SCOUR TESTING

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

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

3.4 LIGHT LIQUID RE-ENTRAINMENT SIMULATION TESTING

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

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

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Gatineau. QC
Montréal. QC
Québec. QC

April 01, 2026 Project Number: P2710(e01)

Stratford Foxrun
6286 Prince of Wales Drive
North Gower, ON
K0A 2T0

Attention: **Joshua Laginski, P.Eng**

Subject: **Stratford Foxrun Development- 5923 Ottawa Street, Richmond Ditch Hydrologic and Hydraulic Analysis**

RATIONALE FOR UPDATE

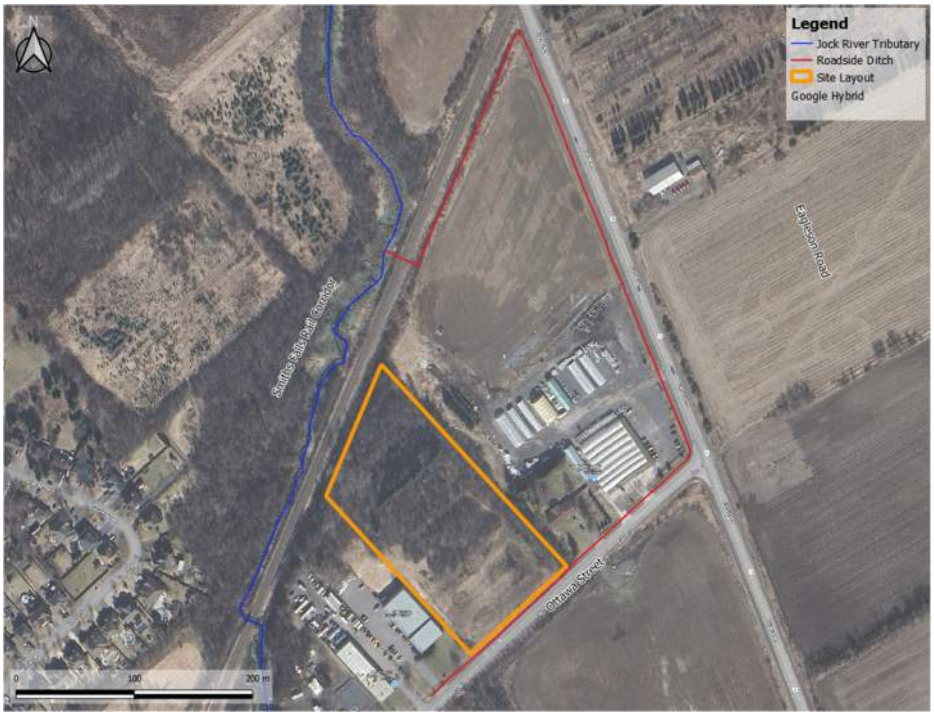
The following memo has been revised to address comments received from the City of Ottawa on February 24, 2026, titled "*Site Plan Control Application D07-12-25-0078 - Part of Lot 25, Concession 3"*. Updates in this memo include refinements to the roof top storage volume calculations on the buildings, refined subcatchment connectivity in the hydrologic model, as well as the incorporation of additional calculations and supporting text to address RVCA comments. These updates ensure consistency with the latest design information and compliance with applicable City of Ottawa guidelines.

OVERVIEW

Egis Group has commissioned JFSA Canada Inc. to develop detailed hydrologic and hydraulic models for the proposed Stratford Foxrun development. This development, located at 5923 Ottawa Street in Richmond, Ontario, will include local depressions within the site that will act as stormwater management controls to mitigate increases in peak flows resulting from the development. The site will outlet into an existing roadside ditch on Ottawa Street before proceeding east to Eagleson Road and then turning north towards the rail corridor before finally discharging into Marlborough Creek, which is a tributary of the Jock River.

This memo presents a downstream hydrologic and hydraulic analysis of the aforementioned roadside ditch, specifically quantifying its capacity from 5923 Ottawa Street to the Marlborough Creek. **Figure 1** illustrates the development's location and extent, as well as the road site ditch relative to its outlet at Marlborough Creek.

Figure 1:Site Boundary and Existing Watercourse



HYDROLOGY

Existing Conditions

Drainage Areas

Existing drainage areas for this study were delineated using a comprehensive Digital Terrain Model (DTM). This DTM was developed from two primary sources: LiDAR data, obtained from the LIO (Land Information Ontario) Digital Terrain Model and flown in 2019-2020, and a detailed topographic survey of the existing ditch and associated crossings completed by Egis in January 2025. This combined data was then imported into GIS software. Watershed delineation algorithms were subsequently applied to the DTM to automatically define the drainage areas. These automated delineations were manually reviewed against relevant previous studies and existing drainage delineations for accuracy and consistency. **Figure A1 in Attachment A** provides a visual overview of the existing drainage areas within the study area.

Land Use

Land use data has been taken from Land Information Ontario's (LIO) Land Use Data and then discretized based on the respective subcatchments. **Figure A2 in Attachment** A provides a visual overview of the respective land use data for each of the subcatchments within the study area.

Soil/Infiltration Data

Soil data within the study area has been taken from the Soil Survey Complex Data available on Land Information Ontario (LIO). **Figure A3 in Attachment** A provides a visual overview of the respective soil type data for each of the subcatchments within the study area. A full breakdown of the soil data for each drainage area has also been provided in **Table A1 in Attachment A**.

Curve Number (CN)

Based on the underlying Land Use Type and Soil Classification at each location within a subcatchment, a Curve Number (CN) was calculated, based on applicable values outlined in Tables A2 and A3 in the SWMHYMO Manual. Each Curve Number was then weighted based on the total area within a given subcatchment to determine the weighted CN for that subcatchment. The CN values calculated were then converted to CN*. Note that the traditional CN procedure assumes that Initial Abstraction (IA) = 0.2S. However, the traditional CN method is subject to errors because of this assumption, particularly for smaller rainfall events. Instead, it is recommended that a modified CN* and a user-defined IA value be used for SWMHYMO modelling. Modified CN* values have been shown to correlate well with measured flows and perform well in continuous SWMHYMO modelling (as discussed in the July 1989 INTERHYMO / OTTHYMO 89 Manual). The CN values derived were converted to CN* based on the formula provided in the November 2002 Runoff Curve Number Method: Examination of the Initial Abstract Ratio paper, and applied to the hydrologic model.

$$CN^* = \frac{100}{1.879\left[\frac{100}{CN} - 1\right]^{1.15} + 1}$$

Table A1 in Attachment provides a full summary of the CN/CN* calculations for each of the predevelopment subcatchments.

Time to Peak (t_p)

For natural areas within the study area, the time to peak values for each of the subcatchments has been calculated based on existing topography. Flow paths have been discretized based on the topographic data using GIS tools, and the longest major flow path within each subcatchment has been identified; refer to Figure B6 in Attachment B for the flow paths discretized for each subcatchment. The upstream and downstream topographic elevations and flow lengths were identified for each subcatchment and used in the calculations. For these natural subcatchments, the Federal Aviation Administration (FAA) method was determined to be the most appropriate method to calculate the Time to Peak.

Other methods, such as the Uplands method, were also included in that analysis. The FAA method was selected for use in the final model because it produced longer time-to-peak (Tp) values for the same catchments, resulting in lower peak flows under pre-development conditions. These lower peak flows were then used to establish allowable release rates for the proposed stormwater management facilities.

This approach results in a more conservative design, as the SWM controls are sized to ensure post-development flows do not exceed these lower pre-development thresholds. While the Uplands method is preferred in the Sewer Design Guidelines (Appendix 5-D), the FAA method remains suitable for flat, rural catchments with longer overland flow paths, which characterizes the study area. Therefore, the FAA-based design applied in this analysis is more conservative and protective of downstream infrastructure.

Full details of these calculations have been provided in **Table A2 in Attachment A**, along with other time-to-peak values using alternative tp calculation methods.

Existing SWMHYMO modelling

An existing conditions SWMHYMO model of the drainage areas was developed based on the pre-development drainage areas provided. To represent the existing undeveloped lands, CALIB NASHYDs have been used, with Initial Abstraction (IA)=4.67 mm, and Number of Linear Reservoirs (N)=3. Full input and summary files of the existing conditions model have been provided in Attachment A

Channel Routing

To account for channel routing throughout the study area, LiDAR has been used to approximate the channel cross-section and associated flow parameters (length & slope). **Figure A4 in Attachment A** outlines the major flow paths within the study area, which have been used to account for channel routing and time to peak calculations within the subcatchments.

Design & Historical Storms

The stormwater management analysis incorporates both standard design storms and historical storm events in accordance with the City of Ottawa's guidelines. The selected design storms include the 3-hour Chicago distribution and the 24-hour SCS distribution, which are consistent with standard practice for stormwater management design in the region.

The 3-hour Chicago storm is widely used for urban infrastructure analysis because it provides a balanced representation of peak intensity and total rainfall volume. This duration is sufficient to generate meaningful runoff volumes for sizing stormwater management controls while capturing peak intensities that challenge conveyance systems. Although shorter-duration storms (e.g., 1-hour 100-year) exhibit higher peak intensities, their lower total rainfall volume often results in less conservative storage sizing. Conversely, the 24-hour SCS storm is included to assess broader floodplain impacts and downstream conveyance performance.

In addition to these design storms, the following historical events were simulated as per City requirements: July 1, 1979, August 4, 1988, and August 8, 1996. These events provide additional validation of system performance under real-world conditions and help ensure resiliency of the proposed stormwater management system.

Proposed Conditions

Drainage Areas & Imperviousness

For the Stratford Foxrun development under proposed conditions, Egis provided JFSA with detailed design drawings that included drainage areas and associated imperviousness. The proposed development lot layout and the associated drainage areas have been provided in **Figure B1 of Attachment B**. To represent the proposed Stratford Foxrun development lands, DESIGN STANDHYDs have been used, with default parameters per the City of Ottawa Storm Sewer Design Guidelines. For existing natural areas where the total drainage boundary was modified due to the proposed development footprint (e.g., catchments Pre2 and Pre9), the hydrologic parameters—specifically the Curve Number (CN) and Time to Peak (Tp)—were recalculated to accurately reflect the reduced drainage area, updated land cover proportions, and revised flow path characteristics.

Onsite SWM Controls

Egis's design for the proposed development included detailed grading of localized depressions within the site that will act as onsite stormwater management controls, along with corresponding stage-storage tables. These stage-storage tables were directly incorporated into the hydrologic model. This integration allowed for the determination of appropriate outlet configurations for these facilities, as well as an accurate assessment of the storage volumes provided by the proposed depressions. Full detailed Stage/Storage/Outflow curves have been provided in **Tables B1 and B2 in Attachment B.** Based on this analysis, both sites will have a **75 mm** orifice at the bottom of the localized depression area and a **30cm** overflow weir at an elevation of **94.40m** and for extreme events.

Roof Top Storage

To optimize on-site attenuation, the design assumes the use of rooftop storage for both sites. Storage volumes and release rates determined by Egis were integrated into the model as stage-storage-discharge (route reservoir) curves, with full details provided in **Tables B3** and **B4**.

Results

Onsite Controls Summary

Table 2 provides a comprehensive overview of the maximum storage volumes achieved at each of these locations across various return periods, in addition to their associated peak outflows and maximum water levels.

Table 1:Site Release Rates / Required Storage Volume / Ponding Depth/WSE

Event	Site 1 (0.480 ha)					Site 2 (0.447 ha)				
	Peak Inflow (m^3/s)	Peak Outflow (m^3/s)	Pond Volume (m^3)	Pond WSE (m)	Depth (m)	Peak Inflow (m^3/s)	Peak Outflow (m^3/s)	Pond Volume (m^3)	Pond WSE (m)	Depth (m)
2YrCHI3Hr	0.035	0.006	39	94.13	0.288	0.029	0.006	34	94.03	0.323
5YrCHI3Hr	0.056	0.007	71	94.20	0.363	0.048	0.008	61	94.15	0.443
10YrCHI3Hr	0.075	0.007	93	94.25	0.407	0.064	0.008	81	94.21	0.503
25YrCHI3Hr	0.098	0.008	123	94.30	0.463	0.084	0.009	108	94.28	0.567
50YrCHI3Hr	0.113	0.008	146	94.34	0.504	0.097	0.009	129	94.32	0.613
100YrCHI3Hr	0.134	0.009	172	94.39	0.547	0.116	0.009	152	94.37	0.660
2YrSCS24Hr	0.038	0.006	48	94.15	0.310	0.033	0.007	42	94.08	0.366
5YrSCS24Hr	0.059	0.007	78	94.22	0.377	0.051	0.008	68	94.18	0.467
10YrSCS24Hr	0.074	0.007	99	94.26	0.418	0.065	0.008	87	94.23	0.517
25YrSCS24Hr	0.092	0.008	126	94.31	0.468	0.081	0.009	111	94.28	0.574
50YrSCS24Hr	0.105	0.008	147	94.35	0.505	0.092	0.009	130	94.33	0.616
100YrSCS24Hr	0.120	0.008	169	94.38	0.542	0.106	0.009	150	94.37	0.656
July 1st, 1979	0.099	0.017	220	94.46	0.625	0.091	0.017	197	94.46	0.749
August 4th, 1988	0.133	0.010	188	94.41	0.573	0.128	0.010	167	94.40	0.689
August 8th, 1996	0.075	0.008	159	94.37	0.526	0.066	0.009	136	94.34	0.628
100YrCHI+20%	0.202	0.016	216	94.46	0.618	0.191	0.016	194	94.45	0.743

Peak Flows at Key Locations

The model was run for both existing and proposed conditions, and peak flows were extracted from the key nodes within the watercourse (refer to **Figure A4** for locations). **Table 2** outlines the peak flows for various return periods at each node, covering both the 3-hour Chicago and 24-hour SCS storms for 2- to 100-year events, along with the stress test and historical events.

The existing roadside ditches are well-vegetated and currently exhibit no significant signs of erosion. For the more frequent events that exhibit slight increases in peak flows, hydraulic modeling indicates that the average post-development channel velocity for the 5-year Chicago event is approximately 0.35 m/s. According to the MTO Drainage Management Manual, grassed channels in easily erodible soils (such as silty clays) have a maximum permissible average velocity of 0.8 m/s, placing the modeled average velocities well below this conservative threshold. Furthermore, the absolute maximum velocities within the ditch remain below 1.5 m/s under all analyzed conditions. This complies with the maximum permissible velocity for grassed roadside ditches without requiring bioengineering stabilization measures, as outlined in Section 2.3 of SD-9 Roadside Ditches from the MTO Highway Drainage Design Standards. Therefore, it can be concluded that the modest increase in flow rates during smaller storm events will not result in adverse erosion within the grassed channel.

Regarding the internal stormwater management (SWM) controls, both sites will utilize a 75 mm orifice at the outlet to maximize the storage capacity of these depression areas; this is the smallest allowable outlet size per MECP SWM guidelines. During the 100-Year + 20% Climate Change stress test event, the maximum simulated peak outflows from Pond 1 and Pond 2 are heavily restricted by these orifices to 16 L/s, respectively.

To connect the internal cells of the SWM facility, a 375 mm HDPE pipe laid at an approximate 1% slope is proposed at both locations. Calculations utilizing Manning's equation demonstrate that a pipe of this size and slope provides a free-flowing (non-surcharged) capacity of approximately 175 L/s. Detailed hydrologic modeling indicates that the absolute maximum peak inflows directed into the entirety of Pond 1 and Pond 2 during the stress test event are 202 L/s and 191 L/s, respectively. Because these internal culverts are only intended to convey runoff from less than half of the total drainage area contributing to the SWM ponds, the actual flow traversing these pipes will be significantly lower than the total pond inflows quoted above. Ultimately, the downstream 75 mm orifice structure dictates the hydraulic grade line and controls the water levels throughout the entire SWM facility. Therefore, the proposed 375 mm connecting pipes are sufficiently sized and will not restrict conveyance or adversely impact pond water levels.
.

Table 2: Pre and Post Development Peak Flow Summary

Event	Node	J1		Node	J2		Node	J3		Node	J4	
	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff
Area (ha)	0.85	1.23	0.38	4.62	5	0.38	4.93	5.31	0.38	5.52	5.9	0.38
2YrCHI3Hr	0.015	0.019	0.004	0.057	0.062	0.005	0.061	0.065	0.004	0.067	0.072	0.005
5YrCHI3Hr	0.026	0.027	0.001	0.102	0.102	0.000	0.109	0.109	0.000	0.121	0.122	0.001
10YrCHI3Hr	0.035	0.032	-0.003	0.136	0.132	-0.004	0.145	0.142	-0.003	0.162	0.159	-0.003
25YrCHI3Hr	0.047	0.038	-0.009	0.181	0.173	-0.008	0.194	0.185	-0.009	0.218	0.209	-0.009
50YrCHI3Hr	0.057	0.043	-0.014	0.219	0.205	-0.014	0.234	0.220	-0.014	0.263	0.249	-0.014
100YrCHI3Hr	0.067	0.048	-0.019	0.258	0.239	-0.019	0.277	0.258	-0.019	0.311	0.292	-0.019
2YrSCS24Hr	0.024	0.024	0.000	0.090	0.091	0.001	0.096	0.097	0.001	0.107	0.108	0.001
5YrSCS24Hr	0.038	0.032	-0.006	0.148	0.142	-0.006	0.158	0.152	-0.006	0.177	0.171	-0.006
10YrSCS24Hr	0.049	0.038	-0.011	0.189	0.178	-0.011	0.202	0.191	-0.011	0.227	0.216	-0.011
25YrSCS24Hr	0.062	0.044	-0.018	0.242	0.224	-0.018	0.259	0.242	-0.017	0.291	0.274	-0.017
50YrSCS24Hr	0.073	0.049	-0.024	0.284	0.260	-0.024	0.305	0.281	-0.024	0.343	0.320	-0.023
100YrSCS24Hr	0.084	0.055	-0.029	0.329	0.300	-0.029	0.354	0.325	-0.029	0.399	0.370	-0.029
July 1st, 1979	0.090	0.065	-0.025	0.372	0.350	-0.022	0.399	0.376	-0.023	0.448	0.425	-0.023
August 4th, 1988	0.079	0.053	-0.026	0.314	0.288	-0.026	0.338	0.313	-0.025	0.379	0.355	-0.024
August 8th, 1996	0.052	0.040	-0.012	0.210	0.199	-0.011	0.226	0.215	-0.011	0.254	0.243	-0.011
100YrCHI+20%	0.090	0.065	-0.025	0.346	0.326	-0.020	0.372	0.350	-0.022	0.419	0.397	-0.022

Table 2: Pre and Post Development Peak Flow Summary

Event	Node	J5		Node	J6		Node	J7		Node	J8	
	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff
Area (ha)	6.86	7.24	0.38	1.09	1.1	0.01	1.92	1.53	-0.39	13.18	13.18	0
2YrCHI3Hr	0.080	0.086	0.006	0.016	0.022	0.006	0.020	0.020	0.000	0.141	0.146	0.005
5YrCHI3Hr	0.147	0.149	0.002	0.028	0.028	0.000	0.037	0.037	0.000	0.266	0.266	0.000
10YrCHI3Hr	0.197	0.196	-0.001	0.038	0.038	0.000	0.050	0.050	0.000	0.363	0.359	-0.004
25YrCHI3Hr	0.267	0.260	-0.007	0.052	0.052	0.000	0.069	0.069	0.000	0.496	0.486	-0.010
50YrCHI3Hr	0.323	0.312	-0.011	0.063	0.063	0.000	0.084	0.084	0.000	0.605	0.589	-0.016
100YrCHI3Hr	0.384	0.368	-0.016	0.076	0.076	0.000	0.101	0.100	-0.001	0.725	0.704	-0.021
2YrSCS24Hr	0.128	0.130	0.002	0.025	0.025	0.000	0.034	0.033	-0.001	0.234	0.235	0.001
5YrSCS24Hr	0.215	0.211	-0.004	0.043	0.043	0.000	0.057	0.057	0.000	0.402	0.395	-0.007
10YrSCS24Hr	0.277	0.268	-0.009	0.056	0.056	0.000	0.075	0.074	-0.001	0.520	0.508	-0.012
25YrSCS24Hr	0.357	0.342	-0.015	0.073	0.073	0.000	0.097	0.096	-0.001	0.679	0.659	-0.020
50YrSCS24Hr	0.421	0.401	-0.020	0.087	0.087	0.000	0.116	0.114	-0.002	0.805	0.781	-0.024
100YrSCS24Hr	0.491	0.465	-0.026	0.102	0.102	0.000	0.137	0.135	-0.002	0.944	0.912	-0.032
July 1st, 1979	0.557	0.534	-0.023	0.103	0.103	0.000	0.145	0.139	-0.006	1.063	1.026	-0.037
August 4th, 1988	0.462	0.441	-0.021	0.093	0.092	-0.001	0.127	0.123	-0.004	0.888	0.863	-0.025
August 8th, 1996	0.308	0.300	-0.008	0.063	0.063	0.000	0.087	0.084	-0.003	0.590	0.579	-0.011
100YrCHI+20%	0.519	0.499	-0.020	0.104	0.104	0.000	0.139	0.138	-0.001	0.989	0.960	-0.029

HYDRAULICS

The detailed hydraulic analysis of the downstream study area was conducted using the US Army Corps of Engineers HEC-RAS software (version 6.6). The purpose of this hydraulic analysis is to assess the hydraulic impacts that the proposed Stratford Foxrun development may have on existing water levels for the applicable design storms.

Model Development & Parameters

The primary method used to establish cross-sections involved detailed topographic surveying, typically conducted at approximately 50-meter intervals along the watercourse. These measurements were supplemented with LiDAR data in the floodplain to enhance spatial coverage and resolution. This close spacing is essential for accurately representing the hydraulic characteristics and flow conveyance capacity of the existing channel. The selected interval aligns with HEC-RAS best practices for open-channel flow modelling in rural systems, particularly where channel geometry and slope are relatively uniform. In general, cross-section spacing between 30 and 100 meters is considered appropriate for natural channels, unless abrupt changes in geometry, slope, or hydraulic controls are present.

To ensure the model captured localized hydraulic effects, additional cross-sections were inserted at key hydraulic structures (e.g., culverts and driveway crossings) and at locations where notable changes in channel geometry or slope occurred. This approach allowed for an accurate representation of hydraulic behaviour without introducing unnecessary complexity or instability into the model. In areas not explicitly surveyed, supplementary cross-sections were generated by sampling the merged LiDAR and topographic Digital Terrain Model (DTM). This ensured that all critical sections were included to accurately reflect channel hydraulics. The extent and location of all model cross-sections are illustrated in **Figure C1** of **Attachment C**.

Existing hydraulic infrastructure, such as culverts, on the respective watercourses, was incorporated into the model based on the details obtained from the topographic surveys. Consistent with HEC-RAS technical guidelines, ineffective flow areas and expansion-contraction coefficients were appropriately applied at these locations. Typical Manning's values of 0.035 and 0.05 were applied to the roadside ditch channel bottom and over banks, respectively.

A normal downstream boundary condition was applied for all events due to the substantial difference in drainage area between Marlborough Creek and the roadside ditch. The study area at the confluence with Marlborough Creek has a drainage area of **13.1 ha**, with a channel length of **1.034 km** and an average slope of **0.6%,** based on detailed modelling presented in this report. In contrast, Marlborough Creek at the same location has a drainage area of **437.4 ha**, a channel length of **5.120 km**, and an average slope of **0.26%,** as per the Ontario Watershed Information Tool. Using the velocity method outlined in Chapter 15 of the USDA's Hydrology National Engineering Handbook, the time to peak for the study area was calculated to be **1.2 hours**, while the time to peak for Marlborough Creek was estimated at **8.8 hours**. A full summary of these calculations is provided in **Table 3** below. Given the significant difference in time to peak between the two systems, it is evident that peak flows from the study area and Marlborough Creek cannot coincide. Therefore, the application of a normal downstream boundary condition is considered appropriate.

Table 3: Watercourse Time to Peak Calculations

Parameter	Units	Study Area	Malbrough Creek
Area	(ha)	13.1	437.4
Channel Length	(m)	1034	5120
Slope	(%)	0.60%	0.26%
Flow Type	-	Short grass	Short grass
Average Velocity	(m/s)	0.165	0.108
Time of Concentration	(secs)	6,275	47,262
Time of Concentration	(hrs)	1.7	13.1
Time to Peak	**(hrs)**	**1.2**	**8.8**

Results

The pre- and post-development models were run for the full range of design storms (2- to 100-Year Events) to accurately establish the existing and proposed floodplain extents within the study area. **Figures C2 and C3** illustrate the flood extents for both existing and proposed conditions during the 24-hour SCS-type storms (the critical design storm). **Figure C4** provide a comparison between the 100-year floodplain under both existing and proposed conditions. From this figure, it is shown that the 100-year floodplain extents along the ditch are reduced under post-development conditions. This demonstrates that the proposed stormwater management solution is effective and that the proposed development will not worsen existing flood conditions along the ditch. **Attachment C** also includes pre- and post-development long- and cross-section plots, along with summary tables.

This analysis also revealed that flows in the roadside ditch overtop the banks during 5- to 10-year events (depending on the design storm). This is expected, as the typical level of service for driveway crossings is generally in this range. It's crucial to note that existing driveway crossings, not the channel itself, are constricting flows and causing them to overtop the bank. Upsizing several culverts along this stretch of roadside ditch would significantly reduce the floodplain in this area.

Along Eagleson Road, approximately halfway between the railway and the Ottawa Street intersection, flows will overtop the bank and spill west to the culvert under the railway. For a conservative design, the hydraulic modelling does not account for this spill, assuming all flows proceed to the next downstream cross-section. It's also important to emphasize that for all events (up to and including the 100-year event), water levels in the roadside ditch do not reach an elevation that would impede traffic on either Eagleson Road or Ottawa Street, as the flood extents do not touch the shoulder of the road. Furthermore, the maximum 100-year floodplain extents do not affect any nearby buildings, meaning the current and proposed flood extents pose no danger to existing structures.

CONCLUSION

In summary, JFSA Canada Inc.'s hydrologic and hydraulic modelling confirms that the proposed Stratford Foxrun development's stormwater management plan effectively mitigates downstream impacts. The on-site localized depressions, with **75 mm** orifice outlets, will manage post-development runoff, ensuring peak flows for major storm events (up to 100-year) remain at or below pre-development levels.

The HEC-RAS analysis further demonstrates that the proposed SWM measures will lead to a reduction in the 100-year floodplain extent along the receiving roadside ditch. While existing culverts contribute to minor, more frequent overtopping, the development itself will not worsen these conditions or cause flooding that impedes traffic or endangers structures during major events. The findings indicate that the proposed SWM strategy for this site is sufficient and will not adversely impact downstream lands.

Yours truly,
JFSA Canada Inc.

Jonathon Burnett, B.Eng, P.Eng
Water Resource Engineer

cc: J.F. Sabourin, M.Eng, P.Eng
Director of Water Resources Projects

Figures
Figure 1: Site Boundary and Existing Watercourse

Tables
Table 1: Site Release Rates / Required Storage Volume / Ponding Depth
Table 2: Peak Flows at Key Locations

Attachments
Attachment A: Pre-Development Hydrology
Attachment B: Post Development Hydrology
Attachment C: Hydraulic Analysis

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Attachment A

Pre-Development Hydrology

N

Legend

- Jock River Tributary
- Pre-dev. Subcatchments

Google Hybrid

EXT1 3.212 ha — Subcatchment Name; Subcatchment Area (ha)

SCALE: 1:3000

0 50 100 150 m

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Figure A1: Existing Drainage Areas

PROJECT	P2710(e01)
DRAWN	MM
DATE	04-06-2025

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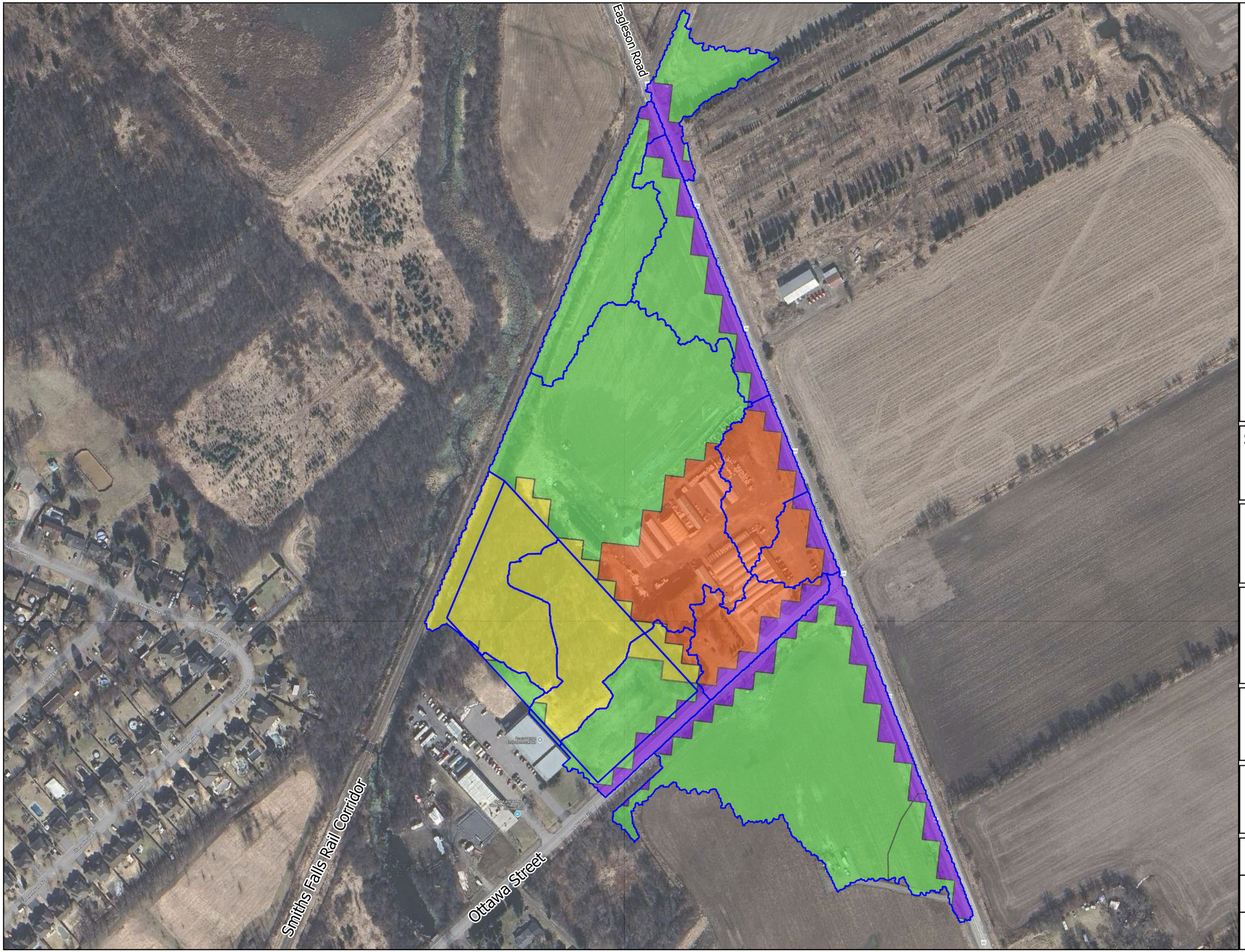

N

Legend

- Pre-dev. Subcatchments

CN

- Built Up Area - Pervious
- Transportation
- Forest
- Tilled

Google Hybrid

SCALE: 1:3000

0 50 100 150 m

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Figure A2: Land Use Data

PROJECT	P2710(e01)
DRAWN	MM
DATE	04-06-2025

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Eagleson Road

Smiths Falls Rail Corridor

Ottawa Street

N

Legend

- Pre-dev. Subcatchments

Soil Name (Soil Type)

- ERODED CHANNEL (D)
- NORTH GOWER (D)
- DALHOUSIE (D)
- BRANDON (D)
- GRENVILLE (B)

Google Hybrid

SCALE: 1:3000

0 50 100 150 m

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Figure A3: Soil Type

PROJECT	P2710(e01)
DRAWN	MM
DATE	04-06-2025

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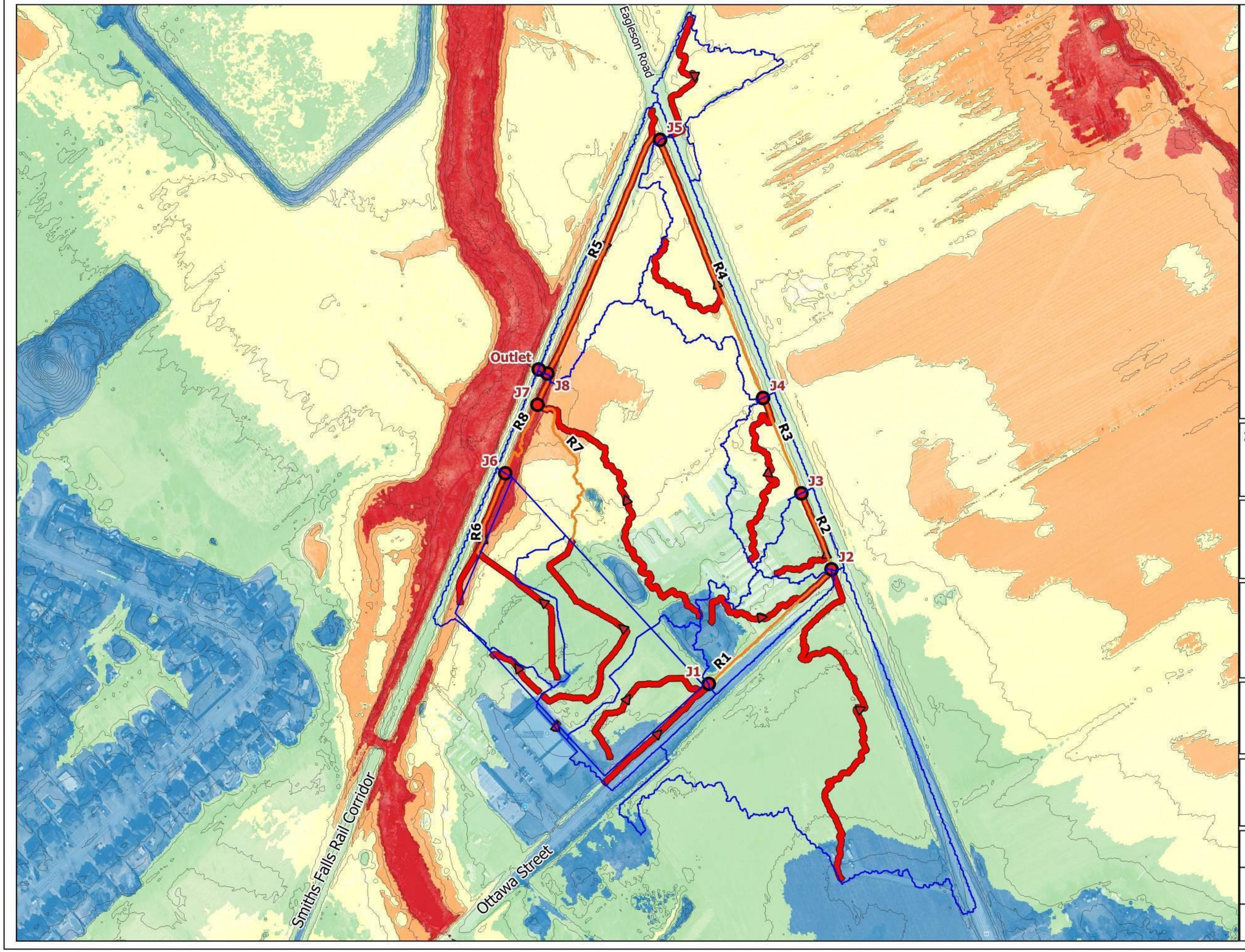

N

Legend

- Pre-dev. Subcatchments
- Flow Path

LiDAR

- 91.65
- 92.48
- 93.32
- 94.15

LiDAR Contour

- 0.5

SCALE: 1:3000

0 50 100 150 m

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Figure A4: Flow Paths and Route Channels

PROJECT	P2710(e01)
DRAWN	MM
DATE	04-06-2025

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Table A1: Calculation of SCS Curve Number (CN) and Modified Curve Number (CN*)

EXT1 (3.212 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.107	Transportation	GRENVILLE	Fair	B	98	3.3%	3.3
0.229	Tilled	GRENVILLE	Fair	B	69	7.1%	4.9
0.403	Transportation	BRANDON	Fair	D	98	12.5%	12.3
2.472	Tilled	BRANDON	Fair	D	84	77.0%	64.6
						CN	**85**
						CN*	**80**

EXT2 (0.285 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.04	Built Up Area - Pervious	NORTH GOWER	Fair	D	80	14.0%	11.2
0.051	Tilled	NORTH GOWER	Fair	D	84	17.9%	15.0
0.067	Forest	NORTH GOWER	Fair	D	79	23.5%	18.6
0.127	Transportation	NORTH GOWER	Fair	D	98	44.6%	43.7
						CN	**89**
						CN*	**85**

EXT3 (0.56 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0	Forest	NORTH GOWER	Fair	D	79	0.0%	0.0
0.17	Transportation	NORTH GOWER	Fair	D	98	30.4%	29.8
0.39	Built Up Area - Pervious	NORTH GOWER	Fair	D	80	69.6%	55.7
						CN	**85**
						CN*	**80**

EXT4 (0.309 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.074	Transportation	BRANDON	Fair	D	98	23.9%	23.5
0.235	Built Up Area - Pervious	BRANDON	Fair	D	80	76.1%	60.8
						CN	**84**
						CN*	**79**

EXT5 (0.594 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.084	Transportation	BRANDON	Fair	D	98	14.1%	13.9
0.51	Built Up Area - Pervious	NORTH GOWER	Fair	D	80	85.9%	68.7
						CN	**83**
						CN*	**76**

Table A1: Calculation of SCS Curve Number (CN) and Modified Curve Number (CN*)

EXT6 (0.864 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.271	Transportation	DALHOUSIE	Fair	D	98	31.4%	30.7
0.593	Tilled	DALHOUSIE	Fair	D	84	68.6%	57.7
						CN	**88**
						CN*	**85**

EXT7 (0.47 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.097	Transportation	DALHOUSIE	Fair	D	98	20.6%	20.2
0.374	Tilled	DALHOUSIE	Fair	D	84	79.6%	66.8
						CN	**87**
						CN*	**83**

EXT8 (0.835 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.036	Transportation	DALHOUSIE	Fair	D	98	4.3%	4.2
0.798	Tilled	NORTH GOWER	Fair	D	84	95.6%	80.3
						CN	**85**
						CN*	**79**

EXT9 (3.572 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.001	Transportation	NORTH GOWER	Fair	D	98	0.0%	0.0
0.126	Forest	NORTH GOWER	Fair	D	79	3.5%	2.8
0.998	Built Up Area - Pervious	NORTH GOWER	Fair	D	80	27.9%	22.4
2.446	Tilled	NORTH GOWER	Fair	D	84	68.5%	57.5
						CN	**83**
						CN*	**76**

EXT9a (0.011 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.011	Tilled	NORTH GOWER	Fair	D	84	100.0%	84.0
						CN	**84**
						CN*	**78**

EXT10 (0.203 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.203	Forest	ERODED CHANNEL	Fair	D	79	100.0%	79.0
						CN	**79**
						CN*	**71**

Table A1: Calculation of SCS Curve Number (CN) and Modified Curve Number (CN*)

Pre10 (0.803 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.803	Forest	ERODED CHANNEL	Fair	D	79	100.0%	79.0
						CN	**79**
						CN*	**71**

Pre11 (0.069 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.004	Forest	NORTH GOWER	Fair	D	79	5.8%	4.6
0.065	Tilled	NORTH GOWER	Fair	D	84	94.2%	79.1
						CN	**84**
						CN*	**78**

Pre2 (0.565 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.017	Transportation	NORTH GOWER	Fair	D	98	3.0%	2.9
0.066	Forest	NORTH GOWER	Fair	D	79	11.7%	9.2
0.483	Tilled	NORTH GOWER	Fair	D	84	85.5%	71.8
						CN	**84**
						CN*	**78**

Pre9 (0.83 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0	Built Up Area - Pervious	NORTH GOWER	Fair	D	80	0.0%	0.0
0.014	Tilled	NORTH GOWER	Fair	D	84	1.7%	1.4
0.815	Forest	NORTH GOWER	Fair	D	79	98.2%	77.6
						CN	**79**
						CN*	**71**

