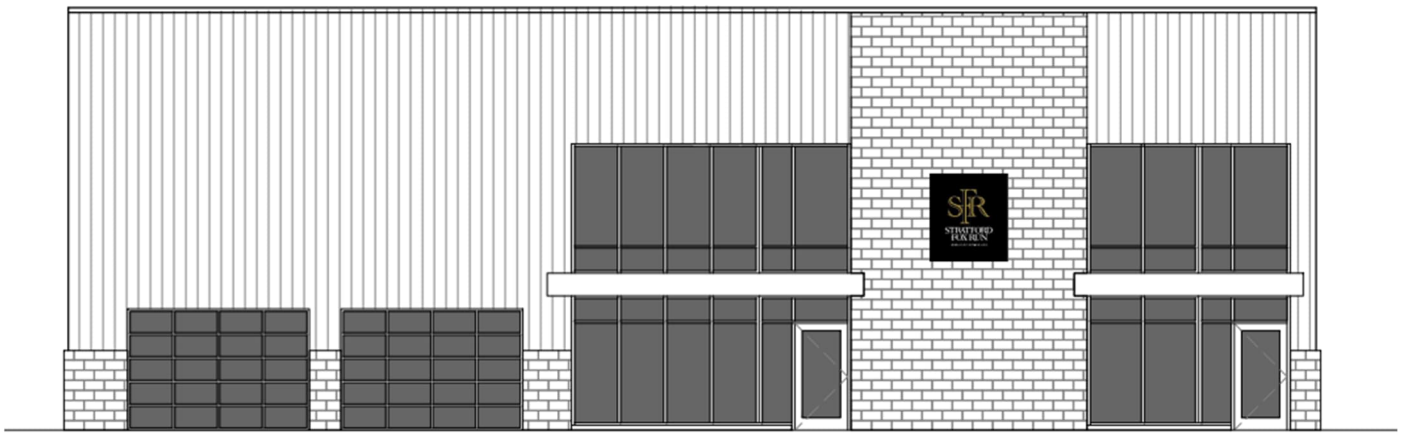
SERVICING & STORMWATER MANAGEMENT REPORT
DISTILLERY - 5923 OTTAWA STREET



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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.

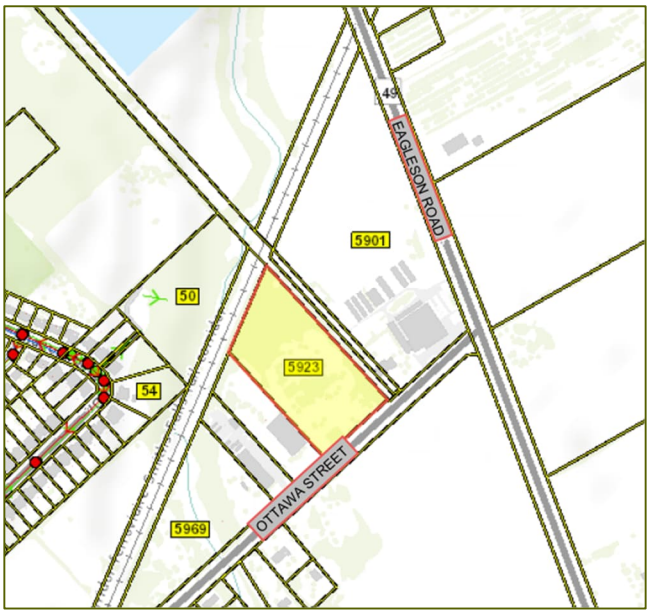
The main purpose of this report is to present a servicing design for the development in accordance with the recommendations and guidelines provided by the City of Ottawa (City), the Rideau Valley Conservation Authority (RVCA), and the Ministry of the Environment, Conservation and Parks (MECP). This report 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, 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 Compliance Approval (ECA) through the Ministry of Environment, Conservation and Parks (MECP) has been identified as a possible requirement within the Pre-Consultation notes provided by the City, based on the proposed industrial usage of the site. The requirement for an ECA will be confirmed prior to approval. Should an ECA be required, construction cannot begin until the ECA is approved.

2.0 BACKGROUND STUDIES, STANDARDS, AND REFERENCES

2.1 Background Reports / Reference Information

Background studies that have been completed for the proposed site include a topographical survey and a geotechnical report.

The topographic survey of the site was completed by Egis Canada Ltd and dated July 9, 2024.