Table A2: Time to Peak Calculations

Parameter	Units	EXT1	EXT2	EXT3	EXT4	EXT5	EXT6	EXT7	EXT8	EXT9	EXT9a	EXT10	Pre10	Pre11	Pre2	Pre9
Area	ha	3.211	0.285	0.560	0.309	0.594	0.864	0.471	0.834	3.571	0.011	0.203	0.803	0.069	0.566	0.829
CN	-	80	85	80	79	76	85	83	79	76	78	71	71	78	78	71
Ptotal to calc C from CN, use 2 yr 24 hr Chicago storm	P(mm)	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7
	Ia(mm)	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	RV(mm)	17.7	21.4	18.0	16.9	15.4	21.2	19.7	17.1	15.6	16.7	12.9	12.9	16.4	16.7	12.9
C (From Chicago storm)	-	0.363	0.439	0.370	0.348	0.317	0.436	0.404	0.351	0.319	0.342	0.265	0.265	0.337	0.342	0.265
Length of Channel	m	404	121	161	116	215	279	140	263	344	5	121	135	54	145	236
	ft	1327	397	527	381	705	916	459	862	1128	15	398	443	176	475	776
Elevation of Head Water	m	94.63	94.17	94.91	93.95	94.08	92.97	93.24	93.52	94.94	94.74	91.69	94.14	94.09	94.34	94.11
	ft	310	309	311	308	309	305	306	307	311	311	301	309	309	310	309
Elevation of Outlet	m	92.98	93.57	93.00	92.69	92.44	91.96	92.11	90.43	90.46	94.55	91.11	91.71	93.58	93.80	93.20
	ft	305	307	305	304	303	302	302	297	297	310	299	301	307	308	306
Average Slope	%	0.41%	0.50%	1.18%	1.08%	0.76%	0.36%	0.81%	1.17%	1.30%	4.28%	0.49%	1.80%	0.96%	0.38%	0.38%
Flow Type (Uplands)	-	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Kirpich																
Time of Concentration	mins	16	6	5	4	8	13	6	8	9	0	6	4	2	8	11
Time to Peak	min	11	4	4	3	5	9	4	5	6	0	4	3	2	5	7
Time to Peak	Hours	0.18	0.07	0.06	0.05	0.09	0.14	0.06	0.09	0.10	0.00	0.07	0.04	0.03	0.09	0.12
FAA (From Chicago storm)																
Time of Concentration	mins	65	30	29	26	41	51	29	37	43	3	38	26	18	41	58
Time to Peak	mins	43	20	19	17	27	34	19	25	29	2	25	17	12	27	38
Time to Peak	Hours	0.72	0.33	0.32	0.29	0.45	0.56	0.32	0.42	0.48	0.04	0.42	0.29	0.21	0.46	0.64
Barnsby Williams																
Time of Concentration	mins	25	9	9	7	14	20	9	15	17	0	9	7	4	11	17
Time to Peak	mins	17	6	6	5	9	13	6	10	11	0	6	5	3	7	11
Time to Peak	Hours	0.28	0.10	0.11	0.08	0.15	0.22	0.10	0.17	0.18	0.00	0.10	0.08	0.05	0.12	0.19
SCS																
Time of Concentration	mins	63	18	17	15	31	42	17	27	34	1	28	16	9	30	54
Time to Peak	mins	42	12	12	10	21	28	12	18	23	0	19	11	6	20	36
Time to Peak	Hours	0.70	0.20	0.19	0.16	0.34	0.47	0.19	0.30	0.38	0.01	0.31	0.18	0.10	0.34	0.61
Uplands																
Time of Concentration	mins	69	19	16	12	27	50	17	26	33	0	19	11	6	26	41
Time to Peak	mins	46	12	11	8	18	34	11	18	22	0	13	7	4	17	28
Time to Peak	Hours	0.76	0.21	0.18	0.13	0.30	0.56	0.19	0.29	0.36	0.00	0.21	0.12	0.07	0.28	0.46
Selected Method:	**FAA (From Chicago storm)**															
Time to Peak	min	43	20	19	17	27	34	19	25	29	2	25	17	12	27	38
Time to Peak	Hours	0.72	0.33	0.32	0.29	0.45	0.56	0.32	0.42	0.48	0.04	0.42	0.29	0.21	0.46	0.64
Velocity	m/s	0.16	0.10	0.14	0.11	0.13	0.14	0.12	0.18	0.20	0.04	0.08	0.13	0.07	0.09	0.10

```
20    Metric units / ID numbers OFF
*#*************************************************************************************************
***
*#  SWMHYMO  / INPUT DATA FILE
*#*************************************************************************************************
***
*#  Project Name  : [5923 Ottawa St]
*#  Project Number: [P2710(e01)]
*#  Date          : [2025 FEB 05]
*#  Modeller      : [MM]
*#  Company       : JFSA Canada Inc.
*#  License #     : 2549237
*#*************************************************************************************************
***
*# Model developed to simulate runoff from subcatchments under pre development conditions
*#*************************************************************************************************
***
*%  25 mm Storm based on 2-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[002]
                   ["002YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
READ STORM          STORM_FILENAME=["STORM.001"]
*%-----------------|-------------------------------------------------------|
*#*************************************************************************************************
***
*# EXT1
*#*************************************************************************************************
***
CALIB NASHYD        NHYD=["EXT1"], DT[1](min), AREA=[3.211](ha),
                    DWF=[0](cms), CN=[80],
                    IA=[4.67](mm), N=[3], TP[0.72](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
***
*# EXT2
*#*************************************************************************************************
***
CALIB NASHYD        NHYD=["EXT2"], DT[1](min), AREA=[0.285](ha),
                    DWF=[0](cms), CN=[85],
                    IA=[4.67](mm), N=[3], TP[0.33](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
***
*# EXT3
*#*************************************************************************************************
***
CALIB NASHYD        NHYD=["EXT3"], DT[1](min), AREA=[0.560](ha),
                    DWF=[0](cms), CN=[80],
                    IA=[4.67](mm), N=[3], TP[0.32](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
***
*# EXT4
*#*************************************************************************************************
***
CALIB NASHYD        NHYD=["EXT4"], DT[1](min), AREA=[0.309](ha),
                    DWF=[0](cms), CN=[79],
                    IA=[4.67](mm), N=[3], TP[0.29](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
***
*# EXT5
*#*************************************************************************************************
***
CALIB NASHYD        NHYD=["EXT5"], DT[1](min), AREA=[0.594](ha),
                    DWF=[0](cms), CN=[76],
                    IA=[4.67](mm), N=[3], TP[0.45](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
```

```
***
*# EXT6
*#*******************************************************************************************
***
CALIB NASHYD        NHYD=["EXT6"], DT[1](min), AREA=[0.864](ha),
                    DWF=[0](cms), CN=[85],
                    IA=[4.67](mm), N=[3], TP[0.56](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************
***
*# EXT7
*#*******************************************************************************************
***
CALIB NASHYD        NHYD=["EXT7"], DT[1](min), AREA=[0.471](ha),
                    DWF=[0](cms), CN=[83],
                    IA=[4.67](mm), N=[3], TP[0.32](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************
***
*# EXT8
*#*******************************************************************************************
***
CALIB NASHYD        NHYD=["EXT8"], DT[1](min), AREA=[0.834](ha),
                    DWF=[0](cms), CN=[79],
                    IA=[4.67](mm), N=[3], TP[0.42](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************
***
*# EXT9
*#*******************************************************************************************
***
CALIB NASHYD        NHYD=["EXT9"], DT[1](min), AREA=[3.571](ha),
                    DWF=[0](cms), CN=[76],
                    IA=[4.67](mm), N=[3], TP[0.48](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************
***
*# EXT9a
*#*******************************************************************************************
***
CALIB NASHYD        NHYD=["EXT9a"], DT[1](min), AREA=[0.011](ha),
                    DWF=[0](cms), CN=[78],
                    IA=[4.67](mm), N=[3], TP[0.04](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************
***
*# EXT10
*#*******************************************************************************************
***
CALIB NASHYD        NHYD=["EXT10"], DT[1](min), AREA=[0.203](ha),
                    DWF=[0](cms), CN=[71],
                    IA=[4.67](mm), N=[3], TP[0.42](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************
***
*# Pre2
*#*******************************************************************************************
***
CALIB NASHYD        NHYD=["Pre2"], DT[1](min), AREA=[0.566](ha),
                    DWF=[0](cms), CN=[78],
                    IA=[4.67](mm), N=[3], TP[0.46](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************
***
*# Pre9
*#*******************************************************************************************
***
CALIB NASHYD        NHYD=["Pre9"], DT[1](min), AREA=[0.829](ha),
                    DWF=[0](cms), CN=[71],
```

```
                    IA=[4.67](mm), N=[3], TP[0.64](hrs),
                    RAINFALL[ , , -1]
*#########################################################################################
***
*# Pre10
*#########################################################################################
***
CALIB NASHYD        NHYD=["Pre10"], DT[1](min), AREA=[0.803](ha),
                    DWF=[0](cms), CN=[71],
                    IA=[4.67](mm), N=[3], TP[0.29](hrs),
                    RAINFALL[ , , -1]
*#########################################################################################
***
*# Pre11
*#########################################################################################
***
CALIB NASHYD        NHYD=["Pre11"], DT[1](min), AREA=[0.069](ha),
                    DWF=[0](cms), CN=[78],
                    IA=[4.67](mm), N=[3], TP[0.21](hrs),
                    RAINFALL[ , , -1]
*#########################################################################################
***
ADD HYD             NHYDsum=["J1"], NHYDs to add=["EXT2"+"Pre2"]
*%-----------------|-------------------------------------------------------------|
* NOTE: Cross-section number 849.0434 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R1"], NHYDin=["J1"], RDT=[1](min),
                    CHLGTH=[143.151](m), CHSLOPE=[0.394](%), FPSLOPE=[0.394](%),
                    SECNUM=[849.0434], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,18.95 -0.035,26.78 0.08,35.18] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=[0.48, 94.05]
                                                    [3.19, 93.99]
                                                    [6.85, 93.91]
                                                    [10.48, 93.87]
                                                    [17.45, 93.85]
                                                    [18.95, 93.84]
                                                    [20.36, 93.81]
                                                    [22.3, 93.76]
                                                    [22.53, 93.72]
                                                    [23.98, 93.35]
                                                    [24.35, 93.33]
                                                    [24.65, 93.37]
                                                    [25.04, 93.45]
                                                    [26.04, 93.74]
                                                    [26.44, 93.82]
                                                    [26.78, 93.87]
                                                    [29.14, 94.11]
                                                    [33.98, 94.26]
                                                    [35.18, 94.26]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["J2"], NHYDs to add=["R1"+"EXT3"+"EXT1"]
*%-----------------|-------------------------------------------------------------|
* NOTE: Cross-section number 737.5813 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R2"], NHYDin=["J2"], RDT=[1](min),
                    CHLGTH=[73.338](m), CHSLOPE=[0.425](%), FPSLOPE=[0.425](%),
                    SECNUM=[737.5813], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,8.4 -0.035,16.42 0.08,22.6] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=[0, 93.52]
                                                    [1.08, 93.5]
                                                    [4.37, 93.48]
                                                    [6.31, 93.45]
                                                    [8.4, 93.38]
                                                    [9.5, 93.31]
                                                    [10.49, 93.23]
                                                    [10.99, 93.18]
                                                    [12.4, 92.94]
                                                    [13.11, 92.84]
                                                    [13.67, 92.92]
                                                    [16.42, 93.6]
                                                    [16.91, 93.65]
```

```
                                          [17.97, 93.65]
                                          [19, 93.83]
                                          [19.51, 93.89]
                                          [21.06, 93.94]
                                          [22.6, 93.95]
*%----------------|-------------------------------------------------------|
ADD HYD           NHYDsum=["J3"], NHYDs to add=["R2"+"EXT4"]
*%----------------|-------------------------------------------------------|
* NOTE: Cross-section number 675.4097 is taken from HEC-RAS Model
ROUTE CHANNEL     NHYDout=["R3"], NHYDin=["J3"], RDT=[1](min),
                  CHLGTH=[92.08](m), CHSLOPE=[0.274](%), FPSLOPE=[0.274](%),
                  SECNUM=[675.4097], NSEG=[3],
                    ( SEGROUGH, SEGDIST (m))=[0.08,31.64 -0.035,42.44 0.08,48.87] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[30.59, 93.12]
                                          [31.64, 93.13]
                                          [34.35, 93.08]
                                          [35.18, 93.03]
                                          [37.78, 92.72]
                                          [38.25, 92.64]
                                          [38.7, 92.61]
                                          [39.74, 92.76]
                                          [42.44, 93.41]
                                          [42.89, 93.49]
                                          [43.97, 93.57]
                                          [44.92, 93.6]
                                          [46.07, 93.67]
                                          [48.87, 93.74]
*%----------------|-------------------------------------------------------|
ADD HYD           NHYDsum=["J4"], NHYDs to add=["R3"+"EXT5"]
*%----------------|-------------------------------------------------------|
* NOTE: Cross-section number 518.7506 is taken from HEC-RAS Model
ROUTE CHANNEL     NHYDout=["R4"], NHYDin=["J4"], RDT=[1](min),
                  CHLGTH=[251.495](m), CHSLOPE=[0.19](%), FPSLOPE=[0.19](%),
                  SECNUM=[518.7506], NSEG=[3],
                    ( SEGROUGH, SEGDIST (m))=[0.08,51.48 -0.035,59.39 0.08,66.4] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0, 92.92]
                                          [4.26, 92.9]
                                          [48.31, 92.76]
                                          [51.48, 92.76]
                                          [53.64, 92.7]
                                          [55.33, 92.29]
                                          [55.44, 92.29]
                                          [56.43, 92.37]
                                          [56.97, 92.43]
                                          [59.39, 93.27]
                                          [59.74, 93.37]
                                          [60.8, 93.52]
                                          [63.31, 93.71]
                                          [66.4, 93.76]
*%----------------|-------------------------------------------------------|
ADD HYD           NHYDsum=["J5"], NHYDs to add=["R4"+"EXT6"+"EXT7"]
*%----------------|-------------------------------------------------------|
* NOTE: Cross-section number 275.0857 is taken from HEC-RAS Model
ROUTE CHANNEL     NHYDout=["R5"], NHYDin=["J5"], RDT=[1](min),
                  CHLGTH=[237.343](m), CHSLOPE=[0.644](%), FPSLOPE=[0.644](%),
                  SECNUM=[275.0857], NSEG=[3],
                    ( SEGROUGH, SEGDIST (m))=[0.08,40.82 -0.035,53.64 0.08,57.93] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[36.16, 92.63]
                                          [40.82, 92.97]
                                          [41.39, 92.9]
                                          [44.69, 91.72]
                                          [45.24, 91.58]
                                          [46.33, 91.43]
                                          [47.41, 91.64]
                                          [47.87, 91.75]
                                          [49.59, 92.2]
                                          [50.99, 92.36]
                                          [51.44, 92.48]
                                          [53.18, 92.98]
```

```
                                          [53.64, 93.15]
                                          [55.92, 93.66]
                                          [57.93, 93.68]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 124 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R6"], NHYDin=["Pre10"], RDT=[1](min),
                    CHLGTH=[77.414](m), CHSLOPE=[0.776](%), FPSLOPE=[0.776](%),
                    SECNUM=[124], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,8.34 -0.035,31.31 0.08,84.97] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=[1.78, 93.73]
                                          [4.51, 93.54]
                                          [5.06, 93.31]
                                          [7.25, 92.98]
                                          [7.79, 92.77]
                                          [8.34, 92.49]
                                          [9.43, 91.93]
                                          [9.68, 91.81]
                                          [10.53, 91.27]
                                          [12.64, 90.92]
                                          [14.44, 90.9]
                                          [16.54, 91.06]
                                          [17.64, 91.06]
                                          [30.22, 92.3]
                                          [31.31, 92.45]
                                          [33.5, 92.41]
                                          [55.37, 93.11]
                                          [57.01, 93.2]
                                          [84.97, 93.43]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 74 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R7"], NHYDin=["Pre9"], RDT=[1](min),
                    CHLGTH=[159.151](m), CHSLOPE=[1.576](%), FPSLOPE=[1.576](%),
                    SECNUM=[74], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,4.67 -0.035,81.24 0.08,82.88] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=[1.94, 93.64]
                                          [4.67, 93.32]
                                          [5.77, 93.15]
                                          [7.41, 92.69]
                                          [7.95, 92.37]
                                          [9.36, 91.71]
                                          [10.12, 91.22]
                                          [10.49, 91.06]
                                          [12.64, 90.89]
                                          [16.16, 90.92]
                                          [18.83, 91.66]
                                          [19.59, 92.02]
                                          [21.62, 92.39]
                                          [24.87, 92.48]
                                          [30.37, 92.55]
                                          [34.37, 92.65]
                                          [77.41, 92.82]
                                          [80.6, 93.25]
                                          [81.24, 93.48]
                                          [82.88, 93.79]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J6"], NHYDs to add=["R6"+"EXT10"+"Pre11"+"EXT9a"]]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 49 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R8"], NHYDin=["J6"], RDT=[1](min),
                    CHLGTH=[78.801](m), CHSLOPE=[0.522](%), FPSLOPE=[0.522](%),
                    SECNUM=[49], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,8.71 -0.035,20.59 0.08,116.73] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=[0, 93.36]
                                          [1.93, 93.63]
                                          [4.61, 93.26]
                                          [6.23, 93.1]
                                          [8.19, 92.26]
                                          [8.71, 91.84]
                                          [9.86, 91.47]
```

```
                                                [10.53, 91.04]
                                                [13.84, 91]
                                                [14.5, 91.11]
                                                [16.97, 91.27]
                                                [20.59, 91.76]
                                                [23.3, 91.64]
                                                [30.34, 91.85]
                                                [35.29, 91.92]
                                                [116.73, 92.96]
*%----------------|-------------------------------------------------------------|
ADD HYD           NHYDsum=["J7"], NHYDs to add=["R8"+"R7"]
*%----------------|-------------------------------------------------------------|
* NOTE: Cross-section number 7 is taken from HEC-RAS Model
ROUTE CHANNEL     NHYDout=["R9"], NHYDin=["J7"], RDT=[1](min),
                  CHLGTH=[29.445](m), CHSLOPE=[0.887](%), FPSLOPE=[0.887](%),
                  SECNUM=[7], NSEG=[3],
                    ( SEGROUGH, SEGDIST (m))=[0.08,1.5 -0.035,22.44 0.08,100.08] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0, 93.4]
                                                [1.5, 93.63]
                                                [3.13, 93.62]
                                                [4.76, 93.28]
                                                [5.3, 93.25]
                                                [6.52, 93.08]
                                                [6.96, 92.95]
                                                [10.57, 90.95]
                                                [13.59, 90.67]
                                                [15.83, 90.72]
                                                [16.42, 90.85]
                                                [18.66, 91.76]
                                                [20.82, 91.86]
                                                [22.44, 91.92]
                                                [27.84, 91.98]
                                                [30.15, 91.96]
                                                [100.08, 92.61]
*%----------------|-------------------------------------------------------------|
ADD HYD           NHYDsum=["J8"], NHYDs to add=["EXT9"+"R9"+"EXT8"+"R5"]
*%----------------|-------------------------------------------------------------|
* Note: The pipe needs to be adjusted based on the Culvert-under-railway information
ROUTE PIPE        PTYPE=[1]circ, NHYDout=["Outlet"], RNUMBER=[1.0],
                  PDIAM=[525](mm), PLNGTH=[8.407](m), PROUGH=[0.013], PSLOPE=[0.0001](m/m),
                  NHYDin=["J8"], RDT=[1](min)
*%----------------|-------------------------------------------------------------|
*#############################################################################
*# STORMS
*#############################################################################
*%  2-Year, 3-Hour Chicago Storm
*START              TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[002]
*                  ["002YC3H.stm"] <--storm filename, one per line for NSTORM time
*%----------------|-------------------------------------------------------------|
*%  5-Year, 3-Hour Chicago Storm
START             TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[005]
                 ["005YC3H.stm"] <--storm filename, one per line for NSTORM time
*%----------------|-------------------------------------------------------------|
*%  10-Year, 3-Hour Chicago Storm
START             TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[010]
                 ["010YC3H.stm"] <--storm filename, one per line for NSTORM time
*%----------------|-------------------------------------------------------------|
*%  25-Year, 3-Hour Chicago Storm
START             TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[025]
                 ["025YC3H.stm"] <--storm filename, one per line for NSTORM time
*%----------------|-------------------------------------------------------------|
*%  50-Year, 3-Hour Chicago Storm
START             TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[050]
                 ["050YC3H.stm"] <--storm filename, one per line for NSTORM time
*%----------------|-------------------------------------------------------------|
*%  100-Year, 3-Hour Chicago Storm
START             TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[099]
                 ["100YC3H.stm"] <--storm filename, one per line for NSTORM time
*%----------------|-------------------------------------------------------------|
```

```
*%  2-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[102]
                   ["SC24002x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  5-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[105]
                   ["SC24005x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  10-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[110]
                   ["SC24010x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  25-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[125]
                   ["SC24025x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  50-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[150]
                   ["SC24050x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  100-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[199]
                   ["SC24100x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  July 1st, 1979 Storm - Ottawa International Airport
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1979]
                   ["19790701.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  August 4th, 1988 Storm - Ottawa International Airport
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1988]
                   ["19880804.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  August 8th, 1996 Storm - Ottawa International Airport
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1996]
                   ["19960808.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  100-Year, 3-Hour Chicago Storm + 20%
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[9999]
                   ["100YC3H+.STM"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
FINISH
```

```
00001>  ================================================================================
00002>
00003>  SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO          222     000    11   5555   =========
00004>  S       W W W   MM MM   H   H    Y Y    MM MM   O   O           2   0   0  1 1   5       
00005>  SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O         2     0   0   1    5       Ver 5.500
00006>      S   W W W   M   M   H   H     Y     M   M   O   O       222     0   0   1    555     FEB  2015
00007>  SSSSS    W W    M   M   H   H     Y     M   M    OOO        2       0   0   1      5   =========
00008>                                                              2       0   0   1      5   # 2549237
00009>         StormWater Management HYdrologic Model                222     000    11   555    =========
00010>
00011>  ************************************************************************************************
00012>  ***************************************  SWMHYMO Ver 5.500  ********************************
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: JFSAinc.                                  ++++++++++++++++++
00025>  ++++++++++++++++++                 Ottawa                 SERIAL#:2549237  ++++++++++++++++++
00026>  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028>  ************************************************************************************************
00029>  *****************                 ++++++ PROGRAM ARRAY DIMENSIONS ++++++           ******************
00030>  *****************                 Maximum value for ID numbers  :    11           ******************
00031>  *****************                 Max. number of rainfall points: 105408          ******************
00032>  *****************                 Max. number of flow points   : 105408           ******************
00033>  ************************************************************************************************
00034>
00035>
00036>  ******************************  S U M M A R Y   O U T P U T  ******************************
00037>  ************************************************************************************************
00038>  *                      RUN DATE: 2026-03-27     TIME: 11:21:05      RUN COUNTER: 015120       *
00039>  ************************************************************************************************
00040>  * Input   file: C:\Temp\Ottawa Street\20260327-PreDev\Ott_St-Pre_v05.dat                       *
00041>  * Output  file: C:\Temp\Ottawa Street\20260327-PreDev\Ott_St-Pre_v05.out                       *
00042>  * Summary file: C:\Temp\Ottawa Street\20260327-PreDev\Ott_St-Pre_v05.sum                       *
00043>  * User comments:                                                                              *
00044>  * 1:_____________________________________________________________________________________*
00045>  * 2:_____________________________________________________________________________________*
00046>  * 3:_____________________________________________________________________________________*
00047>  ************************************************************************************************
00048>
00049>
00050> #*************************************************************************************************
00051> #  SWMHYMO  / INPUT DATA FILE
00052> #*************************************************************************************************
00053> #  Project Name  : [5923 Ottawa St]
00054> #  Project Number: [P2710(e01)]
00055> #  Date          : [2025 FEB 05]
00056> #  Modeller      : [MM]
00057> #  Company       : JFSA Canada Inc.
00058> #  License #     : 2549237
00059> #*************************************************************************************************
00060> # Model developed to simulate runoff from subcatchments under pre development conditions
00061> #*************************************************************************************************
00062>   ** END OF RUN :   1
00063>
00064> ************************************************************************************************
00065>
00066>
00067>
00068>
00069>
00070>  RUN#:COMMAND#
00071> R0002:C00001------------------------------------------------------------------------------------
00072>       START
00073>       [TZERO =    .00 hrs on      0]
00074>       [METOUT=   2   (1=imperial, 2=metric output)]
00075>       [NSTORM=   1 ]
00076>       [NRUN  = 0002 ]
00077> #*************************************************************************************************
00078> #  SWMHYMO  / INPUT DATA FILE
00079> #*************************************************************************************************
00080> #  Project Name  : [5923 Ottawa St]
00081> #  Project Number: [P2710(e01)]
00082> #  Date          : [2025 FEB 05]
00083> #  Modeller      : [MM]
00084> #  Company       : JFSA Canada Inc.
00085> #  License #     : 2549237
00086> #*************************************************************************************************
00087> # Model developed to simulate runoff from subcatchments under pre development conditions
00088> #*************************************************************************************************
00089> R0002:C00002------------------------------------------------------------------------------------
00090>       READ STORM
00091>        Filename = STORM.001
00092>        Comment  = CHICAGO STORM 2 Year, 3 Hours
00093>        [SDT=10.00:SDUR=   3.00:PTOT=  31.86]
00094> #*************************************************************************************************
00095> # EXT1
00096> #*************************************************************************************************
00097> R0002:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00098>      CALIB NASHYD            1.0 01:EXT1          3.21     .037 No_date    1:58    8.15 .256     .000
00099>        [CN= 80.0: N= 3.00: Tp=  .72]
00100> #*************************************************************************************************
00101> # EXT2
00102> #*************************************************************************************************
00103> R0002:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00104>      CALIB NASHYD            1.0 01:EXT2           .28     .007 No_date    1:25   10.26 .322     .000
00105>        [CN= 85.0: N= 3.00: Tp=  .33]
00106> #*************************************************************************************************
00107> # EXT3
00108> #*************************************************************************************************
00109> R0002:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00110>      CALIB NASHYD            1.0 01:EXT3           .56     .011 No_date    1:24    8.15 .256     .000
00111>        [CN= 80.0: N= 3.00: Tp=  .32]
00112> #*************************************************************************************************
00113> # EXT4
00114> #*************************************************************************************************
00115> R0002:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00116>      CALIB NASHYD            1.0 01:EXT4           .31     .006 No_date    1:22    7.80 .245     .000
00117>        [CN= 79.0: N= 3.00: Tp=  .29]
00118> #*************************************************************************************************
00119> # EXT5
00120> #*************************************************************************************************
00121> R0002:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00122>      CALIB NASHYD            1.0 01:EXT5           .59     .008 No_date    1:36    6.88 .216     .000
00123>        [CN= 76.0: N= 3.00: Tp=  .45]
00124> #*************************************************************************************************
00125> # EXT6
00126> #*************************************************************************************************
00127> R0002:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00128>      CALIB NASHYD            1.0 01:EXT6           .86     .015 No_date    1:44   10.27 .322     .000
00129>        [CN= 85.0: N= 3.00: Tp=  .56]
00130> #*************************************************************************************************
00131> # EXT7
00132> #*************************************************************************************************
00133> R0002:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00134>      CALIB NASHYD            1.0 01:EXT7           .47     .011 No_date    1:24    9.33 .293     .000
00135>        [CN= 83.0: N= 3.00: Tp=  .32]
00136> #*************************************************************************************************
00137> # EXT8
00138> #*************************************************************************************************
00139> R0002:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00140>      CALIB NASHYD            1.0 01:EXT8           .83     .013 No_date    1:33    7.81 .245     .000
00141>        [CN= 79.0: N= 3.00: Tp=  .42]
00142> #*************************************************************************************************
00143> # EXT9
00144> #*************************************************************************************************
00145> R0002:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00146>      CALIB NASHYD            1.0 01:EXT9          3.57     .045 No_date    1:38    6.88 .216     .000
00147>        [CN= 76.0: N= 3.00: Tp=  .48]
00148> #*************************************************************************************************
00149> # EXT9a
00150> #*************************************************************************************************
00151> R0002:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00152>      CALIB NASHYD            1.0 01:EXT9a          .01     .001 No_date    1:00    7.47 .234     .000
00153>        [CN= 78.0: N= 3.00: Tp=  .04]
00154> #*************************************************************************************************
00155> # EXT10
00156> #*************************************************************************************************
00157> R0002:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00158>      CALIB NASHYD            1.0 01:EXT10          .20     .002 No_date    1:34    5.64 .177     .000
00159>        [CN= 71.0: N= 3.00: Tp=  .42]
00160> #*************************************************************************************************
00161> # Pre2
00162> #*************************************************************************************************
00163> R0002:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00164>      CALIB NASHYD            1.0 01:Pre2           .57     .008 No_date    1:36    7.48 .235     .000
00165>        [CN= 78.0: N= 3.00: Tp=  .46]
00166> #*************************************************************************************************
00167> # Pre9
00168> #*************************************************************************************************
00169> R0002:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00170>      CALIB NASHYD            1.0 01:Pre9           .83     .007 No_date    1:52    5.65 .177     .000
00171>        [CN= 71.0: N= 3.00: Tp=  .64]
00172> #*************************************************************************************************
00173> # Pre10
00174> #*************************************************************************************************
00175> R0002:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00176>      CALIB NASHYD            1.0 01:Pre10          .80     .011 No_date    1:22    5.65 .177     .000
00177>        [CN= 71.0: N= 3.00: Tp=  .29]
00178> #*************************************************************************************************
00179> # Pre11
00180> #*************************************************************************************************
00181> R0002:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00182>      CALIB NASHYD            1.0 01:Pre11          .07     .002 No_date    1:15    7.47 .235     .000
00183>        [CN= 78.0: N= 3.00: Tp=  .21]
00184> #*************************************************************************************************
00185> R0002:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00186>      ADD HYD                 1.0 02:EXT2           .28     .007 No_date    1:25   10.26  n/a     .000
00187>                            +   1.0 02:Pre2          .57     .008 No_date    1:36    7.48  n/a     .000
00188>                  SUM=      1.0 01:J1             .85     .015 No_date    1:30    8.41  n/a     .000
00189> R0002:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00190>      ROUTE CHANNEL    ->    1.0 02:J1             .85     .015 No_date    1:30    8.41  n/a     .000
00191>       [RDT= 1.00] out<-     1.0 01:R1             .85     .014 No_date    1:40    8.41  n/a     .000
00192>        [L/S/n=  143./ .394/.035]
00193>        [Vmax=   .240:Dmax=  .082]
00194> R0002:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00195>      ADD HYD                 1.0 02:R1             .85     .014 No_date    1:40    8.41  n/a     .000
00196>                            +   1.0 02:EXT3          .56     .011 No_date    1:24    8.15  n/a     .000
00197>                            +   1.0 02:EXT1         3.21     .037 No_date    1:58    8.15  n/a     .000
00198>                  SUM=      1.0 01:J2             4.62     .057 No_date    1:46    8.20  n/a     .000
00199> R0002:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00200>      ROUTE CHANNEL    ->    1.0 02:J2             4.62     .057 No_date    1:46    8.20  n/a     .000
00201>       [RDT= 1.00] out<-     1.0 01:R2             4.62     .057 No_date    1:49    8.20  n/a     .000
00202>        [L/S/n=   73./ .425/.035]
00203>        [Vmax=   .350:Dmax=  .155]
00204> R0002:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00205>      ADD HYD                 1.0 02:R2             4.62     .057 No_date    1:49    8.20  n/a     .000
00206>                            +   1.0 02:EXT4          .31     .006 No_date    1:22    7.80  n/a     .000
00207>                  SUM=      1.0 01:J3             4.93     .061 No_date    1:46    8.17  n/a     .000
00208> R0002:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00209>      ROUTE CHANNEL    ->    1.0 02:J3             4.93     .061 No_date    1:46    8.17  n/a     .000
00210>       [RDT= 1.00] out<-     1.0 01:R3             4.93     .060 No_date    1:52    8.17  n/a     .000
00211>        [L/S/n=   92./ .274/.035]
00212>        [Vmax=   .288:Dmax=  .161]
00213> R0002:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00214>      ADD HYD                 1.0 02:R3             4.93     .060 No_date    1:52    8.17  n/a     .000
00215>                            +   1.0 02:EXT5          .59     .008 No_date    1:36    6.88  n/a     .000
00216>                  SUM=      1.0 01:J4             5.52     .067 No_date    1:50    8.04  n/a     .000
00217> R0002:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00218>      ROUTE CHANNEL    ->    1.0 02:J4             5.52     .067 No_date    1:50    8.04  n/a     .000
00219>       [RDT= 1.00] out<-     1.0 01:R4             5.52     .061 No_date    2:05    8.04  n/a     .000
00220>        [L/S/n=  251./ .190/.035]
00221>        [Vmax=   .266:Dmax=  .173]
00222> R0002:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00223>      ADD HYD                 1.0 02:R4             5.52     .061 No_date    2:05    8.04  n/a     .000
00224>                            +   1.0 02:EXT6          .86     .015 No_date    1:44   10.27  n/a     .000
00225>                            +   1.0 02:EXT7          .47     .011 No_date    1:24    9.33  n/a     .000
00226>                  SUM=      1.0 01:J5             6.86     .080 No_date    1:59    8.41  n/a     .000
00227> R0002:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00228>      ROUTE CHANNEL    ->    1.0 02:J5             6.86     .080 No_date    1:59    8.41  n/a     .000
00229>       [RDT= 1.00] out<-     1.0 01:R5             6.86     .078 No_date    2:07    8.41  n/a     .000
00230>        [L/S/n=  237./ .644/.035]
00231>        [Vmax=   .432:Dmax=  .166]
00232> R0002:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00233>      ROUTE CHANNEL    ->    1.0 02:Pre10          .80     .011 No_date    1:22    5.65  n/a     .000
00234>       [RDT= 1.00] out<-     1.0 01:R6             .80     .011 No_date    1:25    5.65  n/a     .000
00235>        [L/S/n=   77./ .776/.035]
00236>        [Vmax=   .492:Dmax=  .008]
00237> R0002:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00238>      ROUTE CHANNEL    ->    1.0 02:Pre9           .83     .007 No_date    1:52    5.65  n/a     .000
00239>       [RDT= 1.00] out<-     1.0 01:R7             .83     .007 No_date    1:56    5.65  n/a     .000
00240>        [L/S/n=  159./1.576/.035]
00241>        [Vmax=   .797:Dmax=  .002]
00242> R0002:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00243>      ADD HYD                 1.0 02:R6             .80     .016 No_date    4:19    5.76  n/a     .000
00244>                            +   1.0 02:EXT10         .20     .002 No_date    1:34    5.64  n/a     .000
00245>                            +   1.0 02:Pre11         .07     .002 No_date    1:15    7.47  n/a     .000
00246>                            +   1.0 02:EXT9a         .01     .001 No_date    1:00    7.47  n/a     .000
00247>                  SUM=      1.0 01:J6             1.09     .016 No_date    4:19    5.87  n/a     .000
00248> R0002:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00249>      ROUTE CHANNEL    ->    1.0 02:J6             1.09     .016 No_date    4:19    5.87  n/a     .000
00250>       [RDT= 1.00] out<-     1.0 01:R8             1.09     .015 No_date    1:28    5.87  n/a     .000
00251>        [L/S/n=   79./ .522/.035]
00252>        [Vmax=   .423:Dmax=  .011]
00253> R0002:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00254>      ADD HYD                 1.0 02:R8             1.09     .015 No_date    1:28    5.87  n/a     .000
00255>                            +   1.0 02:R7           .83     .007 No_date    1:56    5.67  n/a     .000
00256>                  SUM=      1.0 01:J7             1.92     .020 No_date    1:34    5.78  n/a     .000
00257> R0002:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00258>      ROUTE CHANNEL    ->    1.0 02:J7             1.92     .020 No_date    1:34    5.78  n/a     .000
00259>       [RDT= 1.00] out<-     1.0 01:R9             1.92     .020 No_date    1:35    5.78  n/a     .000
00260>        [L/S/n=   29./ .887/.035]
00261>        [Vmax=   .543:Dmax=  .013]
00262> R0002:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00263>      ADD HYD                 1.0 02:EXT9          3.57     .045 No_date    1:38    6.88  n/a     .000
00264>                            +   1.0 02:R9           1.92     .020 No_date    1:35    5.79  n/a     .000
00265>                            +   1.0 02:EXT8          .83     .013 No_date    1:33    7.81  n/a     .000
00266>                            +   1.0 02:R5            6.86     .078 No_date    2:07    8.41  n/a     .000
00267>                  SUM=      1.0 01:J8            13.18     .141 No_date    1:54    7.57  n/a     .000
00268> R0002:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00269>      ROUTE PIPE       ->    1.0 02:J8            13.18     .141 No_date    1:54    7.57  n/a     .000
00270> *    [DT= 1.00] out<-     1.0 01:Outlet         13.18     .141 No_date    1:54    7.57  n/a     .000
00271>        [L/S/n=    8./ .010/.013]
00272>        [Vmax=  .305:Dmax=  .673]
00273>        [Din=   .53:Dused=  .82]
00274> ##########################################################################
00275> # STORMS
00276> ##########################################################################
00277>   ** END OF RUN :   4
00278>
00279> ************************************************************************************************
00280>
00281>
00282>
00283>
00284>
00285>  RUN#:COMMAND#
00286> R0005:C00001------------------------------------------------------------------------------------
00287>       START
00288>       [TZERO =    .00 hrs on      0]
00289>       [METOUT=   2   (1=imperial, 2=metric output)]
00290>       [NSTORM=   1 ]
00291>       [NRUN  = 0005 ]
00292> #*************************************************************************************************
00293> #  SWMHYMO  / INPUT DATA FILE
00294> #*************************************************************************************************
00295> #  Project Name  : [5923 Ottawa St]
00296> #  Project Number: [P2710(e01)]
00297> #  Date          : [2025 FEB 05]
00298> #  Modeller      : [MM]
00299> #  Company       : JFSA Canada Inc.
00300> #  License #     : 2549237
00301> #*************************************************************************************************
00302> # Model developed to simulate runoff from subcatchments under pre development conditions
00303> #*************************************************************************************************
00304> R0005:C00002------------------------------------------------------------------------------------
00305>       READ STORM
00306>        Filename = STORM.001
00307>        Comment  = CHICAGO STORM  5 Year, 3 Hours
00308>        [SDT=10.00:SDUR=   3.00:PTOT=  42.51]
00309> #*************************************************************************************************
00310> # EXT1
00311> #*************************************************************************************************
00312> R0005:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00313>      CALIB NASHYD            1.0 01:EXT1          3.21     .066 No_date    1:55   14.13 .332     .000
00314>        [CN= 80.0: N= 3.00: Tp=  .72]
00315> #*************************************************************************************************
00316> # EXT2
00317> #*************************************************************************************************
00318> R0005:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00319>      CALIB NASHYD            1.0 01:EXT2           .28     .012 No_date    1:23   17.32 .407     .000
00320>        [CN= 85.0: N= 3.00: Tp=  .33]
00321> #*************************************************************************************************
00322> # EXT3
00323> #*************************************************************************************************
00324> R0005:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00325>      CALIB NASHYD            1.0 01:EXT3           .56     .020 No_date    1:23   14.13 .332     .000
00326>        [CN= 80.0: N= 3.00: Tp=  .32]
00327> #*************************************************************************************************
00328> # EXT4
00329> #*************************************************************************************************
00330> R0005:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00331>      CALIB NASHYD            1.0 01:EXT4           .31     .011 No_date    1:21   13.59 .320     .000
00332>        [CN= 79.0: N= 3.00: Tp=  .29]
00333> #*************************************************************************************************
00334> # EXT5
00335> #*************************************************************************************************
00336> R0005:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00337>      CALIB NASHYD            1.0 01:EXT5           .59     .014 No_date    1:34   12.13 .285     .000
00338>        [CN= 76.0: N= 3.00: Tp=  .45]
00339> #*************************************************************************************************
00340> # EXT6
00341> #*************************************************************************************************
00342> R0005:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00343>      CALIB NASHYD            1.0 01:EXT6           .86     .026 No_date    1:42   17.32 .407     .000
00344>        [CN= 85.0: N= 3.00: Tp=  .56]
00345> #*************************************************************************************************
00346> # EXT7
00347> #*************************************************************************************************
00348> R0005:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00349>      CALIB NASHYD            1.0 01:EXT7           .47     .019 No_date    1:23   15.94 .375     .000
00350>        [CN= 83.0: N= 3.00: Tp=  .32]
00351> #*************************************************************************************************
00352> # EXT8
00353> #*************************************************************************************************
00354> R0005:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00355>      CALIB NASHYD            1.0 01:EXT8           .83     .024 No_date    1:31   13.59 .320     .000
00356>        [CN= 79.0: N= 3.00: Tp=  .42]
00357> #*************************************************************************************************
00358> # EXT9
00359> #*************************************************************************************************
00360> R0005:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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00361>     CALIB NASHYD           1.0 01:EXT9          3.57     .083 No_date    1:36   12.13 .285     .000
00362>       [CN= 76.0: N= 3.00: Tp=  .48]
00363> #*******************************************************************************
00364> # EXT9a
00365> #*******************************************************************************
00366> R0005:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00367>     CALIB NASHYD           1.0 01:EXT9a          .01     .001 No_date    1:00   13.07 .307     .000
00368>       [CN= 78.0: N= 3.00: Tp=  .04]
00369> #*******************************************************************************
00370> # EXT10
00371> #*******************************************************************************
00372> R0005:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00373>     CALIB NASHYD           1.0 01:EXT10          .20     .004 No_date    1:32   10.11 .238     .000
00374>       [CN= 71.0: N= 3.00: Tp=  .42]
00375> #*******************************************************************************
00376> # Pre2
00377> #*******************************************************************************
00378> R0005:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00379>     CALIB NASHYD           1.0 01:Pre2           .57     .015 No_date    1:35   13.08 .308     .000
00380>       [CN= 78.0: N= 3.00: Tp=  .46]
00381> #*******************************************************************************
00382> # Pre9
00383> #*******************************************************************************
00384> R0005:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00385>     CALIB NASHYD           1.0 01:Pre9           .83     .013 No_date    1:50   10.11 .238     .000
00386>       [CN= 71.0: N= 3.00: Tp=  .64]
00387> #*******************************************************************************
00388> # Pre10
00389> #*******************************************************************************
00390> R0005:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00391>     CALIB NASHYD           1.0 01:Pre10          .80     .021 No_date    1:21   10.11 .238     .000
00392>       [CN= 71.0: N= 3.00: Tp=  .29]
00393> #*******************************************************************************
00394> # Pre11
00395> #*******************************************************************************
00396> R0005:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00397>     CALIB NASHYD           1.0 01:Pre11          .07     .003 No_date    1:14   13.07 .308     .000
00398>       [CN= 78.0: N= 3.00: Tp=  .21]
00399> #*******************************************************************************
00400> R0005:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00401>     ADD HYD                1.0 02:EXT2           .28     .012 No_date    1:23   17.32  n/a     .000
00402>                       +    1.0 02:Pre2           .57     .015 No_date    1:35   13.08  n/a     .000
00403>                  SUM=      1.0 01:J1             .85     .026 No_date    1:29   14.50  n/a     .000
00404> R0005:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00405>     ROUTE CHANNEL    ->    1.0 02:J1             .85     .026 No_date    1:29   14.50  n/a     .000
00406>       [RDT= 1.00] out<-     1.0 01:R1             .85     .025 No_date    1:36   14.50  n/a     .000
00407>       [L/S/n=  143./ .394/.035]
00408>       [Vmax=   .291:Dmax=   .109]
00409> R0005:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00410>     ADD HYD                1.0 02:R1             .85     .025 No_date    1:36   14.50  n/a     .000
00411>                       +    1.0 02:EXT3           .56     .020 No_date    1:23   14.13  n/a     .000
00412>                       +    1.0 02:EXT1          3.21     .066 No_date    1:55   14.13  n/a     .000
00413>                  SUM=      1.0 01:J2            4.62     .102 No_date    1:43   14.20  n/a     .000
00414> R0005:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00415>     ROUTE CHANNEL    ->    1.0 02:J2            4.62     .102 No_date    1:43   14.20  n/a     .000
00416>       [RDT= 1.00] out<-     1.0 01:R2            4.62     .101 No_date    1:45   14.20  n/a     .000
00417>       [L/S/n=   73./ .425/.035]
00418>       [Vmax=   .412:Dmax=   .195]
00419> R0005:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00420>     ADD HYD                1.0 02:R2            4.62     .101 No_date    1:45   14.20  n/a     .000
00421>                       +    1.0 02:EXT4           .31     .011 No_date    1:21   13.59  n/a     .000
00422>                  SUM=      1.0 01:J3            4.93     .109 No_date    1:43   14.16  n/a     .000
00423> R0005:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00424>     ROUTE CHANNEL    ->    1.0 02:J3            4.93     .109 No_date    1:43   14.16  n/a     .000
00425>       [RDT= 1.00] out<-     1.0 01:R3            4.93     .108 No_date    1:47   14.16  n/a     .000
00426>       [L/S/n=   92./ .274/.035]
00427>       [Vmax=   .337:Dmax=   .202]
00428> R0005:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00429>     ADD HYD                1.0 02:R3            4.93     .108 No_date    1:47   14.16  n/a     .000
00430>                       +    1.0 02:EXT5           .59     .014 No_date    1:34   12.13  n/a     .000
00431>                  SUM=      1.0 01:J4            5.52     .121 No_date    1:45   13.94  n/a     .000
00432> R0005:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00433>     ROUTE CHANNEL    ->    1.0 02:J4            5.52     .121 No_date    1:45   13.94  n/a     .000
00434>       [RDT= 1.00] out<-     1.0 01:R4            5.52     .112 No_date    1:58   13.94  n/a     .000
00435>       [L/S/n=  251./ .190/.035]
00436>       [Vmax=   .323:Dmax=   .221]
00437> R0005:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00438>     ADD HYD                1.0 02:R4            5.52     .112 No_date    1:58   13.94  n/a     .000
00439>                       +    1.0 02:EXT6           .86     .026 No_date    1:42   17.32  n/a     .000
00440>                       +    1.0 02:EXT7           .47     .019 No_date    1:23   15.94  n/a     .000
00441>                  SUM=      1.0 01:J5            6.86     .147 No_date    1:53   14.51  n/a     .000
00442> R0005:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00443>     ROUTE CHANNEL    ->    1.0 02:J5            6.86     .147 No_date    1:53   14.51  n/a     .000
00444>       [RDT= 1.00] out<-     1.0 01:R5            6.86     .144 No_date    2:00   14.51  n/a     .000
00445>       [L/S/n=  237./ .644/.035]
00446>       [Vmax=   .519:Dmax=   .210]
00447> R0005:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00448>     ROUTE CHANNEL    ->    1.0 02:Pre10          .80     .021 No_date    1:21   10.11  n/a     .000
00449>       [RDT= 1.00] out<-     1.0 01:R6            .80     .021 No_date    1:24   10.11  n/a     .000
00450>       [L/S/n=   77./ .776/.035]
00451>       [Vmax=   .492:Dmax=   .015]
00452> R0005:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00453>     ROUTE CHANNEL    ->    1.0 02:Pre9           .83     .013 No_date    1:50   10.11  n/a     .000
00454>       [RDT= 1.00] out<-     1.0 01:R7            .83     .013 No_date    1:54   10.11  n/a     .000
00455>       [L/S/n=  159./1.576/.035]
00456>       [Vmax=   .797:Dmax=   .004]
00457> R0005:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00458>     ADD HYD                1.0 02:R6            .80     .021 No_date    1:24   10.26  n/a     .000
00459>                       +    1.0 02:EXT10          .20     .004 No_date    1:32   10.11  n/a     .000
00460>                       +    1.0 02:Pre11          .07     .003 No_date    1:14   13.07  n/a     .000
00461>                       +    1.0 02:EXT9a          .01     .001 No_date    1:00   13.07  n/a     .000
00462>                  SUM=      1.0 01:J6            1.09     .028 No_date    1:24   10.44  n/a     .000
00463> R0005:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00464>     ROUTE CHANNEL    ->    1.0 02:J6            1.09     .028 No_date    1:24   10.44  n/a     .000
00465>       [RDT= 1.00] out<-     1.0 01:R8            1.09     .027 No_date    1:27   10.44  n/a     .000
00466>       [L/S/n=   79./ .522/.035]
00467>       [Vmax=   .423:Dmax=   .020]
00468> R0005:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00469>     ADD HYD                1.0 02:R8            1.09     .027 No_date    1:27   10.44  n/a     .000
00470>                       +    1.0 02:R7             .83     .013 No_date    1:54   10.14  n/a     .000
00471>                  SUM=      1.0 01:J7            1.92     .037 No_date    1:32   10.31  n/a     .000
00472> R0005:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00473>     ROUTE CHANNEL    ->    1.0 02:J7            1.92     .037 No_date    1:32   10.31  n/a     .000
00474>       [RDT= 1.00] out<-     1.0 01:R9            1.92     .037 No_date    1:33   10.31  n/a     .000
00475>       [L/S/n=   29./ .887/.035]
00476>       [Vmax=   .543:Dmax=   .025]
00477> R0005:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00478>     ADD HYD                1.0 02:EXT9          3.57     .083 No_date    1:36   12.13  n/a     .000
00479>                       +    1.0 02:R9            1.92     .037 No_date    1:33   10.32  n/a     .000
00480>                       +    1.0 02:EXT8           .83     .024 No_date    1:31   13.59  n/a     .000
00481>                       +    1.0 02:R5            6.86     .144 No_date    2:00   14.51  n/a     .000
00482>                  SUM=      1.0 01:J8           13.18     .266 No_date    1:49   13.20  n/a     .000
00483> R0005:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00484>     ROUTE PIPE       ->    1.0 02:J8            13.18     .266 No_date    1:49   13.20  n/a     .000
00485> *   [RDT= 1.00] out<-     1.0 01:Outlet        13.18     .268 No_date    1:50   13.20  n/a     .000
00486>       [L/S/n=    8./ .010/.013]
00487>       [Vmax=   .357:Dmax=   .853]
00488>       [Din=   .53:Dused= 1.04]
00489> ##############################################################################
00490> # STORMS
00491> ##############################################################################
00492>    ** END OF RUN :    9
00493>
00494> ********************************************************************************
00495>
00496>
00497>
00498>
00499>
00500>  RUN#:COMMAND#
00501> R0010:C00001------------------------------------------------------------------
00502>     START
00503>       [TZERO =     .00 hrs on        0]
00504>       [METOUT=   2   (1=imperial, 2=metric output)]
00505>       [NSTORM=   1 ]
00506>       [NRUN  = 0010 ]
00507> ********************************************************************************
00508> #  SWMHYMO  / INPUT DATA FILE
00509> ********************************************************************************
00510> #  Project Name  : [5923 Ottawa St]
00511> #  Project Number: [P2710(e01)]
00512> #  Date          : [2025 FEB 05]
00513> #  Modeller      : [MM]
00514> #  Company       : JFSA Canada Inc.
00515> #  License #     : 2549237
00516> ********************************************************************************
00517> # Model developed to simulate runoff from subcatchments under pre development conditions
00518> ********************************************************************************
00519> R0010:C00002------------------------------------------------------------------
00520>     READ STORM
00521>       Filename = STORM.001
00522>       Comment  = CHICAGO STORM 10 Year, 3 Hours
00523>       [SDT=10.00:SDUR=   3.00:PTOT=  49.50]
00524> ********************************************************************************
00525> # EXT1
00526> ********************************************************************************
00527> R0010:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00528>     CALIB NASHYD           1.0 01:EXT1          3.21     .088 No_date    1:54   18.55 .375     .000
00529>       [CN= 80.0: N= 3.00: Tp=  .72]
00530> ********************************************************************************
00531> # EXT2
00532> ********************************************************************************
00533> R0010:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00534>     CALIB NASHYD           1.0 01:EXT2           .28     .016 No_date    1:23   22.42 .453     .000
00535>       [CN= 85.0: N= 3.00: Tp=  .33]
00536> ********************************************************************************
00537> # EXT3
00538> ********************************************************************************
00539> R0010:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00540>     CALIB NASHYD           1.0 01:EXT3           .56     .027 No_date    1:23   18.55 .375     .000
00541>       [CN= 80.0: N= 3.00: Tp=  .32]
00542> ********************************************************************************
00543> # EXT4
00544> ********************************************************************************
00545> R0010:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00546>     CALIB NASHYD           1.0 01:EXT4           .31     .015 No_date    1:20   17.89 .361     .000
00547>       [CN= 79.0: N= 3.00: Tp=  .29]
00548> ********************************************************************************
00549> # EXT5
00550> ********************************************************************************
00551> R0010:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00552>     CALIB NASHYD           1.0 01:EXT5           .59     .019 No_date    1:33   16.07 .325     .000
00553>       [CN= 76.0: N= 3.00: Tp=  .45]
00554> ********************************************************************************
00555> # EXT6
00556> ********************************************************************************
00557> R0010:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00558>     CALIB NASHYD           1.0 01:EXT6           .86     .035 No_date    1:41   22.42 .453     .000
00559>       [CN= 85.0: N= 3.00: Tp=  .56]
00560> ********************************************************************************
00561> # EXT7
00562> ********************************************************************************
00563> R0010:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00564>     CALIB NASHYD           1.0 01:EXT7           .47     .025 No_date    1:22   20.75 .419     .000
00565>       [CN= 83.0: N= 3.00: Tp=  .32]
00566> ********************************************************************************
00567> # EXT8
00568> ********************************************************************************
00569> R0010:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00570>     CALIB NASHYD           1.0 01:EXT8           .83     .032 No_date    1:31   17.89 .361     .000
00571>       [CN= 79.0: N= 3.00: Tp=  .42]
00572> ********************************************************************************
00573> # EXT9
00574> ********************************************************************************
00575> R0010:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00576>     CALIB NASHYD           1.0 01:EXT9          3.57     .111 No_date    1:36   16.08 .325     .000
00577>       [CN= 76.0: N= 3.00: Tp=  .48]
00578> ********************************************************************************
00579> # EXT9a
00580> ********************************************************************************
00581> R0010:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00582>     CALIB NASHYD           1.0 01:EXT9a          .01     .001 No_date    1:00   17.25 .348     .000
00583>       [CN= 78.0: N= 3.00: Tp=  .04]
00584> ********************************************************************************
00585> # EXT10
00586> ********************************************************************************
00587> R0010:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00588>     CALIB NASHYD           1.0 01:EXT10          .20     .006 No_date    1:31   13.53 .273     .000
00589>       [CN= 71.0: N= 3.00: Tp=  .42]
00590> ********************************************************************************
00591> # Pre2
00592> ********************************************************************************
00593> R0010:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00594>     CALIB NASHYD           1.0 01:Pre2           .57     .020 No_date    1:34   17.26 .349     .000
00595>       [CN= 78.0: N= 3.00: Tp=  .46]
00596> ********************************************************************************
00597> # Pre9
00598> ********************************************************************************
00599> R0010:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00600>     CALIB NASHYD           1.0 01:Pre9           .83     .018 No_date    1:49   13.53 .273     .000
00601>       [CN= 71.0: N= 3.00: Tp=  .64]
00602> ********************************************************************************
00603> # Pre10
00604> ********************************************************************************
00605> R0010:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00606>     CALIB NASHYD           1.0 01:Pre10          .80     .029 No_date    1:21   13.53 .273     .000
00607>       [CN= 71.0: N= 3.00: Tp=  .29]
00608> ********************************************************************************
00609> # Pre11
00610> ********************************************************************************
00611> R0010:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00612>     CALIB NASHYD           1.0 01:Pre11          .07     .004 No_date    1:14   17.25 .348     .000
00613>       [CN= 78.0: N= 3.00: Tp=  .21]
00614> ********************************************************************************
00615> R0010:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00616>     ADD HYD                1.0 02:EXT2           .28     .016 No_date    1:23   22.42  n/a     .000
00617>                       +    1.0 02:Pre2           .57     .020 No_date    1:34   17.26  n/a     .000
00618>                  SUM=      1.0 01:J1             .85     .035 No_date    1:28   18.99  n/a     .000
00619> R0010:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00620>     ROUTE CHANNEL    ->    1.0 02:J1             .85     .035 No_date    1:28   18.99  n/a     .000
00621>       [RDT= 1.00] out<-     1.0 01:R1             .85     .033 No_date    1:35   18.99  n/a     .000
00622>       [L/S/n=  143./ .394/.035]
00623>       [Vmax=   .311:Dmax=   .122]
00624> R0010:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00625>     ADD HYD                1.0 02:R1             .85     .033 No_date    1:35   18.99  n/a     .000
00626>                       +    1.0 02:EXT3           .56     .027 No_date    1:23   18.55  n/a     .000
00627>                       +    1.0 02:EXT1          3.21     .088 No_date    1:54   18.55  n/a     .000
00628>                  SUM=      1.0 01:J2            4.62     .136 No_date    1:42   18.63  n/a     .000
00629> R0010:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00630>     ROUTE CHANNEL    ->    1.0 02:J2            4.62     .136 No_date    1:42   18.63  n/a     .000
00631>       [RDT= 1.00] out<-     1.0 01:R2            4.62     .135 No_date    1:45   18.63  n/a     .000
00632>       [L/S/n=   73./ .425/.035]
00633>       [Vmax=   .444:Dmax=   .195]
00634> R0010:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00635>     ADD HYD                1.0 02:R2            4.62     .135 No_date    1:45   18.63  n/a     .000
00636>                       +    1.0 02:EXT4           .31     .015 No_date    1:20   17.89  n/a     .000
00637>                  SUM=      1.0 01:J3            4.93     .145 No_date    1:42   18.59  n/a     .000
00638> R0010:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00639>     ROUTE CHANNEL    ->    1.0 02:J3            4.93     .145 No_date    1:42   18.59  n/a     .000
00640>       [RDT= 1.00] out<-     1.0 01:R3            4.93     .144 No_date    1:46   18.59  n/a     .000
00641>       [L/S/n=   92./ .274/.035]
00642>       [Vmax=   .364:Dmax=   .227]
00643> R0010:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00644>     ADD HYD                1.0 02:R3            4.93     .144 No_date    1:46   18.59  n/a     .000
00645>                       +    1.0 02:EXT5           .59     .019 No_date    1:33   16.07  n/a     .000
00646>                  SUM=      1.0 01:J4            5.52     .162 No_date    1:44   18.32  n/a     .000
00647> R0010:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00648>     ROUTE CHANNEL    ->    1.0 02:J4            5.52     .162 No_date    1:44   18.32  n/a     .000
00649>       [RDT= 1.00] out<-     1.0 01:R4            5.52     .151 No_date    1:56   18.32  n/a     .000
00650>       [L/S/n=  251./ .190/.035]
00651>       [Vmax=   .352:Dmax=   .250]
00652> R0010:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00653>     ADD HYD                1.0 02:R4            5.52     .151 No_date    1:56   18.32  n/a     .000
00654>                       +    1.0 02:EXT6           .86     .035 No_date    1:41   22.42  n/a     .000
00655>                       +    1.0 02:EXT7           .47     .025 No_date    1:22   20.75  n/a     .000
00656>                  SUM=      1.0 01:J5            6.86     .197 No_date    1:51   19.00  n/a     .000
00657> R0010:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00658>     ROUTE CHANNEL    ->    1.0 02:J5            6.86     .197 No_date    1:51   19.00  n/a     .000
00659>       [RDT= 1.00] out<-     1.0 01:R5            6.86     .194 No_date    1:56   19.00  n/a     .000
00660>       [L/S/n=  237./ .644/.035]
00661>       [Vmax=   .573:Dmax=   .238]
00662> R0010:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00663>     ROUTE CHANNEL    ->    1.0 02:Pre10          .80     .029 No_date    1:21   13.53  n/a     .000
00664>       [RDT= 1.00] out<-     1.0 01:R6            .80     .029 No_date    1:24   13.53  n/a     .000
00665>       [L/S/n=   77./ .776/.035]
00666>       [Vmax=   .492:Dmax=   .021]
00667> R0010:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00668>     ROUTE CHANNEL    ->    1.0 02:Pre9           .83     .018 No_date    1:49   13.53  n/a     .000
00669>       [RDT= 1.00] out<-     1.0 01:R7            .83     .018 No_date    1:53   13.53  n/a     .000
00670>       [L/S/n=  159./1.576/.035]
00671>       [Vmax=   .797:Dmax=   .005]
00672> R0010:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00673>     ADD HYD                1.0 02:R6            .80     .029 No_date    1:24   13.70  n/a     .000
00674>                       +    1.0 02:EXT10          .20     .006 No_date    1:31   13.53  n/a     .000
00675>                       +    1.0 02:Pre11          .07     .004 No_date    1:14   17.25  n/a     .000
00676>                       +    1.0 02:EXT9a          .01     .001 No_date    1:00   17.25  n/a     .000
00677>                  SUM=      1.0 01:J6            1.09     .038 No_date    1:23   13.93  n/a     .000
00678> R0010:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00679>     ROUTE CHANNEL    ->    1.0 02:J6            1.09     .038 No_date    1:23   13.93  n/a     .000
00680>       [RDT= 1.00] out<-     1.0 01:R8            1.09     .037 No_date    1:27   13.93  n/a     .000
00681>       [L/S/n=   79./ .522/.035]
00682>       [Vmax=   .423:Dmax=   .028]
00683> R0010:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00684>     ADD HYD                1.0 02:R8            1.09     .037 No_date    1:27   13.93  n/a     .000
00685>                       +    1.0 02:R7             .83     .018 No_date    1:53   13.55  n/a     .000
00686>                  SUM=      1.0 01:J7            1.92     .050 No_date    1:31   13.77  n/a     .000
00687> R0010:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00688>     ROUTE CHANNEL    ->    1.0 02:J7            1.92     .050 No_date    1:31   13.77  n/a     .000
00689>       [RDT= 1.00] out<-     1.0 01:R9            1.92     .050 No_date    1:32   13.77  n/a     .000
00690>       [L/S/n=   29./ .887/.035]
00691>       [Vmax=   .543:Dmax=   .034]
00692> R0010:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00693>     ADD HYD                1.0 02:EXT9          3.57     .111 No_date    1:36   16.08  n/a     .000
00694>                       +    1.0 02:R9            1.92     .050 No_date    1:32   13.78  n/a     .000
00695>                       +    1.0 02:EXT8           .83     .032 No_date    1:31   17.89  n/a     .000
00696>                       +    1.0 02:R5            6.86     .194 No_date    1:56   19.00  n/a     .000
00697>                  SUM=      1.0 01:J8           13.18     .363 No_date    1:47   17.38  n/a     .000
00698> R0010:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00699>     ROUTE PIPE       ->    1.0 02:J8            13.18     .363 No_date    1:47   17.38  n/a     .000
00700> *   [RDT= 1.00] out<-     1.0 01:Outlet        13.18     .363 No_date    1:47   17.38  n/a     .000
00701>       [L/S/n=    8./ .010/.013]
00702>       [Vmax=   .386:Dmax=   .959]
00703>       [Din=   .53:Dused= 1.17]
00704> ##############################################################################
00705> # STORMS
00706> ##############################################################################
00707>    ** END OF RUN :   24
00708>
00709> ********************************************************************************
00710>
00711>
00712>
00713>
00714>
00715>  RUN#:COMMAND#
00716> R0025:C00001------------------------------------------------------------------
00717>     START
00718>       [TZERO =     .00 hrs on        0]
00719>       [METOUT=   2   (1=imperial, 2=metric output)]
00720>       [NSTORM=   1 ]
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00721>       [NRUN  = 0025 ]
00722> #*************************************************************************************************
00723> #  SWMHYMO  / INPUT DATA FILE
00724> #*************************************************************************************************
00725> #  Project Name  : [5923 Ottawa St]
00726> #  Project Number: [P2710(e01)]
00727> #  Date          : [2025 FEB 05]
00728> #  Modeller      : [MM]
00729> #  Company       : JFSA Canada Inc.
00730> #  License #     : 2549237
00731> #*************************************************************************************************
00732> # Model developed to simulate runoff from subcatchments under pre development conditions
00733> #*************************************************************************************************
00734> R0025:C00002-------------------------------------------------------------------------------------
00735>       READ STORM
00736>        Filename = STORM.001
00737>        Comment  = CHICAGO STORM   25 Year, 3 Hours
00738>        [SDT=10.00:SDUR=   3.00:PTOT=  58.23]
00739> #*************************************************************************************************
00740> # EXT1
00741> #*************************************************************************************************
00742> R0025:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00743>       CALIB NASHYD            1.0 01:EXT1            3.21     .118 No_date    1:53   24.50 .421     .000
00744>        [CN= 80.0: N= 3.00: Tp=  .72]
00745> #*************************************************************************************************
00746> # EXT2
00747> #*************************************************************************************************
00748> R0025:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00749>       CALIB NASHYD            1.0 01:EXT2            .28      .022 No_date    1:22   29.15 .501     .000
00750>        [CN= 85.0: N= 3.00: Tp=  .33]
00751> #*************************************************************************************************
00752> # EXT3
00753> #*************************************************************************************************
00754> R0025:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00755>       CALIB NASHYD            1.0 01:EXT3            .56      .036 No_date    1:22   24.50 .421     .000
00756>        [CN= 80.0: N= 3.00: Tp=  .32]
00757> #*************************************************************************************************
00758> # EXT4
00759> #*************************************************************************************************
00760> R0025:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00761>       CALIB NASHYD            1.0 01:EXT4            .31      .020 No_date    1:20   23.69 .407     .000
00762>        [CN= 79.0: N= 3.00: Tp=  .29]
00763> #*************************************************************************************************
00764> # EXT5
00765> #*************************************************************************************************
00766> R0025:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00767>       CALIB NASHYD            1.0 01:EXT5            .59      .026 No_date    1:33   21.44 .368     .000
00768>        [CN= 76.0: N= 3.00: Tp=  .45]
00769> #*************************************************************************************************
00770> # EXT6
00771> #*************************************************************************************************
00772> R0025:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00773>       CALIB NASHYD            1.0 01:EXT6            .86      .046 No_date    1:40   29.15 .501     .000
00774>        [CN= 85.0: N= 3.00: Tp=  .56]
00775> #*************************************************************************************************
00776> # EXT7
00777> #*************************************************************************************************
00778> R0025:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00779>       CALIB NASHYD            1.0 01:EXT7            .47      .034 No_date    1:22   27.17 .467     .000
00780>        [CN= 83.0: N= 3.00: Tp=  .32]
00781> #*************************************************************************************************
00782> # EXT8
00783> #*************************************************************************************************
00784> R0025:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00785>       CALIB NASHYD            1.0 01:EXT8            .83      .043 No_date    1:30   23.69 .407     .000
00786>        [CN= 79.0: N= 3.00: Tp=  .42]
00787> #*************************************************************************************************
00788> # EXT9
00789> #*************************************************************************************************
00790> R0025:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00791>       CALIB NASHYD            1.0 01:EXT9            3.57     .151 No_date    1:35   21.44 .368     .000
00792>        [CN= 76.0: N= 3.00: Tp=  .48]
00793> #*************************************************************************************************
00794> # EXT9a
00795> #*************************************************************************************************
00796> R0025:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00797>       CALIB NASHYD            1.0 01:EXT9a           .01      .002 No_date    1:00   22.90 .393     .000
00798>        [CN= 78.0: N= 3.00: Tp=  .04]
00799> #*************************************************************************************************
00800> # EXT10
00801> #*************************************************************************************************
00802> R0025:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00803>       CALIB NASHYD            1.0 01:EXT10           .20      .008 No_date    1:31   18.23 .313     .000
00804>        [CN= 71.0: N= 3.00: Tp=  .42]
00805> #*************************************************************************************************
00806> # Pre2
00807> #*************************************************************************************************
00808> R0025:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00809>       CALIB NASHYD            1.0 01:Pre2            .57      .027 No_date    1:33   22.91 .393     .000
00810>        [CN= 78.0: N= 3.00: Tp=  .46]
00811> #*************************************************************************************************
00812> # Pre9
00813> #*************************************************************************************************
00814> R0025:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00815>       CALIB NASHYD            1.0 01:Pre9            .83      .024 No_date    1:48   18.23 .313     .000
00816>        [CN= 71.0: N= 3.00: Tp=  .64]
00817> #*************************************************************************************************
00818> # Pre10
00819> #*************************************************************************************************
00820> R0025:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00821>       CALIB NASHYD            1.0 01:Pre10           .80      .040 No_date    1:20   18.23 .313     .000
00822>        [CN= 71.0: N= 3.00: Tp=  .29]
00823> #*************************************************************************************************
00824> # Pre11
00825> #*************************************************************************************************
00826> R0025:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00827>       CALIB NASHYD            1.0 01:Pre11           .07      .005 No_date    1:13   22.90 .393     .000
00828>        [CN= 78.0: N= 3.00: Tp=  .21]
00829> #*************************************************************************************************
00830> R0025:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00831>       ADD HYD                 1.0 02:EXT2            .28      .022 No_date    1:22   29.15  n/a     .000
00832>                             +   1.0 02:Pre2           .57      .027 No_date    1:33   22.91  n/a     .000
00833>                         SUM=    1.0 01:J1            .85      .047 No_date    1:27   25.00  n/a     .000
00834> R0025:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00835>       ROUTE CHANNEL    ->    1.0 02:J1            .85      .047 No_date    1:27   25.00  n/a     .000
00836>        [RDT= 1.00] out<-     1.0 01:R1            .85      .045 No_date    1:34   25.00  n/a     .000
00837>         [L/S/n=  143./ .394/.035]
00838>         (Vmax=   .340:Dmax=  .139)
00839> R0025:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00840>       ADD HYD                 1.0 02:R1            .85      .045 No_date    1:34   25.00  n/a     .000
00841>                             +   1.0 02:EXT3          .56      .036 No_date    1:22   24.50  n/a     .000
00842>                             +   1.0 02:EXT1         3.21      .118 No_date    1:53   24.50  n/a     .000
00843>                         SUM=    1.0 01:J2           4.62      .181 No_date    1:41   24.59  n/a     .000
00844> R0025:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00845>       ROUTE CHANNEL    ->    1.0 02:J2           4.62      .181 No_date    1:41   24.59  n/a     .000
00846>        [RDT= 1.00] out<-     1.0 01:R2           4.62      .181 No_date    1:43   24.59  n/a     .000
00847>         [L/S/n=   73./ .425/.035]
00848>         (Vmax=   .480:Dmax=  .246)
00849> R0025:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00850>       ADD HYD                 1.0 02:R2           4.62      .181 No_date    1:43   24.59  n/a     .000
00851>                             +   1.0 02:EXT4          .31      .020 No_date    1:20   23.69  n/a     .000
00852>                         SUM=    1.0 01:J3           4.93      .194 No_date    1:40   24.54  n/a     .000
00853> R0025:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00854>       ROUTE CHANNEL    ->    1.0 02:J3           4.93      .194 No_date    1:40   24.54  n/a     .000
00855>        [RDT= 1.00] out<-     1.0 01:R3           4.93      .193 No_date    1:44   24.54  n/a     .000
00856>         [L/S/n=   92./ .274/.035]
00857>         (Vmax=   .393:Dmax=  .255)
00858> R0025:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00859>       ADD HYD                 1.0 02:R3           4.93      .193 No_date    1:44   24.54  n/a     .000
00860>                             +   1.0 02:EXT5          .59      .026 No_date    1:33   21.44  n/a     .000
00861>                         SUM=    1.0 01:J4           5.52      .218 No_date    1:42   24.20  n/a     .000
00862> R0025:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00863>       ROUTE CHANNEL    ->    1.0 02:J4           5.52      .218 No_date    1:42   24.20  n/a     .000
00864>        [RDT= 1.00] out<-     1.0 01:R4           5.52      .205 No_date    1:53   24.20  n/a     .000
00865>         [L/S/n=  251./ .190/.035]
00866>         (Vmax=   .384:Dmax=  .285)
00867> R0025:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00868>       ADD HYD                 1.0 02:R4           5.52      .205 No_date    1:53   24.20  n/a     .000
00869>                             +   1.0 02:EXT6          .86      .046 No_date    1:40   29.15  n/a     .000
00870>                             +   1.0 02:EXT7          .47      .034 No_date    1:22   27.17  n/a     .000
00871>                         SUM=    1.0 01:J5           6.86      .267 No_date    1:49   25.03  n/a     .000
00872> R0025:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00873>       ROUTE CHANNEL    ->    1.0 02:J5           6.86      .267 No_date    1:49   25.03  n/a     .000
00874>        [RDT= 1.00] out<-     1.0 01:R5           6.86      .263 No_date    1:54   25.03  n/a     .000
00875>         [L/S/n=  237./ .644/.035]
00876>         (Vmax=   .623:Dmax=  .267)
00877> R0025:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00878>       ROUTE CHANNEL    ->    1.0 02:Pre10          .80      .040 No_date    1:20   18.23  n/a     .000
00879>        [RDT= 1.00] out<-     1.0 01:R6           .80      .039 No_date    1:23   18.23  n/a     .000
00880>         [L/S/n=   77./ .776/.035]
00881>         (Vmax=   .492:Dmax=  .029)
00882> R0025:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00883>       ROUTE CHANNEL    ->    1.0 02:Pre9           .83      .024 No_date    1:48   18.23  n/a     .000
00884>        [RDT= 1.00] out<-     1.0 01:R7           .83      .024 No_date    1:52   18.23  n/a     .000
00885>         [L/S/n=  159./1.576/.035]
00886>         (Vmax=   .797:Dmax=  .007)
00887> R0025:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00888>       ADD HYD                 1.0 02:R6           .80      .039 No_date    1:23   18.43  n/a     .000
00889>                             +   1.0 02:EXT10         .20      .008 No_date    1:31   18.23  n/a     .000
00890>                             +   1.0 02:Pre11          .07      .005 No_date    1:13   22.90  n/a     .000
00891>                             +   1.0 02:EXT9a          .01      .002 No_date    1:00   22.90  n/a     .000
00892>                         SUM=    1.0 01:J6           1.09      .052 No_date    1:23   18.72  n/a     .000
00893> R0025:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00894>       ROUTE CHANNEL    ->    1.0 02:J6           1.09      .052 No_date    1:23   18.72  n/a     .000
00895>        [RDT= 1.00] out<-     1.0 01:R8           1.09      .051 No_date    1:26   18.72  n/a     .000
00896>         [L/S/n=   79./ .522/.035]
00897>         (Vmax=   .423:Dmax=  .038)
00898> R0025:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00899>       ADD HYD                 1.0 02:R8           1.09      .051 No_date    1:26   18.72  n/a     .000
00900>                             +   1.0 02:R7          .83      .024 No_date    1:52   18.26  n/a     .000
00901>                         SUM=    1.0 01:J7           1.92      .069 No_date    1:31   18.52  n/a     .000
00902> R0025:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00903>       ROUTE CHANNEL    ->    1.0 02:J7           1.92      .069 No_date    1:31   18.52  n/a     .000
00904>        [RDT= 1.00] out<-     1.0 01:R9           1.92      .069 No_date    1:32   18.52  n/a     .000
00905>         [L/S/n=   29./ .887/.035]
00906>         (Vmax=   .543:Dmax=  .047)
00907> R0025:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00908>       ADD HYD                 1.0 02:EXT9         3.57      .151 No_date    1:35   21.44  n/a     .000
00909>                             +   1.0 02:R9          1.92      .069 No_date    1:32   18.53  n/a     .000
00910>                             +   1.0 02:EXT8          .83      .043 No_date    1:30   23.69  n/a     .000
00911>                             +   1.0 02:R5           6.86      .263 No_date    1:54   25.03  n/a     .000
00912>                         SUM=    1.0 01:J8          13.18      .496 No_date    1:44   23.03  n/a     .000
00913> R0025:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00914>       ROUTE PIPE       ->    1.0 02:J8          13.18      .496 No_date    1:44   23.03  n/a     .000
00915> *     [RDT= 1.00] out<-     1.0 01:Outlet      13.18      .496 No_date    1:45   23.03  n/a     .000
00916>        [L/S/n=    9./ .010/.013]
00917>        [Vmax=  .417:Dmax=  1.078]
00918>        [Din=  .53:Dused= 1.31)
00919> ##########################################################################
00920> # STORMS
00921> ##########################################################################
00922>  ** END OF RUN :   49
00923>
00924> *************************************************************************************************
00925>
00926>
00927>
00928>
00929>
00930>  RUN#:COMMAND#
00931>  R0050:C00001-------------------------------------------------------------------------------------
00932>       START
00933>        [TZERO =    .00 hrs on        0]
00934>        [METOUT=   2    (1=imperial, 2=metric output)]
00935>        [NSTORM=   1 ]
00936>        [NRUN  = 0050 ]
00937> #*************************************************************************************************
00938> #  SWMHYMO  / INPUT DATA FILE
00939> #*************************************************************************************************
00940> #  Project Name  : [5923 Ottawa St]
00941> #  Project Number: [P2710(e01)]
00942> #  Date          : [2025 FEB 05]
00943> #  Modeller      : [MM]
00944> #  Company       : JFSA Canada Inc.
00945> #  License #     : 2549237
00946> #*************************************************************************************************
00947> # Model developed to simulate runoff from subcatchments under pre development conditions
00948> #*************************************************************************************************
00949> R0050:C00002-------------------------------------------------------------------------------------
00950>       READ STORM
00951>        Filename = STORM.001
00952>        Comment  = CHICAGO STORM  50 Year, 3 Hours
00953>        [SDT=10.00:SDUR=   3.00:PTOT=  64.81]
00954> #*************************************************************************************************
00955> # EXT1
00956> #*************************************************************************************************
00957> R0050:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00958>       CALIB NASHYD            1.0 01:EXT1            3.21     .142 No_date    1:53   29.25 .451     .000
00959>        [CN= 80.0: N= 3.00: Tp=  .72]
00960> #*************************************************************************************************
00961> # EXT2
00962> #*************************************************************************************************
00963> R0050:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00964>       CALIB NASHYD            1.0 01:EXT2            .28      .026 No_date    1:22   34.45 .532     .000
00965>        [CN= 85.0: N= 3.00: Tp=  .33]
00966> #*************************************************************************************************
00967> # EXT3
00968> #*************************************************************************************************
00969> R0050:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00970>       CALIB NASHYD            1.0 01:EXT3            .56      .044 No_date    1:22   29.25 .451     .000
00971>        [CN= 80.0: N= 3.00: Tp=  .32]
00972> #*************************************************************************************************
00973> # EXT4
00974> #*************************************************************************************************
00975> R0050:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00976>       CALIB NASHYD            1.0 01:EXT4            .31      .025 No_date    1:19   28.33 .437     .000
00977>        [CN= 79.0: N= 3.00: Tp=  .29]
00978> #*************************************************************************************************
00979> # EXT5
00980> #*************************************************************************************************
00981> R0050:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00982>       CALIB NASHYD            1.0 01:EXT5            .59      .032 No_date    1:32   25.77 .398     .000
00983>        [CN= 76.0: N= 3.00: Tp=  .45]
00984> #*************************************************************************************************
00985> # EXT6
00986> #*************************************************************************************************
00987> R0050:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00988>       CALIB NASHYD            1.0 01:EXT6            .86      .055 No_date    1:40   34.45 .532     .000
00989>        [CN= 85.0: N= 3.00: Tp=  .56]
00990> #*************************************************************************************************
00991> # EXT7
00992> #*************************************************************************************************
00993> R0050:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00994>       CALIB NASHYD            1.0 01:EXT7            .47      .041 No_date    1:21   32.24 .498     .000
00995>        [CN= 83.0: N= 3.00: Tp=  .32]
00996> #*************************************************************************************************
00997> # EXT8
00998> #*************************************************************************************************
00999> R0050:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01000>       CALIB NASHYD            1.0 01:EXT8            .83      .052 No_date    1:30   28.33 .437     .000
01001>        [CN= 79.0: N= 3.00: Tp=  .42]
01002> #*************************************************************************************************
01003> # EXT9
01004> #*************************************************************************************************
01005> R0050:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01006>       CALIB NASHYD            1.0 01:EXT9            3.57     .183 No_date    1:35   25.77 .398     .000
01007>        [CN= 76.0: N= 3.00: Tp=  .48]
01008> #*************************************************************************************************
01009> # EXT9a
01010> #*************************************************************************************************
01011> R0050:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01012>       CALIB NASHYD            1.0 01:EXT9a           .01      .002 No_date    1:00   27.43 .423     .000
01013>        [CN= 78.0: N= 3.00: Tp=  .04]
01014> #*************************************************************************************************
01015> # EXT10
01016> #*************************************************************************************************
01017> R0050:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01018>       CALIB NASHYD            1.0 01:EXT10           .20      .010 No_date    1:30   22.06 .340     .000
01019>        [CN= 71.0: N= 3.00: Tp=  .42]
01020> #*************************************************************************************************
01021> # Pre2
01022> #*************************************************************************************************
01023> R0050:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01024>       CALIB NASHYD            1.0 01:Pre2            .57      .032 No_date    1:33   27.44 .423     .000
01025>        [CN= 78.0: N= 3.00: Tp=  .46]
01026> #*************************************************************************************************
01027> # Pre9
01028> #*************************************************************************************************
01029> R0050:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01030>       CALIB NASHYD            1.0 01:Pre9            .83      .029 No_date    1:48   22.07 .340     .000
01031>        [CN= 71.0: N= 3.00: Tp=  .64]
01032> #*************************************************************************************************
01033> # Pre10
01034> #*************************************************************************************************
01035> R0050:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01036>       CALIB NASHYD            1.0 01:Pre10           .80      .049 No_date    1:20   22.07 .340     .000
01037>        [CN= 71.0: N= 3.00: Tp=  .29]
01038> #*************************************************************************************************
01039> # Pre11
01040> #*************************************************************************************************
01041> R0050:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01042>       CALIB NASHYD            1.0 01:Pre11           .07      .007 No_date    1:13   27.44 .423     .000
01043>        [CN= 78.0: N= 3.00: Tp=  .21]
01044> #*************************************************************************************************
01045> R0050:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01046>       ADD HYD                 1.0 02:EXT2            .28      .026 No_date    1:22   34.45  n/a     .000
01047>                             +   1.0 02:Pre2           .57      .032 No_date    1:33   27.44  n/a     .000
01048>                         SUM=    1.0 01:J1            .85      .057 No_date    1:27   29.79  n/a     .000
01049> R0050:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01050>       ROUTE CHANNEL    ->    1.0 02:J1            .85      .057 No_date    1:27   29.79  n/a     .000
01051>        [RDT= 1.00] out<-     1.0 01:R1            .85      .054 No_date    1:33   29.79  n/a     .000
01052>         [L/S/n=  143./ .394/.035]
01053>         (Vmax=   .360:Dmax=  .151)
01054> R0050:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01055>       ADD HYD                 1.0 02:R1            .85      .054 No_date    1:33   29.79  n/a     .000
01056>                             +   1.0 02:EXT3          .56      .044 No_date    1:22   29.25  n/a     .000
01057>                             +   1.0 02:EXT1         3.21      .142 No_date    1:53   29.25  n/a     .000
01058>                         SUM=    1.0 01:J2           4.62      .219 No_date    1:40   29.35  n/a     .000
01059> R0050:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01060>       ROUTE CHANNEL    ->    1.0 02:J2           4.62      .219 No_date    1:40   29.35  n/a     .000
01061>        [RDT= 1.00] out<-     1.0 01:R2           4.62      .218 No_date    1:42   29.35  n/a     .000
01062>         [L/S/n=   73./ .425/.035]
01063>         (Vmax=   .505:Dmax=  .266)
01064> R0050:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01065>       ADD HYD                 1.0 02:R2           4.62      .218 No_date    1:42   29.35  n/a     .000
01066>                             +   1.0 02:EXT4          .31      .025 No_date    1:19   28.33  n/a     .000
01067>                         SUM=    1.0 01:J3           4.93      .234 No_date    1:40   29.29  n/a     .000
01068> R0050:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01069>       ROUTE CHANNEL    ->    1.0 02:J3           4.93      .234 No_date    1:40   29.29  n/a     .000
01070>        [RDT= 1.00] out<-     1.0 01:R3           4.93      .232 No_date    1:42   29.29  n/a     .000
01071>         [L/S/n=   92./ .274/.035]
01072>         (Vmax=   .412:Dmax=  .274)
01073> R0050:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01074>       ADD HYD                 1.0 02:R3           4.93      .232 No_date    1:42   29.29  n/a     .000
01075>                             +   1.0 02:EXT5          .59      .032 No_date    1:32   25.77  n/a     .000
01076>                         SUM=    1.0 01:J4           5.52      .263 No_date    1:41   28.91  n/a     .000
01077> R0050:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01078>       ROUTE CHANNEL    ->    1.0 02:J4           5.52      .263 No_date    1:41   28.91  n/a     .000
01079>        [RDT= 1.00] out<-     1.0 01:R4           5.52      .248 No_date    1:52   28.91  n/a     .000
01080>         [L/S/n=  251./ .190/.035]
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01081>       (Vmax=  .406:Dmax=  .309)
01082> R0050:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01083>     ADD HYD                    1.0 02:R4            5.52     .248 No_date    1:52   28.91  n/a     .000
01084>                          +     1.0 02:EXT6           .86     .055 No_date    1:40   34.45  n/a     .000
01085>                          +     1.0 02:EXT7           .47     .041 No_date    1:21   32.24  n/a     .000
01086>                        SUM=    1.0 01:J5            6.86     .323 No_date    1:47   29.83  n/a     .000
01087> R0050:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01088>     ROUTE CHANNEL   ->     1.0 02:J5            6.86     .323 No_date    1:47   29.83  n/a     .000
01089>      [RDT= 1.00] out<-     1.0 01:R5            6.86     .318 No_date    1:52   29.83  n/a     .000
01090>       [L/S/n=  .237./ .644/.035]
01091>       (Vmax=  .658:Dmax=  .288)
01092> R0050:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01093>     ROUTE CHANNEL   ->     1.0 02:Pre10          .80     .049 No_date    1:20   22.07  n/a     .000
01094>      [RDT= 1.00] out<-     1.0 01:R6            .80     .048 No_date    1:23   22.07  n/a     .000
01095>       [L/S/n=   77./ .776/.035]
01096>       (Vmax=  .492:Dmax=  .036)
01097> R0050:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01098>     ROUTE CHANNEL   ->     1.0 02:Pre9           .83     .029 No_date    1:48   22.07  n/a     .000
01099>      [RDT= 1.00] out<-     1.0 01:R7            .83     .029 No_date    1:51   22.07  n/a     .000
01100>       [L/S/n=  159./1.576/.035]
01101>       (Vmax=  .797:Dmax=  .009)
01102> R0050:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01103>     ADD HYD                    1.0 02:R6            .80     .048 No_date    1:23   22.28  n/a     .000
01104>                          +     1.0 02:EXT10          .20     .010 No_date    1:30   22.06  n/a     .000
01105>                          +     1.0 02:Pre11          .07     .007 No_date    1:13   27.44  n/a     .000
01106>                          +     1.0 02:EXT9a          .01     .002 No_date    1:00   27.43  n/a     .000
01107>                        SUM=    1.0 01:J6            1.09     .063 No_date    1:22   22.62  n/a     .000
01108> R0050:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01109>     ROUTE CHANNEL   ->     1.0 02:J6            1.09     .063 No_date    1:22   22.62  n/a     .000
01110>      [RDT= 1.00] out<-     1.0 01:R8            1.09     .062 No_date    1:26   22.62  n/a     .000
01111>       [L/S/n=   79./ .522/.035]
01112>       (Vmax=  .423:Dmax=  .046)
01113> R0050:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01114>     ADD HYD                    1.0 02:R8            1.09     .062 No_date    1:26   22.62  n/a     .000
01115>                          +     1.0 02:R7             .83     .029 No_date    1:51   22.09  n/a     .000
01116>                        SUM=    1.0 01:J7            1.92     .084 No_date    1:31   22.39  n/a     .000
01117> R0050:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01118>     ROUTE CHANNEL   ->     1.0 02:J7            1.92     .084 No_date    1:31   22.39  n/a     .000
01119>      [RDT= 1.00] out<-     1.0 01:R9            1.92     .084 No_date    1:31   22.39  n/a     .000
01120>       [L/S/n=   29./ .887/.035]
01121>       (Vmax=  .543:Dmax=  .057)
01122> R0050:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01123>     ADD HYD                    1.0 02:EXT9          3.57     .183 No_date    1:35   25.77  n/a     .000
01124>                          +     1.0 02:R9            1.92     .084 No_date    1:31   22.40  n/a     .000
01125>                          +     1.0 02:EXT8           .83     .052 No_date    1:30   28.33  n/a     .000
01126>                          +     1.0 02:R5            6.86     .318 No_date    1:52   29.83  n/a     .000
01127>                        SUM=    1.0 01:J8           13.18     .605 No_date    1:43   27.56  n/a     .000
01128> R0050:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01129>     ROUTE PIPE      ->     1.0 02:J8           13.18     .605 No_date    1:43   27.56  n/a     .000
01130> *    [RDT= 1.00] out<-     1.0 01:Outlet        13.18     .604 No_date    1:45   27.56  n/a     .000
01131>       [L/S/n=    8./ .010/.013]
01132>       (Vmax=  .438:Dmax= 1.161)
01133>       [Din=  .53:Dused= 1.41)
01134> ##############################################################################
01135> # STORMS
01136> ##############################################################################
01137>   ** END OF RUN :  98
01138>
01139> ********************************************************************************************************
01140>
01141>
01142>
01143>
01144>
01145>  RUN#:COMMAND#
01146> R0099:C00001------------------------------------------------------------------------------------------------
01147>       START
01148>       [TZERO =    .00 hrs on        0]
01149>       [METOUT=  2    (1=imperial, 2=metric output)]
01150>       [NSTORM=  1 ]
01151>       [NRUN  = 0099 ]
01152> #*******************************************************************************************************
01153> #  SWMHYMO  / INPUT DATA FILE
01154> #*******************************************************************************************************
01155> #  Project Name  : [5923 Ottawa St]
01156> #  Project Number: [P2710(e01)]
01157> #  Date          : [2025 FEB 05]
01158> #  Modeller      : [MM]
01159> #  Company       : JFSA Canada Inc.
01160> #  License #     : 2549237
01161> #*******************************************************************************************************
01162> # Model developed to simulate runoff from subcatchments under pre development conditions
01163> #*******************************************************************************************************
01164> R0099:C00002------------------------------------------------------------------------------------------------
01165>       READ STORM
01166>        Filename = STORM.001
01167>        Comment  = CHICAGO STORM   100 Year, 3 Hours
01168>        [SDT=10.00:SDUR=   3.00:PTOT=  71.66]
01169> #*******************************************************************************************************
01170> # EXT1
01171> #*******************************************************************************************************
01172> R0099:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01173>       CALIB NASHYD             1.0 01:EXT1          3.21     .167 No_date    1:52   34.39 .480     .000
01174>        [CN= 80.0: N= 3.00: Tp=  .72]
01175> #*******************************************************************************************************
01176> # EXT2
01177> #*******************************************************************************************************
01178> R0099:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01179>       CALIB NASHYD             1.0 01:EXT2           .28     .031 No_date    1:22   40.14 .560     .000
01180>        [CN= 85.0: N= 3.00: Tp=  .33]
01181> #*******************************************************************************************************
01182> # EXT3
01183> #*******************************************************************************************************
01184> R0099:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01185>       CALIB NASHYD             1.0 01:EXT3           .56     .052 No_date    1:21   34.39 .480     .000
01186>        [CN= 80.0: N= 3.00: Tp=  .32]
01187> #*******************************************************************************************************
01188> # EXT4
01189> #*******************************************************************************************************
01190> R0099:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01191>       CALIB NASHYD             1.0 01:EXT4           .31     .029 No_date    1:19   33.37 .466     .000
01192>        [CN= 79.0: N= 3.00: Tp=  .29]
01193> #*******************************************************************************************************
01194> # EXT5
01195> #*******************************************************************************************************
01196> R0099:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01197>       CALIB NASHYD             1.0 01:EXT5           .59     .038 No_date    1:32   30.49 .425     .000
01198>        [CN= 76.0: N= 3.00: Tp=  .45]
01199> #*******************************************************************************************************
01200> # EXT6
01201> #*******************************************************************************************************
01202> R0099:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01203>       CALIB NASHYD             1.0 01:EXT6           .86     .064 No_date    1:39   40.14 .560     .000
01204>        [CN= 85.0: N= 3.00: Tp=  .56]
01205> #*******************************************************************************************************
01206> # EXT7
01207> #*******************************************************************************************************
01208> R0099:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01209>       CALIB NASHYD             1.0 01:EXT7           .47     .048 No_date    1:21   37.71 .526     .000
01210>        [CN= 83.0: N= 3.00: Tp=  .32]
01211> #*******************************************************************************************************
01212> # EXT8
01213> #*******************************************************************************************************
01214> R0099:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01215>       CALIB NASHYD             1.0 01:EXT8           .83     .062 No_date    1:29   33.37 .466     .000
01216>        [CN= 79.0: N= 3.00: Tp=  .42]
01217> #*******************************************************************************************************
01218> # EXT9
01219> #*******************************************************************************************************
01220> R0099:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01221>       CALIB NASHYD             1.0 01:EXT9          3.57     .218 No_date    1:34   30.49 .425     .000
01222>        [CN= 76.0: N= 3.00: Tp=  .48]
01223> #*******************************************************************************************************
01224> # EXT9a
01225> #*******************************************************************************************************
01226> R0099:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01227>       CALIB NASHYD             1.0 01:EXT9a          .01     .003 No_date    1:00   32.37 .452     .000
01228>        [CN= 78.0: N= 3.00: Tp=  .04]
01229> #*******************************************************************************************************
01230> # EXT10
01231> #*******************************************************************************************************
01232> R0099:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01233>       CALIB NASHYD             1.0 01:EXT10          .20     .012 No_date    1:30   26.28 .367     .000
01234>        [CN= 71.0: N= 3.00: Tp=  .42]
01235> #*******************************************************************************************************
01236> # Pre2
01237> #*******************************************************************************************************
01238> R0099:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01239>       CALIB NASHYD             1.0 01:Pre2           .57     .038 No_date    1:32   32.37 .452     .000
01240>        [CN= 78.0: N= 3.00: Tp=  .46]
01241> #*******************************************************************************************************
01242> # Pre9
01243> #*******************************************************************************************************
01244> R0099:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01245>       CALIB NASHYD             1.0 01:Pre9           .83     .035 No_date    1:47   26.29 .367     .000
01246>        [CN= 71.0: N= 3.00: Tp=  .64]
01247> #*******************************************************************************************************
01248> # Pre10
01249> #*******************************************************************************************************
01250> R0099:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01251>       CALIB NASHYD             1.0 01:Pre10          .80     .058 No_date    1:20   26.29 .367     .000
01252>        [CN= 71.0: N= 3.00: Tp=  .29]
01253> #*******************************************************************************************************
01254> # Pre11
01255> #*******************************************************************************************************
01256> R0099:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01257>       CALIB NASHYD             1.0 01:Pre11          .07     .008 No_date    1:13   32.37 .452     .000
01258>        [CN= 78.0: N= 3.00: Tp=  .21]
01259> #*******************************************************************************************************
01260> R0099:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01261>     ADD HYD                    1.0 02:EXT2           .28     .031 No_date    1:22   40.14  n/a     .000
01262>                          +     1.0 02:Pre2           .57     .038 No_date    1:32   32.37  n/a     .000
01263>                        SUM=    1.0 01:J1            .85     .067 No_date    1:27   34.97  n/a     .000
01264> R0099:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01265>     ROUTE CHANNEL   ->     1.0 02:J1            .85     .067 No_date    1:27   34.97  n/a     .000
01266>      [RDT= 1.00] out<-     1.0 01:R1            .85     .064 No_date    1:33   34.97  n/a     .000
01267>       [L/S/n=  143./ .394/.035]
01268>       (Vmax=  .375:Dmax=  .162)
01269> R0099:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01270>     ADD HYD                    1.0 02:R1            .85     .064 No_date    1:33   34.97  n/a     .000
01271>                          +     1.0 02:EXT3           .56     .052 No_date    1:21   34.39  n/a     .000
01272>                          +     1.0 02:EXT1          3.21     .167 No_date    1:52   34.39  n/a     .000
01273>                        SUM=    1.0 01:J2            4.62     .258 No_date    1:40   34.50  n/a     .000
01274> R0099:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01275>     ROUTE CHANNEL   ->     1.0 02:J2            4.62     .258 No_date    1:40   34.50  n/a     .000
01276>      [RDT= 1.00] out<-     1.0 01:R2            4.62     .258 No_date    1:42   34.50  n/a     .000
01277>       [L/S/n=   73./ .425/.035]
01278>       (Vmax=  .526:Dmax=  .284)
01279> R0099:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01280>     ADD HYD                    1.0 02:R2            4.62     .258 No_date    1:42   34.50  n/a     .000
01281>                          +     1.0 02:EXT4           .31     .029 No_date    1:19   33.37  n/a     .000
01282>                        SUM=    1.0 01:J3            4.93     .277 No_date    1:39   34.43  n/a     .000
01283> R0099:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01284>     ROUTE CHANNEL   ->     1.0 02:J3            4.93     .277 No_date    1:39   34.43  n/a     .000
01285>      [RDT= 1.00] out<-     1.0 01:R3            4.93     .275 No_date    1:42   34.43  n/a     .000
01286>       [L/S/n=   92./ .274/.035]
01287>       (Vmax=  .431:Dmax=  .293)
01288> R0099:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01289>     ADD HYD                    1.0 02:R3            4.93     .275 No_date    1:42   34.43  n/a     .000
01290>                          +     1.0 02:EXT5           .59     .038 No_date    1:32   30.49  n/a     .000
01291>                        SUM=    1.0 01:J4            5.52     .311 No_date    1:40   34.01  n/a     .000
01292> R0099:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01293>     ROUTE CHANNEL   ->     1.0 02:J4            5.52     .311 No_date    1:40   34.01  n/a     .000
01294>      [RDT= 1.00] out<-     1.0 01:R4            5.52     .295 No_date    1:51   34.01  n/a     .000
01295>       [L/S/n=  251./ .190/.035]
01296>       (Vmax=  .425:Dmax=  .333)
01297> R0099:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01298>     ADD HYD                    1.0 02:R4            5.52     .295 No_date    1:51   34.01  n/a     .000
01299>                          +     1.0 02:EXT6           .86     .064 No_date    1:39   40.14  n/a     .000
01300>                          +     1.0 02:EXT7           .47     .048 No_date    1:21   37.71  n/a     .000
01301>                        SUM=    1.0 01:J5            6.86     .384 No_date    1:46   35.03  n/a     .000
01302> R0099:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01303>     ROUTE CHANNEL   ->     1.0 02:J5            6.86     .384 No_date    1:46   35.03  n/a     .000
01304>      [RDT= 1.00] out<-     1.0 01:R5            6.86     .380 No_date    1:51   35.03  n/a     .000
01305>       [L/S/n=  237./ .644/.035]
01306>       (Vmax=  .699:Dmax=  .310)
01307> R0099:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01308>     ROUTE CHANNEL   ->     1.0 02:Pre10          .80     .058 No_date    1:20   26.29  n/a     .000
01309>      [RDT= 1.00] out<-     1.0 01:R6            .80     .058 No_date    1:23   26.29  n/a     .000
01310>       [L/S/n=   77./ .776/.035]
01311>       (Vmax=  .492:Dmax=  .043)
01312> R0099:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01313>     ROUTE CHANNEL   ->     1.0 02:Pre9           .83     .035 No_date    1:47   26.29  n/a     .000
01314>      [RDT= 1.00] out<-     1.0 01:R7            .83     .035 No_date    1:51   26.29  n/a     .000
01315>       [L/S/n=  159./1.576/.035]
01316>       (Vmax=  .797:Dmax=  .011)
01317> R0099:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01318>     ADD HYD                    1.0 02:R6            .80     .058 No_date    1:23   26.52  n/a     .000
01319>                          +     1.0 02:EXT10          .20     .012 No_date    1:30   26.28  n/a     .000
01320>                          +     1.0 02:Pre11          .07     .008 No_date    1:13   32.37  n/a     .000
01321>                          +     1.0 02:EXT9a          .01     .003 No_date    1:00   32.37  n/a     .000
01322>                        SUM=    1.0 01:J6            1.09     .076 No_date    1:22   26.91  n/a     .000
01323> R0099:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01324>     ROUTE CHANNEL   ->     1.0 02:J6            1.09     .076 No_date    1:22   26.91  n/a     .000
01325>      [RDT= 1.00] out<-     1.0 01:R8            1.09     .074 No_date    1:26   26.91  n/a     .000
01326>       [L/S/n=   79./ .522/.035]
01327>       (Vmax=  .423:Dmax=  .055)
01328> R0099:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01329>     ADD HYD                    1.0 02:R8            1.09     .074 No_date    1:26   26.91  n/a     .000
01330>                          +     1.0 02:R7             .83     .035 No_date    1:51   26.32  n/a     .000
01331>                        SUM=    1.0 01:J7            1.92     .101 No_date    1:30   26.65  n/a     .000
01332> R0099:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01333>     ROUTE CHANNEL   ->     1.0 02:J7            1.92     .101 No_date    1:30   26.65  n/a     .000
01334>      [RDT= 1.00] out<-     1.0 01:R9            1.92     .101 No_date    1:31   26.65  n/a     .000
01335>       [L/S/n=   29./ .887/.035]
01336>       (Vmax=  .543:Dmax=  .068)
01337> R0099:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01338>     ADD HYD                    1.0 02:EXT9          3.57     .218 No_date    1:34   30.49  n/a     .000
01339>                          +     1.0 02:R9            1.92     .101 No_date    1:31   26.66  n/a     .000
01340>                          +     1.0 02:EXT8           .83     .062 No_date    1:29   33.37  n/a     .000
01341>                          +     1.0 02:R5            6.86     .380 No_date    1:51   35.03  n/a     .000
01342>                        SUM=    1.0 01:J8           13.18     .725 No_date    1:42   32.48  n/a     .000
01343> R0099:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01344>     ROUTE PIPE      ->     1.0 02:J8           13.18     .725 No_date    1:42   32.48  n/a     .000
01345> *    [RDT= 1.00] out<-     1.0 01:Outlet        13.18     .725 No_date    1:43   32.48  n/a     .000
01346>       [L/S/n=    8./ .010/.013]
01347>       (Vmax=  .459:Dmax= 1.243)
01348>       [Din=  .53:Dused= 1.51)
01349> ##############################################################################
01350> # STORMS
01351> ##############################################################################
01352>   ** END OF RUN :  101
01353>
01354> ********************************************************************************************************
01355>
01356>
01357>
01358>
01359>
01360>  RUN#:COMMAND#
01361> R0102:C00001------------------------------------------------------------------------------------------------
01362>       START
01363>       [TZERO =    .00 hrs on        0]
01364>       [METOUT=  2    (1=imperial, 2=metric output)]
01365>       [NSTORM=  1 ]
01366>       [NRUN  = 0102 ]
01367> #*******************************************************************************************************
01368> #  SWMHYMO  / INPUT DATA FILE
01369> #*******************************************************************************************************
01370> #  Project Name  : [5923 Ottawa St]
01371> #  Project Number: [P2710(e01)]
01372> #  Date          : [2025 FEB 05]
01373> #  Modeller      : [MM]
01374> #  Company       : JFSA Canada Inc.
01375> #  License #     : 2549237
01376> #*******************************************************************************************************
01377> # Model developed to simulate runoff from subcatchments under pre development conditions
01378> #*******************************************************************************************************
01379> R0102:C00002------------------------------------------------------------------------------------------------
01380>       READ STORM
01381>        Filename = STORM.001
01382>        Comment  = 2 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
01383>        [SDT=10.00:SDUR=  24.00:PTOT=  48.46]
01384> #*******************************************************************************************************
01385> # EXT1
01386> #*******************************************************************************************************
01387> R0102:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01388>       CALIB NASHYD             1.0 01:EXT1          3.21     .058 No_date   12:42  17.87 .369     .000
01389>        [CN= 80.0: N= 3.00: Tp=  .72]
01390> #*******************************************************************************************************
01391> # EXT2
01392> #*******************************************************************************************************
01393> R0102:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01394>       CALIB NASHYD             1.0 01:EXT2           .28     .011 No_date   12:14  21.63 .446     .000
01395>        [CN= 85.0: N= 3.00: Tp=  .33]
01396> #*******************************************************************************************************
01397> # EXT3
01398> #*******************************************************************************************************
01399> R0102:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01400>       CALIB NASHYD             1.0 01:EXT3           .56     .018 No_date   12:13  17.87 .369     .000
01401>        [CN= 80.0: N= 3.00: Tp=  .32]
01402> #*******************************************************************************************************
01403> # EXT4
01404> #*******************************************************************************************************
01405> R0102:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01406>       CALIB NASHYD             1.0 01:EXT4           .31     .010 No_date   12:12  17.22 .355     .000
01407>        [CN= 79.0: N= 3.00: Tp=  .29]
01408> #*******************************************************************************************************
01409> # EXT5
01410> #*******************************************************************************************************
01411> R0102:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01412>       CALIB NASHYD             1.0 01:EXT5           .59     .013 No_date   12:22  15.46 .319     .000
01413>        [CN= 76.0: N= 3.00: Tp=  .45]
01414> #*******************************************************************************************************
01415> # EXT6
01416> #*******************************************************************************************************
01417> R0102:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01418>       CALIB NASHYD             1.0 01:EXT6           .86     .023 No_date   12:30  21.64 .446     .000
01419>        [CN= 85.0: N= 3.00: Tp=  .56]
01420> #*******************************************************************************************************
01421> # EXT7
01422> #*******************************************************************************************************
01423> R0102:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01424>       CALIB NASHYD             1.0 01:EXT7           .47     .017 No_date   12:13  20.01 .413     .000
01425>        [CN= 83.0: N= 3.00: Tp=  .32]
01426> #*******************************************************************************************************
01427> # EXT8
01428> #*******************************************************************************************************
01429> R0102:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01430>       CALIB NASHYD             1.0 01:EXT8           .83     .021 No_date   12:20  17.22 .355     .000
01431>        [CN= 79.0: N= 3.00: Tp=  .42]
01432> #*******************************************************************************************************
01433> # EXT9
01434> #*******************************************************************************************************
01435> R0102:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01436>       CALIB NASHYD             1.0 01:EXT9          3.57     .074 No_date   12:25  15.46 .319     .000
01437>        [CN= 76.0: N= 3.00: Tp=  .48]
01438> #*******************************************************************************************************
01439> # EXT9a
01440> #*******************************************************************************************************
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01441> R0102:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01442>      CALIB NASHYD           1.0 01:EXT9a          .01     .001 No_date   12:00   16.59 .342     .000
01443>        [CN= 78.0: N= 3.00: Tp=  .04]
01444> ********************************************************************************
01445> # EXT10
01446> ********************************************************************************
01447> R0102:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01448>      CALIB NASHYD           1.0 01:EXT10          .20     .004 No_date   12:20   12.99 .268     .000
01449>        [CN= 71.0: N= 3.00: Tp=  .42]
01450> ********************************************************************************
01451> # Pre2
01452> ********************************************************************************
01453> R0102:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01454>      CALIB NASHYD           1.0 01:Pre2           .57     .013 No_date   12:23   16.61 .343     .000
01455>        [CN= 78.0: N= 3.00: Tp=  .46]
01456> ********************************************************************************
01457> # Pre9
01458> ********************************************************************************
01459> R0102:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01460>      CALIB NASHYD           1.0 01:Pre9           .83     .012 No_date   12:37   12.99 .268     .000
01461>        [CN= 71.0: N= 3.00: Tp=  .64]
01462> ********************************************************************************
01463> # Pre10
01464> ********************************************************************************
01465> R0102:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01466>      CALIB NASHYD           1.0 01:Pre10          .80     .020 No_date   12:12   12.99 .268     .000
01467>        [CN= 71.0: N= 3.00: Tp=  .29]
01468> ********************************************************************************
01469> # Pre11
01470> ********************************************************************************
01471> R0102:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01472>      CALIB NASHYD           1.0 01:Pre11          .07     .003 No_date   12:07   16.60 .343     .000
01473>        [CN= 78.0: N= 3.00: Tp=  .21]
01474> ********************************************************************************
01475> R0102:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01476>      ADD HYD                1.0 02:EXT2           .28     .011 No_date   12:14   21.63 n/a      .000
01477>                       +     1.0 02:Pre2           .57     .013 No_date   12:23   16.61  n/a     .000
01478>                     SUM=    1.0 01:J1             .85     .024 No_date   12:18   18.29  n/a     .000
01479> R0102:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01480>      ROUTE CHANNEL    ->     1.0 02:J1             .85     .024 No_date   12:18   18.29  n/a     .000
01481>        [RDT= 1.00] out<-     1.0 01:R1             .85     .022 No_date   12:25   18.29  n/a     .000
01482>          [L/S/n=  143./ .394/.035]
01483>          {Vmax=  .278:Dmax=  .103}
01484> R0102:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01485>      ADD HYD                1.0 02:R1             .85     .022 No_date   12:25   18.29  n/a     .000
01486>                       +     1.0 02:EXT3           .56     .018 No_date   12:13   17.87  n/a     .000
01487>                       +     1.0 02:EXT1          3.21     .058 No_date   12:42   17.87  n/a     .000
01488>                     SUM=    1.0 01:J2            4.62     .090 No_date   12:30   17.95  n/a     .000
01489> R0102:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01490>      ROUTE CHANNEL    ->     1.0 02:J2            4.62     .090 No_date   12:30   17.95  n/a     .000
01491>        [RDT= 1.00] out<-     1.0 01:R2            4.62     .090 No_date   12:33   17.95  n/a     .000
01492>          [L/S/n=   73./ .425/.035]
01493>          {Vmax=  .398:Dmax=  .186}
01494> R0102:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01495>      ADD HYD                1.0 02:R2            4.62     .090 No_date   12:33   17.95  n/a     .000
01496>                       +     1.0 02:EXT4           .31     .010 No_date   12:12   17.22  n/a     .000
01497>                     SUM=    1.0 01:J3            4.93     .096 No_date   12:30   17.90  n/a     .000
01498> R0102:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01499>      ROUTE CHANNEL    ->     1.0 02:J3            4.93     .096 No_date   12:30   17.90  n/a     .000
01500>        [RDT= 1.00] out<-     1.0 01:R3            4.93     .095 No_date   12:35   17.90  n/a     .000
01501>          [L/S/n=   92./ .274/.035]
01502>          {Vmax=  .326:Dmax=  .193}
01503> R0102:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01504>      ADD HYD                1.0 02:R3            4.93     .095 No_date   12:35   17.90  n/a     .000
01505>                       +     1.0 02:EXT5           .59     .013 No_date   12:22   15.46  n/a     .000
01506>                     SUM=    1.0 01:J4            5.52     .107 No_date   12:33   17.64  n/a     .000
01507> R0102:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01508>      ROUTE CHANNEL    ->     1.0 02:J4            5.52     .107 No_date   12:33   17.64  n/a     .000
01509>        [RDT= 1.00] out<-     1.0 01:R4            5.52     .098 No_date   12:46   17.64  n/a     .000
01510>          [L/S/n=  251./ .190/.035]
01511>          {Vmax=  .309:Dmax=  .210}
01512> R0102:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01513>      ADD HYD                1.0 02:R4            5.52     .098 No_date   12:46   17.64  n/a     .000
01514>                       +     1.0 02:EXT6           .86     .023 No_date   12:30   21.64  n/a     .000
01515>                       +     1.0 02:EXT7           .47     .017 No_date   12:13   20.01  n/a     .000
01516>                     SUM=    1.0 01:J5            6.86     .128 No_date   12:40   18.31  n/a     .000
01517> R0102:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01518>      ROUTE CHANNEL    ->     1.0 02:J5            6.86     .128 No_date   12:40   18.31  n/a     .000
01519>        [RDT= 1.00] out<-     1.0 01:R5            6.86     .125 No_date   12:47   18.31  n/a     .000
01520>          [L/S/n=  237./ .644/.035]
01521>          {Vmax=  .501:Dmax=  .200}
01522> R0102:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01523>      ROUTE CHANNEL    ->     1.0 02:Pre10          .80     .020 No_date   12:12   12.99  n/a     .000
01524>        [RDT= 1.00] out<-     1.0 01:R6            .80     .019 No_date   12:15   12.99  n/a     .000
01525>          [L/S/n=   77./ .776/.035]
01526>          {Vmax=  .492:Dmax=  .014}
01527> R0102:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01528>      ROUTE CHANNEL    ->     1.0 02:Pre9           .83     .012 No_date   12:37   12.99  n/a     .000
01529>        [RDT= 1.00] out<-     1.0 01:R7            .83     .011 No_date   12:40   12.99  n/a     .000
01530>          [L/S/n=  159./1.576/.035]
01531>          {Vmax=  .797:Dmax=  .003}
01532> R0102:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01533>      ADD HYD                1.0 02:R6            .80     .019 No_date   12:15   13.03  n/a     .000
01534>                       +     1.0 02:EXT10          .20     .004 No_date   12:20   12.99  n/a     .000
01535>                       +     1.0 02:Pre11          .07     .003 No_date   12:07   16.60  n/a     .000
01536>                       +     1.0 02:EXT9a          .01     .001 No_date   12:00   16.59  n/a     .000
01537>                     SUM=    1.0 01:J6            1.09     .025 No_date   12:14   13.28  n/a     .000
01538> R0102:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01539>      ROUTE CHANNEL    ->     1.0 02:J6            1.09     .025 No_date   12:14   13.28  n/a     .000
01540>        [RDT= 1.00] out<-     1.0 01:R8            1.09     .025 No_date   12:18   13.28  n/a     .000
01541>          [L/S/n=   79./ .522/.035]
01542>          {Vmax=  .423:Dmax=  .019}
01543> R0102:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01544>      ADD HYD                1.0 02:R8            1.09     .025 No_date   12:18   13.29  n/a     .000
01545>                       +     1.0 02:R7             .83     .011 No_date   12:40   13.00  n/a     .000
01546>                     SUM=    1.0 01:J7            1.92     .034 No_date   12:21   13.16  n/a     .000
01547> R0102:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01548>      ROUTE CHANNEL    ->     1.0 02:J7            1.92     .034 No_date   12:21   13.16  n/a     .000
01549>        [RDT= 1.00] out<-     1.0 01:R9            1.92     .034 No_date   12:22   13.16  n/a     .000
01550>          [L/S/n=   29./ .887/.035]
01551>          {Vmax=  .543:Dmax=  .023}
01552> R0102:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01553>      ADD HYD                1.0 02:EXT9          3.57     .074 No_date   12:25   15.46  n/a     .000
01554>                       +     1.0 02:R9            1.92     .034 No_date   12:22   13.17  n/a     .000
01555>                       +     1.0 02:EXT8           .83     .021 No_date   12:20   17.22  n/a     .000
01556>                       +     1.0 02:R5            6.86     .125 No_date   12:47   18.31  n/a     .000
01557>                     SUM=    1.0 01:J8           13.18     .234 No_date   12:35   16.72  n/a     .000
01558> R0102:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01559>      ROUTE PIPE       ->     1.0 02:J8           13.18     .234 No_date   12:35   16.72  n/a     .000
01560> *    [RDT= 1.00] out<-     1.0 01:Outlet        13.18     .234 No_date   12:37   16.72  n/a     .000
01561>          [L/S/n=   8./ .010/.013]
01562>          {Vmax=  .346:Dmax=  .813}
01563>          [Din=  .53:Dused=  .99]
01564> ####################################################################################
01565> # STORMS
01566> ####################################################################################
01567>  ** END OF RUN :  104
01568>
01569> ********************************************************************************
01570>
01571>
01572>
01573>
01574>
01575>  RUN#:COMMAND#
01576> R0105:C00001--------------------------------------------------------------------------------
01577>       START
01578>        [TZERO =    .00 hrs on       0]
01579>        [METOUT=  2   (1=imperial, 2=metric output)]
01580>        [NSTORM=  1 ]
01581>        [NRUN   = 0105 ]
01582> ********************************************************************************
01583> #  SWMHYMO  / INPUT DATA FILE
01584> ********************************************************************************
01585> #  Project Name  : [5923 Ottawa St]
01586> #  Project Number: [P2710(e01)]
01587> #  Date          : [2025 FEB 05]
01588> #  Modeller      : [MM]
01589> #  Company       : JFSA Canada Inc.
01590> #  License #     : 2549237
01591> ********************************************************************************
01592> # Model developed to simulate runoff from subcatchments under pre development conditions
01593> ********************************************************************************
01594> R0105:C00002--------------------------------------------------------------------------------
01595>       READ STORM
01596>        Filename = STORM.001
01597>        Comment  = 5 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
01598>        [SDT=10.00:SDUR=  24.00:PTOT=  64.11]
01599> ********************************************************************************
01600> # EXT1
01601> ********************************************************************************
01602> R0105:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01603>      CALIB NASHYD           1.0 01:EXT1          3.21     .095 No_date   12:41   28.73 .448     .000
01604>        [CN= 80.0: N= 3.00: Tp=  .72]
01605> ********************************************************************************
01606> # EXT2
01607> ********************************************************************************
01608> R0105:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01609>      CALIB NASHYD           1.0 01:EXT2           .28     .018 No_date   12:13   33.88 .529     .000
01610>        [CN= 85.0: N= 3.00: Tp=  .33]
01611> ********************************************************************************
01612> # EXT3
01613> ********************************************************************************
01614> R0105:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01615>      CALIB NASHYD           1.0 01:EXT3           .56     .030 No_date   12:13   28.73 .448     .000
01616>        [CN= 80.0: N= 3.00: Tp=  .32]
01617> ********************************************************************************
01618> # EXT4
01619> ********************************************************************************
01620> R0105:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01621>      CALIB NASHYD           1.0 01:EXT4           .31     .017 No_date   12:11   27.82 .434     .000
01622>        [CN= 79.0: N= 3.00: Tp=  .29]
01623> ********************************************************************************
01624> # EXT5
01625> ********************************************************************************
01626> R0105:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01627>      CALIB NASHYD           1.0 01:EXT5           .59     .021 No_date   12:22   25.29 .395     .000
01628>        [CN= 76.0: N= 3.00: Tp=  .45]
01629> ********************************************************************************
01630> # EXT6
01631> ********************************************************************************
01632> R0105:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01633>      CALIB NASHYD           1.0 01:EXT6           .86     .037 No_date   12:29   33.88 .529     .000
01634>        [CN= 85.0: N= 3.00: Tp=  .56]
01635> ********************************************************************************
01636> # EXT7
01637> ********************************************************************************
01638> R0105:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01639>      CALIB NASHYD           1.0 01:EXT7           .47     .028 No_date   12:13   31.69 .494     .000
01640>        [CN= 83.0: N= 3.00: Tp=  .32]
01641> ********************************************************************************
01642> # EXT8
01643> ********************************************************************************
01644> R0105:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01645>      CALIB NASHYD           1.0 01:EXT8           .83     .035 No_date   12:20   27.82 .434     .000
01646>        [CN= 79.0: N= 3.00: Tp=  .42]
01647> ********************************************************************************
01648> # EXT9
01649> ********************************************************************************
01650> R0105:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01651>      CALIB NASHYD           1.0 01:EXT9          3.57     .123 No_date   12:24   25.30 .395     .000
01652>        [CN= 76.0: N= 3.00: Tp=  .48]
01653> ********************************************************************************
01654> # EXT9a
01655> ********************************************************************************
01656> R0105:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01657>      CALIB NASHYD           1.0 01:EXT9a          .01     .001 No_date   12:00   26.94 .420     .000
01658>        [CN= 78.0: N= 3.00: Tp=  .04]
01659> ********************************************************************************
01660> # EXT10
01661> ********************************************************************************
01662> R0105:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01663>      CALIB NASHYD           1.0 01:EXT10          .20     .006 No_date   12:20   21.64 .338     .000
01664>        [CN= 71.0: N= 3.00: Tp=  .42]
01665> ********************************************************************************
01666> # Pre2
01667> ********************************************************************************
01668> R0105:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01669>      CALIB NASHYD           1.0 01:Pre2           .57     .022 No_date   12:22   26.95 .420     .000
01670>        [CN= 78.0: N= 3.00: Tp=  .46]
01671> ********************************************************************************
01672> # Pre9
01673> ********************************************************************************
01674> R0105:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01675>      CALIB NASHYD           1.0 01:Pre9           .83     .020 No_date   12:36   21.65 .338     .000
01676>        [CN= 71.0: N= 3.00: Tp=  .64]
01677> ********************************************************************************
01678> # Pre10
01679> ********************************************************************************
01680> R0105:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01681>      CALIB NASHYD           1.0 01:Pre10          .80     .033 No_date   12:11   21.65 .338     .000
01682>        [CN= 71.0: N= 3.00: Tp=  .29]
01683> ********************************************************************************
01684> # Pre11
01685> ********************************************************************************
01686> R0105:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01687>      CALIB NASHYD           1.0 01:Pre11          .07     .005 No_date   12:07   26.94 .420     .000
01688>        [CN= 78.0: N= 3.00: Tp=  .21]
01689> ********************************************************************************
01690> R0105:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01691>      ADD HYD                1.0 02:EXT2           .28     .018 No_date   12:13   33.88  n/a     .000
01692>                       +     1.0 02:Pre2           .57     .022 No_date   12:22   26.95  n/a     .000
01693>                     SUM=    1.0 01:J1             .85     .038 No_date   12:17   29.27  n/a     .000
01694> R0105:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01695>      ROUTE CHANNEL    ->     1.0 02:J1             .85     .038 No_date   12:17   29.27  n/a     .000
01696>        [RDT= 1.00] out<-     1.0 01:R1             .85     .036 No_date   12:24   29.27  n/a     .000
01697>          [L/S/n=  143./ .394/.035]
01698>          {Vmax=  .318:Dmax=  .127}
01699> R0105:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01700>      ADD HYD                1.0 02:R1             .85     .036 No_date   12:24   29.27  n/a     .000
01701>                       +     1.0 02:EXT3           .56     .030 No_date   12:13   28.73  n/a     .000
01702>                       +     1.0 02:EXT1          3.21     .095 No_date   12:41   28.73  n/a     .000
01703>                     SUM=    1.0 01:J2            4.62     .148 No_date   12:29   28.83  n/a     .000
01704> R0105:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01705>      ROUTE CHANNEL    ->     1.0 02:J2            4.62     .148 No_date   12:29   28.83  n/a     .000
01706>        [RDT= 1.00] out<-     1.0 01:R2            4.62     .147 No_date   12:32   28.83  n/a     .000
01707>          [L/S/n=   73./ .425/.035]
01708>          {Vmax=  .455:Dmax=  .227}
01709> R0105:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01710>      ADD HYD                1.0 02:R2            4.62     .147 No_date   12:32   28.83  n/a     .000
01711>                       +     1.0 02:EXT4           .31     .017 No_date   12:11   27.82  n/a     .000
01712>                     SUM=    1.0 01:J3            4.93     .158 No_date   12:29   28.77  n/a     .000
01713> R0105:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01714>      ROUTE CHANNEL    ->     1.0 02:J3            4.93     .158 No_date   12:29   28.77  n/a     .000
01715>        [RDT= 1.00] out<-     1.0 01:R3            4.93     .157 No_date   12:32   28.77  n/a     .000
01716>          [L/S/n=   92./ .274/.035]
01717>          {Vmax=  .373:Dmax=  .235}
01718> R0105:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01719>      ADD HYD                1.0 02:R3            4.93     .157 No_date   12:32   28.77  n/a     .000
01720>                       +     1.0 02:EXT5           .59     .021 No_date   12:22   25.29  n/a     .000
01721>                     SUM=    1.0 01:J4            5.52     .177 No_date   12:31   28.40  n/a     .000
01722> R0105:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01723>      ROUTE CHANNEL    ->     1.0 02:J4            5.52     .177 No_date   12:31   28.40  n/a     .000
01724>        [RDT= 1.00] out<-     1.0 01:R4            5.52     .165 No_date   12:42   28.40  n/a     .000
01725>          [L/S/n=  251./ .190/.035]
01726>          {Vmax=  .261:Dmax=  .260}
01727> R0105:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01728>      ADD HYD                1.0 02:R4            5.52     .165 No_date   12:42   28.40  n/a     .000
01729>                       +     1.0 02:EXT6           .86     .037 No_date   12:29   33.88  n/a     .000
01730>                       +     1.0 02:EXT7           .47     .028 No_date   12:13   31.69  n/a     .000
01731>                     SUM=    1.0 01:J5            6.86     .215 No_date   12:37   29.31  n/a     .000
01732> R0105:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01733>      ROUTE CHANNEL    ->     1.0 02:J5            6.86     .215 No_date   12:37   29.31  n/a     .000
01734>        [RDT= 1.00] out<-     1.0 01:R5            6.86     .212 No_date   12:42   29.31  n/a     .000
01735>          [L/S/n=  237./ .644/.035]
01736>          {Vmax=  .593:Dmax=  .247}
01737> R0105:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01738>      ROUTE CHANNEL    ->     1.0 02:Pre10          .80     .033 No_date   12:11   21.65  n/a     .000
01739>        [RDT= 1.00] out<-     1.0 01:R6            .80     .033 No_date   12:14   21.65  n/a     .000
01740>          [L/S/n=   77./ .776/.035]
01741>          {Vmax=  .492:Dmax=  .024}
01742> R0105:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01743>      ROUTE CHANNEL    ->     1.0 02:Pre9           .83     .020 No_date   12:36   21.65  n/a     .000
01744>        [RDT= 1.00] out<-     1.0 01:R7            .83     .019 No_date   12:40   21.65  n/a     .000
01745>          [L/S/n=  159./1.576/.035]
01746>          {Vmax=  .797:Dmax=  .006}
01747> R0105:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01748>      ADD HYD                1.0 02:R6            .80     .033 No_date   12:14   21.70  n/a     .000
01749>                       +     1.0 02:EXT10          .20     .006 No_date   12:20   21.64  n/a     .000
01750>                       +     1.0 02:Pre11          .07     .005 No_date   12:07   26.94  n/a     .000
01751>                       +     1.0 02:EXT9a          .01     .001 No_date   12:00   26.94  n/a     .000
01752>                     SUM=    1.0 01:J6            1.09     .043 No_date   12:14   22.07  n/a     .000
01753> R0105:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01754>      ROUTE CHANNEL    ->     1.0 02:J6            1.09     .043 No_date   12:14   22.07  n/a     .000
01755>        [RDT= 1.00] out<-     1.0 01:R8            1.09     .042 No_date   12:17   22.07  n/a     .000
01756>          [L/S/n=   79./ .522/.035]
01757>          {Vmax=  .423:Dmax=  .031}
01758> R0105:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01759>      ADD HYD                1.0 02:R8            1.09     .042 No_date   12:17   22.07  n/a     .000
01760>                       +     1.0 02:R7             .83     .019 No_date   12:40   21.66  n/a     .000
01761>                     SUM=    1.0 01:J7            1.92     .057 No_date   12:20   21.89  n/a     .000
01762> R0105:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01763>      ROUTE CHANNEL    ->     1.0 02:J7            1.92     .057 No_date   12:20   21.89  n/a     .000
01764>        [RDT= 1.00] out<-     1.0 01:R9            1.92     .057 No_date   12:21   21.89  n/a     .000
01765>          [L/S/n=   29./ .887/.035]
01766>          {Vmax=  .543:Dmax=  .039}
01767> R0105:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01768>      ADD HYD                1.0 02:EXT9          3.57     .123 No_date   12:24   25.30  n/a     .000
01769>                       +     1.0 02:R9            1.92     .057 No_date   12:21   21.90  n/a     .000
01770>                       +     1.0 02:EXT8           .83     .035 No_date   12:20   27.82  n/a     .000
01771>                       +     1.0 02:R5            6.86     .212 No_date   12:42   29.31  n/a     .000
01772>                     SUM=    1.0 01:J8           13.18     .402 No_date   12:33   27.05  n/a     .000
01773> R0105:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01774>      ROUTE PIPE       ->     1.0 02:J8           13.18     .402 No_date   12:33   27.05  n/a     .000
01775> *    [RDT= 1.00] out<-     1.0 01:Outlet        13.18     .400 No_date   12:35   27.05  n/a     .000
01776>          [L/S/n=   8./ .010/.013]
01777>          {Vmax=  .396:Dmax=  .996}
01778>          [Din=  .53:Dused= 1.21]
01779> ####################################################################################
01780> # STORMS
01781> ####################################################################################
01782>  ** END OF RUN :  109
01783>
01784> ********************************************************************************
01785>
01786>
01787>
01788>
01789>
01790>  RUN#:COMMAND#
01791> R0110:C00001--------------------------------------------------------------------------------
01792>       START
01793>        [TZERO =    .00 hrs on       0]
01794>        [METOUT=  2   (1=imperial, 2=metric output)]
01795>        [NSTORM=  1 ]
01796>        [NRUN   = 0110 ]
01797> ********************************************************************************
01798> #  SWMHYMO  / INPUT DATA FILE
01799> ********************************************************************************
01800> #  Project Name  : [5923 Ottawa St]
```

```
#  Project Number: [P2710(e01)]
#  Date          : [2025 FEB 05]
#  Modeller      : [MM]
#  Company       : JFSA Canada Inc.
#  License #     : 2549237
#**************************************************************************************************
# Model developed to simulate runoff from subcatchments under pre development conditions
#**************************************************************************************************
R0110:C00002----------
     READ STORM
      Filename = STORM.001
     Comment  = 10 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
     [SDT=10.00:SDUR=  24.00:PTOT=  74.35]
#**************************************************************************************************
# EXT1
#**************************************************************************************************
R0110:C00003----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT1          3.21     .121 No_date   12:40   36.46 .490     .000
       [CN= 80.0: N= 3.00: Tp=  .72]
#**************************************************************************************************
# EXT2
#**************************************************************************************************
R0110:C00004----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT2          .28     .022 No_date   12:13   42.40 .570     .000
       [CN= 85.0: N= 3.00: Tp=  .33]
#**************************************************************************************************
# EXT3
#**************************************************************************************************
R0110:C00005----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT3          .56     .038 No_date   12:13   36.46 .490     .000
       [CN= 80.0: N= 3.00: Tp=  .32]
#**************************************************************************************************
# EXT4
#**************************************************************************************************
R0110:C00006----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT4          .31     .022 No_date   12:11   35.39 .476     .000
       [CN= 79.0: N= 3.00: Tp=  .29]
#**************************************************************************************************
# EXT5
#**************************************************************************************************
R0110:C00007----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT5          .59     .028 No_date   12:22   32.39 .436     .000
       [CN= 76.0: N= 3.00: Tp=  .45]
#**************************************************************************************************
# EXT6
#**************************************************************************************************
R0110:C00008----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT6          .86     .046 No_date   12:29   42.40 .570     .000
       [CN= 85.0: N= 3.00: Tp=  .56]
#**************************************************************************************************
# EXT7
#**************************************************************************************************
R0110:C00009----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT7          .47     .035 No_date   12:13   39.90 .537     .000
       [CN= 83.0: N= 3.00: Tp=  .32]
#**************************************************************************************************
# EXT8
#**************************************************************************************************
R0110:C00010----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT8          .83     .045 No_date   12:19   35.39 .476     .000
       [CN= 79.0: N= 3.00: Tp=  .42]
#**************************************************************************************************
# EXT9
#**************************************************************************************************
R0110:C00011----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT9          3.57     .158 No_date   12:24   32.39 .436     .000
       [CN= 76.0: N= 3.00: Tp=  .48]
#**************************************************************************************************
# EXT9a
#**************************************************************************************************
R0110:C00012----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT9a          .01     .002 No_date   12:00   34.35 .462     .000
       [CN= 78.0: N= 3.00: Tp=  .04]
#**************************************************************************************************
# EXT10
#**************************************************************************************************
R0110:C00013----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT10          .20     .008 No_date   12:20   27.99 .377     .000
       [CN= 71.0: N= 3.00: Tp=  .42]
#**************************************************************************************************
# Pre2
#**************************************************************************************************
R0110:C00014----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:Pre2           .57     .028 No_date   12:22   34.36 .462     .000
       [CN= 78.0: N= 3.00: Tp=  .46]
#**************************************************************************************************
# Pre9
#**************************************************************************************************
R0110:C00015----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:Pre9           .83     .026 No_date   12:36   28.00 .377     .000
       [CN= 71.0: N= 3.00: Tp=  .64]
#**************************************************************************************************
# Pre10
#**************************************************************************************************
R0110:C00016----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:Pre10          .80     .043 No_date   12:11   28.00 .377     .000
       [CN= 71.0: N= 3.00: Tp=  .29]
#**************************************************************************************************
# Pre11
#**************************************************************************************************
R0110:C00017----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:Pre11          .07     .006 No_date   12:07   34.35 .462     .000
       [CN= 78.0: N= 3.00: Tp=  .21]
#**************************************************************************************************
R0110:C00018----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:EXT2          .28     .022 No_date   12:13   42.40  n/a     .000
                       +     1.0 02:Pre2          .57     .028 No_date   12:22   34.36  n/a     .000
                     SUM=    1.0 01:J1            .85     .049 No_date   12:17   37.05  n/a     .000
R0110:C00019----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:J1            .85     .049 No_date   12:17   37.05  n/a     .000
       [RD= 1.00] out<-      1.0 01:R1            .85     .046 No_date   12:23   37.05  n/a     .000
       [L/S/n=  143./ .394/.035]
       {Vmax=  .345:Dmax=  .142}
R0110:C00020----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:R1            .85     .046 No_date   12:23   37.05  n/a     .000
                       +     1.0 02:EXT3          .56     .038 No_date   12:13   36.46  n/a     .000
                       +     1.0 02:EXT1         3.21     .121 No_date   12:40   36.46  n/a     .000
                     SUM=    1.0 01:J2           4.62     .189 No_date   12:29   36.57  n/a     .000
R0110:C00021----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:J2           4.62     .189 No_date   12:29   36.57  n/a     .000
       [RD= 1.00] out<-      1.0 01:R2           4.62     .188 No_date   12:31   36.57  n/a     .000
       [L/S/n=   73./ .425/.035]
       {Vmax=  .485:Dmax=  .250}
R0110:C00022----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:R2           4.62     .188 No_date   12:31   36.57  n/a     .000
                       +     1.0 02:EXT4          .31     .022 No_date   12:11   35.39  n/a     .000
                     SUM=    1.0 01:J3           4.93     .202 No_date   12:28   36.49  n/a     .000
R0110:C00023----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:J3           4.93     .202 No_date   12:28   36.49  n/a     .000
       [RD= 1.00] out<-      1.0 01:R3           4.93     .200 No_date   12:31   36.49  n/a     .000
       [L/S/n=   92./ .274/.035]
       {Vmax=  .398:Dmax=  .259}
R0110:C00024----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:R3           4.93     .200 No_date   12:31   36.49  n/a     .000
                       +     1.0 02:EXT5          .59     .028 No_date   12:22   32.39  n/a     .000
                     SUM=    1.0 01:J4           5.52     .227 No_date   12:30   36.05  n/a     .000
R0110:C00025----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:J4           5.52     .227 No_date   12:30   36.05  n/a     .000
       [RD= 1.00] out<-      1.0 01:R4           5.52     .213 No_date   12:40   36.05  n/a     .000
       [L/S/n=  251./ .190/.035]
       {Vmax=  .388:Dmax=  .290}
R0110:C00026----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:R4           5.52     .213 No_date   12:40   36.05  n/a     .000
                       +     1.0 02:EXT6          .86     .046 No_date   12:29   42.40  n/a     .000
                       +     1.0 02:EXT7          .47     .035 No_date   12:13   39.90  n/a     .000
                     SUM=    1.0 01:J5           6.86     .277 No_date   12:36   37.12  n/a     .000
R0110:C00027----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:J5           6.86     .277 No_date   12:36   37.12  n/a     .000
       [RD= 1.00] out<-      1.0 01:R5           6.86     .272 No_date   12:41   37.12  n/a     .000
       [L/S/n=  237./ .644/.035]
       {Vmax=  .628:Dmax=  .270}
R0110:C00028----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:Pre10          .80     .043 No_date   12:11   28.00  n/a     .000
       [RD= 1.00] out<-      1.0 01:R6           .80     .043 No_date   12:14   28.00  n/a     .000
       [L/S/n=   77./ .776/.035]
       {Vmax=  .492:Dmax=  .032}
R0110:C00029----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:Pre9           .83     .026 No_date   12:36   28.00  n/a     .000
       [RD= 1.00] out<-      1.0 01:R7           .83     .025 No_date   12:39   28.00  n/a     .000
       [L/S/n=  159./1.576/.035]
       {Vmax=  .797:Dmax=  .008}
R0110:C00030----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:R6           .80     .043 No_date   12:14   28.05  n/a     .000
                       +     1.0 02:EXT10         .20     .008 No_date   12:20   27.99  n/a     .000
                       +     1.0 02:Pre11         .07     .006 No_date   12:07   34.35  n/a     .000
                       +     1.0 02:EXT9a         .01     .002 No_date   12:00   34.35  n/a     .000
                     SUM=    1.0 01:J6           1.09     .056 No_date   12:14   28.51  n/a     .000
R0110:C00031----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:J6           1.09     .056 No_date   12:14   28.51  n/a     .000
       [RD= 1.00] out<-      1.0 01:R8           1.09     .055 No_date   12:17   28.51  n/a     .000
       [L/S/n=   79./ .522/.035]
       {Vmax=  .423:Dmax=  .041}
R0110:C00032----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:R8           1.09     .055 No_date   12:17   28.51  n/a     .000
                       +     1.0 02:R7            .83     .025 No_date   12:39   28.01  n/a     .000
                     SUM=    1.0 01:J7           1.92     .075 No_date   12:20   28.29  n/a     .000
R0110:C00033----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:J7           1.92     .075 No_date   12:20   28.29  n/a     .000
       [RD= 1.00] out<-      1.0 01:R9           1.92     .074 No_date   12:21   28.29  n/a     .000
       [L/S/n=   29./ .887/.035]
       {Vmax=  .543:Dmax=  .051}
R0110:C00034----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:EXT9          3.57     .158 No_date   12:24   32.39  n/a     .000
                       +     1.0 02:R9            1.92     .074 No_date   12:21   28.30  n/a     .000
                       +     1.0 02:EXT8           .83     .045 No_date   12:19   35.39  n/a     .000
                       +     1.0 02:R5            6.86     .272 No_date   12:41   37.12  n/a     .000
                     SUM=    1.0 01:J8           13.18     .520 No_date   12:32   34.45  n/a     .000
R0110:C00035----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:J8           13.18     .520 No_date   12:32   34.45  n/a     .000
*    [RD= 1.00] out<-      1.0 01:Outlet        13.18     .519 No_date   12:33   34.45  n/a     .000
       [L/S/n=    8./ .010/.013]
       {Vmax=  .422:Dmax= 1.097}
       {Dia=  .53:Duse= 1.34}
##########################################################################
# STORMS
##########################################################################
*  ** END OF RUN :  124


RUN#:COMMAND#
R0125:C00001----------
     START
       [ZERO =    .00 hrs on      0]
       [METOUT=   2   (1=imperial, 2=metric output)]
       [NSTORM=   1 ]
       [NRUN  = 0125 ]
#**************************************************************************************************
#  SWMHYMO  / INPUT DATA FILE
#**************************************************************************************************
#  Project Name  : [5923 Ottawa St]
#  Project Number: [P2710(e01)]
#  Date          : [2025 FEB 05]
#  Modeller      : [MM]
#  Company       : JFSA Canada Inc.
#  License #     : 2549237
#**************************************************************************************************
# Model developed to simulate runoff from subcatchments under pre development conditions
#**************************************************************************************************
R0125:C00002----------
     READ STORM
      Filename = STORM.001
     Comment  = 25 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
     [SDT=10.00:SDUR=  24.00:PTOT=  86.89]
#**************************************************************************************************
# EXT1
#**************************************************************************************************
R0125:C00003----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT1          3.21     .155 No_date   12:40   46.39 .534     .000
       [CN= 80.0: N= 3.00: Tp=  .72]
#**************************************************************************************************
# EXT2
#**************************************************************************************************
R0125:C00004----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT2          .28     .028 No_date   12:13   53.21 .612     .000
       [CN= 85.0: N= 3.00: Tp=  .33]
#**************************************************************************************************
# EXT3
#**************************************************************************************************
R0125:C00005----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT3          .56     .048 No_date   12:13   46.39 .534     .000
       [CN= 80.0: N= 3.00: Tp=  .32]
#**************************************************************************************************
# EXT4
#**************************************************************************************************
R0125:C00006----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT4          .31     .028 No_date   12:11   45.14 .520     .000
       [CN= 79.0: N= 3.00: Tp=  .29]
#**************************************************************************************************
# EXT5
#**************************************************************************************************
R0125:C00007----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT5          .59     .036 No_date   12:21   41.61 .479     .000
       [CN= 76.0: N= 3.00: Tp=  .45]
#**************************************************************************************************
# EXT6
#**************************************************************************************************
R0125:C00008----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT6          .86     .058 No_date   12:28   53.21 .612     .000
       [CN= 85.0: N= 3.00: Tp=  .56]
#**************************************************************************************************
# EXT7
#**************************************************************************************************
R0125:C00009----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT7          .47     .045 No_date   12:13   50.35 .580     .000
       [CN= 83.0: N= 3.00: Tp=  .32]
#**************************************************************************************************
# EXT8
#**************************************************************************************************
R0125:C00010----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT8          .83     .058 No_date   12:19   45.14 .520     .000
       [CN= 79.0: N= 3.00: Tp=  .42]
#**************************************************************************************************
# EXT9
#**************************************************************************************************
R0125:C00011----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT9          3.57     .205 No_date   12:23   41.62 .479     .000
       [CN= 76.0: N= 3.00: Tp=  .48]
#**************************************************************************************************
# EXT9a
#**************************************************************************************************
R0125:C00012----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT9a          .01     .002 No_date   12:00   43.92 .506     .000
       [CN= 78.0: N= 3.00: Tp=  .04]
#**************************************************************************************************
# EXT10
#**************************************************************************************************
R0125:C00013----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:EXT10          .20     .011 No_date   12:20   36.34 .418     .000
       [CN= 71.0: N= 3.00: Tp=  .42]
#**************************************************************************************************
# Pre2
#**************************************************************************************************
R0125:C00014----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:Pre2           .57     .036 No_date   12:22   43.93 .506     .000
       [CN= 78.0: N= 3.00: Tp=  .46]
#**************************************************************************************************
# Pre9
#**************************************************************************************************
R0125:C00015----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:Pre9           .83     .033 No_date   12:35   36.35 .418     .000
       [CN= 71.0: N= 3.00: Tp=  .64]
#**************************************************************************************************
# Pre10
#**************************************************************************************************
R0125:C00016----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:Pre10          .80     .057 No_date   12:11   36.35 .418     .000
       [CN= 71.0: N= 3.00: Tp=  .29]
#**************************************************************************************************
# Pre11
#**************************************************************************************************
R0125:C00017----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD            1.0 01:Pre11          .07     .007 No_date   12:06   43.93 .506     .000
       [CN= 78.0: N= 3.00: Tp=  .21]
#**************************************************************************************************
R0125:C00018----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:EXT2          .28     .028 No_date   12:13   53.21  n/a     .000
                       +     1.0 02:Pre2          .57     .036 No_date   12:22   43.93  n/a     .000
                     SUM=    1.0 01:J1            .85     .062 No_date   12:17   47.04  n/a     .000
R0125:C00019----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:J1            .85     .062 No_date   12:17   47.04  n/a     .000
       [RD= 1.00] out<-      1.0 01:R1            .85     .060 No_date   12:23   47.04  n/a     .000
       [L/S/n=  143./ .394/.035]
       {Vmax=  .368:Dmax=  .157}
R0125:C00020----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:R1            .85     .060 No_date   12:23   47.04  n/a     .000
                       +     1.0 02:EXT3          .56     .048 No_date   12:13   46.39  n/a     .000
                       +     1.0 02:EXT1         3.21     .155 No_date   12:40   46.39  n/a     .000
                     SUM=    1.0 01:J2           4.62     .242 No_date   12:28   46.51  n/a     .000
R0125:C00021----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:J2           4.62     .242 No_date   12:28   46.51  n/a     .000
       [RD= 1.00] out<-      1.0 01:R2           4.62     .241 No_date   12:30   46.51  n/a     .000
       [L/S/n=   73./ .425/.035]
       {Vmax=  .518:Dmax=  .277}
R0125:C00022----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:R2           4.62     .241 No_date   12:30   46.51  n/a     .000
                       +     1.0 02:EXT4          .31     .028 No_date   12:11   45.14  n/a     .000
                     SUM=    1.0 01:J3           4.93     .259 No_date   12:28   46.42  n/a     .000
R0125:C00023----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:J3           4.93     .259 No_date   12:28   46.42  n/a     .000
       [RD= 1.00] out<-      1.0 01:R3           4.93     .257 No_date   12:31   46.42  n/a     .000
       [L/S/n=   92./ .274/.035]
       {Vmax=  .424:Dmax=  .286}
R0125:C00024----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:R3           4.93     .257 No_date   12:31   46.42  n/a     .000
                       +     1.0 02:EXT5          .59     .036 No_date   12:21   41.61  n/a     .000
                     SUM=    1.0 01:J4           5.52     .291 No_date   12:29   45.90  n/a     .000
R0125:C00025----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:J4           5.52     .291 No_date   12:29   45.90  n/a     .000
       [RD= 1.00] out<-      1.0 01:R4           5.52     .275 No_date   12:39   45.90  n/a     .000
       [L/S/n=  251./ .190/.035]
       {Vmax=  .417:Dmax=  .323}
R0125:C00026----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:R4           5.52     .275 No_date   12:39   45.90  n/a     .000
                       +     1.0 02:EXT6          .86     .058 No_date   12:28   53.21  n/a     .000
                       +     1.0 02:EXT7          .47     .045 No_date   12:13   50.35  n/a     .000
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                    SUM=     1.0 01:J5            6.86     .357 No_date   12:35   47.13  n/a     .000
R0125:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:J5            6.86     .357 No_date   12:35   47.13  n/a     .000
       [RDT= 1.00] out<-     1.0 01:R5            6.86     .352 No_date   12:39   47.13  n/a     .000
       [L/S/n= 237./ .644/.035]
       (Vmax=  .681:Dmax=  .301)
R0125:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:Pre10          .80     .057 No_date   12:11   36.35  n/a     .000
       [RDT= 1.00] out<-     1.0 01:R6            .80     .056 No_date   12:14   36.35  n/a     .000
       [L/S/n=  77./ .776/.035]
       (Vmax=  .492:Dmax=  .041)
R0125:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:Pre9           .83     .033 No_date   12:35   36.35  n/a     .000
       [RDT= 1.00] out<-     1.0 01:R7            .83     .033 No_date   12:39   36.35  n/a     .000
       [L/S/n=  159./1.576/.035]
       (Vmax=  .797:Dmax=  .010)
R0125:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD             1.0 02:R6            .80     .056 No_date   12:14   36.41  n/a     .000
                    +    1.0 02:EXT10         .20     .011 No_date   12:20   36.34  n/a     .000
                    +    1.0 02:Pre11         .07     .007 No_date   12:06   43.93  n/a     .000
                    +    1.0 02:EXT9a         .01     .002 No_date   12:00   43.92  n/a     .000
                    SUM=     1.0 01:J6        1.09     .073 No_date   12:14   36.95  n/a     .000
R0125:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:J6            1.09     .073 No_date   12:14   36.95  n/a     .000
       [RDT= 1.00] out<-     1.0 01:R8            1.09     .071 No_date   12:17   36.95  n/a     .000
       [L/S/n=  79./ .522/.035]
       (Vmax=  .423:Dmax=  .053)
R0125:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD             1.0 02:R8            1.09     .071 No_date   12:17   36.95  n/a     .000
                    +    1.0 02:R7             .83     .033 No_date   12:39   36.36  n/a     .000
                    SUM=     1.0 01:J7        1.92     .097 No_date   12:20   36.70  n/a     .000
R0125:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:J7            1.92     .097 No_date   12:20   36.70  n/a     .000
       [RDT= 1.00] out<-     1.0 01:R9            1.92     .097 No_date   12:21   36.70  n/a     .000
       [L/S/n=  29./ .887/.035]
       (Vmax=  .543:Dmax=  .066)
R0125:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD             1.0 02:EXT9          3.57     .205 No_date   12:23   41.62  n/a     .000
                    +    1.0 02:R9            1.92     .097 No_date   12:21   36.70  n/a     .000
                    +    1.0 02:EXT8           .83     .058 No_date   12:19   45.14  n/a     .000
                    +    1.0 02:R5            6.86     .352 No_date   12:39   47.13  n/a     .000
                    SUM=     1.0 01:J8       13.18     .679 No_date   12:31   43.99  n/a     .000
R0125:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:J8           13.18     .679 No_date   12:31   43.99  n/a     .000
*    [RDT= 1.00] out<-     1.0 01:Outlet       13.18     .678 No_date   12:32   43.99  n/a     .000
       [L/S/n=   8./ .010/.013]
       (Vmax=  .451:Dmax= 1.213)
       [Din=  .53:Dused= 1.48]
########################################################################
# STORMS
########################################################################
  ** END OF RUN :  149

************************************************************************************************************

 RUN#:COMMAND#
R0150:C00001-----------------------------------------------------------------------------------------------
     START
       [TZERO =     .00 hrs on      0]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   1 ]
       [NRUN  = 0150 ]
************************************************************************************************************
#  SWMHYMO  / INPUT DATA FILE
************************************************************************************************************
#  Project Name  : [5923 Ottawa St]
#  Project Number: [P2710(e01)]
#  Date          : [2025 FEB 05]
#  Modeller      : [MM]
#  Company       : JFSA Canada Inc.
#  License #     : 2549237
************************************************************************************************************
# Model developed to simulate runoff from subcatchments under pre development conditions
************************************************************************************************************
R0150:C00002-----------------------------------------------------------------------------------------------
     READ STORM
       Filename = STORM.001
       Comment  = 50 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
       [SDT=10.00:SDUR=  24.00:PTOT=  96.53]
************************************************************************************************************
# EXT1
************************************************************************************************************
R0150:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT1          3.21     .182 No_date   12:40   54.31 .563     .000
       [CN= 80.0: N= 3.00: Tp=  .72]
************************************************************************************************************
# EXT2
************************************************************************************************************
R0150:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT2           .28     .033 No_date   12:13   61.73 .640     .000
       [CN= 85.0: N= 3.00: Tp=  .33]
************************************************************************************************************
# EXT3
************************************************************************************************************
R0150:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT3           .56     .057 No_date   12:13   54.31 .563     .000
       [CN= 80.0: N= 3.00: Tp=  .32]
************************************************************************************************************
# EXT4
************************************************************************************************************
R0150:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT4           .31     .033 No_date   12:11   52.94 .548     .000
       [CN= 79.0: N= 3.00: Tp=  .29]
************************************************************************************************************
# EXT5
************************************************************************************************************
R0150:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT5           .59     .042 No_date   12:21   49.04 .508     .000
       [CN= 76.0: N= 3.00: Tp=  .45]
************************************************************************************************************
# EXT6
************************************************************************************************************
R0150:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT6           .86     .068 No_date   12:28   61.73 .640     .000
       [CN= 85.0: N= 3.00: Tp=  .56]
************************************************************************************************************
# EXT7
************************************************************************************************************
R0150:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT7           .47     .052 No_date   12:12   58.64 .608     .000
       [CN= 83.0: N= 3.00: Tp=  .32]
************************************************************************************************************
# EXT8
************************************************************************************************************
R0150:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT8           .83     .068 No_date   12:19   52.94 .548     .000
       [CN= 79.0: N= 3.00: Tp=  .42]
************************************************************************************************************
# EXT9
************************************************************************************************************
R0150:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT9          3.57     .242 No_date   12:23   49.04 .508     .000
       [CN= 76.0: N= 3.00: Tp=  .48]
************************************************************************************************************
# EXT9a
************************************************************************************************************
R0150:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT9a          .01     .002 No_date   12:00   51.60 .535     .000
       [CN= 78.0: N= 3.00: Tp=  .04]
************************************************************************************************************
# EXT10
************************************************************************************************************
R0150:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT10          .20     .013 No_date   12:19   43.13 .447     .000
       [CN= 71.0: N= 3.00: Tp=  .42]
************************************************************************************************************
# Pre2
************************************************************************************************************
R0150:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:Pre2           .57     .042 No_date   12:22   51.61 .535     .000
       [CN= 78.0: N= 3.00: Tp=  .46]
************************************************************************************************************
# Pre9
************************************************************************************************************
R0150:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:Pre9           .83     .040 No_date   12:35   43.14 .447     .000
       [CN= 71.0: N= 3.00: Tp=  .64]
************************************************************************************************************
# Pre10
************************************************************************************************************
R0150:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:Pre10          .80     .068 No_date   12:11   43.14 .447     .000
       [CN= 71.0: N= 3.00: Tp=  .29]
************************************************************************************************************
# Pre11
************************************************************************************************************
R0150:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:Pre11          .07     .009 No_date   12:06   51.60 .535     .000
       [CN= 78.0: N= 3.00: Tp=  .21]
************************************************************************************************************
R0150:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD             1.0 02:EXT2           .28     .033 No_date   12:13   61.73  n/a     .000
                    +    1.0 02:Pre2           .57     .042 No_date   12:22   51.61  n/a     .000
                    SUM=     1.0 01:J1         .85     .073 No_date   12:17   55.00  n/a     .000
R0150:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:J1            .85     .073 No_date   12:17   55.00  n/a     .000
       [RDT= 1.00] out<-     1.0 01:R1            .85     .070 No_date   12:23   55.00  n/a     .000
       [L/S/n=  143./ .394/.035]
       (Vmax=  .384:Dmax=  .169)
R0150:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD             1.0 02:R1            .85     .070 No_date   12:23   55.00  n/a     .000
                    +    1.0 02:EXT3          .56     .057 No_date   12:13   54.31  n/a     .000
                    +    1.0 02:EXT1         3.21     .182 No_date   12:40   54.31  n/a     .000
                    SUM=     1.0 01:J2        4.62     .284 No_date   12:28   54.44  n/a     .000
R0150:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:J2            4.62     .284 No_date   12:28   54.44  n/a     .000
       [RDT= 1.00] out<-     1.0 01:R2            4.62     .283 No_date   12:30   54.44  n/a     .000
       [L/S/n=  73./ .425/.035]
       (Vmax=  .540:Dmax=  .295)
R0150:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD             1.0 02:R2            4.62     .283 No_date   12:30   54.44  n/a     .000
                    +    1.0 02:EXT4           .31     .033 No_date   12:11   52.94  n/a     .000
                    SUM=     1.0 01:J3        4.93     .305 No_date   12:27   54.34  n/a     .000
R0150:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:J3            4.93     .305 No_date   12:27   54.34  n/a     .000
       [RDT= 1.00] out<-     1.0 01:R3            4.93     .302 No_date   12:30   54.34  n/a     .000
       [L/S/n=  92./ .274/.035]
       (Vmax=  .442:Dmax=  .305)
R0150:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD             1.0 02:R3            4.93     .302 No_date   12:30   54.34  n/a     .000
                    +    1.0 02:EXT5           .59     .042 No_date   12:21   49.04  n/a     .000
                    SUM=     1.0 01:J4        5.52     .343 No_date   12:28   53.77  n/a     .000
R0150:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:J4            5.52     .343 No_date   12:28   53.77  n/a     .000
       [RDT= 1.00] out<-     1.0 01:R4            5.52     .324 No_date   12:38   53.77  n/a     .000
       [L/S/n=  251./ .190/.035]
       (Vmax=  .438:Dmax=  .348)
R0150:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD             1.0 02:R4            5.52     .324 No_date   12:38   53.77  n/a     .000
                    +    1.0 02:EXT6           .86     .068 No_date   12:28   61.73  n/a     .000
                    +    1.0 02:EXT7           .47     .052 No_date   12:12   58.64  n/a     .000
                    SUM=     1.0 01:J5        6.86     .421 No_date   12:34   55.11  n/a     .000
R0150:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:J5            6.86     .421 No_date   12:34   55.11  n/a     .000
       [RDT= 1.00] out<-     1.0 01:R5            6.86     .416 No_date   12:39   55.11  n/a     .000
       [L/S/n=  237./ .644/.035]
       (Vmax=  .714:Dmax=  .320)
R0150:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:Pre10          .80     .068 No_date   12:11   43.14  n/a     .000
       [RDT= 1.00] out<-     1.0 01:R6            .80     .066 No_date   12:14   43.14  n/a     .000
       [L/S/n=  77./ .776/.035]
       (Vmax=  .492:Dmax=  .049)
R0150:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:Pre9           .83     .040 No_date   12:35   43.14  n/a     .000
       [RDT= 1.00] out<-     1.0 01:R7            .83     .040 No_date   12:39   43.13  n/a     .000
       [L/S/n=  159./1.576/.035]
       (Vmax=  .797:Dmax=  .012)
R0150:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD             1.0 02:R6            .80     .066 No_date   12:14   43.21  n/a     .000
                    +    1.0 02:EXT10          .20     .013 No_date   12:19   43.13  n/a     .000
                    +    1.0 02:Pre11          .07     .009 No_date   12:06   51.60  n/a     .000
                    +    1.0 02:EXT9a          .01     .002 No_date   12:00   51.60  n/a     .000
                    SUM=     1.0 01:J6        1.09     .087 No_date   12:14   43.81  n/a     .000
R0150:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:J6            1.09     .087 No_date   12:14   43.81  n/a     .000
       [RDT= 1.00] out<-     1.0 01:R8            1.09     .085 No_date   12:17   43.81  n/a     .000
       [L/S/n=  79./ .522/.035]
       (Vmax=  .423:Dmax=  .064)
R0150:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD             1.0 02:R8            1.09     .085 No_date   12:17   43.81  n/a     .000
                    +    1.0 02:R7             .83     .040 No_date   12:39   43.15  n/a     .000
                    SUM=     1.0 01:J7        1.92     .116 No_date   12:20   43.53  n/a     .000
R0150:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:J7            1.92     .116 No_date   12:20   43.53  n/a     .000
       [RDT= 1.00] out<-     1.0 01:R9            1.92     .116 No_date   12:21   43.53  n/a     .000
       [L/S/n=  29./ .887/.035]
       (Vmax=  .543:Dmax=  .079)
R0150:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD             1.0 02:EXT9          3.57     .242 No_date   12:23   49.04  n/a     .000
                    +    1.0 02:R9            1.92     .116 No_date   12:21   43.53  n/a     .000
                    +    1.0 02:EXT8           .83     .068 No_date   12:19   52.94  n/a     .000
                    +    1.0 02:R5            6.86     .416 No_date   12:39   55.11  n/a     .000
                    SUM=     1.0 01:J8       13.18     .805 No_date   12:30   51.64  n/a     .000
R0150:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:J8           13.18     .805 No_date   12:30   51.64  n/a     .000
*    [RDT= 1.00] out<-     1.0 01:Outlet       13.18     .804 No_date   12:31   51.64  n/a     .000
       [L/S/n=   8./ .010/.013]
       (Vmax=  .471:Dmax= 1.292)
       [Din=  .53:Dused= 1.57]
########################################################################
# STORMS
########################################################################
  ** END OF RUN :  198

************************************************************************************************************

 RUN#:COMMAND#
R0199:C00001-----------------------------------------------------------------------------------------------
     START
       [TZERO =     .00 hrs on      0]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   1 ]
       [NRUN  = 0199 ]
************************************************************************************************************
#  SWMHYMO  / INPUT DATA FILE
************************************************************************************************************
#  Project Name  : [5923 Ottawa St]
#  Project Number: [P2710(e01)]
#  Date          : [2025 FEB 05]
#  Modeller      : [MM]
#  Company       : JFSA Canada Inc.
#  License #     : 2549237
************************************************************************************************************
# Model developed to simulate runoff from subcatchments under pre development conditions
************************************************************************************************************
R0199:C00002-----------------------------------------------------------------------------------------------
     READ STORM
       Filename = STORM.001
       Comment  = 100 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
       [SDT=10.00:SDUR=  24.00:PTOT=  106.73]
************************************************************************************************************
# EXT1
************************************************************************************************************
R0199:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT1          3.21     .212 No_date   12:39   62.92 .589     .000
       [CN= 80.0: N= 3.00: Tp=  .72]
************************************************************************************************************
# EXT2
************************************************************************************************************
R0199:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT2           .28     .037 No_date   12:13   70.91 .664     .000
       [CN= 85.0: N= 3.00: Tp=  .33]
************************************************************************************************************
# EXT3
************************************************************************************************************
R0199:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT3           .56     .066 No_date   12:13   62.92 .589     .000
       [CN= 80.0: N= 3.00: Tp=  .32]
************************************************************************************************************
# EXT4
************************************************************************************************************
R0199:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT4           .31     .038 No_date   12:11   61.42 .576     .000
       [CN= 79.0: N= 3.00: Tp=  .29]
************************************************************************************************************
# EXT5
************************************************************************************************************
R0199:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT5           .59     .049 No_date   12:21   57.15 .535     .000
       [CN= 76.0: N= 3.00: Tp=  .45]
************************************************************************************************************
# EXT6
************************************************************************************************************
R0199:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT6           .86     .078 No_date   12:28   70.92 .664     .000
       [CN= 85.0: N= 3.00: Tp=  .56]
************************************************************************************************************
# EXT7
************************************************************************************************************
R0199:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT7           .47     .060 No_date   12:12   67.60 .633     .000
       [CN= 83.0: N= 3.00: Tp=  .32]
************************************************************************************************************
# EXT8
************************************************************************************************************
R0199:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT8           .83     .079 No_date   12:19   61.42 .576     .000
       [CN= 79.0: N= 3.00: Tp=  .42]
************************************************************************************************************
# EXT9
************************************************************************************************************
R0199:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT9          3.57     .284 No_date   12:23   57.15 .535     .000
       [CN= 76.0: N= 3.00: Tp=  .48]
************************************************************************************************************
# EXT9a
************************************************************************************************************
R0199:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD        1.0 01:EXT9a          .01     .003 No_date   12:00   59.96 .562     .000
       [CN= 78.0: N= 3.00: Tp=  .04]
************************************************************************************************************
# EXT10
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02521> #*************************************************************************************************
02522> R0199:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02523>      CALIB NASHYD            1.0 01:EXT10          .20     .016 No_date   12:19   50.61 .474     .000
02524>        [CN= 71.0: N= 3.00: Tp=  .42]
02525> #*************************************************************************************************
02526> # Pre2
02527> #*************************************************************************************************
02528> R0199:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02529>      CALIB NASHYD            1.0 01:Pre2           .57     .049 No_date   12:22   59.97 .562     .000
02530>        [CN= 78.0: N= 3.00: Tp=  .46]
02531> #*************************************************************************************************
02532> # Pre9
02533> #*************************************************************************************************
02534> R0199:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02535>      CALIB NASHYD            1.0 01:Pre9           .83     .047 No_date   12:35   50.61 .474     .000
02536>        [CN= 71.0: N= 3.00: Tp=  .64]
02537> #*************************************************************************************************
02538> # Pre10
02539> #*************************************************************************************************
02540> R0199:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02541>      CALIB NASHYD            1.0 01:Pre10          .80     .080 No_date   12:11   50.61 .474     .000
02542>        [CN= 71.0: N= 3.00: Tp=  .29]
02543> #*************************************************************************************************
02544> # Pre11
02545> #*************************************************************************************************
02546> R0199:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02547>      CALIB NASHYD            1.0 01:Pre11          .07     .010 No_date   12:06   59.96 .562     .000
02548>        [CN= 78.0: N= 3.00: Tp=  .21]
02549> #*************************************************************************************************
02550> R0199:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02551>      ADD HYD                 1.0 02:EXT2           .28     .037 No_date   12:13   70.91  n/a     .000
02552>                          +   1.0 02:Pre2           .57     .049 No_date   12:22   59.97  n/a     .000
02553>                      SUM=    1.0 01:J1            .85     .084 No_date   12:17   63.63  n/a     .000
02554> R0199:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02555>      ROUTE CHANNEL    ->    1.0 02:J1            .85     .084 No_date   12:17   63.63  n/a     .000
02556>        [RD*= 1.00] out<-     1.0 01:R1            .85     .081 No_date   12:22   63.63  n/a     .000
02557>        [L/S/n=  143./ .394/.035]
02558>        [Vmax=  .404:Dmax=  .181]
02559> R0199:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02560>      ADD HYD                 1.0 02:R1            .85     .081 No_date   12:22   63.63  n/a     .000
02561>                          +   1.0 02:EXT3          3.56     .066 No_date   12:13   62.92  n/a     .000
02562>                          +   1.0 02:EXT1          3.21     .212 No_date   12:39   62.92  n/a     .000
02563>                      SUM=    1.0 01:J2            4.62     .329 No_date   12:27   63.05  n/a     .000
02564> R0199:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02565>      ROUTE CHANNEL    ->    1.0 02:J2            4.62     .329 No_date   12:27   63.05  n/a     .000
02566>        [RD*= 1.00] out<-     1.0 01:R2            4.62     .329 No_date   12:29   63.05  n/a     .000
02567>        [L/S/n=  73./ .425/.035]
02568>        [Vmax=  .561:Dmax=  .313]
02569> R0199:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02570>      ADD HYD                 1.0 02:R2            4.62     .329 No_date   12:29   63.05  n/a     .000
02571>                          +   1.0 02:EXT4          .31     .038 No_date   12:11   61.42  n/a     .000
02572>                      SUM=    1.0 01:J3            4.93     .354 No_date   12:27   62.95  n/a     .000
02573> R0199:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02574>      ROUTE CHANNEL    ->    1.0 02:J3            4.93     .354 No_date   12:27   62.95  n/a     .000
02575>        [RD*= 1.00] out<-     1.0 01:R3            4.93     .352 No_date   12:30   62.95  n/a     .000
02576>        [L/S/n=  92./ .274/.035]
02577>        [Vmax=  .459:Dmax=  .323]
02578> R0199:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02579>      ADD HYD                 1.0 02:R3            4.93     .352 No_date   12:30   62.95  n/a     .000
02580>                          +   1.0 02:EXT5          .59     .049 No_date   12:21   57.15  n/a     .000
02581>                      SUM=    1.0 01:J4            5.52     .399 No_date   12:28   62.32  n/a     .000
02582> R0199:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02583>      ROUTE CHANNEL    ->    1.0 02:J4            5.52     .399 No_date   12:28   62.32  n/a     .000
02584>        [RD*= 1.00] out<-     1.0 01:R4            5.52     .379 No_date   12:37   62.32  n/a     .000
02585>        [L/S/n=  251./ .190/.035]
02586>        [Vmax=  .456:Dmax=  .372]
02587> R0199:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02588>      ADD HYD                 1.0 02:R4            5.52     .379 No_date   12:37   62.32  n/a     .000
02589>                          +   1.0 02:EXT6           .86     .078 No_date   12:28   70.92  n/a     .000
02590>                          +   1.0 02:EXT7           .47     .060 No_date   12:12   67.60  n/a     .000
02591>                      SUM=    1.0 01:J5            6.86     .491 No_date   12:33   63.77  n/a     .000
02592> R0199:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02593>      ROUTE CHANNEL    ->    1.0 02:J5            6.86     .491 No_date   12:33   63.77  n/a     .000
02594>        [RD*= 1.00] out<-     1.0 01:R5            6.86     .485 No_date   12:38   63.77  n/a     .000
02595>        [L/S/n=  237./ .644/.035]
02596>        [Vmax=  .744:Dmax=  .340]
02597> R0199:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02598>      ROUTE CHANNEL    ->    1.0 02:Pre10          .80     .080 No_date   12:11   50.61  n/a     .000
02599>        [RD*= 1.00] out<-     1.0 01:R6            .80     .078 No_date   12:14   50.61  n/a     .000
02600>        [L/S/n=  77./ .776/.035]
02601>        [Vmax=  .492:Dmax=  .058]
02602> R0199:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02603>      ROUTE CHANNEL    ->    1.0 02:Pre9           .83     .047 No_date   12:35   50.61  n/a     .000
02604>        [RD*= 1.00] out<-     1.0 01:R7            .83     .047 No_date   12:38   50.61  n/a     .000
02605>        [L/S/n=  159./1.576/.035]
02606>        [Vmax=  .797:Dmax=  .014]
02607> R0199:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02608>      ADD HYD                 1.0 02:R6            .80     .078 No_date   12:14   50.69  n/a     .000
02609>                          +   1.0 02:EXT10         .20     .016 No_date   12:19   50.61  n/a     .000
02610>                          +   1.0 02:Pre11          .07     .010 No_date   12:06   50.61  n/a     .000
02611>                          +   1.0 02:EXT9a          .01     .003 No_date   12:00   59.96  n/a     .000
02612>                      SUM=    1.0 01:J6            1.09     .102 No_date   12:14   51.36  n/a     .000
02613> R0199:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02614>      ROUTE CHANNEL    ->    1.0 02:J6            1.09     .102 No_date   12:14   51.36  n/a     .000
02615>        [RD*= 1.00] out<-     1.0 01:R8            1.09     .100 No_date   12:17   51.36  n/a     .000
02616>        [L/S/n=  79./ .522/.035]
02617>        [Vmax=  .423:Dmax=  .075]
02618> R0199:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02619>      ADD HYD                 1.0 02:R8            1.09     .100 No_date   12:17   51.36  n/a     .000
02620>                          +   1.0 02:R7            .83     .047 No_date   12:38   50.63  n/a     .000
02621>                      SUM=    1.0 01:J7            1.92     .137 No_date   12:20   51.04  n/a     .000
02622> R0199:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02623>      ROUTE CHANNEL    ->    1.0 02:J7            1.92     .137 No_date   12:20   51.04  n/a     .000
02624>        [RD*= 1.00] out<-     1.0 01:R9            1.92     .137 No_date   12:21   51.04  n/a     .000
02625>        [L/S/n=  29./ .887/.035]
02626>        [Vmax=  .543:Dmax=  .093]
02627> R0199:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02628>      ADD HYD                 1.0 02:EXT9          3.57     .284 No_date   12:23   57.15  n/a     .000
02629>                          +   1.0 02:R9            1.92     .137 No_date   12:21   51.05  n/a     .000
02630>                          +   1.0 02:EXT8           .83     .079 No_date   12:19   61.43  n/a     .000
02631>                          +   1.0 02:R5            6.86     .485 No_date   12:38   63.77  n/a     .000
02632>                      SUM=    1.0 01:J8           13.18     .944 No_date   12:30   59.98  n/a     .000
02633> R0199:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02634>      ROUTE PIPE       ->    1.0 02:J8           13.18     .944 No_date   12:30   59.98  n/a     .000
02635> *    [RD*= 1.00] out<-     1.0 01:Outlet        13.18     .943 No_date   12:31   59.98  n/a     .000
02636>        [L/S/n=   8./ .010/.013]
02637>        [Vmax=  .490:Dmax= 1.372]
02638>        [Din=  .53:Dused= 1.67]
02639> ###############################################################################
02640> # STORMS
02641> ###############################################################################
02642>  ** END OF RUN : 1978
02643>
02644> *************************************************************************************************
02645>
02646>
02647>
02648>
02649>
02650>  RUN#:COMMAND#
02651> R1979:C00001------------------------------------------------------------------------------------
02652>      START
02653>       [TZERO =      .00 hrs on      0]
02654>       [METOUT=   2    (1=imperial, 2=metric output)]
02655>       [NSTORM=   1 ]
02656>       [NRUN  = 1979 ]
02657> *************************************************************************************************
02658> #  SWMHYMO  / INPUT DATA FILE
02659> *************************************************************************************************
02660> #  Project Name  : [5923 Ottawa St]
02661> #  Project Number: [P2710(e01)]
02662> #  Date          : [2025 FEB 05]
02663> #  Modeller      : [MM]
02664> #  Company       : JFSA Canada Inc.
02665> #  License #     : 2549237
02666> *************************************************************************************************
02667> # Model developed to simulate runoff from subcatchments under pre development conditions
02668> *************************************************************************************************
02669> R1979:C00002------------------------------------------------------------------------------------
02670>      READ STORM
02671>       Filename = STORM.001
02672>       Comment  = July 1st, 1979 Storm (3H) - Ottawa International Airport step 5 min
02673>       [SDT= 5.00:SDUR=   3.00:PTOT=  83.99]
02674> *************************************************************************************************
02675> # EXT1
02676> *************************************************************************************************
02677> R1979:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02678>      CALIB NASHYD            1.0 01:EXT1          3.21     .240 No_date    2:16   44.05 .524     .000
02679>        [CN= 80.0: N= 3.00: Tp=  .72]
02680> *************************************************************************************************
02681> # EXT2
02682> *************************************************************************************************
02683> R1979:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02684>      CALIB NASHYD            1.0 01:EXT2           .28     .039 No_date    1:50   50.68 .603     .000
02685>        [CN= 85.0: N= 3.00: Tp=  .33]
02686> *************************************************************************************************
02687> # EXT3
02688> *************************************************************************************************
02689> R1979:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02690>      CALIB NASHYD            1.0 01:EXT3           .56     .067 No_date    1:50   44.05 .524     .000
02691>        [CN= 80.0: N= 3.00: Tp=  .32]
02692> *************************************************************************************************
02693> # EXT4
02694> *************************************************************************************************
02695> R1979:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02696>      CALIB NASHYD            1.0 01:EXT4           .31     .038 No_date    1:48   42.84 .510     .000
02697>        [CN= 79.0: N= 3.00: Tp=  .29]
02698> *************************************************************************************************
02699> # EXT5
02700> *************************************************************************************************

02701> R1979:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02702>      CALIB NASHYD            1.0 01:EXT5           .59     .054 No_date    2:01   39.44 .470     .000
02703>        [CN= 76.0: N= 3.00: Tp=  .45]
02704> *************************************************************************************************
02705> # EXT6
02706> *************************************************************************************************
02707> R1979:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02708>      CALIB NASHYD            1.0 01:EXT6           .86     .088 No_date    2:06   50.68 .603     .000
02709>        [CN= 85.0: N= 3.00: Tp=  .56]
02710> *************************************************************************************************
02711> # EXT7
02712> *************************************************************************************************
02713> R1979:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02714>      CALIB NASHYD            1.0 01:EXT7           .47     .061 No_date    1:49   47.90 .570     .000
02715>        [CN= 83.0: N= 3.00: Tp=  .32]
02716> *************************************************************************************************
02717> # EXT8
02718> *************************************************************************************************
02719> R1979:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02720>      CALIB NASHYD            1.0 01:EXT8           .83     .085 No_date    1:58   42.85 .510     .000
02721>        [CN= 79.0: N= 3.00: Tp=  .42]
02722> *************************************************************************************************
02723> # EXT9
02724> *************************************************************************************************
02725> R1979:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02726>      CALIB NASHYD            1.0 01:EXT9          3.57     .311 No_date    2:03   39.44 .470     .000
02727>        [CN= 76.0: N= 3.00: Tp=  .48]
02728> *************************************************************************************************
02729> # EXT9a
02730> *************************************************************************************************
02731> R1979:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02732>      CALIB NASHYD            1.0 01:EXT9a          .01     .002 No_date    1:30   41.67 .496     .000
02733>        [CN= 78.0: N= 3.00: Tp=  .04]
02734> *************************************************************************************************
02735> # EXT10
02736> *************************************************************************************************
02737> R1979:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02738>      CALIB NASHYD            1.0 01:EXT10          .20     .017 No_date    1:59   34.36 .409     .000
02739>        [CN= 71.0: N= 3.00: Tp=  .42]
02740> *************************************************************************************************
02741> # Pre2
02742> *************************************************************************************************
02743> R1979:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02744>      CALIB NASHYD            1.0 01:Pre2           .57     .053 No_date    2:01   41.68 .496     .000
02745>        [CN= 78.0: N= 3.00: Tp=  .46]
02746> *************************************************************************************************
02747> # Pre9
02748> *************************************************************************************************
02749> R1979:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02750>      CALIB NASHYD            1.0 01:Pre9           .83     .053 No_date    2:12   34.37 .409     .000
02751>        [CN= 71.0: N= 3.00: Tp=  .64]
02752> *************************************************************************************************
02753> # Pre10
02754> *************************************************************************************************
02755> R1979:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02756>      CALIB NASHYD            1.0 01:Pre10          .80     .079 No_date    1:48   34.37 .409     .000
02757>        [CN= 71.0: N= 3.00: Tp=  .29]
02758> *************************************************************************************************
02759> # Pre11
02760> *************************************************************************************************
02761> R1979:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02762>      CALIB NASHYD            1.0 01:Pre11          .07     .009 No_date    1:43   41.67 .496     .000
02763>        [CN= 78.0: N= 3.00: Tp=  .21]
02764> *************************************************************************************************
02765> R1979:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02766>      ADD HYD                 1.0 02:EXT2           .28     .039 No_date    1:50   50.68  n/a     .000
02767>                          +   1.0 02:Pre2           .57     .053 No_date    2:01   41.68  n/a     .000
02768>                      SUM=    1.0 01:J1            .85     .090 No_date    1:55   44.69  n/a     .000
02769> R1979:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02770>      ROUTE CHANNEL    ->    1.0 02:J1            .85     .090 No_date    1:55   44.69  n/a     .000
02771>        [RD*= 1.00] out<-     1.0 01:R1            .85     .088 No_date    2:01   44.69  n/a     .000
02772>        [L/S/n=  143./ .394/.035]
02773>        [Vmax=  .411:Dmax=  .186]
02774> R1979:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02775>      ADD HYD                 1.0 02:R1            .85     .088 No_date    2:01   44.69  n/a     .000
02776>                          +   1.0 02:EXT3          .56     .067 No_date    1:50   44.05  n/a     .000
02777>                          +   1.0 02:EXT1          3.21     .240 No_date    2:16   44.05  n/a     .000
02778>                      SUM=    1.0 01:J2            4.62     .372 No_date    2:06   44.17  n/a     .000
02779> R1979:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02780>      ROUTE CHANNEL    ->    1.0 02:J2            4.62     .372 No_date    2:06   44.17  n/a     .000
02781>        [RD*= 1.00] out<-     1.0 01:R2            4.62     .371 No_date    2:08   44.17  n/a     .000
02782>        [L/S/n=  73./ .425/.035]
02783>        [Vmax=  .579:Dmax=  .329]
02784> R1979:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02785>      ADD HYD                 1.0 02:R2            4.62     .371 No_date    2:08   44.17  n/a     .000
02786>                          +   1.0 02:EXT4           .31     .038 No_date    1:48   42.84  n/a     .000
02787>                      SUM=    1.0 01:J3            4.93     .399 No_date    2:06   44.09  n/a     .000
02788> R1979:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02789>      ROUTE CHANNEL    ->    1.0 02:J3            4.93     .399 No_date    2:06   44.09  n/a     .000
02790>        [RD*= 1.00] out<-     1.0 01:R3            4.93     .396 No_date    2:08   44.09  n/a     .000
02791>        [L/S/n=  92./ .274/.035]
02792>        [Vmax=  .474:Dmax=  .339]
02793> R1979:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02794>      ADD HYD                 1.0 02:R3            4.93     .396 No_date    2:08   44.09  n/a     .000
02795>                          +   1.0 02:EXT5           .59     .054 No_date    2:01   39.44  n/a     .000
02796>                      SUM=    1.0 01:J4            5.52     .448 No_date    2:07   43.59  n/a     .000
02797> R1979:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02798>      ROUTE CHANNEL    ->    1.0 02:J4            5.52     .448 No_date    2:07   43.59  n/a     .000
02799>        [RD*= 1.00] out<-     1.0 01:R4            5.52     .429 No_date    2:14   43.59  n/a     .000
02800>        [L/S/n=  251./ .190/.035]
02801>        [Vmax=  .471:Dmax=  .391]
02802> R1979:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02803>      ADD HYD                 1.0 02:R4            5.52     .429 No_date    2:14   43.59  n/a     .000
02804>                          +   1.0 02:EXT6           .86     .088 No_date    2:06   50.68  n/a     .000
02805>                          +   1.0 02:EXT7           .47     .061 No_date    1:49   47.90  n/a     .000
02806>                      SUM=    1.0 01:J5            6.86     .557 No_date    2:10   44.78  n/a     .000
02807> R1979:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02808>      ROUTE CHANNEL    ->    1.0 02:J5            6.86     .557 No_date    2:10   44.78  n/a     .000
02809>        [RD*= 1.00] out<-     1.0 01:R5            6.86     .551 No_date    2:14   44.78  n/a     .000
02810>        [L/S/n=  237./ .644/.035]
02811>        [Vmax=  .775:Dmax=  .358]
02812> R1979:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02813>      ROUTE CHANNEL    ->    1.0 02:Pre10          .80     .079 No_date    1:48   34.37  n/a     .000
02814>        [RD*= 1.00] out<-     1.0 01:R6            .80     .078 No_date    1:51   34.37  n/a     .000
02815>        [L/S/n=  77./ .776/.035]
02816>        [Vmax=  .492:Dmax=  .058]
02817> R1979:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02818>      ROUTE CHANNEL    ->    1.0 02:Pre9           .83     .053 No_date    2:12   34.37  n/a     .000
02819>        [RD*= 1.00] out<-     1.0 01:R7            .83     .052 No_date    2:16   34.37  n/a     .000
02820>        [L/S/n=  159./1.576/.035]
02821>        [Vmax=  .797:Dmax=  .016]
02822> R1979:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02823>      ADD HYD                 1.0 02:R6            .80     .078 No_date    1:51   34.68  n/a     .000
02824>                          +   1.0 02:EXT10          .20     .017 No_date    1:59   34.36  n/a     .000
02825>                          +   1.0 02:Pre11          .07     .009 No_date    1:43   41.67  n/a     .000
02826>                          +   1.0 02:EXT9a          .01     .002 No_date    1:30   41.67  n/a     .000
02827>                      SUM=    1.0 01:J6            1.09     .103 No_date    1:51   35.14  n/a     .000
02828> R1979:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02829>      ROUTE CHANNEL    ->    1.0 02:J6            1.09     .103 No_date    1:51   35.14  n/a     .000
02830>        [RD*= 1.00] out<-     1.0 01:R8            1.09     .102 No_date    1:54   35.14  n/a     .000
02831>        [L/S/n=  79./ .522/.035]
02832>        [Vmax=  .423:Dmax=  .075]
02833> R1979:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02834>      ADD HYD                 1.0 02:R8            1.09     .102 No_date    1:54   35.14  n/a     .000
02835>                          +   1.0 02:R7            .83     .052 No_date    2:16   34.40  n/a     .000
02836>                      SUM=    1.0 01:J7            1.92     .145 No_date    2:00   34.82  n/a     .000
02837> R1979:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02838>      ROUTE CHANNEL    ->    1.0 02:J7            1.92     .145 No_date    2:00   34.82  n/a     .000
02839>        [RD*= 1.00] out<-     1.0 01:R9            1.92     .145 No_date    2:01   34.82  n/a     .000
02840>        [L/S/n=  29./ .887/.035]
02841>        [Vmax=  .543:Dmax=  .098]
02842> R1979:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02843>      ADD HYD                 1.0 02:EXT9          3.57     .311 No_date    2:03   39.44  n/a     .000
02844>                          +   1.0 02:R9            1.92     .145 No_date    2:01   34.83  n/a     .000
02845>                          +   1.0 02:EXT8           .83     .085 No_date    1:58   42.85  n/a     .000
02846>                          +   1.0 02:R5            6.86     .551 No_date    2:14   44.78  n/a     .000
02847>                      SUM=    1.0 01:J8           13.18    1.063 No_date    2:08   41.76  n/a     .000
02848> R1979:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02849>      ROUTE PIPE       ->    1.0 02:J8           13.18    1.063 No_date    2:08   41.76  n/a     .000
02850> *    [RD*= 1.00] out<-     1.0 01:Outlet        13.18    1.063 No_date    2:08   41.76  n/a     .000
02851>        [L/S/n=   8./ .010/.013]
02852>        [Vmax=  .505:Dmax= 1.435]
02853>        [Din=  .53:Dused= 1.75]
02854> ###############################################################################
02855> # STORMS
02856> ###############################################################################
02857>  ** END OF RUN : 1987
02858>
02859> *************************************************************************************************
02860>
02861>
02862>
02863>
02864>
02865>  RUN#:COMMAND#
02866> R1988:C00001------------------------------------------------------------------------------------
02867>      START
02868>       [TZERO =      .00 hrs on      0]
02869>       [METOUT=   2    (1=imperial, 2=metric output)]
02870>       [NSTORM=   1 ]
02871>       [NRUN  = 1988 ]
02872> *************************************************************************************************
02873> #  SWMHYMO  / INPUT DATA FILE
02874> *************************************************************************************************
02875> #  Project Name  : [5923 Ottawa St]
02876> #  Project Number: [P2710(e01)]
02877> #  Date          : [2025 FEB 05]
02878> #  Modeller      : [MM]
02879> #  Company       : JFSA Canada Inc.
02880> #  License #     : 2549237
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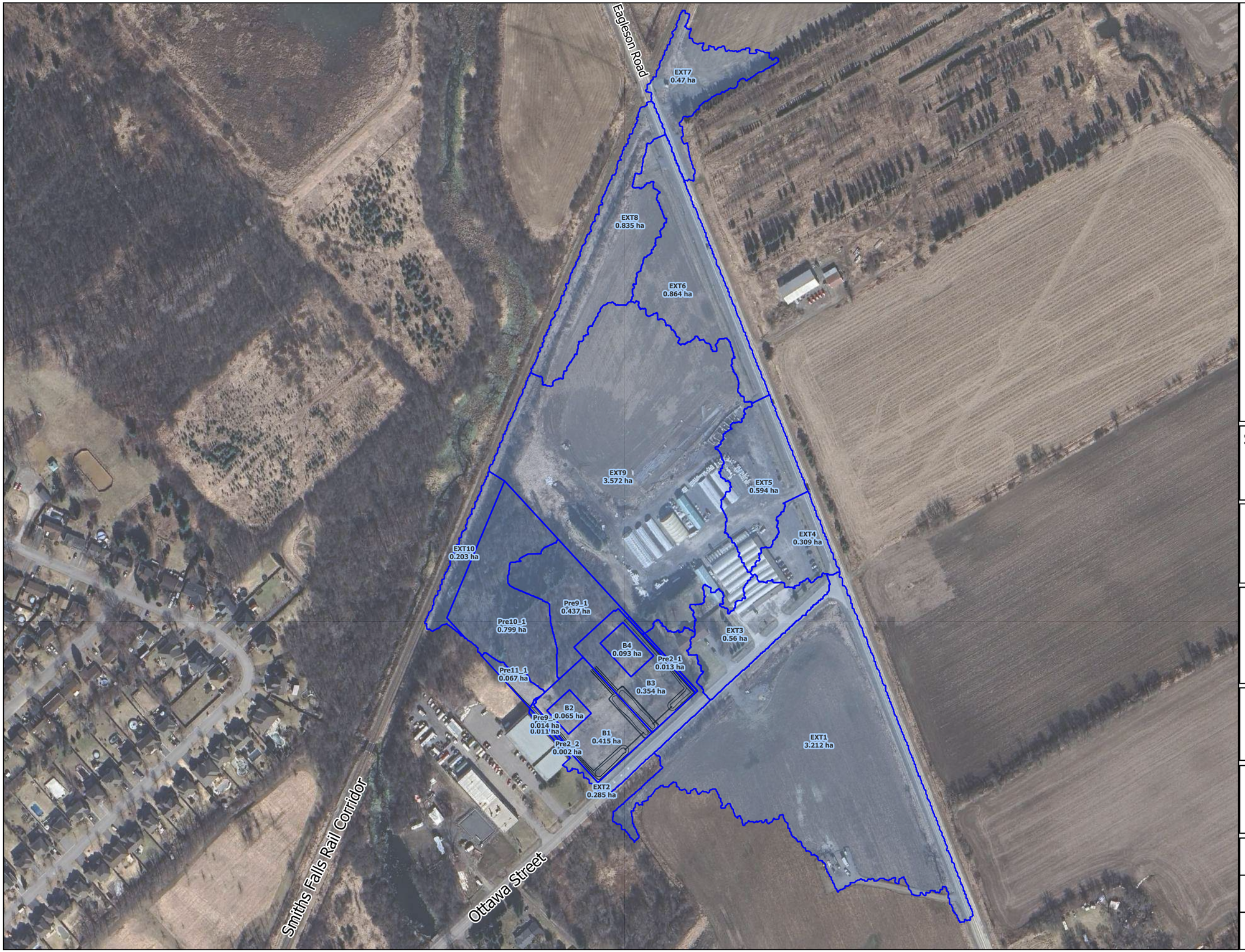
02881> #*************************************************************************************************
02882> # Model developed to simulate runoff from subcatchments under pre development conditions
02883> #*************************************************************************************************
02884> R1988:C00002-------------------------------------------------------------------------------------
02885>      READ STORM
02886>        Filename = STORM.001
02887>        Comment  = August 4th, 1988 Storm (5H+) - Ottawa International Airport step 5
02888>        [SDT= 5.00:SDUR=   5.58:PTOT=  80.59]
02889> #*************************************************************************************************
02890> # EXT1
02891> #*************************************************************************************************
02892> R1988:C00003-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02893>      CALIB NASHYD             1.0 01:EXT1           3.21     .197 No_date    2:30   41.34 .513     .000
02894>        [CN= 80.0: N= 3.00: Tp=  .72]
02895> #*************************************************************************************************
02896> # EXT2
02897> #*************************************************************************************************
02898> R1988:C00004-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02899>      CALIB NASHYD             1.0 01:EXT2           .28      .035 No_date    2:11   47.74 .592     .000
02900>        [CN= 85.0: N= 3.00: Tp=  .33]
02901> #*************************************************************************************************
02902> # EXT3
02903> #*************************************************************************************************
02904> R1988:C00005-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02905>      CALIB NASHYD             1.0 01:EXT3           .56      .061 No_date    2:11   41.34 .513     .000
02906>        [CN= 80.0: N= 3.00: Tp=  .32]
02907> #*************************************************************************************************
02908> # EXT4
02909> #*************************************************************************************************
02910> R1988:C00006-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02911>      CALIB NASHYD             1.0 01:EXT4           .31      .035 No_date    2:10   40.18 .499     .000
02912>        [CN= 79.0: N= 3.00: Tp=  .29]
02913> #*************************************************************************************************
02914> # EXT5
02915> #*************************************************************************************************
02916> R1988:C00007-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02917>      CALIB NASHYD             1.0 01:EXT5           .59      .046 No_date    2:17   36.92 .458     .000
02918>        [CN= 76.0: N= 3.00: Tp=  .45]
02919> #*************************************************************************************************
02920> # EXT6
02921> #*************************************************************************************************
02922> R1988:C00008-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02923>      CALIB NASHYD             1.0 01:EXT6           .86      .074 No_date    2:21   47.74 .592     .000
02924>        [CN= 85.0: N= 3.00: Tp=  .56]
02925> #*************************************************************************************************
02926> # EXT7
02927> #*************************************************************************************************
02928> R1988:C00009-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02929>      CALIB NASHYD             1.0 01:EXT7           .47      .055 No_date    2:11   45.05 .559     .000
02930>        [CN= 83.0: N= 3.00: Tp=  .32]
02931> #*************************************************************************************************
02932> # EXT8
02933> #*************************************************************************************************
02934> R1988:C00010-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02935>      CALIB NASHYD             1.0 01:EXT8           .83      .074 No_date    2:15   40.18 .499     .000
02936>        [CN= 79.0: N= 3.00: Tp=  .42]
02937> #*************************************************************************************************
02938> # EXT9
02939> #*************************************************************************************************
02940> R1988:C00011-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02941>      CALIB NASHYD             1.0 01:EXT9          3.57     .266 No_date    2:18   36.92 .458     .000
02942>        [CN= 76.0: N= 3.00: Tp=  .48]
02943> #*************************************************************************************************
02944> # EXT9a
02945> #*************************************************************************************************
02946> R1988:C00012-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02947>      CALIB NASHYD             1.0 01:EXT9a          .01      .003 No_date    2:00   39.05 .485     .000
02948>        [CN= 78.0: N= 3.00: Tp=  .04]
02949> #*************************************************************************************************
02950> # EXT10
02951> #*************************************************************************************************
02952> R1988:C00013-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02953>      CALIB NASHYD             1.0 01:EXT10          .20      .014 No_date    2:16   32.08 .398     .000
02954>        [CN= 71.0: N= 3.00: Tp=  .42]
02955> #*************************************************************************************************
02956> # Pre2
02957> #*************************************************************************************************
02958> R1988:C00014-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02959>      CALIB NASHYD             1.0 01:Pre2           .57      .046 No_date    2:17   39.06 .485     .000
02960>        [CN= 78.0: N= 3.00: Tp=  .46]
02961> #*************************************************************************************************
02962> # Pre9
02963> #*************************************************************************************************
02964> R1988:C00015-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02965>      CALIB NASHYD             1.0 01:Pre9           .83      .043 No_date    2:27   32.08 .398     .000
02966>        [CN= 71.0: N= 3.00: Tp=  .64]
02967> #*************************************************************************************************
02968> # Pre10
02969> #*************************************************************************************************
02970> R1988:C00016-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02971>      CALIB NASHYD             1.0 01:Pre10          .80      .072 No_date    2:10   32.08 .398     .000
02972>        [CN= 71.0: N= 3.00: Tp=  .29]
02973> #*************************************************************************************************
02974> # Pre11
02975> #*************************************************************************************************
02976> R1988:C00017-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02977>      CALIB NASHYD             1.0 01:Pre11          .07      .009 No_date    2:06   39.06 .485     .000
02978>        [CN= 78.0: N= 3.00: Tp=  .21]
02979> #*************************************************************************************************
02980> R1988:C00018-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02981>      ADD HYD                  1.0 02:EXT2           .28      .035 No_date    2:11   47.74  n/a     .000
02982>                         +     1.0 02:Pre2           .57      .046 No_date    2:17   39.06  n/a     .000
02983>                       SUM=    1.0 01:J1             .85      .079 No_date    2:14   41.97  n/a     .000
02984> R1988:C00019-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02985>      ROUTE CHANNEL    ->     1.0 02:J1             .85      .079 No_date    2:14   41.97  n/a     .000
02986>        [RD= 1.00] out<-     1.0 01:R1             .85      .076 No_date    2:18   41.97  n/a     .000
02987>        [L/S/n=  143./ .394/.035]
02988>        [Vmax=  .396:Dmax=  .176]
02989> R1988:C00020-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02990>      ADD HYD                  1.0 02:R1             .85      .076 No_date    2:18   41.97  n/a     .000
02991>                         +     1.0 02:EXT3           .56      .061 No_date    2:11   41.34  n/a     .000
02992>                         +     1.0 02:EXT1          3.21      .197 No_date    2:30   41.34  n/a     .000
02993>                       SUM=    1.0 01:J2            4.62      .314 No_date    2:21   41.46  n/a     .000
02994> R1988:C00021-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02995>      ROUTE CHANNEL    ->     1.0 02:J2            4.62      .314 No_date    2:21   41.46  n/a     .000
02996>        [RD= 1.00] out<-     1.0 01:R2            4.62      .313 No_date    2:22   41.46  n/a     .000
02997>        [L/S/n=  73./ .425/.035]
02998>        [Vmax=  .555:Dmax=  .308]
02999> R1988:C00022-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03000>      ADD HYD                  1.0 02:R2            4.62      .313 No_date    2:22   41.46  n/a     .000
03001>                         +     1.0 02:EXT4           .31      .035 No_date    2:10   40.18  n/a     .000
03002>                       SUM=    1.0 01:J3            4.93      .338 No_date    2:20   41.38  n/a     .000
03003> R1988:C00023-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03004>      ROUTE CHANNEL    ->     1.0 02:J3            4.93      .338 No_date    2:20   41.38  n/a     .000
03005>        [RD= 1.00] out<-     1.0 01:R3            4.93      .335 No_date    2:23   41.38  n/a     .000
03006>        [L/S/n=  92./ .274/.035]
03007>        [Vmax=  .454:Dmax=  .318]
03008> R1988:C00024-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03009>      ADD HYD                  1.0 02:R3            4.93      .335 No_date    2:23   41.38  n/a     .000
03010>                         +     1.0 02:EXT5           .59      .046 No_date    2:17   36.92  n/a     .000
03011>                       SUM=    1.0 01:J4            5.52      .379 No_date    2:22   40.90  n/a     .000
03012> R1988:C00025-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03013>      ROUTE CHANNEL    ->     1.0 02:J4            5.52      .379 No_date    2:22   40.90  n/a     .000
03014>        [RD= 1.00] out<-     1.0 01:R4            5.52      .355 No_date    2:30   40.90  n/a     .000
03015>        [L/S/n=  251./ .190/.035]
03016>        [Vmax=  .450:Dmax=  .363]
03017> R1988:C00026-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03018>      ADD HYD                  1.0 02:R4            5.52      .355 No_date    2:30   40.90  n/a     .000
03019>                         +     1.0 02:EXT6           .86      .074 No_date    2:21   47.74  n/a     .000
03020>                         +     1.0 02:EXT7           .47      .055 No_date    2:11   45.05  n/a     .000
03021>                       SUM=    1.0 01:J5            6.86      .462 No_date    2:26   42.04  n/a     .000
03022> R1988:C00027-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03023>      ROUTE CHANNEL    ->     1.0 02:J5            6.86      .462 No_date    2:26   42.04  n/a     .000
03024>        [RD= 1.00] out<-     1.0 01:R5            6.86      .454 No_date    2:30   42.04  n/a     .000
03025>        [L/S/n=  237./ .644/.035]
03026>        [Vmax=  .731:Dmax=  .332]
03027> R1988:C00028-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03028>      ROUTE CHANNEL    ->     1.0 02:Pre10          .80      .072 No_date    2:10   32.08  n/a     .000
03029>        [RD= 1.00] out<-     1.0 01:R6            .80      .071 No_date    2:12   32.08  n/a     .000
03030>        [L/S/n=  77./ .776/.035]
03031>        [Vmax=  .492:Dmax=  .053]
03032> R1988:C00029-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03033>      ROUTE CHANNEL    ->     1.0 02:Pre9           .83      .043 No_date    2:27   32.08  n/a     .000
03034>        [RD= 1.00] out<-     1.0 01:R7            .83      .043 No_date    2:30   32.08  n/a     .000
03035>        [L/S/n=  159./1.576/.035]
03036>        [Vmax=  .797:Dmax=  .013]
03037> R1988:C00030-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03038>      ADD HYD                  1.0 02:R6            .80      .071 No_date    2:12   32.23  n/a     .000
03039>                         +     1.0 02:EXT10          .20      .014 No_date    2:16   32.08  n/a     .000
03040>                         +     1.0 02:Pre11          .07      .009 No_date    2:06   39.06  n/a     .000
03041>                         +     1.0 02:EXT9a          .01      .003 No_date    2:00   39.05  n/a     .000
03042>                       SUM=    1.0 01:J6            1.09      .093 No_date    2:12   32.70  n/a     .000
03043> R1988:C00031-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03044>      ROUTE CHANNEL    ->     1.0 02:J6            1.09      .093 No_date    2:12   32.70  n/a     .000
03045>        [RD= 1.00] out<-     1.0 01:R8            1.09      .091 No_date    2:15   32.70  n/a     .000
03046>        [L/S/n=  79./ .522/.035]
03047>        [Vmax=  .423:Dmax=  .068]
03048> R1988:C00032-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03049>      ADD HYD                  1.0 02:R8            1.09      .091 No_date    2:15   32.71  n/a     .000
03050>                         +     1.0 02:R7             .83      .043 No_date    2:30   32.10  n/a     .000
03051>                       SUM=    1.0 01:J7            1.92      .127 No_date    2:17   32.45  n/a     .000
03052> R1988:C00033-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03053>      ROUTE CHANNEL    ->     1.0 02:J7            1.92      .127 No_date    2:17   32.45  n/a     .000
03054>        [RD= 1.00] out<-     1.0 01:R9            1.92      .127 No_date    2:18   32.45  n/a     .000
03055>        [L/S/n=  29./ .887/.035]
03056>        [Vmax=  .543:Dmax=  .086]
03057> R1988:C00034-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03058>      ADD HYD                  1.0 02:EXT9          3.57     .266 No_date    2:18   36.92  n/a     .000
03059>                         +     1.0 02:R9            1.92      .127 No_date    2:18   32.45  n/a     .000
03060>                         +     1.0 02:EXT8           .83      .074 No_date    2:15   40.18  n/a     .000
03061>                         +     1.0 02:R5            6.86      .454 No_date    2:30   42.04  n/a     .000
03062>                       SUM=    1.0 01:J8            13.18     .888 No_date    2:23   39.14  n/a     .000
03063> R1988:C00035-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03064>      ROUTE PIPE       ->     1.0 02:J8            13.18     .888 No_date    2:23   39.14  n/a     .000
03065> *    [RD= 1.00] out<-     1.0 01:Outlet          13.18     .888 No_date    2:24   39.14  n/a     .000
03066>        [L/S/n=   8./ .010/.013]
03067>        [Vmax=  .483:Dmax= 1.341]
03068>        [Din=  .53:Dused= 1.63)
03069> ##########################################################################
03070> # STORMS
03071> ##########################################################################
03072>  ** END OF RUN : 1995
03073>
03074> *************************************************************************************************
03075>
03076>
03077>
03078>
03079>
03080>  RUN#:COMMAND#
03081> R1996:C00001-------------------------------------------------------------------------------------
03082>      START
03083>        [TZERO =    .00 hrs on        0]
03084>        [METOUT=   2    (1=imperial, 2=metric output)]
03085>        [NSTORM=   1 ]
03086>        [NRUN  = 1996 ]
03087> #*************************************************************************************************
03088> #  SWMHYMO  / INPUT DATA FILE
03089> #*************************************************************************************************
03090> #  Project Name  : [5923 Ottawa St]
03091> #  Project Number: [P2710(e01)]
03092> #  Date          : [2025 FEB 05]
03093> #  Modeller      : [MM]
03094> #  Company       : JFSA Canada Inc.
03095> #  License #     : 2549237
03096> #*************************************************************************************************
03097> # Model developed to simulate runoff from subcatchments under pre development conditions
03098> #*************************************************************************************************
03099> R1996:C00002-------------------------------------------------------------------------------------
03100>      READ STORM
03101>        Filename = STORM.001
03102>        Comment  = August 8th, 1996 Storm (5H+) - Ottawa International Airport step 5
03103>        [SDT= 5.00:SDUR=   5.75:PTOT=  73.90]
03104> #*************************************************************************************************
03105> # EXT1
03106> #*************************************************************************************************
03107> R1996:C00003-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03108>      CALIB NASHYD             1.0 01:EXT1           3.21     .134 No_date    3:49   36.11 .489     .000
03109>        [CN= 80.0: N= 3.00: Tp=  .72]
03110> #*************************************************************************************************
03111> # EXT2
03112> #*************************************************************************************************
03113> R1996:C00004-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03114>      CALIB NASHYD             1.0 01:EXT2           .28      .023 No_date    3:26   42.02 .569     .000
03115>        [CN= 85.0: N= 3.00: Tp=  .33]
03116> #*************************************************************************************************
03117> # EXT3
03118> #*************************************************************************************************
03119> R1996:C00005-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03120>      CALIB NASHYD             1.0 01:EXT3           .56      .041 No_date    3:26   36.11 .489     .000
03121>        [CN= 80.0: N= 3.00: Tp=  .32]
03122> #*************************************************************************************************
03123> # EXT4
03124> #*************************************************************************************************
03125> R1996:C00006-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03126>      CALIB NASHYD             1.0 01:EXT4           .31      .023 No_date    3:24   35.05 .474     .000
03127>        [CN= 79.0: N= 3.00: Tp=  .29]
03128> #*************************************************************************************************
03129> # EXT5
03130> #*************************************************************************************************
03131> R1996:C00007-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03132>      CALIB NASHYD             1.0 01:EXT5           .59      .031 No_date    3:34   32.07 .434     .000
03133>        [CN= 76.0: N= 3.00: Tp=  .45]
03134> #*************************************************************************************************
03135> # EXT6
03136> #*************************************************************************************************
03137> R1996:C00008-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03138>      CALIB NASHYD             1.0 01:EXT6           .86      .048 No_date    3:40   42.02 .569     .000
03139>        [CN= 85.0: N= 3.00: Tp=  .56]
03140> #*************************************************************************************************
03141> # EXT7
03142> #*************************************************************************************************
03143> R1996:C00009-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03144>      CALIB NASHYD             1.0 01:EXT7           .47      .037 No_date    3:26   39.53 .535     .000
03145>        [CN= 83.0: N= 3.00: Tp=  .32]
03146> #*************************************************************************************************
03147> # EXT8
03148> #*************************************************************************************************
03149> R1996:C00010-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03150>      CALIB NASHYD             1.0 01:EXT8           .83      .049 No_date    3:32   35.05 .474     .000
03151>        [CN= 79.0: N= 3.00: Tp=  .42]
03152> #*************************************************************************************************
03153> # EXT9
03154> #*************************************************************************************************
03155> R1996:C00011-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03156>      CALIB NASHYD             1.0 01:EXT9          3.57     .177 No_date    3:36   32.07 .434     .000
03157>        [CN= 76.0: N= 3.00: Tp=  .48]
03158> #*************************************************************************************************
03159> # EXT9a
03160> #*************************************************************************************************
03161> R1996:C00012-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03162>      CALIB NASHYD             1.0 01:EXT9a          .01      .001 No_date    1:26   34.01 .460     .000
03163>        [CN= 78.0: N= 3.00: Tp=  .04]
03164> #*************************************************************************************************
03165> # EXT10
03166> #*************************************************************************************************
03167> R1996:C00013-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03168>      CALIB NASHYD             1.0 01:EXT10          .20      .010 No_date    3:32   27.70 .375     .000
03169>        [CN= 71.0: N= 3.00: Tp=  .42]
03170> #*************************************************************************************************
03171> # Pre2
03172> #*************************************************************************************************
03173> R1996:C00014-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03174>      CALIB NASHYD             1.0 01:Pre2           .57      .030 No_date    3:34   34.02 .460     .000
03175>        [CN= 78.0: N= 3.00: Tp=  .46]
03176> #*************************************************************************************************
03177> # Pre9
03178> #*************************************************************************************************
03179> R1996:C00015-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03180>      CALIB NASHYD             1.0 01:Pre9           .83      .030 No_date    3:45   27.71 .375     .000
03181>        [CN= 71.0: N= 3.00: Tp=  .64]
03182> #*************************************************************************************************
03183> # Pre10
03184> #*************************************************************************************************
03185> R1996:C00016-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03186>      CALIB NASHYD             1.0 01:Pre10          .80      .049 No_date    3:24   27.71 .375     .000
03187>        [CN= 71.0: N= 3.00: Tp=  .29]
03188> #*************************************************************************************************
03189> # Pre11
03190> #*************************************************************************************************
03191> R1996:C00017-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03192>      CALIB NASHYD             1.0 01:Pre11          .07      .006 No_date    3:19   34.01 .460     .000
03193>        [CN= 78.0: N= 3.00: Tp=  .21]
03194> #*************************************************************************************************
03195> R1996:C00018-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03196>      ADD HYD                  1.0 02:EXT2           .28      .023 No_date    3:26   42.02  n/a     .000
03197>                         +     1.0 02:Pre2           .57      .030 No_date    3:34   34.02  n/a     .000
03198>                       SUM=    1.0 01:J1             .85      .052 No_date    3:30   36.70  n/a     .000
03199> R1996:C00019-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03200>      ROUTE CHANNEL    ->     1.0 02:J1             .85      .052 No_date    3:30   36.70  n/a     .000
03201>        [RD= 1.00] out<-     1.0 01:R1             .85      .050 No_date    3:35   36.70  n/a     .000
03202>        [L/S/n=  143./ .394/.035]
03203>        [Vmax=  .354:Dmax=  .147]
03204> R1996:C00020-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03205>      ADD HYD                  1.0 02:R1             .85      .050 No_date    3:35   36.70  n/a     .000
03206>                         +     1.0 02:EXT3           .56      .041 No_date    3:26   36.11  n/a     .000
03207>                         +     1.0 02:EXT1          3.21      .134 No_date    3:49   36.11  n/a     .000
03208>                       SUM=    1.0 01:J2            4.62      .210 No_date    3:39   36.22  n/a     .000
03209> R1996:C00021-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03210>      ROUTE CHANNEL    ->     1.0 02:J2            4.62      .210 No_date    3:39   36.22  n/a     .000
03211>        [RD= 1.00] out<-     1.0 01:R2            4.62      .210 No_date    3:40   36.22  n/a     .000
03212>        [L/S/n=  73./ .425/.035]
03213>        [Vmax=  .499:Dmax=  .262]
03214> R1996:C00022-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03215>      ADD HYD                  1.0 02:R2            4.62      .210 No_date    3:40   36.22  n/a     .000
03216>                         +     1.0 02:EXT4           .31      .023 No_date    3:24   35.05  n/a     .000
03217>                       SUM=    1.0 01:J3            4.93      .226 No_date    3:38   36.14  n/a     .000
03218> R1996:C00023-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03219>      ROUTE CHANNEL    ->     1.0 02:J3            4.93      .226 No_date    3:38   36.14  n/a     .000
03220>        [RD= 1.00] out<-     1.0 01:R3            4.93      .224 No_date    3:41   36.14  n/a     .000
03221>        [L/S/n=  92./ .274/.035]
03222>        [Vmax=  .409:Dmax=  .271]
03223> R1996:C00024-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03224>      ADD HYD                  1.0 02:R3            4.93      .224 No_date    3:41   36.14  n/a     .000
03225>                         +     1.0 02:EXT5           .59      .031 No_date    3:34   32.07  n/a     .000
03226>                       SUM=    1.0 01:J4            5.52      .254 No_date    3:40   35.71  n/a     .000
03227> R1996:C00025-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03228>      ROUTE CHANNEL    ->     1.0 02:J4            5.52      .254 No_date    3:40   35.71  n/a     .000
03229>        [RD= 1.00] out<-     1.0 01:R4            5.52      .238 No_date    3:49   35.71  n/a     .000
03230>        [L/S/n=  251./ .190/.035]
03231>        [Vmax=  .401:Dmax=  .304]
03232> R1996:C00026-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03233>      ADD HYD                  1.0 02:R4            5.52      .238 No_date    3:49   35.71  n/a     .000
03234>                         +     1.0 02:EXT6           .86      .048 No_date    3:40   42.02  n/a     .000
03235>                         +     1.0 02:EXT7           .47      .037 No_date    3:26   39.53  n/a     .000
03236>                       SUM=    1.0 01:J5            6.86      .308 No_date    3:45   36.76  n/a     .000
03237> R1996:C00027-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03238>      ROUTE CHANNEL    ->     1.0 02:J5            6.86      .308 No_date    3:45   36.76  n/a     .000
03239>        [RD= 1.00] out<-     1.0 01:R5            6.86      .302 No_date    3:50   36.76  n/a     .000
03240>        [L/S/n=  237./ .644/.035]
```

```
03241>       (Vmax=  .648:Dmax=  .282)
03242> R1996:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03243>     ROUTE CHANNEL   ->     1.0 02:Pre10           .80     .049 No_date    3:24   27.71  n/a     .000
03244>       [RDT= 1.00] out<-    1.0 01:R6              .80     .049 No_date    3:27   27.71  n/a     .000
03245>        [L/S/n=   77./ .776/.035]
03246>        (Vmax=  .492:Dmax=  .036)
03247> R1996:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03248>     ROUTE CHANNEL   ->     1.0 02:Pre9            .83     .030 No_date    3:45   27.71  n/a     .000
03249>       [RDT= 1.00] out<-    1.0 01:R7              .83     .029 No_date    3:49   27.71  n/a     .000
03250>        [L/S/n=  159./1.576/.035]
03251>        (Vmax=  .797:Dmax=  .009)
03252> R1996:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03253>     ADD HYD             1.0 02:R6              .80     .049 No_date    3:27   27.79  n/a     .000
03254>                    +    1.0 02:EXT10           .20     .010 No_date    3:32   27.70  n/a     .000
03255>                    +    1.0 02:Pre11           .07     .006 No_date    3:19   34.01  n/a     .000
03256>                    +    1.0 02:EXT9a           .01     .001 No_date    1:26   34.01  n/a     .000
03257>                  SUM=   1.0 01:J6             1.09     .063 No_date    3:26   28.23  n/a     .000
03258> R1996:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03259>     ROUTE CHANNEL   ->     1.0 02:J6             1.09     .063 No_date    3:26   28.23  n/a     .000
03260>       [RDT= 1.00] out<-    1.0 01:R8             1.09     .062 No_date    3:30   28.23  n/a     .000
03261>        [L/S/n=   79./ .522/.035]
03262>        (Vmax=  .423:Dmax=  .046)
03263> R1996:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03264>     ADD HYD             1.0 02:R8             1.09     .062 No_date    3:30   28.23  n/a     .000
03265>                    +    1.0 02:R7              .83     .029 No_date    3:49   27.72  n/a     .000
03266>                  SUM=   1.0 01:J7             1.92     .087 No_date    3:33   28.01  n/a     .000
03267> R1996:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03268>     ROUTE CHANNEL   ->     1.0 02:J7             1.92     .087 No_date    3:33   28.01  n/a     .000
03269>       [RDT= 1.00] out<-    1.0 01:R9             1.92     .086 No_date    3:34   28.01  n/a     .000
03270>        [L/S/n=   29./ .887/.035]
03271>        (Vmax=  .543:Dmax=  .059)
03272> R1996:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03273>     ADD HYD             1.0 02:EXT9           3.57     .177 No_date    3:36   32.07  n/a     .000
03274>                    +    1.0 02:R9             1.92     .086 No_date    3:34   28.02  n/a     .000
03275>                    +    1.0 02:EXT8            .83     .049 No_date    3:32   35.05  n/a     .000
03276>                    +    1.0 02:R8             6.86     .302 No_date    3:50   36.76  n/a     .000
03277>                  SUM=   1.0 01:J8            13.18     .590 No_date    3:41   34.11  n/a     .000
03278> R1996:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03279>     ROUTE PIPE      ->     1.0 02:J8            13.18     .590 No_date    3:41   34.11  n/a     .000
03280> *   [RDT= 1.00] out<-    1.0 01:Outlet          13.18     .589 No_date    3:42   34.11  n/a     .000
03281>        [L/S/n=    8./ .010/.013]
03282>        (Vmax=  .436:Dmax= 1.150)
03283>        [Din=  .53:Dused= 1.40)
03284> ################################################################################
03285> # STORMS
03286> ################################################################################
03287>  ** END OF RUN : 9998
03288>
03289> ********************************************************************************************************
03290>
03291>
03292>
03293>
03294>
03295>  RUN#:COMMAND#
03296> R9999:C00001------------------------------------------------------------------------------------------------
03297>       START
03298>        [TZERO =    .00 hrs on       0]
03299>        [METOUT=   2    (1=imperial, 2=metric output)]
03300>        [NSTORM=   1 ]
03301>        [NRUN  = 9999 ]
03302> ********************************************************************************************************
03303> #  SWMHYMO  / INPUT DATA FILE
03304> ********************************************************************************************************
03305> #  Project Name  : [5923 Ottawa St]
03306> #  Project Number: [P2710(e01)]
03307> #  Date          : [2025 FEB 05]
03308> #  Modeller      : [MM]
03309> #  Company       : JFSA Canada Inc.
03310> #  License #     : 2549237
03311> ********************************************************************************************************
03312> # Model developed to simulate runoff from subcatchments under pre development conditions
03313> ********************************************************************************************************
03314> R9999:C00002------------------------------------------------------------------------------------------------
03315>       READ STORM
03316>        Filename = STORM.001
03317>        Comment  = CHICAGO STORM   100 Year, 3 Hours  +20% Stress Test
03318>        [SDT=10.00:SDUR=   3.00:PTOT=  86.00]
03319> ********************************************************************************************************
03320> # EXT1
03321> ********************************************************************************************************
03322> R9999:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03323>     CALIB NASHYD            1.0 01:EXT1           3.21     .224 No_date    1:51   45.67 .531     .000
03324>        [CN= 80.0: N= 3.00: Tp=  .72]
03325> ********************************************************************************************************
03326> # EXT2
03327> ********************************************************************************************************
03328> R9999:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03329>     CALIB NASHYD            1.0 01:EXT2           .28     .041 No_date    1:21   52.43 .610     .000
03330>        [CN= 85.0: N= 3.00: Tp=  .33]
03331> ********************************************************************************************************
03332> # EXT3
03333> ********************************************************************************************************
03334> R9999:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03335>     CALIB NASHYD            1.0 01:EXT3           .56     .070 No_date    1:21   45.67 .531     .000
03336>        [CN= 80.0: N= 3.00: Tp=  .32]
03337> ********************************************************************************************************
03338> # EXT4
03339> ********************************************************************************************************
03340> R9999:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03341>     CALIB NASHYD            1.0 01:EXT4           .31     .040 No_date    1:19   44.44 .517     .000
03342>        [CN= 79.0: N= 3.00: Tp=  .29]
03343> ********************************************************************************************************
03344> # EXT5
03345> ********************************************************************************************************
03346> R9999:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03347>     CALIB NASHYD            1.0 01:EXT5           .59     .052 No_date    1:31   40.94 .476     .000
03348>        [CN= 76.0: N= 3.00: Tp=  .45]
03349> ********************************************************************************************************
03350> # EXT6
03351> ********************************************************************************************************
03352> R9999:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03353>     CALIB NASHYD            1.0 01:EXT6           .86     .085 No_date    1:38   52.43 .610     .000
03354>        [CN= 85.0: N= 3.00: Tp=  .56]
03355> ********************************************************************************************************
03356> # EXT7
03357> ********************************************************************************************************
03358> R9999:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03359>     CALIB NASHYD            1.0 01:EXT7           .47     .064 No_date    1:21   49.60 .577     .000
03360>        [CN= 83.0: N= 3.00: Tp=  .32]
03361> ********************************************************************************************************
03362> # EXT8
03363> ********************************************************************************************************
03364> R9999:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03365>     CALIB NASHYD            1.0 01:EXT8           .83     .083 No_date    1:29   44.44 .517     .000
03366>        [CN= 79.0: N= 3.00: Tp=  .42]
03367> ********************************************************************************************************
03368> # EXT9
03369> ********************************************************************************************************
03370> R9999:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03371>     CALIB NASHYD            1.0 01:EXT9           3.57     .297 No_date    1:34   40.95 .476     .000
03372>        [CN= 76.0: N= 3.00: Tp=  .48]
03373> ********************************************************************************************************
03374> # EXT9a
03375> ********************************************************************************************************
03376> R9999:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03377>     CALIB NASHYD            1.0 01:EXT9a          .01     .004 No_date    1:00   43.23 .503     .000
03378>        [CN= 78.0: N= 3.00: Tp=  .04]
03379> ********************************************************************************************************
03380> # EXT10
03381> ********************************************************************************************************
03382> R9999:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03383>     CALIB NASHYD            1.0 01:EXT10          .20     .016 No_date    1:29   35.74 .416     .000
03384>        [CN= 71.0: N= 3.00: Tp=  .42]
03385> ********************************************************************************************************
03386> # Pre2
03387> ********************************************************************************************************
03388> R9999:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03389>     CALIB NASHYD            1.0 01:Pre2           .57     .051 No_date    1:32   43.24 .503     .000
03390>        [CN= 78.0: N= 3.00: Tp=  .46]
03391> ********************************************************************************************************
03392> # Pre9
03393> ********************************************************************************************************
03394> R9999:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03395>     CALIB NASHYD            1.0 01:Pre9           .83     .048 No_date    1:47   35.74 .416     .000
03396>        [CN= 71.0: N= 3.00: Tp=  .64]
03397> ********************************************************************************************************
03398> # Pre10
03399> ********************************************************************************************************
03400> R9999:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03401>     CALIB NASHYD            1.0 01:Pre10          .80     .081 No_date    1:19   35.74 .416     .000
03402>        [CN= 71.0: N= 3.00: Tp=  .29]
03403> ********************************************************************************************************
03404> # Pre11
03405> ********************************************************************************************************
03406> R9999:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03407>     CALIB NASHYD            1.0 01:Pre11          .07     .011 No_date    1:13   43.23 .503     .000
03408>        [CN= 78.0: N= 3.00: Tp=  .21]
03409> ********************************************************************************************************
03410> R9999:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03411>     ADD HYD             1.0 02:EXT2           .28     .041 No_date    1:21   52.43  n/a     .000
03412>                    +    1.0 02:Pre2           .57     .051 No_date    1:32   43.24  n/a     .000
03413>                  SUM=   1.0 01:J1             .85     .090 No_date    1:26   46.32  n/a     .000
03414> R9999:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03415>     ROUTE CHANNEL   ->     1.0 02:J1             .85     .090 No_date    1:26   46.32  n/a     .000
03416>       [RDT= 1.00] out<-    1.0 01:R1             .85     .087 No_date    1:32   46.32  n/a     .000
03417>        [L/S/n=  143./ .394/.035]
03418>        (Vmax=  .410:Dmax=  .185)
03419> R9999:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03420>     ADD HYD             1.0 02:R1             .85     .087 No_date    1:32   46.32  n/a     .000
03421>                    +    1.0 02:EXT3           .56     .070 No_date    1:21   45.67  n/a     .000
03422>                    +    1.0 02:EXT1          3.21     .224 No_date    1:51   45.67  n/a     .000
03423>                  SUM=   1.0 01:J2            4.62     .346 No_date    1:39   45.79  n/a     .000
03424> R9999:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03425>     ROUTE CHANNEL   ->     1.0 02:J2            4.62     .346 No_date    1:39   45.79  n/a     .000
03426>       [RDT= 1.00] out<-    1.0 01:R2            4.62     .346 No_date    1:40   45.79  n/a     .000
03427>        [L/S/n=   73./ .425/.035]
03428>        (Vmax=  .568:Dmax=  .320)
03429> R9999:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03430>     ADD HYD             1.0 02:R2            4.62     .346 No_date    1:40   45.79  n/a     .000
03431>                    +    1.0 02:EXT4           .31     .040 No_date    1:19   44.44  n/a     .000
03432>                  SUM=   1.0 01:J3            4.93     .372 No_date    1:38   45.70  n/a     .000
03433> R9999:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03434>     ROUTE CHANNEL   ->     1.0 02:J3            4.93     .372 No_date    1:38   45.70  n/a     .000
03435>       [RDT= 1.00] out<-    1.0 01:R3            4.93     .369 No_date    1:40   45.70  n/a     .000
03436>        [L/S/n=   92./ .274/.035]
03437>        (Vmax=  .465:Dmax=  .330)
03438> R9999:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03439>     ADD HYD             1.0 02:R3            4.93     .369 No_date    1:40   45.70  n/a     .000
03440>                    +    1.0 02:EXT5           .59     .052 No_date    1:31   40.94  n/a     .000
03441>                  SUM=   1.0 01:J4            5.52     .419 No_date    1:39   45.19  n/a     .000
03442> R9999:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03443>     ROUTE CHANNEL   ->     1.0 02:J4            5.52     .419 No_date    1:39   45.19  n/a     .000
03444>       [RDT= 1.00] out<-    1.0 01:R4            5.52     .399 No_date    1:48   45.19  n/a     .000
03445>        [L/S/n=  251./ .190/.035]
03446>        (Vmax=  .463:Dmax=  .380)
03447> R9999:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03448>     ADD HYD             1.0 02:R4            5.52     .399 No_date    1:48   45.19  n/a     .000
03449>                    +    1.0 02:EXT6           .86     .085 No_date    1:38   52.43  n/a     .000
03450>                    +    1.0 02:EXT7           .47     .064 No_date    1:21   49.60  n/a     .000
03451>                  SUM=   1.0 01:J5            6.86     .519 No_date    1:44   46.41  n/a     .000
03452> R9999:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03453>     ROUTE CHANNEL   ->     1.0 02:J5            6.86     .519 No_date    1:44   46.41  n/a     .000
03454>       [RDT= 1.00] out<-    1.0 01:R5            6.86     .513 No_date    1:49   46.41  n/a     .000
03455>        [L/S/n=  237./ .644/.035]
03456>        (Vmax=  .757:Dmax=  .348)
03457> R9999:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03458>     ROUTE CHANNEL   ->     1.0 02:Pre10          .80     .081 No_date    1:19   35.74  n/a     .000
03459>       [RDT= 1.00] out<-    1.0 01:R6            .80     .080 No_date    1:22   35.74  n/a     .000
03460>        [L/S/n=   77./ .776/.035]
03461>        (Vmax=  .492:Dmax=  .059)
03462> R9999:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03463>     ROUTE CHANNEL   ->     1.0 02:Pre9           .83     .048 No_date    1:47   35.74  n/a     .000
03464>       [RDT= 1.00] out<-    1.0 01:R7            .83     .048 No_date    1:50   35.74  n/a     .000
03465>        [L/S/n=  159./1.576/.035]
03466>        (Vmax=  .797:Dmax=  .014)
03467> R9999:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03468>     ADD HYD             1.0 02:R6            .80     .080 No_date    1:22   36.02  n/a     .000
03469>                    +    1.0 02:EXT10          .20     .016 No_date    1:29   35.74  n/a     .000
03470>                    +    1.0 02:Pre11          .07     .011 No_date    1:13   43.23  n/a     .000
03471>                    +    1.0 02:EXT9a          .01     .004 No_date    1:00   43.23  n/a     .000
03472>                  SUM=   1.0 01:J6            1.09     .104 No_date    1:22   36.50  n/a     .000
03473> R9999:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03474>     ROUTE CHANNEL   ->     1.0 02:J6            1.09     .104 No_date    1:22   36.50  n/a     .000
03475>       [RDT= 1.00] out<-    1.0 01:R8            1.09     .102 No_date    1:25   36.50  n/a     .000
03476>        [L/S/n=   79./ .522/.035]
03477>        (Vmax=  .423:Dmax=  .076)
03478> R9999:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03479>     ADD HYD             1.0 02:R8            1.09     .102 No_date    1:25   36.50  n/a     .000
03480>                    +    1.0 02:R7             .83     .048 No_date    1:50   35.77  n/a     .000
03481>                  SUM=   1.0 01:J7            1.92     .139 No_date    1:30   36.18  n/a     .000
03482> R9999:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03483>     ROUTE CHANNEL   ->     1.0 02:J7            1.92     .139 No_date    1:30   36.18  n/a     .000
03484>       [RDT= 1.00] out<-    1.0 01:R9            1.92     .138 No_date    1:31   36.18  n/a     .000
03485>        [L/S/n=   29./ .887/.035]
03486>        (Vmax=  .543:Dmax=  .094)
03487> R9999:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03488>     ADD HYD             1.0 02:EXT9          3.57     .297 No_date    1:34   40.95  n/a     .000
03489>                    +    1.0 02:R9            1.92     .138 No_date    1:31   36.20  n/a     .000
03490>                    +    1.0 02:EXT8           .83     .083 No_date    1:29   44.44  n/a     .000
03491>                    +    1.0 02:R5            6.86     .513 No_date    1:49   46.41  n/a     .000
03492>                  SUM=   1.0 01:J8           13.18     .989 No_date    1:41   43.32  n/a     .000
03493> R9999:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03494>     ROUTE PIPE      ->     1.0 02:J8           13.18     .989 No_date    1:41   43.32  n/a     .000
03495> *   [RDT= 1.00] out<-    1.0 01:Outlet         13.18     .989 No_date    1:41   43.32  n/a     .000
03496>        [L/S/n=    8./ .010/.013]
03497>        (Vmax=  .496:Dmax= 1.396)
03498>        [Din=  .53:Dused= 1.70)
03499> ################################################################################
03500> # STORMS
03501> ################################################################################
03502> R9999:C00002------------------------------------------------------------------------------------------------
03503>       FINISH
03504> ------------------------------------------------------------------------------------------------------------
03505> ********************************************************************************************************
03506>       WARNINGS / ERRORS / NOTES
03507>       -------------------------
03508> R0002:C00035  ROUTE PIPE      ->
03509> *** WARNING: New pipe size used for routing.
03510> *** WARNING: New pipe size used for routing.
03511> *** WARNING: New pipe size used for routing.
03512> *** WARNING: New pipe size used for routing.
03513> *** WARNING: New pipe size used for routing.
03514> *** WARNING: New pipe size used for routing.
03515> *** WARNING: New pipe size used for routing.
03516> *** WARNING: New pipe size used for routing.
03517> *** WARNING: New pipe size used for routing.
03518> *** WARNING: New pipe size used for routing.
03519> *** WARNING: New pipe size used for routing.
03520> *** WARNING: New pipe size used for routing.
03521> *** WARNING: New pipe size used for routing.
03522> *** WARNING: New pipe size used for routing.
03523> *** WARNING: New pipe size used for routing.
03524> *** WARNING: New pipe size used for routing.
03525>    Simulation ended on 2026-03-27    at 11:21:11
03526> ============================================================================================================
03527>
```

Attachment B

Post-Development Hydrology



N

Legend

- Post-development Subcatchments
- Site Plan

EXT1
3.212 ha — Subcatchment Name / Subcatchment Area (ha)

SCALE: 1:3000

0 50 100 150 m

JFSA CANADA INC
WATER RESOURCE ENGINEERING, ENVIRONMENTAL MANAGEMENT AND LAND PLANNING CONSULTANTS

egis

5923 Ottawa St – Richmond

Figure B1: Proposed Drainage Areas

PROJECT	P2710(e01)
DRAWN	MM
DATE	04-06-2025

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Table B1 - Site 1 - Stage/Storage/Outflow Curves

					Quality Control 1		Overflow			
					Vertical Orifice		Broad Crested Weir			
					Dia (m)	0.075	L (m)	0.300		
					Area (m^2)	0.006				
					Invert (m)	93.84	C_w	1.580		
					C_o	0.61	Invert (m)	94.40		
					Q @ D	0.002	n contr.	2	Total	
Elevation (m)	Storage 1 (m^3)	Storage 2 (m^3)	Total Volume (m^3)	Demarcation Points	Depth (m)	Outflow (m^3/s)	Depth (m)	Outflow (m^3/s)	Outflow (m^3/s)	Storage (ha·m)
93.84		**0.0**	**0.0**	**Pond Bottom**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
93.85		0.0	0.0		0.010	0.000	0.000	0.000	0.000	0.000
93.86		0.0	0.0		0.020	0.001	0.000	0.000	0.001	0.000
93.87		0.2	0.2		0.030	0.001	0.000	0.000	0.001	0.000
93.88		0.3	0.3		0.040	0.001	0.000	0.000	0.001	0.000
93.89		0.6	0.6		0.050	0.002	0.000	0.000	0.002	0.000
93.90		0.9	0.9		0.060	0.002	0.000	0.000	0.002	0.000
93.91		1.4	1.4		0.070	0.002	0.000	0.000	0.002	0.000
93.92		1.9	1.9		0.080	0.002	0.000	0.000	0.002	0.000
93.93		2.5	2.5		0.090	0.003	0.000	0.000	0.003	0.000
93.94		3.2	3.2		0.100	0.003	0.000	0.000	0.003	0.000
93.95		4.0	4.0		0.110	0.003	0.000	0.000	0.003	0.000
93.96		4.9	4.9		0.120	0.003	0.000	0.000	0.003	0.000
93.97		5.9	5.9		0.130	0.004	0.000	0.000	0.004	0.001
93.98		6.9	6.9		0.140	0.004	0.000	0.000	0.004	0.001
93.99		8.1	8.1		0.150	0.004	0.000	0.000	0.004	0.001
94.00		9.3	9.3		0.160	0.004	0.000	0.000	0.004	0.001
94.01	0.00	10.6	10.6		0.170	0.004	0.000	0.000	0.004	0.001
94.02	0.01	12.0	12.1		0.180	0.005	0.000	0.000	0.005	0.001
94.03	0.07	13.6	13.6		0.190	0.005	0.000	0.000	0.005	0.001
94.04	0.22	15.2	15.4		0.200	0.005	0.000	0.000	0.005	0.002
94.05	0.47	16.9	17.3		0.210	0.005	0.000	0.000	0.005	0.002
94.06	0.84	18.7	19.5		0.220	0.005	0.000	0.000	0.005	0.002
94.07	1.33	20.5	21.9		0.230	0.005	0.000	0.000	0.005	0.002
94.08	1.92	22.5	24.5		0.240	0.005	0.000	0.000	0.005	0.002
94.09	2.61	24.6	27.2		0.250	0.006	0.000	0.000	0.006	0.003
94.10	3.40	26.8	30.2		0.260	0.006	0.000	0.000	0.006	0.003
94.11	4.29	29.1	33.4		0.270	0.006	0.000	0.000	0.006	0.003
94.12	4.78	31.5	36.3		0.280	0.006	0.000	0.000	0.006	0.004
94.13	5.81	34.0	39.8		0.290	0.006	0.000	0.000	0.006	0.004
94.14	7.03	36.6	43.7		0.300	0.006	0.000	0.000	0.006	0.004
94.15	8.37	39.3	47.7		0.310	0.006	0.000	0.000	0.006	0.005
94.16	9.84	42.0	51.9		0.320	0.006	0.000	0.000	0.006	0.005
94.17	11.35	44.8	56.2		0.330	0.006	0.000	0.000	0.006	0.006
94.18	12.18	47.6	59.8		0.340	0.007	0.000	0.000	0.007	0.006
94.19	14.01	50.5	64.5		0.350	0.007	0.000	0.000	0.007	0.006
94.20	15.95	53.3	69.3		0.360	0.007	0.000	0.000	0.007	0.007
94.21	17.98	56.3	74.2		0.370	0.007	0.000	0.000	0.007	0.007
94.22	20.07	59.2	79.3		0.380	0.007	0.000	0.000	0.007	0.008
94.23	22.21	62.2	84.4		0.390	0.007	0.000	0.000	0.007	0.008
94.24	24.38	65.1	89.5		0.400	0.007	0.000	0.000	0.007	0.009
94.25	26.57	68.2	94.7		0.410	0.007	0.000	0.000	0.007	0.009
94.26	28.78	71.2	100.0		0.420	0.007	0.000	0.000	0.007	0.010
94.27	31.02	74.3	105.3		0.430	0.007	0.000	0.000	0.007	0.011
94.28	33.28	77.4	110.7		0.440	0.008	0.000	0.000	0.008	0.011
94.29	35.57	80.5	116.1		0.450	0.008	0.000	0.000	0.008	0.012
94.30	37.88	83.7	121.6		0.460	0.008	0.000	0.000	0.008	0.012
94.31	40.22	86.9	127.1		0.470	0.008	0.000	0.000	0.008	0.013
94.32	42.58	90.1	132.7		0.480	0.008	0.000	0.000	0.008	0.013
94.33	44.97	93.4	138.3		0.490	0.008	0.000	0.000	0.008	0.014
94.34	47.38	96.7	144.1		0.500	0.008	0.000	0.000	0.008	0.014
94.35	49.82	100.0	149.8		0.510	0.008	0.000	0.000	0.008	0.015
94.36	52.28	103.4	155.7		0.520	0.008	0.000	0.000	0.008	0.016
94.37	54.76	106.8	161.5		0.530	0.008	0.000	0.000	0.008	0.016
94.38	57.27	110.2	167.5		0.540	0.008	0.000	0.000	0.008	0.017
94.39	59.81	113.7	173.5		0.550	0.009	0.000	0.000	0.009	0.017
94.40	**62.37**	**117.2**	**179.6**	**Max100-Yr WSE***	**0.560**	**0.009**	**0.000**	**0.000**	**0.009**	**0.018**
94.41	64.96	120.8	185.7		0.570	0.009	0.010	0.000	0.009	0.019
94.42	67.57	124.4	191.9		0.580	0.009	0.020	0.001	0.010	0.019
94.43	70.20	128.0	198.2		0.590	0.009	0.030	0.002	0.011	0.020
94.44	72.87	131.7	204.5		0.600	0.009	0.040	0.004	0.013	0.020
94.45	75.55	135.4	210.9		0.610	0.009	0.050	0.005	0.014	0.021
94.46	78.27	139.1	217.4		0.620	0.009	0.060	0.007	0.016	0.022
94.47	81.00	142.9	223.9		0.630	0.009	0.070	0.008	0.018	0.022
94.48	83.77	146.8	230.5		0.640	0.009	0.080	0.010	0.019	0.023
94.49	86.56	150.7	237.2		0.650	0.009	0.090	0.012	0.021	0.024
94.50	89.37	154.6	244.0		0.660	0.009	0.100	0.014	0.023	0.024
94.51	92.21	158.6	250.8		0.670	0.009	0.110	0.016	0.026	0.025
94.52	95.08	162.6	257.7		0.680	0.010	0.120	0.018	0.028	0.026
94.53	97.97	166.7	264.6		0.690	0.010	0.130	0.020	0.030	0.026
94.54	100.89	170.8	271.7		0.700	0.010	0.140	0.023	0.032	0.027
94.55	103.84	175.0	278.8		0.710	0.010	0.150	0.025	0.035	0.028
94.56	106.81	179.2	286.0		0.720	0.010	0.160	0.027	0.037	0.029
94.57	109.80	183.5	293.3		0.730	0.010	0.170	0.029	0.039	0.029
94.58	112.83	187.8	300.6		0.740	0.010	0.180	0.032	0.042	0.030
94.59	115.87	192.2	308.0		0.750	0.010	0.190	0.034	0.044	0.031
94.60	118.95	196.6	315.5		0.760	0.010	0.200	0.037	0.047	0.032
94.61	120.14	201.1	321.2		0.770	0.010	0.210	0.039	0.049	0.032
94.62	121.36	205.6	327.0		0.780	0.010	0.220	0.042	0.052	0.033
94.63	124.56	210.2	334.8		0.790	0.010	0.230	0.044	0.055	0.033
94.64	125.78	214.9	340.6		0.800	0.010	0.240	0.047	0.057	0.034
94.65	125.81	219.6	345.4		0.810	0.010	0.250	0.049	0.060	0.035
94.66	126.99	224.3	351.3		0.820	0.011	0.260	0.052	0.063	0.035
94.67	128.16	229.2	357.3		0.830	0.011	0.270	0.055	0.065	0.036
94.68	131.44	234.1	365.5		0.840	0.011	0.280	0.057	0.068	0.037
94.69	132.60	239.0	371.6		0.850	0.011	0.290	0.060	0.070	0.037
94.70	132.61	244.0	376.6	**Pond Top**	0.860	0.011	0.300	0.062	0.073	0.038

*Maximum allowable 100-year water level in the pond - not the simulated 100 year water level

Table B2 - Site 2 - Stage/Storage/Outflow Curves

					Quality Control 1		Emergency Overflow			
					Vertical Orifice		Broad Crested Weir			
					Dia (m)	0.075	L (m)	0.300		
					Area (m^2)	0.006				
					Invert (m)	93.71	C_w	1.580		
					C_o	0.61	Invert (m)	94.40		
					Q @ D	0.002	n contr.	2	Total	
Elevation (m)	Storage 3 (m^3)	Storage 4 (m^3)	Total Volume (m^3)	Demarcation Points	Depth (m)	Outflow (m^3/s)	Depth (m)	Outflow (m^3/s)	Outflow (m^3/s)	Storage (ha·m)
93.71		**0.0**	**0.0**	**Pond Bottom**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
93.72		0.0	0.0		0.010	0.000	0.000	0.000	0.000	0.000
93.73		0.0	0.0		0.020	0.001	0.000	0.000	0.001	0.000
93.74		0.1	0.1		0.030	0.001	0.000	0.000	0.001	0.000
93.75		0.3	0.3		0.040	0.001	0.000	0.000	0.001	0.000
93.76		0.6	0.6		0.050	0.002	0.000	0.000	0.002	0.000
93.77		1.0	1.0		0.060	0.002	0.000	0.000	0.002	0.000
93.78		1.6	1.6		0.070	0.002	0.000	0.000	0.002	0.000
93.79		2.4	2.4		0.080	0.002	0.000	0.000	0.002	0.000
93.80		3.3	3.3		0.090	0.003	0.000	0.000	0.003	0.000
93.81		4.3	4.3		0.100	0.003	0.000	0.000	0.003	0.000
93.82		5.4	5.4		0.110	0.003	0.000	0.000	0.003	0.001
93.83		6.6	6.6		0.120	0.003	0.000	0.000	0.003	0.001
93.84		7.8	7.8		0.130	0.004	0.000	0.000	0.004	0.001
93.85		9.0	9.0		0.140	0.004	0.000	0.000	0.004	0.001
93.86		10.2	10.2		0.150	0.004	0.000	0.000	0.004	0.001
93.87		11.5	11.5		0.160	0.004	0.000	0.000	0.004	0.001
93.88		12.7	12.7		0.170	0.004	0.000	0.000	0.004	0.001
93.89		14.0	14.0		0.180	0.005	0.000	0.000	0.005	0.001
93.90		15.3	15.3		0.190	0.005	0.000	0.000	0.005	0.002
93.91		16.6	16.6		0.200	0.005	0.000	0.000	0.005	0.002
93.92		17.9	17.9		0.210	0.005	0.000	0.000	0.005	0.002
93.93		19.2	19.2		0.220	0.005	0.000	0.000	0.005	0.002
93.94		20.5	20.5		0.230	0.005	0.000	0.000	0.005	0.002
93.95		21.9	21.9		0.240	0.005	0.000	0.000	0.005	0.002
93.96		23.3	23.3		0.250	0.006	0.000	0.000	0.006	0.002
93.97		24.7	24.7		0.260	0.006	0.000	0.000	0.006	0.002
93.98		26.1	26.1		0.270	0.006	0.000	0.000	0.006	0.003
93.99		27.5	27.5		0.280	0.006	0.000	0.000	0.006	0.003
94.00		28.9	28.9		0.290	0.006	0.000	0.000	0.006	0.003
94.01		30.4	30.4		0.300	0.006	0.000	0.000	0.006	0.003
94.02		31.9	31.9		0.310	0.006	0.000	0.000	0.006	0.003
94.03		33.4	33.4		0.320	0.006	0.000	0.000	0.006	0.003
94.04	0.0	34.9	34.9		0.330	0.006	0.000	0.000	0.006	0.003
94.05	0.1	36.5	36.6		0.340	0.007	0.000	0.000	0.007	0.004
94.06	0.4	38.1	38.4		0.350	0.007	0.000	0.000	0.007	0.004
94.07	0.8	39.7	40.4		0.360	0.007	0.000	0.000	0.007	0.004
94.08	1.3	41.3	42.5		0.370	0.007	0.000	0.000	0.007	0.004
94.09	1.8	42.9	44.7		0.380	0.007	0.000	0.000	0.007	0.004
94.10	2.5	44.6	47.1		0.390	0.007	0.000	0.000	0.007	0.005
94.11	3.3	46.3	49.5		0.400	0.007	0.000	0.000	0.007	0.005
94.12	4.1	48.0	52.1		0.410	0.007	0.000	0.000	0.007	0.005
94.13	4.5	49.8	54.3		0.420	0.007	0.000	0.000	0.007	0.005
94.14	5.6	51.5	57.1		0.430	0.007	0.000	0.000	0.007	0.006
94.15	6.7	53.3	60.1		0.440	0.008	0.000	0.000	0.008	0.006
94.16	8.0	55.2	63.2		0.450	0.008	0.000	0.000	0.008	0.006
94.17	8.5	57.0	65.5		0.460	0.008	0.000	0.000	0.008	0.007
94.18	10.0	58.9	68.9		0.470	0.008	0.000	0.000	0.008	0.007
94.19	11.6	60.8	72.4		0.480	0.008	0.000	0.000	0.008	0.007
94.20	13.3	62.8	76.1		0.490	0.008	0.000	0.000	0.008	0.008
94.21	15.1	64.8	79.9		0.500	0.008	0.000	0.000	0.008	0.008
94.22	17.0	66.8	83.8		0.510	0.008	0.000	0.000	0.008	0.008
94.23	19.1	68.8	87.9		0.520	0.008	0.000	0.000	0.008	0.009
94.24	21.1	70.9	92.0		0.530	0.008	0.000	0.000	0.008	0.009
94.25	23.2	73.0	96.3		0.540	0.008	0.000	0.000	0.008	0.010
94.26	25.4	75.2	100.5		0.550	0.009	0.000	0.000	0.009	0.010
94.27	27.5	77.3	104.9		0.560	0.009	0.000	0.000	0.009	0.010
94.28	29.7	79.6	109.3		0.570	0.009	0.000	0.000	0.009	0.011
94.29	31.9	81.8	113.7		0.580	0.009	0.000	0.000	0.009	0.011
94.30	34.1	84.1	118.2		0.590	0.009	0.000	0.000	0.009	0.012
94.31	36.4	86.4	122.8		0.600	0.009	0.000	0.000	0.009	0.012
94.32	38.7	88.8	127.4		0.610	0.009	0.000	0.000	0.009	0.013
94.33	41.0	91.2	132.2		0.620	0.009	0.000	0.000	0.009	0.013
94.34	43.3	93.6	136.9		0.630	0.009	0.000	0.000	0.009	0.014
94.35	45.7	96.1	141.8		0.640	0.009	0.000	0.000	0.009	0.014
94.36	48.1	98.6	146.7		0.650	0.009	0.000	0.000	0.009	0.015
94.37	50.5	101.2	151.7		0.660	0.009	0.000	0.000	0.009	0.015
94.38	52.9	103.8	156.7		0.670	0.009	0.000	0.000	0.009	0.016
94.39	55.4	106.5	161.9		0.680	0.010	0.000	0.000	0.010	0.016
94.40	**57.9**	**109.2**	**167.1**	**Max 100-Yr WSE***	**0.690**	**0.010**	**0.000**	**0.000**	**0.010**	**0.017**
94.41	60.4	112.0	172.4		0.700	0.010	0.010	0.000	0.010	0.017
94.42	62.9	114.8	177.8		0.710	0.010	0.020	0.001	0.011	0.018
94.43	65.5	117.7	183.2		0.720	0.010	0.030	0.002	0.012	0.018
94.44	68.1	119.9	188.0		0.730	0.010	0.040	0.004	0.014	0.019
94.46	73.4	123.9	197.3		0.750	0.010	0.060	0.007	0.017	0.020
94.48	78.8	127.6	206.4		0.770	0.010	0.080	0.010	0.020	0.021
94.50	84.3	131.3	215.6		0.790	0.010	0.100	0.014	0.024	0.022
94.52	89.9	134.8	224.6		0.810	0.010	0.120	0.018	0.029	0.022
94.54	95.6	137.6	233.3		0.830	0.011	0.140	0.023	0.033	0.023
94.56	101.4	138.5	239.9		0.850	0.011	0.160	0.027	0.038	0.024
94.58	107.4	140.7	248.1		0.870	0.011	0.180	0.032	0.043	0.025
94.60	113.4	143.7	257.1		0.890	0.011	0.200	0.037	0.048	0.026
94.62	115.8	146.0	261.8		0.910	0.011	0.220	0.042	0.053	0.026
94.64	120.2	149.7	269.9		0.930	0.011	0.240	0.047	0.058	0.027
94.66	121.4	152.7	274.1		0.950	0.011	0.260	0.052	0.063	0.027
94.68	125.8	155.8	281.6		0.970	0.012	0.280	0.057	0.069	0.028
94.70	127.0	158.0	285.0	**Pond Top**	0.990	0.012	0.300	0.062	0.074	0.028

*Maximum allowable 100-year water level in the pond

Table B3: Rooftop Storage-Outflow Curve for Site 1 Facility (Free Outfall Conditions)

Usable Roof Area (m^2)	488				
Type of Control Device	Watts Drainage - Accutrol Weir				
Number of drains	4				
Storage Depth	Individual flow	Cumulative Flow	Volume	Outflow	Storage
(mm)	(L/s)	(L/S)	(m^3)	(m^3/s)	(ha·m)
0	0	0	0.000	**0.00000**	**0.00000**
5	0.06	0.25	0.810	**0.00025**	**0.00008**
10	0.13	0.5	1.630	**0.00050**	**0.00016**
15	0.19	0.76	2.440	**0.00076**	**0.00024**
20	0.25	1.01	3.260	**0.00101**	**0.00033**
25	0.32	1.26	4.070	**0.00126**	**0.00041**
30	0.38	1.51	4.880	**0.00151**	**0.00049**
35	0.44	1.77	5.700	**0.00177**	**0.00057**
40	0.5	2.02	6.510	**0.00202**	**0.00065**
45	0.57	2.27	7.330	**0.00227**	**0.00073**
50	0.63	2.52	8.140	**0.00252**	**0.00081**
55	0.69	2.78	8.960	**0.00278**	**0.00090**
60	0.76	3.03	9.770	**0.00303**	**0.00098**
65	0.82	3.28	10.580	**0.00328**	**0.00106**
70	0.88	3.53	11.400	**0.00353**	**0.00114**
75	0.95	3.79	12.210	**0.00379**	**0.00122**
80	1.01	4.04	13.030	**0.00404**	**0.00130**
85	1.07	4.29	13.840	**0.00429**	**0.00138**
90	1.14	4.54	14.650	**0.00454**	**0.00147**
95	1.2	4.79	15.470	**0.00479**	**0.00155**
100	1.26	5.05	16.280	**0.00505**	**0.00163**
105	1.32	5.3	17.100	**0.00530**	**0.00171**
110	1.39	5.55	17.910	**0.00555**	**0.00179**
115	1.45	5.8	18.730	**0.00580**	**0.00187**
120	1.51	6.06	19.540	**0.00606**	**0.00195**
125	1.58	6.31	20.350	**0.00631**	**0.00204**
130	1.64	6.56	21.170	**0.00656**	**0.00212**
135	1.7	6.81	21.980	**0.00681**	**0.00220**
140	1.77	7.07	22.800	**0.00707**	**0.00228**
145	1.83	7.32	23.610	**0.00732**	**0.00236**
150	1.89	7.57	24.420	**0.00757**	**0.00244**

Table B4: Rooftop Storage-Outflow Curve for Site 2 Facility (Free Outfall Conditions)