The following reports have previously been completed and are available under separate cover:

- Geotechnical Investigation, Proposed Commercial Development, completed by Paterson Group, dated May 6, 2025.

- Ditch Hydrologic and Hydraulic Analysis, completed by JFSA, dated June 05, 2025
- Sewage System Layout Plan, Drawing PH4924-1(rev.3), completed by Paterson Group, Dated June, 2025
- 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, SDG002, October 2012. (Ottawa Sewer Guidelines)
  - Technical Bulletin ISTB-2014-01 City of Ottawa, February 2014. (ISTB-2014-01)
  - Technical Bulletin PIEDTB-2016-01 City of Ottawa, September 2016. (PIEDTB-2016-01)
  - Technical Bulletin ISTB-2018-01 City of Ottawa, January 2018. (ISTB-2018-01)
  - Technical Bulletin ISTB-2018-04 City of Ottawa, March 2018. (ISTB-2018-04)
  - Technical Bulletin ISTB-2019-02 City of Ottawa, February 2019. (ISTB-2019-02)
  - Technical Bulletin IWSTB-2024-04 City of Ottawa, September 2024. (ISTB-2024-04)
- 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 wells, 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 will be abandoned and both buildings will be independently serviced.

Fire protection is proposed to be provided by a remote fire protection system comprised of underground water storage tank(s), a dry hydrant, and a 150 mm diameter private watermain. The proposed Phase 1 building will be equipped with fully supervised sprinkler system supplied by underground water storage tank(s). The "Fully Supervised" sprinkler systems 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. A sprinkler system is not proposed within the Phase 2 Building.

Based on direction from Ottawa Fire Services, the Ontario Building Code method and NFPA13 method fire flow calculations must be provided to determine the required fire flow for the Phase 1 building. Per IWSTB-2024-05, the fire flow requirement for the Phase 2 building will be based on the OBC method if the required fire flow is less than 9,000 L/min. Calculations based on the OBC method are included below. NFPA13 calculations will be provided when a mechanical engineer has joined the project team.

The 'K' factor (Water Supply Coefficient) for the OBC calculation was determined to be 17 for both buildings, based on a Medium-Hazard Industrial occupancy and non-combustible construction with fire separations and fire-resistance ratings provided in accordance with subsections 3.2.2., including loadbearing walls, columns, and arches. The Phase 1 and Phase 2 building volumes are 4,125 m^3 and 7,200 m^3, respectively. These inputs were confirmed through correspondence with the Architect.

The 'K' factor considers both the construction and general usage of the building to determine the additional volume of water that should be provided. In the case of the proposed restaurant/distillery and brewery buildings, the 'K' factor is based on the Medium-Hazard Industrial usage of the distillery and brewery, as the combustible contents found therein will necessitate a greater volume of water for firefighting than the restaurant or office uses.

The results of the OBC calculations yielded a required fire flow of 2,700 L/min, and a required on-site storage volume of 77,138 L for Phase 1. The results of the OBC calculations yielded a required fire flow of 3,600 L/min, and a required on-site storage volume of 122,400 L for Phase 2. The detailed calculations for the OBC can be found in Appendix 'C'.

As Ottawa Fire Services is Superior Tanker Shuttle Service accredited to provide 1,900 L/min for commercial lines, a reduction in the required storage volume of up to 57,000 L (1,900 L/min x 30 min) may apply. For this requirement to apply, the required fire flow must be less than or equal to 4,500 L/min. It should however be noted that the minimum tank size for on-site storage is 38,000 L.

The required on-site storage volume for Phase 2 has therefore been determined as (122,400 L – 57,000 L) = 65,400 Litres. The required on-site storage volume for Phase 1 will be confirmed with Ottawa Fire Services once the water demand for the Phase 1 sprinkler system is known, and NFPA13 calculations are provided. On-site storage for Phase 1 is proposed to be provided by underground concrete water storage tanks connected to both a dry hydrant and the building sprinkler system. On-site storage for Phase 2 is proposed to be provided by an underground concrete storage tank with a draw pipe and chute as per City of Ottawa Figure 5, Figure 10, and standard drawings W51 and W52.

As the site contains high groundwater, the underground water storage tanks will need to be reviewed for buoyancy once shop drawings are received. Measures to mitigate buoyancy, if needed, might include the use of ballast blocks, a concrete cap, or a deeper burial depth.