Usable Roof Area (m^2)	694				
Type of Control Device	Watts Drainage - Accutrol Weir				
Number of drains	6				
Storage Depth	Individual flow	Cumulative Flow	Volume	Outflow	Storage
(mm)	(L/s)	(L/S)	(m^3)	(m^3/s)	(ha·m)
0	0	0	0.000	**0.00000**	**0.0000**
5	0.06	0.38	1.160	**0.00038**	**0.0001**
10	0.13	0.76	2.310	**0.00076**	**0.0002**
15	0.19	1.14	3.470	**0.00114**	**0.0003**
20	0.25	1.51	4.630	**0.00151**	**0.0005**
25	0.32	1.89	5.790	**0.00189**	**0.0006**
30	0.38	2.27	6.940	**0.00227**	**0.0007**
35	0.44	2.65	8.100	**0.00265**	**0.0008**
40	0.5	3.03	9.260	**0.00303**	**0.0009**
45	0.57	3.41	10.410	**0.00341**	**0.0010**
50	0.63	3.79	11.570	**0.00379**	**0.0012**
55	0.69	4.16	12.730	**0.00416**	**0.0013**
60	0.76	4.54	13.880	**0.00454**	**0.0014**
65	0.82	4.92	15.040	**0.00492**	**0.0015**
70	0.88	5.3	16.200	**0.00530**	**0.0016**
75	0.95	5.68	17.360	**0.00568**	**0.0017**
80	1.01	6.06	18.510	**0.00606**	**0.0019**
85	1.07	6.44	19.670	**0.00644**	**0.0020**
90	1.14	6.81	20.830	**0.00681**	**0.0021**
95	1.2	7.19	21.980	**0.00719**	**0.0022**
100	1.26	7.57	23.140	**0.00757**	**0.0023**
105	1.32	7.95	24.300	**0.00795**	**0.0024**
110	1.39	8.33	25.450	**0.00833**	**0.0025**
115	1.45	8.71	26.610	**0.00871**	**0.0027**
120	1.51	9.08	27.770	**0.00908**	**0.0028**
125	1.58	9.46	28.930	**0.00946**	**0.0029**
130	1.64	9.84	30.080	**0.00984**	**0.0030**
135	1.7	10.22	31.240	**0.01022**	**0.0031**
140	1.77	10.6	32.400	**0.01060**	**0.0032**
145	1.83	10.98	33.550	**0.01098**	**0.0034**
150	1.89	11.36	34.710	**0.01136**	**0.0035**

```
20    Metric units / ID numbers OFF
*#*************************************************************************************************
***
*#  SWMHYMO  / INPUT DATA FILE
*#*************************************************************************************************
***
*#  Project Name  : [5923 Ottawa St]
*#  Project Number: [P2710(e01)]
*#  Date          : [2025 April 28]
*#  Modeller      : [MM]
*#  Company       : JFSA Canada Inc.
*#  License #     : 2549237
*#*************************************************************************************************
***
*# Model developed to simulate runoff from subcatchments under post development conditions
*#*************************************************************************************************
***
*%  25 mm Storm based on 2-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[002]
                   ["002YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
READ STORM          STORM_FILENAME=["STORM.001"]
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************************************
***
*%-----------------|-------------------------------------------------------------|
DEFAULT VALUES      ICASEdef=[1],  read values only
                    DEFVAL_FILENAME=["Ottawa.val"]
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************************************
***
*# EXT1
*#*************************************************************************************************
***
CALIB NASHYD        NHYD=["EXT1"], DT[1](min), AREA=[3.211](ha),
                    DWF=[0](cms), CN=[80],
                    IA=[4.67](mm), N=[3], TP[0.72](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
***
*# EXT2
*#*************************************************************************************************
***
CALIB NASHYD        NHYD=["EXT2"], DT[1](min), AREA=[0.285](ha),
                    DWF=[0](cms), CN=[85],
                    IA=[4.67](mm), N=[3], TP[0.33](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
***
*# EXT3
*#*************************************************************************************************
***
CALIB NASHYD        NHYD=["EXT3"], DT[1](min), AREA=[0.560](ha),
                    DWF=[0](cms), CN=[80],
                    IA=[4.67](mm), N=[3], TP[0.32](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
***
*# EXT4
*#*************************************************************************************************
***
CALIB NASHYD        NHYD=["EXT4"], DT[1](min), AREA=[0.309](ha),
                    DWF=[0](cms), CN=[79],
                    IA=[4.67](mm), N=[3], TP[0.29](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
***
*# EXT5
*#*************************************************************************************************
```

```
***
CALIB NASHYD        NHYD=["EXT5"], DT[1](min), AREA=[0.594](ha),
                    DWF=[0](cms), CN=[76],
                    IA=[4.67](mm), N=[3], TP[0.45](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************
***
*# EXT6
*#*************************************************************************************
***
CALIB NASHYD        NHYD=["EXT6"], DT[1](min), AREA=[0.864](ha),
                    DWF=[0](cms), CN=[85],
                    IA=[4.67](mm), N=[3], TP[0.56](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************
***
*# EXT7
*#*************************************************************************************
***
CALIB NASHYD        NHYD=["EXT7"], DT[1](min), AREA=[0.471](ha),
                    DWF=[0](cms), CN=[83],
                    IA=[4.67](mm), N=[3], TP[0.32](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************
***
*# EXT8
*#*************************************************************************************
***
CALIB NASHYD        NHYD=["EXT8"], DT[1](min), AREA=[0.834](ha),
                    DWF=[0](cms), CN=[79],
                    IA=[4.67](mm), N=[3], TP[0.42](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************
***
*# EXT9
*#*************************************************************************************
***
CALIB NASHYD        NHYD=["EXT9"], DT[1](min), AREA=[3.571](ha),
                    DWF=[0](cms), CN=[76],
                    IA=[4.67](mm), N=[3], TP[0.48](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************
***
*# EXT9a
*#*************************************************************************************
***
CALIB NASHYD        NHYD=["EXT9a"], DT[1](min), AREA=[0.011](ha),
                    DWF=[0](cms), CN=[78],
                    IA=[4.67](mm), N=[3], TP[0.04](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************
***
*# EXT10
*#*************************************************************************************
***
CALIB NASHYD        NHYD=["EXT10"], DT[1](min), AREA=[0.203](ha),
                    DWF=[0](cms), CN=[71],
                    IA=[4.67](mm), N=[3], TP[0.42](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************
***
*# Pre2_1
*#*************************************************************************************
***
CALIB NASHYD        NHYD=["Pre2_1"], DT[1](min), AREA=[0.013](ha),
                    DWF=[0](cms), CN=[72],
                    IA=[4.67](mm), N=[3], TP[0.03](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************
```

```
***
*# Pre2_2
*#*******************************************************************************************
***
CALIB NASHYD        NHYD=["Pre2_2"], DT[1](min), AREA=[0.002](ha),
                    DWF=[0](cms), CN=[78],
                    IA=[4.67](mm), N=[3], TP[0.02](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************
***
*# Pre9_1
*#*******************************************************************************************
***
CALIB NASHYD        NHYD=["Pre9_1"], DT[1](min), AREA=[0.437](ha),
                    DWF=[0](cms), CN=[71],
                    IA=[4.67](mm), N=[3], TP[0.38](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************
***
*# Pre9_2
*#*******************************************************************************************
***
CALIB NASHYD        NHYD=["Pre9_2"], DT[1](min), AREA=[0.014](ha),
                    DWF=[0](cms), CN=[75],
                    IA=[4.67](mm), N=[3], TP[0.03](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************
***
*# Pre10_1
*#*******************************************************************************************
***
CALIB NASHYD        NHYD=["Pre10_1"], DT[1](min), AREA=[0.799](ha),
                    DWF=[0](cms), CN=[71],
                    IA=[4.67](mm), N=[3], TP[0.29](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************
***
*# Pre11_1
*#*******************************************************************************************
***
CALIB NASHYD        NHYD=["Pre11_1"], DT[1](min), AREA=[0.067](ha),
                    DWF=[0](cms), CN=[78],
                    IA=[4.67](mm), N=[3], TP[0.21](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************
***
*# Site 1
*#*******************************************************************************************
***
DESIGN STANDHYD     NHYD=["S1-B1"], DT=[1](min), AREA=[0.417](ha),
                    XIMP=[0.34], TIMP=[0.44], DWF=[0](cms),
                    LOSS=[1], SLOPE=[1.0](%), RAINFALL=[ , , -1](mm/hr)
*#*******************************************************************************************
***
*# Site 1 - Roof
*#*******************************************************************************************
***
DESIGN STANDHYD     NHYD=["S1-Roof"], DT=[1](min), AREA=[0.065](ha),
                    XIMP=[0.99], TIMP=[0.99], DWF=[0](cms),
                    LOSS=[1], SLOPE=[0.5](%), RAINFALL=[ , , -1](mm/hr)
*%-----------------|-------------------------------------------------------------------------|---
----------------------|
* Rooftop Storage-Outflow Curve for site 1 Facility - Updated March 2026 Per EGIS Report
ROUTE RESERVOIR     NHYDout=["S1-Roof-Out"], NHYDin=["S1-Roof"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                    [ 0 , 0 ]
                                    [ 0.00025 , 0.000081 ]
                                    [ 0.0005 , 0.000163 ]
```

```
                                    [ 0.00076 , 0.000244 ]
                                    [ 0.00101 , 0.000326 ]
                                    [ 0.00126 , 0.000407 ]
                                    [ 0.00151 , 0.000488 ]
                                    [ 0.00177 , 0.00057 ]
                                    [ 0.00202 , 0.000651 ]
                                    [ 0.00227 , 0.000733 ]
                                    [ 0.00252 , 0.000814 ]
                                    [ 0.00278 , 0.000896 ]
                                    [ 0.00303 , 0.000977 ]
                                    [ 0.00328 , 0.001058 ]
                                    [ 0.00353 , 0.00114 ]
                                    [ 0.00379 , 0.001221 ]
                                    [ 0.00404 , 0.001303 ]
                                    [ 0.00429 , 0.001384 ]
                                    [ 0.00454 , 0.001465 ]
                                    [ 0.00479 , 0.001547 ]
                                    [ 0.00505 , 0.001628 ]
                                    [ 0.0053 , 0.00171 ]
                                    [ 0.00555 , 0.001791 ]
                                    [ 0.0058 , 0.001873 ]
                                    [ 0.00606 , 0.001954 ]
                                    [ 0.00631 , 0.002035 ]
                                    [ 0.00656 , 0.002117 ]
                                    [ 0.00681 , 0.002198 ]
                                    [ 0.00707 , 0.00228 ]
                                    [ 0.00732 , 0.002361 ]
                                    [ 0.00757 , 0.002442 ]
                                    [ -1 , -1 ]
                                NHYDovf=["S1-Roof-Over"],
*%-----------------|-------------------------------------------------------------------------------|---
---------------------|
ADD HYD             NHYDsum=["SITE1-IN"], NHYDs to add=["S1-B1"+"S1-Roof-Out"+"S1-Roof-Over"]
*%-----------------|-------------------------------------------------------------------------------|---
---------------------|
* Pond for Site 1: Stage-Storage-Outflow
ROUTE RESERVOIR     NHYDout=["SITE1-Out"], NHYDin=["SITE1-IN"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                    [ 0.00000 , 0 ]
                                    [ 0.00062 , 0 ]
                                    [ 0.00154 , 0.00006 ]
                                    [ 0.00246 , 0.00019 ]
                                    [ 0.00321 , 0.0004 ]
                                    [ 0.00382 , 0.00069 ]
                                    [ 0.00435 , 0.00106 ]
                                    [ 0.00481 , 0.00154 ]
                                    [ 0.00524 , 0.00219 ]
                                    [ 0.00563 , 0.00302 ]
                                    [ 0.006 , 0.00398 ]
                                    [ 0.00634 , 0.00519 ]
                                    [ 0.00667 , 0.00645 ]
                                    [ 0.00699 , 0.00793 ]
                                    [ 0.00729 , 0.00947 ]
                                    [ 0.00757 , 0.01107 ]
                                    [ 0.00785 , 0.01271 ]
                                    [ 0.00812 , 0.01441 ]
                                    [ 0.00838 , 0.01615 ]
                                    [ 0.00863 , 0.01796 ]
                                    [ 0.01129 , 0.01982 ]
                                    [ 0.0158 , 0.02174 ]
                                    [ 0.02137 , 0.02372 ]
                                    [ 0.0277 , 0.02577 ]
                                    [ 0.03457 , 0.02788 ]
                                    [ 0.04186 , 0.03006 ]
                                    [ 0.04945 , 0.03212 ]
                                    [ 0.05724 , 0.03406 ]
                                    [ 0.06516 , 0.03573 ]
                                    [ 0.07313 , 0.03766 ]
```

```
                                    [ -1 , -1 ]
                                NHYDovf=["SITE1-Over"],
*%-----------------|-------------------------------------------------------------------------|---
----------------------|
*#*************************************************************************************************
***
*# Site 2
*#*************************************************************************************************
***
DESIGN STANDHYD     NHYD=["S2-B3"], DT=[1](min), AREA=[0.357](ha),
                    XIMP=[0.31], TIMP=[0.41], DWF=[0](cms),
                    LOSS=[1], SLOPE=[1.0](%), RAINFALL=[ , , -1](mm/hr)
*#*************************************************************************************************
***
*# Site 2 - Roof
*#*************************************************************************************************
***
DESIGN STANDHYD     NHYD=["S2-Roof"], DT=[1](min), AREA=[0.093](ha),
                    XIMP=[0.99], TIMP=[0.99], DWF=[0](cms),
                    LOSS=[1], SLOPE=[0.5](%), RAINFALL=[ , , -1](mm/hr)
*#*************************************************************************************************
***
* Rooftop Storage-Outflow Curve for site 2 Facility - Updated March 2026 Per EGIS Report
ROUTE RESERVOIR     NHYDout=["S2-Roof-Out"], NHYDin=["S2-Roof"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                    [ 0 , 0 ]
                                    [ 0.00038 , 0.000116 ]
                                    [ 0.00076 , 0.000231 ]
                                    [ 0.00114 , 0.000347 ]
                                    [ 0.00151 , 0.000463 ]
                                    [ 0.00189 , 0.000579 ]
                                    [ 0.00227 , 0.000694 ]
                                    [ 0.00265 , 0.00081 ]
                                    [ 0.00303 , 0.000926 ]
                                    [ 0.00341 , 0.001041 ]
                                    [ 0.00379 , 0.001157 ]
                                    [ 0.00416 , 0.001273 ]
                                    [ 0.00454 , 0.001388 ]
                                    [ 0.00492 , 0.001504 ]
                                    [ 0.0053 , 0.00162 ]
                                    [ 0.00568 , 0.001736 ]
                                    [ 0.00606 , 0.001851 ]
                                    [ 0.00644 , 0.001967 ]
                                    [ 0.00681 , 0.002083 ]
                                    [ 0.00719 , 0.002198 ]
                                    [ 0.00757 , 0.002314 ]
                                    [ 0.00795 , 0.00243 ]
                                    [ 0.00833 , 0.002545 ]
                                    [ 0.00871 , 0.002661 ]
                                    [ 0.00908 , 0.002777 ]
                                    [ 0.00946 , 0.002893 ]
                                    [ 0.00984 , 0.003008 ]
                                    [ 0.01022 , 0.003124 ]
                                    [ 0.0106 , 0.00324 ]
                                    [ 0.01098 , 0.003355 ]
                                    [ 0.01136 , 0.003471 ]
                                    [ -1 , -1 ]
                                NHYDovf=["S2-Roof-Over"],
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SITE2-IN"], NHYDs to add=["S2-B3"+"S2-Roof-Out"+"S2-Roof-Over"]
*%-----------------|-------------------------------------------------------------|
* Pond for Site 2: Stage-Storage-Outflow
ROUTE RESERVOIR     NHYDout=["SITE2-Out"], NHYDin=["SITE2-IN"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE
                                   (cms) - (ha-m)
                                    [ 0 , 0 ]
                                    [ 0.0012 , 0.00003 ]
                                    [ 0.0022 , 0.00016 ]
```

```
                                    [ 0.003 , 0.00043 ]
                                    [ 0.0036 , 0.00078 ]
                                    [ 0.0042 , 0.00115 ]
                                    [ 0.0047 , 0.00153 ]
                                    [ 0.0051 , 0.00192 ]
                                    [ 0.0055 , 0.00233 ]
                                    [ 0.0059 , 0.00275 ]
                                    [ 0.0062 , 0.00319 ]
                                    [ 0.0066 , 0.00366 ]
                                    [ 0.0069 , 0.00425 ]
                                    [ 0.0072 , 0.00495 ]
                                    [ 0.0075 , 0.00571 ]
                                    [ 0.0078 , 0.00655 ]
                                    [ 0.008 , 0.00761 ]
                                    [ 0.0083 , 0.00879 ]
                                    [ 0.0085 , 0.01005 ]
                                    [ 0.0088 , 0.01137 ]
                                    [ 0.009 , 0.01274 ]
                                    [ 0.0093 , 0.01418 ]
                                    [ 0.0095 , 0.01567 ]
                                    [ 0.0102 , 0.01724 ]
                                    [ 0.0136 , 0.0188 ]
                                    [ 0.0243 , 0.02156 ]
                                    [ 0.0379 , 0.02399 ]
                                    [ 0.0529 , 0.02618 ]
                                    [ 0.0686 , 0.02816 ]
                                    [ 0.0846 , 0.02879 ]
                                    [ 0.1002 , 0.02887 ]
                                    [ 0.1151 , 0.02893 ]
                                    [ 0.129 , 0.02896 ]
                                    [ 0.1417 , 0.029 ]
                                    [ -1 , -1 ]
                                NHYDovf=["SITE2-Over"],
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["Site1"], NHYDs to add=["SITE1-Out"+"SITE1-Over"]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["Site2"], NHYDs to add=["SITE2-Out"+"SITE2-Over"]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J1"], NHYDs to add=["EXT2"+"Pre2_1"+"Site1"+"Site2"]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 849.0434 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R1"], NHYDin=["J1"], RDT=[1](min),
                    CHLGTH=[143.151](m), CHSLOPE=[0.394](%), FPSLOPE=[0.394](%),
                    SECNUM=[849.0434], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,18.95 -0.035,26.78 0.08,35.18] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=[0.48, 94.05]
                                                    [3.19, 93.99]
                                                    [6.85, 93.91]
                                                    [10.48, 93.87]
                                                    [17.45, 93.85]
                                                    [18.95, 93.84]
                                                    [20.36, 93.81]
                                                    [22.3, 93.76]
                                                    [22.53, 93.72]
                                                    [23.98, 93.35]
                                                    [24.35, 93.33]
                                                    [24.65, 93.37]
                                                    [25.04, 93.45]
                                                    [26.04, 93.74]
                                                    [26.44, 93.82]
                                                    [26.78, 93.87]
                                                    [29.14, 94.11]
                                                    [33.98, 94.26]
                                                    [35.18, 94.26]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J2"], NHYDs to add=["R1"+"EXT3"+"EXT1"]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 737.5813 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R2"], NHYDin=["J2"], RDT=[1](min),
```

```
                    CHLGTH=[73.338](m), CHSLOPE=[0.425](%), FPSLOPE=[0.425](%),
                    SECNUM=[737.5813], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,8.4 -0.035,16.42 0.08,22.6] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=[0, 93.52]
                                                    [1.08, 93.5]
                                                    [4.37, 93.48]
                                                    [6.31, 93.45]
                                                    [8.4, 93.38]
                                                    [9.5, 93.31]
                                                    [10.49, 93.23]
                                                    [10.99, 93.18]
                                                    [12.4, 92.94]
                                                    [13.11, 92.84]
                                                    [13.67, 92.92]
                                                    [16.42, 93.6]
                                                    [16.91, 93.65]
                                                    [17.97, 93.65]
                                                    [19, 93.83]
                                                    [19.51, 93.89]
                                                    [21.06, 93.94]
                                                    [22.6, 93.95]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J3"], NHYDs to add=["R2"+"EXT4"]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 675.4097 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R3"], NHYDin=["J3"], RDT=[1](min),
                    CHLGTH=[92.08](m), CHSLOPE=[0.274](%), FPSLOPE=[0.274](%),
                    SECNUM=[675.4097], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,31.64 -0.035,42.44 0.08,48.87] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=[30.59, 93.12]
                                                    [31.64, 93.13]
                                                    [34.35, 93.08]
                                                    [35.18, 93.03]
                                                    [37.78, 92.72]
                                                    [38.25, 92.64]
                                                    [38.7, 92.61]
                                                    [39.74, 92.76]
                                                    [42.44, 93.41]
                                                    [42.89, 93.49]
                                                    [43.97, 93.57]
                                                    [44.92, 93.6]
                                                    [46.07, 93.67]
                                                    [48.87, 93.74]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J4"], NHYDs to add=["R3"+"EXT5"]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 518.7506 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R4"], NHYDin=["J4"], RDT=[1](min),
                    CHLGTH=[251.495](m), CHSLOPE=[0.19](%), FPSLOPE=[0.19](%),
                    SECNUM=[518.7506], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,51.48 -0.035,59.39 0.08,66.4] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=[0, 92.92]
                                                    [4.26, 92.9]
                                                    [48.31, 92.76]
                                                    [51.48, 92.76]
                                                    [53.64, 92.7]
                                                    [55.33, 92.29]
                                                    [55.44, 92.29]
                                                    [56.43, 92.37]
                                                    [56.97, 92.43]
                                                    [59.39, 93.27]
                                                    [59.74, 93.37]
                                                    [60.8, 93.52]
                                                    [63.31, 93.71]
                                                    [66.4, 93.76]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J5"], NHYDs to add=["R4"+"EXT6"+"EXT7"]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 275.0857 is taken from HEC-RAS Model
```

```
ROUTE CHANNEL       NHYDout=["R5"], NHYDin=["J5"], RDT=[1](min),
                    CHLGTH=[237.343](m), CHSLOPE=[0.644](%), FPSLOPE=[0.644](%),
                    SECNUM=[275.0857], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,40.82 -0.035,53.64 0.08,57.93] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=[36.16, 92.63]
                                                    [40.82, 92.97]
                                                    [41.39, 92.9]
                                                    [44.69, 91.72]
                                                    [45.24, 91.58]
                                                    [46.33, 91.43]
                                                    [47.41, 91.64]
                                                    [47.87, 91.75]
                                                    [49.59, 92.2]
                                                    [50.99, 92.36]
                                                    [51.44, 92.48]
                                                    [53.18, 92.98]
                                                    [53.64, 93.15]
                                                    [55.92, 93.66]
                                                    [57.93, 93.68]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["Pre"], NHYDs to add=["Pre10_1"+"Pre9_2"+"Pre2_2"]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 124 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R6"], NHYDin=["Pre"], RDT=[1](min),
                    CHLGTH=[77.414](m), CHSLOPE=[0.776](%), FPSLOPE=[0.776](%),
                    SECNUM=[124], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,8.34 -0.035,31.31 0.08,84.97] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=[1.78, 93.73]
                                                    [4.51, 93.54]
                                                    [5.06, 93.31]
                                                    [7.25, 92.98]
                                                    [7.79, 92.77]
                                                    [8.34, 92.49]
                                                    [9.43, 91.93]
                                                    [9.68, 91.81]
                                                    [10.53, 91.27]
                                                    [12.64, 90.92]
                                                    [14.44, 90.9]
                                                    [16.54, 91.06]
                                                    [17.64, 91.06]
                                                    [30.22, 92.3]
                                                    [31.31, 92.45]
                                                    [33.5, 92.41]
                                                    [55.37, 93.11]
                                                    [57.01, 93.2]
                                                    [84.97, 93.43]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 74 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R7"], NHYDin=["Pre9_1"], RDT=[1](min),
                    CHLGTH=[159.151](m), CHSLOPE=[1.576](%), FPSLOPE=[1.576](%),
                    SECNUM=[74], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,4.67 -0.035,81.24 0.08,82.88] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=[1.94, 93.64]
                                                    [4.67, 93.32]
                                                    [5.77, 93.15]
                                                    [7.41, 92.69]
                                                    [7.95, 92.37]
                                                    [9.36, 91.71]
                                                    [10.12, 91.22]
                                                    [10.49, 91.06]
                                                    [12.64, 90.89]
                                                    [16.16, 90.92]
                                                    [18.83, 91.66]
                                                    [19.59, 92.02]
                                                    [21.62, 92.39]
                                                    [24.87, 92.48]
                                                    [30.37, 92.55]
                                                    [34.37, 92.65]
                                                    [77.41, 92.82]
```

```
                                                [80.6, 93.25]
                                                [81.24, 93.48]
                                                [82.88, 93.79]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["J6"], NHYDs to add=["R6"+"EXT10"+"Pre11_1"+"EXT9a"]
*%-----------------|-------------------------------------------------------------|
* NOTE: Cross-section number 49 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R8"], NHYDin=["J6"], RDT=[1](min),
                    CHLGTH=[78.801](m), CHSLOPE=[0.522](%), FPSLOPE=[0.522](%),
                    SECNUM=[49], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,8.71 -0.035,20.59 0.08,116.73] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=[0, 93.36]
                                                [1.93, 93.63]
                                                [4.61, 93.26]
                                                [6.23, 93.1]
                                                [8.19, 92.26]
                                                [8.71, 91.84]
                                                [9.86, 91.47]
                                                [10.53, 91.04]
                                                [13.84, 91]
                                                [14.5, 91.11]
                                                [16.97, 91.27]
                                                [20.59, 91.76]
                                                [23.3, 91.64]
                                                [30.34, 91.85]
                                                [35.29, 91.92]
                                                [116.73, 92.96]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["J7"], NHYDs to add=["R8"+"R7"]
*%-----------------|-------------------------------------------------------------|
* NOTE: Cross-section number 7 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R9"], NHYDin=["J7"], RDT=[1](min),
                    CHLGTH=[29.445](m), CHSLOPE=[0.887](%), FPSLOPE=[0.887](%),
                    SECNUM=[7], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,1.5 -0.035,22.44 0.08,100.08] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=[0, 93.4]
                                                [1.5, 93.63]
                                                [3.13, 93.62]
                                                [4.76, 93.28]
                                                [5.3, 93.25]
                                                [6.52, 93.08]
                                                [6.96, 92.95]
                                                [10.57, 90.95]
                                                [13.59, 90.67]
                                                [15.83, 90.72]
                                                [16.42, 90.85]
                                                [18.66, 91.76]
                                                [20.82, 91.86]
                                                [22.44, 91.92]
                                                [27.84, 91.98]
                                                [30.15, 91.96]
                                                [100.08, 92.61]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["J8"], NHYDs to add=["EXT9"+"R9"+"EXT8"+"R5"]
*%-----------------|-------------------------------------------------------------|
* Note: The pipe needs to be adjusted based on the Culvert-under-railway information
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["Outlet"], RNUMBER=[1.0],
                    PDIAM=[525](mm), PLNGTH=[8.407](m), PROUGH=[0.013], PSLOPE=[0.0001](m/m),
                    NHYDin=["J8"], RDT=[1](min)
*%-----------------|-------------------------------------------------------------|
*#############################################################################
*# STORMS
*#############################################################################
*%  2-Year, 3-Hour Chicago Storm
*START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[002]
*                   ["002YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  5-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[005]
```

```
                    ["005YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  10-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[010]
                    ["010YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  25-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[025]
                    ["025YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  50-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[050]
                    ["050YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  100-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[099]
                    ["100YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  2-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[102]
                    ["SC24002x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  5-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[105]
                    ["SC24005x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  10-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[110]
                    ["SC24010x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  25-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[125]
                    ["SC24025x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  50-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[150]
                    ["SC24050x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  100-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[199]
                    ["SC24100x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  July 1st, 1979 Storm - Ottawa International Airport
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1979]
                    ["19790701.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  August 4th, 1988 Storm - Ottawa International Airport
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1988]
                    ["19880804.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  August 8th, 1996 Storm - Ottawa International Airport
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1996]
                    ["19960808.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  100-Year, 3-Hour Chicago Storm + 20%
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[9999]
                    ["100YC3H+.STM"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
FINISH
```

```
00001>  ===========================================================================================
00002>
00003>  SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO          222     000    11   5555   =========
00004>  S       W W W   MM MM   H   H    Y Y    MM MM   O   O          2   2   0   0  11   5
00005>  SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O          2     0   0   11   5       Ver 5.500
00006>      S   W W     M   M   H   H     Y     M   M   O   O        222     0   0   11   555     FEB  2015
00007>  SSSSS    W W     M   M   H   H     Y     M   M    OOO        2       0   0   11     5     =========
00008>                                                                2       0   0   11     5   # 2549237
00009>         StormWater Management HYdrologic Model                 222     000    11   555    =========
00010>
00011>  ***************************************************************************************
00012>  ******************************************  SWMHYMO Ver 5.500  ************************
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: JFSAinc.                                  ++++++++++++++++++
00025>  ++++++++++++++++++                 Ottawa                    SERIAL#:2549237 ++++++++++++++++++
00026>  +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028>  ***************************************************************************************
00029>  ******************                ++++++ PROGRAM ARRAY DIMENSIONS ++++++              ********
00030>  ******************          Maximum value for ID numbers  :    11                    ********
00031>  ******************          Max. number of rainfall points: 105408                   ********
00032>  ******************          Max. number of flow points    : 105408                   ********
00033>  ***************************************************************************************
00034>
00035>
00036>  ******************************  S U M M A R Y   O U T P U T  ******************************
00037>  ***************************************************************************************
00038>  *                      RUN DATE: 2026-03-30     TIME: 12:50:47     RUN COUNTER: 015123   *
00039>  ***************************************************************************************
00040>  * Input   file: C:\Temp\20260327-PostDev\Ott_St-Post_v12.dat                             *
00041>  * Output  file: C:\Temp\20260327-PostDev\Ott_St-Post_v12.out                             *
00042>  * Summary file: C:\Temp\20260327-PostDev\Ott_St-Post_v12.sum                             *
00043>  * User comments:                                                                        *
00044>  * 1:_____________________________________________________________________________________*
00045>  * 2:_____________________________________________________________________________________*
00046>  * 3:_____________________________________________________________________________________*
00047>  ***************************************************************************************
00048>
00049>
00050> #*************************************************************************************
00051> #  SWMHYMO  / INPUT DATA FILE
00052> #*************************************************************************************
00053> #  Project Name  : [5923 Ottawa St]
00054> #  Project Number: [P2710(e01)]
00055> #  Date          : [2025 April 28]
00056> #  Modeller      : [MM]
00057> #  Company       : JFSA Canada Inc.
00058> #  License #     : 2549237
00059> #*************************************************************************************
00060> # Model developed to simulate runoff from subcatchments under post development conditions
00061> #*************************************************************************************
00062>   ** END OF RUN :   1
00063>
00064> #*************************************************************************************
00065>
00066>
00067>
00068>
00069>
00070>  RUN#:COMMAND#
00071> R0002:c00001-------------------------------------------------------------------------------
00072>       START
00073>       [TZERO =    .00 hrs on      0]
00074>       [METOUT=  2    (1=imperial, 2=metric output)]
00075>       [NSTORM=  1 ]
00076>       [NRUN  = 0002 ]
00077> #*************************************************************************************
00078> #  SWMHYMO  / INPUT DATA FILE
00079> #*************************************************************************************
00080> #  Project Name  : [5923 Ottawa St]
00081> #  Project Number: [P2710(e01)]
00082> #  Date          : [2025 April 28]
00083> #  Modeller      : [MM]
00084> #  Company       : JFSA Canada Inc.
00085> #  License #     : 2549237
00086> #*************************************************************************************
00087> # Model developed to simulate runoff from subcatchments under post development conditions
00088> #*************************************************************************************
00089> R0002:c00002-------------------------------------------------------------------------------
00090>       READ STORM
00091>       Filename = STORM.001
00092>       Comment  = CHICAGO STORM 2 Year, 3 Hours
00093>       [SDT=10.00:SDUR=   3.00:PTOT=  31.86]
00094> #*************************************************************************************
00095> R0002:c00003-------------------------------------------------------------------------------
00096>       DEFAULT VALUES
00097>       Filename = C:\Temp\20260327-PostDev\Ottawa.val
00098>       ICASEdv  = 1 (read and print data)
00099>       FileTitle= File comment: [Parameters for City of Ottawa Projects]
00100>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
00101>       Horton's infiltration equation parameters:
00102>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
00103>       Parameters for PERVIOUS surfaces in STANDHYD:
00104>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP=  .250]
00105>       Parameters for IMPERVIOUS surfaces in STANDHYD:
00106>       [IAimp=   1.57 mm] [DI=  1.50]   [MNI=  .013]
00107>       Parameters used in NASHYD:
00108>       [Ia=   4.67 mm] [N= 3.00]
00109>       Average monthly Pan Evaporation data in     (mm)
00110>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00111>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00112>       Average monthly Potential Evapotranspiration in     (mm)
00113>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00114>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00115> #*************************************************************************************
00116> # EXT1
00117> #*************************************************************************************
00118> R0002:c00004-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00119>       CALIB NASHYD            1.0 01:EXT1             3.21      .037 No_date    1:58   8.15 .256     .000
00120>         [CN= 80.0: N= 3.00: Tp=  .72]
00121> #*************************************************************************************
00122> # EXT2
00123> #*************************************************************************************
00124> R0002:c00005-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00125>       CALIB NASHYD            1.0 01:EXT2              .28      .007 No_date    1:25   10.26 .322     .000
00126>         [CN= 85.0: N= 3.00: Tp=  .33]
00127> #*************************************************************************************
00128> # EXT3
00129> #*************************************************************************************
00130> R0002:c00006-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00131>       CALIB NASHYD            1.0 01:EXT3              .56      .011 No_date    1:24   8.15 .256     .000
00132>         [CN= 80.0: N= 3.00: Tp=  .32]
00133> #*************************************************************************************
00134> # EXT4
00135> #*************************************************************************************
00136> R0002:c00007-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00137>       CALIB NASHYD            1.0 01:EXT4              .31      .006 No_date    1:22   7.80 .245     .000
00138>         [CN= 79.0: N= 3.00: Tp=  .29]
00139> #*************************************************************************************
00140> # EXT5
00141> #*************************************************************************************
00142> R0002:c00008-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00143>       CALIB NASHYD            1.0 01:EXT5              .59      .008 No_date    1:36   6.88 .216     .000
00144>         [CN= 76.0: N= 3.00: Tp=  .45]
00145> #*************************************************************************************
00146> # EXT6
00147> #*************************************************************************************
00148> R0002:c00009-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00149>       CALIB NASHYD            1.0 01:EXT6              .86      .015 No_date    1:44   10.27 .322     .000
00150>         [CN= 85.0: N= 3.00: Tp=  .56]
00151> #*************************************************************************************
00152> # EXT7
00153> #*************************************************************************************
00154> R0002:c00010-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00155>       CALIB NASHYD            1.0 01:EXT7              .47      .011 No_date    1:24   9.33 .293     .000
00156>         [CN= 83.0: N= 3.00: Tp=  .32]
00157> #*************************************************************************************
00158> # EXT8
00159> #*************************************************************************************
00160> R0002:c00011-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00161>       CALIB NASHYD            1.0 01:EXT8              .83      .013 No_date    1:33   7.81 .245     .000
00162>         [CN= 79.0: N= 3.00: Tp=  .42]
00163> #*************************************************************************************
00164> # EXT9
00165> #*************************************************************************************
00166> R0002:c00012-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00167>       CALIB NASHYD            1.0 01:EXT9             3.57      .045 No_date    1:38   6.88 .216     .000
00168>         [CN= 76.0: N= 3.00: Tp=  .48]
00169> #*************************************************************************************
00170> # EXT9a
00171> #*************************************************************************************
00172> R0002:c00013-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00173>       CALIB NASHYD            1.0 01:EXT9a             .01      .001 No_date    1:00   7.47 .234     .000
00174>         [CN= 78.0: N= 3.00: Tp=  .04]
00175> #*************************************************************************************
00176> # EXT10
00177> #*************************************************************************************
00178> R0002:c00014-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00179>       CALIB NASHYD            1.0 01:EXT10             .20      .002 No_date    1:34   5.64 .177     .000
00180>         [CN= 71.0: N= 3.00: Tp=  .42]

00181> #*************************************************************************************
00182> # Pre2_1
00183> #*************************************************************************************
00184> R0002:c00015-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00185>  *  CALIB NASHYD            1.0 01:Pre2_1            .01      .001 No_date    1:00   5.86 .184     .000
00186>       [CN= 72.0: N= 3.00: Tp=  .03]
00187> #*************************************************************************************
00188> # Pre2_2
00189> #*************************************************************************************
00190> R0002:c00016-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00191>  *  CALIB NASHYD            1.0 01:Pre2_2            .00      .000 No_date    1:00   7.46 .234     .000
00192>       [CN= 78.0: N= 3.00: Tp=  .02]
00193> #*************************************************************************************
00194> # Pre9_1
00195> #*************************************************************************************
00196> R0002:c00017-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00197>       CALIB NASHYD            1.0 01:Pre9_1            .44      .005 No_date    1:30   5.64 .177     .000
00198>         [CN= 71.0: N= 3.00: Tp=  .38]
00199> #*************************************************************************************
00200> # Pre9_2
00201> #*************************************************************************************
00202> R0002:c00018-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00203>  *  CALIB NASHYD            1.0 01:Pre9_2            .01      .001 No_date    1:00   6.60 .207     .000
00204>       [CN= 75.0: N= 3.00: Tp=  .03]
00205> #*************************************************************************************
00206> # Pre10_1
00207> #*************************************************************************************
00208> R0002:c00019-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00209>       CALIB NASHYD            1.0 01:Pre10_1           .80      .011 No_date    1:22   5.65 .177     .000
00210>         [CN= 71.0: N= 3.00: Tp=  .29]
00211> #*************************************************************************************
00212> # Pre11_1
00213> #*************************************************************************************
00214> R0002:c00020-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00215>       CALIB NASHYD            1.0 01:Pre11_1           .07      .002 No_date    1:15   7.47 .235     .000
00216>         [CN= 78.0: N= 3.00: Tp=  .21]
00217> #*************************************************************************************
00218> # Site 1
00219> #*************************************************************************************
00220> R0002:c00021-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00221>       DESIGN STANDHYD         1.0 01:S1-B1             .42      .033 No_date    1:00   13.81 .433     .000
00222>         [XIMP=.34:TIMP=.44]
00223>         [SLP=1.00:DT= 1.00]
00224>         [LOSS= 1 : HORTONS]
00225> #*************************************************************************************
00226> # Site 1 - Roof
00227> #*************************************************************************************
00228> R0002:c00022-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00229>       DESIGN STANDHYD         1.0 01:S1-Roof           .06      .014 No_date    1:00   30.00 .942     .000
00230>         [XIMP=.99:TIMP=.99]
00231>         [SLP=  .50:DT= 1.00]
00232>         [LOSS= 1 : HORTONS]
00233> R0002:c00023-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00234>       ROUTE RESERVOIR ->      1.0 02:S1-Roof           .06      .014 No_date    1:00   30.00  n/a     .000
00235>                           out <=    1.0 01:S1-Roof-Ou     .06      .003 No_date    1:11   30.00  n/a     .000
00236>                       overflow <=   1.0 03:S1-Roof-Ov     .00      .000 No_date    0:00    .00  n/a     .000
00237>         (MxStoUsed=.1025E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00238> R0002:c00024-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00239>       ADD HYD                 1.0 02:S1-B1             .42      .033 No_date    1:00   13.81  n/a     .000
00240>                           +     1.0 02:S1-Roof-Ou     .06      .003 No_date    1:11   30.00  n/a     .000
00241>                           +     1.0 02:S1-Roof-Ov     .00      .000 No_date    0:00    .00  n/a     .000
00242>                         SUM=    1.0 01:SITE1-IN       .48      .035 No_date    1:00   15.99  n/a     .000
00243> R0002:c00025-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00244>       ROUTE RESERVOIR ->      1.0 02:SITE1-IN          .48      .035 No_date    1:00   15.99  n/a     .000
00245>                         out <=    1.0 01:SITE1-Out      .48      .006 No_date    1:46   15.99  n/a     .000
00246>                       overflow <=   1.0 03:SITE1-Over     .00      .000 No_date    0:00    .00  n/a     .000
00247>         (MxStoUsed=.3899E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00248> #*************************************************************************************
00249> # Site 2
00250> #*************************************************************************************
00251> R0002:c00026-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00252>       DESIGN STANDHYD         1.0 01:S2-B3             .36      .026 No_date    1:00   13.02 .409     .000
00253>         [XIMP=.31:TIMP=.41]
00254>         [SLP=1.00:DT= 1.00]
00255>         [LOSS= 1 : HORTONS]
00256> #*************************************************************************************
00257> # Site 2 - Roof
00258> #*************************************************************************************
00259> R0002:c00027-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00260>       DESIGN STANDHYD         1.0 01:S2-Roof           .09      .020 No_date    1:00   30.02 .942     .000
00261>         [XIMP=.99:TIMP=.99]
00262>         [SLP=  .50:DT= 1.00]
00263>         [LOSS= 1 : HORTONS]
00264> #*************************************************************************************
00265> R0002:c00028-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00266>       ROUTE RESERVOIR ->      1.0 02:S2-Roof           .09      .020 No_date    1:00   30.02  n/a     .000
00267>                           out <=    1.0 02:S2-Roof-Ou     .09      .005 No_date    1:12   30.02  n/a     .000
00268>                       overflow <=   1.0 03:S2-Roof-Ov     .00      .000 No_date    0:00    .00  n/a     .000
00269>         (MxStoUsed=.1445E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00270> R0002:c00029-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00271>       ADD HYD                 1.0 02:S2-B3             .36      .026 No_date    1:00   13.02  n/a     .000
00272>                           +     1.0 02:S2-Roof-Ou     .09      .005 No_date    1:12   30.02  n/a     .000
00273>                           +     1.0 02:S2-Roof-Ov     .00      .000 No_date    0:00    .00  n/a     .000
00274>                         SUM=    1.0 01:SITE2-IN       .45      .029 No_date    1:00   16.53  n/a     .000
00275> R0002:c00030-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00276>       ROUTE RESERVOIR ->      1.0 02:SITE2-IN          .45      .029 No_date    1:00   16.53  n/a     .000
00277>                         out <=    1.0 01:SITE2-Out      .45      .006 No_date    1:46   16.53  n/a     .000
00278>                       overflow <=   1.0 03:SITE2-Over     .00      .000 No_date    0:00    .00  n/a     .000
00279>         (MxStoUsed=.3385E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00280> R0002:c00031-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00281>       ADD HYD                 1.0 02:SITE1-Out         .48      .006 No_date    1:46   15.99  n/a     .000
00282>                           +     1.0 02:SITE1-Over     .00      .000 No_date    0:00    .00  n/a     .000
00283>                         SUM=    1.0 01:Site1          .48      .006 No_date    1:46   15.99  n/a     .000
00284> R0002:c00032-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00285>       ADD HYD                 1.0 02:SITE2-Out         .45      .006 No_date    1:46   16.53  n/a     .000
00286>                           +     1.0 02:SITE2-Over     .00      .000 No_date    0:00    .00  n/a     .000
00287>                         SUM=    1.0 01:Site2          .45      .006 No_date    1:46   16.53  n/a     .000
00288> R0002:c00033-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00289>       ADD HYD                 1.0 02:EXT2              .28      .007 No_date    1:25   10.26  n/a     .000
00290>                           +     1.0 02:Pre2_1         .01      .001 No_date    1:00    5.86  n/a     .000
00291>                           +     1.0 02:Site1          .48      .006 No_date    1:46   15.99  n/a     .000
00292>                           +     1.0 02:Site2          .45      .006 No_date    1:46   16.53  n/a     .000
00293>                         SUM=    1.0 01:J1            1.23      .019 No_date    1:27   14.76  n/a     .000
00294> R0002:c00034-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00295>       ROUTE CHANNEL   ->      1.0 02:J1              1.23      .019 No_date    1:27   14.76  n/a     .000
00296>         [RDT= 1.00] out<-     1.0 01:R1              1.23      .019 No_date    1:36   14.76  n/a     .000
00297>          [L/S/n=  143./ .394/.035]
00298>          [Vmax=   .258:Dmax=   .092]
00299> R0002:c00035-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00300>       ADD HYD                 1.0 02:R1              1.23      .019 No_date    1:36   14.76  n/a     .000
00301>                           +     1.0 02:EXT3           .56      .011 No_date    1:24    8.15  n/a     .000
00302>                           +     1.0 02:EXT1          3.21      .037 No_date    1:58    8.15  n/a     .000
00303>                         SUM=    1.0 01:J2            5.00      .062 No_date    1:46    9.78  n/a     .000
00304> R0002:c00036-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00305>       ROUTE CHANNEL   ->      1.0 02:J2              5.00      .062 No_date    1:46    9.78  n/a     .000
00306>         [RDT= 1.00] out<-     1.0 01:R2              5.00      .062 No_date    1:49    9.78  n/a     .000
00307>          [L/S/n=   73./ .425/.035]
00308>          [Vmax=   .359:Dmax=   .160]
00309> R0002:c00037-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00310>       ADD HYD                 1.0 02:R2              5.00      .062 No_date    1:49    9.78  n/a     .000
00311>                           +     1.0 02:EXT4           .31      .006 No_date    1:22    7.80  n/a     .000
00312>                         SUM=    1.0 01:J3            5.31      .065 No_date    1:46    9.66  n/a     .000
00313> R0002:c00038-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00314>       ROUTE CHANNEL   ->      1.0 02:J3              5.31      .065 No_date    1:46    9.66  n/a     .000
00315>         [RDT= 1.00] out<-     1.0 01:R3              5.31      .065 No_date    1:51    9.66  n/a     .000
00316>          [L/S/n=   92./ .274/.035]
00317>          [Vmax=   .294:Dmax=   .165]
00318> R0002:c00039-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00319>       ADD HYD                 1.0 02:R3              5.31      .065 No_date    1:51    9.66  n/a     .000
00320>                           +     1.0 02:EXT5           .59      .008 No_date    1:36    6.88  n/a     .000
00321>                         SUM=    1.0 01:J4            5.90      .072 No_date    1:49    9.38  n/a     .000
00322> R0002:c00040-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00323>       ROUTE CHANNEL   ->      1.0 02:J4              5.90      .072 No_date    1:49    9.38  n/a     .000
00324>         [RDT= 1.00] out<-     1.0 01:R4              5.90      .067 No_date    2:05    9.38  n/a     .000
00325>          [L/S/n=  251./ .190/.035]
00326>          [Vmax=   .272:Dmax=   .178]
00327> R0002:c00041-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00328>       ADD HYD                 1.0 02:R4              5.90      .067 No_date    2:05    9.38  n/a     .000
00329>                           +     1.0 02:EXT6           .86      .015 No_date    1:44   10.27  n/a     .000
00330>                           +     1.0 02:EXT7           .47      .011 No_date    1:24    9.33  n/a     .000
00331>                         SUM=    1.0 01:J5            7.24      .086 No_date    1:58    9.48  n/a     .000
00332> R0002:c00042-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00333>       ROUTE CHANNEL   ->      1.0 02:J5              7.24      .086 No_date    1:58    9.48  n/a     .000
00334>         [RDT= 1.00] out<-     1.0 01:R5              7.24      .084 No_date    2:05    9.48  n/a     .000
00335>          [L/S/n=  237./ .644/.035]
00336>          [Vmax=   .444:Dmax=   .171]
00337> R0002:c00043-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00338>       ADD HYD                 1.0 02:Pre10_1           .80      .011 No_date    1:22    5.65  n/a     .000
00339>                           +     1.0 02:Pre9_2         .01      .001 No_date    1:00    6.60  n/a     .000
00340>                           +     1.0 02:Pre2_2         .00      .000 No_date    1:00    7.46  n/a     .000
00341>                         SUM=    1.0 01:Pre            .81      .011 No_date    1:22    5.67  n/a     .000
00342> R0002:c00044-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00343>       ROUTE CHANNEL   ->      1.0 02:Pre             .81      .011 No_date    1:22    5.67  n/a     .000
00344>         [RDT= 1.00] out<-     1.0 01:R6              .81      .011 No_date    1:25    5.67  n/a     .000
00345>          [L/S/n=   77./ .776/.035]
00346>          [Vmax=   .492:Dmax=   .008]
00347> R0002:c00045-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00348>       ROUTE CHANNEL   ->      1.0 02:Pre9_1            .44      .005 No_date    1:30    5.64  n/a     .000
00349>         [RDT= 1.00] out<-     1.0 01:R7              .44      .005 No_date    1:34    5.64  n/a     .000
00350>          [L/S/n=  159./1.576/.035]
00351>          [Vmax=   .797:Dmax=   .002]
00352> R0002:c00046-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00353>       ADD HYD                 1.0 02:R6              .81      .022 No_date    4:19    5.83  n/a     .000
00354>                           +     1.0 02:EXT10          .20      .002 No_date    1:34    5.64  n/a     .000
00355>                           +     1.0 02:Pre11_1        .07      .002 No_date    1:15    7.47  n/a     .000
00356>                           +     1.0 02:EXT9a          .01      .001 No_date    1:00    7.47  n/a     .000
00357>                         SUM=    1.0 01:J6            1.10      .022 No_date    4:19    5.91  n/a     .000
00358> R0002:c00047-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00359>       ROUTE CHANNEL   ->      1.0 02:J6              1.10      .022 No_date    4:19    5.91  n/a     .000
00360>         [RDT= 1.00] out<-     1.0 01:R8              1.10      .015 No_date    1:28    5.91  n/a     .000
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00361>       [L/S/n=   79./ .522/.035]
00362>       [Vmax=  .423:Dmax=  .016]
00363> R0002:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00364>      ADD HYD              1.0 02:R8            1.10     .016 No_date    4:41    6.00  n/a     .000
00365>                     +     1.0 02:R7             .44     .017 No_date    4:37    5.88  n/a     .000
00366>                    SUM=   1.0 01:J7            1.53     .020 No_date    1:30    5.96  n/a     .000
00367> R0002:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00368>      ROUTE CHANNEL   ->    1.0 02:J7            1.53     .020 No_date    1:30    5.96  n/a     .000
00369>        [RDT= 1.00] out<-   1.0 01:R9            1.53     .020 No_date    1:31    5.96  n/a     .000
00370>        [L/S/n=   29./ .887/.035]
00371>        [Vmax=  .543:Dmax=  .013]
00372> R0002:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00373>      ADD HYD              1.0 02:EXT9          3.57     .045 No_date    1:38    6.88  n/a     .000
00374>                     +     1.0 02:R9            1.53     .020 No_date    1:31    6.02  n/a     .000
00375>                     +     1.0 02:EXT8           .83     .013 No_date    1:33    7.81  n/a     .000
00376>                     +     1.0 02:R5            7.24     .084 No_date    2:05    9.48  n/a     .000
00377>                    SUM=   1.0 01:J8           13.18     .146 No_date    1:52    8.27  n/a     .000
00378> R0002:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00379>      ROUTE PIPE      ->    1.0 02:J8           13.18     .146 No_date    1:52    8.27  n/a     .000
00380> *    [RDT= 1.00] out<-   1.0 01:Outlet        13.18     .146 No_date    1:53    8.27  n/a     .000
00381>        [L/S/n=    8./ .010/.013]
00382>        [Vmax=  .307:Dmax=  .682]
00383>        [Din=  .53:Dused=  .83]
00384> ##############################################################################
00385> # STORMS
00386> ##############################################################################
00387>   ** END OF RUN :    4
00388>
00389> ****************************************************************************************
00390>
00391>
00392>
00393>
00394>
00395>  RUN#:COMMAND#
00396> R0005:C00001------------------------------------------------------------------------------
00397>       START
00398>         [TZERO =     .00 hrs on        0]
00399>         [METOUT=   2    (1=imperial, 2=metric output)]
00400>         [NSTORM=   1 ]
00401>         [NRUN  = 0005 ]
00402> ****************************************************************************************
00403> #  SWMHYMO  / INPUT DATA FILE
00404> ****************************************************************************************
00405> #  Project Name  : [5923 Ottawa St]
00406> #  Project Number: [P2710(e01)]
00407> #  Date          : [2025 April 28]
00408> #  Modeller      : [MM]
00409> #  Company       : JFSA Canada Inc.
00410> #  License #     : 2549237
00411> ****************************************************************************************
00412> # Model developed to simulate runoff from subcatchments under post development conditions
00413> ****************************************************************************************
00414> R0005:C00002------------------------------------------------------------------------------
00415>       READ STORM
00416>         Filename = STORM.001
00417>         Comment  = CHICAGO STORM  5 Year, 3 Hours
00418>         [SDT=10.00:SDUR=   3.00:PTOT=  42.51]
00419> ****************************************************************************************
00420> R0005:C00003------------------------------------------------------------------------------
00421>       DEFAULT VALUES
00422>         Filename = C:\Temp\20260327-PostDev\Ottawa.val
00423>         ICASEdv  = 1 (read and print data)
00424>         FileTitle= File comment: [Parameters for City of Ottawa Projects]
00425>                    THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
00426>         Horton's infiltration equation parameters:
00427>         [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
00428>         Parameters for PERVIOUS surfaces in STANDHYD:
00429>         [IAper=   4.67 mm] [LGP=40.00 m] [MNP=  .250]
00430>         Parameters for IMPERVIOUS surfaces in STANDHYD:
00431>         [IAimp=   1.57 mm] [DCI= 1.50]   [MNI=  .013]
00432>         Parameters used in NASHYD:
00433>         [Ia=   4.67 mm] [N= 3.00]
00434>         Average monthly Pan Evaporation data in     (mm)
00435>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00436>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00437>         Average monthly Potential Evapotranspiration in     (mm)
00438>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00439>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00440> ****************************************************************************************
00441> # EXT1
00442> ****************************************************************************************
00443> R0005:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00444>      CALIB NASHYD         1.0 01:EXT1            3.21     .066 No_date    1:55   14.13 .332     .000
00445>        [CN= 80.0: N= 3.00: Tp=  .72]
00446> ****************************************************************************************
00447> # EXT2
00448> ****************************************************************************************
00449> R0005:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00450>      CALIB NASHYD         1.0 01:EXT2             .28     .012 No_date    1:23   17.32 .407     .000
00451>        [CN= 85.0: N= 3.00: Tp=  .33]
00452> ****************************************************************************************
00453> # EXT3
00454> ****************************************************************************************
00455> R0005:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00456>      CALIB NASHYD         1.0 01:EXT3             .56     .020 No_date    1:23   14.13 .332     .000
00457>        [CN= 80.0: N= 3.00: Tp=  .32]
00458> ****************************************************************************************
00459> # EXT4
00460> ****************************************************************************************
00461> R0005:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00462>      CALIB NASHYD         1.0 01:EXT4             .31     .011 No_date    1:21   13.59 .320     .000
00463>        [CN= 79.0: N= 3.00: Tp=  .29]
00464> ****************************************************************************************
00465> # EXT5
00466> ****************************************************************************************
00467> R0005:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00468>      CALIB NASHYD         1.0 01:EXT5             .59     .014 No_date    1:34   12.13 .285     .000
00469>        [CN= 76.0: N= 3.00: Tp=  .45]
00470> ****************************************************************************************
00471> # EXT6
00472> ****************************************************************************************
00473> R0005:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00474>      CALIB NASHYD         1.0 01:EXT6             .86     .026 No_date    1:42   17.32 .407     .000
00475>        [CN= 85.0: N= 3.00: Tp=  .56]
00476> ****************************************************************************************
00477> # EXT7
00478> ****************************************************************************************
00479> R0005:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00480>      CALIB NASHYD         1.0 01:EXT7             .47     .019 No_date    1:23   15.94 .375     .000
00481>        [CN= 83.0: N= 3.00: Tp=  .32]
00482> ****************************************************************************************
00483> # EXT8
00484> ****************************************************************************************
00485> R0005:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00486>      CALIB NASHYD         1.0 01:EXT8             .83     .024 No_date    1:31   13.59 .320     .000
00487>        [CN= 79.0: N= 3.00: Tp=  .42]
00488> ****************************************************************************************
00489> # EXT9
00490> ****************************************************************************************
00491> R0005:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00492>      CALIB NASHYD         1.0 01:EXT9            3.57     .083 No_date    1:36   12.13 .285     .000
00493>        [CN= 76.0: N= 3.00: Tp=  .48]
00494> ****************************************************************************************
00495> # EXT9a
00496> ****************************************************************************************
00497> R0005:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00498>      CALIB NASHYD         1.0 01:EXT9a            .01     .001 No_date    1:00   13.07 .307     .000
00499>        [CN= 78.0: N= 3.00: Tp=  .04]
00500> ****************************************************************************************
00501> # EXT10
00502> ****************************************************************************************
00503> R0005:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00504>      CALIB NASHYD         1.0 01:EXT10            .20     .004 No_date    1:32   10.11 .238     .000
00505>        [CN= 71.0: N= 3.00: Tp=  .42]
00506> ****************************************************************************************
00507> # Pre2_1
00508> ****************************************************************************************
00509> R0005:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00510> *    CALIB NASHYD         1.0 01:Pre2_1           .01     .001 No_date    1:00   10.48 .246     .000
00511>        [CN= 72.0: N= 3.00: Tp=  .03]
00512> ****************************************************************************************
00513> # Pre2_2
00514> ****************************************************************************************
00515> R0005:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00516> *    CALIB NASHYD         1.0 01:Pre2_2           .00     .000 No_date    1:00   13.06 .307     .000
00517>        [CN= 78.0: N= 3.00: Tp=  .02]
00518> ****************************************************************************************
00519> # Pre9_1
00520> ****************************************************************************************
00521> R0005:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00522>      CALIB NASHYD         1.0 01:Pre9_1           .44     .010 No_date    1:29   10.11 .238     .000
00523>        [CN= 71.0: N= 3.00: Tp=  .38]
00524> ****************************************************************************************
00525> # Pre9_2
00526> ****************************************************************************************
00527> R0005:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00528> *    CALIB NASHYD         1.0 01:Pre9_2           .01     .001 No_date    1:00   11.68 .275     .000
00529>        [CN= 75.0: N= 3.00: Tp=  .03]
00530> ****************************************************************************************
00531> # Pre10_1
00532> ****************************************************************************************
00533> R0005:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00534>      CALIB NASHYD         1.0 01:Pre10_1          .80     .021 No_date    1:21   10.11 .238     .000
00535>        [CN= 71.0: N= 3.00: Tp=  .29]
00536> ****************************************************************************************
00537> # Pre11_1
00538> ****************************************************************************************
00539> R0005:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00540>      CALIB NASHYD         1.0 01:Pre11_1          .07     .003 No_date    1:14   13.07 .308     .000
00541>        [CN= 78.0: N= 3.00: Tp=  .21]
00542> ****************************************************************************************
00543> # Site 1
00544> ****************************************************************************************
00545> R0005:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00546>      DESIGN STANDHYD      1.0 01:S1-B1            .42     .053 No_date    1:00   21.70 .510     .000
00547>        [XIMP=.34:TIMP=.44]
00548>        [SLP=1.00:DT= 1.00]
00549>        [LOSS= 1 : HORTONS]
00550> ****************************************************************************************
00551> # Site 1 - Roof
00552> ****************************************************************************************
00553> R0005:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00554>      DESIGN STANDHYD      1.0 01:S1-Roof          .06     .019 No_date    1:00   40.62 .955     .000
00555>        [XIMP=.99:TIMP=.99]
00556>        [SLP= .50:DT= 1.00]
00557>        [LOSS= 1 : HORTONS]
00558> R0005:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00559>      ROUTE RESERVOIR ->    1.0 02:S1-Roof          .06     .019 No_date    1:00   40.62  n/a     .000
00560>                      out <=    1.0 01:S1-Roof-Ou   .06     .004 No_date    1:11   40.62  n/a     .000
00561>                overflow <=     1.0 03:S1-Roof-Ov   .00     .000 No_date    0:00    .00  n/a     .000
00562>       (MxStoUsed=.1397E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs)
00563> R0005:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00564>      ADD HYD              1.0 02:S1-B1            .42     .053 No_date    1:00   21.70  n/a     .000
00565>                     +     1.0 02:S1-Roof-Ou       .06     .004 No_date    1:11   40.62  n/a     .000
00566>                     +     1.0 02:S1-Roof-Ov       .00     .000 No_date    0:00    .00  n/a     .000
00567>                    SUM=   1.0 01:SITE1-IN         .48     .056 No_date    1:00   24.25  n/a     .000
00568> R0005:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00569>      ROUTE RESERVOIR ->    1.0 02:SITE1-IN         .48     .056 No_date    1:00   24.25  n/a     .000
00570>                      out <=    1.0 01:SITE1-Out    .48     .007 No_date    1:49   24.25  n/a     .000
00571>                overflow <=     1.0 03:SITE1-Over   .00     .000 No_date    0:00    .00  n/a     .000
00572>       (MxStoUsed=.7072E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs)
00573> ****************************************************************************************
00574> # Site 2
00575> ****************************************************************************************
00576> R0005:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00577>      DESIGN STANDHYD      1.0 01:S2-B3            .36     .043 No_date    1:00   20.76 .488     .000
00578>        [XIMP=.31:TIMP=.41]
00579>        [SLP=1.00:DT= 1.00]
00580>        [LOSS= 1 : HORTONS]
00581> ****************************************************************************************
00582> # Site 2 - Roof
00583> ****************************************************************************************
00584> R0005:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00585>      DESIGN STANDHYD      1.0 01:S2-Roof          .09     .027 No_date    1:00   40.61 .955     .000
00586>        [XIMP=.99:TIMP=.99]
00587>        [SLP= .50:DT= 1.00]
00588>        [LOSS= 1 : HORTONS]
00589> ****************************************************************************************
00590> R0005:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00591>      ROUTE RESERVOIR ->    1.0 02:S2-Roof          .09     .027 No_date    1:00   40.61  n/a     .000
00592>                      out <=    1.0 01:S2-Roof-Ou   .09     .006 No_date    1:11   40.61  n/a     .000
00593>                overflow <=     1.0 03:S2-Roof-Ov   .00     .000 No_date    0:00    .00  n/a     .000
00594>       (MxStoUsed=.1968E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs)
00595> R0005:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00596>      ADD HYD              1.0 02:S2-B3            .36     .043 No_date    1:00   20.76  n/a     .000
00597>                     +     1.0 02:S2-Roof-Ou       .09     .006 No_date    1:11   40.61  n/a     .000
00598>                     +     1.0 02:S2-Roof-Ov       .00     .000 No_date    0:00    .00  n/a     .000
00599>                    SUM=   1.0 01:SITE2-IN         .45     .048 No_date    1:00   24.87  n/a     .000
00600> R0005:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00601>      ROUTE RESERVOIR ->    1.0 02:SITE2-IN         .45     .048 No_date    1:00   24.87  n/a     .000
00602>                      out <=    1.0 01:SITE2-Out    .45     .008 No_date    1:48   24.87  n/a     .000
00603>                overflow <=     1.0 03:SITE2-Over   .00     .000 No_date    0:00    .00  n/a     .000
00604>       (MxStoUsed=.6110E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs)
00605> R0005:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00606>      ADD HYD              1.0 02:SITE1-Out        .48     .007 No_date    1:49   24.25  n/a     .000
00607>                     +     1.0 02:SITE1-Over       .00     .000 No_date    0:00    .00  n/a     .000
00608>                    SUM=   1.0 01:Site1            .48     .007 No_date    1:49   24.25  n/a     .000
00609> R0005:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00610>      ADD HYD              1.0 02:SITE2-Out        .45     .008 No_date    1:48   24.87  n/a     .000
00611>                     +     1.0 02:SITE2-Over       .00     .000 No_date    0:00    .00  n/a     .000
00612>                    SUM=   1.0 01:Site2            .45     .008 No_date    1:48   24.87  n/a     .000
00613> R0005:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00614>      ADD HYD              1.0 02:EXT2             .28     .012 No_date    1:23   17.32  n/a     .000
00615>                     +     1.0 02:Pre2_1           .01     .001 No_date    1:00   10.48  n/a     .000
00616>                     +     1.0 02:Site1            .48     .007 No_date    1:49   24.25  n/a     .000
00617>                     +     1.0 02:Site2            .45     .008 No_date    1:48   24.87  n/a     .000
00618>                    SUM=   1.0 01:J1              1.23     .027 No_date    1:24   22.72  n/a     .000
00619> R0005:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00620>      ROUTE CHANNEL   ->    1.0 02:J1              1.23     .027 No_date    1:24   22.72  n/a     .000
00621>        [RDT= 1.00] out<-   1.0 01:R1              1.23     .026 No_date    1:31   22.72  n/a     .000
00622>        [L/S/n=  143./ .394/.035]
00623>        [Vmax=  .293:Dmax=  .110]
00624> R0005:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00625>      ADD HYD              1.0 02:R1              1.23     .026 No_date    1:31   22.72  n/a     .000
00626>                     +     1.0 02:EXT3             .56     .020 No_date    1:23   14.13  n/a     .000
00627>                     +     1.0 02:EXT1            3.21     .066 No_date    1:55   14.13  n/a     .000
00628>                    SUM=   1.0 01:J2              5.00     .102 No_date    1:44   16.24  n/a     .000
00629> R0005:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00630>      ROUTE CHANNEL   ->    1.0 02:J2              5.00     .102 No_date    1:44   16.24  n/a     .000
00631>        [RDT= 1.00] out<-   1.0 01:R2              5.00     .102 No_date    1:46   16.24  n/a     .000
00632>        [L/S/n=   73./ .425/.035]
00633>        [Vmax=  .413:Dmax=  .196]
00634> R0005:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00635>      ADD HYD              1.0 02:R2              5.00     .102 No_date    1:46   16.24  n/a     .000
00636>                     +     1.0 02:EXT4             .31     .011 No_date    1:21   13.59  n/a     .000
00637>                    SUM=   1.0 01:J3              5.31     .109 No_date    1:42   16.09  n/a     .000
00638> R0005:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00639>      ROUTE CHANNEL   ->    1.0 02:J3              5.31     .109 No_date    1:42   16.09  n/a     .000
00640>        [RDT= 1.00] out<-   1.0 01:R3              5.31     .108 No_date    1:47   16.09  n/a     .000
00641>        [L/S/n=   92./ .274/.035]
00642>        [Vmax=  .338:Dmax=  .203]
00643> R0005:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00644>      ADD HYD              1.0 02:R3              5.31     .108 No_date    1:47   16.09  n/a     .000
00645>                     +     1.0 02:EXT5             .59     .014 No_date    1:34   12.13  n/a     .000
00646>                    SUM=   1.0 01:J4              5.90     .122 No_date    1:45   15.69  n/a     .000
00647> R0005:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00648>      ROUTE CHANNEL   ->    1.0 02:J4              5.90     .122 No_date    1:45   15.69  n/a     .000
00649>        [RDT= 1.00] out<-   1.0 01:R4              5.90     .114 No_date    1:58   15.69  n/a     .000
00650>        [L/S/n=  251./ .190/.035]
00651>        [Vmax=  .323:Dmax=  .222]
00652> R0005:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00653>      ADD HYD              1.0 02:R4              5.90     .114 No_date    1:58   15.69  n/a     .000
00654>                     +     1.0 02:EXT6             .86     .026 No_date    1:42   17.32  n/a     .000
00655>                     +     1.0 02:EXT7             .47     .019 No_date    1:23   15.94  n/a     .000
00656>                    SUM=   1.0 01:J5              7.24     .149 No_date    1:52   15.90  n/a     .000
00657> R0005:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00658>      ROUTE CHANNEL   ->    1.0 02:J5              7.24     .149 No_date    1:52   15.90  n/a     .000
00659>        [RDT= 1.00] out<-   1.0 01:R5              7.24     .146 No_date    1:59   15.90  n/a     .000
00660>        [L/S/n=  237./ .644/.035]
00661>        [Vmax=  .521:Dmax=  .211]
00662> R0005:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00663>      ADD HYD              1.0 02:Pre10_1          .80     .021 No_date    1:21   10.11  n/a     .000
00664>                     +     1.0 02:Pre9_2           .01     .001 No_date    1:00   11.68  n/a     .000
00665>                     +     1.0 02:Pre2_2           .00     .000 No_date    1:00   13.06  n/a     .000
00666>                    SUM=   1.0 01:Pre              .81     .021 No_date    1:21   10.15  n/a     .000
00667> R0005:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00668>      ROUTE CHANNEL   ->    1.0 02:Pre             .81     .021 No_date    1:21   10.15  n/a     .000
00669>        [RDT= 1.00] out<-   1.0 01:R6              .81     .021 No_date    1:24   10.15  n/a     .000
00670>        [L/S/n=   77./ .776/.035]
00671>        [Vmax=  .492:Dmax=  .016]
00672> R0005:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00673>      ROUTE CHANNEL   ->    1.0 02:Pre9_1           .44     .010 No_date    1:29   10.11  n/a     .000
00674>        [RDT= 1.00] out<-   1.0 01:R7              .44     .010 No_date    1:32   10.11  n/a     .000
00675>        [L/S/n=  159./1.576/.035]
00676>        [Vmax=  .797:Dmax=  .003]
00677> R0005:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00678>      ADD HYD              1.0 02:R6              .81     .028 No_date    4:24   10.36  n/a     .000
00679>                     +     1.0 02:EXT10            .20     .004 No_date    1:32   10.11  n/a     .000
00680>                     +     1.0 02:Pre11_1          .07     .003 No_date    1:14   13.07  n/a     .000
00681>                     +     1.0 02:EXT9a            .01     .001 No_date    1:00   13.07  n/a     .000
00682>                    SUM=   1.0 01:J6              1.10     .028 No_date    4:24   10.51  n/a     .000
00683> R0005:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00684>      ROUTE CHANNEL   ->    1.0 02:J6              1.10     .028 No_date    4:24   10.51  n/a     .000
00685>        [RDT= 1.00] out<-   1.0 01:R8              1.10     .027 No_date    1:27   10.51  n/a     .000
00686>        [L/S/n=   79./ .522/.035]
00687>        [Vmax=  .423:Dmax=  .021]
00688> R0005:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00689>      ADD HYD              1.0 02:R8              1.10     .027 No_date    1:27   10.62  n/a     .000
00690>                     +     1.0 02:R7              .44     .022 No_date    4:43   10.42  n/a     .000
00691>                    SUM=   1.0 01:J7              1.53     .037 No_date    1:28   10.56  n/a     .000
00692> R0005:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00693>      ROUTE CHANNEL   ->    1.0 02:J7              1.53     .037 No_date    1:28   10.56  n/a     .000
00694>        [RDT= 1.00] out<-   1.0 01:R9              1.53     .037 No_date    1:29   10.56  n/a     .000
00695>        [L/S/n=   29./ .887/.035]
00696>        [Vmax=  .543:Dmax=  .025]
00697> R0005:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00698>      ADD HYD              1.0 02:EXT9            3.57     .083 No_date    1:36   12.13  n/a     .000
00699>                     +     1.0 02:R9              1.53     .037 No_date    1:29   10.64  n/a     .000
00700>                     +     1.0 02:EXT8             .83     .024 No_date    1:31   13.59  n/a     .000
00701>                     +     1.0 02:R5              7.24     .146 No_date    1:59   15.90  n/a     .000
00702>                    SUM=   1.0 01:J8              13.18     .266 No_date    1:47   14.12  n/a     .000
00703> R0005:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00704>      ROUTE PIPE      ->    1.0 02:J8              13.18     .266 No_date    1:47   14.12  n/a     .000
00705> *    [RDT= 1.00] out<-   1.0 01:Outlet          13.18     .266 No_date    1:47   14.12  n/a     .000
00706>        [L/S/n=    8./ .010/.013]
00707>        [Vmax=  .357:Dmax=  .853]
00708>        [Din=  .53:Dused= 1.04)
00709> ##############################################################################
00710> # STORMS
00711> ##############################################################################
00712>   ** END OF RUN :    9
00713>
00714> ****************************************************************************************
00715>
00716>
00717>
00718>
00719>
00720>  RUN#:COMMAND#
```

```
00721> R0010:C00001-------------------------------------------------------------------------------
00722>       START
00723>        [TZERO =    .00 hrs on        0]
00724>        [METOUT=   2    (1=imperial, 2=metric output)]
00725>        [NSTORM=   1 ]
00726>        [NRUN  = 0010 ]
00727> *******************************************************************************
00728> #  SWMHYMO  / INPUT DATA FILE
00729> *******************************************************************************
00730> #  Project Name  : [5923 Ottawa St]
00731> #  Project Number: [P2710(e01)]
00732> #  Date          : [2025 April 28]
00733> #  Modeller      : [MM]
00734> #  Company       : JFSA Canada Inc.
00735> #  License #     : 2549237
00736> *******************************************************************************
00737> # Model developed to simulate runoff from subcatchments under post development conditions
00738> *******************************************************************************
00739> R0010:C00002-------------------------------------------------------------------------------
00740>       READ STORM
00741>        Filename = STORM.001
00742>        Comment  = CHICAGO STORM 10 Year, 3 Hours
00743>        [SDT=10.00:SDUR=   3.00:PTOT=  49.50]
00744> *******************************************************************************
00745> R0010:C00003-------------------------------------------------------------------------------
00746>       DEFAULT VALUES
00747>        Filename = C:\Temp\20260327-PostDev\Ottawa.val
00748>        ICASEdv  = 1 (read and print data)
00749>        FileTitle= File comment: [Parameters for City of Ottawa Projects]
00750>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
00751>        Horton's infiltration equation parameters:
00752>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
00753>        Parameters for PERVIOUS surfaces in STANDHYD:
00754>        [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
00755>        Parameters for IMPERVIOUS surfaces in STANDHYD:
00756>        [IAimp=   1.57 mm] [LGI= 1.50]   [MNI= .013]
00757>        Parameters used in NASHYD:
00758>        [Ia=   4.67 mm] [N= 3.00]
00759>        Average monthly Fan Evaporation data in     (mm)
00760>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00761>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00762>     Average monthly Potential Evapotranspiration in     (mm)
00763>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00764>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00765> *******************************************************************************
00766> # EXT1
00767> *******************************************************************************
00768> R0010:C00004-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00769>      CALIB NASHYD            1.0 01:EXT1           3.21      .088 No_date    1:54   18.55 .375     .000
00770>        [CN= 80.0: N= 3.00: Tp=  .72]
00771> *******************************************************************************
00772> # EXT2
00773> *******************************************************************************
00774> R0010:C00005-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00775>      CALIB NASHYD            1.0 01:EXT2           .28      .016 No_date    1:23   22.42 .453     .000
00776>        [CN= 85.0: N= 3.00: Tp=  .33]
00777> *******************************************************************************
00778> # EXT3
00779> *******************************************************************************
00780> R0010:C00006-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00781>      CALIB NASHYD            1.0 01:EXT3           .56      .027 No_date    1:23   18.55 .375     .000
00782>        [CN= 80.0: N= 3.00: Tp=  .32]
00783> *******************************************************************************
00784> # EXT4
00785> *******************************************************************************
00786> R0010:C00007-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00787>      CALIB NASHYD            1.0 01:EXT4           .31      .015 No_date    1:20   17.89 .361     .000
00788>        [CN= 79.0: N= 3.00: Tp=  .29]
00789> *******************************************************************************
00790> # EXT5
00791> *******************************************************************************
00792> R0010:C00008-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00793>      CALIB NASHYD            1.0 01:EXT5           .59      .019 No_date    1:33   16.07 .325     .000
00794>        [CN= 76.0: N= 3.00: Tp=  .45]
00795> *******************************************************************************
00796> # EXT6
00797> *******************************************************************************
00798> R0010:C00009-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00799>      CALIB NASHYD            1.0 01:EXT6           .86      .035 No_date    1:41   22.42 .453     .000
00800>        [CN= 85.0: N= 3.00: Tp=  .56]
00801> *******************************************************************************
00802> # EXT7
00803> *******************************************************************************
00804> R0010:C00010-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00805>      CALIB NASHYD            1.0 01:EXT7           .47      .025 No_date    1:22   20.75 .419     .000
00806>        [CN= 83.0: N= 3.00: Tp=  .32]
00807> *******************************************************************************
00808> # EXT8
00809> *******************************************************************************
00810> R0010:C00011-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00811>      CALIB NASHYD            1.0 01:EXT8           .83      .032 No_date    1:31   17.89 .361     .000
00812>        [CN= 79.0: N= 3.00: Tp=  .42]
00813> *******************************************************************************
00814> # EXT9
00815> *******************************************************************************
00816> R0010:C00012-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00817>      CALIB NASHYD            1.0 01:EXT9          3.57      .111 No_date    1:36   16.08 .325     .000
00818>        [CN= 76.0: N= 3.00: Tp=  .48]
00819> *******************************************************************************
00820> # EXT9a
00821> *******************************************************************************
00822> R0010:C00013-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00823>      CALIB NASHYD            1.0 01:EXT9a          .01      .001 No_date    1:00   17.25 .348     .000
00824>        [CN= 78.0: N= 3.00: Tp=  .04]
00825> *******************************************************************************
00826> # EXT10
00827> *******************************************************************************
00828> R0010:C00014-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00829>      CALIB NASHYD            1.0 01:EXT10          .20      .006 No_date    1:31   13.53 .273     .000
00830>        [CN= 71.0: N= 3.00: Tp=  .42]
00831> *******************************************************************************
00832> # Pre2_1
00833> *******************************************************************************
00834> R0010:C00015-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00835> *  CALIB NASHYD            1.0 01:Pre2_1          .01      .001 No_date    1:00   13.99 .283     .000
00836>        [CN= 72.0: N= 3.00: Tp=  .03]
00837> *******************************************************************************
00838> # Pre2_2
00839> *******************************************************************************
00840> R0010:C00016-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00841> *  CALIB NASHYD            1.0 01:Pre2_2          .00      .000 No_date    1:00   17.23 .348     .000
00842>        [CN= 78.0: N= 3.00: Tp=  .02]
00843> *******************************************************************************
00844> # Pre9_1
00845> *******************************************************************************
00846> R0010:C00017-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00847>      CALIB NASHYD            1.0 01:Pre9_1          .44      .013 No_date    1:28   13.53 .273     .000
00848>        [CN= 71.0: N= 3.00: Tp=  .38]
00849> *******************************************************************************
00850> # Pre9_2
00851> *******************************************************************************
00852> R0010:C00018-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00853> *  CALIB NASHYD            1.0 01:Pre9_2          .01      .002 No_date    1:00   15.51 .313     .000
00854>        [CN= 75.0: N= 3.00: Tp=  .03]
00855> *******************************************************************************
00856> # Pre10_1
00857> *******************************************************************************
00858> R0010:C00019-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00859>      CALIB NASHYD            1.0 01:Pre10_1         .80      .029 No_date    1:21   13.53 .273     .000
00860>        [CN= 71.0: N= 3.00: Tp=  .29]
00861> *******************************************************************************
00862> # Pre11_1
00863> *******************************************************************************
00864> R0010:C00020-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00865>      CALIB NASHYD            1.0 01:Pre11_1         .07      .004 No_date    1:14   17.25 .348     .000
00866>        [CN= 78.0: N= 3.00: Tp=  .21]
00867> *******************************************************************************
00868> # Site 1
00869> *******************************************************************************
00870> R0010:C00021-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00871>      DESIGN STANDHYD         1.0 01:S1-B1          .42      .071 No_date    1:00   27.23 .550     .000
00872>        [XIMP=.34:TIMP=.44]
00873>        [SLP=1.00:DT= 1.00]
00874>        [LOSS= 1 : HORTONS]
00875> *******************************************************************************
00876> # Site 1 - Roof
00877> *******************************************************************************
00878> R0010:C00022-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00879>      DESIGN STANDHYD         1.0 01:S1-Roof         .06      .022 No_date    1:00   47.58 .961     .000
00880>        [XIMP=.99:TIMP=.99]
00881>        [SLP= .50:DT= 1.00]
00882>        [LOSS= 1 : HORTONS]
00883> R0010:C00023-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00884>      ROUTE RESERVOIR ->      1.0 02:S1-Roof         .06      .022 No_date    1:00   47.58  n/a     .000
00885>                  out <=      1.0 01:S1-Roof-Ou      .06      .005 No_date    1:11   47.58  n/a     .000
00886>              overflow <=     1.0 03:S1-Roof-Ov      .00      .000 No_date    0:00    .00  n/a     .000
00887>       (MxStoUsed=.1642E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00888> R0010:C00024-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00889>      ADD HYD                 1.0 02:S1-B1           .42      .071 No_date    1:00   27.23  n/a     .000
00890>                          +   1.0 02:S1-Roof-Ou      .06      .005 No_date    1:11   47.58  n/a     .000
00891>                          +   1.0 02:S1-Roof-Ov      .00      .000 No_date    0:00    .00  n/a     .000
00892>                      SUM=    1.0 01:SITE1-IN        .48      .075 No_date    1:00   29.97  n/a     .000
00893> R0010:C00025-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00894>      ROUTE RESERVOIR ->      1.0 02:SITE1-IN        .48      .075 No_date    1:00   29.97  n/a     .000
00895>                  out <=      1.0 01:SITE1-Out       .48      .007 No_date    1:51   29.98  n/a     .000
00896>              overflow <=     1.0 03:SITE1-Over      .00      .000 No_date    0:00    .00  n/a     .000
00897>       (MxStoUsed=.9329E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00898> *******************************************************************************
00899> # Site 2
00900> *******************************************************************************
00901> R0010:C00026-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00902>      DESIGN STANDHYD         1.0 01:S2-B3          .36      .058 No_date    1:00   26.22 .530     .000
00903>        [XIMP=.31:TIMP=.41]
00904>        [SLP=1.00:DT= 1.00]
00905>        [LOSS= 1 : HORTONS]
00906> *******************************************************************************
00907> # Site 2 - Roof
00908> *******************************************************************************
00909> R0010:C00027-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00910>      DESIGN STANDHYD         1.0 01:S2-Roof         .09      .031 No_date    1:00   47.58 .961     .000
00911>        [XIMP=.99:TIMP=.99]
00912>        [SLP= .50:DT= 1.00]
00913>        [LOSS= 1 : HORTONS]
00914> *******************************************************************************
00915> R0010:C00028-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00916>      ROUTE RESERVOIR ->      1.0 02:S2-Roof         .09      .031 No_date    1:00   47.58  n/a     .000
00917>                  out <=      1.0 01:S2-Roof-Ou      .09      .008 No_date    1:11   47.58  n/a     .000
00918>              overflow <=     1.0 03:S2-Roof-Ov      .00      .000 No_date    0:00    .00  n/a     .000
00919>       (MxStoUsed=.2313E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00920> R0010:C00029-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00921>      ADD HYD                 1.0 02:S2-B3           .36      .058 No_date    1:00   26.22  n/a     .000
00922>                          +   1.0 02:S2-Roof-Ou      .09      .008 No_date    1:11   47.58  n/a     .000
00923>                          +   1.0 02:S2-Roof-Ov      .00      .000 No_date    0:00    .00  n/a     .000
00924>                      SUM=    1.0 01:SITE2-IN        .45      .064 No_date    1:00   30.63  n/a     .000
00925> R0010:C00030-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00926>      ROUTE RESERVOIR ->      1.0 02:SITE2-IN        .45      .064 No_date    1:00   30.63  n/a     .000
00927>                  out <=      1.0 01:SITE2-Out       .45      .008 No_date    1:51   30.64  n/a     .000
00928>              overflow <=     1.0 03:SITE2-Over      .00      .000 No_date    0:00    .00  n/a     .000
00929>       (MxStoUsed=.8112E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00930> R0010:C00031-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00931>      ADD HYD                 1.0 02:SITE1-Out       .48      .007 No_date    1:51   29.98  n/a     .000
00932>                          +   1.0 02:SITE1-Over      .00      .000 No_date    0:00    .00  n/a     .000
00933>                      SUM=    1.0 01:Site1           .48      .007 No_date    1:51   29.98  n/a     .000
00934> R0010:C00032-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00935>      ADD HYD                 1.0 02:SITE2-Out       .45      .008 No_date    1:51   30.64  n/a     .000
00936>                          +   1.0 02:SITE2-Over      .00      .000 No_date    0:00    .00  n/a     .000
00937>                      SUM=    1.0 01:Site2           .45      .008 No_date    1:51   30.64  n/a     .000
00938> R0010:C00033-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00939>      ADD HYD                 1.0 02:SITE2           .28      .016 No_date    1:23   22.42  n/a     .000
00940>                          +   1.0 02:Pre2_1          .01      .001 No_date    1:00   13.99  n/a     .000
00941>                          +   1.0 02:Site1           .48      .007 No_date    1:51   29.98  n/a     .000
00942>                          +   1.0 02:Site2           .45      .008 No_date    1:51   30.64  n/a     .000
00943>                      SUM=    1.0 01:J1             1.23      .032 No_date    1:23   28.30  n/a     .000
00944> R0010:C00034-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00945>      ROUTE CHANNEL   ->      1.0 02:J1             1.23      .032 No_date    1:23   28.30  n/a     .000
00946>        [RDT= 1.00] out<-     1.0 01:R1             1.23      .031 No_date    1:31   28.30  n/a     .000
00947>         [L/S/n=  143./ .394/.035]
00948>         [Vmax=   .303:Dmax=   .117]
00949> R0010:C00035-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00950>      ADD HYD                 1.0 02:R1             1.23      .031 No_date    1:31   28.30  n/a     .000
00951>                          +   1.0 02:EXT3           .56      .027 No_date    1:23   18.55  n/a     .000
00952>                          +   1.0 02:EXT1          3.21      .088 No_date    1:54   18.55  n/a     .000
00953>                      SUM=    1.0 01:J2             5.00      .132 No_date    1:43   20.95  n/a     .000
00954> R0010:C00036-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00955>      ROUTE CHANNEL   ->      1.0 02:J2             5.00      .132 No_date    1:43   20.95  n/a     .000
00956>        [RDT= 1.00] out<-     1.0 01:R2             5.00      .132 No_date    1:45   20.95  n/a     .000
00957>         [L/S/n=   73./ .425/.035]
00958>         [Vmax=   .441:Dmax=   .217]
00959> R0010:C00037-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00960>      ADD HYD                 1.0 02:R2             5.00      .132 No_date    1:45   20.95  n/a     .000
00961>                          +   1.0 02:EXT4           .31      .015 No_date    1:20   17.89  n/a     .000
00962>                      SUM=    1.0 01:J3             5.31      .142 No_date    1:42   20.77  n/a     .000
00963> R0010:C00038-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00964>      ROUTE CHANNEL   ->      1.0 02:J3             5.31      .142 No_date    1:42   20.77  n/a     .000
00965>        [RDT= 1.00] out<-     1.0 01:R3             5.31      .141 No_date    1:45   20.77  n/a     .000
00966>         [L/S/n=   92./ .274/.035]
00967>         [Vmax=   .361:Dmax=   .224]
00968> R0010:C00039-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00969>      ADD HYD                 1.0 02:R3             5.31      .141 No_date    1:45   20.77  n/a     .000
00970>                          +   1.0 02:EXT5           .59      .019 No_date    1:33   16.07  n/a     .000
00971>                      SUM=    1.0 01:J4             5.90      .159 No_date    1:44   20.30  n/a     .000
00972> R0010:C00040-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00973>      ROUTE CHANNEL   ->      1.0 02:J4             5.90      .159 No_date    1:44   20.30  n/a     .000
00974>        [RDT= 1.00] out<-     1.0 01:R4             5.90      .149 No_date    1:56   20.30  n/a     .000
00975>         [L/S/n=  251./ .190/.035]
00976>         [Vmax=   .350:Dmax=   .248]
00977> R0010:C00041-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00978>      ADD HYD                 1.0 02:R4             5.90      .149 No_date    1:56   20.30  n/a     .000
00979>                          +   1.0 02:EXT6           .86      .035 No_date    1:41   22.42  n/a     .000
00980>                          +   1.0 02:EXT7           .47      .025 No_date    1:22   20.75  n/a     .000
00981>                      SUM=    1.0 01:J5             7.24      .196 No_date    1:50   20.58  n/a     .000
00982> R0010:C00042-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00983>      ROUTE CHANNEL   ->      1.0 02:J5             7.24      .196 No_date    1:50   20.58  n/a     .000
00984>        [RDT= 1.00] out<-     1.0 01:R5             7.24      .193 No_date    1:55   20.58  n/a     .000
00985>         [L/S/n=  237./ .644/.035]
00986>         [Vmax=   .571:Dmax=   .237]
00987> R0010:C00043-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00988>      ADD HYD                 1.0 02:Pre10_1         .80      .029 No_date    1:21   13.53  n/a     .000
00989>                          +   1.0 02:Pre9_2          .01      .002 No_date    1:00   15.51  n/a     .000
00990>                          +   1.0 02:Pre2_2          .00      .000 No_date    1:00   17.23  n/a     .000
00991>                      SUM=    1.0 01:Pre            .81      .029 No_date    1:20   13.57  n/a     .000
00992> R0010:C00044-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00993>      ROUTE CHANNEL   ->      1.0 02:Pre            .81      .029 No_date    1:20   13.57  n/a     .000
00994>        [RDT= 1.00] out<-     1.0 01:R6             .81      .029 No_date    1:23   13.57  n/a     .000
00995>         [L/S/n=   77./ .776/.035]
00996>         [Vmax=   .492:Dmax=   .000]
00997> R0010:C00045-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
00998>      ROUTE CHANNEL   ->      1.0 02:Pre9_1          .44      .013 No_date    1:28   13.53  n/a     .000
00999>        [RDT= 1.00] out<-     1.0 01:R7             .44      .013 No_date    1:32   13.53  n/a     .000
01000>         [L/S/n=  159./1.576/.035]
01001>         [Vmax=   .797:Dmax=   .004]
01002> R0010:C00046-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01003>      ADD HYD                 1.0 02:R6             .81      .033 No_date    4:26   13.82  n/a     .000
01004>                          +   1.0 02:EXT10          .20      .006 No_date    1:31   13.53  n/a     .000
01005>                          +   1.0 02:Pre11_1        .07      .004 No_date    1:14   17.25  n/a     .000
01006>                          +   1.0 02:EXT9a          .01      .001 No_date    1:00   17.25  n/a     .000
01007>                      SUM=    1.0 01:J6             1.10      .038 No_date    1:23   14.01  n/a     .000
01008> R0010:C00047-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01009>      ROUTE CHANNEL   ->      1.0 02:J6             1.10      .038 No_date    1:23   14.01  n/a     .000
01010>        [RDT= 1.00] out<-     1.0 01:R8             1.10      .037 No_date    1:27   14.01  n/a     .000
01011>         [L/S/n=   79./ .522/.035]
01012>         [Vmax=   .423:Dmax=   .028]
01013> R0010:C00048-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01014>      ADD HYD                 1.0 02:R8             1.10      .037 No_date    1:27   14.14  n/a     .000
01015>                          +   1.0 02:R7             .44      .025 No_date    4:45   13.87  n/a     .000
01016>                      SUM=    1.0 01:J7             1.53      .050 No_date    1:28   14.06  n/a     .000
01017> R0010:C00049-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01018>      ROUTE CHANNEL   ->      1.0 02:J7             1.53      .050 No_date    1:28   14.06  n/a     .000
01019>        [RDT= 1.00] out<-     1.0 01:R9             1.53      .050 No_date    1:29   14.06  n/a     .000
01020>         [L/S/n=   29./ .887/.035]
01021>         [Vmax=   .543:Dmax=   .034]
01022> R0010:C00050-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01023>      ADD HYD                 1.0 02:EXT9           3.57      .111 No_date    1:36   16.08  n/a     .000
01024>                          +   1.0 02:R9             1.53      .050 No_date    1:29   14.15  n/a     .000
01025>                          +   1.0 02:EXT8           .83      .032 No_date    1:31   17.89  n/a     .000
01026>                          +   1.0 02:R5             7.24      .193 No_date    1:55   20.58  n/a     .000
01027>                      SUM=    1.0 01:J8            13.18      .359 No_date    1:45   18.44  n/a     .000
01028> R0010:C00051-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01029>      ROUTE PIPE      ->      1.0 02:J8            13.18      .359 No_date    1:45   18.44  n/a     .000
01030> *  [RDT= 1.00] out<-     1.0 01:Outlet          13.18      .359 No_date    1:45   18.44  n/a     .000
01031>         [L/S/n=    8./ .010/.013]
01032>         [Vmax=   .385:Dmax=   .955]
01033>         [Din=  .53:Dused= 1.16)
01034> ###############################################################################
01035> # STORMS
01036> ###############################################################################
01037>  ** END OF RUN :   24
01038>
01039> *******************************************************************************
01040>
01041>
01042>
01043>
01044>
01045>  RUN#:COMMAND#
01046> R0025:C00001-------------------------------------------------------------------------------
01047>       START
01048>        [TZERO =    .00 hrs on        0]
01049>        [METOUT=   2    (1=imperial, 2=metric output)]
01050>        [NSTORM=   1 ]
01051>        [NRUN  = 0025 ]
01052> *******************************************************************************
01053> #  SWMHYMO  / INPUT DATA FILE
01054> *******************************************************************************
01055> #  Project Name  : [5923 Ottawa St]
01056> #  Project Number: [P2710(e01)]
01057> #  Date          : [2025 April 28]
01058> #  Modeller      : [MM]
01059> #  Company       : JFSA Canada Inc.
01060> #  License #     : 2549237
01061> *******************************************************************************
01062> # Model developed to simulate runoff from subcatchments under post development conditions
01063> *******************************************************************************
01064> R0025:C00002-------------------------------------------------------------------------------
01065>       READ STORM
01066>        Filename = STORM.001
01067>        Comment  = CHICAGO STORM   25 Year, 3 Hours
01068>        [SDT=10.00:SDUR=   3.00:PTOT=  58.23]
01069> *******************************************************************************
01070> R0025:C00003-------------------------------------------------------------------------------
01071>       DEFAULT VALUES
01072>        Filename = C:\Temp\20260327-PostDev\Ottawa.val
01073>        ICASEdv  = 1 (read and print data)
01074>        FileTitle= File comment: [Parameters for City of Ottawa Projects]
01075>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
01076>        Horton's infiltration equation parameters:
01077>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
01078>        Parameters for PERVIOUS surfaces in STANDHYD:
01079>        [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
01080>        Parameters for IMPERVIOUS surfaces in STANDHYD:
```

```
01081>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
01082>       Parameters used in NASHYD:
01083>       [Ia=   4.67 mm] [N= 3.00]
01084>       Average monthly Pan Evaporation data in    (mm)
01085>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01086>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01087>       Average monthly Potential Evapotranspiration in    (mm)
01088>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01089>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01090> #*************************************************************************************
01091> # EXT1
01092> #*************************************************************************************
01093> R0025:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01094>      CALIB NASHYD             1.0 01:EXT1          3.21      .118 No_date    1:53   24.50 .421     .000
01095>        [CN= 80.0: N= 3.00: Tp=  .72]
01096> #*************************************************************************************
01097> # EXT2
01098> #*************************************************************************************
01099> R0025:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01100>      CALIB NASHYD             1.0 01:EXT2          .28      .022 No_date    1:22   29.15 .501     .000
01101>        [CN= 85.0: N= 3.00: Tp=  .33]
01102> #*************************************************************************************
01103> # EXT3
01104> #*************************************************************************************
01105> R0025:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01106>      CALIB NASHYD             1.0 01:EXT3          .56      .036 No_date    1:22   24.50 .421     .000
01107>        [CN= 80.0: N= 3.00: Tp=  .32]
01108> #*************************************************************************************
01109> # EXT4
01110> #*************************************************************************************
01111> R0025:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01112>      CALIB NASHYD             1.0 01:EXT4          .31      .020 No_date    1:20   23.69 .407     .000
01113>        [CN= 79.0: N= 3.00: Tp=  .29]
01114> #*************************************************************************************
01115> # EXT5
01116> #*************************************************************************************
01117> R0025:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01118>      CALIB NASHYD             1.0 01:EXT5          .59      .026 No_date    1:33   21.44 .368     .000
01119>        [CN= 76.0: N= 3.00: Tp=  .45]
01120> #*************************************************************************************
01121> # EXT6
01122> #*************************************************************************************
01123> R0025:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01124>      CALIB NASHYD             1.0 01:EXT6          .86      .046 No_date    1:40   29.15 .501     .000
01125>        [CN= 85.0: N= 3.00: Tp=  .56]
01126> #*************************************************************************************
01127> # EXT7
01128> #*************************************************************************************
01129> R0025:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01130>      CALIB NASHYD             1.0 01:EXT7          .47      .034 No_date    1:22   27.17 .467     .000
01131>        [CN= 83.0: N= 3.00: Tp=  .32]
01132> #*************************************************************************************
01133> # EXT8
01134> #*************************************************************************************
01135> R0025:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01136>      CALIB NASHYD             1.0 01:EXT8          .83      .043 No_date    1:30   23.69 .407     .000
01137>        [CN= 79.0: N= 3.00: Tp=  .42]
01138> #*************************************************************************************
01139> # EXT9
01140> #*************************************************************************************
01141> R0025:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01142>      CALIB NASHYD             1.0 01:EXT9         3.57      .151 No_date    1:35   21.44 .368     .000
01143>        [CN= 76.0: N= 3.00: Tp=  .48]
01144> #*************************************************************************************
01145> # EXT9a
01146> #*************************************************************************************
01147> R0025:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01148>      CALIB NASHYD             1.0 01:EXT9a         .01      .002 No_date    1:00   22.90 .393     .000
01149>        [CN= 78.0: N= 3.00: Tp=  .04]
01150> #*************************************************************************************
01151> # EXT10
01152> #*************************************************************************************
01153> R0025:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01154>      CALIB NASHYD             1.0 01:EXT10         .20      .008 No_date    1:31   18.23 .313     .000
01155>        [CN= 71.0: N= 3.00: Tp=  .42]
01156> #*************************************************************************************
01157> # Pre2_1
01158> #*************************************************************************************
01159> R0025:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01160> *    CALIB NASHYD             1.0 01:Pre2_1        .01      .002 No_date    1:00   18.82 .323     .000
01161>        [CN= 72.0: N= 3.00: Tp=  .03]
01162> #*************************************************************************************
01163> # Pre2_2
01164> #*************************************************************************************
01165> R0025:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01166> *    CALIB NASHYD             1.0 01:Pre2_2        .00      .000 No_date    1:00   22.87 .393     .000
01167>        [CN= 78.0: N= 3.00: Tp=  .02]
01168> #*************************************************************************************
01169> # Pre9_1
01170> #*************************************************************************************
01171> R0025:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01172>      CALIB NASHYD             1.0 01:Pre9_1        .44      .018 No_date    1:27   18.23 .313     .000
01173>        [CN= 71.0: N= 3.00: Tp=  .38]
01174> #*************************************************************************************
01175> # Pre9_2
01176> #*************************************************************************************
01177> R0025:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01178> *    CALIB NASHYD             1.0 01:Pre9_2        .01      .002 No_date    1:00   20.75 .356     .000
01179>        [CN= 75.0: N= 3.00: Tp=  .03]
01180> #*************************************************************************************
01181> # Pre10_1
01182> #*************************************************************************************
01183> R0025:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01184>      CALIB NASHYD             1.0 01:Pre10_1       .80      .040 No_date    1:20   18.23 .313     .000
01185>        [CN= 71.0: N= 3.00: Tp=  .29]
01186> #*************************************************************************************
01187> # Pre11_1
01188> #*************************************************************************************
01189> R0025:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01190>      CALIB NASHYD             1.0 01:Pre11_1       .07      .005 No_date    1:13   22.90 .393     .000
01191>        [CN= 78.0: N= 3.00: Tp=  .21]
01192> #*************************************************************************************
01193> # Site 1
01194> #*************************************************************************************
01195> R0025:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01196>      DESIGN STANDHYD          1.0 01:S1-B1         .42      .093 No_date    1:00   34.53 .593     .000
01197>        [XIMP=.34:TIMP=.44]
01198>        [SLP=1.00:DT= 1.00]
01199>        [LOSS= 1 : HORTONS]
01200> #*************************************************************************************
01201> # Site 1 - Roof
01202> #*************************************************************************************
01203> R0025:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01204>      DESIGN STANDHYD          1.0 01:S1-Roof       .06      .026 No_date    1:00   56.27 .966     .000
01205>        [XIMP=.99:TIMP=.99]
01206>        [SLP= .50:DT= 1.00]
01207>        [LOSS= 1 : HORTONS]
01208> R0025:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01209>      ROUTE RESERVOIR ->       1.0 02:S1-Roof       .06      .026 No_date    1:00   56.27  n/a     .000
01210>                  out <=    1.0 01:S1-Roof-Ou      .06      .006 No_date    1:11   56.27  n/a     .000
01211>              overflow <=   1.0 03:S1-Roof-Ov      .00      .000 No_date    0:00     .00  n/a     .000
01212>       (MxStoUsed=.1949E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01213> R0025:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01214>      ADD HYD                  1.0 02:S1-B1         .42      .093 No_date    1:00   34.53  n/a     .000
01215>                       +      1.0 02:S1-Roof-Ou    .06      .006 No_date    1:11   56.27  n/a     .000
01216>                       +      1.0 02:S1-Roof-Ov    .00      .000 No_date    0:00     .00  n/a     .000
01217>                     SUM=     1.0 01:S1TE1-IN      .48      .098 No_date    1:00   37.47  n/a     .000
01218> R0025:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01219>      ROUTE RESERVOIR ->       1.0 02:S1TE1-IN      .48      .098 No_date    1:00   37.47  n/a     .000
01220>                  out <=    1.0 01:S1TE1-Out     .48      .008 No_date    1:53   37.47  n/a     .000
01221>              overflow <=   1.0 03:S1TE1-Over      .00      .000 No_date    0:00     .00  n/a     .000
01222>       (MxStoUsed=.1233E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01223> #*************************************************************************************
01224> # Site 2
01225> #*************************************************************************************
01226> R0025:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01227>      DESIGN STANDHYD          1.0 01:S2-B3         .36      .076 No_date    1:00   33.45 .574     .000
01228>        [XIMP=.31:TIMP=.41]
01229>        [SLP=1.00:DT= 1.00]
01230>        [LOSS= 1 : HORTONS]
01231> #*************************************************************************************
01232> # Site 2 - Roof
01233> #*************************************************************************************
01234> R0025:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01235>      DESIGN STANDHYD          1.0 01:S2-Roof       .09      .037 No_date    1:00   56.28 .967     .000
01236>        [XIMP=.99:TIMP=.99]
01237>        [SLP= .50:DT= 1.00]
01238>        [LOSS= 1 : HORTONS]
01239> #*************************************************************************************
01240> R0025:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01241>      ROUTE RESERVOIR ->       1.0 02:S2-Roof       .09      .037 No_date    1:00   56.28  n/a     .000
01242>                  out <=    1.0 01:S2-Roof-Ou      .09      .009 No_date    1:11   56.28  n/a     .000
01243>              overflow <=   1.0 03:S2-Roof-Ov      .00      .000 No_date    0:00     .00  n/a     .000
01244>       (MxStoUsed=.2744E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01245> R0025:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01246>      ADD HYD                  1.0 02:S2-B3         .36      .076 No_date    1:00   33.45  n/a     .000
01247>                       +      1.0 02:S2-Roof-Ou    .09      .009 No_date    1:11   56.28  n/a     .000
01248>                       +      1.0 02:S2-Roof-Ov    .00      .000 No_date    0:00     .00  n/a     .000
01249>                     SUM=     1.0 01:S2TE2-IN      .45      .084 No_date    1:00   38.17  n/a     .000
01250> R0025:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01251>      ROUTE RESERVOIR ->       1.0 02:S2TE2-IN      .45      .084 No_date    1:00   38.17  n/a     .000
01252>                  out <=    1.0 01:S2TE2-Out     .45      .009 No_date    1:54   38.17  n/a     .000
01253>              overflow <=   1.0 03:S2TE2-Over      .00      .000 No_date    0:00     .00  n/a     .000
01254>       (MxStoUsed=.1080E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01255> R0025:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01256>      ADD HYD                  1.0 02:S2TE1-Out     .48      .008 No_date    1:53   37.47  n/a     .000
01257>                       +      1.0 02:S2TE1-Over    .00      .000 No_date    0:00     .00  n/a     .000
01258>                     SUM=     1.0 01:Site1         .48      .008 No_date    1:53   37.47  n/a     .000
01259> R0025:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01260>      ADD HYD                  1.0 02:S2TE2-Out     .45      .009 No_date    1:54   38.17  n/a     .000
01261>                       +      1.0 02:SITE2-Over    .00      .000 No_date    0:00     .00  n/a     .000
01262>                     SUM=     1.0 01:Site2         .45      .009 No_date    1:54   38.17  n/a     .000
01263> R0025:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01264>      ADD HYD                  1.0 02:EXT2          .28      .022 No_date    1:22   29.15  n/a     .000
01265>                       +      1.0 02:Pre2_1        .01      .002 No_date    1:00   18.82  n/a     .000
01266>                       +      1.0 02:Site1         .48      .008 No_date    1:53   37.47  n/a     .000
01267>                       +      1.0 02:Site2         .45      .009 No_date    1:54   38.17  n/a     .000
01268>                     SUM=     1.0 01:J1           1.23      .038 No_date    1:22   35.60  n/a     .000
01269> R0025:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01270>      ROUTE CHANNEL    ->      1.0 02:J1           1.23      .038 No_date    1:22   35.60  n/a     .000
01271>        [RDT= 1.00] out<-     1.0 01:R1           1.23      .037 No_date    1:30   35.60  n/a     .000
01272>         [L/S/n=  143./ .394/.035]
01273>         [Vmax=   .318:Dmax=   .126]
01274> R0025:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01275>      ADD HYD                  1.0 02:R1           1.23      .037 No_date    1:30   35.60  n/a     .000
01276>                       +      1.0 02:EXT3          .56      .036 No_date    1:22   24.50  n/a     .000
01277>                       +      1.0 02:EXT1         3.21      .118 No_date    1:53   24.50  n/a     .000
01278>                     SUM=     1.0 01:J2           5.00      .173 No_date    1:42   27.23  n/a     .000
01279> R0025:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01280>      ROUTE CHANNEL    ->      1.0 02:J2           5.00      .173 No_date    1:42   27.23  n/a     .000
01281>        [RDT= 1.00] out<-     1.0 01:R2           5.00      .172 No_date    1:44   27.23  n/a     .000
01282>         [L/S/n=   73./ .425/.035]
01283>         [Vmax=   .475:Dmax=   .242]
01284> R0025:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01285>      ADD HYD                  1.0 02:R2           5.00      .172 No_date    1:44   27.23  n/a     .000
01286>                       +      1.0 02:EXT4          .31      .020 No_date    1:20   23.69  n/a     .000
01287>                     SUM=     1.0 01:J3           5.31      .185 No_date    1:41   27.03  n/a     .000
01288> R0025:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01289>      ROUTE CHANNEL    ->      1.0 02:J3           5.31      .185 No_date    1:41   27.03  n/a     .000
01290>        [RDT= 1.00] out<-     1.0 01:R3           5.31      .184 No_date    1:44   27.03  n/a     .000
01291>         [L/S/n=   92./ .274/.035]
01292>         [Vmax=   .388:Dmax=   .250]
01293> R0025:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01294>      ADD HYD                  1.0 02:R3           5.31      .184 No_date    1:44   27.03  n/a     .000
01295>                       +      1.0 02:EXT5          .59      .026 No_date    1:33   21.44  n/a     .000
01296>                     SUM=     1.0 01:J4           5.90      .209 No_date    1:42   26.46  n/a     .000
01297> R0025:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01298>      ROUTE CHANNEL    ->      1.0 02:J4           5.90      .209 No_date    1:42   26.46  n/a     .000
01299>        [RDT= 1.00] out<-     1.0 01:R4           5.90      .198 No_date    1:53   26.46  n/a     .000
01300>         [L/S/n=  251./ .190/.035]
01301>         [Vmax=   .380:Dmax=   .280]
01302> R0025:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01303>      ADD HYD                  1.0 02:R4           5.90      .198 No_date    1:53   26.46  n/a     .000
01304>                       +      1.0 02:EXT6          .86      .046 No_date    1:40   29.15  n/a     .000
01305>                       +      1.0 02:EXT7          .47      .034 No_date    1:22   27.17  n/a     .000
01306>                     SUM=     1.0 01:J5           7.24      .260 No_date    1:48   26.83  n/a     .000
01307> R0025:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01308>      ROUTE CHANNEL    ->      1.0 02:J5           7.24      .260 No_date    1:48   26.83  n/a     .000
01309>        [RDT= 1.00] out<-     1.0 01:R5           7.24      .257 No_date    1:54   26.83  n/a     .000
01310>         [L/S/n=  237./ .644/.035]
01311>         [Vmax=   .619:Dmax=   .264]
01312> R0025:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01313>      ADD HYD                  1.0 02:Pre10_1       .80      .040 No_date    1:20   18.23  n/a     .000
01314>                       +      1.0 02:Pre9_2        .01      .002 No_date    1:00   20.75  n/a     .000
01315>                       +      1.0 02:Pre2_2        .00      .000 No_date    1:00   22.87  n/a     .000
01316>                     SUM=     1.0 01:Pre           .81      .040 No_date    1:20   18.29  n/a     .000
01317> R0025:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01318>      ROUTE CHANNEL    ->      1.0 02:Pre          .81      .040 No_date    1:20   18.29  n/a     .000
01319>        [RDT= 1.00] out<-     1.0 01:R6           .81      .040 No_date    1:23   18.29  n/a     .000
01320>         [L/S/n=   77./ .776/.035]
01321>         [Vmax=   .492:Dmax=   .029]
01322> R0025:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01323>      ROUTE CHANNEL    ->      1.0 02:Pre9_1        .44      .018 No_date    1:27   18.23  n/a     .000
01324>        [RDT= 1.00] out<-     1.0 01:R7           .44      .018 No_date    1:31   18.23  n/a     .000
01325>         [L/S/n=  159./1.576/.035]
01326>         [Vmax=   .797:Dmax=   .005]
01327> R0025:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01328>      ADD HYD                  1.0 02:R6           .81      .040 No_date    1:23   18.58  n/a     .000
01329>                       +      1.0 02:EXT10         .20      .008 No_date    1:31   18.23  n/a     .000
01330>                       +      1.0 02:Pre11_1       .07      .005 No_date    1:13   22.90  n/a     .000
01331>                       +      1.0 02:EXT9a         .01      .002 No_date    1:00   22.90  n/a     .000
01332>                     SUM=     1.0 01:J6           1.10      .052 No_date    1:22   18.82  n/a     .000
01333> R0025:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01334>      ROUTE CHANNEL    ->      1.0 02:J6           1.10      .052 No_date    1:22   18.82  n/a     .000
01335>        [RDT= 1.00] out<-     1.0 01:R8           1.10      .051 No_date    1:26   18.82  n/a     .000
01336>         [L/S/n=   79./ .522/.035]
01337>         [Vmax=   .423:Dmax=   .038]
01338> R0025:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01339>      ADD HYD                  1.0 02:R8           1.10      .051 No_date    1:26   18.97  n/a     .000
01340>                       +      1.0 02:R7           .44      .028 No_date    1:48   18.61  n/a     .000
01341>                     SUM=     1.0 01:J7           1.53      .069 No_date    1:27   18.87  n/a     .000
01342> R0025:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01343>      ROUTE CHANNEL    ->      1.0 02:J7           1.53      .069 No_date    1:27   18.87  n/a     .000
01344>        [RDT= 1.00] out<-     1.0 01:R9           1.53      .068 No_date    1:28   18.87  n/a     .000
01345>         [L/S/n=   29./ .887/.035]
01346>         [Vmax=   .543:Dmax=   .046]
01347> R0025:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01348>      ADD HYD                  1.0 02:EXT9         3.57      .151 No_date    1:35   21.44  n/a     .000
01349>                       +      1.0 02:R9           1.53      .068 No_date    1:28   18.96  n/a     .000
01350>                       +      1.0 02:EXT8          .83      .043 No_date    1:30   23.69  n/a     .000
01351>                       +      1.0 02:R5           7.24      .257 No_date    1:54   26.83  n/a     .000
01352>                     SUM=     1.0 01:J8          13.18      .486 No_date    1:42   24.26  n/a     .000
01353> R0025:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01354>      ROUTE PIPE       ->      1.0 02:J8          13.18      .486 No_date    1:42   24.26  n/a     .000
01355> *    [RDT= 1.00] out<-     1.0 01:Outlet        13.18      .486 No_date    1:43   24.26  n/a     .000
01356>         [L/S/n=    8./ .010/.013]
01357>         [Vmax=   .415:Dmax= 1.070]
01358>         [Din=  .53:Dused= 1.30)
01359> ###########################################################################
01360> # STORMS
01361> ###########################################################################
01362>  ** END OF RUN :   49
01363>
01364> *************************************************************************************
01365>
01366>
01367>
01368>
01369>
01370>  RUN#:COMMAND#
01371> R0050:C00001------------------------------------------------------------------------
01372>       START
01373>        [TZERO =    .00 hrs on        0]
01374>        [METOUT=  2   (1=imperial, 2=metric output)]
01375>        [NSTORM=  1 ]
01376>        [NRUN  = 0050 ]
01377> #*************************************************************************************
01378> #  SWMHYMO  / INPUT DATA FILE
01379> #*************************************************************************************
01380> #  Project Name  : [5923 Ottawa St]
01381> #  Project Number: [P2710(e01)]
01382> #  Date          : [2025 April 28]
01383> #  Modeller      : [MM]
01384> #  Company       : JFSA Canada Inc.
01385> #  License #     : 2549237
01386> #*************************************************************************************
01387> # Model developed to simulate runoff from subcatchments under post development conditions
01388> #*************************************************************************************
01389> R0050:C00002------------------------------------------------------------------------
01390>       READ STORM
01391>         Filename = STORM.001
01392>         Comment  = CHICAGO STORM  50 Year, 3 Hours
01393>         [SDT=10.00:SDUR=    3.00:PTOT=  64.81]
01394> #*************************************************************************************
01395> R0050:C00003------------------------------------------------------------------------
01396>       DEFAULT VALUES
01397>         Filename = C:\Temp\20260327-PostDev\Ottawa.val
01398>         ICASEdv = 1 (read and print data)
01399>         FileTitle= File comment: [Parameters for City of Ottawa Projects]
01400>                    THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
01401>         Horton's infiltration equation parameters:
01402>         [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
01403>         Parameters for PERVIOUS surfaces in STANDHYD:
01404>         [IAper=   4.67 mm] [LGP=40.00 m] [MMP= .250]
01405>         Parameters for IMPERVIOUS surfaces in STANDHYD:
01406>         [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
01407>         Parameters used in NASHYD:
01408>         [Ia=   4.67 mm] [N= 3.00]
01409>         Average monthly Pan Evaporation data in    (mm)
01410>      JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01411>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01412>         Average monthly Potential Evapotranspiration in    (mm)
01413>      JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01414>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01415> #*************************************************************************************
01416> # EXT1
01417> #*************************************************************************************
01418> R0050:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01419>      CALIB NASHYD             1.0 01:EXT1          3.21      .142 No_date    1:53   29.25 .451     .000
01420>        [CN= 80.0: N= 3.00: Tp=  .72]
01421> #*************************************************************************************
01422> # EXT2
01423> #*************************************************************************************
01424> R0050:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01425>      CALIB NASHYD             1.0 01:EXT2          .28      .026 No_date    1:22   34.45 .532     .000
01426>        [CN= 85.0: N= 3.00: Tp=  .33]
01427> #*************************************************************************************
01428> # EXT3
01429> #*************************************************************************************
01430> R0050:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01431>      CALIB NASHYD             1.0 01:EXT3          .56      .044 No_date    1:22   29.25 .451     .000
01432>        [CN= 80.0: N= 3.00: Tp=  .32]
01433> #*************************************************************************************
01434> # EXT4
01435> #*************************************************************************************
01436> R0050:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01437>      CALIB NASHYD             1.0 01:EXT4          .31      .025 No_date    1:19   28.33 .437     .000
01438>        [CN= 79.0: N= 3.00: Tp=  .29]
01439> #*************************************************************************************
01440> # EXT5
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01441> #*************************************************************************************************************
01442> R0050:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01443>      CALIB NASHYD            1.0 01:EXT5             .59     .032 No_date    1:32   25.77 .398     .000
01444>        [CN= 76.0: N= 3.00: Tp=  .45]
01445> #*************************************************************************************************************
01446> # EXT6
01447> #*************************************************************************************************************
01448> R0050:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01449>      CALIB NASHYD            1.0 01:EXT6             .86     .055 No_date    1:40   34.45 .532     .000
01450>        [CN= 85.0: N= 3.00: Tp=  .56]
01451> #*************************************************************************************************************
01452> # EXT7
01453> #*************************************************************************************************************
01454> R0050:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01455>      CALIB NASHYD            1.0 01:EXT7             .47     .041 No_date    1:21   32.24 .498     .000
01456>        [CN= 83.0: N= 3.00: Tp=  .32]
01457> #*************************************************************************************************************
01458> # EXT8
01459> #*************************************************************************************************************
01460> R0050:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01461>      CALIB NASHYD            1.0 01:EXT8             .83     .052 No_date    1:30   28.33 .437     .000
01462>        [CN= 79.0: N= 3.00: Tp=  .42]
01463> #*************************************************************************************************************
01464> # EXT9
01465> #*************************************************************************************************************
01466> R0050:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01467>      CALIB NASHYD            1.0 01:EXT9            3.57     .183 No_date    1:35   25.77 .398     .000
01468>        [CN= 76.0: N= 3.00: Tp=  .48]
01469> #*************************************************************************************************************
01470> # EXT9a
01471> #*************************************************************************************************************
01472> R0050:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01473>      CALIB NASHYD            1.0 01:EXT9a            .01     .002 No_date    1:00   27.43 .423     .000
01474>        [CN= 78.0: N= 3.00: Tp=  .04]
01475> #*************************************************************************************************************
01476> # EXT10
01477> #*************************************************************************************************************
01478> R0050:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01479>      CALIB NASHYD            1.0 01:EXT10            .20     .010 No_date    1:30   22.06 .340     .000
01480>        [CN= 71.0: N= 3.00: Tp=  .42]
01481> #*************************************************************************************************************
01482> # Pre2_1
01483> #*************************************************************************************************************
01484> R0050:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01485> *    CALIB NASHYD            1.0 01:Pre2_1           .01     .002 No_date    1:00   22.75 .351     .000
01486>        [CN= 72.0: N= 3.00: Tp=  .03]
01487> #*************************************************************************************************************
01488> # Pre2_2
01489> #*************************************************************************************************************
01490> R0050:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01491> *    CALIB NASHYD            1.0 01:Pre2_2           .00     .000 No_date    1:00   27.40 .423     .000
01492>        [CN= 78.0: N= 3.00: Tp=  .02]
01493> #*************************************************************************************************************
01494> # Pre9_1
01495> #*************************************************************************************************************
01496> R0050:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01497>      CALIB NASHYD            1.0 01:Pre9_1           .44     .022 No_date    1:27   22.07 .340     .000
01498>        [CN= 71.0: N= 3.00: Tp=  .38]
01499> #*************************************************************************************************************
01500> # Pre9_2
01501> #*************************************************************************************************************
01502> R0050:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01503> *    CALIB NASHYD            1.0 01:Pre9_2           .01     .003 No_date    1:00   24.97 .385     .000
01504>        [CN= 75.0: N= 3.00: Tp=  .03]
01505> #*************************************************************************************************************
01506> # Pre10_1
01507> #*************************************************************************************************************
01508> R0050:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01509>      CALIB NASHYD            1.0 01:Pre10_1          .80     .048 No_date    1:20   22.07 .340     .000
01510>        [CN= 71.0: N= 3.00: Tp=  .29]
01511> #*************************************************************************************************************
01512> # Pre11_1
01513> #*************************************************************************************************************
01514> R0050:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01515>      CALIB NASHYD            1.0 01:Pre11_1          .07     .006 No_date    1:13   27.44 .423     .000
01516>        [CN= 78.0: N= 3.00: Tp=  .21]
01517> #*************************************************************************************************************
01518> # Site 1
01519> #*************************************************************************************************************
01520> R0050:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01521>      DESIGN STANDHYD         1.0 01:S1-B1            .42     .107 No_date    1:00   40.11 .619     .000
01522>        [XIMP=.34:TIMP=.44]
01523>        [SLP=1.00:DT= 1.00]
01524>        [LOSS= 1 : HORTONS]
01525> #*************************************************************************************************************
01526> # Site 1 - Roof
01527> #*************************************************************************************************************
01528> R0050:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01529>      DESIGN STANDHYD         1.0 01:S1-Roof          .06     .029 No_date    1:00   62.84 .970     .000
01530>        [XIMP=.99:TIMP=.99]
01531>        [SLP= .50:DT= 1.00]
01532>        [LOSS= 1 : HORTONS]
01533> R0050:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01534>      ROUTE RESERVOIR ->      1.0 02:S1-Roof          .06     .029 No_date    1:00   62.84  n/a     .000
01535>                        out <=    1.0 01:S1-Roof-Ou     .06     .007 No_date    1:11   62.84  n/a     .000
01536>                   overflow <=    1.0 03:S1-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
01537>       (MxStoUsed=.2178E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01538> R0050:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01539>      ADD HYD                 1.0 02:S1-B1            .42     .107 No_date    1:00   40.11  n/a     .000
01540>                        +     1.0 02:S1-Roof-Ou     .06     .007 No_date    1:11   62.84  n/a     .000
01541>                        +     1.0 02:S1-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
01542>                      SUM=    1.0 01:SITE1-IN         .48     .113 No_date    1:00   43.18  n/a     .000
01543> R0050:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01544>      ROUTE RESERVOIR ->      1.0 02:SITE1-IN         .48     .113 No_date    1:00   43.18  n/a     .000
01545>                        out <=    1.0 01:SITE1-Out      .48     .008 No_date    1:57   43.18  n/a     .000
01546>                   overflow <=    1.0 03:SITE1-Over     .00     .000 No_date    0:00     .00  n/a     .000
01547>       (MxStoUsed=.1464E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01548> #*************************************************************************************************************
01549> # Site 2
01550> #*************************************************************************************************************
01551> R0050:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01552>      DESIGN STANDHYD         1.0 01:S2-B3            .36     .089 No_date    1:00   38.93 .601     .000
01553>        [XIMP=.31:TIMP=.41]
01554>        [SLP=1.00:DT= 1.00]
01555>        [LOSS= 1 : HORTONS]
01556> #*************************************************************************************************************
01557> # Site 2 - Roof
01558> #*************************************************************************************************************
01559> R0050:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01560>      DESIGN STANDHYD         1.0 01:S2-Roof          .09     .041 No_date    1:00   62.84 .970     .000
01561>        [XIMP=.99:TIMP=.99]
01562>        [SLP= .50:DT= 1.00]
01563>        [LOSS= 1 : HORTONS]
01564> #*************************************************************************************************************
01565> R0050:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01566>      ROUTE RESERVOIR ->      1.0 02:S2-Roof          .09     .041 No_date    1:00   62.84  n/a     .000
01567>                        out <=    1.0 01:S2-Roof-Ou     .09     .010 No_date    1:11   62.84  n/a     .000
01568>                   overflow <=    1.0 03:S2-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
01569>       (MxStoUsed=.3065E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01570> R0050:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01571>      ADD HYD                 1.0 02:S2-B3            .36     .089 No_date    1:00   38.93  n/a     .000
01572>                        +     1.0 02:S2-Roof-Ou     .09     .010 No_date    1:11   62.84  n/a     .000
01573>                        +     1.0 02:S2-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
01574>                      SUM=    1.0 01:SITE2-IN         .45     .097 No_date    1:00   43.87  n/a     .000
01575> R0050:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01576>      ROUTE RESERVOIR ->      1.0 02:SITE2-IN         .45     .097 No_date    1:00   43.87  n/a     .000
01577>                        out <=    1.0 01:SITE2-Out      .45     .009 No_date    1:58   43.87  n/a     .000
01578>                   overflow <=    1.0 03:SITE2-Over     .00     .000 No_date    0:00     .00  n/a     .000
01579>       (MxStoUsed=.1288E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01580> R0050:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01581>      ADD HYD                 1.0 02:SITE1-Out        .48     .008 No_date    1:57   43.18  n/a     .000
01582>                        +     1.0 02:SITE1-Over     .00     .000 No_date    0:00     .00  n/a     .000
01583>                      SUM=    1.0 01:Site1            .48     .008 No_date    1:57   43.18  n/a     .000
01584> R0050:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01585>      ADD HYD                 1.0 02:SITE2-Out        .45     .009 No_date    1:58   43.87  n/a     .000
01586>                        +     1.0 02:SITE2-Over     .00     .000 No_date    0:00     .00  n/a     .000
01587>                      SUM=    1.0 01:Site2            .45     .009 No_date    1:58   43.87  n/a     .000
01588> R0050:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01589>      ADD HYD                 1.0 02:EXT2             .28     .026 No_date    1:22   34.45  n/a     .000
01590>                        +     1.0 02:Pre2_1           .01     .002 No_date    1:00   22.75  n/a     .000
01591>                        +     1.0 02:Site1            .48     .008 No_date    1:57   43.18  n/a     .000
01592>                        +     1.0 02:Site2            .45     .009 No_date    1:58   43.87  n/a     .000
01593>                      SUM=    1.0 01:Z1               1.23    .043 No_date    1:22   41.19  n/a     .000
01594> R0050:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01595>      ROUTE CHANNEL   ->      1.0 02:J1               1.23    .043 No_date    1:22   41.19  n/a     .000
01596>        [RDT= 1.00] out<-     1.0 01:R1               1.23    .042 No_date    1:29   41.19  n/a     .000
01597>        [L/S/n=  143./ .394/.035]
01598>        {Vmax=  .330:Dmax=  .134}
01599> R0050:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01600>      ADD HYD                 1.0 02:R1               1.23    .042 No_date    1:29   41.19  n/a     .000
01601>                        +     1.0 02:EXT3             .56     .044 No_date    1:22   29.25  n/a     .000
01602>                        +     1.0 02:EXT1            3.21     .142 No_date    1:53   29.25  n/a     .000
01603>                      SUM=    1.0 01:J2               5.00    .205 No_date    1:41   32.19  n/a     .000
01604> R0050:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01605>      ROUTE CHANNEL   ->      1.0 02:J2               5.00    .205 No_date    1:41   32.19  n/a     .000
01606>        [RDT= 1.00] out<-     1.0 01:R2               5.00    .204 No_date    1:43   32.19  n/a     .000
01607>        [L/S/n=  73./ .425/.035]
01608>        {Vmax=  .496:Dmax=  .259}
01609> R0050:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01610>      ADD HYD                 1.0 02:R2               5.00    .204 No_date    1:43   32.19  n/a     .000
01611>                        +     1.0 02:EXT4             .31     .025 No_date    1:19   28.33  n/a     .000
01612>                      SUM=    1.0 01:J3               5.31    .220 No_date    1:39   31.96  n/a     .000
01613> R0050:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01614>      ROUTE CHANNEL   ->      1.0 02:J3               5.31    .220 No_date    1:39   31.96  n/a     .000
01615>        [RDT= 1.00] out<-     1.0 01:R3               5.31    .219 No_date    1:43   31.96  n/a     .000
01616>        [L/S/n=  92./ .274/.035]
01617>        {Vmax=  .406:Dmax=  .268}
01618> R0050:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01619>      ADD HYD                 1.0 02:R3               5.31    .219 No_date    1:43   31.96  n/a     .000
01620>                        +     1.0 02:EXT5             .59     .032 No_date    1:32   25.77  n/a     .000
01621>                      SUM=    1.0 01:J4               5.90    .249 No_date    1:41   31.34  n/a     .000
01622> R0050:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01623>      ROUTE CHANNEL   ->      1.0 02:J4               5.90    .249 No_date    1:41   31.34  n/a     .000
01624>        [RDT= 1.00] out<-     1.0 01:R4               5.90    .236 No_date    1:52   31.34  n/a     .000
01625>        [L/S/n=  251./ .190/.035]
01626>        {Vmax=  .399:Dmax=  .302}
01627> R0050:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01628>      ADD HYD                 1.0 02:R4               5.90    .236 No_date    1:52   31.34  n/a     .000
01629>                        +     1.0 02:EXT6             .86     .055 No_date    1:40   34.45  n/a     .000
01630>                        +     1.0 02:EXT7             .47     .041 No_date    1:21   32.24  n/a     .000
01631>                      SUM=    1.0 01:J5               7.24    .312 No_date    1:46   31.77  n/a     .000
01632> R0050:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01633>      ROUTE CHANNEL   ->      1.0 02:J5               7.24    .312 No_date    1:46   31.77  n/a     .000
01634>        [RDT= 1.00] out<-     1.0 01:R5               7.24    .308 No_date    1:53   31.77  n/a     .000
01635>        [L/S/n=  237./ .644/.035]
01636>        {Vmax=  .650:Dmax=  .283}
01637> R0050:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01638>      ADD HYD                 1.0 02:Pre10_1          .80     .048 No_date    1:20   22.07  n/a     .000
01639>                        +     1.0 02:Pre9_2           .01     .003 No_date    1:00   24.97  n/a     .000
01640>                        +     1.0 02:Pre2_2           .00     .000 No_date    1:00   27.40  n/a     .000
01641>                      SUM=    1.0 01:Pre              .81     .049 No_date    1:20   22.13  n/a     .000
01642> R0050:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01643>      ROUTE CHANNEL   ->      1.0 02:Pre              .81     .049 No_date    1:20   22.13  n/a     .000
01644>        [RDT= 1.00] out<-     1.0 01:R6               .81     .048 No_date    1:22   22.13  n/a     .000
01645>        [L/S/n=  77./ .776/.035]
01646>        {Vmax=  .492:Dmax=  .036}
01647> R0050:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01648>      ROUTE CHANNEL   ->      1.0 02:Pre9_1           .44     .022 No_date    1:27   22.07  n/a     .000
01649>        [RDT= 1.00] out<-     1.0 01:R7               .44     .022 No_date    1:31   22.07  n/a     .000
01650>        [L/S/n=  159./1.576/.035]
01651>        {Vmax=  .797:Dmax=  .007}
01652> R0050:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01653>      ADD HYD                 1.0 02:R6               .81     .048 No_date    1:22   22.44  n/a     .000
01654>                        +     1.0 02:EXT10            .20     .010 No_date    1:30   22.06  n/a     .000
01655>                        +     1.0 02:Pre11_1          .07     .006 No_date    1:13   27.44  n/a     .000
01656>                        +     1.0 02:EXT9a            .01     .002 No_date    1:00   27.43  n/a     .000
01657>                      SUM=    1.0 01:J6               1.10    .063 No_date    1:22   22.72  n/a     .000
01658> R0050:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01659>      ROUTE CHANNEL   ->      1.0 02:J6               1.10    .063 No_date    1:22   22.72  n/a     .000
01660>        [RDT= 1.00] out<-     1.0 01:R8               1.10    .062 No_date    1:26   22.72  n/a     .000
01661>        [L/S/n=  79./ .522/.035]
01662>        {Vmax=  .423:Dmax=  .046}
01663> R0050:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01664>      ADD HYD                 1.0 02:R8               1.10    .062 No_date    1:26   22.88  n/a     .000
01665>                        +     1.0 02:R7               .44     .030 No_date    4:50   22.47  n/a     .000
01666>                      SUM=    1.0 01:J7               1.53    .084 No_date    1:27   22.76  n/a     .000
01667> R0050:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01668>      ROUTE CHANNEL   ->      1.0 02:J7               1.53    .084 No_date    1:27   22.76  n/a     .000
01669>        [RDT= 1.00] out<-     1.0 01:R9               1.53    .084 No_date    1:28   22.76  n/a     .000
01670>        [L/S/n=  29./ .887/.035]
01671>        {Vmax=  .543:Dmax=  .057}
01672> R0050:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01673>      ADD HYD                 1.0 02:EXT9            3.57     .183 No_date    1:35   25.77  n/a     .000
01674>                        +     1.0 02:R9               1.53    .084 No_date    1:28   22.86  n/a     .000
01675>                        +     1.0 02:EXT8             .83     .052 No_date    1:30   28.33  n/a     .000
01676>                        +     1.0 02:R5               7.24    .308 No_date    1:53   31.77  n/a     .000
01677>                      SUM=    1.0 01:J8              13.18    .589 No_date    1:41   28.89  n/a     .000
01678> R0050:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01679>      ROUTE PIPE      ->      1.0 02:J8              13.18    .589 No_date    1:41   28.89  n/a     .000
01680> *    [RDT= 1.00] out<-     1.0 01:Outlet          13.18    .589 No_date    1:42   28.89  n/a     .000
01681>        [L/S/n=    8./ .010/.013]
01682>        {Vmax=  .436:Dmax= 1.150}
01683>        [Din=  .53:Dused= 1.40)
01684> ##############################################################################
01685> # STORMS
01686> ##############################################################################
01687>  ** END OF RUN :   98
01688>
01689> *************************************************************************************************************
01690>
01691>
01692>
01693>
01694>
01695>  RUN#:COMMAND#
01696> R0099:C00001------------------------------------------------------------------------------------------------
01697>      START
01698>        [TZERO =    .00 hrs on        0]
01699>        [METOUT=  2   (1=imperial, 2=metric output)]
01700>        [NSTORM=  1 ]
01701>        [NRUN  = 0099 ]
01702> #*************************************************************************************************************
01703> #  SWMHYMO  / INPUT DATA FILE
01704> #*************************************************************************************************************
01705> #  Project Name  : [5923 Ottawa St]
01706> #  Project Number: [P2710(e01)]
01707> #  Date          : [2025 April 28]
01708> #  Modeller      : [MM]
01709> #  Company       : JFSA Canada Inc.
01710> #  License #     : 2549237
01711> #*************************************************************************************************************
01712> # Model developed to simulate runoff from subcatchments under post development conditions
01713> #*************************************************************************************************************
01714> R0099:C00002------------------------------------------------------------------------------------------------
01715>      READ STORM
01716>        Filename = STORM.001
01717>        Comment  = CHICAGO STORM   100 Year, 3 Hours
01718>        [SDT=10.00:SDUR=    3.00:PTOT=  71.66]
01719> #*************************************************************************************************************
01720> R0099:C00003------------------------------------------------------------------------------------------------
01721>      DEFAULT VALUES
01722>        Filename = C:\Temp\20260327-PostDev\Ottawa.val
01723>        ICASEdv  = 1 (read and print data)
01724>        FileTitle= File comment: [Parameters for City of Ottawa Projects]
01725>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
01726>        Horton's infiltration equation parameters:
01727>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
01728>        Parameters for PERVIOUS surfaces in STANDHYD:
01729>        [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
01730>        Parameters for IMPERVIOUS surfaces in STANDHYD:
01731>        [IAimp=  1.57 mm] [CLI= 1.50]   [MNI= .013]
01732>        Parameters used in NASHYD:
01733>        [Ia=  4.67 mm] [N= 3.00]
01734>        Average monthly Pan Evaporation data in    (mm)
01735>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01736>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01737>        Average monthly Potential Evapotranspiration in    (mm)
01738>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01739>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01740> #*************************************************************************************************************
01741> # EXT1
01742> #*************************************************************************************************************
01743> R0099:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01744>      CALIB NASHYD            1.0 01:EXT1             3.21     .167 No_date    1:52   34.39 .480     .000
01745>        [CN= 80.0: N= 3.00: Tp=  .72]
01746> #*************************************************************************************************************
01747> # EXT2
01748> #*************************************************************************************************************
01749> R0099:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01750>      CALIB NASHYD            1.0 01:EXT2             .28     .031 No_date    1:22   40.14 .560     .000
01751>        [CN= 85.0: N= 3.00: Tp=  .39]
01752> #*************************************************************************************************************
01753> # EXT3
01754> #*************************************************************************************************************
01755> R0099:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01756>      CALIB NASHYD            1.0 01:EXT3             .56     .052 No_date    1:21   34.39 .480     .000
01757>        [CN= 80.0: N= 3.00: Tp=  .32]
01758> #*************************************************************************************************************
01759> # EXT4
01760> #*************************************************************************************************************
01761> R0099:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01762>      CALIB NASHYD            1.0 01:EXT4             .31     .029 No_date    1:19   33.37 .466     .000
01763>        [CN= 79.0: N= 3.00: Tp=  .29]
01764> #*************************************************************************************************************
01765> # EXT5
01766> #*************************************************************************************************************
01767> R0099:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01768>      CALIB NASHYD            1.0 01:EXT5             .59     .038 No_date    1:32   30.49 .425     .000
01769>        [CN= 76.0: N= 3.00: Tp=  .45]
01770> #*************************************************************************************************************
01771> # EXT6
01772> #*************************************************************************************************************
01773> R0099:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01774>      CALIB NASHYD            1.0 01:EXT6             .86     .064 No_date    1:39   40.14 .560     .000
01775>        [CN= 85.0: N= 3.00: Tp=  .56]
01776> #*************************************************************************************************************
01777> # EXT7
01778> #*************************************************************************************************************
01779> R0099:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01780>      CALIB NASHYD            1.0 01:EXT7             .47     .048 No_date    1:21   37.71 .526     .000
01781>        [CN= 83.0: N= 3.00: Tp=  .32]
01782> #*************************************************************************************************************
01783> # EXT8
01784> #*************************************************************************************************************
01785> R0099:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01786>      CALIB NASHYD            1.0 01:EXT8             .83     .062 No_date    1:29   33.37 .466     .000
01787>        [CN= 79.0: N= 3.00: Tp=  .42]
01788> #*************************************************************************************************************
01789> # EXT9
01790> #*************************************************************************************************************
01791> R0099:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01792>      CALIB NASHYD            1.0 01:EXT9            3.57     .218 No_date    1:34   30.49 .425     .000
01793>        [CN= 76.0: N= 3.00: Tp=  .48]
01794> #*************************************************************************************************************
01795> # EXT9a
01796> #*************************************************************************************************************
01797> R0099:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01798>      CALIB NASHYD            1.0 01:EXT9a            .01     .003 No_date    1:00   32.37 .452     .000
01799>        [CN= 78.0: N= 3.00: Tp=  .04]
01800> *************************************************************************************************************
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01801> # EXT10
01802> #*************************************************************************************************
01803> R0099:C00014-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01804>      CALIB NASHYD            1.0 01:EXT10         .20     .012 No_date    1:30   26.28 .367    .000
01805>        [CN= 71.0: N= 3.00: Tp=  .42]
01806> #*************************************************************************************************
01807> # Pre2_1
01808> #*************************************************************************************************
01809> R0099:C00015-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01810>  *  CALIB NASHYD            1.0 01:Pre2_1        .01     .003 No_date    1:00   27.07 .378    .000
01811>        [CN= 72.0: N= 3.00: Tp=  .03]
01812> #*************************************************************************************************
01813> # Pre2_2
01814> #*************************************************************************************************
01815> R0099:C00016-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01816>  *  CALIB NASHYD            1.0 01:Pre2_2        .00     .001 No_date    1:00   32.36 .451    .000
01817>        [CN= 78.0: N= 3.00: Tp=  .02]
01818> #*************************************************************************************************
01819> # Pre9_1
01820> #*************************************************************************************************
01821> R0099:C00017-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01822>      CALIB NASHYD            1.0 01:Pre9_1         .44     .027 No_date    1:27   26.29 .367    .000
01823>        [CN= 71.0: N= 3.00: Tp=  .38]
01824> #*************************************************************************************************
01825> # Pre9_2
01826> #*************************************************************************************************
01827> R0099:C00018-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01828>  *  CALIB NASHYD            1.0 01:Pre9_2        .01     .003 No_date    1:00   29.59 .413    .000
01829>        [CN= 75.0: N= 3.00: Tp=  .03]
01830> #*************************************************************************************************
01831> # Pre10_1
01832> #*************************************************************************************************
01833> R0099:C00019-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01834>      CALIB NASHYD            1.0 01:Pre10_1        .80     .058 No_date    1:20   26.29 .367    .000
01835>        [CN= 71.0: N= 3.00: Tp=  .29]
01836> #*************************************************************************************************
01837> # Pre11_1
01838> #*************************************************************************************************
01839> R0099:C00020-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01840>      CALIB NASHYD            1.0 01:Pre11_1        .07     .008 No_date    1:13   32.37 .452    .000
01841>        [CN= 78.0: N= 3.00: Tp=  .21]
01842> #*************************************************************************************************
01843> # Site 1
01844> #*************************************************************************************************
01845> R0099:C00021-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01846>      DESIGN STANDHYD         1.0 01:S1-B1          .42     .128 No_date    1:00   46.20 .645    .000
01847>        [XIMP=.34:TIMP=.44]
01848>        [SLP=1.00:DT= 1.00]
01849>        [LOSS= 1 : HORTONS]
01850> #*************************************************************************************************
01851> # Site 1 - Roof
01852> #*************************************************************************************************
01853> R0099:C00022-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01854>      DESIGN STANDHYD         1.0 01:S1-Roof        .06     .032 No_date    1:00   69.68 .972    .000
01855>        [XIMP=.99:TIMP=.99]
01856>        [SLP= .50:DT= 1.00]
01857>        [LOSS= 1 : HORTONS]
01858> R0099:C00023-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01859>      ROUTE RESERVOIR ->      1.0 02:S1-Roof        .06     .032 No_date    1:00   69.68  n/a    .000
01860>                        out <=    1.0 01:S1-Roof-Ou     .06     .007 No_date    1:11   69.68  n/a    .000
01861>                   overflow <=    1.0 03:S1-Roof-Ov     .00     .000 No_date    0:00     .00  n/a    .000
01862>       (MxStoUsed=.2413E-02  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs)
01863> R0099:C00024-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01864>      ADD HYD                 1.0 02:S1-B1          .42     .128 No_date    1:00   46.20  n/a    .000
01865>                        +     1.0 02:S1-Roof-Ou     .06     .007 No_date    1:11   69.68  n/a    .000
01866>                        +     1.0 02:S1-Roof-Ov     .00     .000 No_date    0:00     .00  n/a    .000
01867>                      SUM=    1.0 01:S1TE1-IN       .48     .134 No_date    1:00   49.37  n/a    .000
01868> R0099:C00025-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01869>      ROUTE RESERVOIR ->      1.0 02:S1TE1-IN       .48     .134 No_date    1:00   49.37  n/a    .000
01870>                        out <=    1.0 01:S1TE1-Out      .48     .009 No_date    2:00   49.37  n/a    .000
01871>                   overflow <=    1.0 03:S1TE1-Over     .00     .000 No_date    0:00     .00  n/a    .000
01872>       (MxStoUsed=.1717E-01  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs)
01873> #*************************************************************************************************
01874> # Site 2
01875> #*************************************************************************************************
01876> R0099:C00026-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01877>      DESIGN STANDHYD         1.0 01:S2-B3          .36     .106 No_date    1:00   44.98 .628    .000
01878>        [XIMP=.31:TIMP=.41]
01879>        [SLP=1.00:DT= 1.00]
01880>        [LOSS= 1 : HORTONS]
01881> #*************************************************************************************************
01882> # Site 2 - Roof
01883> #*************************************************************************************************
01884> R0099:C00027-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01885>      DESIGN STANDHYD         1.0 01:S2-Roof        .09     .046 No_date    1:00   69.68 .972    .000
01886>        [XIMP=.99:TIMP=.99]
01887>        [SLP= .50:DT= 1.00]
01888>        [LOSS= 1 : HORTONS]
01889> #*************************************************************************************************
01890> R0099:C00028-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01891>      ROUTE RESERVOIR ->      1.0 02:S2-Roof        .09     .046 No_date    1:00   69.68  n/a    .000
01892>                        out <=    1.0 01:S2-Roof-Ou     .09     .011 No_date    1:11   69.68  n/a    .000
01893>                   overflow <=    1.0 03:S2-Roof-Ov     .00     .000 No_date    0:00     .00  n/a    .000
01894>       (MxStoUsed=.3395E-02  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs)
01895> R0099:C00029-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01896>      ADD HYD                 1.0 02:S2-B3          .36     .106 No_date    1:00   44.98  n/a    .000
01897>                        +     1.0 02:S2-Roof-Ou     .09     .011 No_date    1:11   69.68  n/a    .000
01898>                        +     1.0 02:S2-Roof-Ov     .00     .000 No_date    0:00     .00  n/a    .000
01899>                      SUM=    1.0 01:S2TE2-IN       .45     .116 No_date    1:00   50.09  n/a    .000
01900> R0099:C00030-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01901>      ROUTE RESERVOIR ->      1.0 02:S2TE2-IN       .45     .116 No_date    1:00   50.09  n/a    .000
01902>                        out <=    1.0 01:S2TE2-Out      .45     .009 No_date    2:01   50.09  n/a    .000
01903>                   overflow <=    1.0 03:S2TE2-Over     .00     .000 No_date    0:00     .00  n/a    .000
01904>       (MxStoUsed=.1517E-01  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs)
01905> R0099:C00031-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01906>      ADD HYD                 1.0 02:S1TE1-Out      .48     .009 No_date    2:00   49.37  n/a    .000
01907>                        +     1.0 02:S1TE1-Over     .00     .000 No_date    0:00     .00  n/a    .000
01908>                      SUM=    1.0 01:Site1          .48     .009 No_date    2:00   49.37  n/a    .000
01909> R0099:C00032-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01910>      ADD HYD                 1.0 02:S1TE2-Out      .45     .009 No_date    2:01   50.09  n/a    .000
01911>                        +     1.0 02:S1TE2-Over     .00     .000 No_date    0:00     .00  n/a    .000
01912>                      SUM=    1.0 01:Site2          .45     .009 No_date    2:01   50.09  n/a    .000
01913> R0099:C00033-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01914>      ADD HYD                 1.0 02:EXT2           .28     .031 No_date    1:22   40.14  n/a    .000
01915>                        +     1.0 03:Pre2_1         .01     .003 No_date    1:00   27.07  n/a    .000
01916>                        +     1.0 02:Site1          .48     .009 No_date    2:00   49.37  n/a    .000
01917>                        +     1.0 02:Site2          .45     .009 No_date    2:01   50.09  n/a    .000
01918>                      SUM=    1.0 01:J1            1.23     .048 No_date    1:22   47.26  n/a    .000
01919> R0099:C00034-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01920>      ROUTE CHANNEL   ->      1.0 02:J1            1.23     .048 No_date    1:22   47.26  n/a    .000
01921>        [RDT= 1.00] out<-     1.0 01:R1            1.23     .047 No_date    1:28   47.26  n/a    .000
01922>          [L/S/n=  143./ .394/.035]
01923>          {Vmax=  .344:Dmax=  .141}
01924> R0099:C00035-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01925>      ADD HYD                 1.0 02:R1            1.23     .047 No_date    1:28   47.26  n/a    .000
01926>                        +     1.0 02:EXT3           .56     .052 No_date    1:21   34.39  n/a    .000
01927>                        +     1.0 02:EXT1          3.21     .167 No_date    1:52   34.39  n/a    .000
01928>                      SUM=    1.0 01:J2            5.00     .239 No_date    1:41   37.56  n/a    .000
01929> R0099:C00036-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01930>      ROUTE CHANNEL   ->      1.0 02:J2            5.00     .239 No_date    1:41   37.56  n/a    .000
01931>        [RDT= 1.00] out<-     1.0 01:R2            5.00     .239 No_date    1:42   37.56  n/a    .000
01932>          [L/S/n=  73./ .425/.035]
01933>          {Vmax=  .517:Dmax=  .276}
01934> R0099:C00037-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01935>      ADD HYD                 1.0 02:R2            5.00     .239 No_date    1:42   37.56  n/a    .000
01936>                        +     1.0 02:EXT4           .31     .029 No_date    1:19   33.37  n/a    .000
01937>                      SUM=    1.0 01:J3            5.31     .258 No_date    1:39   37.31  n/a    .000
01938> R0099:C00038-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01939>      ROUTE CHANNEL   ->      1.0 02:J3            5.31     .258 No_date    1:39   37.31  n/a    .000
01940>        [RDT= 1.00] out<-     1.0 01:R3            5.31     .256 No_date    1:42   37.31  n/a    .000
01941>          [L/S/n=  92./ .274/.035]
01942>          {Vmax=  .423:Dmax=  .285}
01943> R0099:C00039-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01944>      ADD HYD                 1.0 02:R3            5.31     .256 No_date    1:42   37.31  n/a    .000
01945>                        +     1.0 02:EXT5           .59     .038 No_date    1:32   30.49  n/a    .000
01946>                      SUM=    1.0 01:J4            5.90     .292 No_date    1:40   36.63  n/a    .000
01947> R0099:C00040-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01948>      ROUTE CHANNEL   ->      1.0 02:J4            5.90     .292 No_date    1:40   36.63  n/a    .000
01949>        [RDT= 1.00] out<-     1.0 01:R4            5.90     .278 No_date    1:51   36.63  n/a    .000
01950>          [L/S/n=  251./ .190/.035]
01951>          {Vmax=  .418:Dmax=  .324}
01952> R0099:C00041-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01953>      ADD HYD                 1.0 02:R4            5.90     .278 No_date    1:51   36.63  n/a    .000
01954>                        +     1.0 02:EXT6           .86     .064 No_date    1:39   40.14  n/a    .000
01955>                        +     1.0 02:EXT7           .47     .048 No_date    1:21   37.71  n/a    .000
01956>                      SUM=    1.0 01:J5            7.24     .368 No_date    1:45   37.12  n/a    .000
01957> R0099:C00042-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01958>      ROUTE CHANNEL   ->      1.0 02:J5            7.24     .368 No_date    1:45   37.12  n/a    .000
01959>        [RDT= 1.00] out<-     1.0 01:R5            7.24     .364 No_date    1:50   37.12  n/a    .000
01960>          [L/S/n=  237./ .644/.035]
01961>          {Vmax=  .689:Dmax=  .305}
01962> R0099:C00043-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01963>      ADD HYD                 1.0 02:Pre10_1        .80     .058 No_date    1:20   26.29  n/a    .000
01964>                        +     1.0 02:Pre9_2         .01     .003 No_date    1:00   29.59  n/a    .000
01965>                        +     1.0 02:Pre2_2         .00     .001 No_date    1:00   32.36  n/a    .000
01966>                      SUM=    1.0 01:Pre            .81     .059 No_date    1:20   26.36  n/a    .000
01967> R0099:C00044-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01968>      ROUTE CHANNEL   ->      1.0 02:Pre           .81     .059 No_date    1:20   26.36  n/a    .000
01969>        [RDT= 1.00] out<-     1.0 01:R6            .81     .058 No_date    1:22   26.36  n/a    .000
01970>          [L/S/n=  77./ .776/.035]
01971>          {Vmax=  .492:Dmax=  .043}
01972> R0099:C00045-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01973>      ROUTE CHANNEL   ->      1.0 02:Pre9_1         .44     .027 No_date    1:27   26.29  n/a    .000
01974>        [RDT= 1.00] out<-     1.0 01:R7            .44     .026 No_date    1:30   26.29  n/a    .000
01975>          [L/S/n=  159./1.576/.035]
01976>          {Vmax=  .797:Dmax=  .008}
01977> R0099:C00046-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01978>      ADD HYD                 1.0 02:R6            .81     .058 No_date    1:22   26.69  n/a    .000
01979>                        +     1.0 02:EXT10          .20     .012 No_date    1:30   26.28  n/a    .000
01980>                        +     1.0 02:Pre11_1        .07     .008 No_date    1:13   32.37  n/a    .000
01981>                        +     1.0 02:EXT9a          .01     .003 No_date    1:00   32.37  n/a    .000
01982>                      SUM=    1.0 01:J6            1.10     .076 No_date    1:22   27.02  n/a    .000
01983> R0099:C00047-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01984>      ROUTE CHANNEL   ->      1.0 02:J6            1.10     .076 No_date    1:22   27.02  n/a    .000
01985>        [RDT= 1.00] out<-     1.0 01:R8            1.10     .075 No_date    1:26   27.02  n/a    .000
01986>          [L/S/n=  79./ .522/.035]
01987>          {Vmax=  .423:Dmax=  .056}
01988> R0099:C00048-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01989>      ADD HYD                 1.0 02:R8            1.10     .075 No_date    1:26   27.18  n/a    .000
01990>                        +     1.0 02:R7            .44     .033 No_date    1:51   26.73  n/a    .000
01991>                      SUM=    1.0 01:J7            1.53     .100 No_date    1:27   27.05  n/a    .000
01992> R0099:C00049-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01993>      ROUTE CHANNEL   ->      1.0 02:J7            1.53     .100 No_date    1:27   27.05  n/a    .000
01994>        [RDT= 1.00] out<-     1.0 01:R9            1.53     .100 No_date    1:28   27.05  n/a    .000
01995>          [L/S/n=  29./ .887/.035]
01996>          {Vmax=  .543:Dmax=  .068}
01997> R0099:C00050-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01998>      ADD HYD                 1.0 02:EXT9          3.57     .218 No_date    1:34   30.49  n/a    .000
01999>                        +     1.0 02:R9            1.53     .100 No_date    1:28   27.16  n/a    .000
02000>                        +     1.0 02:EXT8           .83     .062 No_date    1:29   33.37  n/a    .000
02001>                        +     1.0 02:R5            7.24     .364 No_date    1:50   37.12  n/a    .000
02002>                      SUM=    1.0 01:J8           13.18     .704 No_date    1:41   33.93  n/a    .000
02003> R0099:C00051-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02004>      ROUTE PIPE      ->      1.0 02:J8           13.18     .704 No_date    1:41   33.93  n/a    .000
02005>  *   [RDT= 1.00] out<-     1.0 01:Outlet        13.18     .704 No_date    1:41   33.93  n/a    .000
02006>          [L/S/n=   8./ .010/.013]
02007>          {Vmax=  .455:Dmax=  1.229}
02008>          [Din=  .53:Dused= 1.50)
02009> ##########################################################################
02010> # STORMS
02011> ##########################################################################
02012>  ** END OF RUN :  101
02013>
02014> *************************************************************************************************
02015>
02016>
02017>
02018>
02019>
02020>  RUN#:COMMAND#
02021> R0102:C00001-------------------------------------------------------------------------------------
02022>      START
02023>        [TZERO =    .00 hrs on        0]
02024>        [METOUT=   2    (1=imperial, 2=metric output)]
02025>        [NSTORM=   1 ]
02026>        [NRUN  = 0102 ]
02027> #*************************************************************************************************
02028> #  SWMHYMO  / INPUT DATA FILE
02029> #*************************************************************************************************
02030> #  Project Name  : [5923 Ottawa St]
02031> #  Project Number: [P2710(e01)]
02032> #  Date          : [2025 April 28]
02033> #  Modeller      : [MM]
02034> #  Company       : JFSA Canada Inc.
02035> #  License #     : 2549237
02036> #*************************************************************************************************
02037> # Model developed to simulate runoff from subcatchments under post development conditions
02038> #*************************************************************************************************
02039> R0102:C00002-------------------------------------------------------------------------------------
02040>      READ STORM
02041>        Filename = STORM.001
02042>        Comment  = 2 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
02043>        [SDT=10.00:SDUR=  24.00:PTOT=  48.46]
02044> #*************************************************************************************************
02045> R0102:C00003-------------------------------------------------------------------------------------
02046>      DEFAULT VALUES
02047>        Filename = C:\Temp\20260327-PostDev\Ottawa.val
02048>        [CASEdv  = 1 (read and print data)
02049>        FileTitle= File comment: [Parameters for City of Ottawa Projects]
02050>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
02051>        Horton's infiltration equation parameters:
02052>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
02053>        Parameters for PERVIOUS surfaces in STANDHYD:
02054>        [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
02055>        Parameters for IMPERVIOUS surfaces in STANDHYD:
02056>        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
02057>        Parameters used in NASHYD:
02058>        [Ia=   4.67 mm] [N= 3.00]
02059>        Average monthly Pan Evaporation data in    (mm)
02060>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02061>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02062>        Average monthly Potential Evapotranspiration in    (mm)
02063>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02064>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02065> #*************************************************************************************************
02066> # EXT1
02067> #*************************************************************************************************
02068> R0102:C00004-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02069>      CALIB NASHYD            1.0 01:EXT1          3.21     .058 No_date    12:42   17.87 .369    .000
02070>        [CN= 80.0: N= 3.00: Tp=  .72]
02071> #*************************************************************************************************
02072> # EXT2
02073> #*************************************************************************************************
02074> R0102:C00005-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02075>      CALIB NASHYD            1.0 01:EXT2           .28     .011 No_date    12:14   21.63 .446    .000
02076>        [CN= 85.0: N= 3.00: Tp=  .31]
02077> #*************************************************************************************************
02078> # EXT3
02079> #*************************************************************************************************
02080> R0102:C00006-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02081>      CALIB NASHYD            1.0 01:EXT3           .56     .018 No_date    12:13   17.87 .369    .000
02082>        [CN= 80.0: N= 3.00: Tp=  .32]
02083> #*************************************************************************************************
02084> # EXT4
02085> #*************************************************************************************************
02086> R0102:C00007-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02087>      CALIB NASHYD            1.0 01:EXT4           .31     .010 No_date    12:12   17.22 .355    .000
02088>        [CN= 79.0: N= 3.00: Tp=  .29]
02089> #*************************************************************************************************
02090> # EXT5
02091> #*************************************************************************************************
02092> R0102:C00008-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02093>      CALIB NASHYD            1.0 01:EXT5           .59     .013 No_date    12:22   15.46 .319    .000
02094>        [CN= 76.0: N= 3.00: Tp=  .45]
02095> #*************************************************************************************************
02096> # EXT6
02097> #*************************************************************************************************
02098> R0102:C00009-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02099>      CALIB NASHYD            1.0 01:EXT6           .86     .023 No_date    12:30   21.64 .446    .000
02100>        [CN= 85.0: N= 3.00: Tp=  .56]
02101> #*************************************************************************************************
02102> # EXT7
02103> #*************************************************************************************************
02104> R0102:C00010-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02105>      CALIB NASHYD            1.0 01:EXT7           .47     .017 No_date    12:13   20.01 .413    .000
02106>        [CN= 83.0: N= 3.00: Tp=  .32]
02107> #*************************************************************************************************
02108> # EXT8
02109> #*************************************************************************************************
02110> R0102:C00011-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02111>      CALIB NASHYD            1.0 01:EXT8           .83     .021 No_date    12:20   17.22 .355    .000
02112>        [CN= 79.0: N= 3.00: Tp=  .42]
02113> #*************************************************************************************************
02114> # EXT9
02115> #*************************************************************************************************
02116> R0102:C00012-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02117>      CALIB NASHYD            1.0 01:EXT9          3.57     .074 No_date    12:25   15.46 .319    .000
02118>        [CN= 76.0: N= 3.00: Tp=  .48]
02119> #*************************************************************************************************
02120> # EXT9a
02121> #*************************************************************************************************
02122> R0102:C00013-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02123>      CALIB NASHYD            1.0 01:EXT9a          .01     .001 No_date    12:00   16.59 .342    .000
02124>        [CN= 78.0: N= 3.00: Tp=  .04]
02125> #*************************************************************************************************
02126> # EXT10
02127> #*************************************************************************************************
02128> R0102:C00014-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02129>      CALIB NASHYD            1.0 01:EXT10          .20     .004 No_date    12:20   12.99 .268    .000
02130>        [CN= 71.0: N= 3.00: Tp=  .42]
02131> #*************************************************************************************************
02132> # Pre2_1
02133> #*************************************************************************************************
02134> R0102:C00015-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02135>  *  CALIB NASHYD            1.0 01:Pre2_1         .01     .001 No_date    12:00   13.44 .277    .000
02136>        [CN= 72.0: N= 3.00: Tp=  .03]
02137> #*************************************************************************************************
02138> # Pre2_2
02139> #*************************************************************************************************
02140> R0102:C00016-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02141>  *  CALIB NASHYD            1.0 01:Pre2_2         .00     .000 No_date    12:00   16.60 .343    .000
02142>        [CN= 78.0: N= 3.00: Tp=  .02]
02143> #*************************************************************************************************
02144> # Pre9_1
02145> #*************************************************************************************************
02146> R0102:C00017-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02147>      CALIB NASHYD            1.0 01:Pre9_1         .44     .009 No_date    12:18   12.99 .268    .000
02148>        [CN= 71.0: N= 3.00: Tp=  .38]
02149> #*************************************************************************************************
02150> # Pre9_2
02151> #*************************************************************************************************
02152> R0102:C00018-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02153>  *  CALIB NASHYD            1.0 01:Pre9_2         .01     .001 No_date    12:00   14.92 .308    .000
02154>        [CN= 75.0: N= 3.00: Tp=  .03]
02155> #*************************************************************************************************
02156> # Pre10_1
02157> #*************************************************************************************************
02158> R0102:C00019-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02159>      CALIB NASHYD            1.0 01:Pre10_1        .80     .020 No_date    12:12   12.99 .268    .000
02160>        [CN= 71.0: N= 3.00: Tp=  .29]
```

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#*****************************************************************************************
# Pre11_1
#*****************************************************************************************
R0102:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre11_1         .07      .003 No_date   12:07   16.60 .343     .000
      [CN= 78.0: N= 3.00: Tp=  .21]
#*****************************************************************************************
# Site 1
#*****************************************************************************************
R0102:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD       1.0 01:S1-B1           .42      .034 No_date   12:00   22.59 .466     .000
      [XIMP=.34:TIMP=.44]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
#*****************************************************************************************
# Site 1 - Roof
#*****************************************************************************************
R0102:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD       1.0 01:S1-Roof         .06      .011 No_date   12:00   46.49 .959     .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
R0102:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:S1-Roof         .06      .011 No_date   12:00   46.49  n/a     .000
                out <=    1.0 01:S1-Roof-Ou      .06      .003 No_date   12:03   46.49  n/a     .000
           overflow <=    1.0 03:S1-Roof-Ov      .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1059E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0102:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:S1-B1           .42      .034 No_date   12:00   22.59  n/a     .000
                    +     1.0 02:S1-Roof-Ou      .06      .003 No_date   12:03   46.49  n/a     .000
                    +     1.0 02:S1-Roof-Ov      .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:SITE1-IN        .48      .038 No_date   12:00   25.81  n/a     .000
R0102:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:SITE1-IN        .48      .038 No_date   12:00   25.81  n/a     .000
                out <=    1.0 01:SITE1-Out       .48      .006 No_date   12:38   25.81  n/a     .000
           overflow <=    1.0 03:SITE1-Over      .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.4777E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#*****************************************************************************************
# Site 2
#*****************************************************************************************
R0102:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD       1.0 01:S2-B3           .36      .028 No_date   12:00   21.44 .442     .000
      [XIMP=.31:TIMP=.41]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
#*****************************************************************************************
# Site 2 - Roof
#*****************************************************************************************
R0102:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD       1.0 01:S2-Roof         .09      .015 No_date   12:00   46.49 .959     .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
#*****************************************************************************************
R0102:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:S2-Roof         .09      .015 No_date   12:00   46.49  n/a     .000
                out <=    1.0 01:S2-Roof-Ou      .09      .005 No_date   12:03   46.49  n/a     .000
           overflow <=    1.0 03:S2-Roof-Ov      .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1484E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0102:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:S2-B3           .36      .028 No_date   12:00   21.44  n/a     .000
                    +     1.0 02:S2-Roof-Ou      .09      .005 No_date   12:03   46.49  n/a     .000
                    +     1.0 02:S2-Roof-Ov      .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:SITE2-IN        .45      .033 No_date   12:00   26.61  n/a     .000
R0102:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:SITE2-IN        .45      .033 No_date   12:00   26.61  n/a     .000
                out <=    1.0 01:SITE2-Out       .45      .007 No_date   12:37   26.61  n/a     .000
           overflow <=    1.0 03:SITE2-Over      .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.4168E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0102:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:SITE1-Out       .48      .006 No_date   12:38   25.81  n/a     .000
                    +     1.0 02:SITE1-Over      .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:Site1           .48      .006 No_date   12:38   25.81  n/a     .000
R0102:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:SITE2-Out       .45      .007 No_date   12:37   26.61  n/a     .000
                    +     1.0 02:SITE2-Over      .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:Site2           .45      .007 No_date   12:37   26.61  n/a     .000
R0102:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT2            .28      .011 No_date   12:14   21.63  n/a     .000
                    +     1.0 02:Pre2_1          .01      .001 No_date   12:00   13.44  n/a     .000
                    +     1.0 02:Site1           .48      .006 No_date   12:38   25.81  n/a     .000
                    +     1.0 02:Site2           .45      .007 No_date   12:37   26.61  n/a     .000
                 SUM=     1.0 01:J1             1.23      .024 No_date   12:16   25.01  n/a     .000
R0102:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J1             1.23      .024 No_date   12:16   25.01  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R1             1.23      .023 No_date   12:23   25.01  n/a     .000
      [L/S/n=  143./ .394/.035]
      {Vmax=  .279:Dmax=  .103}
R0102:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R1             1.23      .023 No_date   12:23   25.01  n/a     .000
                    +     1.0 02:EXT3            .56      .018 No_date   12:13   17.87  n/a     .000
                    +     1.0 02:EXT1           3.21      .058 No_date   12:42   17.87  n/a     .000
                 SUM=     1.0 01:J2             5.00      .091 No_date   12:31   19.62  n/a     .000
R0102:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J2             5.00      .091 No_date   12:31   19.62  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R2             5.00      .090 No_date   12:33   19.62  n/a     .000
      [L/S/n=   73./ .425/.035]
      {Vmax=  .398:Dmax=  .186}
R0102:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R2             5.00      .090 No_date   12:33   19.62  n/a     .000
                    +     1.0 02:EXT4            .31      .010 No_date   12:12   17.22  n/a     .000
                 SUM=     1.0 01:J3             5.31      .097 No_date   12:30   19.48  n/a     .000
R0102:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J3             5.31      .097 No_date   12:30   19.48  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R3             5.31      .096 No_date   12:34   19.48  n/a     .000
      [L/S/n=   92./ .274/.035]
      {Vmax=  .327:Dmax=  .193}
R0102:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R3             5.31      .096 No_date   12:34   19.48  n/a     .000
                    +     1.0 02:EXT5            .59      .013 No_date   12:22   15.46  n/a     .000
                 SUM=     1.0 01:J4             5.90      .108 No_date   12:32   19.08  n/a     .000
R0102:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J4             5.90      .108 No_date   12:32   19.08  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R4             5.90      .100 No_date   12:46   19.08  n/a     .000
      [L/S/n=  251./ .190/.035]
      {Vmax=  .310:Dmax=  .210}
R0102:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R4             5.90      .100 No_date   12:46   19.08  n/a     .000
                    +     1.0 02:EXT6            .86      .023 No_date   12:30   21.64  n/a     .000
                    +     1.0 02:EXT7            .47      .017 No_date   12:13   20.01  n/a     .000
                 SUM=     1.0 01:J5             7.24      .130 No_date   12:39   19.45  n/a     .000
R0102:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J5             7.24      .130 No_date   12:39   19.45  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R5             7.24      .128 No_date   12:46   19.45  n/a     .000
      [L/S/n=  237./ .644/.035]
      {Vmax=  .503:Dmax=  .201}
R0102:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:Pre10_1         .80      .020 No_date   12:12   12.99  n/a     .000
                    +     1.0 02:Pre9_2          .01      .001 No_date   12:00   14.92  n/a     .000
                    +     1.0 02:Pre2_2          .00      .000 No_date   12:00   16.60  n/a     .000
                 SUM=     1.0 01:Pre             .81      .020 No_date   12:12   13.04  n/a     .000
R0102:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:Pre             .81      .020 No_date   12:12   13.04  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R6              .81      .019 No_date   12:15   13.04  n/a     .000
      [L/S/n=   77./ .776/.035]
      {Vmax=  .492:Dmax=  .014}
R0102:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:Pre9_1          .44      .009 No_date   12:18   12.99  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R7              .44      .009 No_date   12:21   12.99  n/a     .000
      [L/S/n=  159./1.576/.035]
      {Vmax=  .797:Dmax=  .003}
R0102:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R6              .81      .019 No_date   12:15   13.07  n/a     .000
                    +     1.0 02:EXT10           .20      .004 No_date   12:20   12.99  n/a     .000
                    +     1.0 02:Pre11_1         .07      .003 No_date   12:07   16.60  n/a     .000
                    +     1.0 02:EXT9a           .01      .001 No_date   12:00   16.59  n/a     .000
                 SUM=     1.0 01:J6             1.10      .025 No_date   12:14   13.31  n/a     .000
R0102:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J6             1.10      .025 No_date   12:14   13.31  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R8             1.10      .025 No_date   12:17   13.31  n/a     .000
      [L/S/n=   79./ .522/.035]
      {Vmax=  .423:Dmax=  .019}
R0102:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R8             1.10      .025 No_date   12:17   13.33  n/a     .000
                    +     1.0 02:R7              .44      .009 No_date   12:21   13.05  n/a     .000
                 SUM=     1.0 01:J7             1.53      .033 No_date   12:18   13.25  n/a     .000
R0102:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J7             1.53      .033 No_date   12:18   13.25  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R9             1.53      .033 No_date   12:19   13.25  n/a     .000
      [L/S/n=   29./ .887/.035]
      {Vmax=  .543:Dmax=  .023}
R0102:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT9           3.57      .074 No_date   12:25   15.46  n/a     .000
                    +     1.0 02:R9             1.53      .033 No_date   12:19   13.26  n/a     .000
                    +     1.0 02:EXT8            .83      .021 No_date   12:20   17.22  n/a     .000
                    +     1.0 02:R5             7.24      .128 No_date   12:46   19.45  n/a     .000
                 SUM=     1.0 01:J8            13.18      .235 No_date   12:33   17.51  n/a     .000
R0102:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:J8            13.18      .235 No_date   12:33   17.51  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:Outlet        13.18      .234 No_date   12:36   17.51  n/a     .000
      [L/S/n=    8./ .010/.013]
      {Vmax=  .346:Dmax=  .814}
      [Din=  .53:Dused=  .99]
################################################################################
# STORMS
################################################################################
  ** END OF RUN :  104

*****************************************************************************************

 RUN#:COMMAND#
R0105:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0105 ]
#*****************************************************************************************
#  SWMHYMO  / INPUT DATA FILE
#*****************************************************************************************
#  Project Name  : [5923 Ottawa St]
#  Project Number: [P2710(e01)]
#  Date          : [2025 April 28]
#  Modeller      : [MM]
#  Company       : JFSA Canada Inc.
#  License #     : 2549237
#*****************************************************************************************
# Model developed to simulate runoff from subcatchments under post development conditions
#*****************************************************************************************
R0105:C00002----------------------------------------------------------------------------------------
     READ STORM
      Filename = STORM.001
      Comment  = 5 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
      [SDT=10.00:SDUR=  24.00:PTOT=  64.11]
#*****************************************************************************************
R0105:C00003----------------------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = C:\Temp\20260327-PostDev\Ottawa.val
      ICASEdv  = 1 (read and print data)
      FileTitle= File comment: [Parameters for City of Ottawa Projects]
                 THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
      Horton's infiltration equation parameters:
      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
      Parameters for PERVIOUS surfaces in STANDHYD:
      [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
      Parameters for IMPERVIOUS surfaces in STANDHYD:
      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
      Parameters used in NASHYD:
      [Ia=   4.67 mm] [N= 3.00]
      Average monthly Pan Evaporation data in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
      Average monthly Potential Evapotranspiration in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
#*****************************************************************************************
# EXT1
#*****************************************************************************************
R0105:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT1           3.21      .095 No_date   12:41   28.73 .448     .000
      [CN= 80.0: N= 3.00: Tp=  .72]
#*****************************************************************************************
# EXT2
#*****************************************************************************************
R0105:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT2            .28      .018 No_date   12:13   33.88 .529     .000
      [CN= 85.0: N= 3.00: Tp=  .33]
#*****************************************************************************************
# EXT3
#*****************************************************************************************
R0105:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT3            .56      .030 No_date   12:13   28.73 .448     .000
      [CN= 80.0: N= 3.00: Tp=  .32]
#*****************************************************************************************
# EXT4
#*****************************************************************************************
R0105:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT4            .31      .017 No_date   12:11   27.82 .434     .000
      [CN= 79.0: N= 3.00: Tp=  .29]
#*****************************************************************************************
# EXT5
#*****************************************************************************************
R0105:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT5            .59      .021 No_date   12:22   25.29 .395     .000
      [CN= 76.0: N= 3.00: Tp=  .45]
#*****************************************************************************************
# EXT6
#*****************************************************************************************
R0105:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT6            .86      .037 No_date   12:29   33.88 .529     .000
      [CN= 85.0: N= 3.00: Tp=  .56]
#*****************************************************************************************
# EXT7
#*****************************************************************************************
R0105:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT7            .47      .028 No_date   12:13   31.69 .494     .000
      [CN= 83.0: N= 3.00: Tp=  .32]
#*****************************************************************************************
# EXT8
#*****************************************************************************************
R0105:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT8            .83      .035 No_date   12:20   27.82 .434     .000
      [CN= 79.0: N= 3.00: Tp=  .42]
#*****************************************************************************************
# EXT9
#*****************************************************************************************
R0105:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT9           3.57      .123 No_date   12:24   25.30 .395     .000
      [CN= 76.0: N= 3.00: Tp=  .48]
#*****************************************************************************************
# EXT9a
#*****************************************************************************************
R0105:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT9a           .01      .001 No_date   12:00   26.94 .420     .000
      [CN= 78.0: N= 3.00: Tp=  .04]
#*****************************************************************************************
# EXT10
#*****************************************************************************************
R0105:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT10           .20      .006 No_date   12:20   21.64 .338     .000
      [CN= 71.0: N= 3.00: Tp=  .42]
#*****************************************************************************************
# Pre2_1
#*****************************************************************************************
R0105:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD          1.0 01:Pre2_1          .01      .001 No_date   12:00   22.32 .348     .000
      [CN= 72.0: N= 3.00: Tp=  .03]
#*****************************************************************************************
# Pre2_2
#*****************************************************************************************
R0105:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD          1.0 01:Pre2_2          .00      .000 No_date   12:00   26.94 .420     .000
      [CN= 78.0: N= 3.00: Tp=  .02]
#*****************************************************************************************
# Pre9_1
#*****************************************************************************************
R0105:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre9_1          .44      .015 No_date   12:17   21.65 .338     .000
      [CN= 71.0: N= 3.00: Tp=  .38]
#*****************************************************************************************
# Pre9_2
#*****************************************************************************************
R0105:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD          1.0 01:Pre9_2          .01      .002 No_date   12:00   24.51 .382     .000
      [CN= 75.0: N= 3.00: Tp=  .03]
#*****************************************************************************************
# Pre10_1
#*****************************************************************************************
R0105:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre10_1         .80      .033 No_date   12:11   21.65 .338     .000
      [CN= 71.0: N= 3.00: Tp=  .29]
#*****************************************************************************************
# Pre11_1
#*****************************************************************************************
R0105:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre11_1         .07      .004 No_date   12:07   26.94 .420     .000
      [CN= 78.0: N= 3.00: Tp=  .21]
#*****************************************************************************************
# Site 1
#*****************************************************************************************
R0105:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD       1.0 01:S1-B1           .42      .055 No_date   12:00   32.23 .503     .000
      [XIMP=.34:TIMP=.44]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
#*****************************************************************************************
# Site 1 - Roof
#*****************************************************************************************
R0105:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD       1.0 01:S1-Roof         .06      .014 No_date   12:00   62.02 .967     .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
R0105:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:S1-Roof         .06      .014 No_date   12:00   62.02  n/a     .000
                out <=    1.0 01:S1-Roof-Ou      .06      .004 No_date   12:02   62.02  n/a     .000
           overflow <=    1.0 03:S1-Roof-Ov      .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1407E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0105:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:S1-B1           .42      .055 No_date   12:00   32.23  n/a     .000
                    +     1.0 02:S1-Roof-Ou      .06      .004 No_date   12:02   62.02  n/a     .000
                    +     1.0 02:S1-Roof-Ov      .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:SITE1-IN        .48      .059 No_date   12:00   36.25  n/a     .000
R0105:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:SITE1-IN        .48      .059 No_date   12:00   36.25  n/a     .000
                out <=    1.0 01:SITE1-Out       .48      .007 No_date   12:40   36.25  n/a     .000
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           overflow <=    1.0 03:SITE1-Over       .00     .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.7781E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#**************************************************************************************************
# Site 2
#**************************************************************************************************
R0105:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD       1.0 01:S2-B3            .36     .045 No_date   12:00   30.79 .480     .000
      [XIMP=.31:TIMP=.41]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
#**************************************************************************************************
# Site 2 - Roof
#**************************************************************************************************
R0105:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD       1.0 01:S2-Roof          .09     .020 No_date   12:00   62.06 .968     .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
#**************************************************************************************************
R0105:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:S2-Roof          .09     .020 No_date   12:00   62.06  n/a     .000
                out <=    1.0 01:S2-Roof-Ou       .09     .006 No_date   12:03   62.06  n/a     .000
           overflow <=    1.0 03:S2-Roof-Ov       .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1973E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0105:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:S2-B3            .36     .045 No_date   12:00   30.79  n/a     .000
                    +     1.0 02:S2-Roof-Ou       .09     .006 No_date   12:03   62.06  n/a     .000
                    +     1.0 02:S2-Roof-Ov       .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:SITE2-IN         .45     .051 No_date   12:00   37.25  n/a     .000
R0105:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:SITE2-IN         .45     .051 No_date   12:00   37.25  n/a     .000
                out <=    1.0 01:SITE2-Out        .45     .008 No_date   12:39   37.25  n/a     .000
           overflow <=    1.0 03:SITE2-Over       .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.6782E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0105:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:SITE1-Out        .48     .007 No_date   12:40   36.25  n/a     .000
                    +     1.0 02:SITE1-Over       .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:Site1            .48     .007 No_date   12:40   36.25  n/a     .000
R0105:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:SITE2-Out        .45     .008 No_date   12:39   37.25  n/a     .000
                    +     1.0 02:SITE2-Over       .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:Site2            .45     .008 No_date   12:39   37.25  n/a     .000
R0105:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT2             .28     .018 No_date   12:13   33.88  n/a     .000
                    +     1.0 02:Pre2_1           .01     .001 No_date   12:00   22.32  n/a     .000
                    +     1.0 02:Site1            .48     .007 No_date   12:40   36.25  n/a     .000
                    +     1.0 02:Site2            .45     .008 No_date   12:39   37.25  n/a     .000
                 SUM=     1.0 01:J1              1.23     .032 No_date   12:14   35.92  n/a     .000
R0105:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J1              1.23     .032 No_date   12:14   35.92  n/a     .000
      [RDT= 1.00] out<-   1.0 01:R1              1.23     .031 No_date   12:21   35.92  n/a     .000
      [L/S/n=  143./ .394/.035]
      {Vmax=  .304:Dmax=  .117}
R0105:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R1              1.23     .031 No_date   12:21   35.92  n/a     .000
                    +     1.0 02:EXT3             .56     .030 No_date   12:13   28.73  n/a     .000
                    +     1.0 02:EXT1            3.21     .095 No_date   12:41   28.73  n/a     .000
                 SUM=     1.0 01:J2              5.00     .142 No_date   12:30   30.50  n/a     .000
R0105:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J2              5.00     .142 No_date   12:30   30.50  n/a     .000
      [RDT= 1.00] out<-   1.0 01:R2              5.00     .142 No_date   12:32   30.50  n/a     .000
      [L/S/n=   73./ .425/.035]
      {Vmax=  .450:Dmax=  .223}
R0105:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R2              5.00     .142 No_date   12:32   30.50  n/a     .000
                    +     1.0 02:EXT4             .31     .017 No_date   12:11   27.82  n/a     .000
                 SUM=     1.0 01:J3              5.31     .152 No_date   12:29   30.35  n/a     .000
R0105:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J3              5.31     .152 No_date   12:29   30.35  n/a     .000
      [RDT= 1.00] out<-   1.0 01:R3              5.31     .151 No_date   12:32   30.35  n/a     .000
      [L/S/n=   92./ .274/.035]
      {Vmax=  .369:Dmax=  .231}
R0105:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R3              5.31     .151 No_date   12:32   30.35  n/a     .000
                    +     1.0 02:EXT5             .59     .021 No_date   12:22   25.29  n/a     .000
                 SUM=     1.0 01:J4              5.90     .171 No_date   12:30   29.84  n/a     .000
R0105:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J4              5.90     .171 No_date   12:30   29.84  n/a     .000
      [RDT= 1.00] out<-   1.0 01:R4              5.90     .161 No_date   12:42   29.84  n/a     .000
      [L/S/n=  251./ .190/.035]
      {Vmax=  .358:Dmax=  .256}
R0105:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R4              5.90     .161 No_date   12:42   29.84  n/a     .000
                    +     1.0 02:EXT6             .86     .037 No_date   12:29   33.88  n/a     .000
                    +     1.0 02:EXT7             .47     .028 No_date   12:13   31.69  n/a     .000
                 SUM=     1.0 01:J5              7.24     .211 No_date   12:37   30.44  n/a     .000
R0105:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J5              7.24     .211 No_date   12:37   30.44  n/a     .000
      [RDT= 1.00] out<-   1.0 01:R5              7.24     .208 No_date   12:41   30.44  n/a     .000
      [L/S/n=  237./ .644/.035]
      {Vmax=  .589:Dmax=  .245}
R0105:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:Pre10_1          .80     .033 No_date   12:11   21.65  n/a     .000
                    +     1.0 02:Pre9_2           .01     .002 No_date   12:00   24.51  n/a     .000
                    +     1.0 02:Pre2_2           .00     .000 No_date   12:00   26.94  n/a     .000
                 SUM=     1.0 01:Pre              .81     .033 No_date   12:11   21.71  n/a     .000
R0105:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:Pre              .81     .033 No_date   12:11   21.71  n/a     .000
      [RDT= 1.00] out<-   1.0 01:R6               .81     .033 No_date   12:14   21.71  n/a     .000
      [L/S/n=   77./ .776/.035]
      {Vmax=  .492:Dmax=  .024}
R0105:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:Pre9_1           .44     .015 No_date   12:17   21.65  n/a     .000
      [RDT= 1.00] out<-   1.0 01:R7               .44     .015 No_date   12:21   21.65  n/a     .000
      [L/S/n=  159./1.576/.035]
      {Vmax=  .797:Dmax=  .004}
R0105:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R6               .81     .033 No_date   12:14   21.76  n/a     .000
                    +     1.0 02:EXT10            .20     .006 No_date   12:20   21.64  n/a     .000
                    +     1.0 02:Pre11_1          .07     .004 No_date   12:07   26.94  n/a     .000
                    +     1.0 02:EXT9a            .01     .001 No_date   12:00   26.94  n/a     .000
                 SUM=     1.0 01:J6              1.10     .043 No_date   12:14   22.10  n/a     .000
R0105:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J6              1.10     .043 No_date   12:14   22.10  n/a     .000
      [RDT= 1.00] out<-   1.0 01:R8              1.10     .042 No_date   12:17   22.10  n/a     .000
      [L/S/n=   79./ .522/.035]
      {Vmax=  .423:Dmax=  .031}
R0105:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R8              1.10     .042 No_date   12:17   22.13  n/a     .000
                    +     1.0 02:R7               .44     .015 No_date   12:21   21.71  n/a     .000
                 SUM=     1.0 01:J7              1.53     .057 No_date   12:18   22.01  n/a     .000
R0105:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J7              1.53     .057 No_date   12:18   22.01  n/a     .000
      [RDT= 1.00] out<-   1.0 01:R9              1.53     .056 No_date   12:19   22.01  n/a     .000
      [L/S/n=   29./ .887/.035]
      {Vmax=  .543:Dmax=  .038}
R0105:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT9            3.57     .123 No_date   12:24   25.30  n/a     .000
                    +     1.0 02:R9              1.53     .056 No_date   12:19   22.03  n/a     .000
                    +     1.0 02:EXT8             .83     .035 No_date   12:20   27.82  n/a     .000
                    +     1.0 02:R5              7.24     .208 No_date   12:41   30.44  n/a     .000
                 SUM=     1.0 01:J8             13.18     .395 No_date   12:31   27.90  n/a     .000
R0105:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:J8             13.18     .395 No_date   12:31   27.90  n/a     .000
 *    [RDT= 1.00] out<-   1.0 01:Outlet         13.18     .394 No_date   12:33   27.90  n/a     .000
      [L/S/n=    8./ .010/.013]
      {Vmax=  .394:Dmax=  .990}
      [Din=  .53:Dused= 1.21}
##################################################################################
# STORMS
##################################################################################
  ** END OF RUN :  109

***************************************************************************************************






 RUN#:COMMAND#
R0110:C00001---------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0110 ]
#**************************************************************************************************
#  SWMHYMO  / INPUT DATA FILE
#**************************************************************************************************
#  Project Name  : [5923 Ottawa St]
#  Project Number: [P2710(e01)]
#  Date          : [2025 April 28]
#  Modeller      : [MM]
#  Company       : JFSA Canada Inc.
#  License #     : 2549237
#**************************************************************************************************
# Model developed to simulate runoff from subcatchments under post development conditions
#**************************************************************************************************
R0110:C00002---------------------------------------------------------------------------------------
     READ STORM
      Filename = STORM.001
      Comment  = 10 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
      [SDT=10.00:SDUR=  24.00:PTOT=  74.35]
#**************************************************************************************************
R0110:C00003---------------------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = C:\Temp\20260327-PostDev\Ottawa.val
      ICASEdv  = 1 (read and print data)
      FileTitle= File comment: [Parameters for City of Ottawa Projects]
                 THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
      Horton's infiltration equation parameters:
      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
      Parameters for PERVIOUS surfaces in STANDHYD:
      [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
      Parameters for IMPERVIOUS surfaces in STANDHYD:
      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
      Parameters used in NASHYD:
      [Ia=   4.67 mm] [N= 3.00]
      Average monthly Pan Evaporation data in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
      Average monthly Potential Evapotranspiration in     (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
#**************************************************************************************************
# EXT1
#**************************************************************************************************
R0110:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT1            3.21     .121 No_date   12:40   36.46 .490     .000
      [CN= 80.0: N= 3.00: Tp=  .72]
#**************************************************************************************************
# EXT2
#**************************************************************************************************
R0110:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT2             .28     .022 No_date   12:13   42.40 .570     .000
      [CN= 85.0: N= 3.00: Tp=  .33]
#**************************************************************************************************
# EXT3
#**************************************************************************************************
R0110:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT3             .56     .038 No_date   12:13   36.46 .490     .000
      [CN= 80.0: N= 3.00: Tp=  .32]
#**************************************************************************************************
# EXT4
#**************************************************************************************************
R0110:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT4             .31     .022 No_date   12:11   35.39 .476     .000
      [CN= 79.0: N= 3.00: Tp=  .29]
#**************************************************************************************************
# EXT5
#**************************************************************************************************
R0110:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT5             .59     .028 No_date   12:22   32.39 .436     .000
      [CN= 76.0: N= 3.00: Tp=  .45]
#**************************************************************************************************
# EXT6
#**************************************************************************************************
R0110:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT6             .86     .046 No_date   12:29   42.40 .570     .000
      [CN= 85.0: N= 3.00: Tp=  .56]
#**************************************************************************************************
# EXT7
#**************************************************************************************************
R0110:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT7             .47     .035 No_date   12:13   39.90 .537     .000
      [CN= 83.0: N= 3.00: Tp=  .32]
#**************************************************************************************************
# EXT8
#**************************************************************************************************
R0110:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT8             .83     .045 No_date   12:19   35.39 .476     .000
      [CN= 79.0: N= 3.00: Tp=  .42]
#**************************************************************************************************
# EXT9
#**************************************************************************************************
R0110:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT9            3.57     .158 No_date   12:24   32.39 .436     .000
      [CN= 76.0: N= 3.00: Tp=  .48]
#**************************************************************************************************
# EXT9a
#**************************************************************************************************
R0110:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT9a            .01     .002 No_date   12:00   34.35 .462     .000
      [CN= 78.0: N= 3.00: Tp=  .04]
#**************************************************************************************************
# EXT10
#**************************************************************************************************
R0110:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT10            .20     .008 No_date   12:20   27.99 .377     .000
      [CN= 71.0: N= 3.00: Tp=  .42]
#**************************************************************************************************
# Pre2_1
#**************************************************************************************************
R0110:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD          1.0 01:Pre2_1           .01     .002 No_date   12:00   28.81 .388     .000
      [CN= 72.0: N= 3.00: Tp=  .03]
#**************************************************************************************************
# Pre2_2
#**************************************************************************************************
R0110:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD          1.0 01:Pre2_2           .00     .000 No_date   12:00   34.35 .462     .000
      [CN= 78.0: N= 3.00: Tp=  .02]
#**************************************************************************************************
# Pre9_1
#**************************************************************************************************
R0110:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre9_1           .44     .020 No_date   12:17   28.00 .377     .000
      [CN= 71.0: N= 3.00: Tp=  .38]
#**************************************************************************************************
# Pre9_2
#**************************************************************************************************
R0110:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD          1.0 01:Pre9_2           .01     .002 No_date   12:00   31.45 .423     .000
      [CN= 75.0: N= 3.00: Tp=  .03]
#**************************************************************************************************
# Pre10_1
#**************************************************************************************************
R0110:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre10_1          .80     .043 No_date   12:11   28.00 .377     .000
      [CN= 71.0: N= 3.00: Tp=  .29]
#**************************************************************************************************
# Pre11_1
#**************************************************************************************************
R0110:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre11_1          .07     .006 No_date   12:07   34.35 .462     .000
      [CN= 78.0: N= 3.00: Tp=  .21]
#**************************************************************************************************
# Site 1
#**************************************************************************************************
R0110:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD       1.0 01:S1-B1            .42     .069 No_date   12:00   38.77 .521     .000
      [XIMP=.34:TIMP=.44]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
#**************************************************************************************************
# Site 1 - Roof
#**************************************************************************************************
R0110:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD       1.0 01:S1-Roof          .06     .016 No_date   12:00   72.22 .971     .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
R0110:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:S1-Roof          .06     .016 No_date   12:00   72.22  n/a     .000
                out <=    1.0 01:S1-Roof-Ou       .06     .005 No_date   12:02   72.22  n/a     .000
           overflow <=    1.0 03:S1-Roof-Ov       .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1635E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0110:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:S1-B1            .42     .069 No_date   12:00   38.77  n/a     .000
                    +     1.0 02:S1-Roof-Ou       .06     .005 No_date   12:02   72.22  n/a     .000
                    +     1.0 02:S1-Roof-Ov       .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:SITE1-IN         .48     .074 No_date   12:00   43.28  n/a     .000
R0110:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:SITE1-IN         .48     .074 No_date   12:00   43.28  n/a     .000
                out <=    1.0 01:SITE1-Out        .48     .007 No_date   12:41   43.28  n/a     .000
           overflow <=    1.0 03:SITE1-Over       .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.9872E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#**************************************************************************************************
# Site 2
#**************************************************************************************************
R0110:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD       1.0 01:S2-B3            .36     .057 No_date   12:00   37.18 .500     .000
      [XIMP=.31:TIMP=.41]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
#**************************************************************************************************
# Site 2 - Roof
#**************************************************************************************************
R0110:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD       1.0 01:S2-Roof          .09     .023 No_date   12:00   72.23 .971     .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
#**************************************************************************************************
R0110:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:S2-Roof          .09     .023 No_date   12:00   72.23  n/a     .000
                out <=    1.0 01:S2-Roof-Ou       .09     .008 No_date   12:02   72.23  n/a     .000
           overflow <=    1.0 03:S2-Roof-Ov       .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2295E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0110:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:S2-B3            .36     .057 No_date   12:00   37.18  n/a     .000
                    +     1.0 02:S2-Roof-Ou       .09     .008 No_date   12:02   72.23  n/a     .000
                    +     1.0 02:S2-Roof-Ov       .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:SITE2-IN         .45     .065 No_date   12:00   44.42  n/a     .000
R0110:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:SITE2-IN         .45     .065 No_date   12:00   44.42  n/a     .000
                out <=    1.0 01:SITE2-Out        .45     .008 No_date   12:40   44.42  n/a     .000
           overflow <=    1.0 03:SITE2-Over       .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.8665E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0110:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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    ADD HYD                  1.0 02:SITE1-Out        .48      .007 No_date   12:41   43.28  n/a      .000
                    +        1.0 02:SITE1-Over       .00      .000 No_date    0:00     .00  n/a      .000
                 SUM=        1.0 01:Site1            .48      .007 No_date   12:41   43.28  n/a      .000
R0110:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:SITE2-Out        .45      .008 No_date   12:40   44.42  n/a      .000
                    +        1.0 02:SITE2-Over       .00      .000 No_date    0:00     .00  n/a      .000
                 SUM=        1.0 01:Site2            .45      .008 No_date   12:40   44.42  n/a      .000
R0110:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:EXT2             .28      .022 No_date   12:13   42.40  n/a      .000
                    +        1.0 02:Pre2_1           .01      .002 No_date   12:00   28.81  n/a      .000
                    +        1.0 02:Site1            .48      .007 No_date   12:41   43.28  n/a      .000
                    +        1.0 02:Site2            .45      .008 No_date   12:40   44.42  n/a      .000
                 SUM=        1.0 01:J1              1.23      .038 No_date   12:14   43.34  n/a      .000
R0110:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:J1              1.23      .038 No_date   12:14   43.34  n/a      .000
      [RDT= 1.00] out<-      1.0 01:R1              1.23      .036 No_date   12:21   43.34  n/a      .000
       [L/S/n=  143./ .394/.035]
       {Vmax=  .316:Dmax=  .125}
R0110:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:R1              1.23      .036 No_date   12:21   43.34  n/a      .000
                    +        1.0 02:EXT3             .56      .038 No_date   12:13   36.46  n/a      .000
                    +        1.0 02:EXT1            3.21      .121 No_date   12:40   36.46  n/a      .000
                 SUM=        1.0 01:J2              5.00      .178 No_date   12:29   38.15  n/a      .000
R0110:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:J2              5.00      .178 No_date   12:29   38.15  n/a      .000
      [RDT= 1.00] out<-      1.0 01:R2              5.00      .177 No_date   12:31   38.15  n/a      .000
       [L/S/n=   73./ .425/.035]
       {Vmax=  .478:Dmax=  .244}
R0110:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:R2              5.00      .177 No_date   12:31   38.15  n/a      .000
                    +        1.0 02:EXT4             .31      .022 No_date   12:11   35.39  n/a      .000
                 SUM=        1.0 01:J3              5.31      .191 No_date   12:28   37.99  n/a      .000
R0110:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:J3              5.31      .191 No_date   12:28   37.99  n/a      .000
      [RDT= 1.00] out<-      1.0 01:R3              5.31      .190 No_date   12:31   37.99  n/a      .000
       [L/S/n=   92./ .274/.035]
       {Vmax=  .391:Dmax=  .253}
R0110:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:R3              5.31      .190 No_date   12:31   37.99  n/a      .000
                    +        1.0 02:EXT5             .59      .028 No_date   12:22   32.39  n/a      .000
                 SUM=        1.0 01:J4              5.90      .216 No_date   12:30   37.43  n/a      .000
R0110:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:J4              5.90      .216 No_date   12:30   37.43  n/a      .000
      [RDT= 1.00] out<-      1.0 01:R4              5.90      .204 No_date   12:40   37.43  n/a      .000
       [L/S/n=  251./ .190/.035]
       {Vmax=  .384:Dmax=  .284}
R0110:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:R4              5.90      .204 No_date   12:40   37.43  n/a      .000
                    +        1.0 02:EXT6             .86      .046 No_date   12:29   42.40  n/a      .000
                    +        1.0 02:EXT7             .47      .035 No_date   12:13   39.90  n/a      .000
                 SUM=        1.0 01:J5              7.24      .268 No_date   12:35   38.18  n/a      .000
R0110:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:J5              7.24      .268 No_date   12:35   38.18  n/a      .000
      [RDT= 1.00] out<-      1.0 01:R5              7.24      .264 No_date   12:41   38.18  n/a      .000
       [L/S/n=  237./ .644/.035]
       {Vmax=  .623:Dmax=  .267}
R0110:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:Pre10_1          .80      .043 No_date   12:11   28.00  n/a      .000
                    +        1.0 02:Pre9_2           .01      .002 No_date   12:00   31.45  n/a      .000
                    +        1.0 02:Pre2_2           .00      .000 No_date   12:00   34.35  n/a      .000
                 SUM=        1.0 01:Pre              .81      .043 No_date   12:11   28.07  n/a      .000
R0110:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:Pre              .81      .043 No_date   12:11   28.07  n/a      .000
      [RDT= 1.00] out<-      1.0 01:R6               .81      .043 No_date   12:14   28.07  n/a      .000
       [L/S/n=   77./ .776/.035]
       {Vmax=  .492:Dmax=  .032}
R0110:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:Pre9_1           .44      .020 No_date   12:17   28.00  n/a      .000
      [RDT= 1.00] out<-      1.0 01:R7               .44      .019 No_date   12:21   28.00  n/a      .000
       [L/S/n=  159./1.576/.035]
       {Vmax=  .797:Dmax=  .006}
R0110:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:R6               .81      .043 No_date   12:14   28.13  n/a      .000
                    +        1.0 02:EXT10            .20      .008 No_date   12:20   27.99  n/a      .000
                    +        1.0 02:Pre11_1          .07      .006 No_date   12:07   34.35  n/a      .000
                    +        1.0 02:EXT9a            .01      .002 No_date   12:00   34.35  n/a      .000
                 SUM=        1.0 01:J6              1.10      .056 No_date   12:14   28.54  n/a      .000
R0110:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:J6              1.10      .056 No_date   12:14   28.54  n/a      .000
      [RDT= 1.00] out<-      1.0 01:R8              1.10      .055 No_date   12:17   28.54  n/a      .000
       [L/S/n=   79./ .522/.035]
       {Vmax=  .423:Dmax=  .041}
R0110:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:R8              1.10      .055 No_date   12:17   28.57  n/a      .000
                    +        1.0 02:R7               .44      .019 No_date   12:21   28.07  n/a      .000
                 SUM=        1.0 01:J7              1.53      .074 No_date   12:18   28.43  n/a      .000
R0110:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:J7              1.53      .074 No_date   12:18   28.43  n/a      .000
      [RDT= 1.00] out<-      1.0 01:R9              1.53      .073 No_date   12:19   28.43  n/a      .000
       [L/S/n=   29./ .887/.035]
       {Vmax=  .543:Dmax=  .050}
R0110:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:EXT9            3.57      .158 No_date   12:24   32.39  n/a      .000
                    +        1.0 02:R9              1.53      .073 No_date   12:19   28.45  n/a      .000
                    +        1.0 02:EXT8             .83      .045 No_date   12:19   35.39  n/a      .000
                    +        1.0 02:R5              7.24      .264 No_date   12:41   38.18  n/a      .000
                 SUM=        1.0 01:J8             13.18      .508 No_date   12:30   35.30  n/a      .000
R0110:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->       1.0 02:J8             13.18      .508 No_date   12:30   35.30  n/a      .000
*     [RDT= 1.00] out<-      1.0 01:Outlet         13.18      .506 No_date   12:33   35.30  n/a      .000
       [L/S/n=    8./ .010/.013]
       {Vmax=  .420:Dmax= 1.088}
       [Din=  .53:Dused= 1.33}
################################################################################
# STORMS
################################################################################
  ** END OF RUN :  124

*********************************************************************************************





 RUN#:COMMAND#
R0125:C00001---------------------------------------------------------------------------------
     START
       [TZERO =    .00 hrs on        0]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   1 ]
       [NRUN  = 0125 ]
#********************************************************************************************
#  SWMHYMO  / INPUT DATA FILE
#********************************************************************************************
#  Project Name  : [5923 Ottawa St]
#  Project Number: [P2710(e01)]
#  Date          : [2025 April 28]
#  Modeller      : [MM]
#  Company       : JFSA Canada Inc.
#  License #     : 2549237
#********************************************************************************************
# Model developed to simulate runoff from subcatchments under post development conditions
#********************************************************************************************
R0125:C00002---------------------------------------------------------------------------------
     READ STORM
      Filename = STORM.001
      Comment  = 25 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
      [SDT=10.00:SDUR=  24.00:PTOT=  86.89]
#********************************************************************************************
R0125:C00003---------------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = C:\Temp\20260327-PostDev\Ottawa.val
      ICASEdv  = 1 (read and print data)
      FileTitle= File comment: [Parameters for City of Ottawa Projects]
                 THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
      Horton's infiltration equation parameters:
      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
      Parameters for PERVIOUS surfaces in STANDHYD:
      [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
      Parameters for IMPERVIOUS surfaces in STANDHYD:
      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
      Parameters used in NASHYD:
      [Ia=   4.67 mm] [N= 3.00]
      Average monthly Pan Evaporation data in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
      Average monthly Potential Evapotranspiration in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
#********************************************************************************************
# EXT1
#********************************************************************************************
R0125:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD             1.0 01:EXT1            3.21      .155 No_date   12:40   46.39 .534      .000
      [CN= 80.0: N= 3.00: Tp=  .72]
#********************************************************************************************
# EXT2
#********************************************************************************************
R0125:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD             1.0 01:EXT2             .28      .028 No_date   12:13   53.21 .612      .000
      [CN= 85.0: N= 3.00: Tp=  .33]
#********************************************************************************************
# EXT3
#********************************************************************************************
R0125:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD             1.0 01:EXT3             .56      .048 No_date   12:13   46.39 .534      .000
      [CN= 80.0: N= 3.00: Tp=  .32]
#********************************************************************************************
# EXT4
#********************************************************************************************
R0125:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD             1.0 01:EXT4             .31      .028 No_date   12:11   45.14 .520      .000
      [CN= 79.0: N= 3.00: Tp=  .29]
#********************************************************************************************
# EXT5
#********************************************************************************************
R0125:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD             1.0 01:EXT5             .59      .036 No_date   12:21   41.61 .479      .000
      [CN= 76.0: N= 3.00: Tp=  .45]
#********************************************************************************************
# EXT6
#********************************************************************************************
R0125:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD             1.0 01:EXT6             .86      .058 No_date   12:28   53.21 .612      .000
      [CN= 85.0: N= 3.00: Tp=  .56]
#********************************************************************************************
# EXT7
#********************************************************************************************
R0125:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD             1.0 01:EXT7             .47      .045 No_date   12:13   50.35 .580      .000
      [CN= 83.0: N= 3.00: Tp=  .32]
#********************************************************************************************
# EXT8
#********************************************************************************************
R0125:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD             1.0 01:EXT8             .83      .058 No_date   12:19   45.14 .520      .000
      [CN= 79.0: N= 3.00: Tp=  .42]
#********************************************************************************************
# EXT9
#********************************************************************************************
R0125:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD             1.0 01:EXT9            3.57      .205 No_date   12:23   41.62 .479      .000
      [CN= 76.0: N= 3.00: Tp=  .48]
#********************************************************************************************
# EXT9a
#********************************************************************************************
R0125:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD             1.0 01:EXT9a            .01      .002 No_date   12:00   43.92 .506      .000
      [CN= 78.0: N= 3.00: Tp=  .04]
#********************************************************************************************
# EXT10
#********************************************************************************************
R0125:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD             1.0 01:EXT10            .20      .011 No_date   12:20   36.34 .418      .000
      [CN= 71.0: N= 3.00: Tp=  .42]
#********************************************************************************************
# Pre2_1
#********************************************************************************************
R0125:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD             1.0 01:Pre2_1           .01      .002 No_date   12:00   37.34 .430      .000
      [CN= 72.0: N= 3.00: Tp=  .03]
#********************************************************************************************
# Pre2_2
#********************************************************************************************
R0125:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD             1.0 01:Pre2_2           .00      .000 No_date   12:00   43.92 .506      .000
      [CN= 78.0: N= 3.00: Tp=  .02]
#********************************************************************************************
# Pre9_1
#********************************************************************************************
R0125:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD             1.0 01:Pre9_1           .44      .026 No_date   12:17   36.35 .418      .000
      [CN= 71.0: N= 3.00: Tp=  .38]
#********************************************************************************************
# Pre9_2
#********************************************************************************************
R0125:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD             1.0 01:Pre9_2           .01      .002 No_date   12:00   40.50 .466      .000
      [CN= 75.0: N= 3.00: Tp=  .03]
#********************************************************************************************
# Pre10_1
#********************************************************************************************
R0125:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD             1.0 01:Pre10_1          .80      .057 No_date   12:11   36.35 .418      .000
      [CN= 71.0: N= 3.00: Tp=  .29]
#********************************************************************************************
# Pre11_1
#********************************************************************************************
R0125:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD             1.0 01:Pre11_1          .07      .007 No_date   12:06   43.93 .506      .000
      [CN= 78.0: N= 3.00: Tp=  .21]
#********************************************************************************************
# Site 1
#********************************************************************************************
R0125:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD          1.0 01:S1-B1            .42      .086 No_date   12:00   47.13 .542      .000
      [XIMP=.34:TIMP=.44]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
#********************************************************************************************
# Site 1 - Roof
#********************************************************************************************
R0125:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD          1.0 01:S1-Roof          .06      .019 No_date   12:00   84.69 .975      .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
R0125:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:S1-Roof          .06      .019 No_date   12:00   84.69  n/a      .000
                out <=       1.0 01:S1-Roof-Ou       .06      .006 No_date   12:02   84.69  n/a      .000
           overflow <=       1.0 03:S1-Roof-Ov       .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.1916E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0125:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:S1-B1            .42      .086 No_date   12:00   47.13  n/a      .000
                    +        1.0 02:S1-Roof-Ou       .06      .006 No_date   12:02   84.69  n/a      .000
                    +        1.0 02:S1-Roof-Ov       .00      .000 No_date    0:00     .00  n/a      .000
                 SUM=        1.0 01:SITE1-IN         .48      .092 No_date   12:00   52.20  n/a      .000
R0125:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:SITE1-IN         .48      .092 No_date   12:00   52.20  n/a      .000
                out <=       1.0 01:SITE1-Out        .48      .008 No_date   12:44   52.20  n/a      .000
           overflow <=       1.0 03:SITE1-Over       .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.1259E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#********************************************************************************************
# Site 2
#********************************************************************************************
R0125:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD          1.0 01:S2-B3            .36      .072 No_date   12:00   45.30 .521      .000
      [XIMP=.31:TIMP=.41]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
#********************************************************************************************
# Site 2 - Roof
#********************************************************************************************
R0125:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD          1.0 01:S2-Roof          .09      .027 No_date   12:00   84.69 .975      .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
#********************************************************************************************
R0125:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:S2-Roof          .09      .027 No_date   12:00   84.69  n/a      .000
                out <=       1.0 01:S2-Roof-Ou       .09      .009 No_date   12:02   84.69  n/a      .000
           overflow <=       1.0 03:S2-Roof-Ov       .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.2688E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0125:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:S2-B3            .36      .072 No_date   12:00   45.30  n/a      .000
                    +        1.0 02:S2-Roof-Ou       .09      .009 No_date   12:02   84.69  n/a      .000
                    +        1.0 02:S2-Roof-Ov       .00      .000 No_date    0:00     .00  n/a      .000
                 SUM=        1.0 01:SITE2-IN         .45      .081 No_date   12:00   53.44  n/a      .000
R0125:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:SITE2-IN         .45      .081 No_date   12:00   53.44  n/a      .000
                out <=       1.0 01:SITE2-Out        .45      .009 No_date   12:44   53.44  n/a      .000
           overflow <=       1.0 03:SITE2-Over       .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.1110E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0125:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:SITE1-Out        .48      .008 No_date   12:44   52.20  n/a      .000
                    +        1.0 02:SITE1-Over       .00      .000 No_date    0:00     .00  n/a      .000
                 SUM=        1.0 01:Site1            .48      .008 No_date   12:44   52.20  n/a      .000
R0125:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:SITE2-Out        .45      .009 No_date   12:44   53.44  n/a      .000
                    +        1.0 02:SITE2-Over       .00      .000 No_date    0:00     .00  n/a      .000
                 SUM=        1.0 01:Site2            .45      .009 No_date   12:44   53.44  n/a      .000
R0125:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:EXT2             .28      .028 No_date   12:13   53.21  n/a      .000
                    +        1.0 02:Pre2_1           .01      .002 No_date   12:00   37.34  n/a      .000
                    +        1.0 02:Site1            .48      .008 No_date   12:44   52.20  n/a      .000
                    +        1.0 02:Site2            .45      .009 No_date   12:44   53.44  n/a      .000
                 SUM=        1.0 01:J1              1.23      .044 No_date   12:14   52.73  n/a      .000
R0125:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:J1              1.23      .044 No_date   12:14   52.73  n/a      .000
      [RDT= 1.00] out<-      1.0 01:R1              1.23      .042 No_date   12:19   52.73  n/a      .000
       [L/S/n=  143./ .394/.035]
       {Vmax=  .333:Dmax=  .135}
R0125:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:R1              1.23      .042 No_date   12:19   52.73  n/a      .000
                    +        1.0 02:EXT3             .56      .048 No_date   12:13   46.39  n/a      .000
                    +        1.0 02:EXT1            3.21      .155 No_date   12:40   46.39  n/a      .000
                 SUM=        1.0 01:J2              5.00      .224 No_date   12:29   47.95  n/a      .000
R0125:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:J2              5.00      .224 No_date   12:29   47.95  n/a      .000
      [RDT= 1.00] out<-      1.0 01:R2              5.00      .223 No_date   12:31   47.95  n/a      .000
       [L/S/n=   73./ .425/.035]
       {Vmax=  .509:Dmax=  .269}
R0125:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:R2              5.00      .223 No_date   12:31   47.95  n/a      .000
                    +        1.0 02:EXT4             .31      .028 No_date   12:11   45.14  n/a      .000
                 SUM=        1.0 01:J3              5.31      .242 No_date   12:27   47.78  n/a      .000
R0125:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:J3              5.31      .242 No_date   12:27   47.78  n/a      .000
      [RDT= 1.00] out<-      1.0 01:R3              5.31      .240 No_date   12:30   47.78  n/a      .000
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      [L/S/n=   92./ .274/.035]
      {Vmax=  .416:Dmax=  .278}
R0125:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:R3             5.31     .240 No_date   12:30   47.78  n/a     .000
                    +    1.0 02:EXT5            .59     .036 No_date   12:21   41.61  n/a     .000
                 SUM=    1.0 01:J4             5.90     .274 No_date   12:29   47.16  n/a     .000
R0125:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:J4             5.90     .274 No_date   12:29   47.16  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R4             5.90     .259 No_date   12:39   47.16  n/a     .000
      [L/S/n=  251./ .190/.035]
      {Vmax=  .411:Dmax=  .315}
R0125:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:R4             5.90     .259 No_date   12:39   47.16  n/a     .000
                    +    1.0 02:EXT6            .86     .058 No_date   12:28   53.21  n/a     .000
                    +    1.0 02:EXT7            .47     .045 No_date   12:13   50.35  n/a     .000
                 SUM=    1.0 01:J5             7.24     .342 No_date   12:34   48.09  n/a     .000
R0125:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:J5             7.24     .342 No_date   12:34   48.09  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R5             7.24     .338 No_date   12:39   48.09  n/a     .000
      [L/S/n=  237./ .644/.035]
      {Vmax=  .671:Dmax=  .295}
R0125:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:Pre10_1         .80     .057 No_date   12:11   36.35  n/a     .000
                    +    1.0 02:Pre9_2          .01     .002 No_date   12:00   40.50  n/a     .000
                    +    1.0 02:Pre2_2          .00     .000 No_date   12:00   43.92  n/a     .000
                 SUM=    1.0 01:Pre             .81     .057 No_date   12:11   36.44  n/a     .000
R0125:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:Pre             .81     .057 No_date   12:11   36.44  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R6              .81     .056 No_date   12:14   36.44  n/a     .000
      [L/S/n=   77./ .776/.035]
      {Vmax=  .492:Dmax=  .042}
R0125:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:Pre9_1          .44     .026 No_date   12:17   36.35  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R7              .44     .025 No_date   12:21   36.35  n/a     .000
      [L/S/n=  159./1.576/.035]
      {Vmax=  .797:Dmax=  .008}
R0125:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:R6              .81     .056 No_date   12:14   36.50  n/a     .000
                    +    1.0 02:EXT10           .20     .011 No_date   12:20   36.34  n/a     .000
                    +    1.0 02:Pre11_1         .07     .007 No_date   12:06   43.93  n/a     .000
                    +    1.0 02:EXT9a           .01     .002 No_date   12:00   43.92  n/a     .000
                 SUM=    1.0 01:J6             1.10     .073 No_date   12:14   37.00  n/a     .000
R0125:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:J6             1.10     .073 No_date   12:14   37.00  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R8             1.10     .071 No_date   12:17   37.00  n/a     .000
      [L/S/n=   79./ .522/.035]
      {Vmax=  .423:Dmax=  .053}
R0125:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:R8             1.10     .071 No_date   12:17   37.03  n/a     .000
                    +    1.0 02:R7              .44     .025 No_date   12:21   36.43  n/a     .000
                 SUM=    1.0 01:J7             1.53     .096 No_date   12:18   36.86  n/a     .000
R0125:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:J7             1.53     .096 No_date   12:18   36.86  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R9             1.53     .096 No_date   12:19   36.86  n/a     .000
      [L/S/n=   29./ .887/.035]
      {Vmax=  .543:Dmax=  .065}
R0125:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:EXT9           3.57     .205 No_date   12:23   41.62  n/a     .000
                    +    1.0 02:R9             1.53     .096 No_date   12:19   36.88  n/a     .000
                    +    1.0 02:EXT8            .83     .058 No_date   12:19   45.14  n/a     .000
                    +    1.0 02:R5             7.24     .338 No_date   12:39   48.09  n/a     .000
                 SUM=    1.0 01:J8            13.18     .659 No_date   12:29   44.85  n/a     .000
R0125:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->   1.0 02:J8            13.18     .659 No_date   12:29   44.85  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:Outlet        13.18     .658 No_date   12:31   44.85  n/a     .000
      [L/S/n=    8./ .010/.013]
      {Vmax=  .448:Dmax= 1.199}
      [Din=  .53:Dused= 1.46]
################################################################################
# STORMS
################################################################################
  ** END OF RUN :  149

*********************************************************************************************






 RUN#:COMMAND#
R0150:C00001-------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0150 ]
#********************************************************************************************
#  SWMHYMO  / INPUT DATA FILE
#********************************************************************************************
#  Project Name  : [5923 Ottawa St]
#  Project Number: [P2710(e01)]
#  Date          : [2025 April 28]
#  Modeller      : [MM]
#  Company       : JFSA Canada Inc.
#  License #     : 2549237
#********************************************************************************************
# Model developed to simulate runoff from subcatchments under post development conditions
#********************************************************************************************
R0150:C00002-------------------------------------------------------------------------------------
     READ STORM
      Filename = STORM.001
      Comment  = 50 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
      [SDT=10.00:SDUR=  24.00:PTOT=  96.53]
#********************************************************************************************
R0150:C00003-------------------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = C:\Temp\20260327-PostDev\Ottawa.val
      ICASEdv  = 1 (read and print data)
      FileTitle= File comment: [Parameters for City of Ottawa Projects]
                 THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
      Horton's infiltration equation parameters:
      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
      Parameters for PERVIOUS surfaces in STANDHYD:
      [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
      Parameters for IMPERVIOUS surfaces in STANDHYD:
      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
      Parameters used in NASHYD:
      [Ia=   4.67 mm] [N= 3.00]
      Average monthly Pan Evaporation data in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
      Average monthly Potential Evapotranspiration in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
#********************************************************************************************
# EXT1
#********************************************************************************************
R0150:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT1           3.21     .182 No_date   12:40   54.31 .563     .000
      [CN= 80.0: N= 3.00: Tp=  .72]
#********************************************************************************************
# EXT2
#********************************************************************************************
R0150:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT2            .28     .033 No_date   12:13   61.73 .640     .000
      [CN= 85.0: N= 3.00: Tp=  .33]
#********************************************************************************************
# EXT3
#********************************************************************************************
R0150:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT3            .56     .057 No_date   12:13   54.31 .563     .000
      [CN= 80.0: N= 3.00: Tp=  .32]
#********************************************************************************************
# EXT4
#********************************************************************************************
R0150:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT4            .31     .033 No_date   12:11   52.94 .548     .000
      [CN= 79.0: N= 3.00: Tp=  .29]
#********************************************************************************************
# EXT5
#********************************************************************************************
R0150:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT5            .59     .042 No_date   12:21   49.04 .508     .000
      [CN= 76.0: N= 3.00: Tp=  .45]
#********************************************************************************************
# EXT6
#********************************************************************************************
R0150:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT6            .86     .068 No_date   12:28   61.73 .640     .000
      [CN= 85.0: N= 3.00: Tp=  .56]
#********************************************************************************************
# EXT7
#********************************************************************************************
R0150:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT7            .47     .052 No_date   12:12   58.64 .608     .000
      [CN= 83.0: N= 3.00: Tp=  .32]
#********************************************************************************************
# EXT8
#********************************************************************************************
R0150:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT8            .83     .068 No_date   12:19   52.94 .548     .000
      [CN= 79.0: N= 3.00: Tp=  .42]
#********************************************************************************************
# EXT9
#********************************************************************************************
R0150:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT9           3.57     .242 No_date   12:23   49.04 .508     .000
      [CN= 76.0: N= 3.00: Tp=  .48]
#********************************************************************************************
# EXT9a
#********************************************************************************************
R0150:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT9a           .01     .002 No_date   12:00   51.60 .535     .000
      [CN= 78.0: N= 3.00: Tp=  .04]
#********************************************************************************************
# EXT10
#********************************************************************************************
R0150:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT10           .20     .013 No_date   12:19   43.13 .447     .000
      [CN= 71.0: N= 3.00: Tp=  .42]
#********************************************************************************************
# Pre2_1
#********************************************************************************************
R0150:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD         1.0 01:Pre2_1          .01     .003 No_date   12:00   44.25 .458     .000
      [CN= 72.0: N= 3.00: Tp=  .03]
#********************************************************************************************
# Pre2_2
#********************************************************************************************
R0150:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD         1.0 01:Pre2_2          .00     .000 No_date   12:00   51.59 .535     .000
      [CN= 78.0: N= 3.00: Tp=  .02]
#********************************************************************************************
# Pre9_1
#********************************************************************************************
R0150:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:Pre9_1          .44     .030 No_date   12:17   43.13 .447     .000
      [CN= 71.0: N= 3.00: Tp=  .38]
#********************************************************************************************
# Pre9_2
#********************************************************************************************
R0150:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD         1.0 01:Pre9_2          .01     .003 No_date   12:00   47.79 .495     .000
      [CN= 75.0: N= 3.00: Tp=  .03]
#********************************************************************************************
# Pre10_1
#********************************************************************************************
R0150:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:Pre10_1         .80     .067 No_date   12:11   43.14 .447     .000
      [CN= 71.0: N= 3.00: Tp=  .29]
#********************************************************************************************
# Pre11_1
#********************************************************************************************
R0150:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:Pre11_1         .07     .008 No_date   12:06   51.60 .535     .000
      [CN= 78.0: N= 3.00: Tp=  .21]
#********************************************************************************************
# Site 1
#********************************************************************************************
R0150:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD      1.0 01:S1-B1           .42     .098 No_date   12:00   53.53 .555     .000
      [XIMP=.34:TIMP=.44]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
#********************************************************************************************
# Site 1 - Roof
#********************************************************************************************
R0150:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD      1.0 01:S1-Roof         .06     .021 No_date   12:00   94.29 .977     .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
R0150:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:S1-Roof         .06     .021 No_date   12:00   94.29  n/a     .000
               out <=    1.0 01:S1-Roof-Ou      .06     .007 No_date   12:02   94.29  n/a     .000
          overflow <=    1.0 03:S1-Roof-Ov      .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2132E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0150:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:S1-B1           .42     .098 No_date   12:00   53.53  n/a     .000
                    +    1.0 02:S1-Roof-Ou      .06     .007 No_date   12:02   94.29  n/a     .000
                    +    1.0 02:S1-Roof-Ov      .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=    1.0 01:SITE1-IN        .48     .105 No_date   12:00   59.03  n/a     .000
R0150:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:SITE1-IN        .48     .105 No_date   12:00   59.03  n/a     .000
               out <=    1.0 01:SITE1-Out       .48     .008 No_date   12:47   59.03  n/a     .000
          overflow <=    1.0 03:SITE1-Over      .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1470E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#********************************************************************************************
# Site 2
#********************************************************************************************
R0150:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD      1.0 01:S2-B3           .36     .083 No_date   12:00   51.56 .534     .000
      [XIMP=.31:TIMP=.41]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
#********************************************************************************************
# Site 2 - Roof
#********************************************************************************************
R0150:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD      1.0 01:S2-Roof         .09     .030 No_date   12:00   94.28 .977     .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
#********************************************************************************************
R0150:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:S2-Roof         .09     .030 No_date   12:00   94.28  n/a     .000
               out <=    1.0 01:S2-Roof-Ou      .09     .010 No_date   12:02   94.28  n/a     .000
          overflow <=    1.0 03:S2-Roof-Ov      .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2990E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0150:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:S2-B3           .36     .083 No_date   12:00   51.56  n/a     .000
                    +    1.0 02:S2-Roof-Ou      .09     .010 No_date   12:02   94.28  n/a     .000
                    +    1.0 02:S2-Roof-Ov      .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=    1.0 01:SITE2-IN        .45     .092 No_date   12:00   60.39  n/a     .000
R0150:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:SITE2-IN        .45     .092 No_date   12:00   60.39  n/a     .000
               out <=    1.0 01:SITE2-Out       .45     .009 No_date   12:48   60.39  n/a     .000
          overflow <=    1.0 03:SITE2-Over      .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1301E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0150:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:SITE1-Out       .48     .008 No_date   12:47   59.03  n/a     .000
                    +    1.0 02:SITE1-Over      .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=    1.0 01:Site1           .48     .008 No_date   12:47   59.03  n/a     .000
R0150:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:SITE2-Out       .45     .009 No_date   12:48   60.39  n/a     .000
                    +    1.0 02:SITE2-Over      .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=    1.0 01:Site2           .45     .009 No_date   12:48   60.39  n/a     .000
R0150:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:EXT2            .28     .033 No_date   12:13   61.73  n/a     .000
                    +    1.0 02:Pre2_1          .01     .003 No_date   12:00   44.25  n/a     .000
                    +    1.0 02:Site1           .48     .008 No_date   12:47   59.03  n/a     .000
                    +    1.0 02:Site2           .45     .009 No_date   12:48   60.39  n/a     .000
                 SUM=    1.0 01:J1             1.23     .049 No_date   12:14   60.00  n/a     .000
R0150:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:J1             1.23     .049 No_date   12:14   60.00  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R1             1.23     .047 No_date   12:19   60.00  n/a     .000
      [L/S/n=  143./ .394/.035]
      {Vmax=  .347:Dmax=  .143}
R0150:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:R1             1.23     .047 No_date   12:19   60.00  n/a     .000
                    +    1.0 02:EXT3            .56     .057 No_date   12:13   54.31  n/a     .000
                    +    1.0 02:EXT1           3.21     .182 No_date   12:40   54.31  n/a     .000
                 SUM=    1.0 01:J2             5.00     .260 No_date   12:28   55.71  n/a     .000
R0150:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:J2             5.00     .260 No_date   12:28   55.71  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R2             5.00     .259 No_date   12:30   55.71  n/a     .000
      [L/S/n=   73./ .425/.035]
      {Vmax=  .527:Dmax=  .285}
R0150:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:R2             5.00     .259 No_date   12:30   55.71  n/a     .000
                    +    1.0 02:EXT4            .31     .033 No_date   12:11   52.94  n/a     .000
                 SUM=    1.0 01:J3             5.31     .281 No_date   12:27   55.55  n/a     .000
R0150:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:J3             5.31     .281 No_date   12:27   55.55  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R3             5.31     .279 No_date   12:30   55.55  n/a     .000
      [L/S/n=   92./ .274/.035]
      {Vmax=  .432:Dmax=  .295}
R0150:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:R3             5.31     .279 No_date   12:30   55.55  n/a     .000
                    +    1.0 02:EXT5            .59     .042 No_date   12:21   49.04  n/a     .000
                 SUM=    1.0 01:J4             5.90     .320 No_date   12:28   54.89  n/a     .000
R0150:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:J4             5.90     .320 No_date   12:28   54.89  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R4             5.90     .303 No_date   12:38   54.89  n/a     .000
      [L/S/n=  251./ .190/.035]
      {Vmax=  .429:Dmax=  .337}
R0150:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:R4             5.90     .303 No_date   12:38   54.89  n/a     .000
                    +    1.0 02:EXT6            .86     .068 No_date   12:28   61.73  n/a     .000
                    +    1.0 02:EXT7            .47     .052 No_date   12:12   58.64  n/a     .000
                 SUM=    1.0 01:J5             7.24     .401 No_date   12:33   55.95  n/a     .000
R0150:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:J5             7.24     .401 No_date   12:33   55.95  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R5             7.24     .396 No_date   12:38   55.95  n/a     .000
      [L/S/n=  237./ .644/.035]
      {Vmax=  .705:Dmax=  .315}
R0150:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:Pre10_1         .80     .067 No_date   12:11   43.14  n/a     .000
                    +    1.0 02:Pre9_2          .01     .003 No_date   12:00   47.79  n/a     .000
                    +    1.0 02:Pre2_2          .00     .000 No_date   12:00   51.59  n/a     .000
                 SUM=    1.0 01:Pre             .81     .068 No_date   12:11   43.24  n/a     .000
R0150:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:Pre             .81     .068 No_date   12:11   43.24  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R6              .81     .067 No_date   12:14   43.24  n/a     .000
      [L/S/n=   77./ .776/.035]
      {Vmax=  .492:Dmax=  .049}
R0150:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:Pre9_1          .44     .030 No_date   12:17   43.13  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R7              .44     .030 No_date   12:20   43.13  n/a     .000
      [L/S/n=  159./1.576/.035]
```

```
      {Vmax=  .797:Dmax=  .009}
R0150:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:R6            .81     .067 No_date   12:14   43.30  n/a     .000
                     +     1.0 02:EXT10         .20     .013 No_date   12:19   43.13  n/a     .000
                     +     1.0 02:Pre11_1       .07     .008 No_date   12:06   51.60  n/a     .000
                     +     1.0 02:EXT9a         .01     .002 No_date   12:00   51.60  n/a     .000
                  SUM=     1.0 01:J6           1.10     .087 No_date   12:14   43.86  n/a     .000
R0150:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:J6           1.10     .087 No_date   12:14   43.86  n/a     .000
     [RDT= 1.00] out<-     1.0 01:R8           1.10     .085 No_date   12:17   43.86  n/a     .000
      [L/S/n=   79./ .522/.035]
      {Vmax=  .423:Dmax=  .063}
R0150:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:R8           1.10     .085 No_date   12:17   43.90  n/a     .000
                     +     1.0 02:R7            .44     .030 No_date   12:20   43.23  n/a     .000
                  SUM=     1.0 01:J7           1.53     .114 No_date   12:18   43.71  n/a     .000
R0150:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:J7           1.53     .114 No_date   12:18   43.71  n/a     .000
     [RDT= 1.00] out<-     1.0 01:R9           1.53     .114 No_date   12:18   43.71  n/a     .000
      [L/S/n=   29./ .887/.035]
      {Vmax=  .543:Dmax=  .078}
R0150:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:EXT9         3.57     .242 No_date   12:23   49.04  n/a     .000
                     +     1.0 02:R9           1.53     .114 No_date   12:18   43.73  n/a     .000
                     +     1.0 02:EXT8          .83     .068 No_date   12:19   52.94  n/a     .000
                     +     1.0 02:R5           7.24     .396 No_date   12:38   55.95  n/a     .000
                  SUM=     1.0 01:J8          13.18     .781 No_date   12:28   52.47  n/a     .000
R0150:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->     1.0 02:J8          13.18     .781 No_date   12:28   52.47  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:Outlet      13.18     .781 No_date   12:29   52.47  n/a     .000
      [L/S/n=    8./ .010/.013]
      {Vmax=  .467:Dmax= 1.278}
      [Din=  .53:Dused= 1.56}
################################################################################
# STORMS
################################################################################
  ** END OF RUN :  198

****************************************************************************************************





 RUN#:COMMAND#
R0199:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0199 ]
#***************************************************************************************************
#  SWMHYMO  / INPUT DATA FILE
#***************************************************************************************************
#  Project Name  : [5923 Ottawa St]
#  Project Number: [P2710(e01)]
#  Date          : [2025 April 28]
#  Modeller      : [MM]
#  Company       : JFSA Canada Inc.
#  License #     : 2549237
#***************************************************************************************************
# Model developed to simulate runoff from subcatchments under post development conditions
#***************************************************************************************************
R0199:C00002----------------------------------------------------------------------------------------
     READ STORM
      Filename = STORM.001
      Comment  = 100 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
      [SDT=10.00:SDUR=  24.00:PTOT= 106.73]
#***************************************************************************************************
R0199:C00003----------------------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = C:\Temp\20260327-PostDev\Ottawa.val
      ICASEdv  = 1 (read and print data)
      FileTitle= File comment: [Parameters for City of Ottawa Projects]
                 THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
      Horton's infiltration equation parameters:
      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
      Parameters for PERVIOUS surfaces in STANDHYD:
      [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
      Parameters for IMPERVIOUS surfaces in STANDHYD:
      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
      Parameters used in NASHYD:
      [Ia=   4.67 mm] [N= 3.00]
      Average monthly Pan Evaporation data in    (mm)
  JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
  .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
      Average monthly Potential Evapotranspiration in    (mm)
  JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
  .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
#***************************************************************************************************
# EXT1
#***************************************************************************************************
R0199:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 01:EXT1         3.21     .212 No_date   12:39   62.92 .589     .000
      [CN= 80.0: N= 3.00: Tp=  .72]
#***************************************************************************************************
# EXT2
#***************************************************************************************************
R0199:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 01:EXT2          .28     .037 No_date   12:13   70.91 .664     .000
      [CN= 85.0: N= 3.00: Tp=  .33]
#***************************************************************************************************
# EXT3
#***************************************************************************************************
R0199:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 01:EXT3          .56     .066 No_date   12:13   62.92 .589     .000
      [CN= 80.0: N= 3.00: Tp=  .32]
#***************************************************************************************************
# EXT4
#***************************************************************************************************
R0199:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 01:EXT4          .31     .038 No_date   12:11   61.42 .576     .000
      [CN= 79.0: N= 3.00: Tp=  .29]
#***************************************************************************************************
# EXT5
#***************************************************************************************************
R0199:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 01:EXT5          .59     .049 No_date   12:21   57.15 .535     .000
      [CN= 76.0: N= 3.00: Tp=  .45]
#***************************************************************************************************
# EXT6
#***************************************************************************************************
R0199:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 01:EXT6          .86     .078 No_date   12:28   70.92 .664     .000
      [CN= 85.0: N= 3.00: Tp=  .56]
#***************************************************************************************************
# EXT7
#***************************************************************************************************
R0199:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 01:EXT7          .47     .060 No_date   12:12   67.60 .633     .000
      [CN= 83.0: N= 3.00: Tp=  .32]
#***************************************************************************************************
# EXT8
#***************************************************************************************************
R0199:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 01:EXT8          .83     .079 No_date   12:19   61.42 .576     .000
      [CN= 79.0: N= 3.00: Tp=  .42]
#***************************************************************************************************
# EXT9
#***************************************************************************************************
R0199:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 01:EXT9         3.57     .284 No_date   12:23   57.15 .535     .000
      [CN= 76.0: N= 3.00: Tp=  .48]
#***************************************************************************************************
# EXT9a
#***************************************************************************************************
R0199:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 01:EXT9a         .01     .003 No_date   12:00   59.96 .562     .000
      [CN= 78.0: N= 3.00: Tp=  .04]
#***************************************************************************************************
# EXT10
#***************************************************************************************************
R0199:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 01:EXT10         .20     .016 No_date   12:19   50.61 .474     .000
      [CN= 71.0: N= 3.00: Tp=  .42]
#***************************************************************************************************
# Pre2_1
#***************************************************************************************************
R0199:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD           1.0 01:Pre2_1        .01     .003 No_date   12:00   51.86 .486     .000
      [CN= 72.0: N= 3.00: Tp=  .03]
#***************************************************************************************************
# Pre2_2
#***************************************************************************************************
R0199:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD           1.0 01:Pre2_2        .00     .001 No_date   12:00   59.95 .562     .000
      [CN= 78.0: N= 3.00: Tp=  .02]
#***************************************************************************************************
# Pre9_1
#***************************************************************************************************
R0199:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 01:Pre9_1        .44     .036 No_date   12:17   50.61 .474     .000
      [CN= 71.0: N= 3.00: Tp=  .38]
#***************************************************************************************************
# Pre9_2
#***************************************************************************************************
R0199:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD           1.0 01:Pre9_2        .01     .003 No_date   12:00   55.78 .523     .000
      [CN= 75.0: N= 3.00: Tp=  .03]
#***************************************************************************************************
# Pre10_1
#***************************************************************************************************
R0199:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 01:Pre10_1       .80     .079 No_date   12:11   50.61 .474     .000
      [CN= 71.0: N= 3.00: Tp=  .29]
#***************************************************************************************************
# Pre11_1
#***************************************************************************************************
R0199:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 01:Pre11_1       .07     .010 No_date   12:06   59.96 .562     .000
      [CN= 78.0: N= 3.00: Tp=  .21]
#***************************************************************************************************
# Site 1
#***************************************************************************************************
R0199:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD        1.0 01:S1-B1         .42     .113 No_date   12:00   60.12 .563     .000
      [XIMP=.34:TIMP=.44]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
#***************************************************************************************************
# Site 1 - Roof
#***************************************************************************************************
R0199:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD        1.0 01:S1-Roof       .06     .024 No_date   12:00  104.42 .978     .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
R0199:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S1-Roof       .06     .024 No_date   12:00  104.42  n/a     .000
                out <=     1.0 01:S1-Roof-Ou    .06     .007 No_date   12:02  104.42  n/a     .000
           overflow <=     1.0 03:S1-Roof-Ov    .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2361E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0199:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S1-B1         .42     .113 No_date   12:00   60.12  n/a     .000
                     +     1.0 02:S1-Roof-Ou    .06     .007 No_date   12:02  104.42  n/a     .000
                     +     1.0 02:S1-Roof-Ov    .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:SITE1-IN      .48     .120 No_date   12:00   66.09  n/a     .000
R0199:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:SITE1-IN      .48     .120 No_date   12:00   66.09  n/a     .000
                out <=     1.0 01:SITE1-Out     .48     .008 No_date   12:50   66.10  n/a     .000
           overflow <=     1.0 03:SITE1-Over    .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1688E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#***************************************************************************************************
# Site 2
#***************************************************************************************************
R0199:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD        1.0 01:S2-B3         .36     .095 No_date   12:00   58.00 .543     .000
      [XIMP=.31:TIMP=.41]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
#***************************************************************************************************
# Site 2 - Roof
#***************************************************************************************************
R0199:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD        1.0 01:S2-Roof       .09     .034 No_date   12:00  104.44 .979     .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
#***************************************************************************************************
R0199:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S2-Roof       .09     .034 No_date   12:00  104.44  n/a     .000
                out <=     1.0 01:S2-Roof-Ou    .09     .011 No_date   12:02  104.44  n/a     .000
           overflow <=     1.0 03:S2-Roof-Ov    .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3311E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0199:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S2-B3         .36     .095 No_date   12:00   58.00  n/a     .000
                     +     1.0 02:S2-Roof-Ou    .09     .011 No_date   12:02  104.44  n/a     .000
                     +     1.0 02:S2-Roof-Ov    .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:SITE2-IN      .45     .106 No_date   12:00   67.60  n/a     .000
R0199:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:SITE2-IN      .45     .106 No_date   12:00   67.60  n/a     .000
                out <=     1.0 01:SITE2-Out     .45     .009 No_date   12:50   67.60  n/a     .000
           overflow <=     1.0 03:SITE2-Over    .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1499E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0199:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:SITE1-Out     .48     .008 No_date   12:50   66.10  n/a     .000
                     +     1.0 02:SITE1-Over    .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:Site1         .48     .008 No_date   12:50   66.10  n/a     .000
R0199:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:SITE2-Out     .45     .009 No_date   12:50   67.60  n/a     .000
                     +     1.0 02:SITE2-Over    .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:Site2         .45     .009 No_date   12:50   67.60  n/a     .000
R0199:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:EXT2          .28     .037 No_date   12:13   70.91  n/a     .000
                     +     1.0 02:Pre2_1        .01     .003 No_date   12:00   51.86  n/a     .000
                     +     1.0 02:Site1         .48     .008 No_date   12:50   66.10  n/a     .000
                     +     1.0 02:Site2         .45     .009 No_date   12:50   67.60  n/a     .000
                  SUM=     1.0 01:J1           1.23     .055 No_date   12:13   67.61  n/a     .000
R0199:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:J1           1.23     .055 No_date   12:13   67.61  n/a     .000
     [RDT= 1.00] out<-     1.0 01:R1           1.23     .053 No_date   12:19   67.61  n/a     .000
      [L/S/n=  143./ .394/.035]
      {Vmax=  .357:Dmax=  .149}
R0199:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:R1           1.23     .053 No_date   12:19   67.61  n/a     .000
                     +     1.0 02:EXT3          .56     .066 No_date   12:13   62.92  n/a     .000
                     +     1.0 02:EXT1         3.21     .212 No_date   12:39   62.92  n/a     .000
                  SUM=     1.0 01:J2           5.00     .300 No_date   12:28   64.07  n/a     .000
R0199:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:J2           5.00     .300 No_date   12:28   64.07  n/a     .000
     [RDT= 1.00] out<-     1.0 01:R2           5.00     .299 No_date   12:30   64.07  n/a     .000
      [L/S/n=   73./ .425/.035]
      {Vmax=  .549:Dmax=  .302}
R0199:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:R2           5.00     .299 No_date   12:30   64.07  n/a     .000
                     +     1.0 02:EXT4          .31     .038 No_date   12:11   61.42  n/a     .000
                  SUM=     1.0 01:J3           5.31     .325 No_date   12:26   63.92  n/a     .000
R0199:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:J3           5.31     .325 No_date   12:26   63.92  n/a     .000
     [RDT= 1.00] out<-     1.0 01:R3           5.31     .323 No_date   12:29   63.92  n/a     .000
      [L/S/n=   92./ .274/.035]
      {Vmax=  .449:Dmax=  .313}
R0199:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:R3           5.31     .323 No_date   12:29   63.92  n/a     .000
                     +     1.0 02:EXT5          .59     .049 No_date   12:21   57.15  n/a     .000
                  SUM=     1.0 01:J4           5.90     .370 No_date   12:28   63.24  n/a     .000
R0199:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:J4           5.90     .370 No_date   12:28   63.24  n/a     .000
     [RDT= 1.00] out<-     1.0 01:R4           5.90     .352 No_date   12:37   63.24  n/a     .000
      [L/S/n=  251./ .190/.035]
      {Vmax=  .447:Dmax=  .359}
R0199:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:R4           5.90     .352 No_date   12:37   63.24  n/a     .000
                     +     1.0 02:EXT6          .86     .078 No_date   12:28   70.92  n/a     .000
                     +     1.0 02:EXT7          .47     .060 No_date   12:12   67.60  n/a     .000
                  SUM=     1.0 01:J5           7.24     .465 No_date   12:32   64.44  n/a     .000
R0199:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:J5           7.24     .465 No_date   12:32   64.44  n/a     .000
     [RDT= 1.00] out<-     1.0 01:R5           7.24     .459 No_date   12:37   64.44  n/a     .000
      [L/S/n=  237./ .644/.035]
      {Vmax=  .732:Dmax=  .333}
R0199:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:Pre10_1       .80     .079 No_date   12:11   50.61  n/a     .000
                     +     1.0 02:Pre9_2        .01     .003 No_date   12:00   55.78  n/a     .000
                     +     1.0 02:Pre2_2        .00     .001 No_date   12:00   59.95  n/a     .000
                  SUM=     1.0 01:Pre           .81     .080 No_date   12:11   50.72  n/a     .000
R0199:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:Pre           .81     .080 No_date   12:11   50.72  n/a     .000
     [RDT= 1.00] out<-     1.0 01:R6            .81     .078 No_date   12:14   50.72  n/a     .000
      [L/S/n=   77./ .776/.035]
      {Vmax=  .492:Dmax=  .058}
R0199:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:Pre9_1        .44     .036 No_date   12:17   50.61  n/a     .000
     [RDT= 1.00] out<-     1.0 01:R7            .44     .035 No_date   12:20   50.61  n/a     .000
      [L/S/n=  159./1.576/.035]
      {Vmax=  .797:Dmax=  .011}
R0199:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:R6            .81     .078 No_date   12:14   50.80  n/a     .000
                     +     1.0 02:EXT10         .20     .016 No_date   12:19   50.61  n/a     .000
                     +     1.0 02:Pre11_1       .07     .010 No_date   12:06   59.96  n/a     .000
                     +     1.0 02:EXT9a         .01     .003 No_date   12:00   59.96  n/a     .000
                  SUM=     1.0 01:J6           1.10     .102 No_date   12:14   51.41  n/a     .000
R0199:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:J6           1.10     .102 No_date   12:14   51.41  n/a     .000
     [RDT= 1.00] out<-     1.0 01:R8           1.10     .100 No_date   12:17   51.41  n/a     .000
      [L/S/n=   79./ .522/.035]
      {Vmax=  .423:Dmax=  .075}
R0199:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:R8           1.10     .100 No_date   12:17   51.45  n/a     .000
                     +     1.0 02:R7            .44     .035 No_date   12:20   50.71  n/a     .000
                  SUM=     1.0 01:J7           1.53     .135 No_date   12:18   51.24  n/a     .000
R0199:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:J7           1.53     .135 No_date   12:18   51.24  n/a     .000
     [RDT= 1.00] out<-     1.0 01:R9           1.53     .134 No_date   12:18   51.24  n/a     .000
      [L/S/n=   29./ .887/.035]
      {Vmax=  .543:Dmax=  .091}
R0199:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:EXT9         3.57     .284 No_date   12:23   57.15  n/a     .000
                     +     1.0 02:R9           1.53     .134 No_date   12:18   51.27  n/a     .000
                     +     1.0 02:EXT8          .83     .079 No_date   12:19   61.43  n/a     .000
                     +     1.0 02:R5           7.24     .459 No_date   12:37   64.44  n/a     .000
                  SUM=     1.0 01:J8          13.18     .912 No_date   12:28   60.74  n/a     .000
R0199:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->     1.0 02:J8          13.18     .912 No_date   12:28   60.74  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:Outlet      13.18     .910 No_date   12:30   60.74  n/a     .000
      [L/S/n=    8./ .010/.013]
      {Vmax=  .486:Dmax= 1.354}
      [Din=  .53:Dused= 1.65}
################################################################################
# STORMS
```

```
03961> ##############################################################################
03962>   ** END OF RUN : 1978
03963>
03964> ******************************************************************************
03965>
03966>
03967>
03968>
03969>
03970>  RUN#:COMMAND#
03971> R1979:C00001-------------------------------------------------------------------
03972>       START
03973>       [TZERO =    .00 hrs on       0]
03974>       [METOUT=   2    (1=imperial, 2=metric output)]
03975>       [NSTORM=   1 ]
03976>       [NRUN  = 1979 ]
03977> ******************************************************************************
03978> #  SWMHYMO  / INPUT DATA FILE
03979> ******************************************************************************
03980> #  Project Name  : [5923 Ottawa St]
03981> #  Project Number: [P2710(e01)]
03982> #  Date          : [2025 April 28]
03983> #  Modeller      : [MM]
03984> #  Company       : JFSA Canada Inc.
03985> #  License #     : 2549237
03986> ******************************************************************************
03987> # Model developed to simulate runoff from subcatchments under post development conditions
03988> ******************************************************************************
03989> R1979:C00002-------------------------------------------------------------------
03990>       READ STORM
03991>       Filename = STORM.001
03992>       Comment  = July 1st, 1979 Storm (3H) - Ottawa International Airport step 5 min
03993>       [SDT= 5.00:SDUR=   3.00:PTOT=  83.99]
03994> ******************************************************************************
03995> R1979:C00003-------------------------------------------------------------------
03996>       DEFAULT VALUES
03997>       Filename = C:\Temp\20260327-PostDev\Ottawa.val
03998>       ICASEdv  = 1 (read and print data)
03999>       FileTitle= File comment: [Parameters for City of Ottawa Projects]
04000>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
04001>       Horton's infiltration equation parameters:
04002>       [F0= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
04003>       Parameters for PERVIOUS surfaces in STANDHYD:
04004>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
04005>       Parameters for IMPERVIOUS surfaces in STANDHYD:
04006>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
04007>       Parameters used in NASHYD:
04008>       [Ia=   4.67 mm] [N= 3.00]
04009>       Average monthly Pan Evaporation data in    (mm)
04010>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
04011>  .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
04012>       Average monthly Potential Evapotranspiration in    (mm)
04013>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
04014>  .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
04015> ******************************************************************************
04016> # EXT1
04017> ******************************************************************************
04018> R1979:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04019>      CALIB NASHYD           1.0 01:EXT1          3.21      .240 No_date    2:16   44.05 .524     .000
04020>        [CN= 80.0: N= 3.00: Tp=  .72]
04021> ******************************************************************************
04022> # EXT2
04023> ******************************************************************************
04024> R1979:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04025>      CALIB NASHYD           1.0 01:EXT2          .28      .039 No_date    1:50   50.68 .603     .000
04026>        [CN= 85.0: N= 3.00: Tp=  .33]
04027> ******************************************************************************
04028> # EXT3
04029> ******************************************************************************
04030> R1979:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04031>      CALIB NASHYD           1.0 01:EXT3          .56      .067 No_date    1:50   44.05 .524     .000
04032>        [CN= 80.0: N= 3.00: Tp=  .32]
04033> ******************************************************************************
04034> # EXT4
04035> ******************************************************************************
04036> R1979:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04037>      CALIB NASHYD           1.0 01:EXT4          .31      .038 No_date    1:48   42.84 .510     .000
04038>        [CN= 79.0: N= 3.00: Tp=  .29]
04039> ******************************************************************************
04040> # EXT5
04041> ******************************************************************************
04042> R1979:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04043>      CALIB NASHYD           1.0 01:EXT5          .59      .054 No_date    2:01   39.44 .470     .000
04044>        [CN= 76.0: N= 3.00: Tp=  .45]
04045> ******************************************************************************
04046> # EXT6
04047> ******************************************************************************
04048> R1979:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04049>      CALIB NASHYD           1.0 01:EXT6          .86      .088 No_date    2:06   50.68 .603     .000
04050>        [CN= 85.0: N= 3.00: Tp=  .56]
04051> ******************************************************************************
04052> # EXT7
04053> ******************************************************************************
04054> R1979:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04055>      CALIB NASHYD           1.0 01:EXT7          .47      .061 No_date    1:49   47.90 .570     .000
04056>        [CN= 83.0: N= 3.00: Tp=  .32]
04057> ******************************************************************************
04058> # EXT8
04059> ******************************************************************************
04060> R1979:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04061>      CALIB NASHYD           1.0 01:EXT8          .83      .085 No_date    1:58   42.85 .510     .000
04062>        [CN= 79.0: N= 3.00: Tp=  .42]
04063> ******************************************************************************
04064> # EXT9
04065> ******************************************************************************
04066> R1979:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04067>      CALIB NASHYD           1.0 01:EXT9          3.57      .311 No_date    2:03   39.44 .470     .000
04068>        [CN= 76.0: N= 3.00: Tp=  .48]
04069> ******************************************************************************
04070> # EXT9a
04071> ******************************************************************************
04072> R1979:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04073>      CALIB NASHYD           1.0 01:EXT9a         .01      .002 No_date    1:30   41.67 .496     .000
04074>        [CN= 78.0: N= 3.00: Tp=  .04]
04075> ******************************************************************************
04076> # EXT10
04077> ******************************************************************************
04078> R1979:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04079>      CALIB NASHYD           1.0 01:EXT10         .20      .017 No_date    1:59   34.36 .409     .000
04080>        [CN= 71.0: N= 3.00: Tp=  .42]
04081> ******************************************************************************
04082> # Pre2_1
04083> ******************************************************************************
04084> R1979:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04085>  *   CALIB NASHYD           1.0 01:Pre2_1        .01      .002 No_date    1:30   35.32 .421     .000
04086>        [CN= 72.0: N= 3.00: Tp=  .03]
04087> ******************************************************************************
04088> # Pre2_2
04089> ******************************************************************************
04090> R1979:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04091>  *   CALIB NASHYD           1.0 01:Pre2_2        .00      .000 No_date    1:30   41.63 .496     .000
04092>        [CN= 78.0: N= 3.00: Tp=  .02]
04093> ******************************************************************************
04094> # Pre9_1
04095> ******************************************************************************
04096> R1979:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04097>      CALIB NASHYD           1.0 01:Pre9_1        .44      .038 No_date    1:55   34.37 .409     .000
04098>        [CN= 71.0: N= 3.00: Tp=  .38]
04099> ******************************************************************************
04100> # Pre9_2
04101> ******************************************************************************
04102> R1979:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04103>  *   CALIB NASHYD           1.0 01:Pre9_2        .01      .002 No_date    1:30   38.36 .457     .000
04104>        [CN= 75.0: N= 3.00: Tp=  .03]
04105> ******************************************************************************
04106> # Pre10_1
04107> ******************************************************************************
04108> R1979:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04109>      CALIB NASHYD           1.0 01:Pre10_1        .80      .078 No_date    1:48   34.37 .409     .000
04110>        [CN= 71.0: N= 3.00: Tp=  .29]
04111> ******************************************************************************
04112> # Pre11_1
04113> ******************************************************************************
04114> R1979:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04115>      CALIB NASHYD           1.0 01:Pre11_1        .07      .009 No_date    1:43   41.67 .496     .000
04116>        [CN= 78.0: N= 3.00: Tp=  .21]
04117> ******************************************************************************
04118> # Site 1
04119> ******************************************************************************
04120> R1979:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04121>      DESIGN STANDHYD        1.0 01:S1-B1         .42      .088 No_date    1:30   59.24 .705     .000
04122>        [XIMP=.34:TIMP=.44]
04123>        [SLP=1.00:DT= 1.00]
04124>        [LOSS= 1 : HORTONS]
04125> ******************************************************************************
04126> # Site 1 - Roof
04127> ******************************************************************************
04128> R1979:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04129>      DESIGN STANDHYD        1.0 01:S1-Roof       .06      .019 No_date    1:30   82.00 .976     .000
04130>        [XIMP=.99:TIMP=.99]
04131>        [SLP= .50:DT= 1.00]
04132>        [LOSS= 1 : HORTONS]
04133> R1979:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04134>      ROUTE RESERVOIR ->     1.0 02:S1-Roof       .06      .019 No_date    1:30   82.00  n/a     .000
04135>                       out <=    1.0 01:S1-Roof-Ou      .06      .008 No_date    1:32   82.00  n/a     .000
04136>                  overflow <=    1.0 03:S1-Roof-Ov      .00      .007 No_date    1:32   82.00  n/a     .000
04137>      (MxStoUsed=.2439E-02  m3, TotOvfVol=.3062E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs)
04138> R1979:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04139>      ADD HYD                1.0 02:S1-B1         .42      .088 No_date    1:30   59.24  n/a     .000
04140>                       +     1.0 02:S1-Roof-Ou      .06      .008 No_date    1:32   82.00  n/a     .000
04141>                       +     1.0 02:S1-Roof-Ov      .00      .007 No_date    1:32   82.00 n/a      .000
04142>                       SUM=    1.0 01:SITE1-IN       .48      .099 No_date    1:32   62.31 n/a      .000
04143> R1979:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04144>      ROUTE RESERVOIR ->     1.0 02:SITE1-IN       .48      .099 No_date    1:32   62.31 n/a      .000
04145>                       out <=    1.0 01:SITE1-Out      .48      .017 No_date    2:13   62.31 n/a      .000
04146>                  overflow <=    1.0 03:SITE1-Over     .00      .000 No_date    0:00    .00 n/a      .000
04147>      (MxStoUsed=.2204E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
04148> ******************************************************************************
04149> # Site 2
04150> ******************************************************************************
04151> R1979:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04152>      DESIGN STANDHYD        1.0 01:S2-B3         .36      .074 No_date    1:30   58.02 .691     .000
04153>        [XIMP=.31:TIMP=.41]
04154>        [SLP=1.00:DT= 1.00]
04155>        [LOSS= 1 : HORTONS]
04156> ******************************************************************************
04157> # Site 2 - Roof
04158> ******************************************************************************
04159> R1979:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04160>      DESIGN STANDHYD        1.0 01:S2-Roof       .09      .027 No_date    1:30   82.00 .976     .000
04161>        [XIMP=.99:TIMP=.99]
04162>        [SLP= .50:DT= 1.00]
04163>        [LOSS= 1 : HORTONS]
04164> ******************************************************************************
04165> R1979:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04166>      ROUTE RESERVOIR ->     1.0 02:S2-Roof       .09      .027 No_date    1:30   82.00  n/a     .000
04167>                       out <=    1.0 01:S2-Roof-Ou      .09      .011 No_date    1:33   82.00  n/a     .000
04168>                  overflow <=    1.0 03:S2-Roof-Ov      .00      .009 No_date    1:33   82.00  n/a     .000
04169>      (MxStoUsed=.3472E-02  m3, TotOvfVol=.3543E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs)
04170> R1979:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04171>      ADD HYD                1.0 02:S2-B3         .36      .074 No_date    1:30   58.02  n/a     .000
04172>                       +     1.0 02:S2-Roof-Ou      .09      .011 No_date    1:33   82.00  n/a     .000
04173>                       +     1.0 02:S2-Roof-Ov      .00      .009 No_date    1:33   82.00  n/a     .000
04174>                       SUM=    1.0 01:SITE2-IN       .45      .091 No_date    1:33   62.98  n/a     .000
04175> R1979:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04176>      ROUTE RESERVOIR ->     1.0 02:SITE2-IN       .45      .091 No_date    1:33   62.98  n/a     .000
04177>                       out <=    1.0 01:SITE2-Out      .45      .017 No_date    2:14   62.98  n/a     .000
04178>                  overflow <=    1.0 03:SITE2-Over     .00      .000 No_date    0:00    .00  n/a     .000
04179>      (MxStoUsed=.1968E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
04180> R1979:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04181>      ADD HYD                1.0 02:SITE1-Out      .48      .017 No_date    2:13   62.31  n/a     .000
04182>                       +     1.0 02:SITE1-Over     .00      .000 No_date    0:00    .00  n/a     .000
04183>                       SUM=    1.0 01:Site1          .48      .017 No_date    2:13   62.31  n/a     .000
04184> R1979:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04185>      ADD HYD                1.0 02:SITE2-Out      .45      .017 No_date    2:14   62.98  n/a     .000
04186>                       +     1.0 02:SITE2-Over     .00      .000 No_date    0:00    .00  n/a     .000
04187>                       SUM=    1.0 01:Site2          .45      .017 No_date    2:14   62.98  n/a     .000
04188> R1979:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04189>      ADD HYD                1.0 02:EXT2          .28      .039 No_date    1:50   50.68  n/a     .000
04190>                       +     1.0 02:Pre2_1         .01      .002 No_date    1:30   35.32  n/a     .000
04191>                       +     1.0 02:Site1          .48      .017 No_date    2:13   62.31  n/a     .000
04192>                       +     1.0 02:Site2          .45      .017 No_date    2:14   62.98  n/a     .000
04193>                       SUM=    1.0 01:J1            1.23      .065 No_date    2:02   59.57  n/a     .000
04194> R1979:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04195>      ROUTE CHANNEL   ->     1.0 02:J1            1.23      .065 No_date    2:02   59.57  n/a     .000
04196>        [RD= 1.00] out<-     1.0 01:R1            1.23      .064 No_date    2:06   59.57  n/a     .000
04197>         [L/S/n=  143./ .394/.035]
04198>         {Vmax=  .372:Dmax=  .160}
04199> R1979:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04200>      ADD HYD                1.0 02:R1            1.23      .064 No_date    2:06   59.57  n/a     .000
04201>                       +     1.0 02:EXT3           .56      .067 No_date    1:50   44.05  n/a     .000
04202>                       +     1.0 02:EXT1          3.21      .240 No_date    2:16   44.05  n/a     .000
04203>                       SUM=    1.0 01:J2            5.00      .350 No_date    2:08   47.87  n/a     .000
04204> R1979:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04205>      ROUTE CHANNEL   ->     1.0 02:J2            5.00      .350 No_date    2:08   47.87  n/a     .000
04206>        [RD= 1.00] out<-     1.0 01:R2            5.00      .349 No_date    2:10   47.87  n/a     .000
04207>         [L/S/n=   73./ .425/.035]
04208>         {Vmax=  .570:Dmax=  .321}
04209> R1979:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04210>      ADD HYD                1.0 02:R2            5.00      .349 No_date    2:10   47.87  n/a     .000
04211>                       +     1.0 02:EXT4           .31      .038 No_date    1:48   42.84  n/a     .000
04212>                       SUM=    1.0 01:J3            5.31      .376 No_date    2:08   47.58  n/a     .000
04213> R1979:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04214>      ROUTE CHANNEL   ->     1.0 02:J3            5.31      .376 No_date    2:08   47.58  n/a     .000
04215>        [RD= 1.00] out<-     1.0 01:R3            5.31      .374 No_date    2:10   47.58  n/a     .000
04216>         [L/S/n=   92./ .274/.035]
04217>         {Vmax=  .466:Dmax=  .331}
04218> R1979:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04219>      ADD HYD                1.0 02:R3            5.31      .374 No_date    2:10   47.58  n/a     .000
04220>                       +     1.0 02:EXT5           .59      .054 No_date    2:01   39.44  n/a     .000
04221>                       SUM=    1.0 01:J4            5.90      .425 No_date    2:09   46.76  n/a     .000
04222> R1979:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04223>      ROUTE CHANNEL   ->     1.0 02:J4            5.90      .425 No_date    2:09   46.76  n/a     .000
04224>        [RD= 1.00] out<-     1.0 01:R4            5.90      .408 No_date    2:15   46.76  n/a     .000
04225>         [L/S/n=  251./ .190/.035]
04226>         {Vmax=  .464:Dmax=  .382}
04227> R1979:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04228>      ADD HYD                1.0 02:R4            5.90      .408 No_date    2:15   46.76  n/a     .000
04229>                       +     1.0 02:EXT6           .86      .088 No_date    2:06   50.68  n/a     .000
04230>                       +     1.0 02:EXT7           .47      .061 No_date    1:49   47.90  n/a     .000
04231>                       SUM=    1.0 01:J5            7.24      .534 No_date    2:11   47.30  n/a     .000
04232> R1979:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04233>      ROUTE CHANNEL   ->     1.0 02:J5            7.24      .534 No_date    2:11   47.30  n/a     .000
04234>        [RD= 1.00] out<-     1.0 01:R5            7.24      .529 No_date    2:15   47.30  n/a     .000
04235>         [L/S/n=  237./ .644/.035]
04236>         {Vmax=  .764:Dmax=  .352}
04237> R1979:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04238>      ADD HYD                1.0 02:Pre10_1        .80      .078 No_date    1:48   34.37  n/a     .000
04239>                       +     1.0 02:Pre9_2         .01      .002 No_date    1:30   38.36  n/a     .000
04240>                       +     1.0 02:Pre2_2         .00      .000 No_date    1:30   41.63  n/a     .000
04241>                       SUM=    1.0 01:Pre           .81      .079 No_date    1:48   34.45  n/a     .000
04242> R1979:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04243>      ROUTE CHANNEL   ->     1.0 02:Pre           .81      .079 No_date    1:48   34.45  n/a     .000
04244>        [RD= 1.00] out<-     1.0 01:R6            .81      .079 No_date    1:51   34.45  n/a     .000
04245>         [L/S/n=   77./ .776/.035]
04246>         {Vmax=  .492:Dmax=  .058}
04247> R1979:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04248>      ROUTE CHANNEL   ->     1.0 02:Pre9_1         .44      .038 No_date    1:55   34.37  n/a     .000
04249>        [RD= 1.00] out<-     1.0 01:R7            .44      .037 No_date    1:59   34.37  n/a     .000
04250>         [L/S/n=  159./1.576/.035]
04251>         {Vmax=  .797:Dmax=  .011}
04252> R1979:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04253>      ADD HYD                1.0 02:R6            .81      .079 No_date    1:51   34.86  n/a     .000
04254>                       +     1.0 02:EXT10          .20      .017 No_date    1:59   34.36  n/a     .000
04255>                       +     1.0 02:Pre11_1        .07      .009 No_date    1:43   41.67  n/a     .000
04256>                       +     1.0 02:EXT9a          .01      .002 No_date    1:30   41.67  n/a     .000
04257>                       SUM=    1.0 01:J6            1.10      .103 No_date    1:51   35.25  n/a     .000
04258> R1979:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04259>      ROUTE CHANNEL   ->     1.0 02:J6            1.10      .103 No_date    1:51   35.25  n/a     .000
04260>        [RD= 1.00] out<-     1.0 01:R8            1.10      .102 No_date    1:54   35.25  n/a     .000
04261>         [L/S/n=   79./ .522/.035]
04262>         {Vmax=  .423:Dmax=  .076}
04263> R1979:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04264>      ADD HYD                1.0 02:R8            1.10      .102 No_date    1:54   35.45  n/a     .000
04265>                       +     1.0 02:R7            .44      .040 No_date    4:49   34.91  n/a     .000
04266>                       SUM=    1.0 01:J7            1.53      .139 No_date    1:55   35.30  n/a     .000
04267> R1979:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04268>      ROUTE CHANNEL   ->     1.0 02:J7            1.53      .139 No_date    1:55   35.30  n/a     .000
04269>        [RD= 1.00] out<-     1.0 01:R9            1.53      .139 No_date    1:56   35.30  n/a     .000
04270>         [L/S/n=   29./ .887/.035]
04271>         {Vmax=  .543:Dmax=  .094}
04272> R1979:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04273>      ADD HYD                1.0 02:EXT9          3.57      .311 No_date    2:03   39.44  n/a     .000
04274>                       +     1.0 02:R9            1.53      .139 No_date    1:56   35.43  n/a     .000
04275>                       +     1.0 02:EXT8           .83      .085 No_date    1:58   42.85  n/a     .000
04276>                       +     1.0 02:R5            7.24      .529 No_date    2:15   47.30  n/a     .000
04277>                       SUM=    1.0 01:J8           13.18    1.026 No_date    2:07   43.51  n/a     .000
04278> R1979:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04279>      ROUTE PIPE      ->     1.0 02:J8           13.18    1.026 No_date    2:07   43.51  n/a     .000
04280>  *   [RD= 1.00] out<-     1.0 01:Outlet        13.18    1.025 No_date    2:08   43.51  n/a     .000
04281>         [L/S/n=     8./ .010/.013]
04282>         {Vmax=  .500:Dmax= 1.416}
04283>         [Din=  .53:Dused= 1.72]
04284> ##############################################################################
04285> # STORMS
04286> ##############################################################################
04287>   ** END OF RUN : 1987
04288>
04289> ******************************************************************************
04290>
04291>
04292>
04293>
04294>
04295>  RUN#:COMMAND#
04296> R1988:C00001-------------------------------------------------------------------
04297>       START
04298>       [TZERO =    .00 hrs on       0]
04299>       [METOUT=   2    (1=imperial, 2=metric output)]
04300>       [NSTORM=   1 ]
04301>       [NRUN  = 1988 ]
04302> ******************************************************************************
04303> #  SWMHYMO  / INPUT DATA FILE
04304> ******************************************************************************
04305> #  Project Name  : [5923 Ottawa St]
04306> #  Project Number: [P2710(e01)]
04307> #  Date          : [2025 April 28]
04308> #  Modeller      : [MM]
04309> #  Company       : JFSA Canada Inc.
04310> #  License #     : 2549237
04311> ******************************************************************************
04312> # Model developed to simulate runoff from subcatchments under post development conditions
04313> ******************************************************************************
04314> R1988:C00002-------------------------------------------------------------------
04315>       READ STORM
04316>       Filename = STORM.001
04317>       Comment  = August 4th, 1988 Storm (5H+) - Ottawa International Airport step 5
04318>       [SDT= 5.00:SDUR=   5.58:PTOT=  80.59]
04319> ******************************************************************************
04320> R1988:C00003-------------------------------------------------------------------
```

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04321>      DEFAULT VALUES
04322>        Filename = C:\Temp\20260327-PostDev\Ottawa.val
04323>        ICASEdv  = 1 (read and print data)
04324>        FileTitle= File comment: [Parameters for City of Ottawa Projects]
04325>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
04326>        Horton's infiltration equation parameters:
04327>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
04328>        Parameters for PERVIOUS surfaces in STANDHYD:
04329>        [IAper=   4.67 mm] [LGF=40.00 m] [MNP= .250]
04330>        Parameters for IMPERVIOUS surfaces in STANDHYD:
04331>        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
04332>        Parameters used in NASHYD:
04333>        [Ia=   4.67 mm] [N= 3.00]
04334>        Average monthly Pan Evaporation data in    (mm)
04335>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
04336>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
04337>        Average monthly Potential Evapotranspiration in    (mm)
04338>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
04339>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
04340> #*******************************************************************************
04341> # EXT1
04342> #*******************************************************************************
04343> R1988:C00004------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04344>      CALIB NASHYD             1.0 01:EXT1          3.21     .197 No_date    2:30   41.34 .513     .000
04345>        [CN= 80.0: N= 3.00: Tp=  .72]
04346> #*******************************************************************************
04347> # EXT2
04348> #*******************************************************************************
04349> R1988:C00005------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04350>      CALIB NASHYD             1.0 01:EXT2          .28     .035 No_date    2:11   47.74 .592     .000
04351>        [CN= 85.0: N= 3.00: Tp=  .33]
04352> #*******************************************************************************
04353> # EXT3
04354> #*******************************************************************************
04355> R1988:C00006------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04356>      CALIB NASHYD             1.0 01:EXT3          .56     .061 No_date    2:11   41.34 .513     .000
04357>        [CN= 80.0: N= 3.00: Tp=  .32]
04358> #*******************************************************************************
04359> # EXT4
04360> #*******************************************************************************
04361> R1988:C00007------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04362>      CALIB NASHYD             1.0 01:EXT4          .31     .035 No_date    2:10   40.18 .499     .000
04363>        [CN= 79.0: N= 3.00: Tp=  .29]
04364> #*******************************************************************************
04365> # EXT5
04366> #*******************************************************************************
04367> R1988:C00008------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04368>      CALIB NASHYD             1.0 01:EXT5          .59     .046 No_date    2:17   36.92 .458     .000
04369>        [CN= 76.0: N= 3.00: Tp=  .45]
04370> #*******************************************************************************
04371> # EXT6
04372> #*******************************************************************************
04373> R1988:C00009------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04374>      CALIB NASHYD             1.0 01:EXT6          .86     .074 No_date    2:21   47.74 .592     .000
04375>        [CN= 85.0: N= 3.00: Tp=  .56]
04376> #*******************************************************************************
04377> # EXT7
04378> #*******************************************************************************
04379> R1988:C00010------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04380>      CALIB NASHYD             1.0 01:EXT7          .47     .055 No_date    2:11   45.05 .559     .000
04381>        [CN= 83.0: N= 3.00: Tp=  .32]
04382> #*******************************************************************************
04383> # EXT8
04384> #*******************************************************************************
04385> R1988:C00011------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04386>      CALIB NASHYD             1.0 01:EXT8          .83     .074 No_date    2:15   40.18 .499     .000
04387>        [CN= 79.0: N= 3.00: Tp=  .42]
04388> #*******************************************************************************
04389> # EXT9
04390> #*******************************************************************************
04391> R1988:C00012------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04392>      CALIB NASHYD             1.0 01:EXT9         3.57     .266 No_date    2:18   36.92 .458     .000
04393>        [CN= 76.0: N= 3.00: Tp=  .48]
04394> #*******************************************************************************
04395> # EXT9a
04396> #*******************************************************************************
04397> R1988:C00013------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04398>      CALIB NASHYD             1.0 01:EXT9a         .01     .003 No_date    2:00   39.05 .485     .000
04399>        [CN= 78.0: N= 3.00: Tp=  .04]
04400> #*******************************************************************************
04401> # EXT10
04402> #*******************************************************************************
04403> R1988:C00014------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04404>      CALIB NASHYD             1.0 01:EXT10         .20     .014 No_date    2:16   32.08 .398     .000
04405>        [CN= 71.0: N= 3.00: Tp=  .42]
04406> #*******************************************************************************
04407> # Pre2_1
04408> #*******************************************************************************
04409> R1988:C00015------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04410> *    CALIB NASHYD             1.0 01:Pre2_1        .01     .003 No_date    2:00   32.99 .409     .000
04411>        [CN= 72.0: N= 3.00: Tp=  .03]
04412> #*******************************************************************************
04413> # Pre2_2
04414> #*******************************************************************************
04415> R1988:C00016------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04416> *    CALIB NASHYD             1.0 01:Pre2_2        .00     .001 No_date    2:00   39.04 .484     .000
04417>        [CN= 78.0: N= 3.00: Tp=  .02]
04418> #*******************************************************************************
04419> # Pre9_1
04420> #*******************************************************************************
04421> R1988:C00017------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04422>      CALIB NASHYD             1.0 01:Pre9_1        .44     .033 No_date    2:14   32.08 .398     .000
04423>        [CN= 71.0: N= 3.00: Tp=  .38]
04424> #*******************************************************************************
04425> # Pre9_2
04426> #*******************************************************************************
04427> R1988:C00018------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04428> *    CALIB NASHYD             1.0 01:Pre9_2        .01     .004 No_date    2:00   35.89 .445     .000
04429>        [CN= 75.0: N= 3.00: Tp=  .03]
04430> #*******************************************************************************
04431> # Pre10_1
04432> #*******************************************************************************
04433> R1988:C00019------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04434>      CALIB NASHYD             1.0 01:Pre10_1       .80     .072 No_date    2:10   32.08 .398     .000
04435>        [CN= 71.0: N= 3.00: Tp=  .29]
04436> #*******************************************************************************
04437> # Pre11_1
04438> #*******************************************************************************
04439> R1988:C00020------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04440>      CALIB NASHYD             1.0 01:Pre11_1       .07     .009 No_date    2:06   39.06 .485     .000
04441>        [CN= 78.0: N= 3.00: Tp=  .21]
04442> #*******************************************************************************
04443> # Site 1
04444> #*******************************************************************************
04445> R1988:C00021------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04446>      DESIGN STANDHYD          1.0 01:S1-B1         .42     .105 No_date    2:00   54.85 .681     .000
04447>        [XIMP=.34:TIMP=.44]
04448>        [SLP=1.00:DT= 1.00]
04449>        [LOSS= 1 : HORTONS]
04450> #*******************************************************************************
04451> # Site 1 - Roof
04452> #*******************************************************************************
04453> R1988:C00022------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04454>      DESIGN STANDHYD          1.0 01:S1-Roof       .06     .028 No_date    2:00   78.59 .975     .000
04455>        [XIMP=.99:TIMP=.99]
04456>        [SLP= .50:DT= 1.00]
04457>        [LOSS= 1 : HORTONS]
04458> R1988:C00023------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04459>      ROUTE RESERVOIR ->     1.0 02:S1-Roof       .06     .028 No_date    2:00   78.59  n/a     .000
04460>                    out <=    1.0 01:S1-Roof-Ou    .06     .008 No_date    2:00   78.59  n/a     .000
04461>              overflow <=     1.0 03:S1-Roof-Ov    .00     .020 No_date    2:00   78.59  n/a     .000
04462>        (MxStoUsed=.2412E-02  m3, TotOvfVol=.1935E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs)
04463> R1988:C00024------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04464>      ADD HYD                  .42     .105 No_date    2:00   54.85  n/a     .000
04465>                       +     1.0 02:S1-Roof-Ou    .06     .008 No_date    2:00   78.59  n/a     .000
04466>                       +     1.0 02:S1-Roof-Ov    .00     .020 No_date    2:00   78.59  n/a     .000
04467>                     SUM=    1.0 01:S1E1-IN       .48     .133 No_date    2:00   58.05  n/a     .000
04468> R1988:C00025------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04469>      ROUTE RESERVOIR ->     1.0 02:S1E1-IN       .48     .133 No_date    2:00   58.05  n/a     .000
04470>                    out <=    1.0 01:S1E1-Out      .48     .010 No_date    2:30   58.05  n/a     .000
04471>              overflow <=     1.0 03:S1E1-Over     .00     .000 No_date    0:00    .00  n/a     .000
04472>        (MxStoUsed=.1877E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
04473> #*******************************************************************************
04474> # Site 2
04475> #*******************************************************************************
04476> R1988:C00026------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04477>      DESIGN STANDHYD          1.0 01:S2-B3         .36     .088 No_date    2:00   53.63 .665     .000
04478>        [XIMP=.31:TIMP=.41]
04479>        [SLP=1.00:DT= 1.00]
04480>        [LOSS= 1 : HORTONS]
04481> #*******************************************************************************
04482> # Site 2 - Roof
04483> #*******************************************************************************
04484> R1988:C00027------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04485>      DESIGN STANDHYD          1.0 01:S2-Roof       .09     .040 No_date    2:00   78.59 .975     .000
04486>        [XIMP=.99:TIMP=.99]
04487>        [SLP= .50:DT= 1.00]
04488>        [LOSS= 1 : HORTONS]
04489> #*******************************************************************************
04490> R1988:C00028------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04491>      ROUTE RESERVOIR ->     1.0 02:S2-Roof       .09     .040 No_date    2:00   78.59  n/a     .000
04492>                    out <=    1.0 01:S2-Roof-Ou    .09     .011 No_date    2:00   78.59  n/a     .000
04493>              overflow <=     1.0 03:S2-Roof-Ov    .00     .028 No_date    2:00   78.59  n/a     .000
04494>        (MxStoUsed=.3464E-02  m3, TotOvfVol=.1697E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs)
04495> R1988:C00029------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04496>      ADD HYD                  .36     .088 No_date    2:00   53.63  n/a     .000
04497>                       +     1.0 02:S2-Roof-Ou    .09     .011 No_date    2:00   78.59  n/a     .000
04498>                       +     1.0 02:S2-Roof-Ov    .00     .028 No_date    2:00   78.59  n/a     .000
04499>                     SUM=    1.0 01:S2E2-IN       .45     .128 No_date    2:00   58.79  n/a     .000
04500> R1988:C00030------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04501>      ROUTE RESERVOIR ->     1.0 02:S2E2-IN       .45     .128 No_date    2:00   58.79  n/a     .000
04502>                    out <=    1.0 01:S2E2-Out      .45     .010 No_date    2:32   58.79  n/a     .000
04503>              overflow <=     1.0 03:S2E2-Over     .00     .000 No_date    0:00    .00  n/a     .000
04504>        (MxStoUsed=.1665E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
04505> R1988:C00031------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04506>      ADD HYD                  .48     .010 No_date    2:30   58.05  n/a     .000
04507>                       +     1.0 02:S1E1-Out      .48     .010 No_date    0:00    .00  n/a     .000
04508>                     SUM=    1.0 01:Site1         .48     .010 No_date    2:30   58.05  n/a     .000
04509> R1988:C00032------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04510>      ADD HYD                  .45     .010 No_date    2:32   58.79  n/a     .000
04511>                       +     1.0 02:S2E2-Over     .00     .000 No_date    0:00    .00  n/a     .000
04512>                     SUM=    1.0 01:Site2         .45     .010 No_date    2:32   58.79  n/a     .000
04513> R1988:C00033------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04514>      ADD HYD                  .28     .035 No_date    2:11   47.74  n/a     .000
04515>                       +     1.0 02:Pre2_1        .01     .003 No_date    2:00   32.99  n/a     .000
04516>                       +     1.0 02:Site1         .48     .010 No_date    2:30   58.05  n/a     .000
04517>                       +     1.0 02:Site2         .45     .010 No_date    2:32   58.79  n/a     .000
04518>                     SUM=    1.0 01:J1           1.23     .053 No_date    2:11   55.67  n/a     .000
04519> R1988:C00034------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04520>      ROUTE CHANNEL    ->     1.0 02:J1           1.23     .053 No_date    2:11   55.67  n/a     .000
04521>        [RDT= 1.00] out<-     1.0 01:R1           1.23     .051 No_date    2:16   55.67  n/a     .000
04522>          [L/S/n=  143./ .394/.035]
04523>          [Vmax=  .354:Dmax=  .147]
04524> R1988:C00035------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04525>      ADD HYD                  1.23     .051 No_date    2:16   55.67  n/a     .000
04526>                       +     1.0 02:EXT3          .56     .061 No_date    2:11   41.34  n/a     .000
04527>                       +     1.0 02:EXT1         3.21     .197 No_date    2:30   41.34  n/a     .000
04528>                     SUM=    1.0 01:J2           5.00     .288 No_date    2:21   44.87  n/a     .000
04529> R1988:C00036------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04530>      ROUTE CHANNEL    ->     1.0 02:J2           5.00     .288 No_date    2:21   44.87  n/a     .000
04531>        [RDT= 1.00] out<-     1.0 01:R2           5.00     .287 No_date    2:22   44.87  n/a     .000
04532>          [L/S/n=  73./ .425/.035]
04533>          [Vmax=  .542:Dmax=  .297]
04534> R1988:C00037------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04535>      ADD HYD                  5.00     .287 No_date    2:22   44.87  n/a     .000
04536>                       +     1.0 02:EXT4          .31     .035 No_date    2:10   40.18  n/a     .000
04537>                     SUM=    1.0 01:J3           5.31     .313 No_date    2:20   44.59  n/a     .000
04538> R1988:C00038------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04539>      ROUTE CHANNEL    ->     1.0 02:J3           5.31     .313 No_date    2:20   44.59  n/a     .000
04540>        [RDT= 1.00] out<-     1.0 01:R3           5.31     .310 No_date    2:22   44.59  n/a     .000
04541>          [L/S/n=  92./ .274/.035]
04542>          [Vmax=  .445:Dmax=  .308]
04543> R1988:C00039------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04544>      ADD HYD                  5.31     .310 No_date    2:22   44.59  n/a     .000
04545>                       +     1.0 02:EXT5          .59     .046 No_date    2:17   36.92  n/a     .000
04546>                     SUM=    1.0 01:J4           5.90     .355 No_date    2:22   43.82  n/a     .000
04547> R1988:C00040------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04548>      ROUTE CHANNEL    ->     1.0 02:J4           5.90     .355 No_date    2:22   43.82  n/a     .000
04549>        [RDT= 1.00] out<-     1.0 01:R4           5.90     .333 No_date    2:30   43.82  n/a     .000
04550>          [L/S/n=  251./ .190/.035]
04551>          [Vmax=  .441:Dmax=  .353]
04552> R1988:C00041------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04553>      ADD HYD                  5.90     .333 No_date    2:30   43.82  n/a     .000
04554>                       +     1.0 02:EXT6          .86     .074 No_date    2:21   47.74  n/a     .000
04555>                       +     1.0 02:EXT7          .47     .055 No_date    2:11   45.05  n/a     .000
04556>                     SUM=    1.0 01:J5           7.24     .441 No_date    2:25   44.37  n/a     .000
04557> R1988:C00042------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04558>      ROUTE CHANNEL    ->     1.0 02:J5           7.24     .441 No_date    2:25   44.37  n/a     .000
04559>        [RDT= 1.00] out<-     1.0 01:R5           7.24     .433 No_date    2:30   44.37  n/a     .000
04560>          [L/S/n=  237./ .644/.035]
04561>          [Vmax=  .722:Dmax=  .326]
04562> R1988:C00043------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04563>      ADD HYD                  1.0 02:Pre10_1       .80     .072 No_date    2:10   32.08  n/a     .000
04564>                       +     1.0 02:Pre9_2        .01     .004 No_date    2:00   35.89  n/a     .000
04565>                       +     1.0 02:Pre2_2        .00     .001 No_date    2:00   39.04  n/a     .000
04566>                     SUM=    1.0 01:Pre           .81     .072 No_date    2:10   32.16  n/a     .000
04567> R1988:C00044------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04568>      ROUTE CHANNEL    ->     1.0 02:Pre          .81     .072 No_date    2:10   32.16  n/a     .000
04569>        [RDT= 1.00] out<-     1.0 01:R6           .81     .071 No_date    2:12   32.16  n/a     .000
04570>          [L/S/n=  77./ .776/.035]
04571>          [Vmax=  .492:Dmax=  .052]
04572> R1988:C00045------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04573>      ROUTE CHANNEL    ->     1.0 02:Pre9_1        .44     .033 No_date    2:14   32.08  n/a     .000
04574>        [RDT= 1.00] out<-     1.0 01:R7           .44     .033 No_date    2:17   32.08  n/a     .000
04575>          [L/S/n=  159./1.576/.035]
04576>          [Vmax=  .797:Dmax=  .010]
04577> R1988:C00046------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04578>      ADD HYD                  1.0 02:R6           .81     .071 No_date    2:12   32.40  n/a     .000
04579>                       +     1.0 02:EXT10         .20     .014 No_date    2:16   32.08  n/a     .000
04580>                       +     1.0 02:Pre11_1       .07     .009 No_date    2:06   39.06  n/a     .000
04581>                       +     1.0 02:EXT9a         .01     .003 No_date    2:00   39.05  n/a     .000
04582>                     SUM=    1.0 01:J6           1.10     .092 No_date    2:12   32.81  n/a     .000
04583> R1988:C00047------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04584>      ROUTE CHANNEL    ->     1.0 02:J6           1.10     .092 No_date    2:12   32.81  n/a     .000
04585>        [RDT= 1.00] out<-     1.0 01:R8           1.10     .090 No_date    2:15   32.81  n/a     .000
04586>          [L/S/n=  79./ .522/.035]
04587>          [Vmax=  .423:Dmax=  .068]
04588> R1988:C00048------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04589>      ADD HYD                  1.0 02:R8           1.10     .090 No_date    2:15   32.94  n/a     .000
04590>                       +     1.0 02:R7           .44     .033 No_date    2:17   32.42  n/a     .000
04591>                     SUM=    1.0 01:J7           1.53     .123 No_date    2:15   32.80  n/a     .000
04592> R1988:C00049------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04593>      ROUTE CHANNEL    ->     1.0 02:J7           1.53     .123 No_date    2:15   32.80  n/a     .000
04594>        [RDT= 1.00] out<-     1.0 01:R9           1.53     .122 No_date    2:16   32.80  n/a     .000
04595>          [L/S/n=  29./ .887/.035]
04596>          [Vmax=  .543:Dmax=  .083]
04597> R1988:C00050------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04598>      ADD HYD                  1.0 02:EXT9         3.57     .266 No_date    2:18   36.92  n/a     .000
04599>                       +     1.0 02:R9           1.53     .122 No_date    2:16   32.88  n/a     .000
04600>                       +     1.0 02:EXT8          .83     .074 No_date    2:15   40.18  n/a     .000
04601>                       +     1.0 02:R5           7.24     .433 No_date    2:30   44.37  n/a     .000
04602>                     SUM=    1.0 01:J8          13.18     .863 No_date    2:22   40.75  n/a     .000
04603> R1988:C00051------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04604>      ROUTE PIPE       ->     1.0 02:J8          13.18     .863 No_date    2:22   40.75  n/a     .000
04605> *    [RDT= 1.00] out<-     1.0 01:Outlet        13.18     .862 No_date    2:23   40.75  n/a     .000
04606>          [L/S/n=     8./ .010/.013]
04607>          [Vmax=  .479:Dmax= 1.327]
04608>          [Din=  .53:Dused= 1.62]
04609> ###############################################################################
04610> # STORMS
04611> ###############################################################################
04612>  ** END OF RUN : 1995
04613>
04614> ********************************************************************************
04615>
04616>
04617>
04618>
04619>
04620>  RUN#:COMMAND#
04621> R1996:C00001------------------------------------------------------------------
04622>      START
04623>      [TZERO =    .00 hrs on       0]
04624>      [METOUT=   2    (1=imperial, 2=metric output)]
04625>      [NSTORM=   1 ]
04626>      [NRUN  = 1996 ]
04627> ********************************************************************************
04628> #  SWMHYMO  / INPUT DATA FILE
04629> ********************************************************************************
04630> #  Project Name  : [5923 Ottawa St]
04631> #  Project Number: [P2710(e01)]
04632> #  Date          : [2025 April 28]
04633> #  Modeller      : [MM]
04634> #  Company       : JFSA Canada Inc.
04635> #  License #     : 2549237
04636> ********************************************************************************
04637> # Model developed to simulate runoff from subcatchments under post development conditions
04638> ********************************************************************************
04639> R1996:C00002------------------------------------------------------------------
04640>      READ STORM
04641>        Filename = STORM.001
04642>        Comment  = August 8th, 1996 Storm (5H+) - Ottawa International Airport step 5
04643>        [SDT= 5.00:SDUR=   5.75:PTOT=  73.90]
04644> ********************************************************************************
04645> R1996:C00003------------------------------------------------------------------
04646>      DEFAULT VALUES
04647>        Filename = C:\Temp\20260327-PostDev\Ottawa.val
04648>        ICASEdv  = 1 (read and print data)
04649>        FileTitle= File comment: [Parameters for City of Ottawa Projects]
04650>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
04651>        Horton's infiltration equation parameters:
04652>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
04653>        Parameters for PERVIOUS surfaces in STANDHYD:
04654>        [IAper=   4.67 mm] [LGF=40.00 m] [MNP= .250]
04655>        Parameters for IMPERVIOUS surfaces in STANDHYD:
04656>        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
04657>        Parameters used in NASHYD:
04658>        [Ia=   4.67 mm] [N= 3.00]
04659>        Average monthly Pan Evaporation data in    (mm)
04660>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
04661>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
04662>        Average monthly Potential Evapotranspiration in    (mm)
04663>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
04664>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
04665> ********************************************************************************
04666> # EXT1
04667> ********************************************************************************
04668> R1996:C00004------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04669>      CALIB NASHYD             1.0 01:EXT1          3.21     .134 No_date    3:49   36.11 .489     .000
04670>        [CN= 80.0: N= 3.00: Tp=  .72]
04671> ********************************************************************************
04672> # EXT2
04673> ********************************************************************************
04674> R1996:C00005------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04675>      CALIB NASHYD             1.0 01:EXT2          .28     .023 No_date    3:26   42.02 .569     .000
04676>        [CN= 85.0: N= 3.00: Tp=  .33]
04677> ********************************************************************************
04678> # EXT3
04679> ********************************************************************************
04680> R1996:C00006------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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04681>     CALIB NASHYD          1.0 01:EXT3          .56     .041 No_date    3:26   36.11 .489    .000
04682>       [CN= 80.0: N= 3.00: Tp=  .32]
04683> #*******************************************************************************
04684> # EXT4
04685> #*******************************************************************************
04686> R1996:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04687>     CALIB NASHYD          1.0 01:EXT4          .31     .023 No_date    3:24   35.05 .474    .000
04688>       [CN= 79.0: N= 3.00: Tp=  .29]
04689> #*******************************************************************************
04690> # EXT5
04691> #*******************************************************************************
04692> R1996:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04693>     CALIB NASHYD          1.0 01:EXT5          .59     .031 No_date    3:34   32.07 .434    .000
04694>       [CN= 76.0: N= 3.00: Tp=  .45]
04695> #*******************************************************************************
04696> # EXT6
04697> #*******************************************************************************
04698> R1996:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04699>     CALIB NASHYD          1.0 01:EXT6          .86     .048 No_date    3:40   42.02 .569    .000
04700>       [CN= 85.0: N= 3.00: Tp=  .56]
04701> #*******************************************************************************
04702> # EXT7
04703> #*******************************************************************************
04704> R1996:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04705>     CALIB NASHYD          1.0 01:EXT7          .47     .037 No_date    3:26   39.53 .535    .000
04706>       [CN= 83.0: N= 3.00: Tp=  .32]
04707> #*******************************************************************************
04708> # EXT8
04709> #*******************************************************************************
04710> R1996:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04711>     CALIB NASHYD          1.0 01:EXT8          .83     .049 No_date    3:32   35.05 .474    .000
04712>       [CN= 79.0: N= 3.00: Tp=  .42]
04713> #*******************************************************************************
04714> # EXT9
04715> #*******************************************************************************
04716> R1996:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04717>     CALIB NASHYD          1.0 01:EXT9          3.57     .177 No_date    3:36   32.07 .434    .000
04718>       [CN= 76.0: N= 3.00: Tp=  .48]
04719> #*******************************************************************************
04720> # EXT9a
04721> #*******************************************************************************
04722> R1996:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04723>     CALIB NASHYD          1.0 01:EXT9a          .01     .001 No_date    1:26   34.01 .460    .000
04724>       [CN= 78.0: N= 3.00: Tp=  .04]
04725> #*******************************************************************************
04726> # EXT10
04727> #*******************************************************************************
04728> R1996:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04729>     CALIB NASHYD          1.0 01:EXT10          .20     .010 No_date    3:32   27.70 .375    .000
04730>       [CN= 71.0: N= 3.00: Tp=  .42]
04731> #*******************************************************************************
04732> # Pre2_1
04733> #*******************************************************************************
04734> R1996:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04735>   *   CALIB NASHYD          1.0 01:Pre2_1          .01     .001 No_date    1:26   28.52 .386    .000
04736>       [CN= 72.0: N= 3.00: Tp=  .03]
04737> #*******************************************************************************
04738> # Pre2_2
04739> #*******************************************************************************
04740> R1996:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04741>   *   CALIB NASHYD          1.0 01:Pre2_2          .00     .000 No_date    1:25   34.01 .460    .000
04742>       [CN= 78.0: N= 3.00: Tp=  .02]
04743> #*******************************************************************************
04744> # Pre9_1
04745> #*******************************************************************************
04746> R1996:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04747>     CALIB NASHYD          1.0 01:Pre9_1          .44     .022 No_date    3:30   27.71 .375    .000
04748>       [CN= 71.0: N= 3.00: Tp=  .38]
04749> #*******************************************************************************
04750> # Pre9_2
04751> #*******************************************************************************
04752> R1996:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04753>   *   CALIB NASHYD          1.0 01:Pre9_2          .01     .002 No_date    1:25   31.14 .421    .000
04754>       [CN= 75.0: N= 3.00: Tp=  .03]
04755> #*******************************************************************************
04756> # Pre10_1
04757> #*******************************************************************************
04758> R1996:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04759>     CALIB NASHYD          1.0 01:Pre10_1          .80     .049 No_date    3:24   27.71 .375    .000
04760>       [CN= 71.0: N= 3.00: Tp=  .29]
04761> #*******************************************************************************
04762> # Pre11_1
04763> #*******************************************************************************
04764> R1996:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04765>     CALIB NASHYD          1.0 01:Pre11_1          .07     .006 No_date    3:19   34.01 .460    .000
04766>       [CN= 78.0: N= 3.00: Tp=  .21]
04767> #*******************************************************************************
04768> # Site 1
04769> #*******************************************************************************
04770> R1996:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04771>     DESIGN STANDHYD       1.0 01:S1-B1          .42     .069 No_date    1:30   49.80 .674    .000
04772>       [XIMP=.34:TIMP=.44]
04773>       [SLP=1.00:DT= 1.00]
04774>       [LOSS= 1 : HORTONS]
04775> #*******************************************************************************
04776> # Site 1 - Roof
04777> #*******************************************************************************
04778> R1996:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04779>     DESIGN STANDHYD       1.0 01:S1-Roof          .06     .022 No_date    1:25   71.93 .973    .000
04780>       [XIMP=.99:TIMP=.99]
04781>       [SLP= .50:DT= 1.00]
04782>       [LOSS= 1 : HORTONS]
04783> R1996:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04784>     ROUTE RESERVOIR ->     1.0 02:S1-Roof          .06     .022 No_date    1:25   71.93  n/a     .000
04785>                    out <=     1.0 01:S1-Roof-Ou      .06     .005 No_date    1:32   71.93  n/a     .000
04786>                overflow <=     1.0 03:S1-Roof-Ov      .00     .000 No_date    0:00     .00  n/a     .000
04787>       (MxStoUsed=.1756E-02  m3, TotOvFVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
04788> R1996:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04789>     ADD HYD               1.0 02:S1-B1          .42     .069 No_date    1:30   49.80  n/a     .000
04790>                      +     1.0 02:S1-Roof-Ou      .06     .005 No_date    1:32   71.93  n/a     .000
04791>                      +     1.0 02:S1-Roof-Ov      .00     .000 No_date    0:00     .00  n/a     .000
04792>                    SUM=    1.0 01:S1TE1-IN        .48     .075 No_date    1:30   52.79  n/a     .000
04793> R1996:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04794>     ROUTE RESERVOIR ->     1.0 02:S1TE1-IN        .48     .075 No_date    1:30   52.79  n/a     .000
04795>                    out <=     1.0 01:S1TE1-Out       .48     .008 No_date    3:44   52.79  n/a     .000
04796>                overflow <=     1.0 03:S1TE1-Over      .00     .000 No_date    0:00     .00  n/a     .000
04797>       (MxStoUsed=.1589E-01  m3, TotOvFVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
04798> #*******************************************************************************
04799> # Site 2
04800> #*******************************************************************************
04801> R1996:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04802>     DESIGN STANDHYD       1.0 01:S2-B3          .36     .058 No_date    1:30   48.67 .659    .000
04803>       [XIMP=.31:TIMP=.41]
04804>       [SLP=1.00:DT= 1.00]
04805>       [LOSS= 1 : HORTONS]
04806> #*******************************************************************************
04807> # Site 2 - Roof
04808> #*******************************************************************************
04809> R1996:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04810>     DESIGN STANDHYD       1.0 01:S2-Roof          .09     .031 No_date    1:25   71.93 .973    .000
04811>       [XIMP=.99:TIMP=.99]
04812>       [SLP= .50:DT= 1.00]
04813>       [LOSS= 1 : HORTONS]
04814> #*******************************************************************************
04815> R1996:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04816>     ROUTE RESERVOIR ->     1.0 02:S2-Roof          .09     .031 No_date    1:25   71.93  n/a     .000
04817>                    out <=     1.0 01:S2-Roof-Ou      .09     .008 No_date    1:32   71.93  n/a     .000
04818>                overflow <=     1.0 03:S2-Roof-Ov      .00     .000 No_date    0:00     .00  n/a     .000
04819>       (MxStoUsed=.2469E-02  m3, TotOvFVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
04820> R1996:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04821>     ADD HYD               1.0 02:S2-B3          .36     .058 No_date    1:30   48.67  n/a     .000
04822>                      +     1.0 02:S2-Roof-Ou      .09     .008 No_date    1:32   71.93  n/a     .000
04823>                      +     1.0 02:S2-Roof-Ov      .00     .000 No_date    0:00     .00  n/a     .000
04824>                    SUM=    1.0 01:S2TE2-IN        .45     .066 No_date    1:30   53.47  n/a     .000
04825> R1996:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04826>     ROUTE RESERVOIR ->     1.0 02:S2TE2-IN        .45     .066 No_date    1:30   53.47  n/a     .000
04827>                    out <=     1.0 01:S2TE2-Out       .45     .009 No_date    3:44   53.47  n/a     .000
04828>                overflow <=     1.0 03:S2TE2-Over      .00     .000 No_date    0:00     .00  n/a     .000
04829>       (MxStoUsed=.1360E-01  m3, TotOvFVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
04830> R1996:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04831>     ADD HYD               1.0 02:S1TE1-Out       .48     .008 No_date    3:44   52.79  n/a     .000
04832>                      +     1.0 02:S1TE1-Over      .00     .000 No_date    0:00     .00  n/a     .000
04833>                    SUM=    1.0 01:Site1           .48     .008 No_date    3:44   52.79  n/a     .000
04834> R1996:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04835>     ADD HYD               1.0 02:S2TE2-Out       .45     .009 No_date    3:44   53.47  n/a     .000
04836>                      +     1.0 02:S2TE2-Over      .00     .000 No_date    0:00     .00  n/a     .000
04837>                    SUM=    1.0 01:Site2           .45     .009 No_date    3:44   53.47  n/a     .000
04838> R1996:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04839>     ADD HYD               1.0 02:EXT2            .28     .023 No_date    3:26   42.02  n/a     .000
04840>                      +     1.0 02:Pre2_1          .01     .001 No_date    1:26   28.52  n/a     .000
04841>                      +     1.0 02:Site1           .48     .008 No_date    3:44   52.79  n/a     .000
04842>                      +     1.0 02:Site2           .45     .009 No_date    3:44   53.47  n/a     .000
04843>                    SUM=    1.0 01:J1             1.23     .040 No_date    3:26   50.29  n/a     .000
04844> R1996:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04845>     ROUTE CHANNEL   ->     1.0 02:J1             1.23     .040 No_date    3:26   50.29  n/a     .000
04846>       [RD= 1.00] out<-     1.0 01:R1             1.23     .039 No_date    3:32   50.29  n/a     .000
04847>       [L/S/n=  143./ .394/.035]
04848>       [Vmax=  .323:Dmax=  .130]
04849> R1996:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04850>     ADD HYD               1.0 02:R1             1.23     .039 No_date    3:32   50.29  n/a     .000
04851>                      +     1.0 02:EXT3            .56     .041 No_date    3:26   36.11  n/a     .000
04852>                      +     1.0 02:EXT1           3.21     .134 No_date    3:49   36.11  n/a     .000
04853>                    SUM=    1.0 01:J2             5.00     .199 No_date    3:39   39.60  n/a     .000
04854> R1996:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04855>     ROUTE CHANNEL   ->     1.0 02:J2             5.00     .199 No_date    3:39   39.60  n/a     .000
04856>       [RD= 1.00] out<-     1.0 01:R2             5.00     .198 No_date    3:40   39.60  n/a     .000
04857>       [L/S/n=   73./ .425/.035]
04858>       [Vmax=  .492:Dmax=  .256]
04859> R1996:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04860>     ADD HYD               1.0 02:R2             5.00     .198 No_date    3:40   39.60  n/a     .000
04861>                      +     1.0 02:EXT4            .31     .023 No_date    3:24   35.05  n/a     .000
04862>                    SUM=    1.0 01:J3             5.31     .215 No_date    3:38   39.33  n/a     .000
04863> R1996:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04864>     ROUTE CHANNEL   ->     1.0 02:J3             5.31     .215 No_date    3:38   39.33  n/a     .000
04865>       [RD= 1.00] out<-     1.0 01:R3             5.31     .213 No_date    3:41   39.33  n/a     .000
04866>       [L/S/n=   92./ .274/.035]
04867>       [Vmax=  .404:Dmax=  .265]
04868> R1996:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04869>     ADD HYD               1.0 02:R3             5.31     .213 No_date    3:41   39.33  n/a     .000
04870>                      +     1.0 02:EXT5            .59     .031 No_date    3:34   32.07  n/a     .000
04871>                    SUM=    1.0 01:J4             5.90     .243 No_date    3:40   38.60  n/a     .000
04872> R1996:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04873>     ROUTE CHANNEL   ->     1.0 02:J4             5.90     .243 No_date    3:40   38.60  n/a     .000
04874>       [RD= 1.00] out<-     1.0 01:R4             5.90     .229 No_date    3:48   38.60  n/a     .000
04875>       [L/S/n=  251./ .190/.035]
04876>       [Vmax=  .396:Dmax=  .298]
04877> R1996:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04878>     ADD HYD               1.0 02:R4             5.90     .229 No_date    3:48   38.60  n/a     .000
04879>                      +     1.0 02:EXT6            .86     .048 No_date    3:40   42.02  n/a     .000
04880>                      +     1.0 02:EXT7            .47     .037 No_date    3:26   39.53  n/a     .000
04881>                    SUM=    1.0 01:J5             7.24     .300 No_date    3:44   39.07  n/a     .000
04882> R1996:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04883>     ROUTE CHANNEL   ->     1.0 02:J5             7.24     .300 No_date    3:44   39.07  n/a     .000
04884>       [RD= 1.00] out<-     1.0 01:R5             7.24     .295 No_date    3:49   39.07  n/a     .000
04885>       [L/S/n=  237./ .644/.035]
04886>       [Vmax=  .643:Dmax=  .279]
04887> R1996:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04888>     ADD HYD               1.0 02:Pre10_1          .80     .049 No_date    3:24   27.71  n/a     .000
04889>                      +     1.0 02:Pre9_2          .01     .002 No_date    1:25   31.14  n/a     .000
04890>                      +     1.0 02:Pre2_2          .00     .000 No_date    1:25   34.01  n/a     .000
04891>                    SUM=    1.0 01:Pre             .81     .049 No_date    3:24   27.78  n/a     .000
04892> R1996:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04893>     ROUTE CHANNEL   ->     1.0 02:Pre             .81     .049 No_date    3:24   27.78  n/a     .000
04894>       [RD= 1.00] out<-     1.0 01:R6             .81     .049 No_date    3:27   27.78  n/a     .000
04895>       [L/S/n=   77./ .776/.035]
04896>       [Vmax=  .492:Dmax=  .036]
04897> R1996:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04898>     ROUTE CHANNEL   ->     1.0 02:Pre9_1          .44     .022 No_date    3:30   27.71  n/a     .000
04899>       [RD= 1.00] out<-     1.0 01:R7             .44     .022 No_date    3:33   27.71  n/a     .000
04900>       [L/S/n=  159./1.576/.035]
04901>       [Vmax=  .797:Dmax=  .007]
04902> R1996:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04903>     ADD HYD               1.0 02:R6             .81     .049 No_date    3:27   27.95  n/a     .000
04904>                      +     1.0 02:EXT10           .20     .010 No_date    3:32   27.70  n/a     .000
04905>                      +     1.0 02:Pre11_1         .07     .006 No_date    3:19   34.01  n/a     .000
04906>                      +     1.0 02:EXT9a           .01     .001 No_date    1:26   34.01  n/a     .000
04907>                    SUM=    1.0 01:J6             1.10     .063 No_date    3:26   28.34  n/a     .000
04908> R1996:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04909>     ROUTE CHANNEL   ->     1.0 02:J6             1.10     .063 No_date    3:26   28.34  n/a     .000
04910>       [RD= 1.00] out<-     1.0 01:R8             1.10     .062 No_date    3:29   28.34  n/a     .000
04911>       [L/S/n=   79./ .522/.035]
04912>       [Vmax=  .423:Dmax=  .047]
04913> R1996:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04914>     ADD HYD               1.0 02:R8             1.10     .062 No_date    3:29   28.44  n/a     .000
04915>                      +     1.0 02:R7             .44     .022 No_date    3:33   27.99  n/a     .000
04916>                    SUM=    1.0 01:J7             1.53     .084 No_date    3:30   28.32  n/a     .000
04917> R1996:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04918>     ROUTE CHANNEL   ->     1.0 02:J7             1.53     .084 No_date    3:30   28.32  n/a     .000
04919>       [RD= 1.00] out<-     1.0 01:R9             1.53     .084 No_date    3:31   28.32  n/a     .000
04920>       [L/S/n=   29./ .887/.035]
04921>       [Vmax=  .543:Dmax=  .057]
04922> R1996:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04923>     ADD HYD               1.0 02:EXT9           3.57     .177 No_date    3:36   32.07  n/a     .000
04924>                      +     1.0 02:R9             1.53     .084 No_date    3:31   28.39  n/a     .000
04925>                      +     1.0 02:EXT8            .83     .049 No_date    3:32   35.05  n/a     .000
04926>                      +     1.0 02:R5             7.24     .295 No_date    3:49   39.07  n/a     .000
04927>                    SUM=    1.0 01:J8            13.18     .579 No_date    3:40   35.68  n/a     .000
04928> R1996:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04929>     ROUTE PIPE      ->     1.0 02:J8            13.18     .579 No_date    3:40   35.68  n/a     .000
04930>   *   [RD= 1.00] out<-     1.0 01:Outlet        13.18     .579 No_date    3:40   35.68  n/a     .000
04931>       [L/S/n=     8./ .010/.013]
04932>       [Vmax=  .434:Dmax= 1.142]
04933>       [Din=  .53:Dused= 1.39)
04934> ###############################################################################
04935> # STORMS
04936> ###############################################################################
04937>  ** END OF RUN : 9998
04938>
04939> *******************************************************************************
04940>
04941>
04942>
04943>
04944>
04945>  RUN#:COMMAND#
04946> R9999:C00001------------------------------------------------------------------------------
04947>      START
04948>       [TZERO =    .00 hrs on       0]
04949>       [METOUT=   2    (1=imperial, 2=metric output)]
04950>       [NSTORM=   1 ]
04951>       [NRUN  = 9999 ]
04952> *******************************************************************************
04953> #  SWMM5MO  / INPUT DATA FILE
04954> *******************************************************************************
04955> #  Project Name  : [5923 Ottawa St]
04956> #  Project Number: [P2710(e01)]
04957> #  Date          : [2025 April 28]
04958> #  Modeller      : [MM]
04959> #  Company       : JFSA Canada Inc.
04960> #  LIcense #     : 2549237
04961> *******************************************************************************
04962> # Model developed to simulate runoff from subcatchments under post development conditions
04963> *******************************************************************************
04964> R9999:C00002------------------------------------------------------------------------------
04965>      READ STORM
04966>       Filename = STORM.001
04967>       Comment  = CHICAGO STORM   100 Year, 3 Hours  +20% Stress Test
04968>       [SDT=10.00:SDUR=   3.00:PTOT=  86.00]
04969> *******************************************************************************
04970> R9999:C00003------------------------------------------------------------------------------
04971>      DEFAULT VALUES
04972>       Filename = C:\Temp\20260327-PostDev\Ottawa.val
04973>       ICASEdv  = 1 (read and print data)
04974>       FileTitle= File comment: [Parameters for City of Ottawa Projects]
04975>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
04976>       Horton's infiltration equation parameters:
04977>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr]  [F=  .00 mm]
04978>       Parameters for PERVIOUS surfaces in STANDHYD:
04979>       [IAper=   4.67 mm]  [LGP=40.00 m]  [MNP= .250]
04980>       Parameters for IMPERVIOUS surfaces in STANDHYD:
04981>       [IAimp=   1.57 mm]  [CLI= 1.50]   [MNI= .013]
04982>       Parameters used in NASHYD:
04983>       [Ia=   4.67 mm]  [N= 3.00]
04984>       Average monthly Pan Evaporation data in    (mm)
04985>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
04986>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
04987>       Average monthly Potential Evapotranspiration in    (mm)
04988>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
04989>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
04990> *******************************************************************************
04991> # EXT1
04992> *******************************************************************************
04993> R9999:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04994>     CALIB NASHYD          1.0 01:EXT1          3.21     .224 No_date    1:51   45.67 .531    .000
04995>       [CN= 80.0: N= 3.00: Tp=  .72]
04996> *******************************************************************************
04997> # EXT2
04998> *******************************************************************************
04999> R9999:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05000>     CALIB NASHYD          1.0 01:EXT2            .28     .041 No_date    1:21   52.43 .610    .000
05001>       [CN= 85.0: N= 3.00: Tp=  .33]
05002> *******************************************************************************
05003> # EXT3
05004> *******************************************************************************
05005> R9999:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05006>     CALIB NASHYD          1.0 01:EXT3            .56     .070 No_date    1:21   45.67 .531    .000
05007>       [CN= 80.0: N= 3.00: Tp=  .32]
05008> *******************************************************************************
05009> # EXT4
05010> *******************************************************************************
05011> R9999:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05012>     CALIB NASHYD          1.0 01:EXT4            .31     .040 No_date    1:19   44.44 .517    .000
05013>       [CN= 79.0: N= 3.00: Tp=  .29]
05014> *******************************************************************************
05015> # EXT5
05016> *******************************************************************************
05017> R9999:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05018>     CALIB NASHYD          1.0 01:EXT5            .59     .052 No_date    1:31   40.94 .476    .000
05019>       [CN= 76.0: N= 3.00: Tp=  .45]
05020> *******************************************************************************
05021> # EXT6
05022> *******************************************************************************
05023> R9999:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05024>     CALIB NASHYD          1.0 01:EXT6            .86     .085 No_date    1:38   52.43 .610    .000
05025>       [CN= 85.0: N= 3.00: Tp=  .56]
05026> *******************************************************************************
05027> # EXT7
05028> *******************************************************************************
05029> R9999:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05030>     CALIB NASHYD          1.0 01:EXT7            .47     .064 No_date    1:21   49.60 .577    .000
05031>       [CN= 83.0: N= 3.00: Tp=  .32]
05032> *******************************************************************************
05033> # EXT8
05034> *******************************************************************************
05035> R9999:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05036>     CALIB NASHYD          1.0 01:EXT8            .83     .083 No_date    1:29   44.44 .517    .000
05037>       [CN= 79.0: N= 3.00: Tp=  .42]
05038> *******************************************************************************
05039> # EXT9
05040> *******************************************************************************
```