Although the building will be serviced via a drilled well and pump system as described above, water demands based on occupancy areas are provided below for information purposes only. The water demands have been calculated to adhere to the Ottawa Design Guidelines – Water Distribution manual 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
OBC Fire Flow Requirement (L/s)	45 (2,700 L/min)	60 (3,600 L/min)
NFPA13 Fire Flow Requirement (L/s)	To be confirmed	N/A
On-Site Water Storage Requirement (L)	To be confirmed	65,400

Detailed water demand and fire flow calculations can be found in Appendix 'C'.

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, when balanced over 7 days. It is understood that approval of on-site septic treatment will be governed by OBC, as the Daily Design Flow for each system will be less than 10,000 L/day. Refer to the septic design completed by Paterson Group, which will be submitted to the Ottawa Septic System Office (OSSO) for the required permits and approvals.

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.

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 Design Guidelines and can be found in Appendix 'C'. To remain conservative, the restaurant area for Phase 1 has been increased to account for outdoor patio seating. The development area was considered instead of the property area to provide a more reasonable infiltration allowance estimate. Sanitary Demand Criteria are listed in Table 2, below.

Table 2: 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 3, below, summarizes the estimated wastewater flow from the proposed development. Refer to Appendix 'D' for detailed calculations.

Table 3: 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 Design Guidelines are provided for information only. The sanitary design and septic demand will be completed by Paterson Group based on Ontario Building Code 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 to permit greater flow during larger events.

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 to the greatest extent possible during smaller storm events with the use of minimum sized orifices. During larger storm events, a weir will activate to allow for additional outflow. 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 with a maximum C value of 0.50.

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 City of Ottawa - Sewer Design 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-and Post- Development Drainage Area Plan 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 below.

Table 4: 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.

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 below.

Table 5: Post-Development Runoff Coefficients Summary

Drainage Area	Area (ha)	Runoff Coefficient (2/5-Year)	Runoff Coefficient (100-Year)
B1	0.22	0.50	0.57
B2	0.26	0.90	1.00
Total (Phase 1)	0.48	-	-
B3	0.16	0.49	0.56
B4	0.29	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 an 85 mm diameter orifice to control outflow from its respective storage area. Each storage area will also include a 0.30m earth weir to allow for greater outflow during larger storm events. The restriction of runoff will result in a ponding depth of 0.58m for Phase 1, and 0.65m for Phase 2. Stormwater management will be independent for each phase.

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

7.5 Quantity Control

The 2- and 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 6, below, summarizes the site release rates and required storage volumes for the post-development condition based on JFSA's analysis. For further information, refer to the memo prepared by JFSA and included in Appendix 'G'.

Table 6: Site Release Rates / Required Storage Volume / Ponding Depth

	Phase 1 (0.48 ha)			Phase 2 (0.45 ha)		
Storm	Peak Outflow (m^3/s)	Required Storage (m^3)	Ponding Depth (m)	Peak Outflow (m^3/s)	Required Storage (m^3)	Ponding Depth (m)
2YrCHI3Hr	0.008	41	0.31	0.009	40	0.40
5YrCHI3Hr	0.009	72	0.39	0.010	68	0.48
10YrCHI3Hr	0.010	93	0.44	0.011	87	0.53
25YrCHI3Hr	0.010	122	0.50	0.012	112	0.59
50YrCHI3Hr	0.011	143	0.54	0.014	127	0.62
100YrCHI3Hr	0.014	163	0.58	0.018	141	0.65
2YrSCS24Hr	0.008	46	0.33	0.009	44	0.41
5YrSCS24Hr	0.009	75	0.40	0.010	70	0.49
10YrSCS24Hr	0.010	95	0.44	0.011	87	0.53
25YrSCS24Hr	0.010	120	0.49	0.011	109	0.58
50YrSCS24Hr	0.011	139	0.53	0.013	124	0.62
100YrSCS24Hr	0.013	158	0.57	0.017	137	0.64

Table 7, 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 7: Pre- and Post-Development Peak Flow Summary

	Peak Flow (m^3/s)		
Storm	Pre-Development	Post-Development	Difference
2YrCHI3Hr	0.015	0.024	0.009
5YrCHI3Hr	0.026	0.032	0.006
10YrCHI3Hr	0.035	0.037	0.002
25YrCHI3Hr	0.047	0.043	-0.004
50YrCHI3Hr	0.057	0.050	-0.007

100YrCHI3Hr	0.067	0.060	-0.007
2YrSCS24Hr	0.024	0.028	0.004
5YrSCS24Hr	0.038	0.037	-0.001
10YrSCS24Hr	0.049	0.042	-0.007
25YrSCS24Hr	0.062	0.049	-0.013
50YrSCS24Hr	0.073	0.055	-0.018
100YrSCS24Hr	0.084	0.063	-0.021

As seen in Table 7, 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 would increase the risk of a blockage within the storm system and is not recommended.

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

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.

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.

To ensure the quality control criteria is met, the depressed surface storage areas will discharge to oil and grit separator units located within their respective phases. The combination of grassed swales, surface storage, and the oil and grit separator units will provide a minimum 80% TSS removal for all runoff leaving the site.

7.7 Village of Richmond Environmental Management Plan

As the subject site is located within the Village of Richmond Environmental Management Plan 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.

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 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 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 UCSS classification 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 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 can not 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 the longest duration possible, resulting in maximum surface stormwater volumes of 163 m^3 for Phase 1 and 141 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 rock flow, straw bale & silt fence check dams and barriers shall be inspected weekly and after rainfall events. Care shall be taken to properly remove sediment from the fences and check dams as required. 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.

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 Site Grading, Drainage Plan and Sediment & Erosion 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 watercourse to ensure that no sediment is washed out into the 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 each phase, designed by others.
- The Phase 2 building will be serviced by the Phase 1 well in the interim condition.
- Fire protection for Phase 1 will be provided by a remote hydrant systems and underground water storage tanks.
- Fire protection for Phase 2 will be provided by an underground water storage tank complete with a chute and draw pipe.
- 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 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

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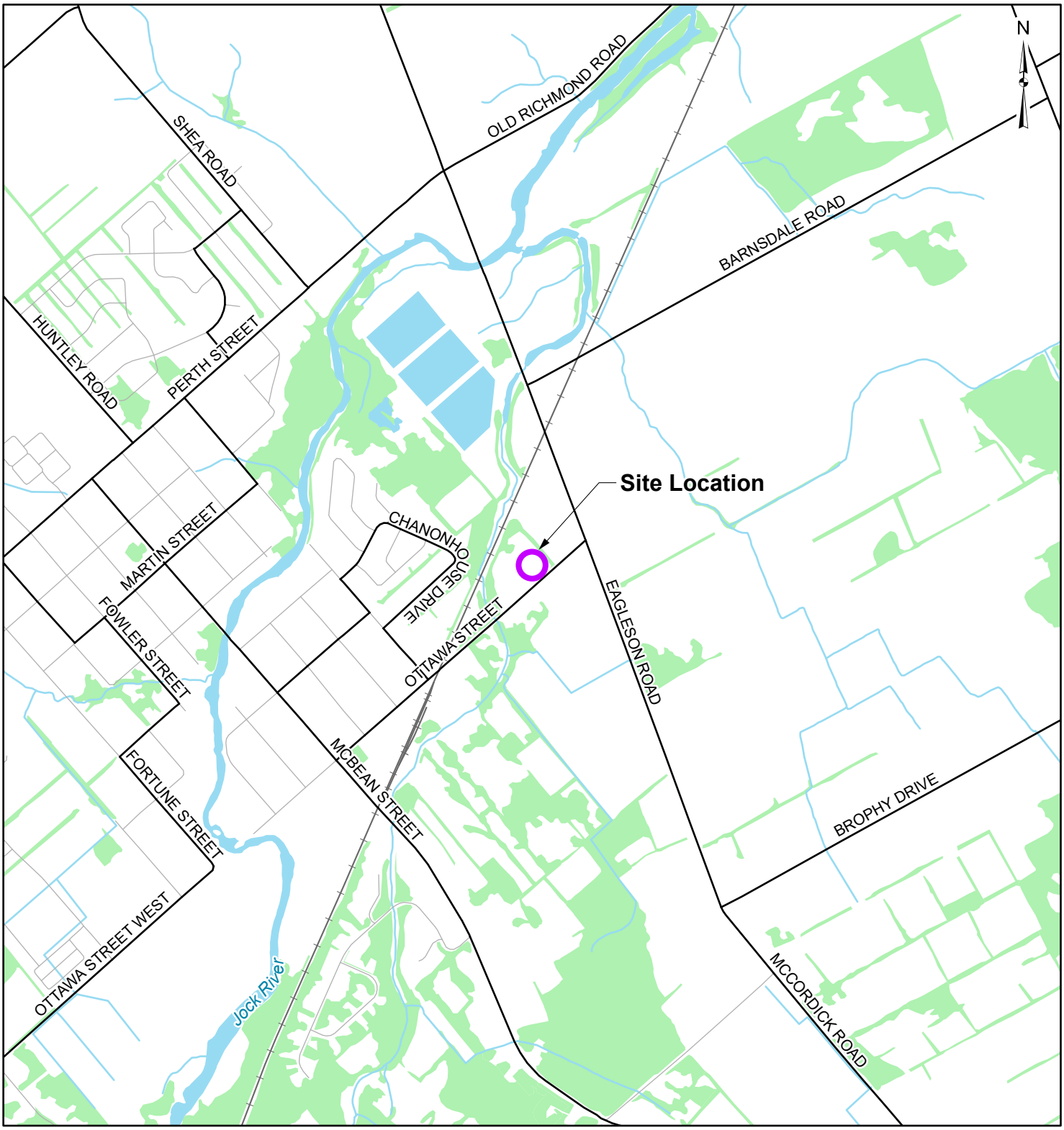
11.0 STATEMENT OF LIMITATIONS