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R9999:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 01:EXT9           3.57     .297 No_date    1:34   40.95 .476     .000
      [CN= 76.0: N= 3.00: Tp=  .48]
#*****************************************************************************************************
# EXT9a
#*****************************************************************************************************
R9999:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 01:EXT9a           .01     .004 No_date    1:00   43.23 .503     .000
      [CN= 78.0: N= 3.00: Tp=  .04]
#*****************************************************************************************************
# EXT10
#*****************************************************************************************************
R9999:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 01:EXT10           .20     .016 No_date    1:29   35.74 .416     .000
      [CN= 71.0: N= 3.00: Tp=  .42]
#*****************************************************************************************************
# Pre2_1
#*****************************************************************************************************
R9999:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD        1.0 01:Pre2_1          .01     .004 No_date    1:00   36.72 .427     .000
      [CN= 72.0: N= 3.00: Tp=  .03]
#*****************************************************************************************************
# Pre2_2
#*****************************************************************************************************
R9999:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD        1.0 01:Pre2_2          .00     .001 No_date    1:00   43.22 .503     .000
      [CN= 78.0: N= 3.00: Tp=  .02]
#*****************************************************************************************************
# Pre9_1
#*****************************************************************************************************
R9999:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 01:Pre9_1          .44     .037 No_date    1:26   35.74 .416     .000
      [CN= 71.0: N= 3.00: Tp=  .38]
#*****************************************************************************************************
# Pre9_2
#*****************************************************************************************************
R9999:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD        1.0 01:Pre9_2          .01     .004 No_date    1:00   39.84 .463     .000
      [CN= 75.0: N= 3.00: Tp=  .03]
#*****************************************************************************************************
# Pre10_1
#*****************************************************************************************************
R9999:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 01:Pre10_1         .80     .080 No_date    1:19   35.74 .416     .000
      [CN= 71.0: N= 3.00: Tp=  .29]
#*****************************************************************************************************
# Pre11_1
#*****************************************************************************************************
R9999:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 01:Pre11_1         .07     .010 No_date    1:13   43.23 .503     .000
      [CN= 78.0: N= 3.00: Tp=  .21]
#*****************************************************************************************************
# Site 1
#*****************************************************************************************************
R9999:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD     1.0 01:S1-B1           .42     .163 No_date    1:00   59.13 .688     .000
      [XIMP=.34:TIMP=.44]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
#*****************************************************************************************************
# Site 1 - Roof
#*****************************************************************************************************
R9999:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD     1.0 01:S1-Roof         .06     .038 No_date    1:00   83.99 .977     .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
R9999:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->  1.0 02:S1-Roof         .06     .038 No_date    1:00   83.99  n/a     .000
                out <=  1.0 01:S1-Roof-Ou      .06     .008 No_date    1:00   83.99  n/a     .000
           overflow <=  1.0 03:S1-Roof-Ov      .01     .031 No_date    1:00   83.99  n/a     .000
     {MxStoUsed=.2438E-02  m3, TotOvfVol=.5393E-03  m3, N-Ovf=    2, TotDurOvf=    0.hrs}
R9999:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 02:S1-B1           .42     .163 No_date    1:00   59.13  n/a     .000
                  +     1.0 02:S1-Roof-Ou      .06     .008 No_date    1:00   83.99  n/a     .000
                  +     1.0 02:S1-Roof-Ov      .01     .031 No_date    1:00   83.99  n/a     .000
                SUM=    1.0 01:SITE1-IN        .48     .202 No_date    1:00   62.48  n/a     .000
R9999:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->  1.0 02:SITE1-IN        .48     .202 No_date    1:00   62.48  n/a     .000
                out <=  1.0 01:SITE1-Out       .48     .016 No_date    1:46   62.48  n/a     .000
           overflow <=  1.0 03:SITE1-Over      .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2164E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#*****************************************************************************************************
# Site 2
#*****************************************************************************************************
R9999:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD     1.0 01:S2-B3           .36     .136 No_date    1:00   57.84 .673     .000
      [XIMP=.31:TIMP=.41]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
#*****************************************************************************************************
# Site 2 - Roof
#*****************************************************************************************************
R9999:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD     1.0 01:S2-Roof         .09     .055 No_date    1:00   83.99 .977     .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
#*****************************************************************************************************
R9999:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->  1.0 02:S2-Roof         .09     .055 No_date    1:00   83.99  n/a     .000
                out <=  1.0 01:S2-Roof-Ou      .08     .011 No_date    1:00   83.99  n/a     .000
           overflow <=  1.0 03:S2-Roof-Ov      .01     .044 No_date    1:00   83.99  n/a     .000
     {MxStoUsed=.3461E-02  m3, TotOvfVol=.7281E-03  m3, N-Ovf=    3, TotDurOvf=    0.hrs}
R9999:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 02:S2-B3           .36     .136 No_date    1:00   57.84  n/a     .000
                  +     1.0 02:S2-Roof-Ou      .08     .011 No_date    1:00   83.99  n/a     .000
                  +     1.0 02:S2-Roof-Ov      .01     .044 No_date    1:00   83.99  n/a     .000
                SUM=    1.0 01:SITE2-IN        .45     .191 No_date    1:00   63.24  n/a     .000
R9999:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->  1.0 02:SITE2-IN        .45     .191 No_date    1:00   63.24  n/a     .000
                out <=  1.0 01:SITE2-Out       .45     .016 No_date    1:48   63.24  n/a     .000
           overflow <=  1.0 03:SITE2-Over      .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1938E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R9999:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 02:SITE1-Out       .48     .016 No_date    1:46   62.48  n/a     .000
                  +     1.0 02:SITE1-Over      .00     .000 No_date    0:00     .00  n/a     .000
                SUM=    1.0 01:Site1           .48     .016 No_date    1:46   62.48  n/a     .000
R9999:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 02:SITE2-Out       .45     .016 No_date    1:48   63.24  n/a     .000
                  +     1.0 02:SITE2-Over      .00     .000 No_date    0:00     .00  n/a     .000
                SUM=    1.0 01:Site2           .45     .016 No_date    1:48   63.24  n/a     .000
R9999:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 02:EXT2            .28     .041 No_date    1:21   52.43  n/a     .000
                  +     1.0 02:Pre2_1          .01     .004 No_date    1:00   36.72  n/a     .000
                  +     1.0 02:Site1           .48     .016 No_date    1:46   62.48  n/a     .000
                  +     1.0 02:Site2           .45     .016 No_date    1:48   63.24  n/a     .000
                SUM=    1.0 01:J1             1.23     .065 No_date    1:28   60.16  n/a     .000
R9999:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->  1.0 02:J1             1.23     .065 No_date    1:28   60.16  n/a     .000
     [RDT= 1.00] out<-  1.0 01:R1             1.23     .064 No_date    1:33   60.16  n/a     .000
      [L/S/n=  143./ .394/.035]
      {Vmax=  .373:Dmax=  .161}
R9999:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 02:R1             1.23     .064 No_date    1:33   60.16  n/a     .000
                  +     1.0 02:EXT3            .56     .070 No_date    1:21   45.67  n/a     .000
                  +     1.0 02:EXT1           3.21     .224 No_date    1:51   45.67  n/a     .000
                SUM=    1.0 01:J2             5.00     .326 No_date    1:41   49.23  n/a     .000
R9999:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->  1.0 02:J2             5.00     .326 No_date    1:41   49.23  n/a     .000
     [RDT= 1.00] out<-  1.0 01:R2             5.00     .326 No_date    1:43   49.23  n/a     .000
      [L/S/n=   73./ .425/.035]
      {Vmax=  .560:Dmax=  .312}
R9999:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 02:R2             5.00     .326 No_date    1:43   49.23  n/a     .000
                  +     1.0 02:EXT4            .31     .040 No_date    1:19   44.44  n/a     .000
                SUM=    1.0 01:J3             5.31     .350 No_date    1:39   48.95  n/a     .000
R9999:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->  1.0 02:J3             5.31     .350 No_date    1:39   48.95  n/a     .000
     [RDT= 1.00] out<-  1.0 01:R3             5.31     .349 No_date    1:42   48.95  n/a     .000
      [L/S/n=   92./ .274/.035]
      {Vmax=  .458:Dmax=  .322}
R9999:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 02:R3             5.31     .349 No_date    1:42   48.95  n/a     .000
                  +     1.0 02:EXT5            .59     .052 No_date    1:31   40.94  n/a     .000
                SUM=    1.0 01:J4             5.90     .397 No_date    1:41   48.15  n/a     .000
R9999:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->  1.0 02:J4             5.90     .397 No_date    1:41   48.15  n/a     .000
     [RDT= 1.00] out<-  1.0 01:R4             5.90     .380 No_date    1:50   48.15  n/a     .000
      [L/S/n=  251./ .190/.035]
      {Vmax=  .456:Dmax=  .371}
R9999:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 02:R4             5.90     .380 No_date    1:50   48.15  n/a     .000
                  +     1.0 02:EXT6            .86     .085 No_date    1:38   52.43  n/a     .000
                  +     1.0 02:EXT7            .47     .064 No_date    1:21   49.60  n/a     .000
                SUM=    1.0 01:J5             7.24     .499 No_date    1:44   48.75  n/a     .000
R9999:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->  1.0 02:J5             7.24     .499 No_date    1:44   48.75  n/a     .000
     [RDT= 1.00] out<-  1.0 01:R5             7.24     .494 No_date    1:49   48.75  n/a     .000
      [L/S/n=  237./ .644/.035]
      {Vmax=  .748:Dmax=  .342}
R9999:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 02:Pre10_1         .80     .080 No_date    1:19   35.74  n/a     .000
                  +     1.0 02:Pre9_2          .01     .004 No_date    1:00   39.84  n/a     .000
                  +     1.0 02:Pre2_2          .00     .001 No_date    1:00   43.22  n/a     .000
                SUM=    1.0 01:Pre             .81     .081 No_date    1:19   35.83  n/a     .000
R9999:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->  1.0 02:Pre             .81     .081 No_date    1:19   35.83  n/a     .000
     [RDT= 1.00] out<-  1.0 01:R6              .81     .080 No_date    1:22   35.83  n/a     .000
      [L/S/n=   77./ .776/.035]
      {Vmax=  .492:Dmax=  .059}
R9999:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->  1.0 02:Pre9_1          .44     .037 No_date    1:26   35.74  n/a     .000
     [RDT= 1.00] out<-  1.0 01:R7              .44     .036 No_date    1:30   35.74  n/a     .000
      [L/S/n=  159./1.576/.035]
      {Vmax=  .797:Dmax=  .011}
R9999:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 02:R6              .81     .080 No_date    1:22   36.20  n/a     .000
                  +     1.0 02:EXT10           .20     .016 No_date    1:29   35.74  n/a     .000
                  +     1.0 02:Pre11_1         .07     .010 No_date    1:13   43.23  n/a     .000
                  +     1.0 02:EXT9a           .01     .004 No_date    1:00   43.23  n/a     .000
                SUM=    1.0 01:J6             1.10     .104 No_date    1:22   36.61  n/a     .000
R9999:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->  1.0 02:J6             1.10     .104 No_date    1:22   36.61  n/a     .000
     [RDT= 1.00] out<-  1.0 01:R8             1.10     .103 No_date    1:25   36.61  n/a     .000
      [L/S/n=   79./ .522/.035]
      {Vmax=  .423:Dmax=  .076}
R9999:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 02:R8             1.10     .103 No_date    1:25   36.80  n/a     .000
                  +     1.0 02:R7              .44     .036 No_date    1:30   36.23  n/a     .000
                SUM=    1.0 01:J7             1.53     .138 No_date    1:26   36.64  n/a     .000
R9999:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->  1.0 02:J7             1.53     .138 No_date    1:26   36.64  n/a     .000
     [RDT= 1.00] out<-  1.0 01:R9             1.53     .138 No_date    1:27   36.64  n/a     .000
      [L/S/n=   29./ .887/.035]
      {Vmax=  .543:Dmax=  .094}
R9999:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 02:EXT9           3.57     .297 No_date    1:34   40.95  n/a     .000
                  +     1.0 02:R9             1.53     .138 No_date    1:27   36.75  n/a     .000
                  +     1.0 02:EXT8            .83     .083 No_date    1:29   44.44  n/a     .000
                  +     1.0 02:R5             7.24     .494 No_date    1:49   48.75  n/a     .000
                SUM=    1.0 01:J8            13.18     .960 No_date    1:39   44.97  n/a     .000
R9999:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->  1.0 02:J8            13.18     .960 No_date    1:39   44.97  n/a     .000
 *   [RDT= 1.00] out<-  1.0 01:Outlet        13.18     .959 No_date    1:40   44.97  n/a     .000
      [L/S/n=    8./ .010/.013]
      {Vmax=  .492:Dmax= 1.381}
      [Din=  .53:Dused= 1.68}
################################################################################
# STORMS
################################################################################
R9999:C00002-----------------------------------------------------------------------------------------
    FINISH
-----------------------------------------------------------------------------------------------------
*****************************************************************************************************
     WARNINGS / ERRORS / NOTES
     -------------------------
R0002:C00015  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0002:C00016  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0002:C00018  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0002:C00051  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00015  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0005:C00016  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0005:C00018  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0005:C00051  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00015  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0010:C00016  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0010:C00018  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0010:C00051  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00015  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0025:C00016  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0025:C00018  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0025:C00051  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00015  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0050:C00016  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0050:C00018  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0050:C00051  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0099:C00015  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0099:C00016  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0099:C00018  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0099:C00051  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0102:C00015  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0102:C00016  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0102:C00018  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0102:C00051  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0105:C00015  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0105:C00016  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0105:C00018  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0105:C00051  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0110:C00015  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0110:C00016  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0110:C00018  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0110:C00051  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0125:C00015  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0125:C00016  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0125:C00018  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0125:C00051  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0150:C00015  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0150:C00016  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0150:C00018  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0150:C00051  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0199:C00015  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0199:C00016  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0199:C00018  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0199:C00051  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R1979:C00015  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R1979:C00016  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R1979:C00018  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R1979:C00051  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R1988:C00015  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R1988:C00016  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R1988:C00018  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R1988:C00051  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R1996:C00015  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R1996:C00016  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R1996:C00018  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R1996:C00051  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R9999:C00015  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R9999:C00016  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R9999:C00018  CALIB NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R9999:C00051  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
   Simulation ended on 2026-03-30     at 12:50:58
=====================================================================================================
```

Attachment C

Hydraulic Analysis

N

Legend

- Site Boundary
- Jock River Tributary
- Centerline
- HEC-RAS XS

SCALE: 1:3000

0 50 100 150 m

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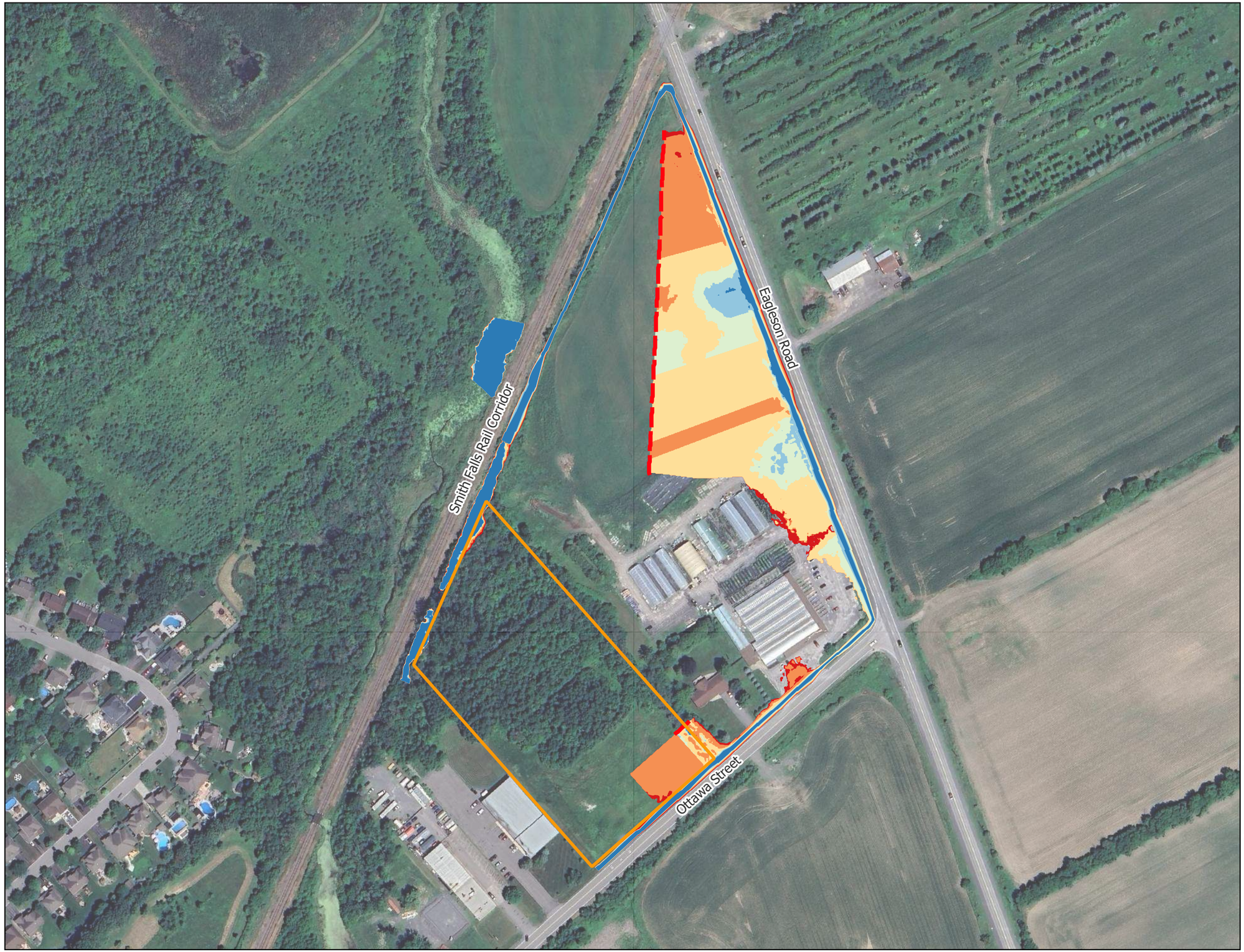
Figure C1: HEC-RAS Cross Sections

PROJECT	P2710(e01)
DRAWN	MM
DATE	10 Sept 2025

C:\Users\JonathonBurnett\J.F. Sabourin and Associates Inc\JFSA-OTTAWA-SERVER - Documents\PROJ\2710(e01)\Design\GIS\20250603-Attachments



N

Legend

- Site Boundary
- Spill Line
- 2YrSCS24Hr
- 5YrSCS24Hr
- 10YrSCS24Hr
- 25YrSCS24Hr
- 50YrSCS24Hr
- 100YrSCS24Hr

SCALE: 1:2500

0 50 100 m

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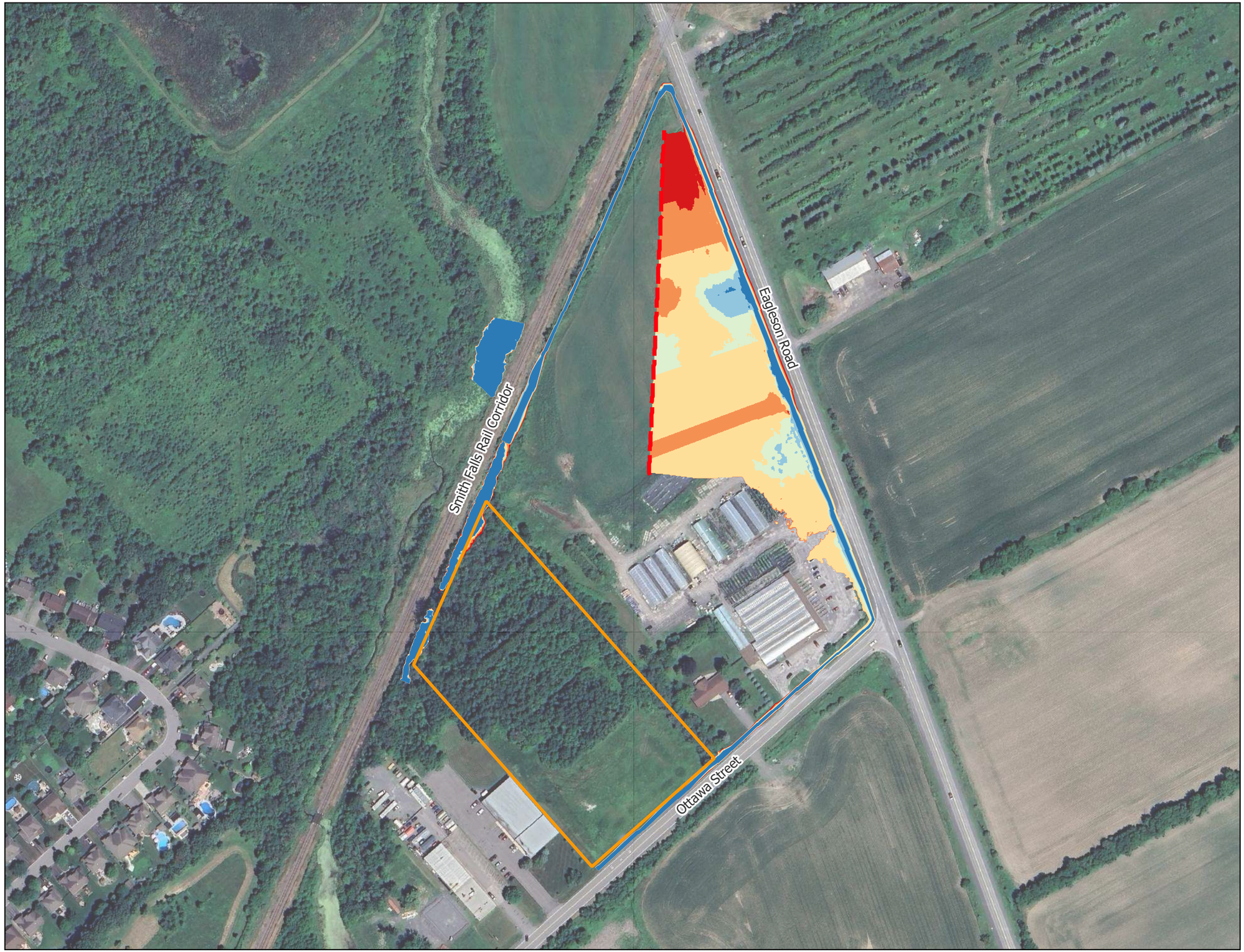
Figure C2: Pre-Development Flood Extents

PROJECT	P2719(e01)
DRAWN	BT
DATE	01 April 2026

C:\Users\JonathonBurnett\J.F. Sabourin and Associates Inc\JFSA-OTTAWA-SERVER - Documents\PROJ\2710(e01)\Design\GIS\20260401-Flood Extent Figures



N

Legend

- Site Boundary
- Spill Line
- 2YrSCS24Hr
- 5YrSCS24Hr
- 10YrSCS24Hr
- 25YrSCS24Hr
- 50YrSCS24Hr
- 100YrSCS24Hr

SCALE: 1:2500

0 50 100 m

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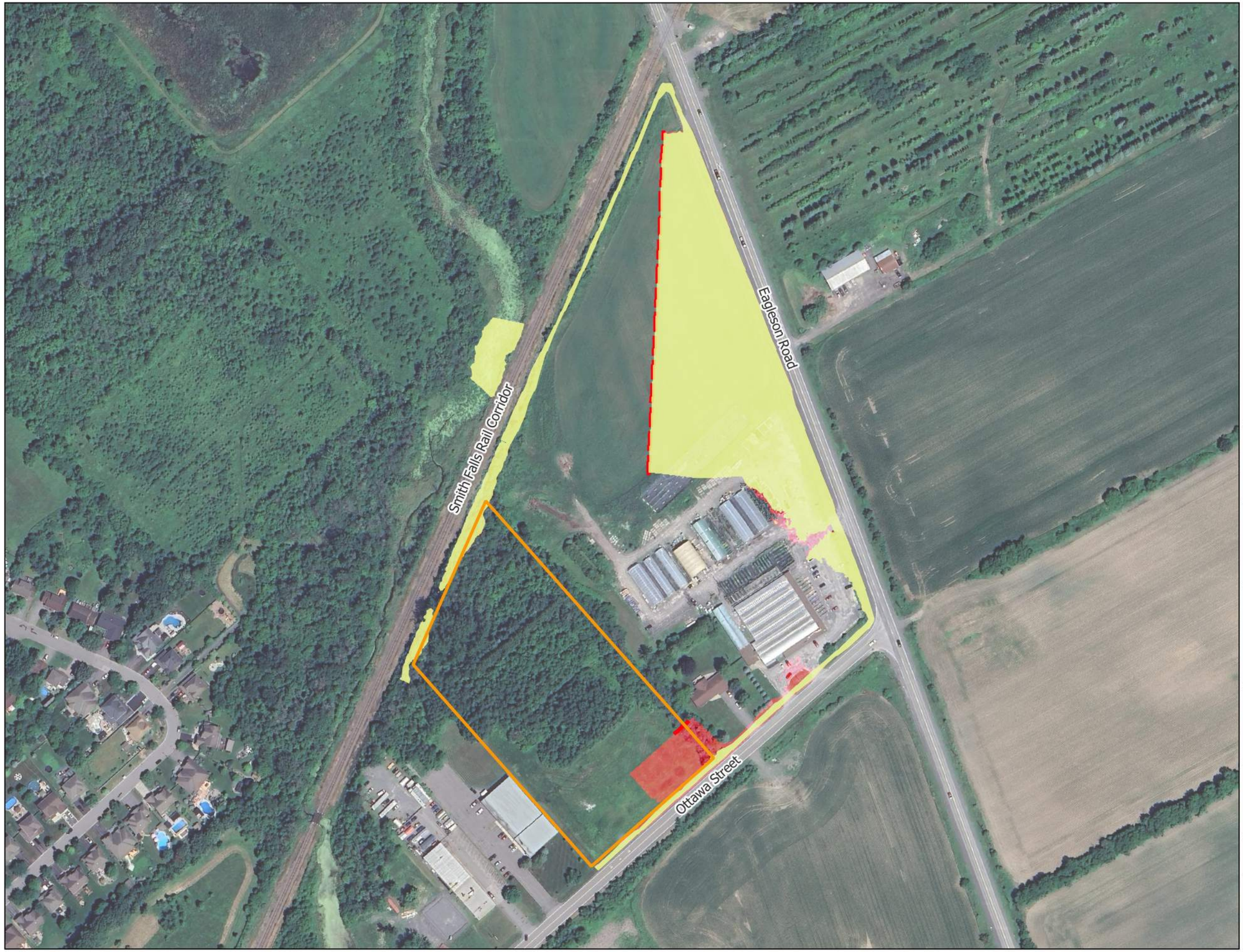
Figure C3: Post-Development Flood Extents

PROJECT	P2719(e01)
DRAWN	BT
DATE	01 April 2026

C:\Users\JonathonBurnett\J.F. Sabourin and Associates Inc\JFSA-OTTAWA-SERVER - Documents\PROJ\2710(e01)\Design\GIS\20260401-Flood Extent Figures



N

Legend

- Site Boundary
- Spill Line
- Pre Dev 100 Year
- Post Dev 100 Year

SCALE: 1:2500

0 50 100 m

JFSA CANADA INC.
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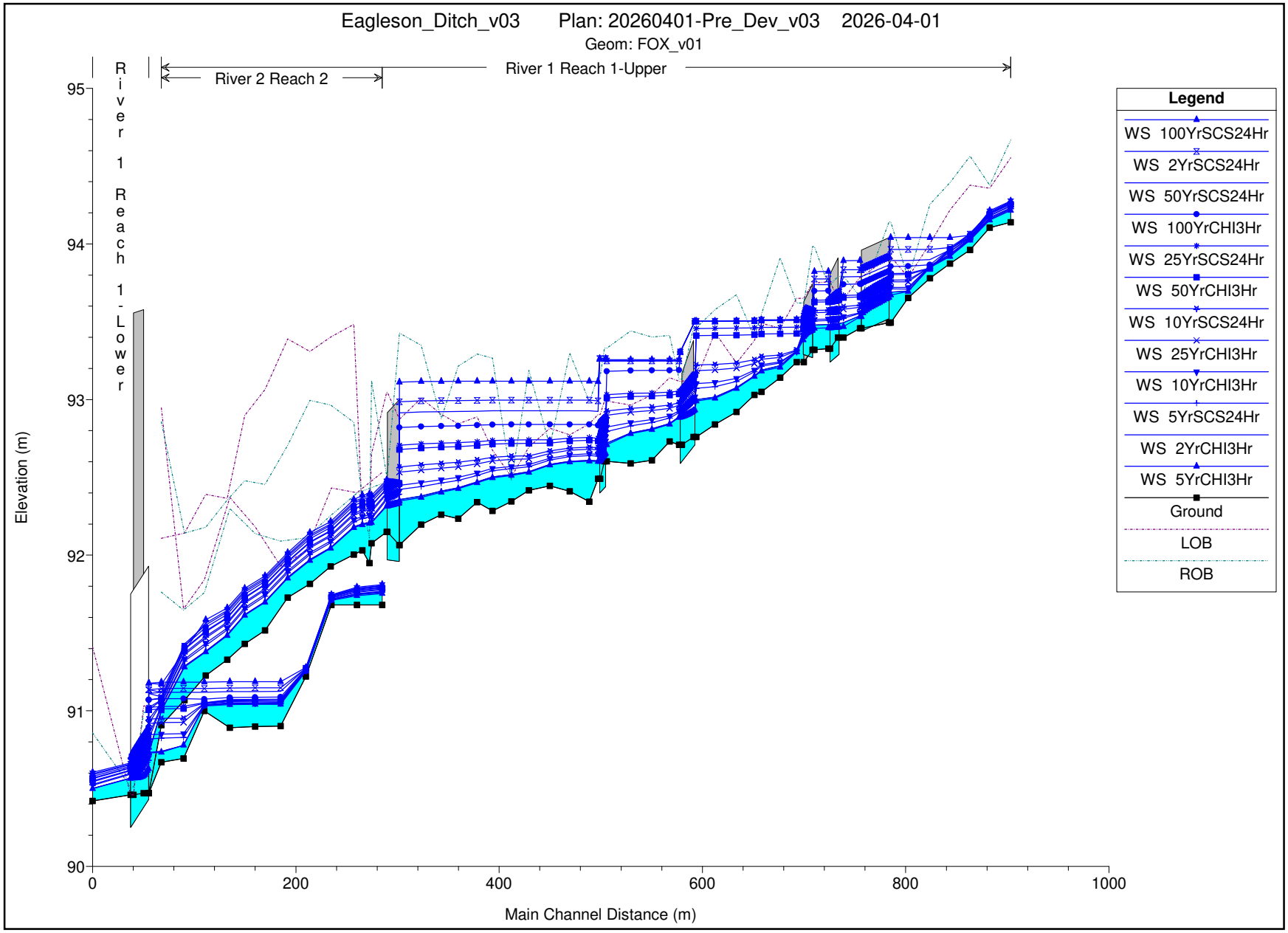
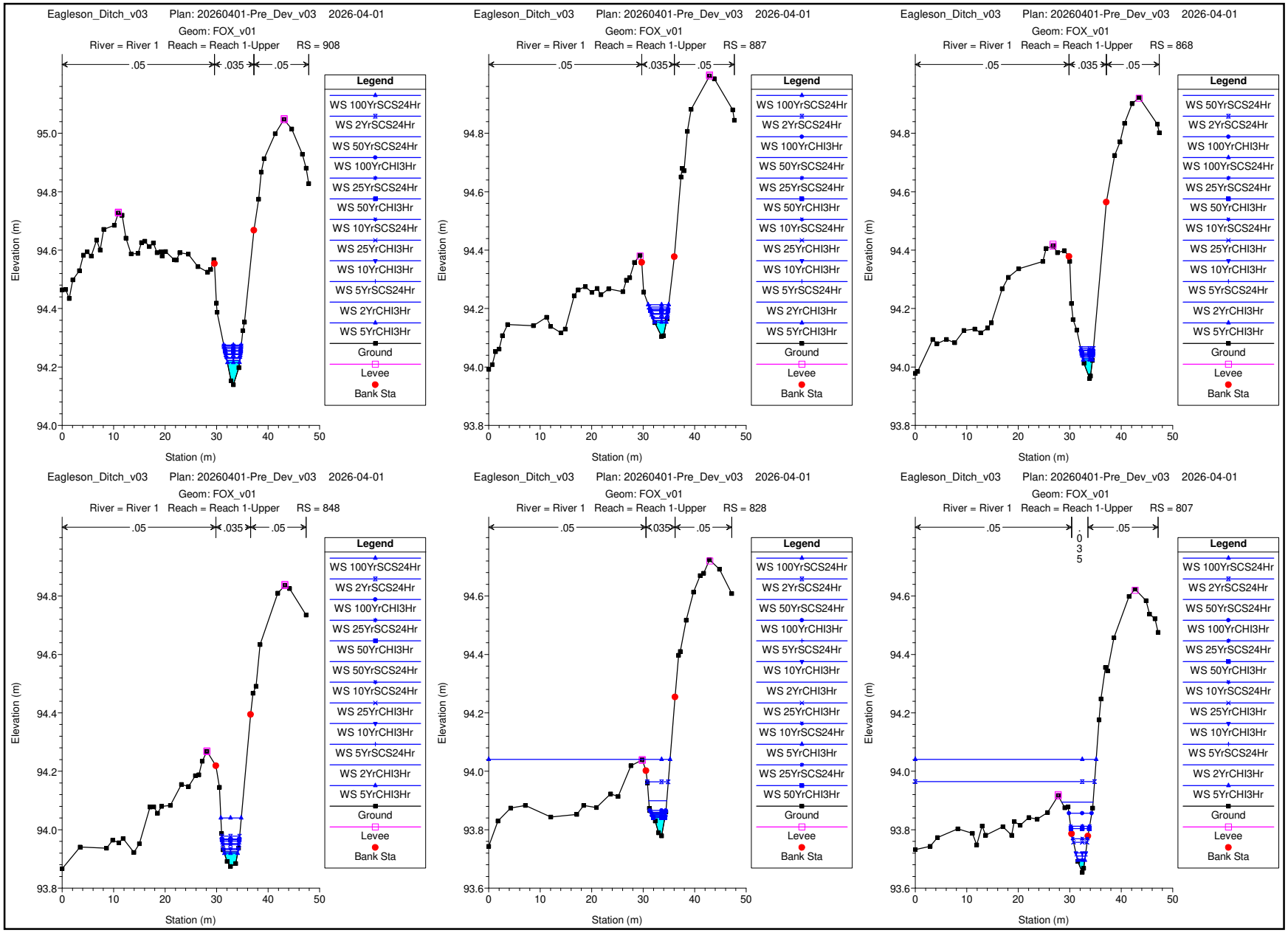
Figure C4: 100-yr Floodplain Extents Comparison

PROJECT	P2719(e01)
DRAWN	BT
DATE	10 Sept 2025

C:\Users\JonathonBurnett\J.F. Sabourin and Associates Inc\JFSA-OTTAWA-SERVER - Documents\PROJ\2710(e01)\Design\GIS\20260401-Flood Extent Figures


Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River 2 Reach 2
River 1 Reach 1-Upper
River 1 Reach 1-Lower
Elevation (m)
Main Channel Distance (m)
95
94
93
92
91
90
0
200
400
600
800
1000
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
LOB
ROB


Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 908
.05 .035 .05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 887
.05 .035 .05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 100YrCHI3Hr
WS 50YrSCS24Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 868
.05 .035 .05
Legend
WS 50YrSCS24Hr
WS 2YrSCS24Hr
WS 100YrCHI3Hr
WS 100YrSCS24Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 848
.05 .035 .05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 50YrSCS24Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 828
.05 .035 .05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 2YrCHI3Hr
WS 25YrCHI3Hr
WS 10YrSCS24Hr
WS 5YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
Ground
Levee
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 807
.05 .035 .05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
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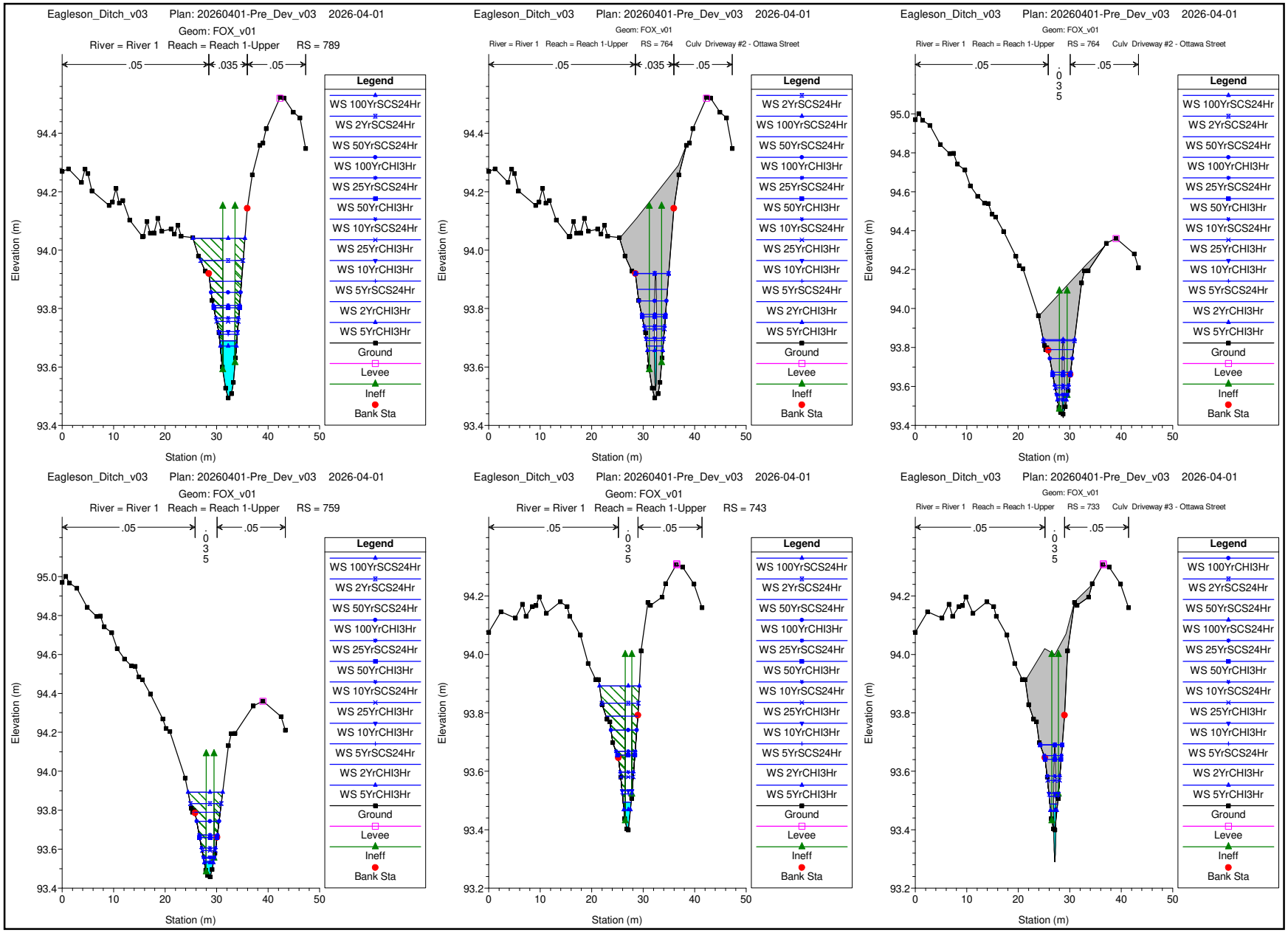
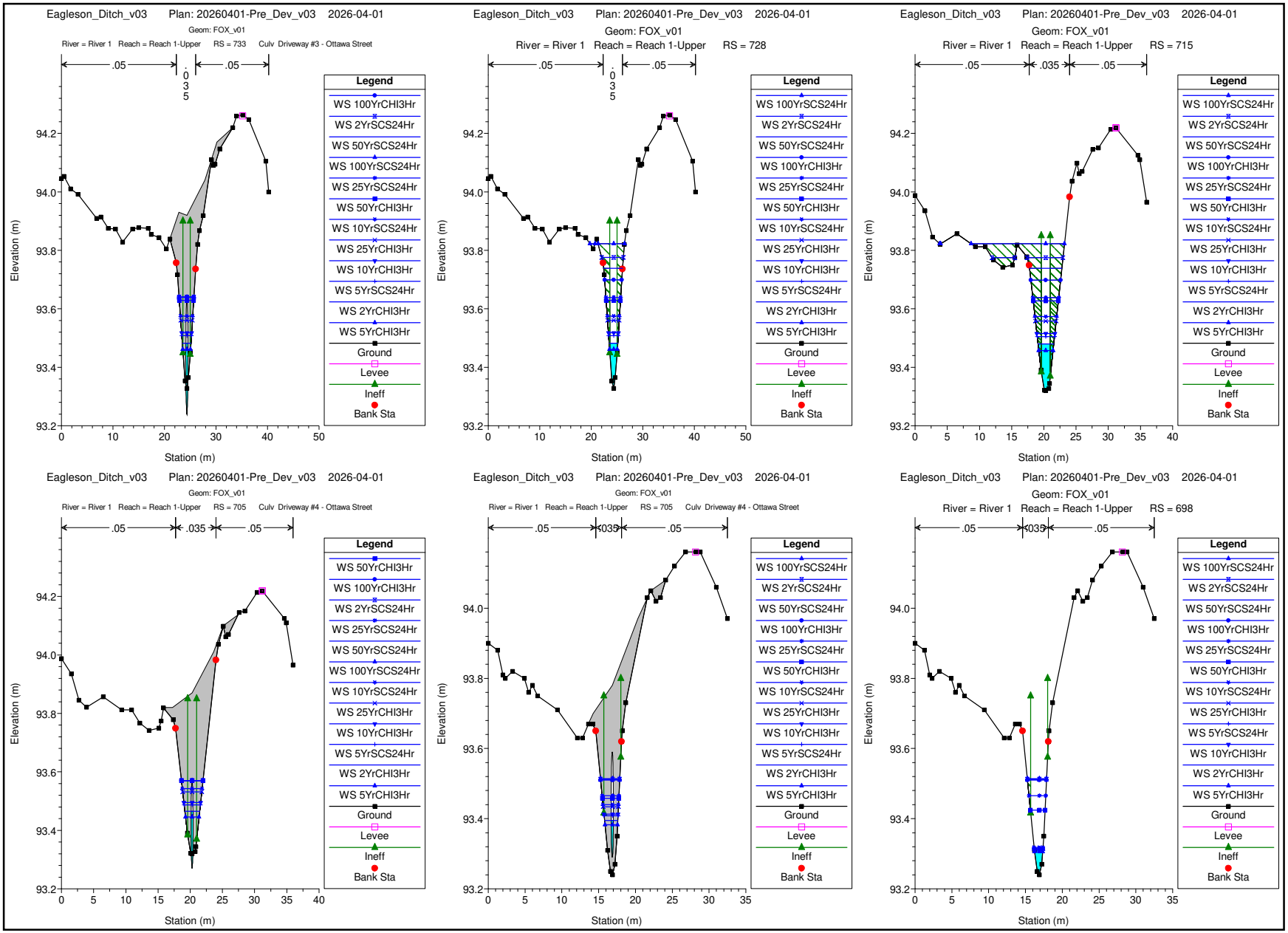
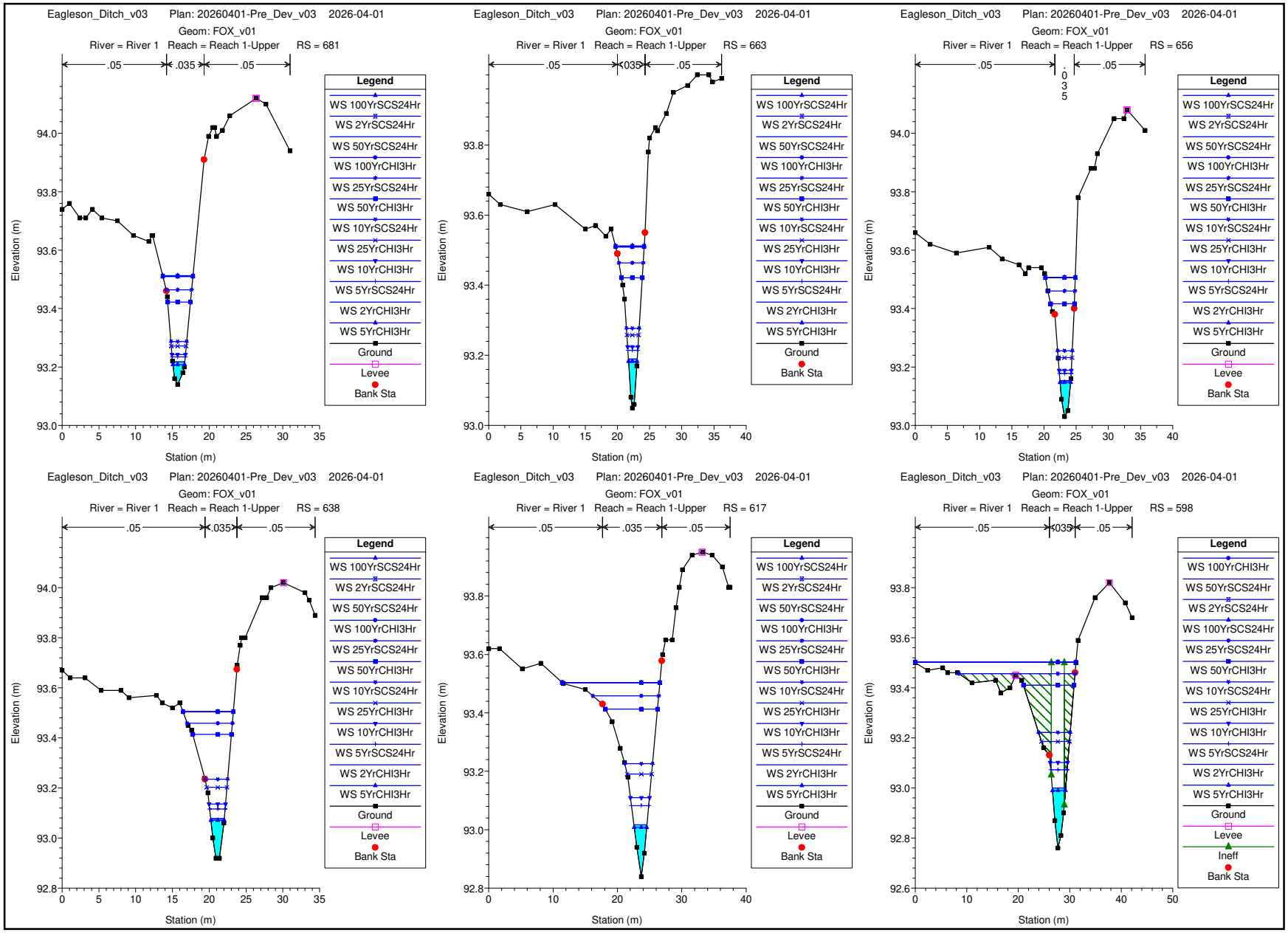
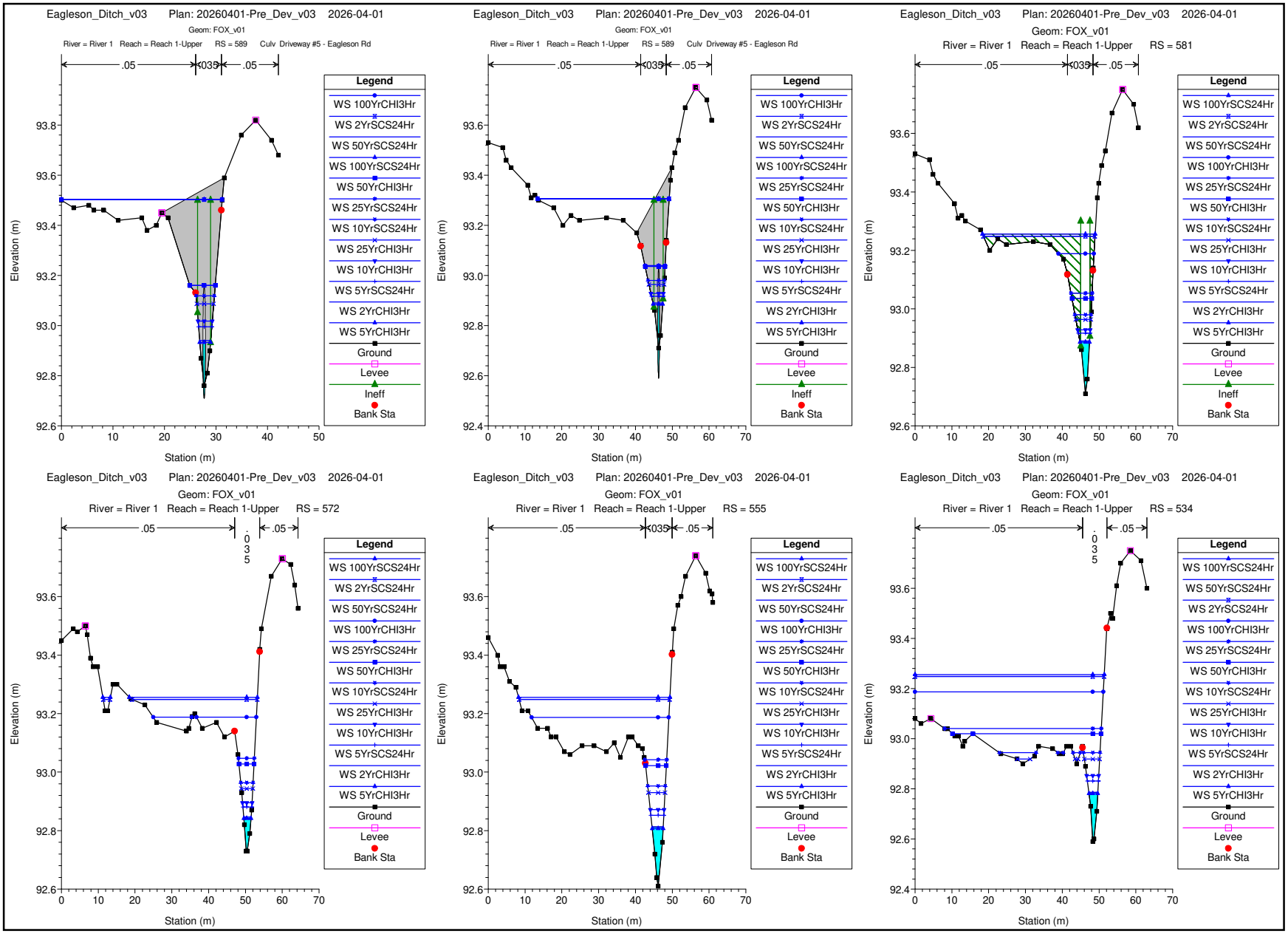
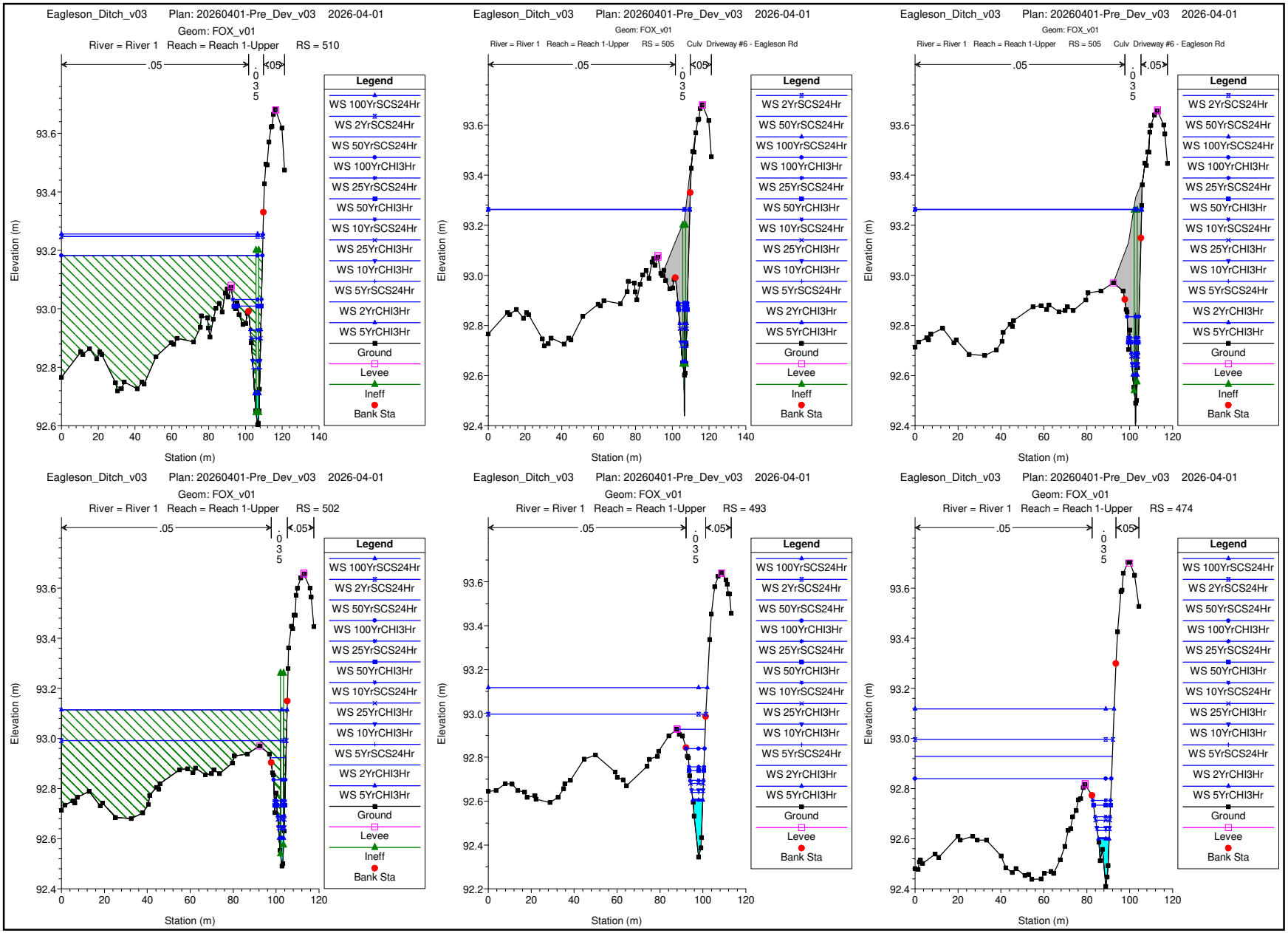
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Elevation (m)
Station (m)

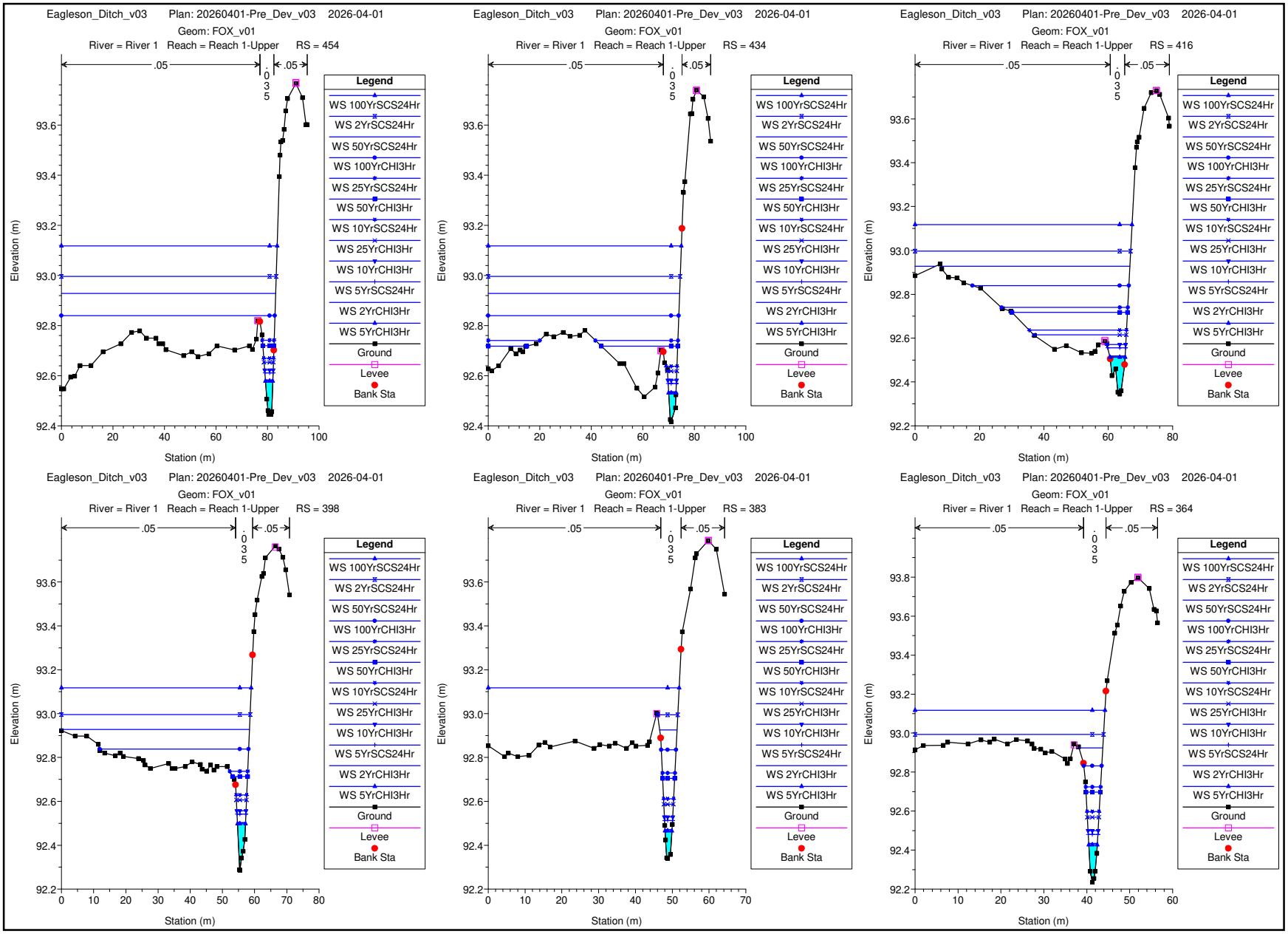

Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 789
.05 .035 .05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 764 Culv Driveway #2 - Ottawa Street
.05 .035 .05
Legend
WS 2YrSCS24Hr
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 764 Culv Driveway #2 - Ottawa Street
.05 .035 .05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 759
.05 .035 .05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 743
.05 .035 .05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 733 Culv Driveway #3 - Ottawa Street
.05 .035 .05
Legend
WS 100YrCHI3Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrSCS24Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)

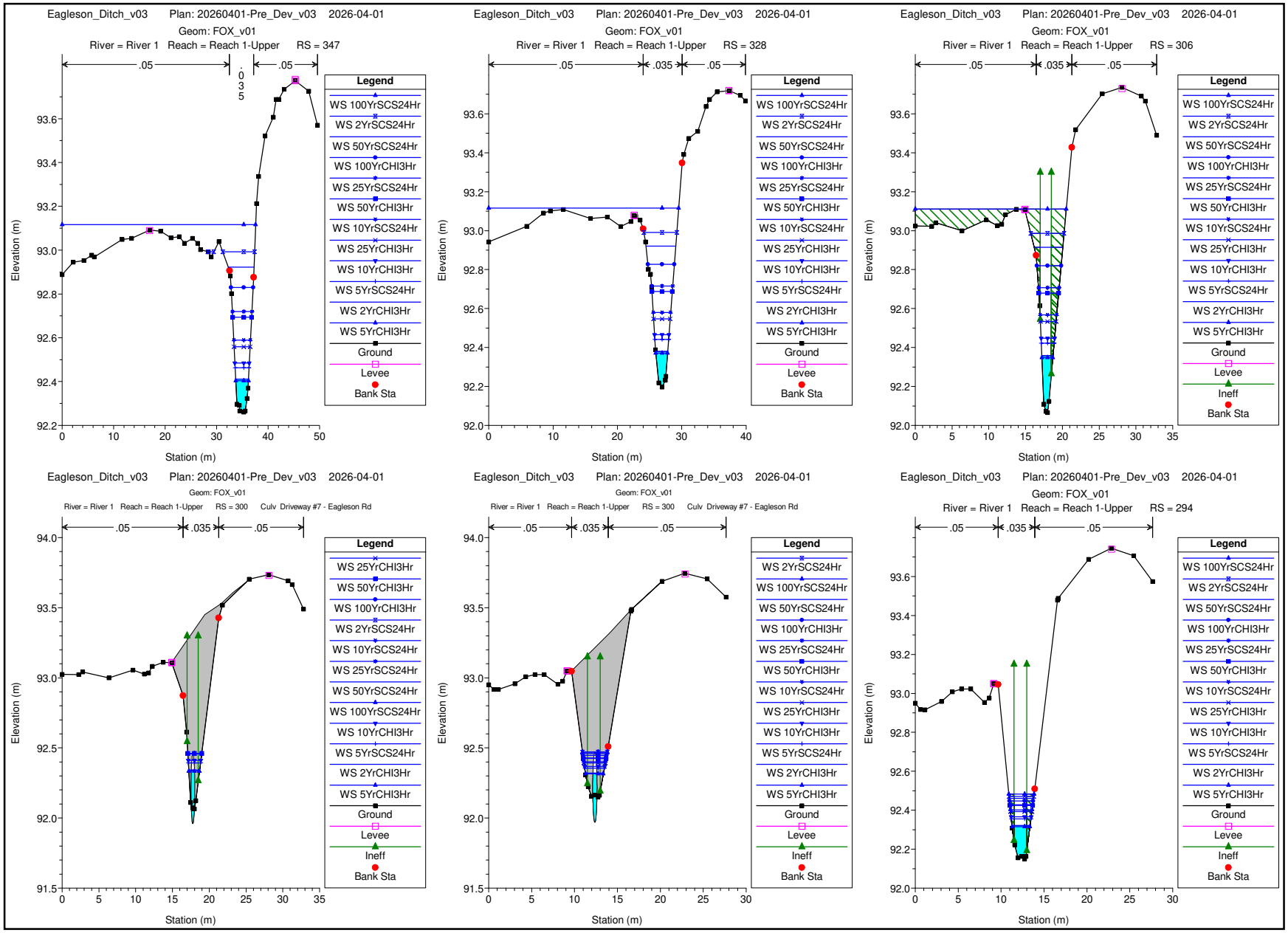

Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 733 Culv Driveway #3 - Ottawa Street
.05
.035
.05
Legend
WS 100YrCHI3Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrSCS24Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 728
.05
.035
.05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 715
.05
.035
.05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 705 Culv Driveway #4 - Ottawa Street
.05
.035
.05
Legend
WS 50YrCHI3Hr
WS 100YrCHI3Hr
WS 2YrSCS24Hr
WS 25YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrSCS24Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 705 Culv Driveway #4 - Ottawa Street
.05
.035
.05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 698
.05
.035
.05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)

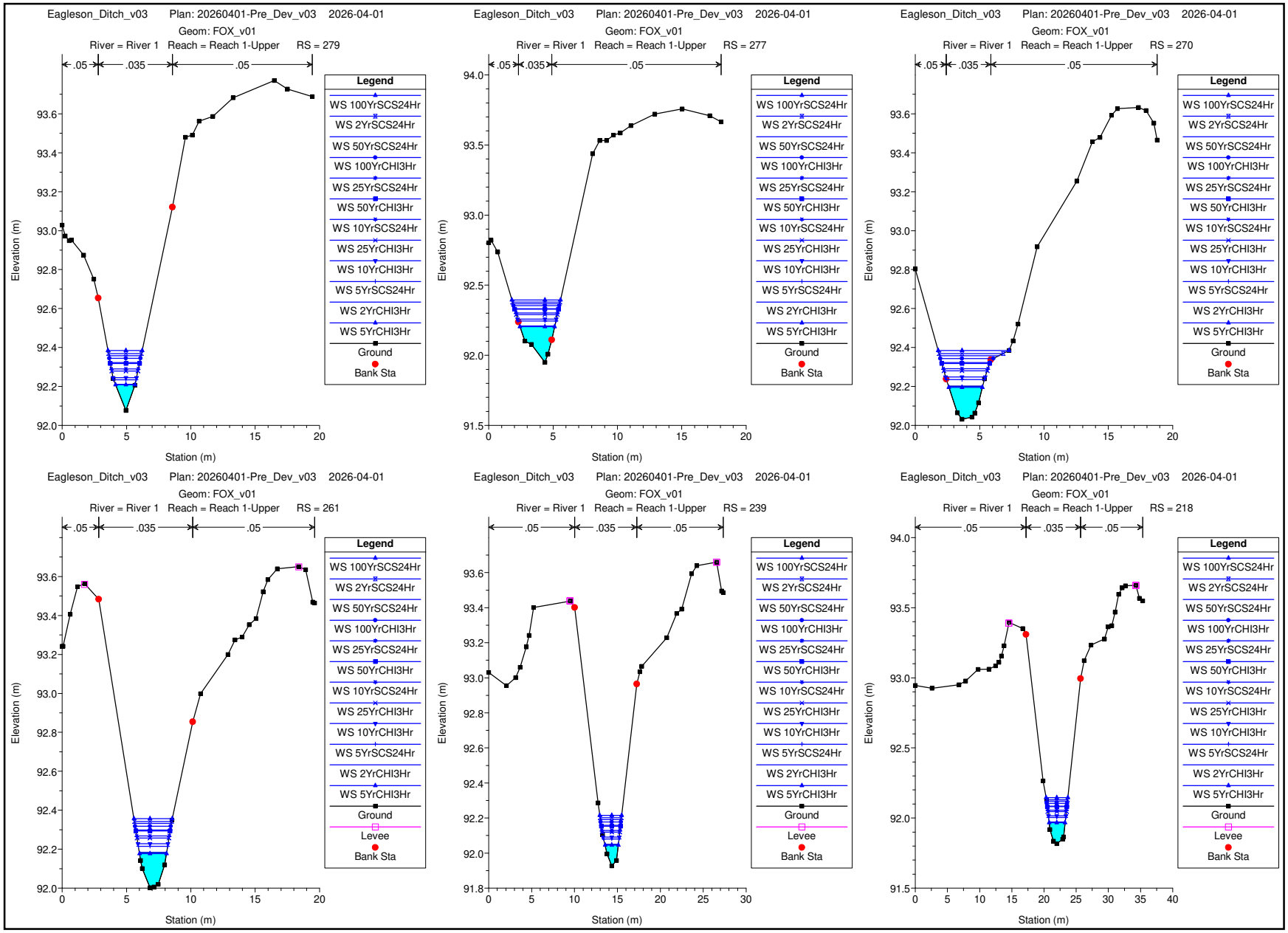

Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 681
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 663
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 656
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 638
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 617
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 598
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrCHI3Hr
WS 50YrSCS24Hr
WS 2YrSCS24Hr
WS 100YrSCS24Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta

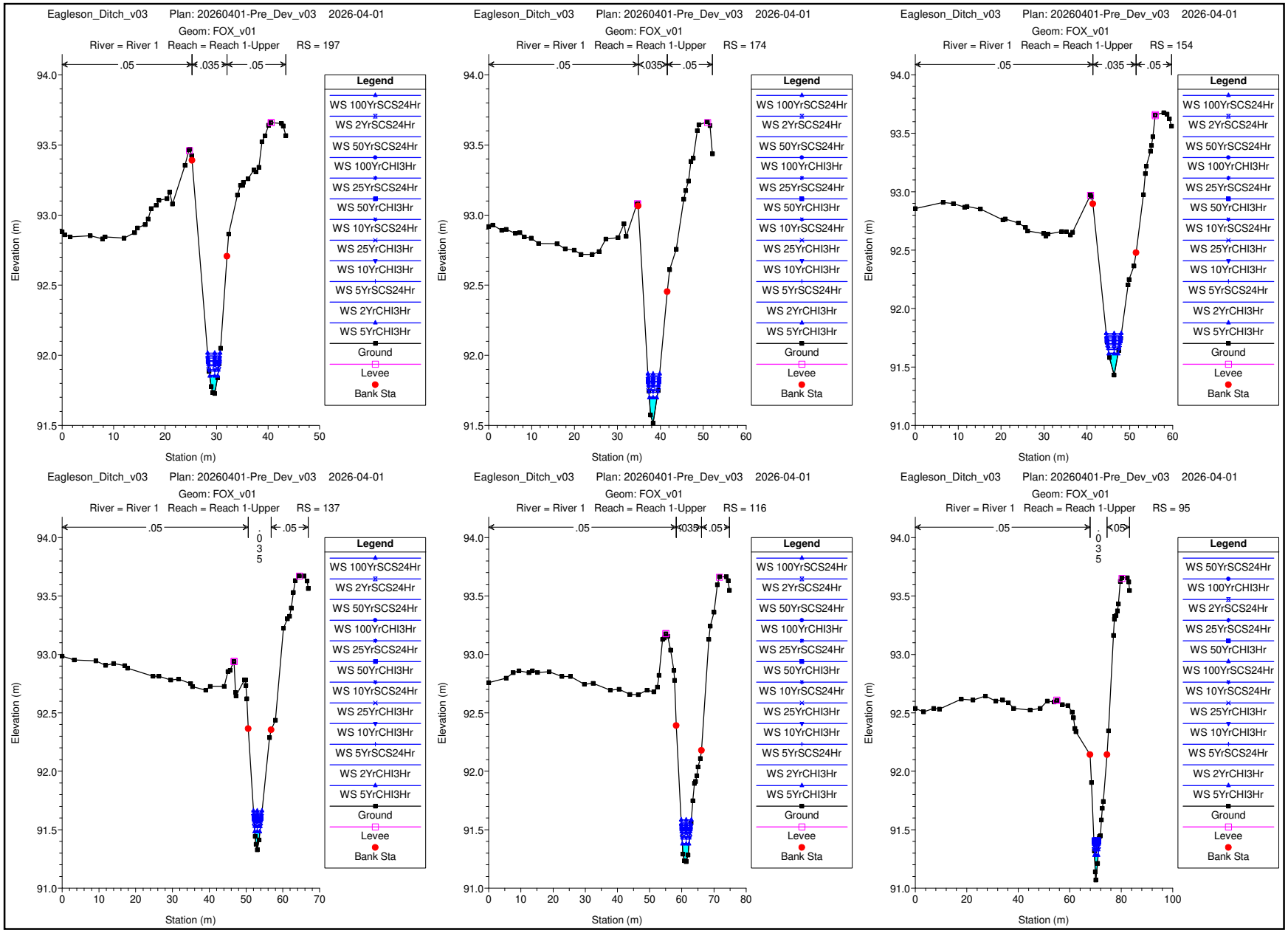

Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 589 Culv Driveway #5 - Eagleson Rd
.05
.039
.05
Legend
WS 100YrCHI3Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrSCS24Hr
WS 50YrCHI3Hr
WS 25YrSCS24Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 589 Culv Driveway #5 - Eagleson Rd
.05
.039
.05
Legend
WS 100YrCHI3Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrSCS24Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 581
.05
.039
.05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 572
.05
.035
.05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 555
.05
.039
.05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 534
.05
.035
.05
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 2YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Elevation (m)
Station (m)

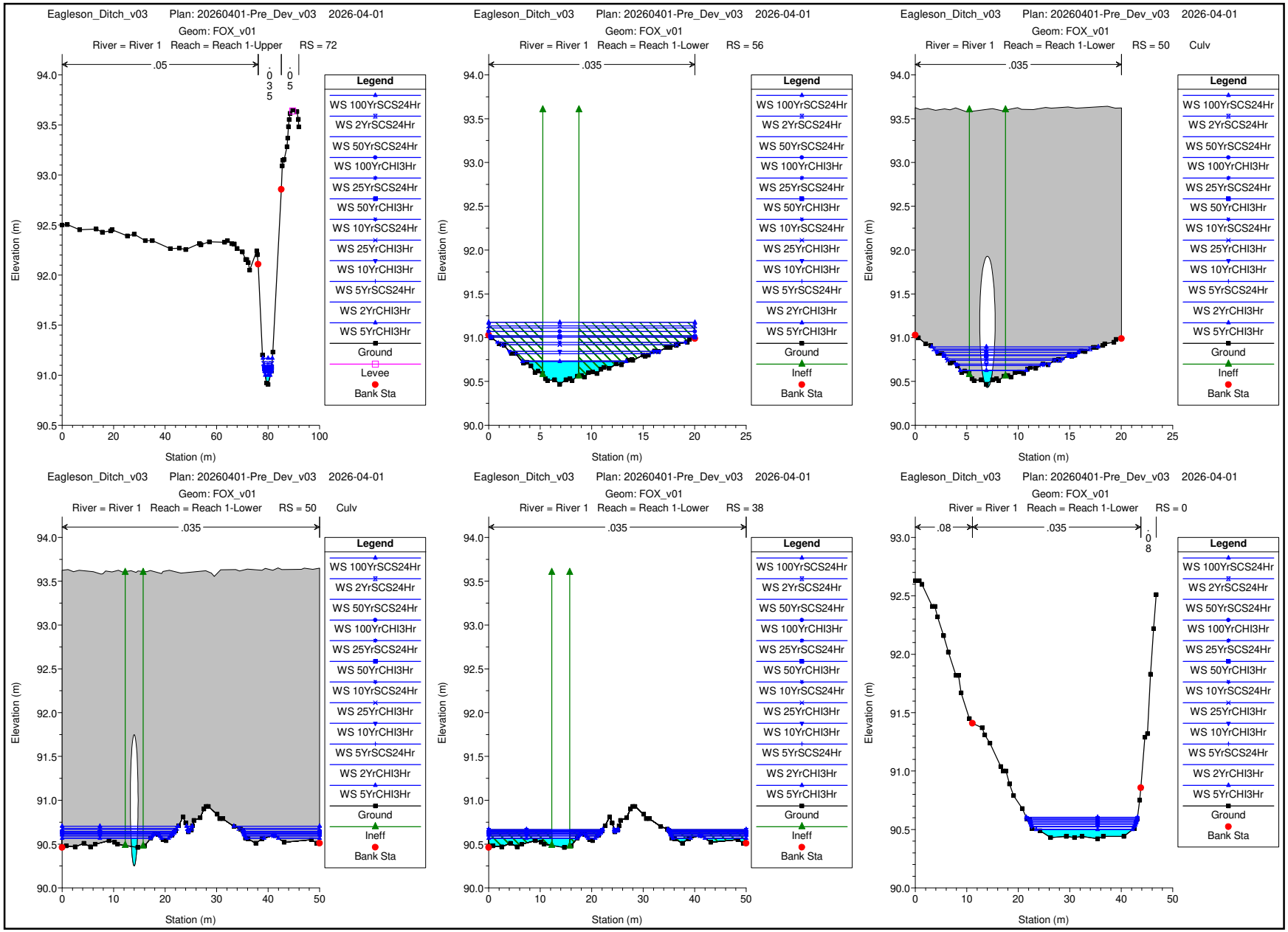

Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 510
River = River 1 Reach = Reach 1-Upper RS = 505 Culv Driveway #6 - Eagleson Rd
River = River 1 Reach = Reach 1-Upper RS = 502
River = River 1 Reach = Reach 1-Upper RS = 493
River = River 1 Reach = Reach 1-Upper RS = 474
.05
.035
.05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta

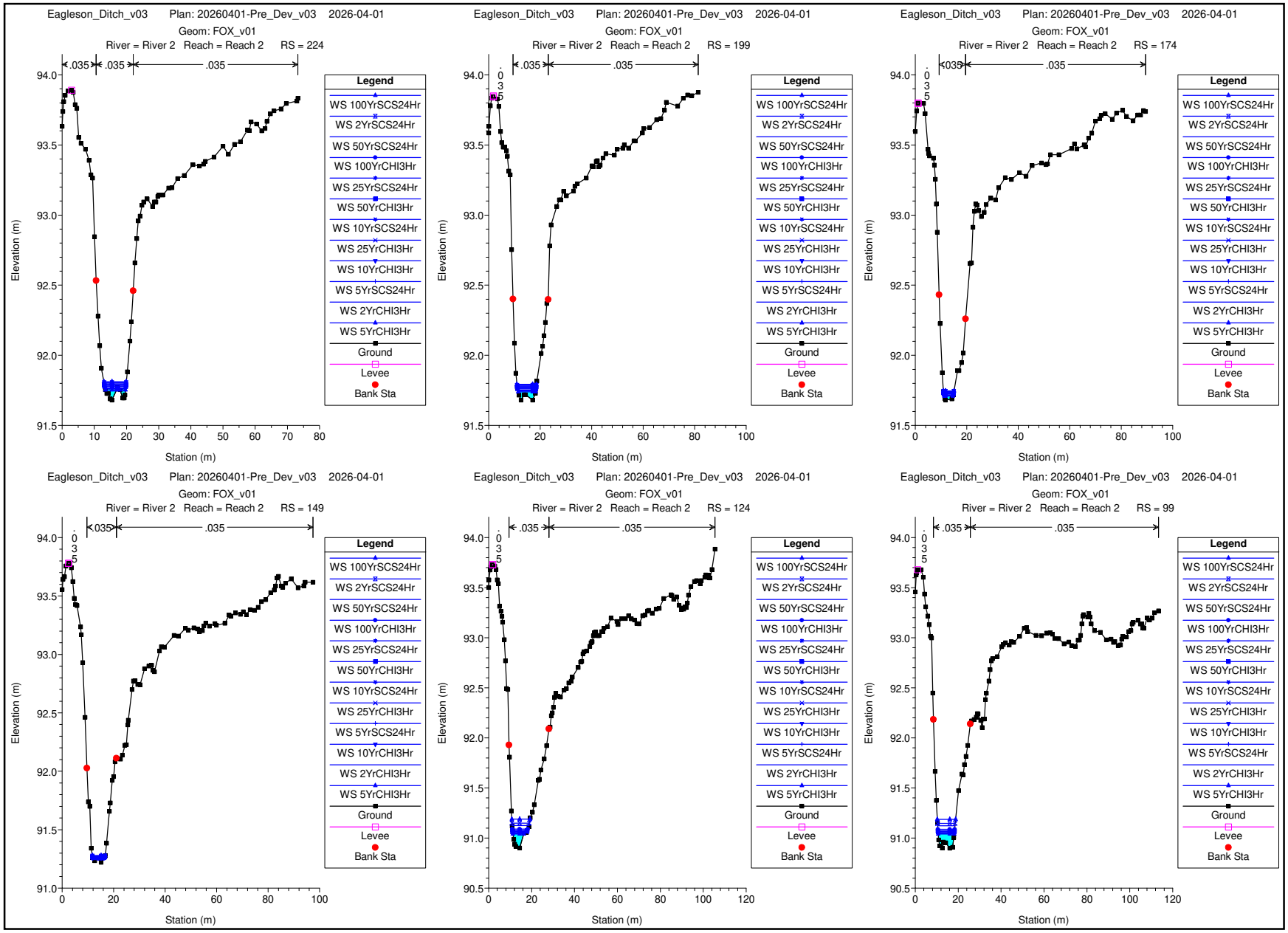

Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 454
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 434
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 416
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 398
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 383
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 364
.05
.035
.05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta

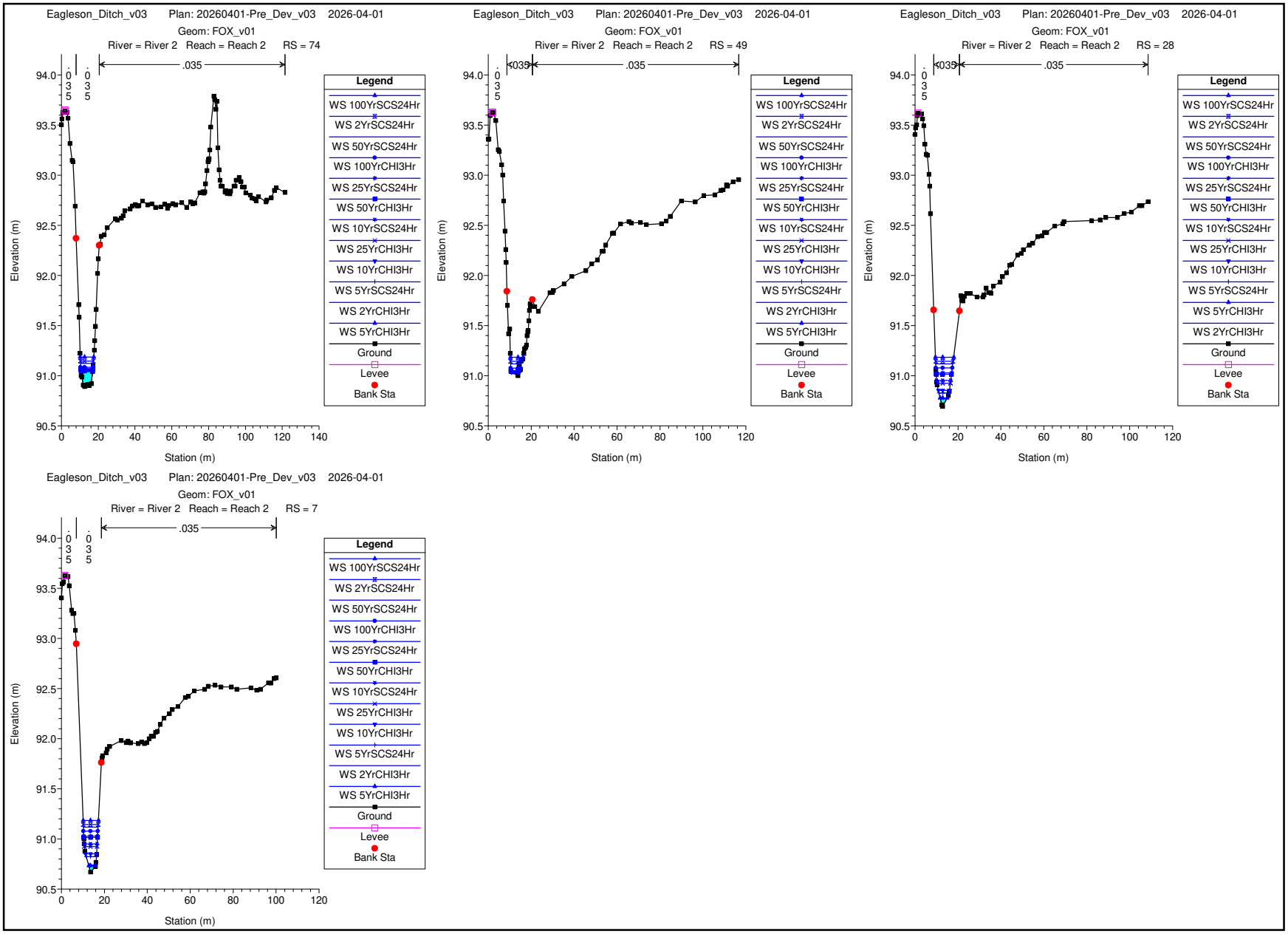

Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 347
.05
.035
.05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 328
.05
.035
.05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 306
.05
.035
.05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 300 Culv Driveway #7 - Eagleson Rd
.05
.035
.05
Legend
WS 25YrCHI3Hr
WS 50YrCHI3Hr
WS 100YrCHI3Hr
WS 2YrSCS24Hr
WS 10YrSCS24Hr
WS 25YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 300 Culv Driveway #7 - Eagleson Rd
.05
.035
.05
Legend
WS 2YrSCS24Hr
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 294
.05
.035
.05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)


Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 279
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 277
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 270
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 261
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 239
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 218
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta


Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 197
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 174
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 154
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 137
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 116
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 95
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 2YrSCS24Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 100YrSCS24Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta


Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 72
.05
.035
.05
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Lower RS = 56
.035
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Lower RS = 50 Culv
.035
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Lower RS = 50 Culv
.035
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Lower RS = 38
.035
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Lower RS = 0
.08
.035
.08
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Bank Sta
Elevation (m)
Station (m)


Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 224
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 199
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 174
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 149
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 124
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 99
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta


Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 74
.035
.035
.035
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 49
.035
.035
.035
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 28
.035
.035
.035
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 5YrCHI3Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Pre_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 7
.035
.035
.035
Legend
WS 100YrSCS24Hr
WS 2YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrCHI3Hr
WS 5YrSCS24Hr
WS 2YrCHI3Hr
WS 5YrCHI3Hr
Ground
Levee
Bank Sta
Elevation (m)
Station (m)

HEC-RAS Plan: 20260401-Pre_Dev_v03

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 2	Reach 2	224	2YrCHl3Hr	0.02	91.68	91.76	91.71	91.76	0.000707	0.09	0.24	5.69	0.14
River 2	Reach 2	224	5YrCHl3Hr	0.02	91.68	91.75	91.71	91.75	0.000626	0.08	0.20	5.09	0.13
River 2	Reach 2	224	10YrCHl3Hr	0.03	91.68	91.77	91.72	91.77	0.000751	0.10	0.28	6.26	0.15
River 2	Reach 2	224	25YrCHl3Hr	0.04	91.68	91.78	91.72	91.78	0.000754	0.11	0.34	6.52	0.15
River 2	Reach 2	224	50YrCHl3Hr	0.05	91.68	91.79	91.73	91.79	0.000757	0.12	0.42	6.66	0.16
River 2	Reach 2	224	100YrCHl3Hr	0.06	91.68	91.80	91.74	91.80	0.000766	0.13	0.47	6.76	0.16
River 2	Reach 2	224	2YrSCS24Hr	0.08	91.68	91.80	91.74	91.81	0.000793	0.14	0.53	6.86	0.17
River 2	Reach 2	224	5YrSCS24Hr	0.03	91.68	91.76	91.72	91.76	0.000730	0.10	0.26	5.99	0.15
River 2	Reach 2	224	10YrSCS24Hr	0.04	91.68	91.78	91.73	91.78	0.000755	0.12	0.37	6.57	0.16
River 2	Reach 2	224	25YrSCS24Hr	0.06	91.68	91.79	91.73	91.79	0.000760	0.13	0.44	6.70	0.16
River 2	Reach 2	224	50YrSCS24Hr	0.07	91.68	91.80	91.74	91.80	0.000771	0.14	0.52	6.84	0.16
River 2	Reach 2	224	100YrSCS24Hr	0.09	91.68	91.81	91.74	91.81	0.000797	0.15	0.57	6.94	0.17
River 2	Reach 2	199	2YrCHl3Hr	0.02	91.68	91.75	91.71	91.75	0.000472	0.08	0.29	6.89	0.12
River 2	Reach 2	199	5YrCHl3Hr	0.02	91.68	91.74	91.71	91.74	0.000450	0.07	0.24	6.76	0.11
River 2	Reach 2	199	10YrCHl3Hr	0.03	91.68	91.75	91.71	91.75	0.000492	0.08	0.34	7.01	0.12
River 2	Reach 2	199	25YrCHl3Hr	0.04	91.68	91.76	91.72	91.76	0.000522	0.10	0.40	7.18	0.13
River 2	Reach 2	199	50YrCHl3Hr	0.05	91.68	91.77	91.72	91.77	0.000557	0.11	0.48	7.38	0.14
River 2	Reach 2	199	100YrCHl3Hr	0.06	91.68	91.78	91.72	91.78	0.000577	0.12	0.53	7.47	0.14
River 2	Reach 2	199	2YrSCS24Hr	0.08	91.68	91.79	91.73	91.79	0.000625	0.13	0.59	7.55	0.15
River 2	Reach 2	199	5YrSCS24Hr	0.03	91.68	91.75	91.71	91.75	0.000479	0.08	0.31	6.96	0.12
River 2	Reach 2	199	10YrSCS24Hr	0.04	91.68	91.77	91.72	91.77	0.000539	0.10	0.43	7.26	0.13
River 2	Reach 2	199	25YrSCS24Hr	0.06	91.68	91.78	91.72	91.78	0.000565	0.11	0.50	7.42	0.14
River 2	Reach 2	199	50YrSCS24Hr	0.07	91.68	91.79	91.73	91.79	0.000587	0.13	0.58	7.55	0.14
River 2	Reach 2	199	100YrSCS24Hr	0.09	91.68	91.79	91.73	91.79	0.000632	0.14	0.64	7.63	0.15
River 2	Reach 2	174	2YrCHl3Hr	0.02	91.68	91.71	91.70	91.72	0.008556	0.24	0.09	3.50	0.46
River 2	Reach 2	174	5YrCHl3Hr	0.02	91.68	91.71	91.70	91.71	0.009341	0.22	0.07	3.33	0.47
River 2	Reach 2	174	10YrCHl3Hr	0.03	91.68	91.72	91.70	91.72	0.009515	0.27	0.11	3.59	0.49
River 2	Reach 2	174	25YrCHl3Hr	0.04	91.68	91.72	91.71	91.73	0.009556	0.30	0.13	3.72	0.51
River 2	Reach 2	174	50YrCHl3Hr	0.05	91.68	91.73	91.72	91.74	0.010094	0.34	0.15	3.87	0.54
River 2	Reach 2	174	100YrCHl3Hr	0.06	91.68	91.74	91.72	91.74	0.009997	0.36	0.18	3.98	0.54
River 2	Reach 2	174	2YrSCS24Hr	0.08	91.68	91.74	91.72	91.75	0.010128	0.38	0.20	4.07	0.55
River 2	Reach 2	174	5YrSCS24Hr	0.03	91.68	91.71	91.70	91.72	0.010728	0.27	0.09	3.51	0.52
River 2	Reach 2	174	10YrSCS24Hr	0.04	91.68	91.73	91.71	91.73	0.010224	0.32	0.14	3.76	0.53
River 2	Reach 2	174	25YrSCS24Hr	0.06	91.68	91.73	91.72	91.74	0.010004	0.34	0.16	3.91	0.54
River 2	Reach 2	174	50YrSCS24Hr	0.07	91.68	91.74	91.72	91.75	0.010491	0.38	0.19	4.05	0.56
River 2	Reach 2	174	100YrSCS24Hr	0.09	91.68	91.75	91.73	91.75	0.011046	0.41	0.21	4.11	0.58
River 2	Reach 2	149	2YrCHl3Hr	0.02	91.22	91.26	91.26	91.26	0.061119	0.41	0.05	3.77	1.11
River 2	Reach 2	149	5YrCHl3Hr	0.02	91.22	91.25	91.25	91.26	0.049600	0.35	0.05	3.45	0.99
River 2	Reach 2	149	10YrCHl3Hr	0.03	91.22	91.26	91.26	91.27	0.047461	0.40	0.07	4.38	1.00
River 2	Reach 2	149	25YrCHl3Hr	0.04	91.22	91.26	91.26	91.27	0.047907	0.44	0.09	4.54	1.03
River 2	Reach 2	149	50YrCHl3Hr	0.05	91.22	91.27	91.27	91.28	0.043351	0.48	0.11	4.71	1.01
River 2	Reach 2	149	100YrCHl3Hr	0.06	91.22	91.27	91.27	91.28	0.044171	0.52	0.12	4.81	1.04
River 2	Reach 2	149	2YrSCS24Hr	0.08	91.22	91.27	91.27	91.29	0.042366	0.55	0.14	4.94	1.04
River 2	Reach 2	149	5YrSCS24Hr	0.03	91.22	91.26	91.26	91.27	0.037267	0.35	0.07	4.39	0.89
River 2	Reach 2	149	10YrSCS24Hr	0.04	91.22	91.27	91.27	91.28	0.041591	0.44	0.10	4.62	0.98
River 2	Reach 2	149	25YrSCS24Hr	0.06	91.22	91.27	91.27	91.28	0.043743	0.49	0.11	4.75	1.02
River 2	Reach 2	149	50YrSCS24Hr	0.07	91.22	91.27	91.27	91.29	0.040131	0.53	0.14	4.93	1.01
River 2	Reach 2	149	100YrSCS24Hr	0.09	91.22	91.28	91.28	91.29	0.036673	0.55	0.16	5.05	0.98
River 2	Reach 2	124	2YrCHl3Hr	0.02	90.90	91.05	90.93	91.05	0.000051	0.04	0.51	5.20	0.04
River 2	Reach 2	124	5YrCHl3Hr	0.02	90.90	91.04	90.93	91.04	0.000032	0.03	0.48	5.07	0.03
River 2	Reach 2	124	10YrCHl3Hr	0.03	90.90	91.05	90.94	91.05	0.000070	0.05	0.54	5.32	0.05
River 2	Reach 2	124	25YrCHl3Hr	0.04	90.90	91.06	90.94	91.06	0.000126	0.06	0.59	6.58	0.07
River 2	Reach 2	124	50YrCHl3Hr	0.05	90.90	91.07	90.95	91.07	0.000169	0.08	0.66	6.85	0.08
River 2	Reach 2	124	100YrCHl3Hr	0.06	90.90	91.09	90.95	91.09	0.000156	0.08	0.78	7.22	0.08
River 2	Reach 2	124	2YrSCS24Hr	0.08	90.90	91.15	90.96	91.15	0.000057	0.06	1.24	8.13	0.05
River 2	Reach 2	124	5YrSCS24Hr	0.03	90.90	91.05	90.93	91.05	0.000060	0.05	0.53	5.26	0.05
River 2	Reach 2	124	10YrSCS24Hr	0.04	90.90	91.07	90.94	91.07	0.000142	0.07	0.62	6.68	0.07
River 2	Reach 2	124	25YrSCS24Hr	0.06	90.90	91.08	90.95	91.08	0.000180	0.08	0.68	6.92	0.08
River 2	Reach 2	124	50YrSCS24Hr	0.07	90.90	91.12	90.95	91.13	0.000087	0.07	1.05	7.91	0.06
River 2	Reach 2	124	100YrSCS24Hr	0.09	90.90	91.19	90.96	91.19	0.000036	0.06	1.57	8.52	0.04
River 2	Reach 2	99	2YrCHl3Hr	0.02	90.90	91.05	90.92	91.05	0.000015	0.03	0.85	7.48	0.02
River 2	Reach 2	99	5YrCHl3Hr	0.02	90.90	91.04	90.92	91.04	0.000010	0.02	0.80	7.44	0.02
River 2	Reach 2	99	10YrCHl3Hr	0.03	90.90	91.05	90.93	91.05	0.000021	0.03	0.89	7.53	0.03
River 2	Reach 2	99	25YrCHl3Hr	0.04	90.90	91.06	90.93	91.06	0.000031	0.04	0.95	7.59	0.04
River 2	Reach 2	99	50YrCHl3Hr	0.05	90.90	91.07	90.94	91.07	0.000046	0.05	1.03	7.67	0.04
River 2	Reach 2	99	100YrCHl3Hr	0.06	90.90	91.09	90.94	91.09	0.000047	0.05	1.16	7.80	0.05
River 2	Reach 2	99	2YrSCS24Hr	0.08	90.90	91.15	90.94	91.15	0.000023	0.05	1.64	8.27	0.03
River 2	Reach 2	99	5YrSCS24Hr	0.03	90.90	91.05	90.92	91.05	0.000018	0.03	0.87	7.51	0.03
River 2	Reach 2	99	10YrSCS24Hr	0.04	90.90	91.06	90.93	91.06	0.000037	0.04	0.98	7.62	0.04
River 2	Reach 2	99	25YrSCS24Hr	0.06	90.90	91.07	90.94	91.07	0.000050	0.05	1.05	7.69	0.05
River 2	Reach 2	99	50YrSCS24Hr	0.07	90.90	91.12	90.94	91.12	0.000031	0.05	1.45	8.09	0.04
River 2	Reach 2	99	100YrSCS24Hr	0.09	90.90	91.19	90.95	91.19	0.000017	0.04	1.98	8.57	0.03
River 2	Reach 2	74	2YrCHl3Hr	0.02	90.89	91.05	90.92	91.05	0.000018	0.03	0.76	6.42	0.03
River 2	Reach 2	74	5YrCHl3Hr	0.02	90.89	91.04	90.91	91.04	0.000011	0.02	0.72	6.36	0.02
River 2	Reach 2	74	10YrCHl3Hr	0.03	90.89	91.05	90.92	91.05	0.000025	0.04	0.80	6.46	0.03
River 2	Reach 2	74	25YrCHl3Hr	0.04	90.89	91.06	90.92	91.06	0.000038	0.04	0.85	6.52	0.04
River 2	Reach 2	74	50YrCHl3Hr	0.05	90.89	91.07	90.93	91.07	0.000056	0.06	0.91	6.60	0.05
River 2	Reach 2	74	100YrCHl3Hr	0.06	90.89	91.09	90.93	91.09	0.000058	0.06	1.02	6.72	0.05
River 2	Reach 2	74	2YrSCS24Hr	0.08	90.89	91.15	90.93	91.15	0.000029	0.05	1.44	7.11	0.04
River 2	Reach 2	74	5YrSCS24Hr	0.03	90.89	91.05	90.92	91.05	0.000021	0.03	0.78	6.44	0.03
River 2	Reach 2	74	10YrSCS24Hr	0.04	90.89	91.06	90.93	91.06	0.000044	0.05	0.87	6.55	0.04
River 2	Reach 2	74	25YrSCS24Hr	0.06	90.89	91.07	90.93	91.07	0.000062	0.06	0.93	6.62	0.05
River 2	Reach 2	74	50YrSCS24Hr	0.07	90.89	91.12	90.93	91.12	0.000039	0.06	1.27	6.97	0.04
River 2	Reach 2	74	100YrSCS24Hr	0.09	90.89	91.19	90.94	91.19	0.000022	0.05	1.73	7.35	0.03

HEC-RAS Plan: 20260401-Pre_Dev_v03 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 2	Reach 2	49	2YrCHI3Hr	0.02	91.00	91.04	91.04	91.04	0.041786	0.40	0.05	2.97	0.96
River 2	Reach 2	49	5YrCHI3Hr	0.02	91.00	91.03	91.03	91.04	0.048683	0.40	0.04	2.56	1.01
River 2	Reach 2	49	10YrCHI3Hr	0.03	91.00	91.04	91.04	91.05	0.047918	0.45	0.06	3.17	1.04
River 2	Reach 2	49	25YrCHI3Hr	0.04	91.00	91.04	91.04	91.05	0.036540	0.45	0.08	3.51	0.94
River 2	Reach 2	49	50YrCHI3Hr	0.05	91.00	91.05	91.05	91.06	0.040961	0.53	0.10	3.53	1.01
River 2	Reach 2	49	100YrCHI3Hr	0.06	91.00	91.08	91.05	91.08	0.006749	0.31	0.20	4.07	0.45
River 2	Reach 2	49	2YrSCS24Hr	0.08	91.00	91.14	91.06	91.14	0.000562	0.15	0.51	4.98	0.15
River 2	Reach 2	49	5YrSCS24Hr	0.03	91.00	91.04	91.04	91.05	0.045843	0.43	0.06	3.06	1.01
River 2	Reach 2	49	10YrSCS24Hr	0.04	91.00	91.05	91.05	91.06	0.034072	0.47	0.09	3.52	0.92
River 2	Reach 2	49	25YrSCS24Hr	0.06	91.00	91.05	91.05	91.07	0.033949	0.51	0.11	3.55	0.94
River 2	Reach 2	49	50YrSCS24Hr	0.07	91.00	91.12	91.06	91.12	0.001250	0.19	0.39	4.83	0.21
River 2	Reach 2	49	100YrSCS24Hr	0.09	91.00	91.18	91.06	91.19	0.000276	0.12	0.74	5.95	0.11
River 2	Reach 2	28	2YrCHI3Hr	0.02	90.69	90.78	90.74	90.78	0.001371	0.13	0.15	3.29	0.20
River 2	Reach 2	28	5YrCHI3Hr	0.02	90.69	90.78	90.74	90.78	0.001282	0.13	0.15	3.33	0.20
River 2	Reach 2	28	10YrCHI3Hr	0.04	90.69	90.85	90.75	90.85	0.000177	0.08	0.48	5.18	0.08
River 2	Reach 2	28	25YrCHI3Hr	0.05	90.69	90.93	90.76	90.93	0.000052	0.06	0.90	6.29	0.05
River 2	Reach 2	28	50YrCHI3Hr	0.07	90.69	91.01	90.76	91.01	0.000022	0.05	1.49	7.15	0.03
River 2	Reach 2	28	100YrCHI3Hr	0.08	90.69	91.08	90.77	91.08	0.000014	0.04	1.97	7.69	0.03
River 2	Reach 2	28	2YrSCS24Hr	0.10	90.69	91.14	90.78	91.14	0.000010	0.04	2.49	8.18	0.02
River 2	Reach 2	28	5YrSCS24Hr	0.03	90.69	90.83	90.75	90.83	0.000352	0.10	0.36	4.70	0.11
River 2	Reach 2	28	10YrSCS24Hr	0.06	90.69	90.95	90.76	90.95	0.000040	0.05	1.07	6.57	0.04
River 2	Reach 2	28	25YrSCS24Hr	0.08	90.69	91.03	90.77	91.03	0.000021	0.05	1.60	7.29	0.03
River 2	Reach 2	28	50YrSCS24Hr	0.10	90.69	91.12	90.78	91.12	0.000012	0.04	2.29	8.00	0.03
River 2	Reach 2	28	100YrSCS24Hr	0.12	90.69	91.18	90.78	91.18	0.000009	0.04	2.83	8.49	0.02
River 2	Reach 2	7	2YrCHI3Hr	0.02	90.67	90.74	90.71	90.74	0.002152	0.15	0.13	3.25	0.25
River 2	Reach 2	7	5YrCHI3Hr	0.02	90.67	90.73	90.71	90.74	0.003481	0.18	0.11	3.14	0.31
River 2	Reach 2	7	10YrCHI3Hr	0.04	90.67	90.85	90.72	90.85	0.000083	0.06	0.60	5.19	0.06
River 2	Reach 2	7	25YrCHI3Hr	0.05	90.67	90.92	90.73	90.92	0.000031	0.05	1.02	5.92	0.04
River 2	Reach 2	7	50YrCHI3Hr	0.07	90.67	91.01	90.73	91.01	0.000016	0.04	1.57	6.44	0.03
River 2	Reach 2	7	100YrCHI3Hr	0.08	90.67	91.08	90.74	91.08	0.000011	0.04	1.99	6.71	0.02
River 2	Reach 2	7	2YrSCS24Hr	0.10	90.67	91.14	90.75	91.14	0.000009	0.04	2.44	6.99	0.02
River 2	Reach 2	7	5YrSCS24Hr	0.03	90.67	90.82	90.72	90.82	0.000142	0.07	0.47	4.74	0.07
River 2	Reach 2	7	10YrSCS24Hr	0.06	90.67	90.95	90.73	90.95	0.000026	0.05	1.18	6.12	0.04
River 2	Reach 2	7	25YrSCS24Hr	0.08	90.67	91.03	90.74	91.03	0.000016	0.05	1.66	6.50	0.03
River 2	Reach 2	7	50YrSCS24Hr	0.10	90.67	91.12	90.74	91.12	0.000010	0.04	2.27	6.88	0.02
River 2	Reach 2	7	100YrSCS24Hr	0.12	90.67	91.18	90.75	91.18	0.000008	0.04	2.73	7.16	0.02
River 1	Reach 1-Upper	908	2YrCHI3Hr	0.02	94.14	94.22	94.18	94.22	0.001632	0.16	0.12	2.47	0.22
River 1	Reach 1-Upper	908	5YrCHI3Hr	0.02	94.14	94.22	94.18	94.22	0.001587	0.14	0.10	2.34	0.22
River 1	Reach 1-Upper	908	10YrCHI3Hr	0.03	94.14	94.23	94.19	94.23	0.001806	0.18	0.15	2.64	0.24
River 1	Reach 1-Upper	908	25YrCHI3Hr	0.03	94.14	94.24	94.20	94.24	0.002004	0.20	0.17	2.81	0.26
River 1	Reach 1-Upper	908	50YrCHI3Hr	0.05	94.14	94.25	94.20	94.26	0.002189	0.22	0.21	3.02	0.27
River 1	Reach 1-Upper	908	100YrCHI3Hr	0.06	94.14	94.26	94.21	94.27	0.002278	0.24	0.24	3.18	0.28
River 1	Reach 1-Upper	908	2YrSCS24Hr	0.07	94.14	94.27	94.21	94.27	0.002320	0.25	0.26	3.32	0.29
River 1	Reach 1-Upper	908	5YrSCS24Hr	0.02	94.14	94.23	94.19	94.23	0.001752	0.17	0.14	2.59	0.23
River 1	Reach 1-Upper	908	10YrSCS24Hr	0.04	94.14	94.25	94.20	94.25	0.002058	0.21	0.18	2.87	0.26
River 1	Reach 1-Upper	908	25YrSCS24Hr	0.05	94.14	94.26	94.20	94.26	0.002199	0.23	0.22	3.05	0.27
River 1	Reach 1-Upper	908	50YrSCS24Hr	0.06	94.14	94.27	94.21	94.27	0.002241	0.25	0.25	3.26	0.28
River 1	Reach 1-Upper	908	100YrSCS24Hr	0.07	94.14	94.28	94.22	94.28	0.002406	0.26	0.28	3.39	0.29
River 1	Reach 1-Upper	887	2YrCHI3Hr	0.02	94.10	94.16	94.14	94.16	0.007210	0.24	0.08	2.48	0.44
River 1	Reach 1-Upper	887	5YrCHI3Hr	0.02	94.10	94.15	94.14	94.16	0.007507	0.23	0.07	2.30	0.44
River 1	Reach 1-Upper	887	10YrCHI3Hr	0.03	94.10	94.17	94.15	94.17	0.005953	0.25	0.10	2.78	0.41
River 1	Reach 1-Upper	887	25YrCHI3Hr	0.03	94.10	94.18	94.15	94.18	0.005054	0.26	0.14	3.08	0.39
River 1	Reach 1-Upper	887	50YrCHI3Hr	0.05	94.10	94.19	94.16	94.20	0.004392	0.26	0.18	3.42	0.37
River 1	Reach 1-Upper	887	100YrCHI3Hr	0.06	94.10	94.20	94.17	94.20	0.004802	0.29	0.20	3.57	0.39
River 1	Reach 1-Upper	887	2YrSCS24Hr	0.07	94.10	94.21	94.17	94.21	0.004705	0.30	0.22	3.76	0.39
River 1	Reach 1-Upper	887	5YrSCS24Hr	0.02	94.10	94.17	94.15	94.17	0.006295	0.25	0.10	2.71	0.42
River 1	Reach 1-Upper	887	10YrSCS24Hr	0.04	94.10	94.18	94.15	94.19	0.004885	0.26	0.15	3.16	0.38
River 1	Reach 1-Upper	887	25YrSCS24Hr	0.05	94.10	94.19	94.16	94.20	0.004587	0.27	0.18	3.44	0.38
River 1	Reach 1-Upper	887	50YrSCS24Hr	0.06	94.10	94.20	94.17	94.20	0.005786	0.31	0.20	3.56	0.43
River 1	Reach 1-Upper	887	100YrSCS24Hr	0.07	94.10	94.21	94.17	94.22	0.003925	0.29	0.25	3.98	0.36
River 1	Reach 1-Upper	868	2YrCHI3Hr	0.02	93.96	94.03	94.01	94.03	0.006094	0.26	0.07	1.89	0.41
River 1	Reach 1-Upper	868	5YrCHI3Hr	0.02	93.96	94.02	94.01	94.03	0.006049	0.24	0.06	1.78	0.41
River 1	Reach 1-Upper	868	10YrCHI3Hr	0.03	93.96	94.04	94.01	94.04	0.007801	0.31	0.08	1.98	0.48
River 1	Reach 1-Upper	868	25YrCHI3Hr	0.03	93.96	94.04	94.02	94.05	0.010621	0.37	0.09	2.05	0.56
River 1	Reach 1-Upper	868	50YrCHI3Hr	0.05	93.96	94.05	94.03	94.06	0.013422	0.44	0.11	2.15	0.64
River 1	Reach 1-Upper	868	100YrCHI3Hr	0.06	93.96	94.06	94.04	94.07	0.010577	0.43	0.13	2.35	0.58
River 1	Reach 1-Upper	868	2YrSCS24Hr	0.07	93.96	94.06	94.04	94.07	0.010976	0.46	0.15	2.45	0.60
River 1	Reach 1-Upper	868	5YrSCS24Hr	0.02	93.96	94.03	94.01	94.04	0.007224	0.29	0.08	1.96	0.46
River 1	Reach 1-Upper	868	10YrSCS24Hr	0.04	93.96	94.04	94.02	94.05	0.011359	0.39	0.10	2.08	0.58
River 1	Reach 1-Upper	868	25YrSCS24Hr	0.05	93.96	94.05	94.03	94.06	0.012976	0.44	0.11	2.19	0.63
River 1	Reach 1-Upper	868	50YrSCS24Hr	0.06	93.96	94.07	94.04	94.08	0.007363	0.39	0.16	2.55	0.49
River 1	Reach 1-Upper	868	100YrSCS24Hr	0.07	93.96	94.06	94.05	94.07	0.019525	0.57	0.13	2.31	0.78
River 1	Reach 1-Upper	848	2YrCHI3Hr	0.02	93.87	93.92	93.90	93.93	0.004549	0.20	0.09	2.73	0.35
River 1	Reach 1-Upper	848	5YrCHI3Hr	0.02	93.87	93.92	93.90	93.92	0.004686	0.19	0.08	2.57	0.35
River 1	Reach 1-Upper	848	10YrCHI3Hr	0.03	93.87	93.93	93.91	93.94	0.003787	0.21	0.12	2.98	0.33
River 1	Reach 1-Upper	848	25YrCHI3Hr	0.03	93.87	93.95	93.92	93.95	0.002708	0.21	0.17	3.15	0.29
River 1	Reach 1-Upper	848	50YrCHI3Hr	0.05	93.87	93.97	93.92	93.97	0.002043	0.21	0.22	3.34	0.26
River 1	Reach 1-Upper	848	100YrCHI3Hr	0.06	93.87	93.97	93.93	93.97	0.002676	0.25	0.23	3.37	0.30
River 1	Reach 1-Upper	848	2YrSCS24Hr	0.07	93.87	93.98	93.93	93.98	0.002517	0.26	0.26	3.47	0.30
River 1	Reach 1-Upper	848	5YrSCS24Hr	0.02	93.87	93.93	93.91	93.93	0.004188	0.21	0.11	2.93	0.34
River 1	Reach 1-Upper	848	10YrSCS24Hr	0.04	93.87	93.95	93.92	93.96	0.002536	0.21	0.18	3.19	0.28
River 1	Reach 1-Upper	848	25YrSCS24Hr	0.05	93.87	93.97	93.92	93.97	0.002100	0.22	0.23	3.35	0.27
River 1	Reach 1-Upper	848	50YrSCS24Hr	0.06	93.87	93.96	93.93	93.97	0.004423	0.30	0.21	3.29	0.38

HEC-RAS Plan: 20260401-Pre_Dev_v03 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	848	100YrSCS24Hr	0.07	93.87	94.04	93.93	94.04	0.000430	0.15	0.50	3.98	0.13
River 1	Reach 1-Upper	828	2YrCHI3Hr	0.02	93.78	93.86	93.82	93.86	0.002644	0.17	0.11	2.77	0.27
River 1	Reach 1-Upper	828	5YrCHI3Hr	0.02	93.78	93.85	93.82	93.85	0.002687	0.16	0.09	2.47	0.27
River 1	Reach 1-Upper	828	10YrCHI3Hr	0.03	93.78	93.86	93.83	93.86	0.004045	0.22	0.12	2.90	0.34
River 1	Reach 1-Upper	828	25YrCHI3Hr	0.03	93.78	93.85	93.83	93.86	0.010289	0.33	0.10	2.68	0.54
River 1	Reach 1-Upper	828	50YrCHI3Hr	0.05	93.78	93.84	93.84	93.86	0.040257	0.61	0.08	2.23	1.04
River 1	Reach 1-Upper	828	100YrCHI3Hr	0.06	93.78	93.87	93.85	93.87	0.011893	0.40	0.14	3.16	0.59
River 1	Reach 1-Upper	828	2YrSCS24Hr	0.07	93.78	93.96	93.85	93.97	0.000365	0.13	0.50	4.07	0.12
River 1	Reach 1-Upper	828	5YrSCS24Hr	0.02	93.78	93.86	93.82	93.86	0.003210	0.19	0.12	2.95	0.30
River 1	Reach 1-Upper	828	10YrSCS24Hr	0.04	93.78	93.85	93.84	93.86	0.014294	0.39	0.10	2.58	0.63
River 1	Reach 1-Upper	828	25YrSCS24Hr	0.05	93.78	93.84	93.84	93.86	0.036015	0.59	0.08	2.34	0.99
River 1	Reach 1-Upper	828	50YrSCS24Hr	0.06	93.78	93.90	93.85	93.90	0.002459	0.25	0.25	3.50	0.29
River 1	Reach 1-Upper	828	100YrSCS24Hr	0.07	93.78	94.04	93.86	94.04	0.000005	0.02	5.50	35.21	0.01
River 1	Reach 1-Upper	807	2YrCHI3Hr	0.02	93.65	93.70	93.70	93.71	0.044163	0.52	0.04	1.46	1.04
River 1	Reach 1-Upper	807	5YrCHI3Hr	0.02	93.65	93.70	93.70	93.71	0.039865	0.46	0.03	1.40	0.97
River 1	Reach 1-Upper	807	10YrCHI3Hr	0.03	93.65	93.72	93.71	93.73	0.011679	0.35	0.07	1.90	0.57
River 1	Reach 1-Upper	807	25YrCHI3Hr	0.03	93.65	93.76	93.71	93.76	0.002625	0.22	0.16	2.63	0.29
River 1	Reach 1-Upper	807	50YrCHI3Hr	0.05	93.65	93.80	93.72	93.80	0.000718	0.16	0.30	3.53	0.16
River 1	Reach 1-Upper	807	100YrCHI3Hr	0.06	93.65	93.86	93.73	93.86	0.000227	0.12	0.51	4.43	0.10
River 1	Reach 1-Upper	807	2YrSCS24Hr	0.07	93.65	93.96	93.73	93.96	0.000003	0.02	5.71	34.82	0.01
River 1	Reach 1-Upper	807	5YrSCS24Hr	0.02	93.65	93.71	93.70	93.72	0.021814	0.43	0.06	1.70	0.76
River 1	Reach 1-Upper	807	10YrSCS24Hr	0.04	93.65	93.77	93.71	93.77	0.001862	0.20	0.19	2.86	0.25
River 1	Reach 1-Upper	807	25YrSCS24Hr	0.05	93.65	93.81	93.72	93.81	0.000588	0.15	0.33	3.67	0.15
River 1	Reach 1-Upper	807	50YrSCS24Hr	0.06	93.65	93.89	93.73	93.89	0.000119	0.10	0.70	6.11	0.07
River 1	Reach 1-Upper	807	100YrSCS24Hr	0.07	93.65	94.04	93.74	94.04	0.000001	0.01	8.37	35.13	0.01
River 1	Reach 1-Upper	789	2YrCHI3Hr	0.02	93.49	93.69	93.53	93.69	0.000037	0.05	0.38	3.33	0.04
River 1	Reach 1-Upper	789	5YrCHI3Hr	0.02	93.49	93.67	93.53	93.67	0.000035	0.04	0.33	3.14	0.04
River 1	Reach 1-Upper	789	10YrCHI3Hr	0.03	93.49	93.72	93.54	93.72	0.000038	0.06	0.45	3.66	0.04
River 1	Reach 1-Upper	789	25YrCHI3Hr	0.03	93.49	93.76	93.55	93.76	0.000039	0.07	0.54	4.24	0.04
River 1	Reach 1-Upper	789	50YrCHI3Hr	0.05	93.49	93.80	93.56	93.80	0.000037	0.07	0.65	4.99	0.04
River 1	Reach 1-Upper	789	100YrCHI3Hr	0.06	93.49	93.86	93.57	93.86	0.000030	0.07	0.78	5.73	0.04
River 1	Reach 1-Upper	789	2YrSCS24Hr	0.07	93.49	93.96	93.57	93.96	0.000016	0.06	1.04	8.28	0.03
River 1	Reach 1-Upper	789	5YrSCS24Hr	0.02	93.49	93.71	93.54	93.71	0.000038	0.06	0.43	3.55	0.04
River 1	Reach 1-Upper	789	10YrSCS24Hr	0.04	93.49	93.77	93.55	93.77	0.000038	0.07	0.56	4.42	0.04
River 1	Reach 1-Upper	789	25YrSCS24Hr	0.05	93.49	93.81	93.56	93.81	0.000037	0.07	0.67	5.12	0.04
River 1	Reach 1-Upper	789	50YrSCS24Hr	0.06	93.49	93.89	93.57	93.89	0.000025	0.07	0.87	6.17	0.04
River 1	Reach 1-Upper	789	100YrSCS24Hr	0.07	93.49	94.04	93.57	94.04	0.000011	0.06	1.22	10.07	0.03
River 1	Reach 1-Upper	764		Culvert									
River 1	Reach 1-Upper	759	2YrCHI3Hr	0.02	93.46	93.54	93.50	93.54	0.002883	0.23	0.08	1.83	0.30
River 1	Reach 1-Upper	759	5YrCHI3Hr	0.02	93.46	93.53	93.50	93.53	0.002563	0.21	0.07	1.74	0.28
River 1	Reach 1-Upper	759	10YrCHI3Hr	0.03	93.46	93.56	93.51	93.56	0.002115	0.23	0.11	2.11	0.27
River 1	Reach 1-Upper	759	25YrCHI3Hr	0.03	93.46	93.59	93.52	93.60	0.001088	0.21	0.16	2.56	0.21
River 1	Reach 1-Upper	759	50YrCHI3Hr	0.05	93.46	93.66	93.53	93.66	0.000396	0.18	0.26	3.40	0.14
River 1	Reach 1-Upper	759	100YrCHI3Hr	0.06	93.46	93.74	93.54	93.74	0.000161	0.15	0.39	4.37	0.09
River 1	Reach 1-Upper	759	2YrSCS24Hr	0.07	93.46	93.83	93.54	93.84	0.000081	0.13	0.53	6.02	0.07
River 1	Reach 1-Upper	759	5YrSCS24Hr	0.02	93.46	93.55	93.51	93.56	0.002355	0.23	0.10	2.03	0.28
River 1	Reach 1-Upper	759	10YrSCS24Hr	0.04	93.46	93.61	93.52	93.61	0.000864	0.21	0.18	2.73	0.19
River 1	Reach 1-Upper	759	25YrSCS24Hr	0.05	93.46	93.67	93.53	93.67	0.000343	0.17	0.28	3.54	0.13
River 1	Reach 1-Upper	759	50YrSCS24Hr	0.06	93.46	93.79	93.54	93.79	0.000109	0.14	0.46	4.99	0.08
River 1	Reach 1-Upper	759	100YrSCS24Hr	0.07	93.46	93.89	93.54	93.89	0.000058	0.12	0.61	6.73	0.06
River 1	Reach 1-Upper	743	2YrCHI3Hr	0.02	93.40	93.49	93.45	93.50	0.002754	0.25	0.08	1.55	0.30
River 1	Reach 1-Upper	743	5YrCHI3Hr	0.02	93.40	93.47	93.45	93.47	0.006174	0.30	0.05	1.27	0.43
River 1	Reach 1-Upper	743	10YrCHI3Hr	0.03	93.40	93.53	93.46	93.54	0.001159	0.20	0.13	1.95	0.21
River 1	Reach 1-Upper	743	25YrCHI3Hr	0.03	93.40	93.58	93.47	93.58	0.000560	0.19	0.19	2.40	0.16
River 1	Reach 1-Upper	743	50YrCHI3Hr	0.05	93.40	93.66	93.48	93.66	0.000255	0.16	0.29	3.39	0.11
River 1	Reach 1-Upper	743	100YrCHI3Hr	0.06	93.40	93.74	93.49	93.74	0.000125	0.14	0.40	5.00	0.08
River 1	Reach 1-Upper	743	2YrSCS24Hr	0.07	93.40	93.83	93.50	93.83	0.000071	0.13	0.52	7.13	0.07
River 1	Reach 1-Upper	743	5YrSCS24Hr	0.02	93.40	93.52	93.46	93.52	0.001463	0.21	0.11	1.84	0.23
River 1	Reach 1-Upper	743	10YrSCS24Hr	0.04	93.40	93.60	93.47	93.60	0.000466	0.18	0.21	2.59	0.14
River 1	Reach 1-Upper	743	25YrSCS24Hr	0.05	93.40	93.67	93.48	93.67	0.000228	0.16	0.30	3.72	0.11
River 1	Reach 1-Upper	743	50YrSCS24Hr	0.06	93.40	93.79	93.49	93.79	0.000091	0.14	0.46	6.17	0.07
River 1	Reach 1-Upper	743	100YrSCS24Hr	0.07	93.40	93.89	93.50	93.89	0.000054	0.12	0.59	7.75	0.06
River 1	Reach 1-Upper	733		Culvert									
River 1	Reach 1-Upper	728	2YrCHI3Hr	0.02	93.33	93.48	93.39	93.48	0.000387	0.13	0.15	1.68	0.12
River 1	Reach 1-Upper	728	5YrCHI3Hr	0.02	93.33	93.46	93.38	93.46	0.000507	0.12	0.12	1.51	0.14
River 1	Reach 1-Upper	728	10YrCHI3Hr	0.03	93.33	93.52	93.40	93.52	0.000283	0.13	0.20	1.94	0.11
River 1	Reach 1-Upper	728	25YrCHI3Hr	0.03	93.33	93.56	93.41	93.56	0.000213	0.13	0.26	2.26	0.10
River 1	Reach 1-Upper	728	50YrCHI3Hr	0.05	93.33	93.63	93.42	93.63	0.000137	0.13	0.36	2.78	0.08
River 1	Reach 1-Upper	728	100YrCHI3Hr	0.06	93.33	93.70	93.43	93.70	0.000088	0.13	0.45	3.31	0.07
River 1	Reach 1-Upper	728	2YrSCS24Hr	0.07	93.33	93.78	93.43	93.78	0.000060	0.12	0.56	4.21	0.06
River 1	Reach 1-Upper	728	5YrSCS24Hr	0.02	93.33	93.51	93.39	93.51	0.000306	0.13	0.19	1.87	0.11
River 1	Reach 1-Upper	728	10YrSCS24Hr	0.04	93.33	93.58	93.41	93.58	0.000196	0.14	0.28	2.37	0.10
River 1	Reach 1-Upper	728	25YrSCS24Hr	0.05	93.33	93.64	93.42	93.64	0.000129	0.13	0.37	2.86	0.08
River 1	Reach 1-Upper	728	50YrSCS24Hr	0.06	93.33	93.74	93.43	93.74	0.000071	0.12	0.51	3.65	0.06
River 1	Reach 1-Upper	728	100YrSCS24Hr	0.07	93.33	93.82	93.44	93.82	0.000049	0.12	0.63	6.17	0.06
River 1	Reach 1-Upper	715	2YrCHI3Hr	0.02	93.32	93.48	93.36	93.48	0.000151	0.10	0.20	2.44	0.08
River 1	Reach 1-Upper	715	5YrCHI3Hr	0.02	93.32	93.46	93.36	93.46	0.000165	0.09	0.17	2.22	0.08
River 1	Reach 1-Upper	715	10YrCHI3Hr	0.03	93.32	93.52	93.37	93.52	0.000134	0.10	0.25	2.80	0.08
River 1	Reach 1-Upper	715	25YrCHI3Hr	0.03	93.32	93.56	93.38	93.56	0.000117	0.11	0.31	3.23	0.08
River 1	Reach 1-Upper	715	50YrCHI3Hr	0.05	93.32	93.63	93.39	93.63	0.000086	0.12	0.41	3.92	0.07
River 1	Reach 1-Upper	715	100YrCHI3Hr	0.06	93.32	93.70	93.39	93.70	0.000061	0.11	0.51	4.63	0.06

HEC-RAS Plan: 20260401-Pre_Dev_v03 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	715	2YrSCS24Hr	0.07	93.32	93.77	93.40	93.78	0.000044	0.11	0.61	9.10	0.05
River 1	Reach 1-Upper	715	5YrSCS24Hr	0.02	93.32	93.51	93.36	93.51	0.000138	0.10	0.24	2.70	0.08
River 1	Reach 1-Upper	715	10YrSCS24Hr	0.04	93.32	93.57	93.38	93.57	0.000112	0.11	0.33	3.38	0.08
River 1	Reach 1-Upper	715	25YrSCS24Hr	0.05	93.32	93.64	93.39	93.64	0.000083	0.12	0.42	4.03	0.07
River 1	Reach 1-Upper	715	50YrSCS24Hr	0.06	93.32	93.74	93.40	93.74	0.000051	0.11	0.56	5.03	0.06
River 1	Reach 1-Upper	715	100YrSCS24Hr	0.07	93.32	93.82	93.40	93.82	0.000037	0.11	0.68	14.68	0.05
River 1	Reach 1-Upper	705		Culvert									
River 1	Reach 1-Upper	698	2YrCHI3Hr	0.02	93.24	93.31	93.29	93.32	0.010647	0.37	0.05	1.15	0.56
River 1	Reach 1-Upper	698	5YrCHI3Hr	0.02	93.24	93.31	93.29	93.31	0.009120	0.33	0.05	1.10	0.51
River 1	Reach 1-Upper	698	10YrCHI3Hr	0.03	93.24	93.31	93.30	93.32	0.019233	0.50	0.05	1.16	0.75
River 1	Reach 1-Upper	698	25YrCHI3Hr	0.03	93.24	93.31	93.31	93.33	0.027628	0.62	0.06	1.19	0.91
River 1	Reach 1-Upper	698	50YrCHI3Hr	0.05	93.24	93.42	93.32	93.43	0.000867	0.20	0.23	2.01	0.19
River 1	Reach 1-Upper	698	100YrCHI3Hr	0.06	93.24	93.51	93.33	93.51	0.000225	0.14	0.41	2.60	0.10
River 1	Reach 1-Upper	698	2YrSCS24Hr	0.07	93.24	93.51	93.34	93.51	0.000299	0.16	0.42	2.61	0.12
River 1	Reach 1-Upper	698	5YrSCS24Hr	0.02	93.24	93.31	93.30	93.32	0.015768	0.45	0.05	1.16	0.68
River 1	Reach 1-Upper	698	10YrSCS24Hr	0.04	93.24	93.32	93.31	93.34	0.027115	0.63	0.06	1.22	0.90
River 1	Reach 1-Upper	698	25YrSCS24Hr	0.05	93.24	93.47	93.32	93.47	0.000368	0.15	0.32	2.29	0.13
River 1	Reach 1-Upper	698	50YrSCS24Hr	0.06	93.24	93.51	93.33	93.51	0.000261	0.15	0.41	2.61	0.11
River 1	Reach 1-Upper	698	100YrSCS24Hr	0.07	93.24	93.51	93.34	93.52	0.000345	0.17	0.42	2.63	0.13
River 1	Reach 1-Upper	681	2YrCHI3Hr	0.02	93.14	93.22	93.19	93.22	0.003726	0.23	0.08	1.65	0.34
River 1	Reach 1-Upper	681	5YrCHI3Hr	0.02	93.14	93.21	93.18	93.21	0.004396	0.23	0.07	1.57	0.36
River 1	Reach 1-Upper	681	10YrCHI3Hr	0.03	93.14	93.24	93.19	93.24	0.001938	0.21	0.12	1.83	0.26
River 1	Reach 1-Upper	681	25YrCHI3Hr	0.03	93.14	93.27	93.20	93.27	0.001159	0.19	0.18	2.04	0.21
River 1	Reach 1-Upper	681	50YrCHI3Hr	0.05	93.14	93.42	93.21	93.42	0.000083	0.08	0.57	3.09	0.06
River 1	Reach 1-Upper	681	100YrCHI3Hr	0.06	93.14	93.51	93.22	93.51	0.000037	0.07	0.87	4.07	0.04
River 1	Reach 1-Upper	681	2YrSCS24Hr	0.07	93.14	93.51	93.22	93.51	0.000050	0.08	0.88	4.10	0.05
River 1	Reach 1-Upper	681	5YrSCS24Hr	0.02	93.14	93.23	93.19	93.24	0.002334	0.22	0.11	1.78	0.28
River 1	Reach 1-Upper	681	10YrSCS24Hr	0.04	93.14	93.29	93.20	93.29	0.000854	0.18	0.21	2.14	0.18
River 1	Reach 1-Upper	681	25YrSCS24Hr	0.05	93.14	93.46	93.21	93.46	0.000050	0.07	0.70	3.45	0.05
River 1	Reach 1-Upper	681	50YrSCS24Hr	0.06	93.14	93.51	93.22	93.51	0.000043	0.07	0.88	4.08	0.05
River 1	Reach 1-Upper	681	100YrSCS24Hr	0.07	93.14	93.51	93.23	93.51	0.000058	0.08	0.89	4.12	0.05
River 1	Reach 1-Upper	663	2YrCHI3Hr	0.02	93.05	93.19		93.19	0.000887	0.16	0.12	1.35	0.18
River 1	Reach 1-Upper	663	5YrCHI3Hr	0.02	93.05	93.18		93.18	0.000677	0.14	0.11	1.31	0.15
River 1	Reach 1-Upper	663	10YrCHI3Hr	0.03	93.05	93.22		93.23	0.000607	0.15	0.17	1.60	0.15
River 1	Reach 1-Upper	663	25YrCHI3Hr	0.03	93.05	93.26		93.26	0.000492	0.15	0.23	1.84	0.14
River 1	Reach 1-Upper	663	50YrCHI3Hr	0.05	93.05	93.42		93.42	0.000064	0.07	0.63	3.25	0.05
River 1	Reach 1-Upper	663	100YrCHI3Hr	0.06	93.05	93.51		93.51	0.000032	0.06	0.96	4.42	0.04
River 1	Reach 1-Upper	663	2YrSCS24Hr	0.07	93.05	93.51		93.51	0.000043	0.07	0.97	4.46	0.05
River 1	Reach 1-Upper	663	5YrSCS24Hr	0.02	93.05	93.21		93.22	0.000676	0.16	0.15	1.53	0.16
River 1	Reach 1-Upper	663	10YrSCS24Hr	0.04	93.05	93.28		93.28	0.000393	0.14	0.26	1.97	0.13
River 1	Reach 1-Upper	663	25YrSCS24Hr	0.05	93.05	93.46		93.46	0.000042	0.06	0.78	3.77	0.04
River 1	Reach 1-Upper	663	50YrSCS24Hr	0.06	93.05	93.51		93.51	0.000037	0.06	0.96	4.44	0.04
River 1	Reach 1-Upper	663	100YrSCS24Hr	0.07	93.05	93.51		93.51	0.000050	0.08	0.97	4.48	0.05
River 1	Reach 1-Upper	656	2YrCHI3Hr	0.06	93.03	93.15	93.12	93.16	0.007897	0.46	0.13	1.69	0.53
River 1	Reach 1-Upper	656	5YrCHI3Hr	0.06	93.03	93.15	93.12	93.16	0.008107	0.46	0.12	1.65	0.53
River 1	Reach 1-Upper	656	10YrCHI3Hr	0.10	93.03	93.19	93.14	93.20	0.006746	0.51	0.20	1.91	0.51
River 1	Reach 1-Upper	656	25YrCHI3Hr	0.14	93.03	93.23	93.16	93.24	0.004212	0.48	0.29	2.15	0.42
River 1	Reach 1-Upper	656	50YrCHI3Hr	0.18	93.03	93.42	93.18	93.42	0.000424	0.23	0.79	3.69	0.15
River 1	Reach 1-Upper	656	100YrCHI3Hr	0.22	93.03	93.51	93.20	93.51	0.000220	0.20	1.16	4.65	0.11
River 1	Reach 1-Upper	656	2YrSCS24Hr	0.26	93.03	93.51	93.21	93.51	0.000302	0.24	1.17	4.66	0.13
River 1	Reach 1-Upper	656	5YrSCS24Hr	0.09	93.03	93.18	93.14	93.19	0.007190	0.50	0.18	1.85	0.52
River 1	Reach 1-Upper	656	10YrSCS24Hr	0.15	93.03	93.26	93.17	93.27	0.003060	0.44	0.34	2.29	0.36
River 1	Reach 1-Upper	656	25YrSCS24Hr	0.19	93.03	93.46	93.18	93.46	0.000269	0.21	0.96	4.20	0.12
River 1	Reach 1-Upper	656	50YrSCS24Hr	0.24	93.03	93.51	93.20	93.51	0.000267	0.23	1.17	4.65	0.12
River 1	Reach 1-Upper	656	100YrSCS24Hr	0.28	93.03	93.51	93.22	93.51	0.000363	0.26	1.17	4.66	0.14
River 1	Reach 1-Upper	638	2YrCHI3Hr	0.06	92.92	93.08	93.01	93.08	0.002811	0.33	0.19	1.85	0.33
River 1	Reach 1-Upper	638	5YrCHI3Hr	0.06	92.92	93.07	93.00	93.08	0.002802	0.32	0.18	1.81	0.32
River 1	Reach 1-Upper	638	10YrCHI3Hr	0.10	92.92	93.14	93.04	93.14	0.001935	0.33	0.31	2.24	0.28
River 1	Reach 1-Upper	638	25YrCHI3Hr	0.14	92.92	93.20	93.05	93.21	0.001072	0.29	0.48	2.76	0.22
River 1	Reach 1-Upper	638	50YrCHI3Hr	0.18	92.92	93.41	93.07	93.42	0.000128	0.15	1.31	5.26	0.08
River 1	Reach 1-Upper	638	100YrCHI3Hr	0.22	92.92	93.50	93.09	93.51	0.000082	0.14	1.86	6.83	0.07
River 1	Reach 1-Upper	638	2YrSCS24Hr	0.26	92.92	93.50	93.10	93.51	0.000114	0.16	1.86	6.84	0.08
River 1	Reach 1-Upper	638	5YrSCS24Hr	0.09	92.92	93.12	93.03	93.12	0.002288	0.34	0.27	2.11	0.30
River 1	Reach 1-Upper	638	10YrSCS24Hr	0.15	92.92	93.24	93.06	93.24	0.000804	0.26	0.57	3.07	0.19
River 1	Reach 1-Upper	638	25YrSCS24Hr	0.19	92.92	93.46	93.08	93.46	0.000092	0.14	1.57	6.15	0.07
River 1	Reach 1-Upper	638	50YrSCS24Hr	0.24	92.92	93.50	93.10	93.51	0.000100	0.15	1.86	6.83	0.08
River 1	Reach 1-Upper	638	100YrSCS24Hr	0.28	92.92	93.50	93.11	93.51	0.000137	0.18	1.87	6.84	0.09
River 1	Reach 1-Upper	617	2YrCHI3Hr	0.06	92.84	93.02	92.95	93.02	0.002976	0.32	0.19	2.05	0.33
River 1	Reach 1-Upper	617	5YrCHI3Hr	0.06	92.84	93.01	92.95	93.01	0.003253	0.32	0.18	1.96	0.34
River 1	Reach 1-Upper	617	10YrCHI3Hr	0.10	92.84	93.11	92.98	93.11	0.000952	0.24	0.43	2.97	0.20
River 1	Reach 1-Upper	617	25YrCHI3Hr	0.14	92.84	93.19	93.00	93.19	0.000453	0.19	0.70	3.82	0.14
River 1	Reach 1-Upper	617	50YrCHI3Hr	0.18	92.84	93.41	93.01	93.41	0.000070	0.09	1.97	8.09	0.06
River 1	Reach 1-Upper	617	100YrCHI3Hr	0.22	92.84	93.50	93.03	93.50	0.000037	0.08	2.93	15.17	0.05
River 1	Reach 1-Upper	617	2YrSCS24Hr	0.26	92.84	93.50	93.04	93.50	0.000051	0.09	2.93	15.17	0.05
River 1	Reach 1-Upper	617	5YrSCS24Hr	0.09	92.84	93.08	92.97	93.09	0.001277	0.26	0.35	2.70	0.23
River 1	Reach 1-Upper	617	10YrSCS24Hr	0.15	92.84	93.23	93.00	93.23	0.000340	0.18	0.84	4.32	0.13
River 1	Reach 1-Upper	617	25YrSCS24Hr	0.19	92.84	93.46	93.02	93.46	0.000046	0.08	2.37	10.22	0.05
River 1	Reach 1-Upper	617	50YrSCS24Hr	0.24	92.84	93.50	93.04	93.50	0.000045	0.09	2.93	15.17	0.05
River 1	Reach 1-Upper	617	100YrSCS24Hr	0.28	92.84	93.50	93.05	93.50	0.000062	0.10	2.93	15.17	0.06
River 1	Reach 1-Upper	598	2YrCHI3Hr	0.06	92.76	93.00	92.86	93.00	0.000514	0.18	0.36	2.60	0.15
River 1	Reach 1-Upper	598	5YrCHI3Hr	0.06	92.76	92.99	92.86	92.99	0.000555	0.18	0.33	2.52	0.15
River 1	Reach 1-Upper	598	10YrCHI3Hr	0.11	92.76	93.10	92.89	93.10	0.000269	0.18	0.61	3.40	0.12

HEC-RAS Plan: 20260401-Pre_Dev_v03 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	598	25YrCHl3Hr	0.15	92.76	93.19	92.91	93.19	0.000175	0.18	0.82	5.45	0.10
River 1	Reach 1-Upper	598	50YrCHl3Hr	0.19	92.76	93.41	92.93	93.41	0.000054	0.14	1.39	9.84	0.06
River 1	Reach 1-Upper	598	100YrCHl3Hr	0.23	92.76	93.50	92.94	93.50	0.000020	0.08	4.94	31.21	0.04
River 1	Reach 1-Upper	598	2YrSCS24Hr	0.28	92.76	93.50	92.96	93.50	0.000028	0.09	4.93	31.21	0.04
River 1	Reach 1-Upper	598	5YrSCS24Hr	0.10	92.76	93.07	92.88	93.07	0.000322	0.18	0.53	3.17	0.12
River 1	Reach 1-Upper	598	10YrSCS24Hr	0.16	92.76	93.22	92.91	93.22	0.000147	0.17	0.91	6.16	0.09
River 1	Reach 1-Upper	598	25YrSCS24Hr	0.20	92.76	93.46	92.93	93.46	0.000045	0.13	1.50	22.56	0.06
River 1	Reach 1-Upper	598	50YrSCS24Hr	0.26	92.76	93.50	92.95	93.50	0.000025	0.09	4.94	31.21	0.04
River 1	Reach 1-Upper	598	100YrSCS24Hr	0.30	92.76	93.50	92.96	93.50	0.000034	0.10	4.93	31.21	0.05
River 1	Reach 1-Upper	589		Culvert									
River 1	Reach 1-Upper	581	2YrCHl3Hr	0.06	92.71	92.89	92.81	92.89	0.002034	0.27	0.24	2.66	0.28
River 1	Reach 1-Upper	581	5YrCHl3Hr	0.06	92.71	92.89	92.81	92.89	0.002032	0.27	0.23	2.59	0.28
River 1	Reach 1-Upper	581	10YrCHl3Hr	0.11	92.71	92.93	92.84	92.93	0.001970	0.33	0.33	3.40	0.29
River 1	Reach 1-Upper	581	25YrCHl3Hr	0.15	92.71	92.96	92.86	92.97	0.001571	0.34	0.42	4.10	0.27
River 1	Reach 1-Upper	581	50YrCHl3Hr	0.19	92.71	93.04	92.88	93.04	0.000858	0.32	0.60	5.44	0.21
River 1	Reach 1-Upper	581	100YrCHl3Hr	0.23	92.71	93.19	92.89	93.19	0.000244	0.24	0.98	9.64	0.12
River 1	Reach 1-Upper	581	2YrSCS24Hr	0.28	92.71	93.25	92.90	93.25	0.000213	0.24	1.13	30.32	0.12
River 1	Reach 1-Upper	581	5YrSCS24Hr	0.10	92.71	92.92	92.83	92.92	0.002062	0.32	0.30	3.18	0.29
River 1	Reach 1-Upper	581	10YrSCS24Hr	0.16	92.71	92.98	92.86	92.99	0.001381	0.34	0.46	4.41	0.25
River 1	Reach 1-Upper	581	25YrSCS24Hr	0.20	92.71	93.05	92.88	93.06	0.000735	0.31	0.65	5.75	0.20
River 1	Reach 1-Upper	581	50YrSCS24Hr	0.26	92.71	93.25	92.90	93.25	0.000187	0.23	1.13	30.32	0.11
River 1	Reach 1-Upper	581	100YrSCS24Hr	0.30	92.71	93.26	92.91	93.26	0.000245	0.26	1.15	30.62	0.12
River 1	Reach 1-Upper	572	2YrCHl3Hr	0.06	92.73	92.85	92.82	92.86	0.008674	0.45	0.14	2.02	0.54
River 1	Reach 1-Upper	572	5YrCHl3Hr	0.06	92.73	92.84	92.82	92.85	0.009130	0.45	0.13	1.96	0.55
River 1	Reach 1-Upper	572	10YrCHl3Hr	0.11	92.73	92.90	92.84	92.90	0.004896	0.43	0.26	2.58	0.43
River 1	Reach 1-Upper	572	25YrCHl3Hr	0.15	92.73	92.94	92.86	92.95	0.002649	0.37	0.39	3.10	0.33
River 1	Reach 1-Upper	572	50YrCHl3Hr	0.19	92.73	93.03	92.88	93.03	0.001021	0.28	0.70	4.09	0.22
River 1	Reach 1-Upper	572	100YrCHl3Hr	0.23	92.73	93.19	92.89	93.19	0.000155	0.14	2.22	26.73	0.09
River 1	Reach 1-Upper	572	2YrSCS24Hr	0.28	92.73	93.25	92.90	93.25	0.000074	0.11	4.09	35.89	0.06
River 1	Reach 1-Upper	572	5YrSCS24Hr	0.10	92.73	92.88	92.84	92.89	0.005898	0.44	0.22	2.42	0.47
River 1	Reach 1-Upper	572	10YrSCS24Hr	0.16	92.73	92.96	92.86	92.97	0.002084	0.34	0.46	3.34	0.30
River 1	Reach 1-Upper	572	25YrSCS24Hr	0.20	92.73	93.05	92.88	93.05	0.000824	0.26	0.78	4.31	0.20
River 1	Reach 1-Upper	572	50YrSCS24Hr	0.26	92.73	93.25	92.90	93.25	0.000065	0.10	4.09	35.88	0.06
River 1	Reach 1-Upper	572	100YrSCS24Hr	0.30	92.73	93.26	92.91	93.26	0.000079	0.12	4.37	36.88	0.07
River 1	Reach 1-Upper	555	2YrCHl3Hr	0.06	92.61	92.81	92.71	92.81	0.000982	0.20	0.32	2.99	0.20
River 1	Reach 1-Upper	555	5YrCHl3Hr	0.06	92.61	92.81	92.71	92.81	0.000983	0.20	0.31	2.93	0.20
River 1	Reach 1-Upper	555	10YrCHl3Hr	0.11	92.61	92.87	92.74	92.87	0.000748	0.21	0.52	3.73	0.18
River 1	Reach 1-Upper	555	25YrCHl3Hr	0.15	92.61	92.93	92.75	92.93	0.000479	0.19	0.76	4.46	0.15
River 1	Reach 1-Upper	555	50YrCHl3Hr	0.19	92.61	93.02	92.77	93.02	0.000238	0.16	1.22	5.62	0.11
River 1	Reach 1-Upper	555	100YrCHl3Hr	0.23	92.61	93.19	92.78	93.19	0.000031	0.08	4.98	37.27	0.04
River 1	Reach 1-Upper	555	2YrSCS24Hr	0.28	92.61	93.25	92.80	93.25	0.000018	0.06	7.39	40.94	0.03
River 1	Reach 1-Upper	555	5YrSCS24Hr	0.10	92.61	92.85	92.73	92.85	0.000851	0.21	0.45	3.50	0.19
River 1	Reach 1-Upper	555	10YrSCS24Hr	0.16	92.61	92.95	92.76	92.95	0.000402	0.18	0.87	4.75	0.14
River 1	Reach 1-Upper	555	25YrSCS24Hr	0.20	92.61	93.04	92.77	93.04	0.000197	0.15	1.34	5.96	0.10
River 1	Reach 1-Upper	555	50YrSCS24Hr	0.26	92.61	93.25	92.79	93.25	0.000016	0.06	7.39	40.94	0.03
River 1	Reach 1-Upper	555	100YrSCS24Hr	0.30	92.61	93.26	92.81	93.26	0.000020	0.07	7.70	41.13	0.03
River 1	Reach 1-Upper	534	2YrCHl3Hr	0.06	92.59	92.79	92.69	92.79	0.001542	0.25	0.26	2.47	0.24
River 1	Reach 1-Upper	534	5YrCHl3Hr	0.06	92.59	92.78	92.69	92.78	0.001540	0.24	0.25	2.41	0.24
River 1	Reach 1-Upper	534	10YrCHl3Hr	0.11	92.59	92.85	92.72	92.86	0.001007	0.24	0.46	3.30	0.21
River 1	Reach 1-Upper	534	25YrCHl3Hr	0.15	92.59	92.92	92.74	92.92	0.000570	0.21	0.74	8.51	0.16
River 1	Reach 1-Upper	534	50YrCHl3Hr	0.19	92.59	93.02	92.76	93.02	0.000095	0.11	3.36	40.28	0.07
River 1	Reach 1-Upper	534	100YrCHl3Hr	0.23	92.59	93.19	92.78	93.19	0.000006	0.04	11.46	51.16	0.02
River 1	Reach 1-Upper	534	2YrSCS24Hr	0.28	92.59	93.25	92.79	93.25	0.000004	0.03	14.61	51.39	0.02
River 1	Reach 1-Upper	534	5YrSCS24Hr	0.10	92.59	92.83	92.71	92.83	0.001214	0.25	0.39	3.03	0.22
River 1	Reach 1-Upper	534	10YrSCS24Hr	0.16	92.59	92.94	92.75	92.95	0.000422	0.19	1.07	17.97	0.14
River 1	Reach 1-Upper	534	25YrSCS24Hr	0.20	92.59	93.04	92.76	93.04	0.000064	0.09	4.23	42.61	0.06
River 1	Reach 1-Upper	534	50YrSCS24Hr	0.26	92.59	93.25	92.78	93.25	0.000003	0.03	14.61	51.39	0.01
River 1	Reach 1-Upper	534	100YrSCS24Hr	0.30	92.59	93.26	92.80	93.26	0.000004	0.03	14.99	51.42	0.02
River 1	Reach 1-Upper	510	2YrCHl3Hr	0.06	92.60	92.72	92.68	92.73	0.004446	0.41	0.16	2.77	0.41
River 1	Reach 1-Upper	510	5YrCHl3Hr	0.06	92.60	92.71	92.67	92.72	0.005825	0.43	0.14	2.60	0.46
River 1	Reach 1-Upper	510	10YrCHl3Hr	0.11	92.60	92.82	92.70	92.83	0.001169	0.34	0.32	4.18	0.24
River 1	Reach 1-Upper	510	25YrCHl3Hr	0.15	92.60	92.90	92.72	92.90	0.000712	0.32	0.45	5.29	0.20
River 1	Reach 1-Upper	510	50YrCHl3Hr	0.19	92.60	93.01	92.73	93.01	0.000421	0.31	0.62	14.09	0.16
River 1	Reach 1-Upper	510	100YrCHl3Hr	0.23	92.60	93.18	92.75	93.19	0.000180	0.26	0.90	109.29	0.11
River 1	Reach 1-Upper	510	2YrSCS24Hr	0.28	92.60	93.25	92.77	93.25	0.000000	0.01	42.37	109.53	0.00
River 1	Reach 1-Upper	510	5YrSCS24Hr	0.10	92.60	92.79	92.69	92.80	0.001503	0.34	0.28	3.79	0.26
River 1	Reach 1-Upper	510	10YrSCS24Hr	0.16	92.60	92.93	92.72	92.93	0.000617	0.32	0.49	5.78	0.19
River 1	Reach 1-Upper	510	25YrSCS24Hr	0.20	92.60	93.03	92.74	93.04	0.000378	0.31	0.66	15.54	0.15
River 1	Reach 1-Upper	510	50YrSCS24Hr	0.26	92.60	93.25	92.76	93.25	0.000000	0.01	42.37	109.53	0.00
River 1	Reach 1-Upper	510	100YrSCS24Hr	0.30	92.60	93.26	92.78	93.26	0.000000	0.01	43.19	109.55	0.01
River 1	Reach 1-Upper	505		Culvert									
River 1	Reach 1-Upper	502	2YrCHl3Hr	0.07	92.49	92.61	92.57	92.62	0.007737	0.51	0.14	2.26	0.54
River 1	Reach 1-Upper	502	5YrCHl3Hr	0.07	92.49	92.60	92.57	92.61	0.007956	0.50	0.13	2.20	0.54
River 1	Reach 1-Upper	502	10YrCHl3Hr	0.12	92.49	92.65	92.60	92.67	0.006462	0.60	0.20	2.74	0.52
River 1	Reach 1-Upper	502	25YrCHl3Hr	0.16	92.49	92.68	92.62	92.70	0.006042	0.66	0.25	3.06	0.52
River 1	Reach 1-Upper	502	50YrCHl3Hr	0.22	92.49	92.73	92.64	92.76	0.004047	0.66	0.33	4.01	0.45
River 1	Reach 1-Upper	502	100YrCHl3Hr	0.26	92.49	92.83	92.66	92.85	0.001665	0.54	0.48	5.45	0.31
River 1	Reach 1-Upper	502	2YrSCS24Hr	0.31	92.49	92.99	92.68	93.00	0.000619	0.43	0.72	104.79	0.20
River 1	Reach 1-Upper	502	5YrSCS24Hr	0.11	92.49	92.64	92.59	92.65	0.006729	0.58	0.19	2.62	0.53
River 1	Reach 1-Upper	502	10YrSCS24Hr	0.18	92.49	92.69	92.63	92.71	0.005546	0.67	0.27	3.21	0.51
River 1	Reach 1-Upper	502	25YrSCS24Hr	0.23	92.49	92.75	92.65	92.77	0.003381	0.64	0.36	4.41	0.42
River 1	Reach 1-Upper	502	50YrSCS24Hr	0.29	92.49	92.92	92.67	92.94	0.000902	0.47	0.62	7.34	0.24

HEC-RAS Plan: 20260401-Pre_Dev_v03 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	502	100YrSCS24Hr	0.34	92.49	93.11	92.69	93.12	0.000353	0.38	0.90	105.15	0.16
River 1	Reach 1-Upper	493	2YrCHI3Hr	0.07	92.34	92.61	92.42	92.61	0.000133	0.10	0.75	4.68	0.08
River 1	Reach 1-Upper	493	5YrCHI3Hr	0.07	92.34	92.60	92.42	92.60	0.000124	0.09	0.72	4.59	0.07
River 1	Reach 1-Upper	493	10YrCHI3Hr	0.12	92.34	92.65	92.45	92.65	0.000198	0.13	0.96	5.44	0.10
River 1	Reach 1-Upper	493	25YrCHI3Hr	0.16	92.34	92.68	92.46	92.68	0.000233	0.14	1.13	5.98	0.10
River 1	Reach 1-Upper	493	50YrCHI3Hr	0.22	92.34	92.74	92.48	92.74	0.000196	0.14	1.51	6.84	0.10
River 1	Reach 1-Upper	493	100YrCHI3Hr	0.26	92.34	92.84	92.49	92.84	0.000098	0.12	2.27	8.59	0.07
River 1	Reach 1-Upper	493	2YrSCS24Hr	0.31	92.34	93.00	92.50	93.00	0.000001	0.02	28.79	101.37	0.01
River 1	Reach 1-Upper	493	5YrSCS24Hr	0.11	92.34	92.64	92.44	92.64	0.000183	0.12	0.90	5.23	0.09
River 1	Reach 1-Upper	493	10YrSCS24Hr	0.18	92.34	92.70	92.46	92.70	0.000231	0.15	1.22	6.23	0.11
River 1	Reach 1-Upper	493	25YrSCS24Hr	0.23	92.34	92.76	92.48	92.76	0.000169	0.14	1.63	7.02	0.09
River 1	Reach 1-Upper	493	50YrSCS24Hr	0.29	92.34	92.93	92.50	92.93	0.000047	0.09	3.20	13.20	0.05
River 1	Reach 1-Upper	493	100YrSCS24Hr	0.34	92.34	93.12	92.51	93.12	0.000001	0.01	41.12	102.01	0.01
River 1	Reach 1-Upper	474	2YrCHI3Hr	0.07	92.41	92.60	92.50	92.60	0.000597	0.15	0.49	5.07	0.15
River 1	Reach 1-Upper	474	5YrCHI3Hr	0.07	92.41	92.60	92.50	92.60	0.000594	0.14	0.47	4.97	0.15
River 1	Reach 1-Upper	474	10YrCHI3Hr	0.12	92.41	92.64	92.53	92.65	0.000595	0.17	0.72	5.95	0.16
River 1	Reach 1-Upper	474	25YrCHI3Hr	0.16	92.41	92.67	92.54	92.68	0.000563	0.18	0.90	6.59	0.15
River 1	Reach 1-Upper	474	50YrCHI3Hr	0.22	92.41	92.73	92.56	92.74	0.000352	0.16	1.33	7.87	0.13
River 1	Reach 1-Upper	474	100YrCHI3Hr	0.26	92.41	92.84	92.57	92.84	0.000001	0.01	25.75	91.49	0.01
River 1	Reach 1-Upper	474	2YrSCS24Hr	0.31	92.41	93.00	92.58	93.00	0.000000	0.01	40.12	92.20	0.01
River 1	Reach 1-Upper	474	5YrSCS24Hr	0.11	92.41	92.63	92.52	92.63	0.000605	0.16	0.65	5.71	0.16
River 1	Reach 1-Upper	474	10YrSCS24Hr	0.18	92.41	92.69	92.55	92.69	0.000512	0.18	1.00	6.89	0.15
River 1	Reach 1-Upper	474	25YrSCS24Hr	0.23	92.41	92.75	92.56	92.75	0.000285	0.15	1.49	8.28	0.12
River 1	Reach 1-Upper	474	50YrSCS24Hr	0.29	92.41	92.93	92.57	92.93	0.000001	0.01	33.86	91.89	0.01
River 1	Reach 1-Upper	474	100YrSCS24Hr	0.34	92.41	93.12	92.58	93.12	0.000000	0.01	51.33	92.74	0.00
River 1	Reach 1-Upper	454	2YrCHI3Hr	0.07	92.44	92.58	92.51	92.59	0.001604	0.25	0.29	2.89	0.25
River 1	Reach 1-Upper	454	5YrCHI3Hr	0.07	92.44	92.58	92.50	92.58	0.001576	0.24	0.28	2.85	0.24
River 1	Reach 1-Upper	454	10YrCHI3Hr	0.12	92.44	92.62	92.53	92.63	0.001689	0.29	0.41	3.31	0.26
River 1	Reach 1-Upper	454	25YrCHI3Hr	0.16	92.44	92.65	92.55	92.66	0.001595	0.31	0.52	3.64	0.26
River 1	Reach 1-Upper	454	50YrCHI3Hr	0.22	92.44	92.72	92.56	92.72	0.000913	0.28	0.79	4.34	0.21
River 1	Reach 1-Upper	454	100YrCHI3Hr	0.26	92.44	92.84	92.57	92.84	0.000012	0.04	12.27	82.88	0.03
River 1	Reach 1-Upper	454	2YrSCS24Hr	0.31	92.44	93.00	92.59	93.00	0.000002	0.02	25.28	83.36	0.01
River 1	Reach 1-Upper	454	5YrSCS24Hr	0.11	92.44	92.61	92.52	92.62	0.001709	0.28	0.38	3.19	0.26
River 1	Reach 1-Upper	454	10YrSCS24Hr	0.18	92.44	92.67	92.55	92.67	0.001416	0.30	0.58	3.81	0.25
River 1	Reach 1-Upper	454	25YrSCS24Hr	0.23	92.44	92.74	92.56	92.74	0.000715	0.26	0.88	4.56	0.18
River 1	Reach 1-Upper	454	50YrSCS24Hr	0.29	92.44	92.93	92.58	92.93	0.000003	0.03	19.62	83.15	0.01
River 1	Reach 1-Upper	454	100YrSCS24Hr	0.34	92.44	93.12	92.60	93.12	0.000001	0.02	35.41	83.72	0.01
River 1	Reach 1-Upper	434	2YrCHI3Hr	0.07	92.42	92.54	92.49	92.54	0.003131	0.30	0.24	2.93	0.33
River 1	Reach 1-Upper	434	5YrCHI3Hr	0.07	92.42	92.53	92.49	92.54	0.003245	0.30	0.23	2.89	0.34
River 1	Reach 1-Upper	434	10YrCHI3Hr	0.12	92.42	92.58	92.51	92.59	0.002201	0.32	0.38	3.34	0.30
River 1	Reach 1-Upper	434	25YrCHI3Hr	0.16	92.42	92.62	92.52	92.62	0.001702	0.32	0.51	3.67	0.27
River 1	Reach 1-Upper	434	50YrCHI3Hr	0.22	92.42	92.72	92.54	92.72	0.000099	0.09	4.19	44.55	0.07
River 1	Reach 1-Upper	434	100YrCHI3Hr	0.26	92.42	92.84	92.55	92.84	0.000011	0.04	12.14	73.98	0.02
River 1	Reach 1-Upper	434	2YrSCS24Hr	0.31	92.42	93.00	92.56	93.00	0.000002	0.02	23.78	74.52	0.01
River 1	Reach 1-Upper	434	5YrSCS24Hr	0.11	92.42	92.57	92.50	92.57	0.002433	0.31	0.34	3.22	0.31
River 1	Reach 1-Upper	434	10YrSCS24Hr	0.18	92.42	92.64	92.53	92.64	0.001593	0.30	0.59	4.31	0.26
River 1	Reach 1-Upper	434	25YrSCS24Hr	0.23	92.42	92.74	92.54	92.74	0.000062	0.08	5.30	52.04	0.05
River 1	Reach 1-Upper	434	50YrSCS24Hr	0.29	92.42	92.93	92.55	92.93	0.000003	0.03	18.72	74.29	0.01
River 1	Reach 1-Upper	434	100YrSCS24Hr	0.34	92.42	93.12	92.57	93.12	0.000001	0.02	32.84	74.94	0.01
River 1	Reach 1-Upper	416	2YrCHI3Hr	0.07	92.34	92.52	92.42	92.52	0.000594	0.15	0.47	4.81	0.15
River 1	Reach 1-Upper	416	5YrCHI3Hr	0.07	92.34	92.51	92.42	92.51	0.000622	0.15	0.44	4.70	0.15
River 1	Reach 1-Upper	416	10YrCHI3Hr	0.12	92.34	92.57	92.45	92.57	0.000424	0.17	0.75	5.83	0.14
River 1	Reach 1-Upper	416	25YrCHI3Hr	0.16	92.34	92.62	92.46	92.62	0.000159	0.12	2.27	28.78	0.09
River 1	Reach 1-Upper	416	50YrCHI3Hr	0.22	92.34	92.72	92.48	92.72	0.000031	0.07	5.56	35.85	0.04
River 1	Reach 1-Upper	416	100YrCHI3Hr	0.26	92.34	92.84	92.48	92.84	0.000008	0.05	10.70	48.52	0.02
River 1	Reach 1-Upper	416	2YrSCS24Hr	0.31	92.34	93.00	92.49	93.00	0.000002	0.03	20.27	66.96	0.01
River 1	Reach 1-Upper	416	5YrSCS24Hr	0.11	92.34	92.56	92.44	92.56	0.000463	0.17	0.67	5.55	0.14
River 1	Reach 1-Upper	416	10YrSCS24Hr	0.18	92.34	92.64	92.47	92.64	0.000108	0.11	2.88	30.23	0.07
River 1	Reach 1-Upper	416	25YrSCS24Hr	0.23	92.34	92.74	92.48	92.74	0.000024	0.07	6.41	39.28	0.04
River 1	Reach 1-Upper	416	50YrSCS24Hr	0.29	92.34	92.93	92.49	92.93	0.000004	0.04	15.73	65.04	0.02
River 1	Reach 1-Upper	416	100YrSCS24Hr	0.34	92.34	93.12	92.50	93.12	0.000001	0.02	28.42	67.40	0.01
River 1	Reach 1-Upper	398	2YrCHI3Hr	0.07	92.28	92.50	92.40	92.51	0.000938	0.22	0.33	2.54	0.20
River 1	Reach 1-Upper	398	5YrCHI3Hr	0.07	92.28	92.50	92.40	92.50	0.000933	0.21	0.31	2.50	0.19
River 1	Reach 1-Upper	398	10YrCHI3Hr	0.12	92.28	92.56	92.42	92.56	0.000915	0.26	0.47	2.86	0.20
River 1	Reach 1-Upper	398	25YrCHI3Hr	0.16	92.28	92.61	92.44	92.61	0.000752	0.26	0.62	3.16	0.19
River 1	Reach 1-Upper	398	50YrCHI3Hr	0.22	92.28	92.71	92.46	92.72	0.000355	0.22	1.01	4.66	0.14
River 1	Reach 1-Upper	398	100YrCHI3Hr	0.26	92.28	92.84	92.47	92.84	0.000076	0.12	4.26	46.30	0.07
River 1	Reach 1-Upper	398	2YrSCS24Hr	0.31	92.28	93.00	92.49	93.00	0.000008	0.05	12.80	58.61	0.02
River 1	Reach 1-Upper	398	5YrSCS24Hr	0.11	92.28	92.54	92.42	92.55	0.000935	0.25	0.43	2.77	0.20
River 1	Reach 1-Upper	398	10YrSCS24Hr	0.18	92.28	92.63	92.44	92.63	0.000660	0.26	0.69	3.29	0.18
River 1	Reach 1-Upper	398	25YrSCS24Hr	0.23	92.28	92.74	92.46	92.74	0.000295	0.21	1.13	5.59	0.12
River 1	Reach 1-Upper	398	50YrSCS24Hr	0.29	92.28	92.93	92.48	92.93	0.000020	0.07	8.81	58.42	0.03
River 1	Reach 1-Upper	398	100YrSCS24Hr	0.34	92.28	93.12	92.50	93.12	0.000003	0.03	19.93	58.96	0.01
River 1	Reach 1-Upper	383	2YrCHI3Hr	0.07	92.34	92.47	92.42	92.48	0.004360	0.39	0.19	1.94	0.40
River 1	Reach 1-Upper	383	5YrCHI3Hr	0.07	92.34	92.47	92.42	92.47	0.004536	0.39	0.17	1.90	0.41
River 1	Reach 1-Upper	383	10YrCHI3Hr	0.12	92.34	92.53	92.45	92.54	0.002876	0.39	0.31	2.30	0.34
River 1	Reach 1-Upper	383	25YrCHI3Hr	0.16	92.34	92.59	92.47	92.59	0.001737	0.36	0.45	2.62	0.28
River 1	Reach 1-Upper	383	50YrCHI3Hr	0.22	92.34	92.70	92.49	92.71	0.000630	0.27	0.80	3.29	0.18
River 1	Reach 1-Upper	383	100YrCHI3Hr	0.26	92.34	92.83	92.50	92.84	0.000255	0.21	1.27	4.01	0.12
River 1	Reach 1-Upper	383	2YrSCS24Hr	0.31	92.34	92.99	92.52	93.00	0.000100	0.16	2.02	5.50	0.08
River 1	Reach 1-Upper	383	5YrSCS24Hr	0.11	92.34	92.51	92.44	92.52	0.003262	0.40	0.27	2.21	0.36
River 1	Reach 1-Upper	383	10YrSCS24Hr	0.18	92.34	92.61	92.47	92.62	0.001389	0.34	0.52	2.77	0.25
River 1	Reach 1-Upper	383	25YrSCS24Hr	0.23	92.34	92.73	92.49	92.73	0.000520	0.26	0.88	3.42	0.16

HEC-RAS Plan: 20260401-Pre_Dev_v03 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	383	50YrSCS24Hr	0.29	92.34	92.93	92.51	92.93	0.000147	0.18	1.66	4.73	0.09
River 1	Reach 1-Upper	383	100YrSCS24Hr	0.34	92.34	93.12	92.53	93.12	0.000005	0.04	15.00	51.87	0.02
River 1	Reach 1-Upper	364	2YrCHI3Hr	0.07	92.23	92.43	92.33	92.44	0.001347	0.27	0.27	2.04	0.23
River 1	Reach 1-Upper	364	5YrCHI3Hr	0.07	92.23	92.43	92.33	92.43	0.001355	0.26	0.26	2.01	0.23
River 1	Reach 1-Upper	364	10YrCHI3Hr	0.12	92.23	92.50	92.36	92.50	0.001099	0.29	0.42	2.37	0.22
River 1	Reach 1-Upper	364	25YrCHI3Hr	0.16	92.23	92.57	92.38	92.57	0.000740	0.27	0.59	2.71	0.19
River 1	Reach 1-Upper	364	50YrCHI3Hr	0.22	92.23	92.70	92.40	92.70	0.000331	0.22	0.98	3.34	0.13
River 1	Reach 1-Upper	364	100YrCHI3Hr	0.26	92.23	92.83	92.42	92.83	0.000166	0.18	1.48	4.20	0.10
River 1	Reach 1-Upper	364	2YrSCS24Hr	0.31	92.23	92.99	92.43	92.99	0.000050	0.12	4.53	43.93	0.06
River 1	Reach 1-Upper	364	5YrSCS24Hr	0.11	92.23	92.48	92.35	92.48	0.001197	0.29	0.37	2.27	0.23
River 1	Reach 1-Upper	364	10YrSCS24Hr	0.18	92.23	92.60	92.39	92.60	0.000621	0.26	0.67	2.85	0.17
River 1	Reach 1-Upper	364	25YrSCS24Hr	0.23	92.23	92.72	92.41	92.73	0.000283	0.21	1.07	3.47	0.12
River 1	Reach 1-Upper	364	50YrSCS24Hr	0.29	92.23	92.92	92.43	92.93	0.000099	0.15	1.93	5.59	0.08
River 1	Reach 1-Upper	364	100YrSCS24Hr	0.34	92.23	93.12	92.44	93.12	0.000012	0.07	9.97	44.25	0.03
River 1	Reach 1-Upper	347	2YrCHI3Hr	0.07	92.26	92.41	92.33	92.41	0.001311	0.25	0.29	2.48	0.23
River 1	Reach 1-Upper	347	5YrCHI3Hr	0.07	92.26	92.40	92.33	92.41	0.001382	0.24	0.27	2.45	0.23
River 1	Reach 1-Upper	347	10YrCHI3Hr	0.12	92.26	92.49	92.35	92.49	0.000808	0.25	0.49	2.80	0.19
River 1	Reach 1-Upper	347	25YrCHI3Hr	0.16	92.26	92.56	92.36	92.56	0.000488	0.23	0.71	3.12	0.15
River 1	Reach 1-Upper	347	50YrCHI3Hr	0.22	92.26	92.69	92.38	92.70	0.000213	0.19	1.16	3.69	0.11
River 1	Reach 1-Upper	347	100YrCHI3Hr	0.26	92.26	92.83	92.40	92.83	0.000107	0.15	1.71	4.28	0.08
River 1	Reach 1-Upper	347	2YrSCS24Hr	0.31	92.26	92.99	92.41	92.99	0.000050	0.13	2.54	7.35	0.06
River 1	Reach 1-Upper	347	5YrSCS24Hr	0.11	92.26	92.46	92.34	92.47	0.000932	0.25	0.43	2.71	0.20
River 1	Reach 1-Upper	347	10YrSCS24Hr	0.18	92.26	92.59	92.37	92.59	0.000403	0.22	0.80	3.25	0.14
River 1	Reach 1-Upper	347	25YrSCS24Hr	0.23	92.26	92.72	92.39	92.72	0.000183	0.18	1.26	3.81	0.10
River 1	Reach 1-Upper	347	50YrSCS24Hr	0.29	92.26	92.92	92.41	92.92	0.000071	0.14	2.13	5.02	0.07
River 1	Reach 1-Upper	347	100YrSCS24Hr	0.34	92.26	93.12	92.42	93.12	0.000020	0.09	6.30	37.59	0.04
River 1	Reach 1-Upper	328	2YrCHI3Hr	0.07	92.20	92.38	92.29	92.38	0.001752	0.30	0.24	1.87	0.27
River 1	Reach 1-Upper	328	5YrCHI3Hr	0.07	92.20	92.37	92.28	92.38	0.001873	0.30	0.22	1.82	0.27
River 1	Reach 1-Upper	328	10YrCHI3Hr	0.12	92.20	92.47	92.32	92.47	0.001020	0.29	0.42	2.24	0.21
River 1	Reach 1-Upper	328	25YrCHI3Hr	0.16	92.20	92.55	92.34	92.55	0.000618	0.26	0.61	2.58	0.17
River 1	Reach 1-Upper	328	50YrCHI3Hr	0.22	92.20	92.69	92.36	92.69	0.000277	0.21	1.02	3.16	0.12
River 1	Reach 1-Upper	328	100YrCHI3Hr	0.26	92.20	92.83	92.38	92.83	0.000152	0.17	1.51	4.11	0.09
River 1	Reach 1-Upper	328	2YrSCS24Hr	0.31	92.20	92.99	92.40	92.99	0.000074	0.14	2.26	5.12	0.07
River 1	Reach 1-Upper	328	5YrSCS24Hr	0.11	92.20	92.44	92.31	92.45	0.001182	0.29	0.36	2.14	0.23
River 1	Reach 1-Upper	328	10YrSCS24Hr	0.18	92.20	92.58	92.34	92.58	0.000513	0.25	0.70	2.71	0.16
River 1	Reach 1-Upper	328	25YrSCS24Hr	0.23	92.20	92.72	92.36	92.72	0.000240	0.21	1.11	3.28	0.11
River 1	Reach 1-Upper	328	50YrSCS24Hr	0.29	92.20	92.92	92.39	92.92	0.000098	0.15	1.92	4.61	0.07
River 1	Reach 1-Upper	328	100YrSCS24Hr	0.34	92.20	93.12	92.40	93.12	0.000035	0.11	4.57	29.52	0.05
River 1	Reach 1-Upper	306	2YrCHI3Hr	0.07	92.07	92.36	92.19	92.36	0.000723	0.26	0.28	1.53	0.18
River 1	Reach 1-Upper	306	5YrCHI3Hr	0.07	92.07	92.35	92.18	92.35	0.000722	0.25	0.27	1.49	0.18
River 1	Reach 1-Upper	306	10YrCHI3Hr	0.12	92.07	92.45	92.23	92.45	0.000689	0.30	0.40	1.84	0.18
River 1	Reach 1-Upper	306	25YrCHI3Hr	0.16	92.07	92.53	92.25	92.54	0.000559	0.31	0.52	2.13	0.17
River 1	Reach 1-Upper	306	50YrCHI3Hr	0.22	92.07	92.68	92.28	92.68	0.000321	0.29	0.74	2.69	0.13
River 1	Reach 1-Upper	306	100YrCHI3Hr	0.26	92.07	92.82	92.30	92.82	0.000203	0.28	0.95	3.29	0.11
River 1	Reach 1-Upper	306	2YrSCS24Hr	0.31	92.07	92.99	92.32	92.99	0.000131	0.26	1.20	4.54	0.09
River 1	Reach 1-Upper	306	5YrSCS24Hr	0.11	92.07	92.42	92.21	92.43	0.000712	0.29	0.37	1.75	0.18
River 1	Reach 1-Upper	306	10YrSCS24Hr	0.18	92.07	92.57	92.26	92.57	0.000497	0.31	0.58	2.25	0.16
River 1	Reach 1-Upper	306	25YrSCS24Hr	0.23	92.07	92.71	92.28	92.71	0.000290	0.29	0.79	2.81	0.13
River 1	Reach 1-Upper	306	50YrSCS24Hr	0.29	92.07	92.91	92.31	92.92	0.000156	0.27	1.10	3.90	0.10
River 1	Reach 1-Upper	306	100YrSCS24Hr	0.34	92.07	93.11	92.33	93.11	0.000098	0.25	1.39	20.53	0.08
River 1	Reach 1-Upper	300		Culvert									
River 1	Reach 1-Upper	294	2YrCHI3Hr	0.07	92.15	92.32	92.23	92.33	0.001574	0.32	0.23	2.11	0.26
River 1	Reach 1-Upper	294	5YrCHI3Hr	0.07	92.15	92.32	92.23	92.32	0.001567	0.31	0.22	2.08	0.26
River 1	Reach 1-Upper	294	10YrCHI3Hr	0.12	92.15	92.37	92.26	92.38	0.001840	0.41	0.29	2.34	0.30
River 1	Reach 1-Upper	294	25YrCHI3Hr	0.16	92.15	92.39	92.28	92.41	0.002165	0.49	0.33	2.48	0.33
River 1	Reach 1-Upper	294	50YrCHI3Hr	0.22	92.15	92.42	92.30	92.44	0.002528	0.57	0.38	2.64	0.36
River 1	Reach 1-Upper	294	100YrCHI3Hr	0.26	92.15	92.45	92.32	92.47	0.002769	0.63	0.41	2.76	0.38
River 1	Reach 1-Upper	294	2YrSCS24Hr	0.31	92.15	92.47	92.33	92.49	0.002956	0.69	0.45	2.87	0.40
River 1	Reach 1-Upper	294	5YrSCS24Hr	0.11	92.15	92.36	92.25	92.36	0.001762	0.39	0.28	2.28	0.29
River 1	Reach 1-Upper	294	10YrSCS24Hr	0.18	92.15	92.40	92.28	92.41	0.002296	0.51	0.35	2.52	0.34
River 1	Reach 1-Upper	294	25YrSCS24Hr	0.23	92.15	92.43	92.30	92.45	0.002610	0.59	0.39	2.66	0.37
River 1	Reach 1-Upper	294	50YrSCS24Hr	0.29	92.15	92.46	92.33	92.48	0.002895	0.67	0.43	2.82	0.40
River 1	Reach 1-Upper	294	100YrSCS24Hr	0.34	92.15	92.48	92.35	92.51	0.003128	0.73	0.47	2.94	0.42
River 1	Reach 1-Upper	279	2YrCHI3Hr	0.09	92.08	92.21	92.21	92.25	0.030968	0.83	0.10	1.54	1.01
River 1	Reach 1-Upper	279	5YrCHI3Hr	0.08	92.08	92.21	92.21	92.24	0.029991	0.80	0.10	1.51	0.99
River 1	Reach 1-Upper	279	10YrCHI3Hr	0.15	92.08	92.25	92.24	92.29	0.026320	0.91	0.16	1.84	0.98
River 1	Reach 1-Upper	279	25YrCHI3Hr	0.20	92.08	92.28		92.32	0.017826	0.87	0.23	2.04	0.83
River 1	Reach 1-Upper	279	50YrCHI3Hr	0.27	92.08	92.32		92.36	0.013314	0.86	0.31	2.27	0.74
River 1	Reach 1-Upper	279	100YrCHI3Hr	0.32	92.08	92.34		92.38	0.011695	0.87	0.37	2.42	0.71
River 1	Reach 1-Upper	279	2YrSCS24Hr	0.38	92.08	92.37		92.41	0.010643	0.88	0.43	2.57	0.69
River 1	Reach 1-Upper	279	5YrSCS24Hr	0.13	92.08	92.23	92.23	92.28	0.029039	0.90	0.14	1.75	1.01
River 1	Reach 1-Upper	279	10YrSCS24Hr	0.22	92.08	92.29		92.33	0.015917	0.86	0.25	2.10	0.80
River 1	Reach 1-Upper	279	25YrSCS24Hr	0.28	92.08	92.32		92.36	0.012955	0.86	0.32	2.30	0.74
River 1	Reach 1-Upper	279	50YrSCS24Hr	0.36	92.08	92.36		92.40	0.011055	0.88	0.41	2.51	0.70
River 1	Reach 1-Upper	279	100YrSCS24Hr	0.42	92.08	92.38		92.42	0.010063	0.89	0.47	2.66	0.67
River 1	Reach 1-Upper	277	2YrCHI3Hr	0.09	91.95	92.21		92.21	0.000715	0.22	0.40	2.73	0.18
River 1	Reach 1-Upper	277	5YrCHI3Hr	0.08	91.95	92.20		92.21	0.000695	0.21	0.39	2.70	0.17
River 1	Reach 1-Upper	277	10YrCHI3Hr	0.15	91.95	92.26		92.26	0.000856	0.28	0.54	3.02	0.20
River 1	Reach 1-Upper	277	25YrCHI3Hr	0.20	91.95	92.29		92.30	0.000927	0.32	0.64	3.19	0.21
River 1	Reach 1-Upper	277	50YrCHI3Hr	0.27	91.95	92.33		92.33	0.001006	0.37	0.76	3.41	0.23
River 1	Reach 1-Upper	277	100YrCHI3Hr	0.32	91.95	92.35		92.36	0.001068	0.41	0.85	3.55	0.24
River 1	Reach 1-Upper	277	2YrSCS24Hr	0.38	91.95	92.38		92.39	0.001131	0.44	0.95	3.69	0.25

HEC-RAS Plan: 20260401-Pre_Dev_v03 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	277	5YrSCS24Hr	0.13	91.95	92.25		92.25	0.000826	0.26	0.50	2.94	0.20
River 1	Reach 1-Upper	277	10YrSCS24Hr	0.22	91.95	92.30		92.31	0.000941	0.33	0.68	3.25	0.22
River 1	Reach 1-Upper	277	25YrSCS24Hr	0.28	91.95	92.33		92.34	0.001018	0.38	0.78	3.43	0.23
River 1	Reach 1-Upper	277	50YrSCS24Hr	0.36	91.95	92.37		92.38	0.001104	0.43	0.91	3.63	0.25
River 1	Reach 1-Upper	277	100YrSCS24Hr	0.42	91.95	92.39		92.40	0.001159	0.46	1.00	3.77	0.26
River 1	Reach 1-Upper	270	2YrCHI3Hr	0.09	92.03	92.20		92.20	0.001702	0.28	0.31	2.65	0.26
River 1	Reach 1-Upper	270	5YrCHI3Hr	0.08	92.03	92.20		92.20	0.001692	0.27	0.29	2.60	0.26
River 1	Reach 1-Upper	270	10YrCHI3Hr	0.15	92.03	92.25		92.25	0.001753	0.33	0.45	3.07	0.27
River 1	Reach 1-Upper	270	25YrCHI3Hr	0.20	92.03	92.28		92.29	0.001743	0.36	0.55	3.36	0.28
River 1	Reach 1-Upper	270	50YrCHI3Hr	0.27	92.03	92.32		92.33	0.001732	0.40	0.68	3.72	0.29
River 1	Reach 1-Upper	270	100YrCHI3Hr	0.32	92.03	92.34		92.35	0.001721	0.42	0.78	4.13	0.29
River 1	Reach 1-Upper	270	2YrSCS24Hr	0.38	92.03	92.37		92.38	0.001663	0.45	0.90	5.00	0.29
River 1	Reach 1-Upper	270	5YrSCS24Hr	0.13	92.03	92.24		92.24	0.001760	0.32	0.40	2.95	0.27
River 1	Reach 1-Upper	270	10YrSCS24Hr	0.22	92.03	92.29		92.30	0.001717	0.37	0.58	3.47	0.28
River 1	Reach 1-Upper	270	25YrSCS24Hr	0.28	92.03	92.32		92.33	0.001734	0.40	0.70	3.76	0.29
River 1	Reach 1-Upper	270	50YrSCS24Hr	0.36	92.03	92.36		92.37	0.001687	0.44	0.84	4.62	0.29
River 1	Reach 1-Upper	270	100YrSCS24Hr	0.42	92.03	92.38		92.39	0.001617	0.46	0.97	5.51	0.29
River 1	Reach 1-Upper	261	2YrCHI3Hr	0.09	92.00	92.18	92.10	92.19	0.002251	0.33	0.26	2.11	0.30
River 1	Reach 1-Upper	261	5YrCHI3Hr	0.08	92.00	92.18	92.10	92.18	0.002216	0.32	0.25	2.09	0.30
River 1	Reach 1-Upper	261	10YrCHI3Hr	0.15	92.00	92.23	92.13	92.24	0.002543	0.41	0.36	2.34	0.33
River 1	Reach 1-Upper	261	25YrCHI3Hr	0.20	92.00	92.26	92.15	92.27	0.002719	0.46	0.43	2.48	0.35
River 1	Reach 1-Upper	261	50YrCHI3Hr	0.27	92.00	92.29	92.18	92.31	0.002882	0.51	0.52	2.66	0.37
River 1	Reach 1-Upper	261	100YrCHI3Hr	0.32	92.00	92.32	92.19	92.33	0.003012	0.55	0.59	2.78	0.38
River 1	Reach 1-Upper	261	2YrSCS24Hr	0.38	92.00	92.34	92.21	92.36	0.003124	0.58	0.66	2.90	0.39
River 1	Reach 1-Upper	261	5YrSCS24Hr	0.13	92.00	92.22	92.12	92.22	0.002466	0.39	0.33	2.27	0.32
River 1	Reach 1-Upper	261	10YrSCS24Hr	0.22	92.00	92.27	92.16	92.28	0.002719	0.47	0.46	2.53	0.35
River 1	Reach 1-Upper	261	25YrSCS24Hr	0.28	92.00	92.30	92.18	92.31	0.002908	0.52	0.54	2.68	0.37
River 1	Reach 1-Upper	261	50YrSCS24Hr	0.36	92.00	92.33	92.20	92.35	0.003077	0.57	0.63	2.84	0.38
River 1	Reach 1-Upper	261	100YrSCS24Hr	0.42	92.00	92.36	92.22	92.38	0.003155	0.60	0.70	2.97	0.39
River 1	Reach 1-Upper	239	2YrCHI3Hr	0.09	91.93	92.05	92.04	92.07	0.017641	0.69	0.12	1.58	0.78
River 1	Reach 1-Upper	239	5YrCHI3Hr	0.08	91.93	92.05	92.03	92.07	0.018146	0.68	0.12	1.54	0.79
River 1	Reach 1-Upper	239	10YrCHI3Hr	0.15	91.93	92.09	92.07	92.12	0.014163	0.75	0.20	1.88	0.73
River 1	Reach 1-Upper	239	25YrCHI3Hr	0.20	91.93	92.12	92.09	92.15	0.012598	0.78	0.25	2.06	0.71
River 1	Reach 1-Upper	239	50YrCHI3Hr	0.27	91.93	92.15	92.12	92.19	0.011181	0.82	0.33	2.23	0.69
River 1	Reach 1-Upper	239	100YrCHI3Hr	0.32	91.93	92.18	92.13	92.21	0.010479	0.85	0.38	2.36	0.68
River 1	Reach 1-Upper	239	2YrSCS24Hr	0.38	91.93	92.20	92.15	92.24	0.009912	0.88	0.44	2.49	0.67
River 1	Reach 1-Upper	239	5YrSCS24Hr	0.13	91.93	92.08	92.06	92.11	0.014943	0.73	0.18	1.79	0.75
River 1	Reach 1-Upper	239	10YrSCS24Hr	0.22	91.93	92.13	92.10	92.16	0.012137	0.79	0.27	2.10	0.70
River 1	Reach 1-Upper	239	25YrSCS24Hr	0.28	91.93	92.16	92.12	92.19	0.011036	0.83	0.34	2.26	0.68
River 1	Reach 1-Upper	239	50YrSCS24Hr	0.36	91.93	92.19	92.14	92.23	0.010147	0.86	0.41	2.43	0.67
River 1	Reach 1-Upper	239	100YrSCS24Hr	0.42	91.93	92.22	92.16	92.26	0.009585	0.89	0.47	2.56	0.66
River 1	Reach 1-Upper	218	2YrCHI3Hr	0.09	91.82	91.97	91.90	91.98	0.002011	0.30	0.29	2.50	0.28
River 1	Reach 1-Upper	218	5YrCHI3Hr	0.08	91.82	91.97	91.89	91.97	0.002000	0.29	0.27	2.48	0.28
River 1	Reach 1-Upper	218	10YrCHI3Hr	0.15	91.82	92.02	91.92	92.02	0.002151	0.37	0.40	2.72	0.30
River 1	Reach 1-Upper	218	25YrCHI3Hr	0.20	91.82	92.05	91.94	92.05	0.002198	0.40	0.49	2.86	0.31
River 1	Reach 1-Upper	218	50YrCHI3Hr	0.27	91.82	92.08	91.96	92.09	0.002327	0.45	0.59	3.03	0.33
River 1	Reach 1-Upper	218	100YrCHI3Hr	0.32	91.82	92.11	91.98	92.12	0.002390	0.49	0.67	3.15	0.34
River 1	Reach 1-Upper	218	2YrSCS24Hr	0.38	91.82	92.13	91.99	92.14	0.002438	0.52	0.75	3.27	0.34
River 1	Reach 1-Upper	218	5YrSCS24Hr	0.13	91.82	92.00	91.92	92.01	0.002117	0.35	0.37	2.66	0.30
River 1	Reach 1-Upper	218	10YrSCS24Hr	0.22	91.82	92.06	91.95	92.06	0.002238	0.42	0.51	2.91	0.32
River 1	Reach 1-Upper	218	25YrSCS24Hr	0.28	91.82	92.09	91.96	92.10	0.002340	0.46	0.60	3.05	0.33
River 1	Reach 1-Upper	218	50YrSCS24Hr	0.36	91.82	92.12	91.98	92.13	0.002418	0.50	0.71	3.22	0.34
River 1	Reach 1-Upper	218	100YrSCS24Hr	0.42	91.82	92.14	92.00	92.16	0.002473	0.53	0.79	3.36	0.35
River 1	Reach 1-Upper	197	2YrCHI3Hr	0.09	91.73	91.86	91.84	91.88	0.015766	0.67	0.13	1.59	0.75
River 1	Reach 1-Upper	197	5YrCHI3Hr	0.08	91.73	91.85	91.84	91.87	0.016181	0.66	0.12	1.55	0.75
River 1	Reach 1-Upper	197	10YrCHI3Hr	0.15	91.73	91.90	91.87	91.93	0.013293	0.73	0.20	1.87	0.72
River 1	Reach 1-Upper	197	25YrCHI3Hr	0.20	91.73	91.93	91.89	91.96	0.012335	0.78	0.25	2.02	0.71
River 1	Reach 1-Upper	197	50YrCHI3Hr	0.27	91.73	91.96	91.92	91.99	0.011527	0.84	0.32	2.18	0.70
River 1	Reach 1-Upper	197	100YrCHI3Hr	0.32	91.73	91.98	91.94	92.02	0.010809	0.87	0.37	2.29	0.69
River 1	Reach 1-Upper	197	2YrSCS24Hr	0.38	91.73	92.00	91.96	92.04	0.010540	0.91	0.42	2.39	0.69
River 1	Reach 1-Upper	197	5YrSCS24Hr	0.13	91.73	91.89	91.87	91.91	0.013973	0.71	0.18	1.81	0.72
River 1	Reach 1-Upper	197	10YrSCS24Hr	0.22	91.73	91.93	91.90	91.97	0.012083	0.80	0.27	2.06	0.70
River 1	Reach 1-Upper	197	25YrSCS24Hr	0.28	91.73	91.96	91.92	92.00	0.011418	0.84	0.33	2.20	0.70
River 1	Reach 1-Upper	197	50YrSCS24Hr	0.36	91.73	91.99	91.95	92.03	0.010650	0.89	0.40	2.34	0.69
River 1	Reach 1-Upper	197	100YrSCS24Hr	0.42	91.73	92.02	91.97	92.06	0.010409	0.93	0.45	2.44	0.69
River 1	Reach 1-Upper	174	2YrCHI3Hr	0.09	91.52	91.70	91.64	91.71	0.004240	0.42	0.20	1.84	0.40
River 1	Reach 1-Upper	174	5YrCHI3Hr	0.08	91.52	91.70	91.63	91.71	0.004212	0.41	0.19	1.80	0.40
River 1	Reach 1-Upper	174	10YrCHI3Hr	0.15	91.52	91.75	91.67	91.76	0.004464	0.50	0.30	2.17	0.43
River 1	Reach 1-Upper	174	25YrCHI3Hr	0.20	91.52	91.78	91.69	91.79	0.004633	0.55	0.36	2.31	0.45
River 1	Reach 1-Upper	174	50YrCHI3Hr	0.27	91.52	91.81	91.72	91.83	0.004788	0.61	0.44	2.47	0.46
River 1	Reach 1-Upper	174	100YrCHI3Hr	0.32	91.52	91.83	91.74	91.85	0.004947	0.65	0.50	2.58	0.48
River 1	Reach 1-Upper	174	2YrSCS24Hr	0.38	91.52	91.85	91.76	91.88	0.005078	0.69	0.56	2.69	0.49
River 1	Reach 1-Upper	174	5YrSCS24Hr	0.13	91.52	91.74	91.66	91.75	0.004366	0.47	0.27	2.08	0.42
River 1	Reach 1-Upper	174	10YrSCS24Hr	0.22	91.52	91.78	91.70	91.80	0.004685	0.57	0.38	2.35	0.45
River 1	Reach 1-Upper	174	25YrSCS24Hr	0.28	91.52	91.81	91.73	91.83	0.004821	0.62	0.45	2.49	0.46
River 1	Reach 1-Upper	174	50YrSCS24Hr	0.36	91.52	91.84	91.75	91.87	0.005024	0.67	0.53	2.65	0.48
River 1	Reach 1-Upper	174	100YrSCS24Hr	0.42	91.52	91.87	91.77	91.89	0.005140	0.71	0.59	2.76	0.49
River 1	Reach 1-Upper	154	2YrCHI3Hr	0.09	91.43	91.62	91.56	91.63	0.004316	0.40	0.22	2.21	0.40
River 1	Reach 1-Upper	154	5YrCHI3Hr	0.08	91.43	91.61	91.56	91.62	0.004328	0.39	0.21	2.16	0.40
River 1	Reach 1-Upper	154	10YrCHI3Hr	0.15	91.43	91.66	91.59	91.67	0.004181	0.46	0.32	2.60	0.41
River 1	Reach 1-Upper	154	25YrCHI3Hr	0.20	91.43	91.69	91.61	91.70	0.004190	0.49	0.40	2.83	0.42
River 1	Reach 1-Upper	154	50YrCHI3Hr	0.27	91.43	91.72	91.64	91.74	0.004087	0.53	0.50	3.11	0.42
River 1	Reach 1-Upper	154	100YrCHI3Hr	0.32	91.43	91.75	91.65	91.76	0.003985	0.56	0.58	3.28	0.43

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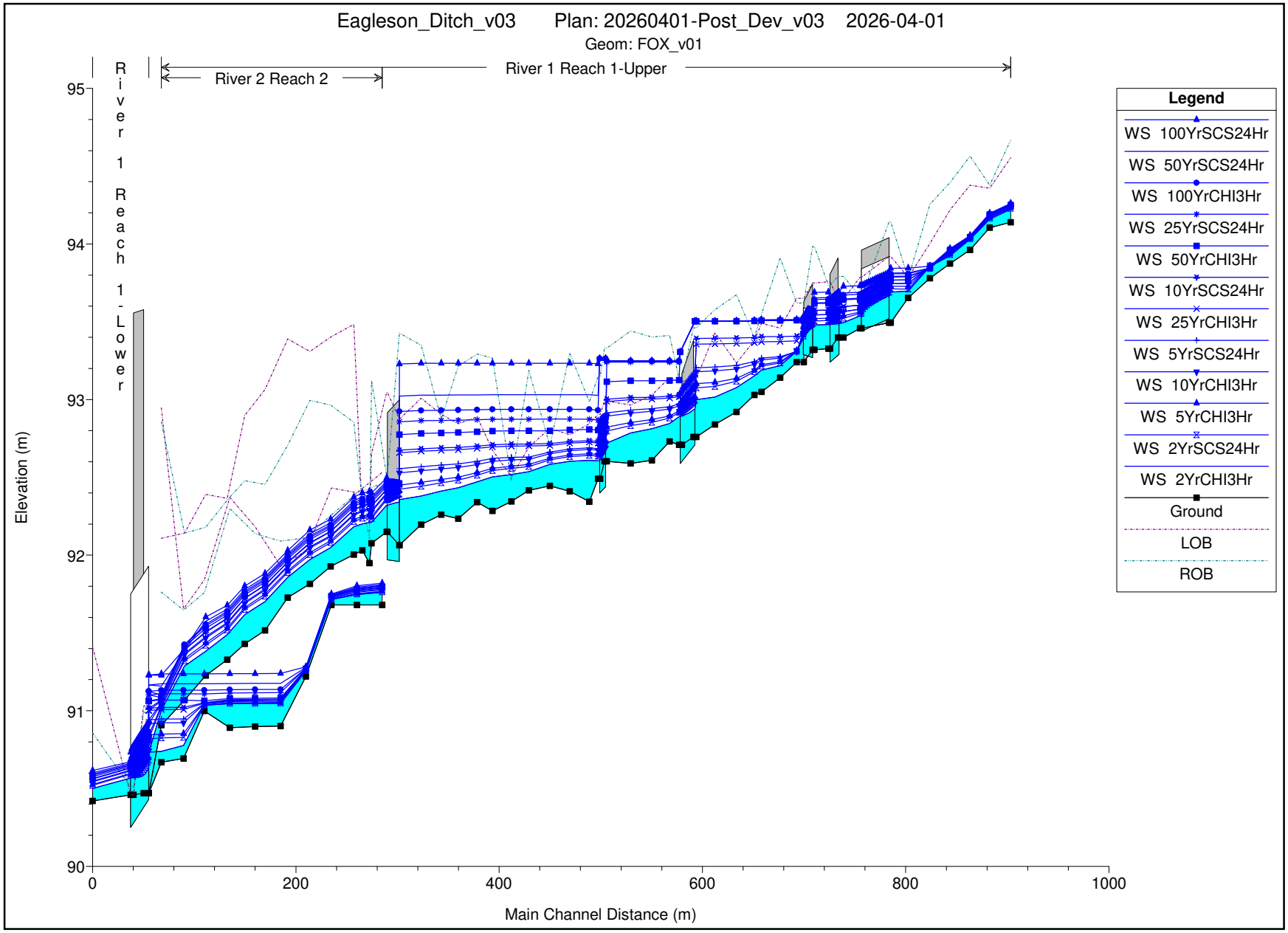
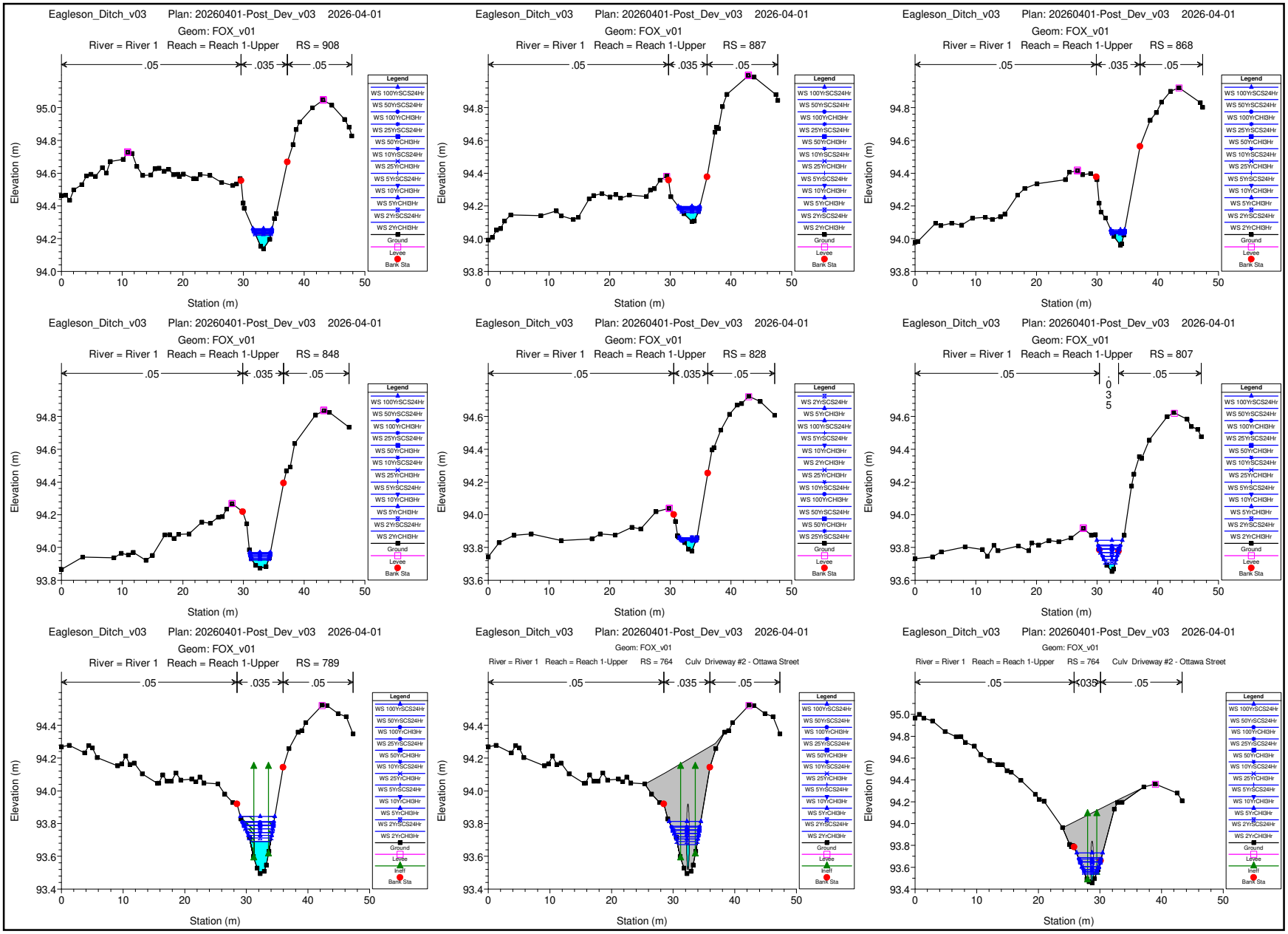
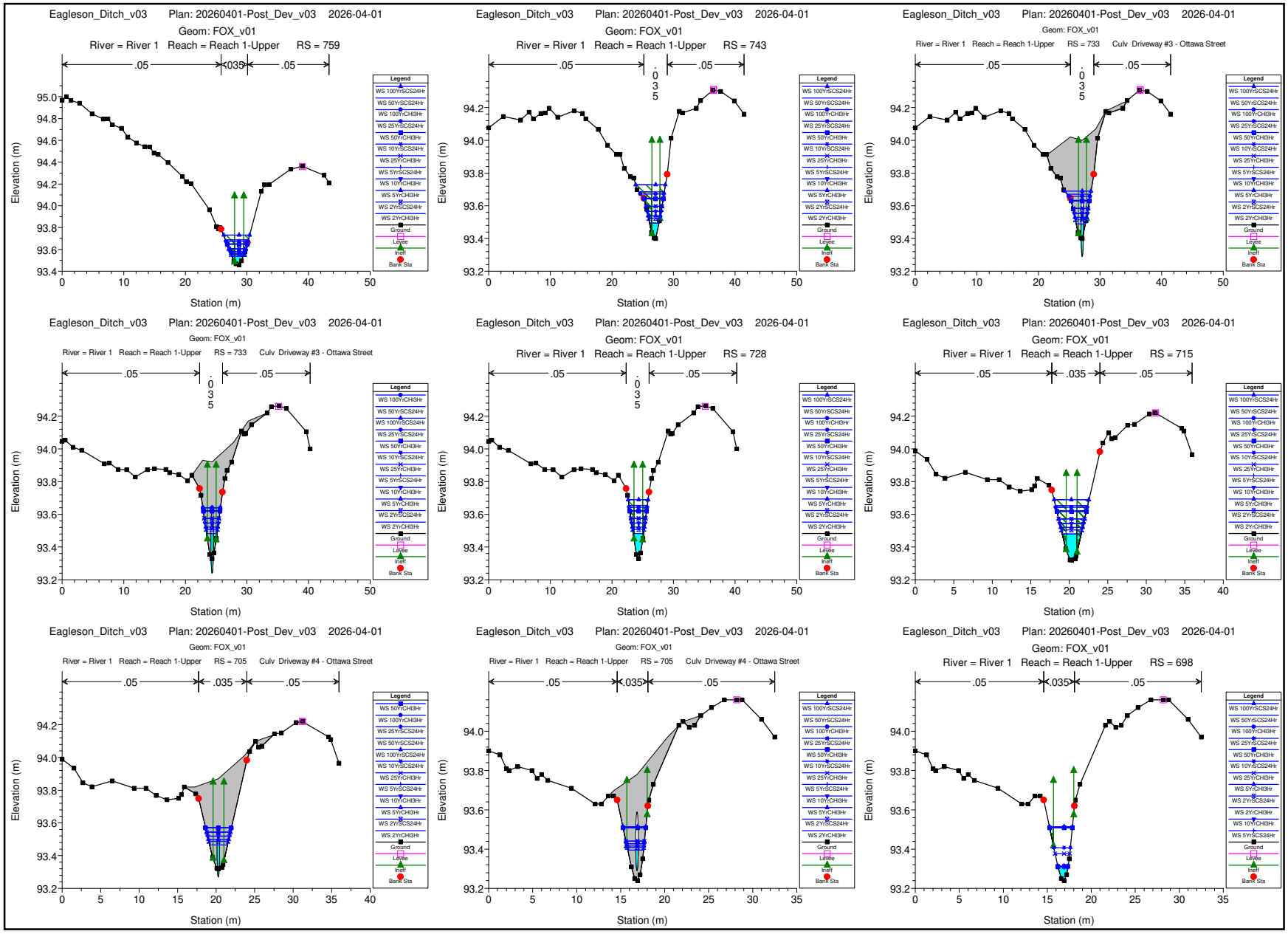
River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	154	2YrSCS24Hr	0.38	91.43	91.77	91.67	91.79	0.003883	0.58	0.66	3.44	0.43
River 1	Reach 1-Upper	154	5YrSCS24Hr	0.13	91.43	91.65	91.58	91.66	0.004251	0.44	0.29	2.49	0.41
River 1	Reach 1-Upper	154	10YrSCS24Hr	0.22	91.43	91.70	91.62	91.71	0.004167	0.51	0.43	2.91	0.42
River 1	Reach 1-Upper	154	25YrSCS24Hr	0.28	91.43	91.73	91.64	91.74	0.004071	0.54	0.51	3.14	0.43
River 1	Reach 1-Upper	154	50YrSCS24Hr	0.36	91.43	91.76	91.66	91.78	0.003925	0.57	0.62	3.37	0.43
River 1	Reach 1-Upper	154	100YrSCS24Hr	0.42	91.43	91.79	91.68	91.80	0.003830	0.60	0.71	3.53	0.43
River 1	Reach 1-Upper	137	2YrCHI3Hr	0.09	91.33	91.49	91.46	91.51	0.011391	0.63	0.14	1.43	0.65
River 1	Reach 1-Upper	137	5YrCHI3Hr	0.08	91.33	91.48	91.46	91.50	0.012189	0.63	0.13	1.39	0.66
River 1	Reach 1-Upper	137	10YrCHI3Hr	0.15	91.33	91.53	91.50	91.56	0.011338	0.73	0.20	1.65	0.67
River 1	Reach 1-Upper	137	25YrCHI3Hr	0.20	91.33	91.56	91.52	91.59	0.011017	0.79	0.25	1.80	0.67
River 1	Reach 1-Upper	137	50YrCHI3Hr	0.27	91.33	91.60	91.55	91.63	0.010550	0.84	0.32	1.99	0.67
River 1	Reach 1-Upper	137	100YrCHI3Hr	0.32	91.33	91.62	91.57	91.66	0.010206	0.88	0.37	2.12	0.67
River 1	Reach 1-Upper	137	2YrSCS24Hr	0.38	91.33	91.65	91.59	91.69	0.009818	0.90	0.42	2.25	0.66
River 1	Reach 1-Upper	137	5YrSCS24Hr	0.13	91.33	91.52	91.49	91.54	0.011464	0.71	0.18	1.58	0.67
River 1	Reach 1-Upper	137	10YrSCS24Hr	0.22	91.33	91.57	91.53	91.60	0.010898	0.80	0.27	1.85	0.67
River 1	Reach 1-Upper	137	25YrSCS24Hr	0.28	91.33	91.60	91.55	91.64	0.010487	0.85	0.33	2.01	0.67
River 1	Reach 1-Upper	137	50YrSCS24Hr	0.36	91.33	91.63	91.58	91.68	0.009938	0.89	0.40	2.20	0.67
River 1	Reach 1-Upper	137	100YrSCS24Hr	0.42	91.33	91.66	91.60	91.70	0.009566	0.92	0.46	2.33	0.66
River 1	Reach 1-Upper	116	2YrCHI3Hr	0.09	91.23	91.38	91.32	91.39	0.003211	0.37	0.23	2.08	0.35
River 1	Reach 1-Upper	116	5YrCHI3Hr	0.08	91.23	91.38	91.32	91.39	0.003082	0.36	0.22	2.06	0.35
River 1	Reach 1-Upper	116	10YrCHI3Hr	0.15	91.23	91.43	91.35	91.44	0.002930	0.42	0.35	2.36	0.35
River 1	Reach 1-Upper	116	25YrCHI3Hr	0.20	91.23	91.47	91.37	91.48	0.002864	0.46	0.43	2.55	0.36
River 1	Reach 1-Upper	116	50YrCHI3Hr	0.27	91.23	91.51	91.39	91.52	0.002818	0.50	0.54	2.77	0.36
River 1	Reach 1-Upper	116	100YrCHI3Hr	0.32	91.23	91.54	91.41	91.55	0.002807	0.52	0.62	2.92	0.36
River 1	Reach 1-Upper	116	2YrSCS24Hr	0.38	91.23	91.56	91.42	91.58	0.002806	0.55	0.70	3.06	0.37
River 1	Reach 1-Upper	116	5YrSCS24Hr	0.13	91.23	91.42	91.34	91.43	0.002964	0.41	0.31	2.29	0.35
River 1	Reach 1-Upper	116	10YrSCS24Hr	0.22	91.23	91.48	91.37	91.49	0.002843	0.47	0.46	2.61	0.36
River 1	Reach 1-Upper	116	25YrSCS24Hr	0.28	91.23	91.51	91.39	91.53	0.002817	0.50	0.55	2.79	0.36
River 1	Reach 1-Upper	116	50YrSCS24Hr	0.36	91.23	91.55	91.42	91.57	0.002792	0.54	0.66	3.00	0.37
River 1	Reach 1-Upper	116	100YrSCS24Hr	0.42	91.23	91.58	91.43	91.60	0.002587	0.55	0.76	3.16	0.36
River 1	Reach 1-Upper	95	2YrCHI3Hr	0.09	91.07	91.29	91.23	91.30	0.006154	0.52	0.16	1.38	0.48
River 1	Reach 1-Upper	95	5YrCHI3Hr	0.08	91.07	91.28	91.23	91.29	0.006001	0.51	0.16	1.35	0.48
River 1	Reach 1-Upper	95	10YrCHI3Hr	0.15	91.07	91.33	91.27	91.35	0.006981	0.63	0.23	1.60	0.53
River 1	Reach 1-Upper	95	25YrCHI3Hr	0.20	91.07	91.36	91.30	91.39	0.007514	0.71	0.28	1.73	0.56
River 1	Reach 1-Upper	95	50YrCHI3Hr	0.27	91.07	91.39	91.33	91.43	0.008051	0.78	0.34	1.89	0.59
River 1	Reach 1-Upper	95	100YrCHI3Hr	0.32	91.07	91.42	91.35	91.45	0.008531	0.84	0.38	1.99	0.61
River 1	Reach 1-Upper	95	2YrSCS24Hr	0.38	91.07	91.42	91.37	91.47	0.012265	1.01	0.38	1.98	0.74
River 1	Reach 1-Upper	95	5YrSCS24Hr	0.13	91.07	91.32	91.26	91.34	0.006833	0.61	0.21	1.53	0.52
River 1	Reach 1-Upper	95	10YrSCS24Hr	0.22	91.07	91.37	91.30	91.40	0.007484	0.72	0.30	1.78	0.56
River 1	Reach 1-Upper	95	25YrSCS24Hr	0.28	91.07	91.40	91.33	91.43	0.008260	0.80	0.35	1.90	0.60
River 1	Reach 1-Upper	95	50YrSCS24Hr	0.36	91.07	91.43	91.36	91.47	0.008800	0.87	0.41	2.08	0.63
River 1	Reach 1-Upper	95	100YrSCS24Hr	0.42	91.07	91.38	91.38	91.47	0.023623	1.32	0.32	1.84	1.01
River 1	Reach 1-Upper	72	2YrCHI3Hr	0.09	90.91	91.00	91.00	91.03	0.030446	0.75	0.12	1.98	0.99
River 1	Reach 1-Upper	72	5YrCHI3Hr	0.08	90.91	91.00	91.00	91.03	0.030836	0.74	0.11	1.93	0.99
River 1	Reach 1-Upper	72	10YrCHI3Hr	0.15	90.91	91.03	91.03	91.07	0.028202	0.84	0.18	2.40	0.99
River 1	Reach 1-Upper	72	25YrCHI3Hr	0.20	90.91	91.05	91.05	91.09	0.027394	0.90	0.22	2.63	0.99
River 1	Reach 1-Upper	72	50YrCHI3Hr	0.27	90.91	91.07	91.07	91.12	0.026901	0.98	0.27	2.82	1.01
River 1	Reach 1-Upper	72	100YrCHI3Hr	0.32	90.91	91.08	91.08	91.14	0.025605	1.02	0.32	2.96	1.00
River 1	Reach 1-Upper	72	2YrSCS24Hr	0.38	90.91	91.12	91.10	91.16	0.014685	0.89	0.43	3.28	0.78
River 1	Reach 1-Upper	72	5YrSCS24Hr	0.13	90.91	91.02	91.02	91.06	0.027869	0.80	0.16	2.30	0.97
River 1	Reach 1-Upper	72	10YrSCS24Hr	0.22	90.91	91.05	91.05	91.10	0.028793	0.94	0.23	2.67	1.02
River 1	Reach 1-Upper	72	25YrSCS24Hr	0.28	90.91	91.07	91.07	91.12	0.025957	0.98	0.28	2.86	0.99
River 1	Reach 1-Upper	72	50YrSCS24Hr	0.36	90.91	91.09	91.09	91.15	0.025859	1.06	0.34	3.02	1.01
River 1	Reach 1-Upper	72	100YrSCS24Hr	0.42	90.91	91.17	91.11	91.19	0.006547	0.69	0.61	3.71	0.54
River 1	Reach 1-Lower	56	2YrCHI3Hr	0.15	90.47	90.73	90.57	90.74	0.000357	0.19	0.75	10.20	0.13
River 1	Reach 1-Lower	56	5YrCHI3Hr	0.14	90.47	90.73	90.57	90.73	0.000365	0.19	0.73	10.09	0.13
River 1	Reach 1-Lower	56	10YrCHI3Hr	0.27	90.47	90.84	90.60	90.85	0.000296	0.23	1.14	14.31	0.13
River 1	Reach 1-Lower	56	25YrCHI3Hr	0.36	90.47	90.92	90.62	90.92	0.000280	0.26	1.40	17.01	0.13
River 1	Reach 1-Lower	56	50YrCHI3Hr	0.50	90.47	91.01	90.64	91.01	0.000269	0.29	1.71	19.79	0.13
River 1	Reach 1-Lower	56	100YrCHI3Hr	0.60	90.47	91.07	90.66	91.08	0.000266	0.31	1.93	20.02	0.13
River 1	Reach 1-Lower	56	2YrSCS24Hr	0.72	90.47	91.14	90.68	91.14	0.000263	0.34	2.16	20.02	0.14
River 1	Reach 1-Lower	56	5YrSCS24Hr	0.23	90.47	90.82	90.59	90.82	0.000305	0.22	1.05	13.10	0.13
River 1	Reach 1-Lower	56	10YrSCS24Hr	0.40	90.47	90.95	90.63	90.95	0.000276	0.27	1.50	18.26	0.13
River 1	Reach 1-Lower	56	25YrSCS24Hr	0.52	90.47	91.02	90.65	91.03	0.000268	0.30	1.76	19.94	0.13
River 1	Reach 1-Lower	56	50YrSCS24Hr	0.68	90.47	91.11	90.68	91.12	0.000265	0.33	2.08	20.02	0.14
River 1	Reach 1-Lower	56	100YrSCS24Hr	0.81	90.47	91.18	90.69	91.18	0.000263	0.35	2.30	20.02	0.14
River 1	Reach 1-Lower	50		Culvert									
River 1	Reach 1-Lower	38	2YrCHI3Hr	0.15	90.46	90.57	90.53	90.58	0.005051	0.43	0.34	30.28	0.44
River 1	Reach 1-Lower	38	5YrCHI3Hr	0.14	90.46	90.57	90.53	90.58	0.004988	0.42	0.33	29.98	0.44
River 1	Reach 1-Lower	38	10YrCHI3Hr	0.27	90.46	90.60	90.56	90.62	0.007033	0.60	0.44	34.43	0.54
River 1	Reach 1-Lower	38	25YrCHI3Hr	0.36	90.46	90.61	90.57	90.64	0.008644	0.73	0.50	35.72	0.61
River 1	Reach 1-Lower	38	50YrCHI3Hr	0.50	90.46	90.63	90.60	90.67	0.010740	0.88	0.57	36.55	0.70
River 1	Reach 1-Lower	38	100YrCHI3Hr	0.60	90.46	90.65	90.62	90.70	0.012455	0.99	0.61	36.99	0.76
River 1	Reach 1-Lower	38	2YrSCS24Hr	0.72	90.46	90.66	90.64	90.72	0.014168	1.11	0.65	37.76	0.82
River 1	Reach 1-Lower	38	5YrSCS24Hr	0.23	90.46	90.59	90.55	90.61	0.006416	0.56	0.42	33.57	0.51
River 1	Reach 1-Lower	38	10YrSCS24Hr	0.40	90.46	90.62	90.58	90.65	0.009262	0.77	0.52	36.29	0.64
River 1	Reach 1-Lower	38	25YrSCS24Hr	0.52	90.46	90.64	90.60	90.68	0.011117	0.90	0.58	36.61	0.71
River 1	Reach 1-Lower	38	50YrSCS24Hr	0.68	90.46	90.65	90.63	90.71	0.013424	1.06	0.64	37.48	0.80
River 1	Reach 1-Lower	38	100YrSCS24Hr	0.81	90.46	90.66	90.64	90.74	0.015528	1.19	0.68	38.08	0.86
River 1	Reach 1-Lower	0	2YrCHI3Hr	0.15	90.42	90.50	90.46	90.50	0.001001	0.13	1.08	18.88	0.18
River 1	Reach 1-Lower	0	5YrCHI3Hr	0.14	90.42	90.50	90.46	90.50	0.001001	0.13	1.06	18.74	0.18
River 1	Reach 1-Lower	0	10YrCHI3Hr	0.27	90.42	90.53	90.47	90.53	0.001000	0.17	1.59	20.05	0.19

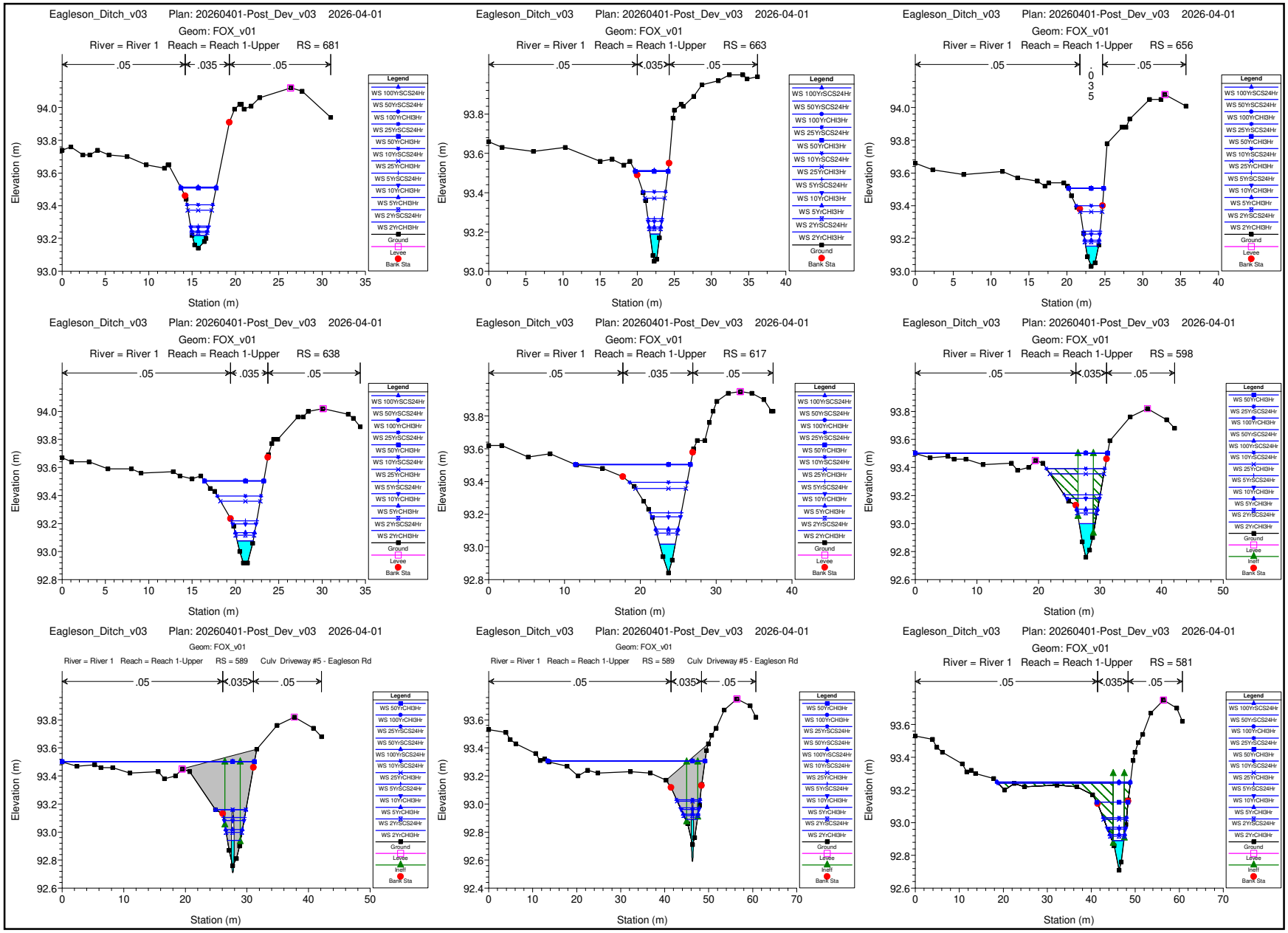
HEC-RAS Plan: 20260401-Pre_Dev_v03 (Continued)

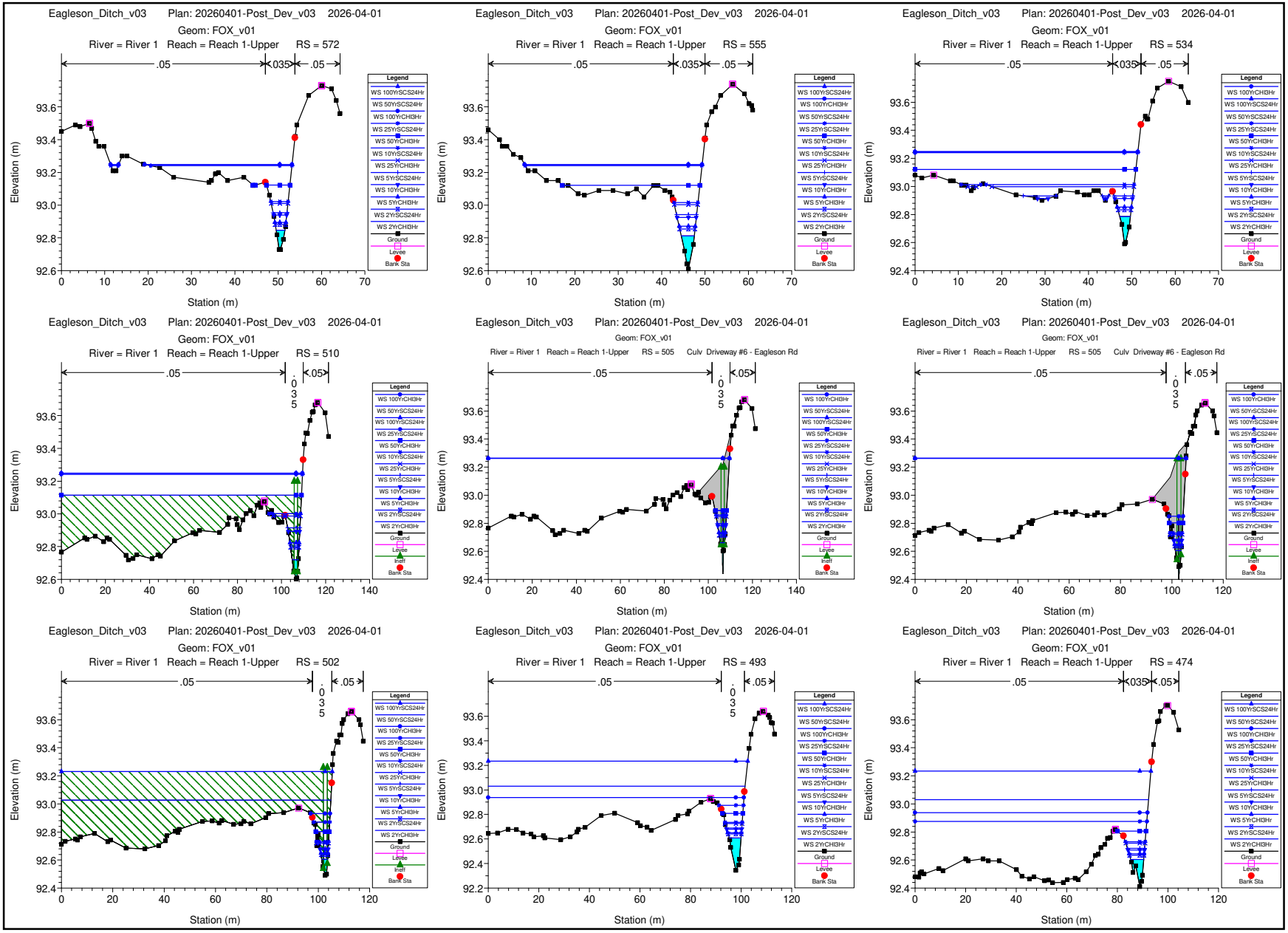
River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Lower	0	25YrCHI3Hr	0.36	90.42	90.54	90.48	90.55	0.001000	0.19	1.93	20.29	0.19
River 1	Reach 1-Lower	0	50YrCHI3Hr	0.50	90.42	90.56	90.49	90.57	0.001001	0.21	2.34	20.59	0.20
River 1	Reach 1-Lower	0	100YrCHI3Hr	0.60	90.42	90.58	90.49	90.58	0.001000	0.23	2.65	20.80	0.20
River 1	Reach 1-Lower	0	2YrSCS24Hr	0.72	90.42	90.59	90.50	90.60	0.001000	0.24	2.99	21.46	0.21
River 1	Reach 1-Lower	0	5YrSCS24Hr	0.23	90.42	90.52	90.46	90.52	0.001000	0.16	1.47	19.96	0.19
River 1	Reach 1-Lower	0	10YrSCS24Hr	0.40	90.42	90.55	90.48	90.55	0.001001	0.20	2.05	20.38	0.20
River 1	Reach 1-Lower	0	25YrSCS24Hr	0.52	90.42	90.57	90.48	90.57	0.001001	0.22	2.41	20.64	0.20
River 1	Reach 1-Lower	0	50YrSCS24Hr	0.68	90.42	90.59	90.49	90.59	0.001001	0.24	2.87	21.34	0.21
River 1	Reach 1-Lower	0	100YrSCS24Hr	0.81	90.42	90.60	90.50	90.61	0.001001	0.25	3.19	21.58	0.21

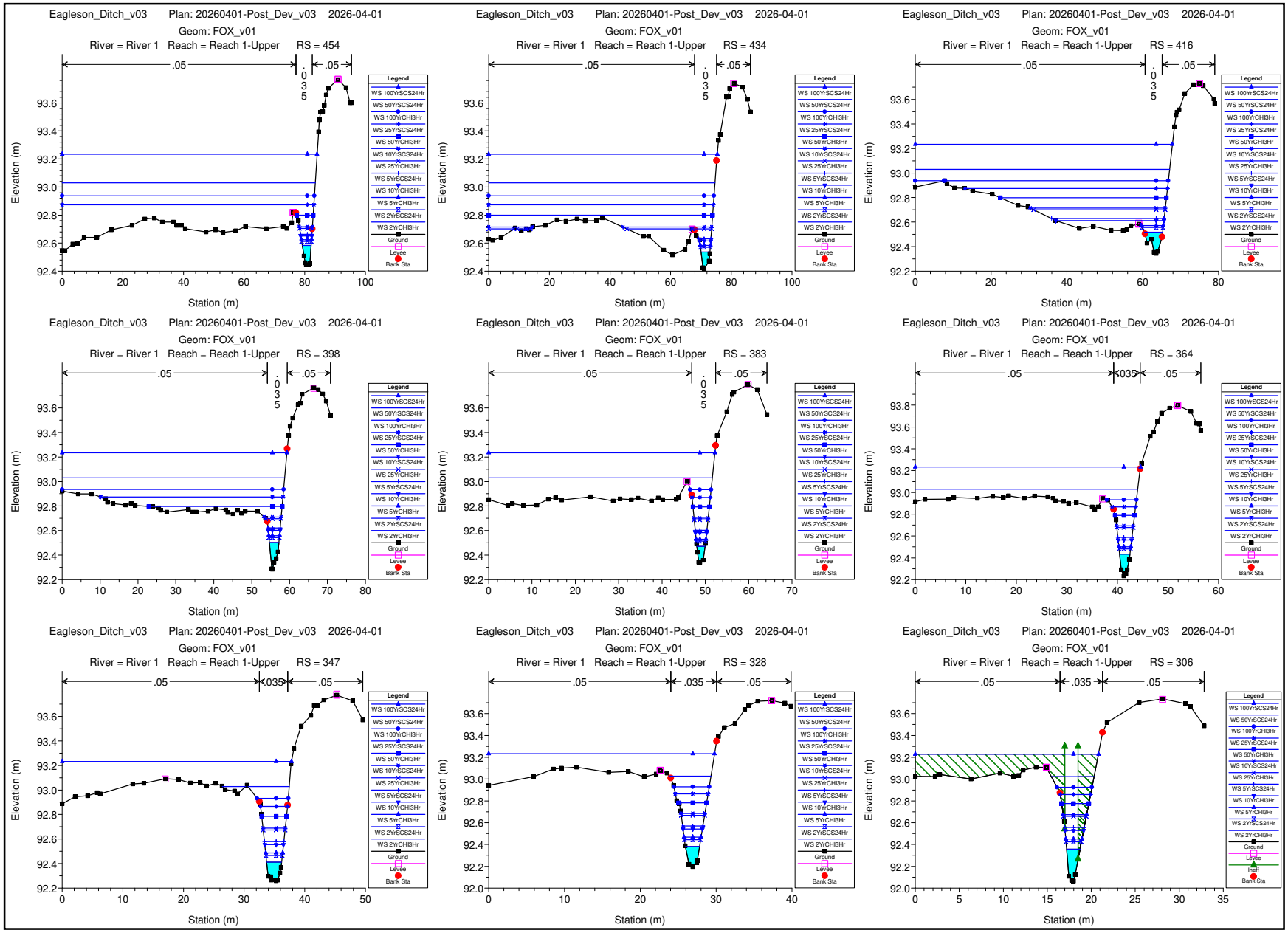

Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River 2 Reach 2
River 1 Reach 1-Upper
River 1 Reach 1-Lower
Elevation (m)
Main Channel Distance (m)
95
94
93
92
91
90
0
200
400
600
800
1000
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
LOB
ROB

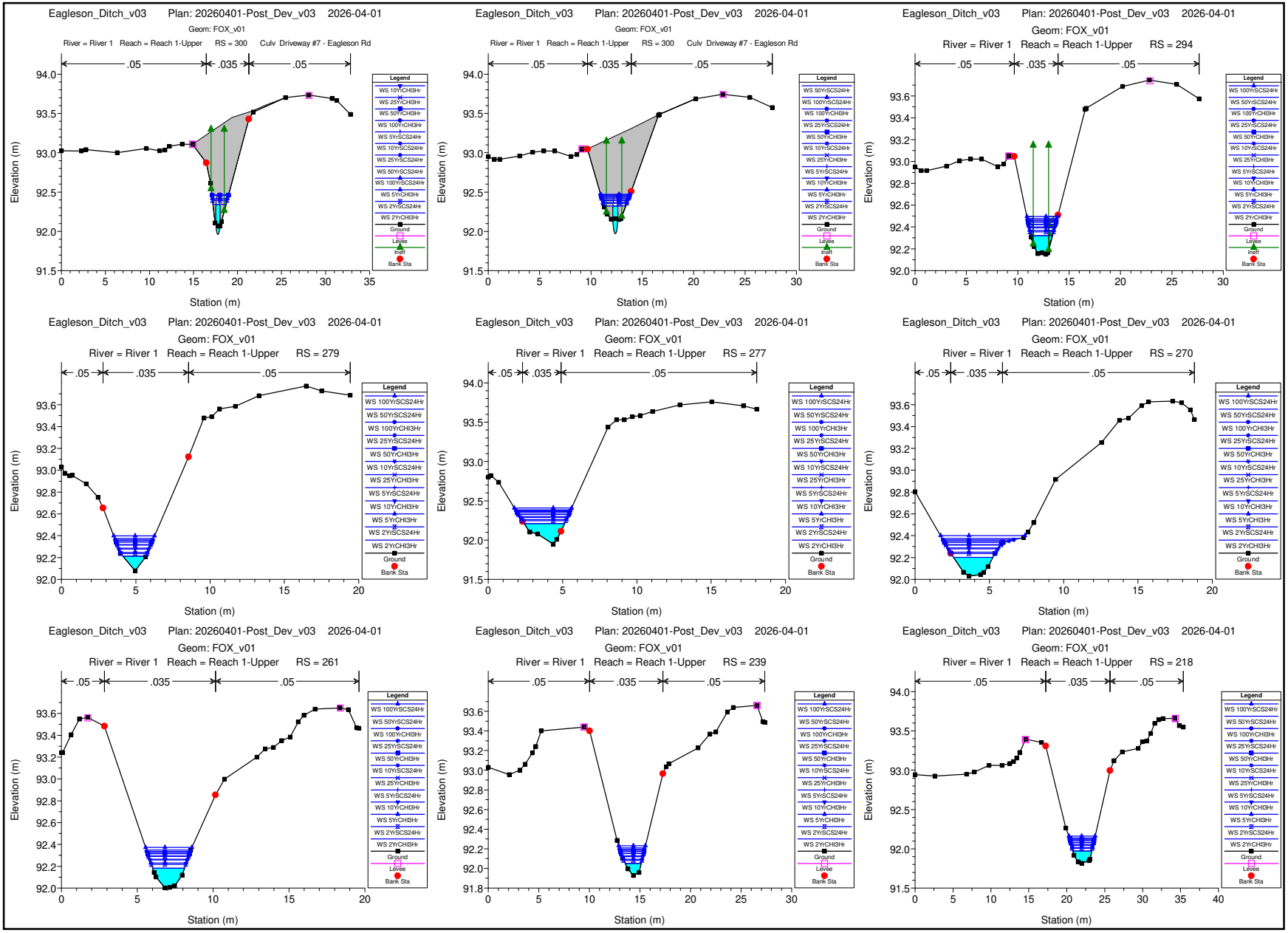

Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 908
River = River 1 Reach = Reach 1-Upper RS = 887
River = River 1 Reach = Reach 1-Upper RS = 868
River = River 1 Reach = Reach 1-Upper RS = 848
River = River 1 Reach = Reach 1-Upper RS = 828
River = River 1 Reach = Reach 1-Upper RS = 807
River = River 1 Reach = Reach 1-Upper RS = 789
River = River 1 Reach = Reach 1-Upper RS = 764 Culv Driveway #2 - Ottawa Street
.05
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Ineff
Bank Sta

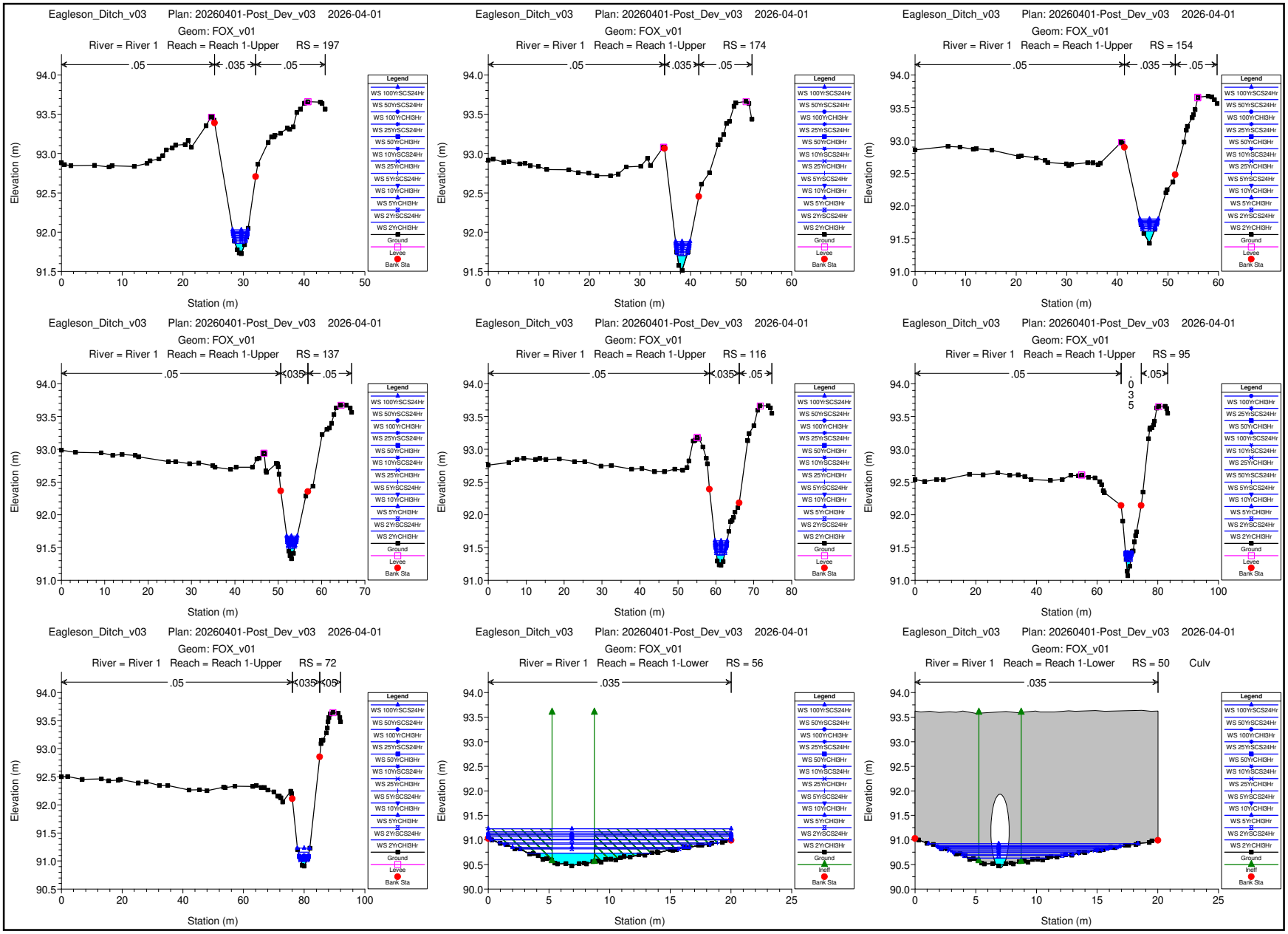

Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 759
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Ineff
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 743
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 733 Culv Driveway #3 - Ottawa Street
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 733 Culv Driveway #3 - Ottawa Street
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 728
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 715
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 705 Culv Driveway #4 - Ottawa Street
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 705 Culv Driveway #4 - Ottawa Street
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 698
.05 .035 .05
Elevation (m)
Station (m)

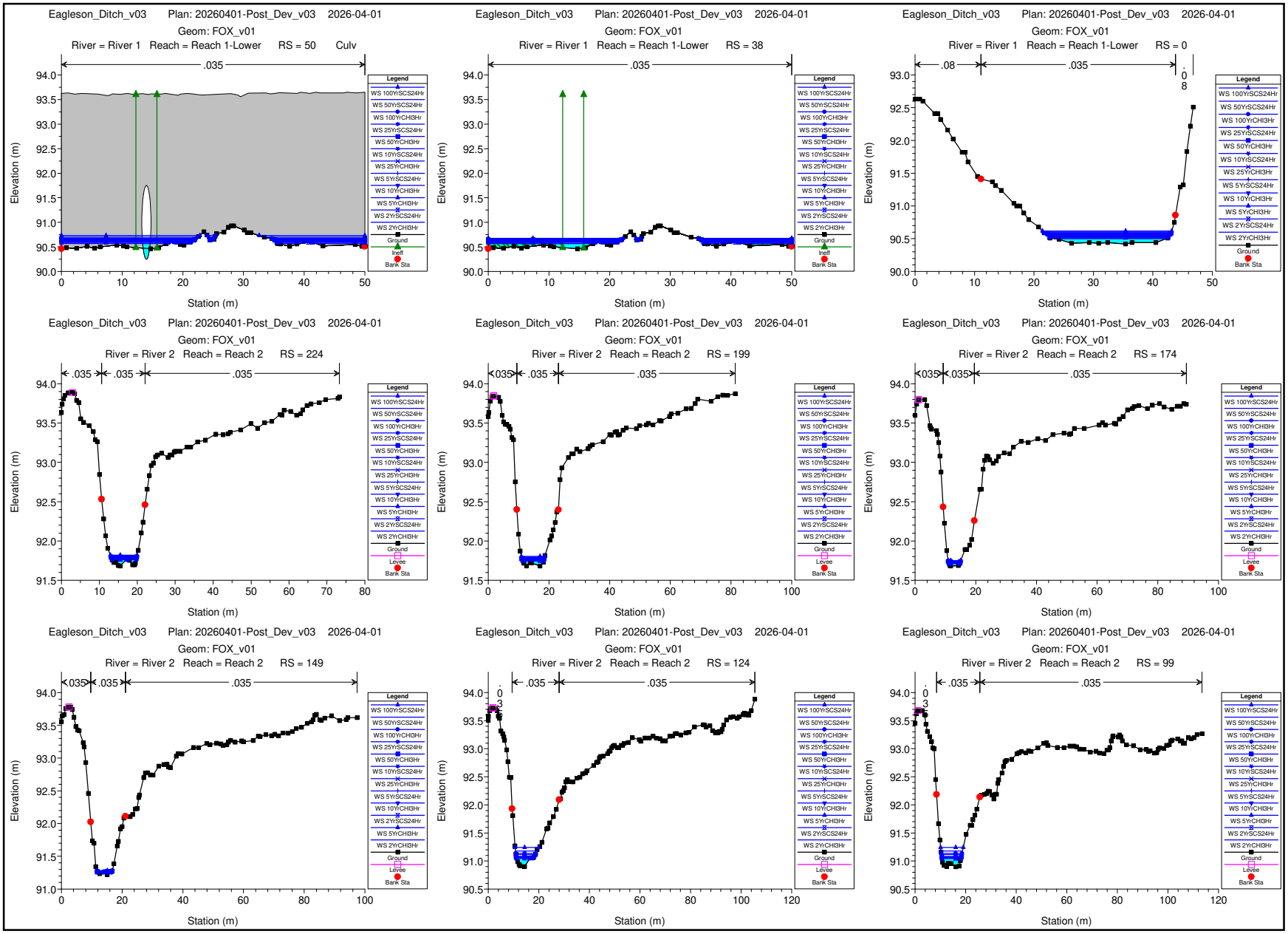

Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 681
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 663
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 656
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 638
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 617
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 598
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 589 Culv Driveway #5 - Eagleson Rd
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 589 Culv Driveway #5 - Eagleson Rd
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 581
.05 .035 .05
Elevation (m)
Station (m)

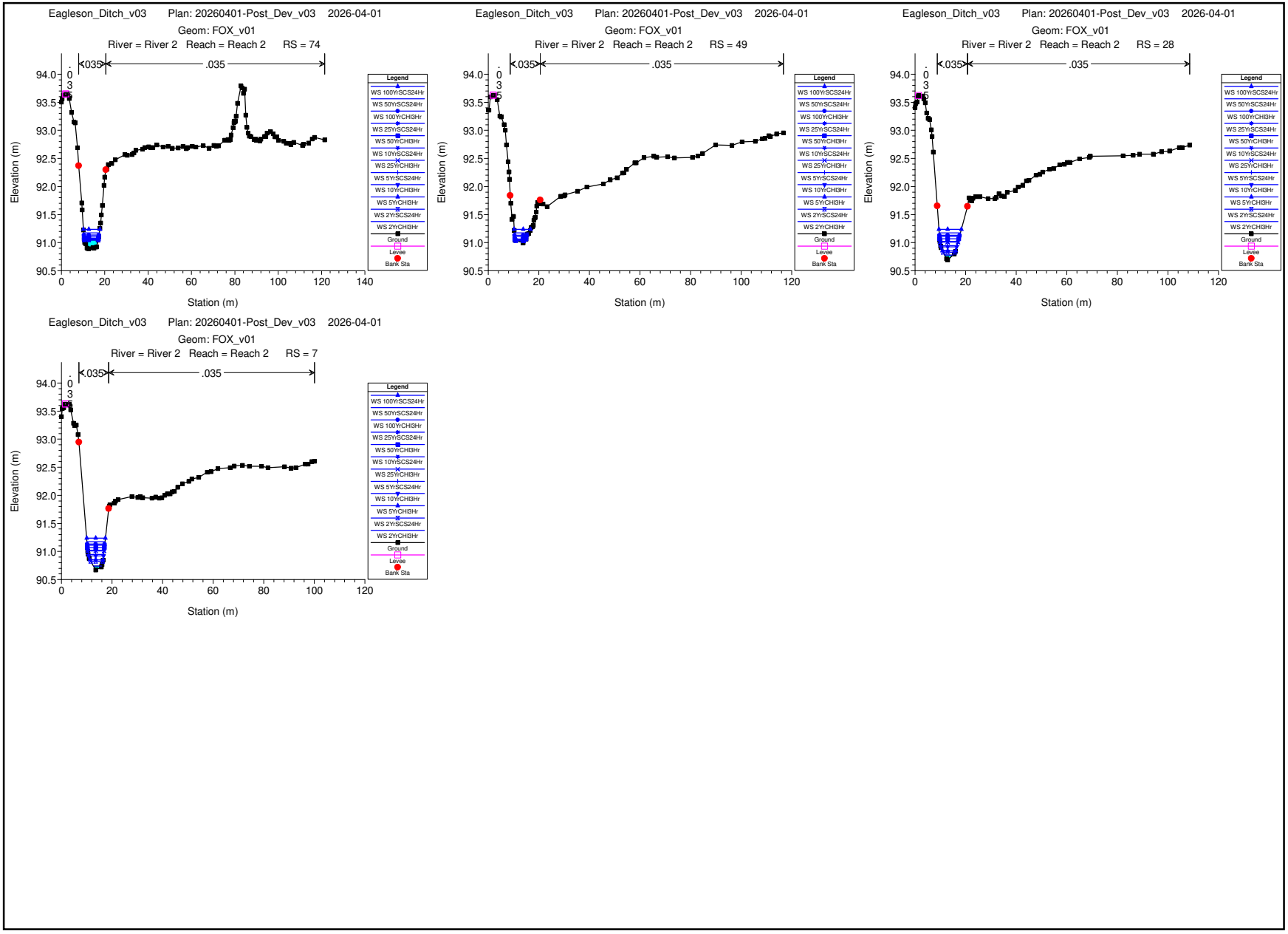

Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 572
River = River 1 Reach = Reach 1-Upper RS = 555
River = River 1 Reach = Reach 1-Upper RS = 534
River = River 1 Reach = Reach 1-Upper RS = 510
River = River 1 Reach = Reach 1-Upper RS = 505 Culv Driveway #6 - Eagleson Rd
River = River 1 Reach = Reach 1-Upper RS = 502
River = River 1 Reach = Reach 1-Upper RS = 493
River = River 1 Reach = Reach 1-Upper RS = 474
.05
.035
.05
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Ineff
Bank Sta


Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 454
RS = 434
RS = 416
RS = 398
RS = 383
RS = 364
RS = 347
RS = 328
RS = 306
.05
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Ineff
Bank Sta


Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 300 Culv Driveway #7 - Eagleson Rd
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 10YrCHI3Hr
WS 25YrCHI3Hr
WS 50YrCHI3Hr
WS 100YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrSCS24Hr
WS 25YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrSCS24Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 300 Culv Driveway #7 - Eagleson Rd
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 50YrSCS24Hr
WS 100YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 294
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 279
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 277
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 270
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 261
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 239
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 218
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta


Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 197
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 174
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 154
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 137
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 116
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 95
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Upper RS = 72
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Lower RS = 56
.035
Elevation (m)
Station (m)
Ineff
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Lower RS = 50 Culv
.035
Elevation (m)
Station (m)
Ineff


Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Lower RS = 50 Culv
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Ineff
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Lower RS = 38
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Ineff
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 1 Reach = Reach 1-Lower RS = 0
.08
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 224
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 199
035
.035
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 174
035
.035
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 149
035
.035
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 124
.035
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 99
.035
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta


Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 74
.035
.035
.03
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 49
.035
.035
.035
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 28
.035
.035
.036
Elevation (m)
Station (m)
Eagleson_Ditch_v03 Plan: 20260401-Post_Dev_v03 2026-04-01
Geom: FOX_v01
River = River 2 Reach = Reach 2 RS = 7
.035
.035
.03
Elevation (m)
Station (m)

HEC-RAS Plan: 20260401-Post_Dev_v03

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 2	Reach 2	224	2YrCHl3Hr	0.02	91.68	91.76	91.71	91.76	0.000707	0.09	0.24	5.69	0.14
River 2	Reach 2	224	5YrCHl3Hr	0.03	91.68	91.77	91.72	91.77	0.000751	0.10	0.28	6.26	0.15
River 2	Reach 2	224	10YrCHl3Hr	0.04	91.68	91.78	91.72	91.78	0.000754	0.11	0.34	6.52	0.15
River 2	Reach 2	224	25YrCHl3Hr	0.05	91.68	91.79	91.73	91.79	0.000757	0.12	0.42	6.66	0.16
River 2	Reach 2	224	50YrCHl3Hr	0.06	91.68	91.80	91.74	91.80	0.000766	0.13	0.47	6.76	0.16
River 2	Reach 2	224	100YrCHl3Hr	0.08	91.68	91.80	91.74	91.81	0.000793	0.14	0.53	6.86	0.17
River 2	Reach 2	224	2YrSCS24Hr	0.03	91.68	91.76	91.72	91.76	0.000730	0.10	0.26	5.99	0.15
River 2	Reach 2	224	5YrSCS24Hr	0.04	91.68	91.78	91.73	91.78	0.000755	0.12	0.37	6.57	0.16
River 2	Reach 2	224	10YrSCS24Hr	0.06	91.68	91.79	91.73	91.79	0.000760	0.13	0.44	6.70	0.16
River 2	Reach 2	224	25YrSCS24Hr	0.07	91.68	91.80	91.74	91.80	0.000771	0.14	0.52	6.84	0.16
River 2	Reach 2	224	50YrSCS24Hr	0.09	91.68	91.81	91.74	91.81	0.000797	0.15	0.57	6.94	0.17
River 2	Reach 2	224	100YrSCS24Hr	0.10	91.68	91.82	91.75	91.82	0.000786	0.16	0.64	7.06	0.17
River 2	Reach 2	199	2YrCHl3Hr	0.02	91.68	91.75	91.71	91.75	0.000472	0.08	0.29	6.89	0.12
River 2	Reach 2	199	5YrCHl3Hr	0.03	91.68	91.75	91.71	91.75	0.000492	0.08	0.34	7.01	0.12
River 2	Reach 2	199	10YrCHl3Hr	0.04	91.68	91.76	91.72	91.76	0.000522	0.10	0.40	7.18	0.13
River 2	Reach 2	199	25YrCHl3Hr	0.05	91.68	91.77	91.72	91.77	0.000557	0.11	0.48	7.38	0.14
River 2	Reach 2	199	50YrCHl3Hr	0.06	91.68	91.78	91.72	91.78	0.000577	0.12	0.53	7.47	0.14
River 2	Reach 2	199	100YrCHl3Hr	0.08	91.68	91.79	91.73	91.79	0.000625	0.13	0.59	7.55	0.15
River 2	Reach 2	199	2YrSCS24Hr	0.03	91.68	91.75	91.71	91.75	0.000479	0.08	0.31	6.96	0.12
River 2	Reach 2	199	5YrSCS24Hr	0.04	91.68	91.77	91.72	91.77	0.000539	0.10	0.43	7.26	0.13
River 2	Reach 2	199	10YrSCS24Hr	0.06	91.68	91.78	91.72	91.78	0.000565	0.11	0.50	7.42	0.14
River 2	Reach 2	199	25YrSCS24Hr	0.07	91.68	91.79	91.73	91.79	0.000587	0.13	0.58	7.55	0.14
River 2	Reach 2	199	50YrSCS24Hr	0.09	91.68	91.79	91.73	91.79	0.000632	0.14	0.64	7.63	0.15
River 2	Reach 2	199	100YrSCS24Hr	0.10	91.68	91.80	91.73	91.80	0.000613	0.14	0.71	7.74	0.15
River 2	Reach 2	174	2YrCHl3Hr	0.02	91.68	91.71	91.70	91.72	0.008556	0.24	0.09	3.50	0.46
River 2	Reach 2	174	5YrCHl3Hr	0.03	91.68	91.72	91.70	91.72	0.009515	0.27	0.11	3.59	0.49
River 2	Reach 2	174	10YrCHl3Hr	0.04	91.68	91.72	91.71	91.73	0.009556	0.30	0.13	3.72	0.51
River 2	Reach 2	174	25YrCHl3Hr	0.05	91.68	91.73	91.72	91.74	0.010094	0.34	0.15	3.87	0.54
River 2	Reach 2	174	50YrCHl3Hr	0.06	91.68	91.74	91.72	91.74	0.009997	0.36	0.18	3.98	0.54
River 2	Reach 2	174	100YrCHl3Hr	0.08	91.68	91.74	91.72	91.75	0.010128	0.38	0.20	4.07	0.55
River 2	Reach 2	174	2YrSCS24Hr	0.03	91.68	91.71	91.70	91.72	0.010728	0.27	0.09	3.51	0.52
River 2	Reach 2	174	5YrSCS24Hr	0.04	91.68	91.73	91.71	91.73	0.010224	0.32	0.14	3.76	0.53
River 2	Reach 2	174	10YrSCS24Hr	0.06	91.68	91.73	91.72	91.74	0.010004	0.34	0.16	3.91	0.54
River 2	Reach 2	174	25YrSCS24Hr	0.07	91.68	91.74	91.72	91.75	0.010491	0.38	0.19	4.05	0.56
River 2	Reach 2	174	50YrSCS24Hr	0.09	91.68	91.75	91.73	91.75	0.011046	0.41	0.21	4.11	0.58
River 2	Reach 2	174	100YrSCS24Hr	0.10	91.68	91.75	91.73	91.76	0.011559	0.44	0.23	4.17	0.60
River 2	Reach 2	149	2YrCHl3Hr	0.02	91.22	91.26	91.26	91.26	0.061119	0.41	0.05	3.77	1.11
River 2	Reach 2	149	5YrCHl3Hr	0.03	91.22	91.26	91.26	91.27	0.047461	0.40	0.07	4.38	1.00
River 2	Reach 2	149	10YrCHl3Hr	0.04	91.22	91.26	91.26	91.27	0.047907	0.44	0.09	4.54	1.03
River 2	Reach 2	149	25YrCHl3Hr	0.05	91.22	91.27	91.27	91.28	0.043351	0.48	0.11	4.71	1.01
River 2	Reach 2	149	50YrCHl3Hr	0.06	91.22	91.27	91.27	91.28	0.044171	0.52	0.12	4.81	1.04
River 2	Reach 2	149	100YrCHl3Hr	0.08	91.22	91.27	91.27	91.29	0.042366	0.55	0.14	4.94	1.04
River 2	Reach 2	149	2YrSCS24Hr	0.03	91.22	91.26	91.26	91.27	0.037267	0.35	0.07	4.39	0.89
River 2	Reach 2	149	5YrSCS24Hr	0.04	91.22	91.27	91.27	91.28	0.041591	0.44	0.10	4.62	0.98
River 2	Reach 2	149	10YrSCS24Hr	0.06	91.22	91.27	91.27	91.28	0.043743	0.49	0.11	4.75	1.02
River 2	Reach 2	149	25YrSCS24Hr	0.07	91.22	91.27	91.27	91.29	0.040131	0.53	0.14	4.93	1.01
River 2	Reach 2	149	50YrSCS24Hr	0.09	91.22	91.28	91.28	91.29	0.036673	0.55	0.16	5.05	0.98
River 2	Reach 2	149	100YrSCS24Hr	0.10	91.22	91.28	91.28	91.30	0.033967	0.57	0.18	5.09	0.96
River 2	Reach 2	124	2YrCHl3Hr	0.02	90.90	91.05	90.93	91.05	0.000051	0.04	0.51	5.20	0.04
River 2	Reach 2	124	5YrCHl3Hr	0.03	90.90	91.05	90.94	91.05	0.000070	0.05	0.54	5.32	0.05
River 2	Reach 2	124	10YrCHl3Hr	0.04	90.90	91.06	90.94	91.06	0.000126	0.06	0.59	6.58	0.07
River 2	Reach 2	124	25YrCHl3Hr	0.05	90.90	91.07	90.95	91.07	0.000169	0.08	0.66	6.85	0.08
River 2	Reach 2	124	50YrCHl3Hr	0.06	90.90	91.08	90.95	91.08	0.000184	0.09	0.74	7.09	0.08
River 2	Reach 2	124	100YrCHl3Hr	0.08	90.90	91.14	90.96	91.14	0.000071	0.07	1.15	8.03	0.06
River 2	Reach 2	124	2YrSCS24Hr	0.03	90.90	91.05	90.93	91.05	0.000060	0.05	0.53	5.26	0.05
River 2	Reach 2	124	5YrSCS24Hr	0.04	90.90	91.07	90.94	91.07	0.000142	0.07	0.62	6.68	0.07
River 2	Reach 2	124	10YrSCS24Hr	0.06	90.90	91.08	90.95	91.08	0.000180	0.08	0.68	6.92	0.08
River 2	Reach 2	124	25YrSCS24Hr	0.07	90.90	91.12	90.95	91.12	0.000106	0.07	0.99	7.83	0.07
River 2	Reach 2	124	50YrSCS24Hr	0.09	90.90	91.18	90.96	91.18	0.000043	0.06	1.48	8.41	0.04
River 2	Reach 2	124	100YrSCS24Hr	0.10	90.90	91.24	90.97	91.24	0.000024	0.05	2.03	9.43	0.03
River 2	Reach 2	99	2YrCHl3Hr	0.02	90.90	91.05	90.92	91.05	0.000015	0.03	0.85	7.48	0.02
River 2	Reach 2	99	5YrCHl3Hr	0.03	90.90	91.05	90.93	91.05	0.000021	0.03	0.89	7.53	0.03
River 2	Reach 2	99	10YrCHl3Hr	0.04	90.90	91.06	90.93	91.06	0.000031	0.04	0.95	7.59	0.04
River 2	Reach 2	99	25YrCHl3Hr	0.05	90.90	91.07	90.94	91.07	0.000046	0.05	1.03	7.67	0.04
River 2	Reach 2	99	50YrCHl3Hr	0.06	90.90	91.08	90.94	91.08	0.000053	0.06	1.11	7.75	0.05
River 2	Reach 2	99	100YrCHl3Hr	0.08	90.90	91.14	90.94	91.14	0.000027	0.05	1.55	8.19	0.04
River 2	Reach 2	99	2YrSCS24Hr	0.03	90.90	91.05	90.92	91.05	0.000018	0.03	0.87	7.51	0.03
River 2	Reach 2	99	5YrSCS24Hr	0.04	90.90	91.06	90.93	91.06	0.000037	0.04	0.98	7.62	0.04
River 2	Reach 2	99	10YrSCS24Hr	0.06	90.90	91.07	90.94	91.07	0.000050	0.05	1.05	7.69	0.05
River 2	Reach 2	99	25YrSCS24Hr	0.07	90.90	91.12	90.94	91.12	0.000036	0.05	1.38	8.02	0.04
River 2	Reach 2	99	50YrSCS24Hr	0.09	90.90	91.18	90.95	91.18	0.000020	0.05	1.88	8.49	0.03
River 2	Reach 2	99	100YrSCS24Hr	0.10	90.90	91.24	90.95	91.24	0.000012	0.04	2.43	8.95	0.03
River 2	Reach 2	74	2YrCHl3Hr	0.02	90.89	91.05	90.92	91.05	0.000018	0.03	0.76	6.42	0.03
River 2	Reach 2	74	5YrCHl3Hr	0.03	90.89	91.05	90.92	91.05	0.000025	0.04	0.80	6.46	0.03
River 2	Reach 2	74	10YrCHl3Hr	0.04	90.89	91.06	90.92	91.06	0.000038	0.04	0.85	6.52	0.04
River 2	Reach 2	74	25YrCHl3Hr	0.05	90.89	91.07	90.93	91.07	0.000056	0.06	0.91	6.60	0.05
River 2	Reach 2	74	50YrCHl3Hr	0.06	90.89	91.08	90.93	91.08	0.000067	0.06	0.98	6.67	0.05
River 2	Reach 2	74	100YrCHl3Hr	0.08	90.89	91.14	90.93	91.14	0.000034	0.06	1.36	7.04	0.04
River 2	Reach 2	74	2YrSCS24Hr	0.03	90.89	91.05	90.92	91.05	0.000021	0.03	0.78	6.44	0.03
River 2	Reach 2	74	5YrSCS24Hr	0.04	90.89	91.06	90.93	91.06	0.000044	0.05	0.87	6.55	0.04
River 2	Reach 2	74	10YrSCS24Hr	0.06	90.89	91.07	90.93	91.07	0.000062	0.06	0.93	6.62	0.05
River 2	Reach 2	74	25YrSCS24Hr	0.07	90.89	91.11	90.93	91.11	0.000045	0.06	1.21	6.91	0.05
River 2	Reach 2	74	50YrSCS24Hr	0.09	90.89	91.18	90.94	91.18	0.000025	0.05	1.65	7.28	0.04
River 2	Reach 2	74	100YrSCS24Hr	0.10	90.89	91.24	90.94	91.24	0.000016	0.05	2.12	7.65	0.03

HEC-RAS Plan: 20260401-Post_Dev_v03 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 2	Reach 2	49	2YrCHI3Hr	0.02	91.00	91.04	91.04	91.04	0.041786	0.40	0.05	2.97	0.96
River 2	Reach 2	49	5YrCHI3Hr	0.03	91.00	91.04	91.04	91.05	0.047918	0.45	0.06	3.17	1.04
River 2	Reach 2	49	10YrCHI3Hr	0.04	91.00	91.04	91.04	91.05	0.036540	0.45	0.08	3.51	0.94
River 2	Reach 2	49	25YrCHI3Hr	0.05	91.00	91.05	91.05	91.06	0.040961	0.53	0.10	3.53	1.01
River 2	Reach 2	49	50YrCHI3Hr	0.06	91.00	91.06	91.05	91.07	0.014332	0.40	0.16	3.91	0.64
River 2	Reach 2	49	100YrCHI3Hr	0.08	91.00	91.13	91.06	91.13	0.000828	0.17	0.45	4.91	0.18
River 2	Reach 2	49	2YrSCS24Hr	0.03	91.00	91.04	91.04	91.05	0.045843	0.43	0.06	3.06	1.01
River 2	Reach 2	49	5YrSCS24Hr	0.04	91.00	91.05	91.05	91.06	0.034072	0.47	0.09	3.52	0.92
River 2	Reach 2	49	10YrSCS24Hr	0.06	91.00	91.05	91.05	91.07	0.033949	0.51	0.11	3.55	0.94
River 2	Reach 2	49	25YrSCS24Hr	0.07	91.00	91.11	91.06	91.11	0.001793	0.21	0.34	4.60	0.25
River 2	Reach 2	49	50YrSCS24Hr	0.09	91.00	91.17	91.06	91.17	0.000366	0.13	0.67	5.80	0.12
River 2	Reach 2	49	100YrSCS24Hr	0.10	91.00	91.24	91.07	91.24	0.000125	0.09	1.07	6.54	0.07
River 2	Reach 2	28	2YrCHI3Hr	0.02	90.69	90.78	90.74	90.78	0.001371	0.13	0.15	3.29	0.20
River 2	Reach 2	28	5YrCHI3Hr	0.04	90.69	90.85	90.75	90.85	0.000177	0.08	0.48	5.18	0.08
River 2	Reach 2	28	10YrCHI3Hr	0.05	90.69	90.92	90.76	90.92	0.000054	0.06	0.88	6.27	0.05
River 2	Reach 2	28	25YrCHI3Hr	0.07	90.69	91.01	90.76	91.01	0.000023	0.05	1.45	7.10	0.03
River 2	Reach 2	28	50YrCHI3Hr	0.08	90.69	91.07	90.77	91.07	0.000015	0.04	1.90	7.62	0.03
River 2	Reach 2	28	100YrCHI3Hr	0.10	90.69	91.13	90.78	91.13	0.000011	0.04	2.39	8.10	0.02
River 2	Reach 2	28	2YrSCS24Hr	0.03	90.69	90.83	90.75	90.83	0.000322	0.09	0.36	4.71	0.11
River 2	Reach 2	28	5YrSCS24Hr	0.06	90.69	90.95	90.76	90.95	0.000043	0.05	1.04	6.53	0.04
River 2	Reach 2	28	10YrSCS24Hr	0.07	90.69	91.02	90.77	91.02	0.000022	0.05	1.55	7.23	0.03
River 2	Reach 2	28	25YrSCS24Hr	0.10	90.69	91.11	90.78	91.11	0.000013	0.04	2.21	7.92	0.03
River 2	Reach 2	28	50YrSCS24Hr	0.11	90.69	91.17	90.78	91.17	0.000010	0.04	2.73	8.41	0.02
River 2	Reach 2	28	100YrSCS24Hr	0.14	90.69	91.24	90.79	91.24	0.000008	0.04	3.29	8.89	0.02
River 2	Reach 2	7	2YrCHI3Hr	0.02	90.67	90.74	90.71	90.74	0.002152	0.15	0.13	3.25	0.25
River 2	Reach 2	7	5YrCHI3Hr	0.04	90.67	90.85	90.72	90.85	0.000083	0.06	0.60	5.19	0.06
River 2	Reach 2	7	10YrCHI3Hr	0.05	90.67	90.92	90.73	90.92	0.000032	0.05	1.00	5.91	0.04
River 2	Reach 2	7	25YrCHI3Hr	0.07	90.67	91.01	90.73	91.01	0.000017	0.04	1.53	6.42	0.03
River 2	Reach 2	7	50YrCHI3Hr	0.08	90.67	91.07	90.74	91.07	0.000012	0.04	1.93	6.67	0.03
River 2	Reach 2	7	100YrCHI3Hr	0.10	90.67	91.13	90.75	91.13	0.000009	0.04	2.36	6.94	0.02
River 2	Reach 2	7	2YrSCS24Hr	0.03	90.67	90.83	90.72	90.83	0.000130	0.07	0.47	4.76	0.07
River 2	Reach 2	7	5YrSCS24Hr	0.06	90.67	90.95	90.73	90.95	0.000028	0.05	1.15	6.08	0.04
River 2	Reach 2	7	10YrSCS24Hr	0.07	90.67	91.02	90.74	91.02	0.000016	0.05	1.62	6.47	0.03
River 2	Reach 2	7	25YrSCS24Hr	0.10	90.67	91.11	90.74	91.11	0.000011	0.04	2.20	6.84	0.02
River 2	Reach 2	7	50YrSCS24Hr	0.11	90.67	91.17	90.75	91.17	0.000009	0.04	2.65	7.11	0.02
River 2	Reach 2	7	100YrSCS24Hr	0.14	90.67	91.24	90.76	91.24	0.000007	0.04	3.12	7.38	0.02
River 1	Reach 1-Upper	908	2YrCHI3Hr	0.02	94.14	94.22	94.18	94.22	0.001632	0.16	0.12	2.47	0.22
River 1	Reach 1-Upper	908	5YrCHI3Hr	0.03	94.14	94.23	94.19	94.23	0.001834	0.18	0.15	2.66	0.24
River 1	Reach 1-Upper	908	10YrCHI3Hr	0.03	94.14	94.24	94.19	94.24	0.001946	0.19	0.17	2.76	0.25
River 1	Reach 1-Upper	908	25YrCHI3Hr	0.04	94.14	94.25	94.20	94.25	0.002058	0.21	0.18	2.87	0.26
River 1	Reach 1-Upper	908	50YrCHI3Hr	0.04	94.14	94.25	94.20	94.25	0.002138	0.22	0.20	2.95	0.27
River 1	Reach 1-Upper	908	100YrCHI3Hr	0.05	94.14	94.26	94.20	94.26	0.002189	0.23	0.21	3.04	0.27
River 1	Reach 1-Upper	908	2YrSCS24Hr	0.02	94.14	94.23	94.19	94.23	0.001752	0.17	0.14	2.59	0.23
River 1	Reach 1-Upper	908	5YrSCS24Hr	0.03	94.14	94.24	94.19	94.24	0.001946	0.19	0.17	2.76	0.25