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	

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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 premature 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.

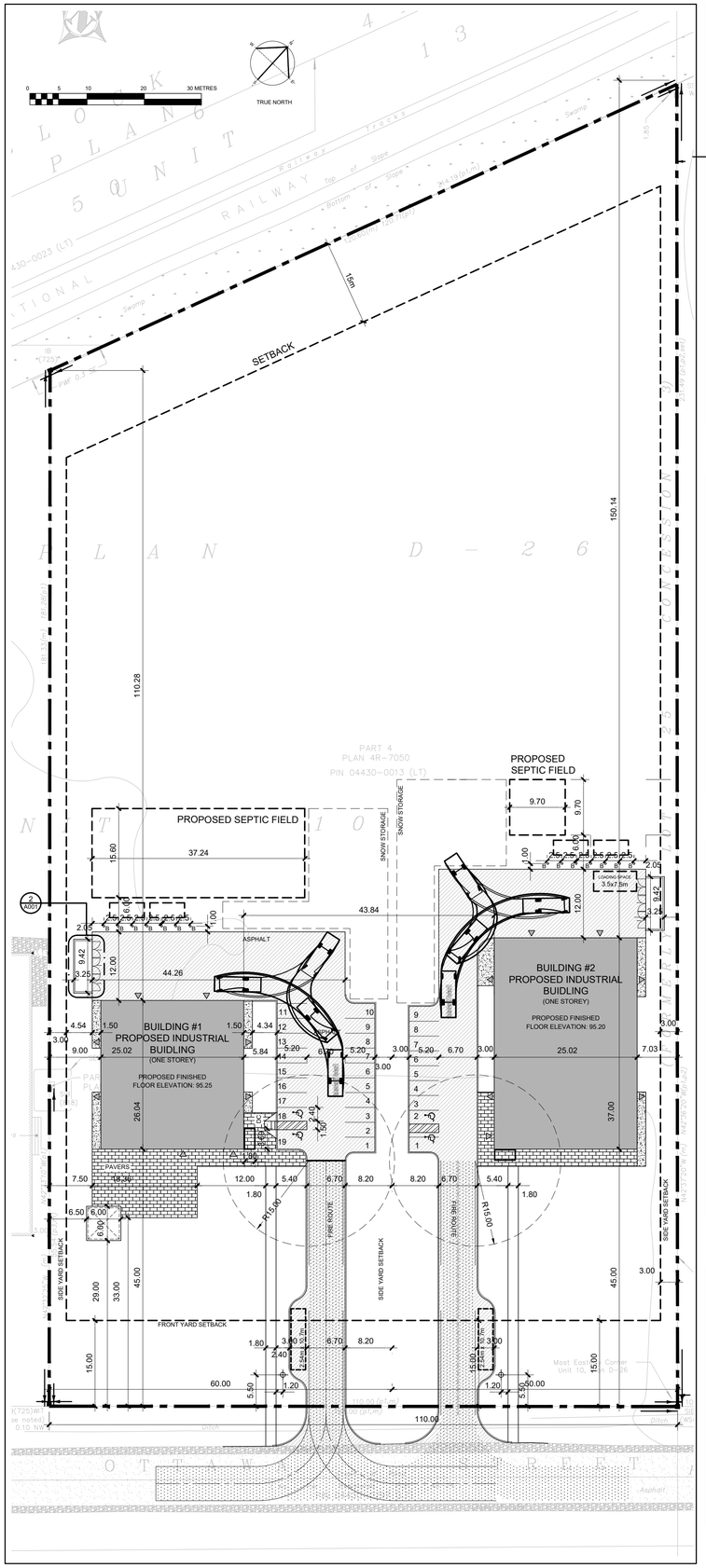
b. Please refer to the HPDS information attached and ottawa.ca/HPDS for more information.