River 1	Reach 1-Upper	908	10YrSCS24Hr	0.04	94.14	94.25	94.20	94.25	0.002058	0.21	0.18	2.87	0.26
River 1	Reach 1-Upper	908	25YrSCS24Hr	0.04	94.14	94.25	94.20	94.25	0.002153	0.22	0.20	2.97	0.27
River 1	Reach 1-Upper	908	50YrSCS24Hr	0.05	94.14	94.26	94.20	94.26	0.002199	0.23	0.22	3.05	0.27
River 1	Reach 1-Upper	908	100YrSCS24Hr	0.06	94.14	94.26	94.21	94.26	0.002259	0.24	0.23	3.15	0.28
River 1	Reach 1-Upper	887	2YrCHI3Hr	0.02	94.10	94.16	94.14	94.16	0.007210	0.24	0.08	2.48	0.44
River 1	Reach 1-Upper	887	5YrCHI3Hr	0.03	94.10	94.17	94.15	94.17	0.005770	0.25	0.11	2.82	0.40
River 1	Reach 1-Upper	887	10YrCHI3Hr	0.03	94.10	94.18	94.15	94.18	0.005292	0.25	0.13	2.98	0.39
River 1	Reach 1-Upper	887	25YrCHI3Hr	0.04	94.10	94.18	94.15	94.19	0.004885	0.26	0.15	3.16	0.38
River 1	Reach 1-Upper	887	50YrCHI3Hr	0.04	94.10	94.19	94.16	94.19	0.004480	0.26	0.17	3.32	0.37
River 1	Reach 1-Upper	887	100YrCHI3Hr	0.05	94.10	94.19	94.16	94.20	0.004579	0.27	0.18	3.42	0.38
River 1	Reach 1-Upper	887	2YrSCS24Hr	0.02	94.10	94.17	94.15	94.17	0.006295	0.25	0.10	2.71	0.42
River 1	Reach 1-Upper	887	5YrSCS24Hr	0.03	94.10	94.18	94.15	94.18	0.005292	0.25	0.13	2.98	0.39
River 1	Reach 1-Upper	887	10YrSCS24Hr	0.04	94.10	94.18	94.15	94.19	0.004885	0.26	0.15	3.16	0.38
River 1	Reach 1-Upper	887	25YrSCS24Hr	0.04	94.10	94.19	94.16	94.19	0.004434	0.26	0.17	3.35	0.37
River 1	Reach 1-Upper	887	50YrSCS24Hr	0.05	94.10	94.19	94.16	94.20	0.004587	0.27	0.18	3.44	0.38
River 1	Reach 1-Upper	887	100YrSCS24Hr	0.06	94.10	94.20	94.16	94.20	0.004863	0.29	0.19	3.53	0.39
River 1	Reach 1-Upper	868	2YrCHI3Hr	0.02	93.96	94.03	94.01	94.03	0.006094	0.26	0.07	1.89	0.41
River 1	Reach 1-Upper	868	5YrCHI3Hr	0.03	93.96	94.04	94.02	94.04	0.008117	0.32	0.09	1.99	0.49
River 1	Reach 1-Upper	868	10YrCHI3Hr	0.03	93.96	94.04	94.02	94.04	0.009697	0.35	0.09	2.03	0.53
River 1	Reach 1-Upper	868	25YrCHI3Hr	0.04	93.96	94.04	94.02	94.05	0.011359	0.39	0.10	2.08	0.58
River 1	Reach 1-Upper	868	50YrCHI3Hr	0.04	93.96	94.04	94.03	94.05	0.012637	0.42	0.10	2.12	0.62
River 1	Reach 1-Upper	868	100YrCHI3Hr	0.05	93.96	94.05	94.03	94.06	0.013009	0.44	0.11	2.18	0.63
River 1	Reach 1-Upper	868	2YrSCS24Hr	0.02	93.96	94.03	94.01	94.04	0.007224	0.29	0.08	1.96	0.46
River 1	Reach 1-Upper	868	5YrSCS24Hr	0.03	93.96	94.04	94.02	94.04	0.009697	0.35	0.09	2.03	0.53
River 1	Reach 1-Upper	868	10YrSCS24Hr	0.04	93.96	94.04	94.02	94.05	0.011359	0.39	0.10	2.08	0.58
River 1	Reach 1-Upper	868	25YrSCS24Hr	0.04	93.96	94.04	94.03	94.05	0.013016	0.43	0.10	2.13	0.63
River 1	Reach 1-Upper	868	50YrSCS24Hr	0.05	93.96	94.05	94.03	94.06	0.012976	0.44	0.11	2.19	0.63
River 1	Reach 1-Upper	868	100YrSCS24Hr	0.06	93.96	94.05	94.04	94.06	0.011619	0.44	0.12	2.30	0.60
River 1	Reach 1-Upper	848	2YrCHI3Hr	0.02	93.87	93.92	93.90	93.93	0.004549	0.20	0.09	2.73	0.35
River 1	Reach 1-Upper	848	5YrCHI3Hr	0.03	93.87	93.94	93.91	93.94	0.003629	0.21	0.13	3.01	0.32
River 1	Reach 1-Upper	848	10YrCHI3Hr	0.03	93.87	93.94	93.91	93.95	0.002995	0.21	0.15	3.10	0.30
River 1	Reach 1-Upper	848	25YrCHI3Hr	0.04	93.87	93.95	93.92	93.96	0.002536	0.21	0.18	3.19	0.28
River 1	Reach 1-Upper	848	50YrCHI3Hr	0.04	93.87	93.96	93.92	93.96	0.002177	0.21	0.21	3.28	0.27
River 1	Reach 1-Upper	848	100YrCHI3Hr	0.05	93.87	93.97	93.92	93.97	0.002108	0.22	0.22	3.34	0.27
River 1	Reach 1-Upper	848	2YrSCS24Hr	0.02	93.87	93.93	93.91	93.93	0.004188	0.21	0.11	2.93	0.34
River 1	Reach 1-Upper	848	5YrSCS24Hr	0.03	93.87	93.94	93.91	93.95	0.002995	0.21	0.15	3.10	0.30
River 1	Reach 1-Upper	848	10YrSCS24Hr	0.04	93.87	93.95	93.92	93.96	0.002536	0.21	0.18	3.19	0.28
River 1	Reach 1-Upper	848	25YrSCS24Hr	0.04	93.87	93.96	93.92	93.96	0.002105	0.21	0.21	3.30	0.26
River 1	Reach 1-Upper	848	50YrSCS24Hr	0.05	93.87	93.97	93.92	93.97	0.002100	0.22	0.23	3.35	0.27

HEC-RAS Plan: 20260401-Post_Dev_v03 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	848	100YrSCS24Hr	0.06	93.87	93.97	93.92	93.97	0.002380	0.23	0.23	3.38	0.28
River 1	Reach 1-Upper	828	2YrCHI3Hr	0.02	93.78	93.86	93.82	93.86	0.002644	0.17	0.11	2.77	0.27
River 1	Reach 1-Upper	828	5YrCHI3Hr	0.03	93.78	93.86	93.83	93.86	0.004666	0.23	0.12	2.86	0.37
River 1	Reach 1-Upper	828	10YrCHI3Hr	0.03	93.78	93.86	93.83	93.86	0.007085	0.28	0.11	2.81	0.45
River 1	Reach 1-Upper	828	25YrCHI3Hr	0.04	93.78	93.85	93.84	93.86	0.014294	0.39	0.10	2.58	0.63
River 1	Reach 1-Upper	828	50YrCHI3Hr	0.04	93.78	93.84	93.84	93.86	0.029914	0.53	0.08	2.30	0.90
River 1	Reach 1-Upper	828	100YrCHI3Hr	0.05	93.78	93.84	93.84	93.86	0.034267	0.57	0.08	2.34	0.97
River 1	Reach 1-Upper	828	2YrSCS24Hr	0.02	93.78	93.86	93.82	93.86	0.003210	0.19	0.12	2.95	0.30
River 1	Reach 1-Upper	828	5YrSCS24Hr	0.03	93.78	93.86	93.83	93.86	0.007085	0.28	0.11	2.81	0.45
River 1	Reach 1-Upper	828	10YrSCS24Hr	0.04	93.78	93.85	93.84	93.86	0.014294	0.39	0.10	2.58	0.63
River 1	Reach 1-Upper	828	25YrSCS24Hr	0.04	93.78	93.84	93.84	93.86	0.035591	0.57	0.08	2.22	0.98
River 1	Reach 1-Upper	828	50YrSCS24Hr	0.05	93.78	93.84	93.84	93.86	0.036015	0.59	0.08	2.34	0.99
River 1	Reach 1-Upper	828	100YrSCS24Hr	0.06	93.78	93.86	93.85	93.87	0.020193	0.48	0.11	2.83	0.76
River 1	Reach 1-Upper	807	2YrCHI3Hr	0.02	93.65	93.70	93.70	93.71	0.044163	0.52	0.04	1.46	1.04
River 1	Reach 1-Upper	807	5YrCHI3Hr	0.03	93.65	93.73	93.71	93.73	0.007733	0.31	0.09	2.04	0.47
River 1	Reach 1-Upper	807	10YrCHI3Hr	0.03	93.65	93.75	93.71	93.75	0.003849	0.25	0.13	2.40	0.35
River 1	Reach 1-Upper	807	25YrCHI3Hr	0.04	93.65	93.77	93.71	93.77	0.001862	0.20	0.19	2.86	0.25
River 1	Reach 1-Upper	807	50YrCHI3Hr	0.04	93.65	93.79	93.72	93.79	0.001072	0.17	0.25	3.27	0.20
River 1	Reach 1-Upper	807	100YrCHI3Hr	0.05	93.65	93.81	93.72	93.81	0.000618	0.15	0.32	3.62	0.15
River 1	Reach 1-Upper	807	2YrSCS24Hr	0.02	93.65	93.71	93.70	93.72	0.021814	0.43	0.06	1.70	0.76
River 1	Reach 1-Upper	807	5YrSCS24Hr	0.03	93.65	93.75	93.71	93.75	0.003849	0.25	0.13	2.40	0.35
River 1	Reach 1-Upper	807	10YrSCS24Hr	0.04	93.65	93.77	93.71	93.77	0.001862	0.20	0.19	2.86	0.25
River 1	Reach 1-Upper	807	25YrSCS24Hr	0.04	93.65	93.79	93.72	93.79	0.000946	0.17	0.26	3.34	0.19
River 1	Reach 1-Upper	807	50YrSCS24Hr	0.05	93.65	93.81	93.72	93.82	0.000538	0.15	0.34	3.71	0.14
River 1	Reach 1-Upper	807	100YrSCS24Hr	0.06	93.65	93.84	93.73	93.85	0.000286	0.13	0.46	4.22	0.11
River 1	Reach 1-Upper	789	2YrCHI3Hr	0.02	93.49	93.69	93.53	93.69	0.000037	0.05	0.38	3.33	0.04
River 1	Reach 1-Upper	789	5YrCHI3Hr	0.03	93.49	93.73	93.54	93.73	0.000036	0.06	0.47	3.77	0.04
River 1	Reach 1-Upper	789	10YrCHI3Hr	0.03	93.49	93.74	93.55	93.74	0.000038	0.06	0.51	4.05	0.04
River 1	Reach 1-Upper	789	25YrCHI3Hr	0.04	93.49	93.77	93.55	93.77	0.000038	0.07	0.56	4.42	0.04
River 1	Reach 1-Upper	789	50YrCHI3Hr	0.04	93.49	93.79	93.55	93.79	0.000038	0.07	0.61	4.75	0.04
River 1	Reach 1-Upper	789	100YrCHI3Hr	0.05	93.49	93.81	93.56	93.81	0.000036	0.07	0.66	5.08	0.04
River 1	Reach 1-Upper	789	2YrSCS24Hr	0.02	93.49	93.71	93.54	93.71	0.000038	0.06	0.43	3.55	0.04
River 1	Reach 1-Upper	789	5YrSCS24Hr	0.03	93.49	93.74	93.55	93.74	0.000038	0.06	0.51	4.05	0.04
River 1	Reach 1-Upper	789	10YrSCS24Hr	0.04	93.49	93.77	93.55	93.77	0.000038	0.07	0.56	4.42	0.04
River 1	Reach 1-Upper	789	25YrSCS24Hr	0.04	93.49	93.79	93.56	93.79	0.000037	0.07	0.62	4.81	0.04
River 1	Reach 1-Upper	789	50YrSCS24Hr	0.05	93.49	93.81	93.56	93.81	0.000035	0.07	0.67	5.17	0.04
River 1	Reach 1-Upper	789	100YrSCS24Hr	0.06	93.49	93.84	93.56	93.84	0.000032	0.07	0.75	5.59	0.04
River 1	Reach 1-Upper	764		Culvert									
River 1	Reach 1-Upper	759	2YrCHI3Hr	0.02	93.46	93.54	93.50	93.54	0.002883	0.23	0.08	1.83	0.30
River 1	Reach 1-Upper	759	5YrCHI3Hr	0.03	93.46	93.56	93.51	93.56	0.001988	0.23	0.12	2.15	0.26
River 1	Reach 1-Upper	759	10YrCHI3Hr	0.03	93.46	93.58	93.51	93.58	0.001375	0.22	0.14	2.40	0.23
River 1	Reach 1-Upper	759	25YrCHI3Hr	0.04	93.46	93.61	93.52	93.61	0.000864	0.21	0.18	2.73	0.19
River 1	Reach 1-Upper	759	50YrCHI3Hr	0.04	93.46	93.65	93.52	93.65	0.000433	0.18	0.24	3.23	0.14
River 1	Reach 1-Upper	759	100YrCHI3Hr	0.05	93.46	93.68	93.53	93.68	0.000309	0.17	0.29	3.59	0.12
River 1	Reach 1-Upper	759	2YrSCS24Hr	0.02	93.46	93.55	93.51	93.56	0.002355	0.23	0.10	2.03	0.28
River 1	Reach 1-Upper	759	5YrSCS24Hr	0.03	93.46	93.58	93.51	93.58	0.001375	0.22	0.14	2.40	0.23
River 1	Reach 1-Upper	759	10YrSCS24Hr	0.04	93.46	93.61	93.52	93.61	0.000864	0.21	0.18	2.73	0.19
River 1	Reach 1-Upper	759	25YrSCS24Hr	0.04	93.46	93.65	93.52	93.65	0.000408	0.17	0.25	3.29	0.14
River 1	Reach 1-Upper	759	50YrSCS24Hr	0.05	93.46	93.69	93.53	93.69	0.000262	0.16	0.31	3.73	0.11
River 1	Reach 1-Upper	759	100YrSCS24Hr	0.06	93.46	93.73	93.53	93.73	0.000176	0.15	0.37	4.23	0.10
River 1	Reach 1-Upper	743	2YrCHI3Hr	0.02	93.40	93.49	93.45	93.50	0.002754	0.25	0.08	1.55	0.30
River 1	Reach 1-Upper	743	5YrCHI3Hr	0.03	93.40	93.54	93.46	93.54	0.001046	0.20	0.13	2.00	0.20
River 1	Reach 1-Upper	743	10YrCHI3Hr	0.03	93.40	93.57	93.47	93.57	0.000686	0.19	0.17	2.25	0.17
River 1	Reach 1-Upper	743	25YrCHI3Hr	0.04	93.40	93.60	93.47	93.60	0.000466	0.18	0.21	2.59	0.14
River 1	Reach 1-Upper	743	50YrCHI3Hr	0.04	93.40	93.64	93.48	93.64	0.000265	0.16	0.27	3.11	0.11
River 1	Reach 1-Upper	743	100YrCHI3Hr	0.05	93.40	93.67	93.48	93.67	0.000207	0.16	0.31	3.83	0.10
River 1	Reach 1-Upper	743	2YrSCS24Hr	0.02	93.40	93.52	93.46	93.52	0.001463	0.21	0.11	1.84	0.23
River 1	Reach 1-Upper	743	5YrSCS24Hr	0.03	93.40	93.57	93.47	93.57	0.000686	0.19	0.17	2.25	0.17
River 1	Reach 1-Upper	743	10YrSCS24Hr	0.04	93.40	93.60	93.47	93.60	0.000466	0.18	0.21	2.59	0.14
River 1	Reach 1-Upper	743	25YrSCS24Hr	0.04	93.40	93.65	93.48	93.65	0.000254	0.16	0.27	3.18	0.11
River 1	Reach 1-Upper	743	50YrSCS24Hr	0.05	93.40	93.68	93.48	93.69	0.000181	0.15	0.32	4.15	0.10
River 1	Reach 1-Upper	743	100YrSCS24Hr	0.06	93.40	93.73	93.49	93.73	0.000134	0.14	0.38	4.85	0.09
River 1	Reach 1-Upper	733		Culvert									
River 1	Reach 1-Upper	728	2YrCHI3Hr	0.02	93.33	93.48	93.39	93.48	0.000387	0.13	0.15	1.68	0.12
River 1	Reach 1-Upper	728	5YrCHI3Hr	0.03	93.33	93.52	93.40	93.52	0.000273	0.13	0.21	1.98	0.11
River 1	Reach 1-Upper	728	10YrCHI3Hr	0.03	93.33	93.55	93.40	93.55	0.000233	0.13	0.24	2.16	0.10
River 1	Reach 1-Upper	728	25YrCHI3Hr	0.04	93.33	93.58	93.41	93.58	0.000196	0.14	0.28	2.37	0.10
River 1	Reach 1-Upper	728	50YrCHI3Hr	0.04	93.33	93.62	93.41	93.62	0.000131	0.13	0.34	2.70	0.08
River 1	Reach 1-Upper	728	100YrCHI3Hr	0.05	93.33	93.64	93.42	93.64	0.000117	0.13	0.38	2.90	0.08
River 1	Reach 1-Upper	728	2YrSCS24Hr	0.02	93.33	93.51	93.39	93.51	0.000306	0.13	0.19	1.87	0.11
River 1	Reach 1-Upper	728	5YrSCS24Hr	0.03	93.33	93.55	93.40	93.55	0.000233	0.13	0.24	2.16	0.10
River 1	Reach 1-Upper	728	10YrSCS24Hr	0.04	93.33	93.58	93.41	93.58	0.000196	0.14	0.28	2.37	0.10
River 1	Reach 1-Upper	728	25YrSCS24Hr	0.04	93.33	93.62	93.41	93.62	0.000128	0.13	0.35	2.74	0.08
River 1	Reach 1-Upper	728	50YrSCS24Hr	0.05	93.33	93.66	93.42	93.66	0.000106	0.12	0.39	2.98	0.08
River 1	Reach 1-Upper	728	100YrSCS24Hr	0.06	93.33	93.69	93.42	93.69	0.000091	0.12	0.44	3.24	0.07
River 1	Reach 1-Upper	715	2YrCHI3Hr	0.02	93.32	93.48	93.36	93.48	0.000151	0.10	0.20	2.44	0.08
River 1	Reach 1-Upper	715	5YrCHI3Hr	0.03	93.32	93.52	93.37	93.52	0.000132	0.11	0.26	2.85	0.08
River 1	Reach 1-Upper	715	10YrCHI3Hr	0.03	93.32	93.54	93.37	93.54	0.000123	0.11	0.29	3.09	0.08
River 1	Reach 1-Upper	715	25YrCHI3Hr	0.04	93.32	93.57	93.38	93.57	0.000112	0.11	0.33	3.38	0.08
River 1	Reach 1-Upper	715	50YrCHI3Hr	0.04	93.32	93.62	93.38	93.62	0.000081	0.11	0.39	3.82	0.07
River 1	Reach 1-Upper	715	100YrCHI3Hr	0.05	93.32	93.64	93.39	93.64	0.000075	0.11	0.43	4.07	0.06

HEC-RAS Plan: 20260401-Post_Dev_v03 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	715	2YrSCS24Hr	0.02	93.32	93.51	93.36	93.51	0.000138	0.10	0.24	2.70	0.08
River 1	Reach 1-Upper	715	5YrSCS24Hr	0.03	93.32	93.54	93.37	93.54	0.000123	0.11	0.29	3.09	0.08
River 1	Reach 1-Upper	715	10YrSCS24Hr	0.04	93.32	93.57	93.38	93.57	0.000112	0.11	0.33	3.38	0.08
River 1	Reach 1-Upper	715	25YrSCS24Hr	0.04	93.32	93.62	93.39	93.62	0.000080	0.11	0.40	3.86	0.07
River 1	Reach 1-Upper	715	50YrSCS24Hr	0.05	93.32	93.65	93.39	93.65	0.000070	0.11	0.44	4.19	0.06
River 1	Reach 1-Upper	715	100YrSCS24Hr	0.06	93.32	93.69	93.39	93.69	0.000062	0.11	0.49	4.53	0.06
River 1	Reach 1-Upper	705		Culvert									
River 1	Reach 1-Upper	698	2YrCHI3Hr	0.02	93.24	93.31	93.29	93.32	0.010647	0.37	0.05	1.15	0.56
River 1	Reach 1-Upper	698	5YrCHI3Hr	0.03	93.24	93.31	93.30	93.33	0.018452	0.50	0.05	1.17	0.74
River 1	Reach 1-Upper	698	10YrCHI3Hr	0.03	93.24	93.31	93.31	93.33	0.031221	0.63	0.05	1.15	0.95
River 1	Reach 1-Upper	698	25YrCHI3Hr	0.04	93.24	93.38	93.31	93.38	0.002185	0.26	0.15	1.67	0.28
River 1	Reach 1-Upper	698	50YrCHI3Hr	0.04	93.24	93.51	93.32	93.51	0.000131	0.11	0.41	2.59	0.08
River 1	Reach 1-Upper	698	100YrCHI3Hr	0.05	93.24	93.51	93.32	93.51	0.000158	0.12	0.41	2.60	0.09
River 1	Reach 1-Upper	698	2YrSCS24Hr	0.02	93.24	93.31	93.30	93.32	0.016098	0.46	0.05	1.16	0.69
River 1	Reach 1-Upper	698	5YrSCS24Hr	0.03	93.24	93.31	93.31	93.33	0.033358	0.64	0.05	1.14	0.98
River 1	Reach 1-Upper	698	10YrSCS24Hr	0.04	93.24	93.41	93.31	93.41	0.000895	0.19	0.20	1.89	0.19
River 1	Reach 1-Upper	698	25YrSCS24Hr	0.04	93.24	93.51	93.32	93.51	0.000135	0.11	0.41	2.59	0.08
River 1	Reach 1-Upper	698	50YrSCS24Hr	0.05	93.24	93.51	93.32	93.51	0.000162	0.12	0.41	2.61	0.09
River 1	Reach 1-Upper	698	100YrSCS24Hr	0.06	93.24	93.51	93.33	93.52	0.000196	0.13	0.42	2.63	0.10
River 1	Reach 1-Upper	681	2YrCHI3Hr	0.02	93.14	93.22	93.19	93.22	0.003726	0.23	0.08	1.65	0.34
River 1	Reach 1-Upper	681	5YrCHI3Hr	0.03	93.14	93.24	93.20	93.25	0.001985	0.21	0.13	1.84	0.26
River 1	Reach 1-Upper	681	10YrCHI3Hr	0.03	93.14	93.27	93.20	93.27	0.001148	0.19	0.17	2.00	0.20
River 1	Reach 1-Upper	681	25YrCHI3Hr	0.04	93.14	93.37	93.20	93.37	0.000121	0.09	0.42	2.75	0.07
River 1	Reach 1-Upper	681	50YrCHI3Hr	0.04	93.14	93.51	93.21	93.51	0.000021	0.05	0.87	4.05	0.03
River 1	Reach 1-Upper	681	100YrCHI3Hr	0.05	93.14	93.51	93.21	93.51	0.000026	0.06	0.88	4.08	0.04
River 1	Reach 1-Upper	681	2YrSCS24Hr	0.02	93.14	93.24	93.19	93.24	0.002292	0.21	0.11	1.78	0.27
River 1	Reach 1-Upper	681	5YrSCS24Hr	0.03	93.14	93.28	93.20	93.28	0.000837	0.17	0.19	2.07	0.18
River 1	Reach 1-Upper	681	10YrSCS24Hr	0.04	93.14	93.41	93.20	93.41	0.000070	0.07	0.52	2.97	0.06
River 1	Reach 1-Upper	681	25YrSCS24Hr	0.04	93.14	93.51	93.21	93.51	0.000022	0.05	0.87	4.07	0.03
River 1	Reach 1-Upper	681	50YrSCS24Hr	0.05	93.14	93.51	93.21	93.51	0.000027	0.06	0.88	4.09	0.04
River 1	Reach 1-Upper	681	100YrSCS24Hr	0.06	93.14	93.51	93.22	93.51	0.000032	0.06	0.89	4.13	0.04
River 1	Reach 1-Upper	663	2YrCHI3Hr	0.02	93.05	93.19		93.19	0.000887	0.16	0.12	1.35	0.18
River 1	Reach 1-Upper	663	5YrCHI3Hr	0.03	93.05	93.22		93.23	0.000652	0.16	0.17	1.60	0.16
River 1	Reach 1-Upper	663	10YrCHI3Hr	0.03	93.05	93.25		93.26	0.000453	0.15	0.22	1.81	0.13
River 1	Reach 1-Upper	663	25YrCHI3Hr	0.04	93.05	93.37		93.37	0.000079	0.08	0.48	2.68	0.06
River 1	Reach 1-Upper	663	50YrCHI3Hr	0.04	93.05	93.51		93.51	0.000018	0.05	0.96	4.41	0.03
River 1	Reach 1-Upper	663	100YrCHI3Hr	0.05	93.05	93.51		93.51	0.000022	0.05	0.96	4.44	0.03
River 1	Reach 1-Upper	663	2YrSCS24Hr	0.02	93.05	93.22		93.22	0.000662	0.16	0.15	1.54	0.16
River 1	Reach 1-Upper	663	5YrSCS24Hr	0.03	93.05	93.27		93.27	0.000342	0.13	0.24	1.90	0.12
River 1	Reach 1-Upper	663	10YrSCS24Hr	0.04	93.05	93.40		93.40	0.000052	0.07	0.57	3.04	0.05
River 1	Reach 1-Upper	663	25YrSCS24Hr	0.04	93.05	93.51		93.51	0.000019	0.05	0.96	4.42	0.03
River 1	Reach 1-Upper	663	50YrSCS24Hr	0.05	93.05	93.51		93.51	0.000023	0.05	0.97	4.46	0.03
River 1	Reach 1-Upper	663	100YrSCS24Hr	0.06	93.05	93.51		93.51	0.000028	0.06	0.98	4.50	0.04
River 1	Reach 1-Upper	656	2YrCHI3Hr	0.06	93.03	93.15	93.12	93.16	0.007897	0.46	0.13	1.69	0.53
River 1	Reach 1-Upper	656	5YrCHI3Hr	0.10	93.03	93.19	93.14	93.20	0.006746	0.51	0.20	1.91	0.51
River 1	Reach 1-Upper	656	10YrCHI3Hr	0.13	93.03	93.23	93.16	93.24	0.004432	0.48	0.28	2.13	0.43
River 1	Reach 1-Upper	656	25YrCHI3Hr	0.17	93.03	93.36	93.18	93.37	0.000771	0.28	0.62	2.88	0.19
River 1	Reach 1-Upper	656	50YrCHI3Hr	0.21	93.03	93.51	93.19	93.51	0.000193	0.19	1.16	4.64	0.10
River 1	Reach 1-Upper	656	100YrCHI3Hr	0.24	93.03	93.51	93.20	93.51	0.000260	0.22	1.17	4.65	0.12
River 1	Reach 1-Upper	656	2YrSCS24Hr	0.09	93.03	93.18	93.14	93.19	0.007161	0.50	0.18	1.86	0.52
River 1	Reach 1-Upper	656	5YrSCS24Hr	0.14	93.03	93.24	93.17	93.25	0.003570	0.45	0.31	2.22	0.39
River 1	Reach 1-Upper	656	10YrSCS24Hr	0.18	93.03	93.40	93.18	93.40	0.000519	0.25	0.73	3.49	0.16
River 1	Reach 1-Upper	656	25YrSCS24Hr	0.22	93.03	93.51	93.20	93.51	0.000230	0.21	1.16	4.65	0.11
River 1	Reach 1-Upper	656	50YrSCS24Hr	0.26	93.03	93.51	93.21	93.51	0.000307	0.24	1.17	4.66	0.13
River 1	Reach 1-Upper	656	100YrSCS24Hr	0.30	93.03	93.51	93.22	93.51	0.000404	0.28	1.17	4.67	0.15
River 1	Reach 1-Upper	638	2YrCHI3Hr	0.06	92.92	93.08	93.01	93.08	0.002811	0.33	0.19	1.85	0.33
River 1	Reach 1-Upper	638	5YrCHI3Hr	0.10	92.92	93.14	93.04	93.14	0.001935	0.33	0.31	2.24	0.28
River 1	Reach 1-Upper	638	10YrCHI3Hr	0.13	92.92	93.20	93.05	93.20	0.001110	0.29	0.46	2.70	0.22
River 1	Reach 1-Upper	638	25YrCHI3Hr	0.17	92.92	93.36	93.07	93.36	0.000206	0.17	1.05	4.59	0.10
River 1	Reach 1-Upper	638	50YrCHI3Hr	0.21	92.92	93.50	93.08	93.50	0.000072	0.13	1.86	6.83	0.06
River 1	Reach 1-Upper	638	100YrCHI3Hr	0.24	92.92	93.50	93.10	93.51	0.000098	0.15	1.86	6.83	0.08
River 1	Reach 1-Upper	638	2YrSCS24Hr	0.09	92.92	93.12	93.03	93.12	0.002263	0.34	0.27	2.12	0.30
River 1	Reach 1-Upper	638	5YrSCS24Hr	0.14	92.92	93.22	93.06	93.22	0.000920	0.27	0.52	2.92	0.20
River 1	Reach 1-Upper	638	10YrSCS24Hr	0.18	92.92	93.40	93.07	93.40	0.000148	0.16	1.22	5.04	0.09
River 1	Reach 1-Upper	638	25YrSCS24Hr	0.22	92.92	93.50	93.09	93.51	0.000086	0.14	1.86	6.83	0.07
River 1	Reach 1-Upper	638	50YrSCS24Hr	0.26	92.92	93.50	93.10	93.51	0.000115	0.16	1.86	6.84	0.08
River 1	Reach 1-Upper	638	100YrSCS24Hr	0.30	92.92	93.50	93.12	93.51	0.000153	0.19	1.87	6.84	0.09
River 1	Reach 1-Upper	617	2YrCHI3Hr	0.06	92.84	93.02	92.95	93.02	0.002976	0.32	0.19	2.05	0.33
River 1	Reach 1-Upper	617	5YrCHI3Hr	0.10	92.84	93.11	92.98	93.11	0.000952	0.24	0.43	2.97	0.20
River 1	Reach 1-Upper	617	10YrCHI3Hr	0.13	92.84	93.18	92.99	93.19	0.000468	0.20	0.68	3.73	0.15
River 1	Reach 1-Upper	617	25YrCHI3Hr	0.17	92.84	93.36	93.01	93.36	0.000105	0.11	1.56	6.63	0.07
River 1	Reach 1-Upper	617	50YrCHI3Hr	0.21	92.84	93.50	93.02	93.50	0.000032	0.07	2.93	15.16	0.04
River 1	Reach 1-Upper	617	100YrCHI3Hr	0.24	92.84	93.50	93.04	93.50	0.000044	0.09	2.93	15.17	0.05
River 1	Reach 1-Upper	617	2YrSCS24Hr	0.09	92.84	93.08	92.97	93.09	0.001249	0.26	0.35	2.72	0.23
River 1	Reach 1-Upper	617	5YrSCS24Hr	0.14	92.84	93.21	93.00	93.21	0.000388	0.18	0.77	4.08	0.13
River 1	Reach 1-Upper	617	10YrSCS24Hr	0.18	92.84	93.39	93.01	93.39	0.000079	0.10	1.82	7.56	0.06
River 1	Reach 1-Upper	617	25YrSCS24Hr	0.22	92.84	93.50	93.03	93.50	0.000039	0.08	2.93	15.17	0.05
River 1	Reach 1-Upper	617	50YrSCS24Hr	0.26	92.84	93.50	93.04	93.50	0.000052	0.09	2.93	15.17	0.05
River 1	Reach 1-Upper	617	100YrSCS24Hr	0.30	92.84	93.50	93.05	93.50	0.000069	0.11	2.93	15.18	0.06
River 1	Reach 1-Upper	598	2YrCHI3Hr	0.06	92.76	93.00	92.86	93.00	0.000514	0.18	0.36	2.60	0.15
River 1	Reach 1-Upper	598	5YrCHI3Hr	0.11	92.76	93.10	92.89	93.10	0.000269	0.18	0.61	3.40	0.12
River 1	Reach 1-Upper	598	10YrCHI3Hr	0.14	92.76	93.18	92.91	93.18	0.000181	0.18	0.80	5.32	0.10

HEC-RAS Plan: 20260401-Post_Dev_v03 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	598	25YrCHl3Hr	0.19	92.76	93.36	92.92	93.36	0.000070	0.15	1.25	8.76	0.07
River 1	Reach 1-Upper	598	50YrCHl3Hr	0.22	92.76	93.50	92.94	93.50	0.000018	0.07	4.94	31.21	0.03
River 1	Reach 1-Upper	598	100YrCHl3Hr	0.26	92.76	93.50	92.95	93.50	0.000024	0.09	4.94	31.21	0.04
River 1	Reach 1-Upper	598	2YrSCS24Hr	0.10	92.76	93.07	92.88	93.08	0.000317	0.18	0.54	3.19	0.12
River 1	Reach 1-Upper	598	5YrSCS24Hr	0.15	92.76	93.20	92.91	93.21	0.000160	0.17	0.87	5.82	0.10
River 1	Reach 1-Upper	598	10YrSCS24Hr	0.19	92.76	93.39	92.93	93.39	0.000059	0.14	1.34	9.49	0.06
River 1	Reach 1-Upper	598	25YrSCS24Hr	0.24	92.76	93.50	92.94	93.50	0.000021	0.08	4.94	31.21	0.04
River 1	Reach 1-Upper	598	50YrSCS24Hr	0.28	92.76	93.50	92.96	93.50	0.000029	0.09	4.93	31.21	0.04
River 1	Reach 1-Upper	598	100YrSCS24Hr	0.33	92.76	93.50	92.97	93.50	0.000039	0.11	4.93	31.21	0.05
River 1	Reach 1-Upper	589		Culvert									
River 1	Reach 1-Upper	581	2YrCHl3Hr	0.06	92.71	92.89	92.81	92.89	0.002034	0.27	0.24	2.66	0.28
River 1	Reach 1-Upper	581	5YrCHl3Hr	0.11	92.71	92.93	92.84	92.93	0.001970	0.33	0.33	3.40	0.29
River 1	Reach 1-Upper	581	10YrCHl3Hr	0.14	92.71	92.96	92.86	92.97	0.001613	0.34	0.41	4.03	0.27
River 1	Reach 1-Upper	581	25YrCHl3Hr	0.19	92.71	93.02	92.88	93.03	0.000990	0.33	0.56	5.14	0.22
River 1	Reach 1-Upper	581	50YrCHl3Hr	0.22	92.71	93.13	92.89	93.13	0.000386	0.27	0.83	7.07	0.15
River 1	Reach 1-Upper	581	100YrCHl3Hr	0.26	92.71	93.25	92.90	93.25	0.000185	0.23	1.13	30.32	0.11
River 1	Reach 1-Upper	581	2YrSCS24Hr	0.10	92.71	92.92	92.84	92.92	0.002055	0.32	0.31	3.20	0.29
River 1	Reach 1-Upper	581	5YrSCS24Hr	0.15	92.71	92.97	92.86	92.98	0.001468	0.34	0.44	4.26	0.26
River 1	Reach 1-Upper	581	10YrSCS24Hr	0.19	92.71	93.03	92.88	93.04	0.000901	0.32	0.59	5.33	0.21
River 1	Reach 1-Upper	581	25YrSCS24Hr	0.24	92.71	93.24	92.89	93.24	0.000172	0.22	1.11	30.02	0.10
River 1	Reach 1-Upper	581	50YrSCS24Hr	0.28	92.71	93.25	92.90	93.25	0.000220	0.25	1.13	30.33	0.12
River 1	Reach 1-Upper	581	100YrSCS24Hr	0.33	92.71	93.25	92.91	93.25	0.000294	0.29	1.13	30.33	0.14
River 1	Reach 1-Upper	572	2YrCHl3Hr	0.06	92.73	92.85	92.82	92.86	0.008674	0.45	0.14	2.02	0.54
River 1	Reach 1-Upper	572	5YrCHl3Hr	0.11	92.73	92.90	92.84	92.90	0.004896	0.43	0.26	2.58	0.43
River 1	Reach 1-Upper	572	10YrCHl3Hr	0.14	92.73	92.94	92.86	92.95	0.002796	0.37	0.38	3.05	0.34
River 1	Reach 1-Upper	572	25YrCHl3Hr	0.19	92.73	93.01	92.87	93.01	0.001251	0.30	0.62	3.87	0.24
River 1	Reach 1-Upper	572	50YrCHl3Hr	0.22	92.73	93.12	92.88	93.12	0.000367	0.19	1.14	5.93	0.13
River 1	Reach 1-Upper	572	100YrCHl3Hr	0.26	92.73	93.25	92.90	93.25	0.000064	0.10	4.09	35.88	0.06
River 1	Reach 1-Upper	572	2YrSCS24Hr	0.10	92.73	92.88	92.84	92.89	0.005817	0.44	0.22	2.44	0.46
River 1	Reach 1-Upper	572	5YrSCS24Hr	0.15	92.73	92.95	92.86	92.96	0.002326	0.36	0.43	3.23	0.31
River 1	Reach 1-Upper	572	10YrSCS24Hr	0.19	92.73	93.02	92.88	93.03	0.001095	0.28	0.67	4.01	0.22
River 1	Reach 1-Upper	572	25YrSCS24Hr	0.24	92.73	93.24	92.89	93.24	0.000064	0.10	3.83	34.17	0.06
River 1	Reach 1-Upper	572	50YrSCS24Hr	0.28	92.73	93.25	92.90	93.25	0.000076	0.11	4.10	35.90	0.06
River 1	Reach 1-Upper	572	100YrSCS24Hr	0.33	92.73	93.25	92.92	93.25	0.000102	0.13	4.10	35.94	0.07
River 1	Reach 1-Upper	555	2YrCHl3Hr	0.06	92.61	92.81	92.71	92.81	0.000982	0.20	0.32	2.99	0.20
River 1	Reach 1-Upper	555	5YrCHl3Hr	0.11	92.61	92.87	92.74	92.87	0.000748	0.21	0.52	3.73	0.18
River 1	Reach 1-Upper	555	10YrCHl3Hr	0.14	92.61	92.92	92.75	92.93	0.000498	0.19	0.74	4.40	0.15
River 1	Reach 1-Upper	555	25YrCHl3Hr	0.19	92.61	93.00	92.77	93.00	0.000277	0.17	1.12	5.37	0.12
River 1	Reach 1-Upper	555	50YrCHl3Hr	0.22	92.61	93.12	92.78	93.12	0.000080	0.11	2.69	31.73	0.07
River 1	Reach 1-Upper	555	100YrCHl3Hr	0.26	92.61	93.25	92.79	93.25	0.000015	0.06	7.39	40.94	0.03
River 1	Reach 1-Upper	555	2YrSCS24Hr	0.10	92.61	92.85	92.73	92.86	0.000843	0.21	0.46	3.51	0.19
River 1	Reach 1-Upper	555	5YrSCS24Hr	0.15	92.61	92.94	92.76	92.94	0.000435	0.19	0.82	4.62	0.14
River 1	Reach 1-Upper	555	10YrSCS24Hr	0.19	92.61	93.02	92.77	93.02	0.000251	0.16	1.19	5.53	0.11
River 1	Reach 1-Upper	555	25YrSCS24Hr	0.24	92.61	93.24	92.79	93.24	0.000015	0.06	7.08	40.75	0.03
River 1	Reach 1-Upper	555	50YrSCS24Hr	0.28	92.61	93.25	92.80	93.25	0.000018	0.07	7.39	40.94	0.03
River 1	Reach 1-Upper	555	100YrSCS24Hr	0.33	92.61	93.25	92.81	93.25	0.000025	0.08	7.39	40.94	0.04
River 1	Reach 1-Upper	534	2YrCHl3Hr	0.06	92.59	92.79	92.69	92.79	0.001542	0.25	0.26	2.47	0.24
River 1	Reach 1-Upper	534	5YrCHl3Hr	0.11	92.59	92.85	92.72	92.86	0.001007	0.24	0.46	3.30	0.21
River 1	Reach 1-Upper	534	10YrCHl3Hr	0.14	92.59	92.91	92.74	92.92	0.000601	0.21	0.70	7.10	0.16
River 1	Reach 1-Upper	534	25YrCHl3Hr	0.19	92.59	93.00	92.76	93.00	0.000148	0.12	2.58	34.75	0.09
River 1	Reach 1-Upper	534	50YrCHl3Hr	0.22	92.59	93.12	92.77	93.12	0.000015	0.05	8.09	50.92	0.03
River 1	Reach 1-Upper	534	100YrCHl3Hr	0.26	92.59	93.25	92.78	93.25	0.000003	0.03	14.61	51.39	0.01
River 1	Reach 1-Upper	534	2YrSCS24Hr	0.10	92.59	92.83	92.71	92.84	0.001197	0.25	0.39	3.05	0.22
River 1	Reach 1-Upper	534	5YrSCS24Hr	0.15	92.59	92.93	92.74	92.93	0.000491	0.20	0.89	13.42	0.15
River 1	Reach 1-Upper	534	10YrSCS24Hr	0.19	92.59	93.01	92.76	93.01	0.000110	0.11	3.08	38.60	0.07
River 1	Reach 1-Upper	534	25YrSCS24Hr	0.24	92.59	93.24	92.78	93.24	0.000003	0.03	14.22	51.36	0.01
River 1	Reach 1-Upper	534	50YrSCS24Hr	0.28	92.59	93.25	92.79	93.25	0.000004	0.03	14.61	51.39	0.02
River 1	Reach 1-Upper	534	100YrSCS24Hr	0.33	92.59	93.25	92.80	93.25	0.000005	0.04	14.61	51.39	0.02
River 1	Reach 1-Upper	510	2YrCHl3Hr	0.06	92.60	92.72	92.68	92.73	0.004446	0.41	0.16	2.77	0.41
River 1	Reach 1-Upper	510	5YrCHl3Hr	0.11	92.60	92.82	92.70	92.83	0.001169	0.34	0.32	4.18	0.24
River 1	Reach 1-Upper	510	10YrCHl3Hr	0.14	92.60	92.89	92.71	92.90	0.000737	0.33	0.44	5.18	0.20
River 1	Reach 1-Upper	510	25YrCHl3Hr	0.19	92.60	92.99	92.73	92.99	0.000465	0.32	0.59	11.84	0.17
River 1	Reach 1-Upper	510	50YrCHl3Hr	0.22	92.60	93.11	92.75	93.12	0.000243	0.28	0.79	109.05	0.13
River 1	Reach 1-Upper	510	100YrCHl3Hr	0.26	92.60	93.25	92.76	93.25	0.000000	0.01	42.37	109.53	0.00
River 1	Reach 1-Upper	510	2YrSCS24Hr	0.10	92.60	92.80	92.69	92.80	0.001471	0.34	0.28	3.82	0.26
River 1	Reach 1-Upper	510	5YrSCS24Hr	0.15	92.60	92.91	92.72	92.92	0.000658	0.32	0.47	5.55	0.19
River 1	Reach 1-Upper	510	10YrSCS24Hr	0.19	92.60	93.00	92.73	93.01	0.000435	0.31	0.61	13.01	0.16
River 1	Reach 1-Upper	510	25YrSCS24Hr	0.24	92.60	93.24	92.75	93.24	0.000000	0.01	41.54	109.50	0.00
River 1	Reach 1-Upper	510	50YrSCS24Hr	0.28	92.60	93.25	92.77	93.25	0.000000	0.01	42.37	109.53	0.00
River 1	Reach 1-Upper	510	100YrSCS24Hr	0.33	92.60	93.25	92.78	93.25	0.000000	0.01	42.37	109.53	0.01
River 1	Reach 1-Upper	505		Culvert									
River 1	Reach 1-Upper	502	2YrCHl3Hr	0.07	92.49	92.61	92.57	92.62	0.007737	0.51	0.14	2.26	0.54
River 1	Reach 1-Upper	502	5YrCHl3Hr	0.12	92.49	92.65	92.60	92.67	0.006529	0.60	0.20	2.74	0.53
River 1	Reach 1-Upper	502	10YrCHl3Hr	0.16	92.49	92.67	92.62	92.70	0.006086	0.66	0.24	3.04	0.52
River 1	Reach 1-Upper	502	25YrCHl3Hr	0.21	92.49	92.72	92.64	92.74	0.004564	0.67	0.31	3.72	0.47
River 1	Reach 1-Upper	502	50YrCHl3Hr	0.25	92.49	92.80	92.65	92.82	0.002112	0.57	0.43	5.24	0.34
River 1	Reach 1-Upper	502	100YrCHl3Hr	0.29	92.49	92.93	92.67	92.94	0.000855	0.47	0.63	7.55	0.23
River 1	Reach 1-Upper	502	2YrSCS24Hr	0.11	92.49	92.64	92.59	92.65	0.006707	0.58	0.19	2.62	0.53
River 1	Reach 1-Upper	502	5YrSCS24Hr	0.17	92.49	92.68	92.62	92.71	0.005738	0.66	0.26	3.15	0.51
River 1	Reach 1-Upper	502	10YrSCS24Hr	0.22	92.49	92.73	92.64	92.75	0.004158	0.66	0.33	3.95	0.45
River 1	Reach 1-Upper	502	25YrSCS24Hr	0.27	92.49	92.87	92.66	92.88	0.001286	0.51	0.53	6.24	0.27
River 1	Reach 1-Upper	502	50YrSCS24Hr	0.32	92.49	93.03	92.68	93.04	0.000519	0.42	0.77	104.89	0.19

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	502	100YrSCS24Hr	0.37	92.49	93.23	92.70	93.24	0.000228	0.34	1.08	105.45	0.13
River 1	Reach 1-Upper	493	2YrCHI3Hr	0.07	92.34	92.61	92.42	92.61	0.000133	0.10	0.75	4.68	0.08
River 1	Reach 1-Upper	493	5YrCHI3Hr	0.12	92.34	92.65	92.45	92.65	0.000201	0.13	0.96	5.45	0.10
River 1	Reach 1-Upper	493	10YrCHI3Hr	0.16	92.34	92.68	92.46	92.68	0.000231	0.14	1.12	5.94	0.10
River 1	Reach 1-Upper	493	25YrCHI3Hr	0.21	92.34	92.73	92.47	92.73	0.000214	0.15	1.42	6.71	0.10
River 1	Reach 1-Upper	493	50YrCHI3Hr	0.25	92.34	92.81	92.49	92.81	0.000122	0.12	2.01	8.05	0.08
River 1	Reach 1-Upper	493	100YrCHI3Hr	0.29	92.34	92.94	92.50	92.94	0.000003	0.02	22.75	101.14	0.01
River 1	Reach 1-Upper	493	2YrSCS24Hr	0.11	92.34	92.64	92.44	92.64	0.000184	0.12	0.90	5.25	0.09
River 1	Reach 1-Upper	493	5YrSCS24Hr	0.17	92.34	92.69	92.46	92.69	0.000232	0.14	1.18	6.13	0.11
River 1	Reach 1-Upper	493	10YrSCS24Hr	0.22	92.34	92.74	92.48	92.74	0.000200	0.15	1.49	6.81	0.10
River 1	Reach 1-Upper	493	25YrSCS24Hr	0.27	92.34	92.87	92.49	92.87	0.000073	0.11	2.58	9.70	0.06
River 1	Reach 1-Upper	493	50YrSCS24Hr	0.32	92.34	93.03	92.51	93.03	0.000001	0.02	32.27	101.55	0.01
River 1	Reach 1-Upper	493	100YrSCS24Hr	0.37	92.34	93.23	92.52	93.23	0.000000	0.01	52.95	102.61	0.00
River 1	Reach 1-Upper	474	2YrCHI3Hr	0.07	92.41	92.60	92.50	92.60	0.000597	0.15	0.49	5.07	0.15
River 1	Reach 1-Upper	474	5YrCHI3Hr	0.12	92.41	92.64	92.53	92.65	0.000602	0.17	0.72	5.95	0.16
River 1	Reach 1-Upper	474	10YrCHI3Hr	0.16	92.41	92.67	92.54	92.67	0.000568	0.18	0.89	6.54	0.16
River 1	Reach 1-Upper	474	25YrCHI3Hr	0.21	92.41	92.72	92.55	92.72	0.000404	0.17	1.23	7.58	0.13
River 1	Reach 1-Upper	474	50YrCHI3Hr	0.25	92.41	92.81	92.56	92.81	0.000152	0.13	1.98	11.32	0.09
River 1	Reach 1-Upper	474	100YrCHI3Hr	0.29	92.41	92.94	92.57	92.94	0.000001	0.01	34.63	91.93	0.01
River 1	Reach 1-Upper	474	2YrSCS24Hr	0.11	92.41	92.63	92.52	92.64	0.000604	0.16	0.66	5.73	0.16
River 1	Reach 1-Upper	474	5YrSCS24Hr	0.17	92.41	92.68	92.54	92.68	0.000532	0.18	0.96	6.77	0.15
River 1	Reach 1-Upper	474	10YrSCS24Hr	0.22	92.41	92.73	92.56	92.73	0.000363	0.16	1.31	7.81	0.13
River 1	Reach 1-Upper	474	25YrSCS24Hr	0.27	92.41	92.87	92.57	92.87	0.000001	0.01	28.89	91.64	0.01
River 1	Reach 1-Upper	474	50YrSCS24Hr	0.32	92.41	93.03	92.58	93.03	0.000000	0.01	43.29	92.35	0.00
River 1	Reach 1-Upper	474	100YrSCS24Hr	0.37	92.41	93.23	92.59	93.23	0.000000	0.01	62.09	93.27	0.00
River 1	Reach 1-Upper	454	2YrCHI3Hr	0.07	92.44	92.58	92.51	92.59	0.001604	0.25	0.29	2.89	0.25
River 1	Reach 1-Upper	454	5YrCHI3Hr	0.12	92.44	92.62	92.53	92.63	0.001687	0.29	0.42	3.32	0.26
River 1	Reach 1-Upper	454	10YrCHI3Hr	0.16	92.44	92.65	92.54	92.66	0.001610	0.31	0.51	3.61	0.26
River 1	Reach 1-Upper	454	25YrCHI3Hr	0.21	92.44	92.70	92.56	92.71	0.001084	0.29	0.72	4.18	0.22
River 1	Reach 1-Upper	454	50YrCHI3Hr	0.25	92.44	92.80	92.57	92.80	0.000421	0.22	1.17	5.42	0.14
River 1	Reach 1-Upper	454	100YrCHI3Hr	0.29	92.44	92.94	92.58	92.94	0.000003	0.02	20.32	83.17	0.01
River 1	Reach 1-Upper	454	2YrSCS24Hr	0.11	92.44	92.61	92.52	92.62	0.001708	0.28	0.38	3.20	0.26
River 1	Reach 1-Upper	454	5YrSCS24Hr	0.17	92.44	92.66	92.55	92.67	0.001485	0.31	0.56	3.74	0.25
River 1	Reach 1-Upper	454	10YrSCS24Hr	0.22	92.44	92.72	92.56	92.72	0.000949	0.28	0.77	4.30	0.21
River 1	Reach 1-Upper	454	25YrSCS24Hr	0.27	92.44	92.87	92.58	92.87	0.000007	0.03	15.12	82.99	0.02
River 1	Reach 1-Upper	454	50YrSCS24Hr	0.32	92.44	93.03	92.59	93.03	0.000001	0.02	28.15	83.46	0.01
River 1	Reach 1-Upper	454	100YrSCS24Hr	0.37	92.44	93.23	92.60	93.23	0.000000	0.01	45.11	84.07	0.01
River 1	Reach 1-Upper	434	2YrCHI3Hr	0.07	92.42	92.54	92.49	92.54	0.003131	0.30	0.24	2.93	0.33
River 1	Reach 1-Upper	434	5YrCHI3Hr	0.12	92.42	92.58	92.51	92.59	0.002184	0.32	0.39	3.35	0.30
River 1	Reach 1-Upper	434	10YrCHI3Hr	0.16	92.42	92.62	92.52	92.62	0.001749	0.32	0.50	3.64	0.27
River 1	Reach 1-Upper	434	25YrCHI3Hr	0.21	92.42	92.70	92.53	92.70	0.000136	0.10	3.47	39.92	0.08
River 1	Reach 1-Upper	434	50YrCHI3Hr	0.25	92.42	92.80	92.55	92.80	0.000022	0.05	9.17	73.84	0.03
River 1	Reach 1-Upper	434	100YrCHI3Hr	0.29	92.42	92.94	92.56	92.94	0.000003	0.03	19.34	74.32	0.01
River 1	Reach 1-Upper	434	2YrSCS24Hr	0.11	92.42	92.57	92.50	92.57	0.002416	0.31	0.34	3.23	0.31
River 1	Reach 1-Upper	434	5YrSCS24Hr	0.17	92.42	92.63	92.52	92.64	0.001606	0.31	0.56	4.00	0.26
River 1	Reach 1-Upper	434	10YrSCS24Hr	0.22	92.42	92.71	92.54	92.71	0.000108	0.09	4.02	43.59	0.07
River 1	Reach 1-Upper	434	25YrSCS24Hr	0.27	92.42	92.87	92.55	92.87	0.000006	0.03	14.69	74.10	0.02
River 1	Reach 1-Upper	434	50YrSCS24Hr	0.32	92.42	93.03	92.56	93.03	0.000001	0.02	26.34	74.64	0.01
River 1	Reach 1-Upper	434	100YrSCS24Hr	0.37	92.42	93.23	92.57	93.23	0.000000	0.01	41.53	75.37	0.01
River 1	Reach 1-Upper	416	2YrCHI3Hr	0.07	92.34	92.52	92.42	92.52	0.000594	0.15	0.47	4.81	0.15
River 1	Reach 1-Upper	416	5YrCHI3Hr	0.12	92.34	92.57	92.45	92.57	0.000421	0.17	0.75	5.85	0.14
River 1	Reach 1-Upper	416	10YrCHI3Hr	0.16	92.34	92.61	92.46	92.61	0.000169	0.13	2.17	28.54	0.09
River 1	Reach 1-Upper	416	25YrCHI3Hr	0.21	92.34	92.70	92.47	92.70	0.000038	0.08	4.95	34.66	0.05
River 1	Reach 1-Upper	416	50YrCHI3Hr	0.25	92.34	92.80	92.48	92.80	0.000012	0.05	8.86	43.80	0.03
River 1	Reach 1-Upper	416	100YrCHI3Hr	0.29	92.34	92.94	92.49	92.94	0.000004	0.04	16.28	66.50	0.02
River 1	Reach 1-Upper	416	2YrSCS24Hr	0.11	92.34	92.56	92.44	92.56	0.000460	0.17	0.67	5.57	0.14
River 1	Reach 1-Upper	416	5YrSCS24Hr	0.17	92.34	92.63	92.46	92.63	0.000124	0.11	2.65	29.68	0.08
River 1	Reach 1-Upper	416	10YrSCS24Hr	0.22	92.34	92.71	92.47	92.71	0.000032	0.07	5.42	35.57	0.04
River 1	Reach 1-Upper	416	25YrSCS24Hr	0.27	92.34	92.87	92.49	92.87	0.000006	0.04	12.48	53.40	0.02
River 1	Reach 1-Upper	416	50YrSCS24Hr	0.32	92.34	93.03	92.49	93.03	0.000002	0.03	22.58	67.08	0.01
River 1	Reach 1-Upper	416	100YrSCS24Hr	0.37	92.34	93.23	92.50	93.23	0.000001	0.02	36.24	67.81	0.01
River 1	Reach 1-Upper	398	2YrCHI3Hr	0.07	92.28	92.50	92.40	92.51	0.000938	0.22	0.33	2.54	0.20
River 1	Reach 1-Upper	398	5YrCHI3Hr	0.12	92.28	92.56	92.42	92.56	0.000913	0.26	0.48	2.86	0.20
River 1	Reach 1-Upper	398	10YrCHI3Hr	0.16	92.28	92.60	92.44	92.61	0.000764	0.26	0.61	3.13	0.19
River 1	Reach 1-Upper	398	25YrCHI3Hr	0.21	92.28	92.70	92.46	92.70	0.000401	0.23	0.93	4.03	0.14
River 1	Reach 1-Upper	398	50YrCHI3Hr	0.25	92.28	92.80	92.47	92.80	0.000150	0.16	2.51	35.14	0.09
River 1	Reach 1-Upper	398	100YrCHI3Hr	0.29	92.28	92.94	92.48	92.94	0.000018	0.07	9.30	58.44	0.03
River 1	Reach 1-Upper	398	2YrSCS24Hr	0.11	92.28	92.54	92.42	92.55	0.000934	0.25	0.43	2.78	0.20
River 1	Reach 1-Upper	398	5YrSCS24Hr	0.17	92.28	92.62	92.44	92.62	0.000689	0.26	0.67	3.24	0.18
River 1	Reach 1-Upper	398	10YrSCS24Hr	0.22	92.28	92.71	92.46	92.71	0.000365	0.22	0.99	4.50	0.14
River 1	Reach 1-Upper	398	25YrSCS24Hr	0.27	92.28	92.87	92.48	92.87	0.000042	0.10	5.90	48.09	0.05
River 1	Reach 1-Upper	398	50YrSCS24Hr	0.32	92.28	93.03	92.49	93.03	0.000006	0.04	14.82	58.71	0.02
River 1	Reach 1-Upper	398	100YrSCS24Hr	0.37	92.28	93.23	92.50	93.23	0.000001	0.02	26.77	59.29	0.01
River 1	Reach 1-Upper	383	2YrCHI3Hr	0.07	92.34	92.47	92.42	92.48	0.004360	0.39	0.19	1.94	0.40
River 1	Reach 1-Upper	383	5YrCHI3Hr	0.12	92.34	92.53	92.45	92.54	0.002848	0.39	0.31	2.30	0.34
River 1	Reach 1-Upper	383	10YrCHI3Hr	0.16	92.34	92.58	92.46	92.59	0.001793	0.36	0.44	2.60	0.28
River 1	Reach 1-Upper	383	25YrCHI3Hr	0.21	92.34	92.69	92.48	92.69	0.000720	0.28	0.74	3.18	0.19
River 1	Reach 1-Upper	383	50YrCHI3Hr	0.25	92.34	92.79	92.50	92.80	0.000334	0.22	1.11	3.78	0.13
River 1	Reach 1-Upper	383	100YrCHI3Hr	0.29	92.34	92.93	92.51	92.94	0.000138	0.17	1.71	4.83	0.09
River 1	Reach 1-Upper	383	2YrSCS24Hr	0.11	92.34	92.51	92.44	92.52	0.003235	0.40	0.27	2.21	0.36
River 1	Reach 1-Upper	383	5YrSCS24Hr	0.17	92.34	92.60	92.47	92.61	0.001493	0.35	0.49	2.71	0.26
River 1	Reach 1-Upper	383	10YrSCS24Hr	0.22	92.34	92.70	92.49	92.70	0.000650	0.28	0.78	3.26	0.18
River 1	Reach 1-Upper	383	25YrSCS24Hr	0.27	92.34	92.87	92.51	92.87	0.000205	0.19	1.42	4.21	0.11

HEC-RAS Plan: 20260401-Post_Dev_v03 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	383	50YrSCS24Hr	0.32	92.34	93.03	92.52	93.03	0.000013	0.06	10.49	51.62	0.03
River 1	Reach 1-Upper	383	100YrSCS24Hr	0.37	92.34	93.23	92.53	93.23	0.000002	0.03	21.02	52.21	0.01
River 1	Reach 1-Upper	364	2YrCHI3Hr	0.07	92.23	92.43	92.33	92.44	0.001347	0.27	0.27	2.04	0.23
River 1	Reach 1-Upper	364	5YrCHI3Hr	0.12	92.23	92.50	92.36	92.51	0.001091	0.29	0.42	2.38	0.22
River 1	Reach 1-Upper	364	10YrCHI3Hr	0.16	92.23	92.56	92.38	92.57	0.000757	0.28	0.58	2.68	0.19
River 1	Reach 1-Upper	364	25YrCHI3Hr	0.21	92.23	92.68	92.40	92.68	0.000366	0.23	0.92	3.24	0.14
River 1	Reach 1-Upper	364	50YrCHI3Hr	0.25	92.23	92.79	92.41	92.79	0.000203	0.19	1.31	3.88	0.11
River 1	Reach 1-Upper	364	100YrCHI3Hr	0.29	92.23	92.93	92.43	92.93	0.000094	0.15	1.98	5.87	0.07
River 1	Reach 1-Upper	364	2YrSCS24Hr	0.11	92.23	92.48	92.35	92.49	0.001191	0.29	0.37	2.28	0.23
River 1	Reach 1-Upper	364	5YrSCS24Hr	0.17	92.23	92.59	92.38	92.59	0.000655	0.27	0.64	2.80	0.18
River 1	Reach 1-Upper	364	10YrSCS24Hr	0.22	92.23	92.69	92.40	92.70	0.000339	0.22	0.97	3.32	0.13
River 1	Reach 1-Upper	364	25YrSCS24Hr	0.27	92.23	92.87	92.42	92.87	0.000135	0.17	1.64	4.67	0.09
River 1	Reach 1-Upper	364	50YrSCS24Hr	0.32	92.23	93.03	92.44	93.03	0.000032	0.10	6.11	44.02	0.04
River 1	Reach 1-Upper	364	100YrSCS24Hr	0.37	92.23	93.23	92.45	93.23	0.000005	0.04	15.12	44.59	0.02
River 1	Reach 1-Upper	347	2YrCHI3Hr	0.07	92.26	92.41	92.33	92.41	0.001311	0.25	0.29	2.48	0.23
River 1	Reach 1-Upper	347	5YrCHI3Hr	0.12	92.26	92.49	92.35	92.49	0.000799	0.25	0.49	2.81	0.19
River 1	Reach 1-Upper	347	10YrCHI3Hr	0.16	92.26	92.55	92.37	92.56	0.000501	0.23	0.69	3.10	0.16
River 1	Reach 1-Upper	347	25YrCHI3Hr	0.21	92.26	92.67	92.38	92.68	0.000235	0.19	1.09	3.61	0.11
River 1	Reach 1-Upper	347	50YrCHI3Hr	0.25	92.26	92.79	92.39	92.79	0.000131	0.16	1.52	4.09	0.09
River 1	Reach 1-Upper	347	100YrCHI3Hr	0.29	92.26	92.93	92.41	92.93	0.000067	0.13	2.17	5.17	0.06
River 1	Reach 1-Upper	347	2YrSCS24Hr	0.11	92.26	92.46	92.34	92.47	0.000924	0.25	0.43	2.71	0.20
River 1	Reach 1-Upper	347	5YrSCS24Hr	0.17	92.26	92.58	92.37	92.58	0.000426	0.22	0.77	3.20	0.14
River 1	Reach 1-Upper	347	10YrSCS24Hr	0.22	92.26	92.69	92.38	92.69	0.000218	0.19	1.15	3.67	0.11
River 1	Reach 1-Upper	347	25YrSCS24Hr	0.27	92.26	92.87	92.40	92.87	0.000091	0.15	1.87	4.46	0.07
River 1	Reach 1-Upper	347	50YrSCS24Hr	0.32	92.26	93.03	92.41	93.03	0.000041	0.12	2.88	10.67	0.05
River 1	Reach 1-Upper	347	100YrSCS24Hr	0.37	92.26	93.23	92.43	93.23	0.000008	0.06	10.68	37.82	0.02
River 1	Reach 1-Upper	328	2YrCHI3Hr	0.07	92.20	92.38	92.29	92.38	0.001752	0.30	0.24	1.87	0.27
River 1	Reach 1-Upper	328	5YrCHI3Hr	0.12	92.20	92.47	92.32	92.47	0.001008	0.29	0.42	2.25	0.21
River 1	Reach 1-Upper	328	10YrCHI3Hr	0.16	92.20	92.54	92.33	92.55	0.000632	0.26	0.60	2.56	0.17
River 1	Reach 1-Upper	328	25YrCHI3Hr	0.21	92.20	92.67	92.36	92.67	0.000304	0.22	0.95	3.08	0.13
River 1	Reach 1-Upper	328	50YrCHI3Hr	0.25	92.20	92.78	92.37	92.78	0.000178	0.19	1.34	3.69	0.10
River 1	Reach 1-Upper	328	100YrCHI3Hr	0.29	92.20	92.93	92.39	92.93	0.000093	0.15	1.96	4.66	0.07
River 1	Reach 1-Upper	328	2YrSCS24Hr	0.11	92.20	92.44	92.31	92.45	0.001172	0.29	0.37	2.14	0.23
River 1	Reach 1-Upper	328	5YrSCS24Hr	0.17	92.20	92.57	92.34	92.57	0.000541	0.26	0.67	2.67	0.16
River 1	Reach 1-Upper	328	10YrSCS24Hr	0.22	92.20	92.68	92.36	92.69	0.000283	0.22	1.00	3.14	0.12
River 1	Reach 1-Upper	328	25YrSCS24Hr	0.27	92.20	92.86	92.38	92.87	0.000127	0.16	1.67	4.31	0.08
River 1	Reach 1-Upper	328	50YrSCS24Hr	0.32	92.20	93.03	92.40	93.03	0.000063	0.13	2.46	5.51	0.06
River 1	Reach 1-Upper	328	100YrSCS24Hr	0.37	92.20	93.23	92.41	93.23	0.000014	0.07	8.02	29.79	0.03
River 1	Reach 1-Upper	306	2YrCHI3Hr	0.07	92.07	92.36	92.19	92.36	0.000723	0.26	0.28	1.53	0.18
River 1	Reach 1-Upper	306	5YrCHI3Hr	0.12	92.07	92.45	92.22	92.45	0.000687	0.30	0.40	1.84	0.18
River 1	Reach 1-Upper	306	10YrCHI3Hr	0.16	92.07	92.53	92.25	92.53	0.000563	0.31	0.52	2.11	0.17
River 1	Reach 1-Upper	306	25YrCHI3Hr	0.21	92.07	92.66	92.27	92.66	0.000340	0.29	0.71	2.60	0.14
River 1	Reach 1-Upper	306	50YrCHI3Hr	0.25	92.07	92.78	92.29	92.78	0.000232	0.28	0.89	3.10	0.12
River 1	Reach 1-Upper	306	100YrCHI3Hr	0.29	92.07	92.92	92.31	92.93	0.000151	0.26	1.11	3.98	0.10
River 1	Reach 1-Upper	306	2YrSCS24Hr	0.11	92.07	92.42	92.22	92.43	0.000711	0.29	0.37	1.75	0.18
River 1	Reach 1-Upper	306	5YrSCS24Hr	0.17	92.07	92.56	92.26	92.56	0.000514	0.31	0.56	2.21	0.16
River 1	Reach 1-Upper	306	10YrSCS24Hr	0.22	92.07	92.67	92.28	92.68	0.000325	0.29	0.74	2.67	0.13
River 1	Reach 1-Upper	306	25YrSCS24Hr	0.27	92.07	92.86	92.31	92.86	0.000182	0.27	1.01	3.45	0.11
River 1	Reach 1-Upper	306	50YrSCS24Hr	0.32	92.07	93.02	92.32	93.03	0.000120	0.25	1.26	4.87	0.09
River 1	Reach 1-Upper	306	100YrSCS24Hr	0.37	92.07	93.23	92.34	93.23	0.000077	0.24	1.57	20.82	0.07
River 1	Reach 1-Upper	300		Culvert									
River 1	Reach 1-Upper	294	2YrCHI3Hr	0.07	92.15	92.32	92.23	92.33	0.001574	0.32	0.23	2.11	0.26
River 1	Reach 1-Upper	294	5YrCHI3Hr	0.12	92.15	92.37	92.26	92.38	0.001843	0.41	0.30	2.35	0.30
River 1	Reach 1-Upper	294	10YrCHI3Hr	0.16	92.15	92.39	92.28	92.40	0.002112	0.48	0.33	2.47	0.32
River 1	Reach 1-Upper	294	25YrCHI3Hr	0.21	92.15	92.42	92.30	92.44	0.002418	0.56	0.38	2.62	0.35
River 1	Reach 1-Upper	294	50YrCHI3Hr	0.25	92.15	92.44	92.31	92.46	0.002632	0.61	0.41	2.73	0.37
River 1	Reach 1-Upper	294	100YrCHI3Hr	0.29	92.15	92.46	92.33	92.49	0.002788	0.66	0.44	2.84	0.39
River 1	Reach 1-Upper	294	2YrSCS24Hr	0.11	92.15	92.36	92.25	92.36	0.001772	0.39	0.28	2.29	0.29
River 1	Reach 1-Upper	294	5YrSCS24Hr	0.17	92.15	92.40	92.28	92.41	0.002190	0.50	0.34	2.51	0.33
River 1	Reach 1-Upper	294	10YrSCS24Hr	0.22	92.15	92.42	92.30	92.44	0.002481	0.57	0.38	2.64	0.36
River 1	Reach 1-Upper	294	25YrSCS24Hr	0.27	92.15	92.45	92.32	92.48	0.002750	0.64	0.43	2.79	0.39
River 1	Reach 1-Upper	294	50YrSCS24Hr	0.32	92.15	92.48	92.34	92.50	0.002931	0.70	0.46	2.91	0.40
River 1	Reach 1-Upper	294	100YrSCS24Hr	0.37	92.15	92.50	92.35	92.53	0.003160	0.76	0.49	3.01	0.42
River 1	Reach 1-Upper	279	2YrCHI3Hr	0.09	92.08	92.21	92.21	92.25	0.030968	0.83	0.10	1.54	1.01
River 1	Reach 1-Upper	279	5YrCHI3Hr	0.15	92.08	92.25	92.24	92.29	0.025757	0.90	0.16	1.85	0.97
River 1	Reach 1-Upper	279	10YrCHI3Hr	0.20	92.08	92.28		92.32	0.017921	0.87	0.23	2.03	0.83
River 1	Reach 1-Upper	279	25YrCHI3Hr	0.26	92.08	92.31		92.35	0.013590	0.86	0.30	2.25	0.75
River 1	Reach 1-Upper	279	50YrCHI3Hr	0.31	92.08	92.34		92.38	0.011935	0.87	0.36	2.40	0.71
River 1	Reach 1-Upper	279	100YrCHI3Hr	0.37	92.08	92.36		92.40	0.010878	0.88	0.42	2.54	0.69
River 1	Reach 1-Upper	279	2YrSCS24Hr	0.13	92.08	92.24	92.24	92.28	0.028026	0.89	0.15	1.77	1.00
River 1	Reach 1-Upper	279	5YrSCS24Hr	0.21	92.08	92.29		92.33	0.016973	0.87	0.24	2.08	0.82
River 1	Reach 1-Upper	279	10YrSCS24Hr	0.27	92.08	92.32		92.36	0.013275	0.86	0.31	2.27	0.74
River 1	Reach 1-Upper	279	25YrSCS24Hr	0.34	92.08	92.35		92.39	0.011320	0.87	0.39	2.47	0.70
River 1	Reach 1-Upper	279	50YrSCS24Hr	0.40	92.08	92.38		92.42	0.010412	0.89	0.45	2.61	0.68
River 1	Reach 1-Upper	279	100YrSCS24Hr	0.47	92.08	92.40		92.44	0.009682	0.90	0.52	2.76	0.67
River 1	Reach 1-Upper	277	2YrCHI3Hr	0.09	91.95	92.21		92.21	0.000715	0.22	0.40	2.73	0.18
River 1	Reach 1-Upper	277	5YrCHI3Hr	0.15	91.95	92.26		92.26	0.000859	0.28	0.55	3.02	0.20
River 1	Reach 1-Upper	277	10YrCHI3Hr	0.20	91.95	92.29		92.29	0.000926	0.32	0.64	3.19	0.21
River 1	Reach 1-Upper	277	25YrCHI3Hr	0.26	91.95	92.32		92.33	0.000998	0.37	0.75	3.39	0.23
River 1	Reach 1-Upper	277	50YrCHI3Hr	0.31	91.95	92.35		92.36	0.001055	0.40	0.84	3.52	0.24
River 1	Reach 1-Upper	277	100YrCHI3Hr	0.37	91.95	92.37		92.38	0.001115	0.43	0.92	3.65	0.25
River 1	Reach 1-Upper	277	2YrSCS24Hr	0.13	91.95	92.25		92.25	0.000829	0.26	0.51	2.95	0.20

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River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	277	5YrSCS24Hr	0.21	91.95	92.30		92.30	0.000956	0.33	0.66	3.23	0.22
River 1	Reach 1-Upper	277	10YrSCS24Hr	0.27	91.95	92.33		92.34	0.001007	0.37	0.77	3.41	0.23
River 1	Reach 1-Upper	277	25YrSCS24Hr	0.34	91.95	92.36		92.37	0.001088	0.42	0.88	3.60	0.24
River 1	Reach 1-Upper	277	50YrSCS24Hr	0.40	91.95	92.39		92.40	0.001148	0.45	0.97	3.73	0.25
River 1	Reach 1-Upper	277	100YrSCS24Hr	0.47	91.95	92.41		92.42	0.001203	0.48	1.06	3.86	0.26
River 1	Reach 1-Upper	270	2YrCHI3Hr	0.09	92.03	92.20		92.20	0.001702	0.28	0.31	2.65	0.26
River 1	Reach 1-Upper	270	5YrCHI3Hr	0.15	92.03	92.25		92.26	0.001752	0.33	0.45	3.08	0.28
River 1	Reach 1-Upper	270	10YrCHI3Hr	0.20	92.03	92.28		92.29	0.001743	0.36	0.54	3.36	0.28
River 1	Reach 1-Upper	270	25YrCHI3Hr	0.26	92.03	92.31		92.32	0.001731	0.40	0.67	3.69	0.29
River 1	Reach 1-Upper	270	50YrCHI3Hr	0.31	92.03	92.34		92.35	0.001733	0.42	0.76	3.96	0.29
River 1	Reach 1-Upper	270	100YrCHI3Hr	0.37	92.03	92.36		92.37	0.001677	0.44	0.86	4.77	0.29
River 1	Reach 1-Upper	270	2YrSCS24Hr	0.13	92.03	92.24		92.24	0.001762	0.32	0.41	2.96	0.27
River 1	Reach 1-Upper	270	5YrSCS24Hr	0.21	92.03	92.29		92.29	0.001769	0.37	0.57	3.43	0.28
River 1	Reach 1-Upper	270	10YrSCS24Hr	0.27	92.03	92.32		92.33	0.001732	0.40	0.68	3.72	0.29
River 1	Reach 1-Upper	270	25YrSCS24Hr	0.34	92.03	92.35		92.36	0.001702	0.43	0.81	4.41	0.29
River 1	Reach 1-Upper	270	50YrSCS24Hr	0.40	92.03	92.38		92.39	0.001649	0.46	0.93	5.22	0.29
River 1	Reach 1-Upper	270	100YrSCS24Hr	0.47	92.03	92.40		92.41	0.001589	0.48	1.06	5.67	0.29
River 1	Reach 1-Upper	261	2YrCHI3Hr	0.09	92.00	92.18	92.10	92.19	0.002251	0.33	0.26	2.11	0.30
River 1	Reach 1-Upper	261	5YrCHI3Hr	0.15	92.00	92.23	92.13	92.24	0.002551	0.41	0.36	2.34	0.33
River 1	Reach 1-Upper	261	10YrCHI3Hr	0.20	92.00	92.26	92.15	92.27	0.002717	0.45	0.43	2.48	0.35
River 1	Reach 1-Upper	261	25YrCHI3Hr	0.26	92.00	92.29	92.17	92.30	0.002863	0.50	0.52	2.64	0.36
River 1	Reach 1-Upper	261	50YrCHI3Hr	0.31	92.00	92.31	92.19	92.33	0.002989	0.54	0.58	2.75	0.38
River 1	Reach 1-Upper	261	100YrCHI3Hr	0.37	92.00	92.34	92.21	92.35	0.003096	0.57	0.64	2.86	0.39
River 1	Reach 1-Upper	261	2YrSCS24Hr	0.13	92.00	92.22	92.12	92.22	0.002475	0.39	0.33	2.28	0.32
River 1	Reach 1-Upper	261	5YrSCS24Hr	0.21	92.00	92.26	92.16	92.28	0.002821	0.47	0.45	2.51	0.36
River 1	Reach 1-Upper	261	10YrSCS24Hr	0.27	92.00	92.29	92.18	92.31	0.002885	0.51	0.53	2.66	0.37
River 1	Reach 1-Upper	261	25YrSCS24Hr	0.34	92.00	92.33	92.20	92.34	0.003049	0.56	0.61	2.81	0.38
River 1	Reach 1-Upper	261	50YrSCS24Hr	0.40	92.00	92.35	92.21	92.37	0.003151	0.59	0.68	2.93	0.39
River 1	Reach 1-Upper	261	100YrSCS24Hr	0.47	92.00	92.37	92.23	92.39	0.003253	0.62	0.75	3.06	0.40
River 1	Reach 1-Upper	239	2YrCHI3Hr	0.09	91.93	92.05	92.04	92.07	0.017641	0.69	0.12	1.58	0.78
River 1	Reach 1-Upper	239	5YrCHI3Hr	0.15	91.93	92.09	92.07	92.12	0.014089	0.75	0.20	1.89	0.73
River 1	Reach 1-Upper	239	10YrCHI3Hr	0.20	91.93	92.12	92.09	92.15	0.012625	0.78	0.25	2.05	0.71
River 1	Reach 1-Upper	239	25YrCHI3Hr	0.26	91.93	92.15	92.11	92.18	0.011287	0.82	0.32	2.22	0.69
River 1	Reach 1-Upper	239	50YrCHI3Hr	0.31	91.93	92.17	92.13	92.21	0.010600	0.84	0.37	2.34	0.68
River 1	Reach 1-Upper	239	100YrCHI3Hr	0.37	91.93	92.20	92.15	92.23	0.010052	0.87	0.42	2.45	0.67
River 1	Reach 1-Upper	239	2YrSCS24Hr	0.13	91.93	92.08	92.06	92.11	0.014856	0.73	0.18	1.80	0.74
River 1	Reach 1-Upper	239	5YrSCS24Hr	0.21	91.93	92.13	92.10	92.16	0.012234	0.79	0.27	2.09	0.70
River 1	Reach 1-Upper	239	10YrSCS24Hr	0.27	91.93	92.15	92.12	92.19	0.011165	0.82	0.33	2.24	0.69
River 1	Reach 1-Upper	239	25YrSCS24Hr	0.34	91.93	92.19	92.14	92.22	0.010287	0.86	0.40	2.40	0.67
River 1	Reach 1-Upper	239	50YrSCS24Hr	0.40	91.93	92.21	92.16	92.25	0.009754	0.88	0.45	2.52	0.66
River 1	Reach 1-Upper	239	100YrSCS24Hr	0.47	91.93	92.23	92.17	92.27	0.009233	0.90	0.52	2.64	0.65
River 1	Reach 1-Upper	218	2YrCHI3Hr	0.09	91.82	91.97	91.90	91.98	0.002011	0.30	0.29	2.50	0.28
River 1	Reach 1-Upper	218	5YrCHI3Hr	0.15	91.82	92.02	91.92	92.02	0.002154	0.37	0.41	2.72	0.30
River 1	Reach 1-Upper	218	10YrCHI3Hr	0.20	91.82	92.05	91.94	92.05	0.002195	0.40	0.49	2.86	0.31
River 1	Reach 1-Upper	218	25YrCHI3Hr	0.26	91.82	92.08	91.96	92.09	0.002317	0.45	0.58	3.01	0.33
River 1	Reach 1-Upper	218	50YrCHI3Hr	0.31	91.82	92.10	91.97	92.11	0.002380	0.48	0.65	3.13	0.34
River 1	Reach 1-Upper	218	100YrCHI3Hr	0.37	91.82	92.12	91.99	92.14	0.002427	0.51	0.72	3.24	0.34
River 1	Reach 1-Upper	218	2YrSCS24Hr	0.13	91.82	92.00	91.92	92.01	0.002121	0.35	0.37	2.66	0.30
River 1	Reach 1-Upper	218	5YrSCS24Hr	0.21	91.82	92.05	91.94	92.06	0.002229	0.42	0.51	2.90	0.32
River 1	Reach 1-Upper	218	10YrSCS24Hr	0.27	91.82	92.08	91.96	92.09	0.002328	0.45	0.59	3.03	0.33
River 1	Reach 1-Upper	218	25YrSCS24Hr	0.34	91.82	92.11	91.98	92.13	0.002406	0.50	0.69	3.19	0.34
River 1	Reach 1-Upper	218	50YrSCS24Hr	0.40	91.82	92.14	91.99	92.15	0.002455	0.52	0.77	3.32	0.35
River 1	Reach 1-Upper	218	100YrSCS24Hr	0.47	91.82	92.16	92.01	92.18	0.002479	0.55	0.85	3.47	0.35
River 1	Reach 1-Upper	197	2YrCHI3Hr	0.09	91.73	91.86	91.84	91.88	0.015766	0.67	0.13	1.59	0.75
River 1	Reach 1-Upper	197	5YrCHI3Hr	0.15	91.73	91.90	91.87	91.93	0.013264	0.74	0.20	1.88	0.72
River 1	Reach 1-Upper	197	10YrCHI3Hr	0.20	91.73	91.92	91.89	91.96	0.012348	0.78	0.25	2.01	0.71
River 1	Reach 1-Upper	197	25YrCHI3Hr	0.26	91.73	91.95	91.92	91.99	0.011605	0.83	0.31	2.16	0.70
River 1	Reach 1-Upper	197	50YrCHI3Hr	0.31	91.73	91.98	91.94	92.01	0.010864	0.86	0.36	2.27	0.69
River 1	Reach 1-Upper	197	100YrCHI3Hr	0.37	91.73	92.00	91.95	92.04	0.010606	0.90	0.41	2.36	0.69
River 1	Reach 1-Upper	197	2YrSCS24Hr	0.13	91.73	91.89	91.87	91.91	0.013909	0.72	0.18	1.81	0.72
River 1	Reach 1-Upper	197	5YrSCS24Hr	0.21	91.73	91.93	91.90	91.96	0.012137	0.79	0.27	2.05	0.70
River 1	Reach 1-Upper	197	10YrSCS24Hr	0.27	91.73	91.96	91.92	91.99	0.011514	0.84	0.32	2.18	0.70
River 1	Reach 1-Upper	197	25YrSCS24Hr	0.34	91.73	91.99	91.95	92.03	0.010714	0.88	0.39	2.32	0.69
River 1	Reach 1-Upper	197	50YrSCS24Hr	0.40	91.73	92.01	91.96	92.05	0.010480	0.92	0.44	2.41	0.69
River 1	Reach 1-Upper	197	100YrSCS24Hr	0.47	91.73	92.03	91.98	92.08	0.010295	0.95	0.49	2.51	0.69
River 1	Reach 1-Upper	174	2YrCHI3Hr	0.09	91.52	91.70	91.64	91.71	0.004240	0.42	0.20	1.84	0.40
River 1	Reach 1-Upper	174	5YrCHI3Hr	0.15	91.52	91.75	91.67	91.76	0.004464	0.50	0.30	2.18	0.43
River 1	Reach 1-Upper	174	10YrCHI3Hr	0.20	91.52	91.78	91.70	91.79	0.004630	0.55	0.36	2.30	0.45
River 1	Reach 1-Upper	174	25YrCHI3Hr	0.26	91.52	91.81	91.72	91.82	0.004764	0.60	0.43	2.46	0.46
River 1	Reach 1-Upper	174	50YrCHI3Hr	0.31	91.52	91.83	91.74	91.85	0.004920	0.64	0.48	2.56	0.47
River 1	Reach 1-Upper	174	100YrCHI3Hr	0.37	91.52	91.85	91.76	91.87	0.005045	0.68	0.54	2.67	0.48
River 1	Reach 1-Upper	174	2YrSCS24Hr	0.13	91.52	91.74	91.67	91.75	0.004376	0.48	0.27	2.09	0.42
River 1	Reach 1-Upper	174	5YrSCS24Hr	0.21	91.52	91.78	91.70	91.80	0.004673	0.56	0.37	2.34	0.45
River 1	Reach 1-Upper	174	10YrSCS24Hr	0.27	91.52	91.81	91.72	91.83	0.004791	0.61	0.44	2.47	0.46
River 1	Reach 1-Upper	174	25YrSCS24Hr	0.34	91.52	91.84	91.75	91.86	0.004993	0.67	0.51	2.62	0.48
River 1	Reach 1-Upper	174	50YrSCS24Hr	0.40	91.52	91.86	91.77	91.89	0.005108	0.70	0.57	2.72	0.49
River 1	Reach 1-Upper	174	100YrSCS24Hr	0.47	91.52	91.88	91.78	91.91	0.005150	0.73	0.63	2.83	0.50
River 1	Reach 1-Upper	154	2YrCHI3Hr	0.09	91.43	91.62	91.56	91.63	0.004316	0.40	0.22	2.21	0.40
River 1	Reach 1-Upper	154	5YrCHI3Hr	0.15	91.43	91.66	91.59	91.67	0.004196	0.46	0.33	2.61	0.41
River 1	Reach 1-Upper	154	10YrCHI3Hr	0.20	91.43	91.69	91.61	91.70	0.004192	0.49	0.40	2.83	0.42
River 1	Reach 1-Upper	154	25YrCHI3Hr	0.26	91.43	91.72	91.63	91.74	0.004098	0.53	0.49	3.08	0.42
River 1	Reach 1-Upper	154	50YrCHI3Hr	0.31	91.43	91.74	91.65	91.76	0.004007	0.55	0.56	3.25	0.43
River 1	Reach 1-Upper	154	100YrCHI3Hr	0.37	91.43	91.77	91.67	91.78	0.003907	0.58	0.64	3.40	0.43

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River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	154	2YrSCS24Hr	0.13	91.43	91.65	91.58	91.66	0.004250	0.44	0.29	2.50	0.41
River 1	Reach 1-Upper	154	5YrSCS24Hr	0.21	91.43	91.70	91.62	91.71	0.004172	0.50	0.42	2.89	0.42
River 1	Reach 1-Upper	154	10YrSCS24Hr	0.27	91.43	91.72	91.64	91.74	0.004085	0.53	0.50	3.11	0.42
River 1	Reach 1-Upper	154	25YrSCS24Hr	0.34	91.43	91.76	91.66	91.77	0.003951	0.57	0.60	3.33	0.43
River 1	Reach 1-Upper	154	50YrSCS24Hr	0.40	91.43	91.78	91.68	91.80	0.003857	0.59	0.68	3.48	0.43
River 1	Reach 1-Upper	154	100YrSCS24Hr	0.47	91.43	91.80	91.69	91.82	0.003775	0.61	0.76	3.63	0.43
River 1	Reach 1-Upper	137	2YrCHI3Hr	0.09	91.33	91.49	91.46	91.51	0.011391	0.63	0.14	1.43	0.65
River 1	Reach 1-Upper	137	5YrCHI3Hr	0.15	91.33	91.53	91.50	91.56	0.011329	0.73	0.20	1.66	0.67
River 1	Reach 1-Upper	137	10YrCHI3Hr	0.20	91.33	91.56	91.52	91.59	0.011021	0.78	0.25	1.80	0.67
River 1	Reach 1-Upper	137	25YrCHI3Hr	0.26	91.33	91.59	91.55	91.63	0.010598	0.84	0.31	1.97	0.67
River 1	Reach 1-Upper	137	50YrCHI3Hr	0.31	91.33	91.62	91.57	91.65	0.010270	0.87	0.36	2.09	0.67
River 1	Reach 1-Upper	137	100YrCHI3Hr	0.37	91.33	91.64	91.58	91.68	0.009885	0.90	0.41	2.22	0.67
River 1	Reach 1-Upper	137	2YrSCS24Hr	0.13	91.33	91.52	91.49	91.55	0.011458	0.71	0.18	1.59	0.67
River 1	Reach 1-Upper	137	5YrSCS24Hr	0.21	91.33	91.57	91.53	91.60	0.010925	0.80	0.26	1.84	0.67
River 1	Reach 1-Upper	137	10YrSCS24Hr	0.27	91.33	91.60	91.55	91.63	0.010544	0.84	0.32	1.99	0.67
River 1	Reach 1-Upper	137	25YrSCS24Hr	0.34	91.33	91.63	91.58	91.67	0.010099	0.89	0.39	2.16	0.67
River 1	Reach 1-Upper	137	50YrSCS24Hr	0.40	91.33	91.65	91.60	91.69	0.009666	0.91	0.44	2.29	0.66
River 1	Reach 1-Upper	137	100YrSCS24Hr	0.47	91.33	91.68	91.61	91.72	0.009370	0.93	0.50	2.42	0.66
River 1	Reach 1-Upper	116	2YrCHI3Hr	0.09	91.23	91.38	91.32	91.39	0.003211	0.37	0.23	2.08	0.35
River 1	Reach 1-Upper	116	5YrCHI3Hr	0.15	91.23	91.44	91.35	91.44	0.002924	0.42	0.35	2.37	0.35
River 1	Reach 1-Upper	116	10YrCHI3Hr	0.20	91.23	91.47	91.37	91.48	0.002866	0.46	0.43	2.54	0.36
River 1	Reach 1-Upper	116	25YrCHI3Hr	0.26	91.23	91.50	91.39	91.52	0.002818	0.49	0.53	2.75	0.36
River 1	Reach 1-Upper	116	50YrCHI3Hr	0.31	91.23	91.53	91.41	91.54	0.002810	0.52	0.60	2.89	0.36
River 1	Reach 1-Upper	116	100YrCHI3Hr	0.37	91.23	91.56	91.42	91.57	0.002815	0.54	0.68	3.03	0.37
River 1	Reach 1-Upper	116	2YrSCS24Hr	0.13	91.23	91.42	91.34	91.43	0.002958	0.41	0.32	2.29	0.35
River 1	Reach 1-Upper	116	5YrSCS24Hr	0.21	91.23	91.48	91.37	91.49	0.002849	0.47	0.45	2.59	0.36
River 1	Reach 1-Upper	116	10YrSCS24Hr	0.27	91.23	91.51	91.39	91.52	0.002820	0.50	0.54	2.77	0.36
River 1	Reach 1-Upper	116	25YrSCS24Hr	0.34	91.23	91.54	91.41	91.56	0.002805	0.53	0.64	2.96	0.37
River 1	Reach 1-Upper	116	50YrSCS24Hr	0.40	91.23	91.58	91.43	91.59	0.002603	0.54	0.74	3.12	0.36
River 1	Reach 1-Upper	116	100YrSCS24Hr	0.47	91.23	91.60	91.45	91.62	0.002583	0.57	0.82	3.24	0.36
River 1	Reach 1-Upper	95	2YrCHI3Hr	0.09	91.07	91.29	91.23	91.30	0.006154	0.52	0.16	1.38	0.48
River 1	Reach 1-Upper	95	5YrCHI3Hr	0.15	91.07	91.33	91.27	91.35	0.006882	0.63	0.24	1.61	0.53
River 1	Reach 1-Upper	95	10YrCHI3Hr	0.20	91.07	91.36	91.30	91.39	0.007544	0.71	0.28	1.73	0.56
River 1	Reach 1-Upper	95	25YrCHI3Hr	0.26	91.07	91.39	91.33	91.42	0.007915	0.77	0.34	1.88	0.58
River 1	Reach 1-Upper	95	50YrCHI3Hr	0.31	91.07	91.41	91.35	91.45	0.008499	0.83	0.37	1.97	0.61
River 1	Reach 1-Upper	95	100YrCHI3Hr	0.37	91.07	91.42	91.37	91.47	0.009857	0.92	0.40	2.03	0.66
River 1	Reach 1-Upper	95	2YrSCS24Hr	0.13	91.07	91.32	91.26	91.34	0.006702	0.60	0.21	1.55	0.52
River 1	Reach 1-Upper	95	5YrSCS24Hr	0.21	91.07	91.37	91.30	91.39	0.007595	0.72	0.29	1.76	0.57
River 1	Reach 1-Upper	95	10YrSCS24Hr	0.27	91.07	91.39	91.33	91.43	0.008212	0.79	0.34	1.88	0.60
River 1	Reach 1-Upper	95	25YrSCS24Hr	0.34	91.07	91.42	91.36	91.46	0.008586	0.86	0.40	2.03	0.62
River 1	Reach 1-Upper	95	50YrSCS24Hr	0.40	91.07	91.39	91.38	91.46	0.020514	1.23	0.33	1.85	0.94
River 1	Reach 1-Upper	95	100YrSCS24Hr	0.47	91.07	91.40	91.40	91.49	0.023191	1.34	0.35	1.90	1.00
River 1	Reach 1-Upper	72	2YrCHI3Hr	0.09	90.91	91.00	91.00	91.03	0.030446	0.75	0.12	1.98	0.99
River 1	Reach 1-Upper	72	5YrCHI3Hr	0.15	90.91	91.03	91.03	91.07	0.029306	0.85	0.18	2.40	1.01
River 1	Reach 1-Upper	72	10YrCHI3Hr	0.20	90.91	91.05	91.05	91.09	0.027108	0.89	0.22	2.63	0.99
River 1	Reach 1-Upper	72	25YrCHI3Hr	0.26	90.91	91.06	91.06	91.11	0.027545	0.98	0.27	2.80	1.02
River 1	Reach 1-Upper	72	50YrCHI3Hr	0.31	90.91	91.08	91.08	91.13	0.025861	1.01	0.31	2.94	1.00
River 1	Reach 1-Upper	72	100YrCHI3Hr	0.37	90.91	91.10	91.09	91.15	0.020926	0.99	0.37	3.11	0.92
River 1	Reach 1-Upper	72	2YrSCS24Hr	0.13	90.91	91.02	91.02	91.06	0.029339	0.82	0.16	2.29	1.00
River 1	Reach 1-Upper	72	5YrSCS24Hr	0.21	90.91	91.05	91.05	91.09	0.027610	0.92	0.23	2.67	1.00
River 1	Reach 1-Upper	72	10YrSCS24Hr	0.27	90.91	91.07	91.07	91.12	0.025875	0.97	0.28	2.84	0.99
River 1	Reach 1-Upper	72	25YrSCS24Hr	0.34	90.91	91.09	91.09	91.14	0.025973	1.05	0.33	2.99	1.01
River 1	Reach 1-Upper	72	50YrSCS24Hr	0.40	90.91	91.16	91.10	91.18	0.007464	0.71	0.56	3.60	0.57
River 1	Reach 1-Upper	72	100YrSCS24Hr	0.47	90.91	91.23	91.11	91.24	0.003199	0.55	0.84	4.09	0.39
River 1	Reach 1-Lower	56	2YrCHI3Hr	0.15	90.47	90.73	90.57	90.74	0.000357	0.19	0.75	10.20	0.13
River 1	Reach 1-Lower	56	5YrCHI3Hr	0.27	90.47	90.84	90.60	90.85	0.000296	0.23	1.14	14.31	0.13
River 1	Reach 1-Lower	56	10YrCHI3Hr	0.36	90.47	90.92	90.62	90.92	0.000278	0.26	1.39	16.93	0.13
River 1	Reach 1-Lower	56	25YrCHI3Hr	0.49	90.47	91.00	90.64	91.01	0.000268	0.29	1.69	19.74	0.13
River 1	Reach 1-Lower	56	50YrCHI3Hr	0.59	90.47	91.06	90.66	91.07	0.000266	0.31	1.90	20.02	0.13
River 1	Reach 1-Lower	56	100YrCHI3Hr	0.70	90.47	91.12	90.68	91.13	0.000265	0.33	2.12	20.02	0.14
River 1	Reach 1-Lower	56	2YrSCS24Hr	0.24	90.47	90.82	90.59	90.82	0.000304	0.22	1.05	13.13	0.13
River 1	Reach 1-Lower	56	5YrSCS24Hr	0.39	90.47	90.94	90.63	90.94	0.000277	0.27	1.48	18.00	0.13
River 1	Reach 1-Lower	56	10YrSCS24Hr	0.51	90.47	91.02	90.65	91.02	0.000267	0.29	1.74	19.88	0.13
River 1	Reach 1-Lower	56	25YrSCS24Hr	0.66	90.47	91.10	90.67	91.11	0.000263	0.32	2.04	20.02	0.13
River 1	Reach 1-Lower	56	50YrSCS24Hr	0.78	90.47	91.17	90.69	91.17	0.000262	0.34	2.26	20.02	0.14
River 1	Reach 1-Lower	56	100YrSCS24Hr	0.91	90.47	91.23	90.71	91.24	0.000261	0.37	2.49	20.02	0.14
River 1	Reach 1-Lower	50		Culvert									
River 1	Reach 1-Lower	38	2YrCHI3Hr	0.15	90.46	90.57	90.53	90.58	0.005051	0.43	0.34	30.28	0.44
River 1	Reach 1-Lower	38	5YrCHI3Hr	0.27	90.46	90.60	90.56	90.62	0.007031	0.60	0.44	34.43	0.54
River 1	Reach 1-Lower	38	10YrCHI3Hr	0.36	90.46	90.61	90.57	90.64	0.008579	0.72	0.50	35.66	0.61
River 1	Reach 1-Lower	38	25YrCHI3Hr	0.49	90.46	90.63	90.60	90.67	0.010583	0.87	0.56	36.52	0.69
River 1	Reach 1-Lower	38	50YrCHI3Hr	0.59	90.46	90.64	90.61	90.69	0.012203	0.98	0.60	36.89	0.75
River 1	Reach 1-Lower	38	100YrCHI3Hr	0.70	90.46	90.66	90.63	90.72	0.013813	1.09	0.65	37.64	0.81
River 1	Reach 1-Lower	38	2YrSCS24Hr	0.24	90.46	90.59	90.55	90.61	0.006467	0.56	0.42	33.58	0.52
River 1	Reach 1-Lower	38	5YrSCS24Hr	0.39	90.46	90.62	90.58	90.65	0.009154	0.76	0.52	36.19	0.63
River 1	Reach 1-Lower	38	10YrSCS24Hr	0.51	90.46	90.63	90.60	90.67	0.010929	0.89	0.57	36.58	0.70
River 1	Reach 1-Lower	38	25YrSCS24Hr	0.66	90.46	90.65	90.63	90.71	0.013171	1.05	0.63	37.34	0.79
River 1	Reach 1-Lower	38	50YrSCS24Hr	0.78	90.46	90.66	90.64	90.73	0.015114	1.17	0.67	38.00	0.85
River 1	Reach 1-Lower	38	100YrSCS24Hr	0.91	90.46	90.67	90.66	90.76	0.017482	1.30	0.70	38.43	0.92
River 1	Reach 1-Lower	0	2YrCHI3Hr	0.15	90.42	90.50	90.46	90.50	0.001001	0.13	1.08	18.88	0.18
River 1	Reach 1-Lower	0	5YrCHI3Hr	0.27	90.42	90.53	90.47	90.53	0.001000	0.17	1.59	20.05	0.19
River 1	Reach 1-Lower	0	10YrCHI3Hr	0.36	90.42	90.54	90.48	90.54	0.001000	0.19	1.92	20.28	0.19

HEC-RAS Plan: 20260401-Post_Dev_v03 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Lower	0	25YrCHI3Hr	0.49	90.42	90.56	90.49	90.56	0.001001	0.21	2.31	20.57	0.20
River 1	Reach 1-Lower	0	50YrCHI3Hr	0.59	90.42	90.58	90.49	90.58	0.001000	0.23	2.60	20.77	0.20
River 1	Reach 1-Lower	0	100YrCHI3Hr	0.70	90.42	90.59	90.50	90.60	0.001000	0.24	2.93	21.43	0.21
River 1	Reach 1-Lower	0	2YrSCS24Hr	0.24	90.42	90.52	90.46	90.52	0.001000	0.16	1.48	19.96	0.19
River 1	Reach 1-Lower	0	5YrSCS24Hr	0.39	90.42	90.55	90.48	90.55	0.001000	0.19	2.03	20.37	0.20
River 1	Reach 1-Lower	0	10YrSCS24Hr	0.51	90.42	90.57	90.48	90.57	0.001001	0.21	2.37	20.61	0.20
River 1	Reach 1-Lower	0	25YrSCS24Hr	0.66	90.42	90.59	90.49	90.59	0.001000	0.23	2.81	21.18	0.21
River 1	Reach 1-Lower	0	50YrSCS24Hr	0.78	90.42	90.60	90.50	90.60	0.001001	0.25	3.13	21.55	0.21
River 1	Reach 1-Lower	0	100YrSCS24Hr	0.91	90.42	90.62	90.51	90.62	0.001000	0.26	3.45	21.74	0.21