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



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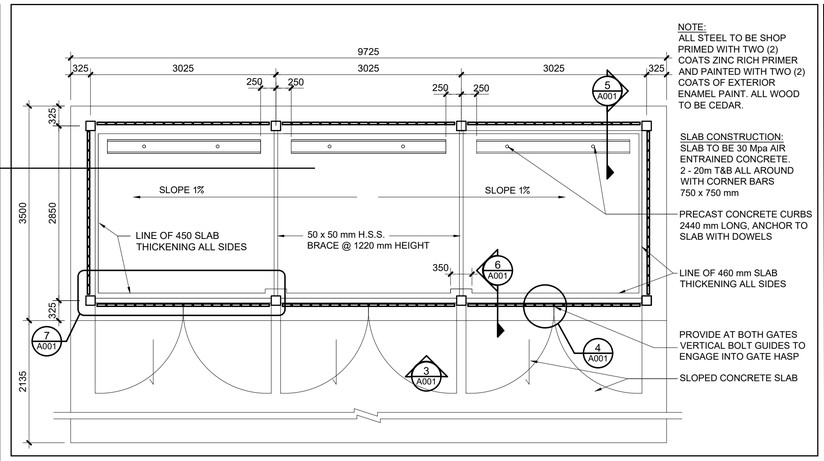

2 A001 GARBAGE ENCLOSURE PLAN
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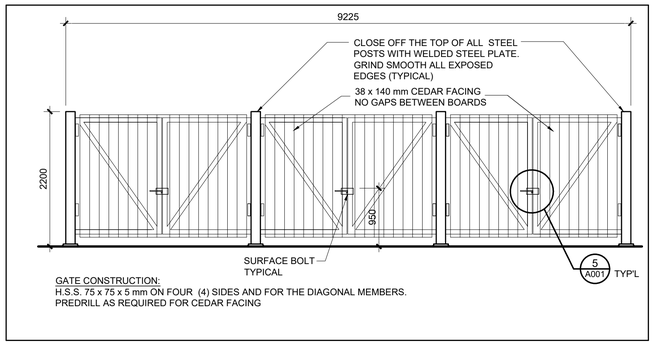

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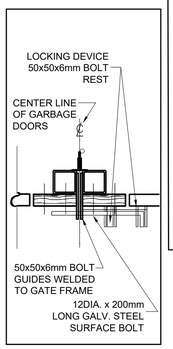

4 A001 PLAN DETAIL
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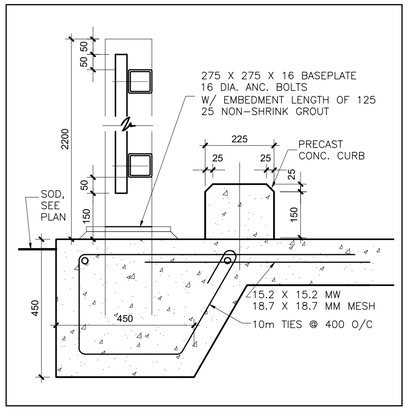

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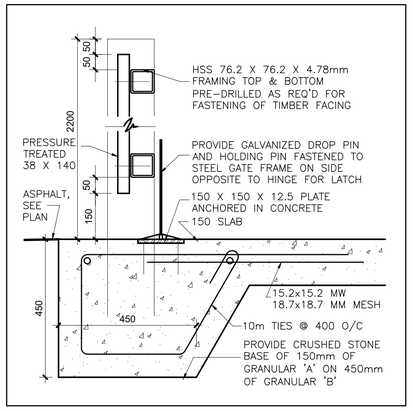

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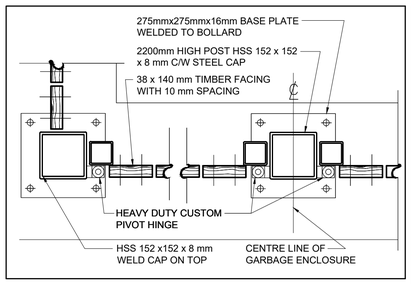

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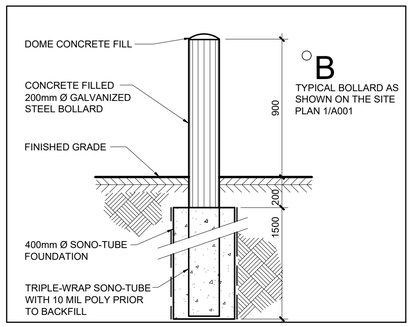


8 A001 BOLLARD DETAIL
SCALE 1:20

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

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

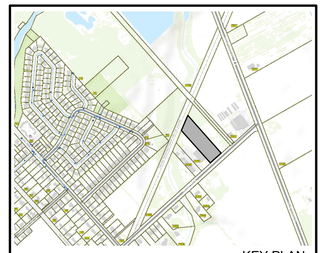
BUILDING STATISTICS:

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



KEY PLAN

no.	revision	date
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:	June 6, 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/(1000m^2 /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:	June 6, 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/(1000m^2 /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

CCO-25-0415 - 5923 Ottawa Street - Phase 1 OBC Fire Calculations

Project:	5923 Ottawa Street
Project No.:	CCO-25-0415
Designed By:	FV
Checked By:	AG
Date:	June 6, 2025

Ontario 2006 Building Code Compendium (Div. B - Part 3)

Water Supply for Fire-Fighting - Distillery, Restaurant & Retail Building

Building is classified as Group : E and F2 up to 2 Storeys (from table 3.2.2.55)
Building is of noncombustible construction with fire separations and fire-resistance ratings provided in accordance with subsections 3.2.2., including loadbearing walls, columns and arches

From Div. B A-3.2.5.7. of the Ontario Building Code - 3. Building On-Site Water Supply:

(a) Q = K x V x Stot

where:

Q = minimum supply of water in litres

K = water supply coefficient from Table 1

V = total building volume in cubic metres

Stot = total of spatial coefficient values from the property line exposures on all sides as obtained from the formula:

Stot = 1.0 + [Sside1+Sside2+Sside3+..etc.]

K	17	(from Table 1 pg A-31)
V	4,125	(Total building volume in m³.)
Stot	1.1	(From figure 1 pg A-32)
Q =	77,137.50 L	

			From Figure 1 (A-32)
Snorth	111	m	0.0
Seast	26	m	0.0
Ssouth	45	m	0.0
Swest	9	m	0.1

* approximate distances

From Table 2: Required Minimum Water Supply Flow Rate (L/s)

2,700 L/min if Q < 108,000 L
713 gpm

CCO-25-0415 - 5923 Ottawa Street - Phase 2 OBC Fire Calculations

Project:	5923 Ottawa Street
Project No.:	CCO-25-0415
Designed By:	FV
Checked By:	AG
Date:	June 6, 2025

Ontario 2006 Building Code Compendium (Div. B - Part 3)

Water Supply for Fire-Fighting - Brewery

Building is classified as Group : E and F2 up to 2 Storeys (from table 3.2.2.55)
Building is of noncombustible construction with fire separations and fire-resistance ratings provided in accordance with subsections 3.2.2., including loadbearing walls, columns and arches

From Div. B A-3.2.5.7. of the Ontario Building Code - 3. Building On-Site Water Supply:

(a) Q = K x V x Stot

where:

Q = minimum supply of water in litres

K = water supply coefficient from Table 1

V = total building volume in cubic metres

Stot = total of spatial coefficient values from the property line exposures on all sides as obtained from the formula:

Stot = 1.0 + [Sside1+Sside2+Sside3+..etc.]

K	17	(from Table 1 pg A-31)
V	7,200	(Total building volume in m³.)
Stot	1.0	(From figure 1 pg A-32)
Q =	122,400.00 L	

				From Figure 1 (A-32)
	Snorth	135	m	0.0
*	Seast	17	m	0.0
	Ssouth	57	m	0.0
	Swest	18	m	0.0

* east exposure measured from centre of road allowance.

From Table 2: Required Minimum Water Supply Flow Rate (L/s)

3,600 L/min ifQ > 108,000 L and < 135,000 L
951 gpm

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/(1000m²/d)	90	0.00
Restaurant	125	L/(9.2m²/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/7.0m²/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

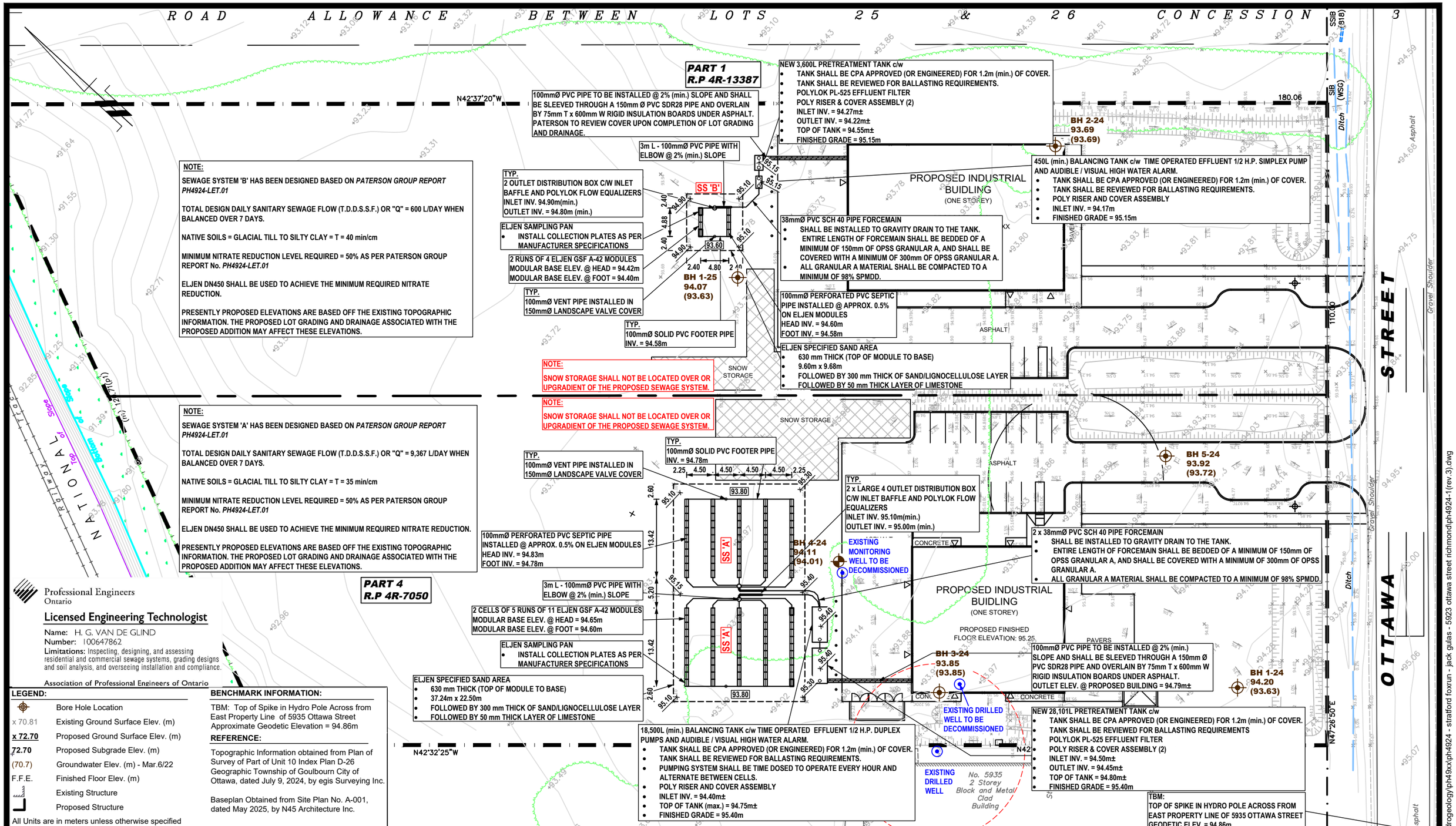
AVERAGE DAILY DEMAND

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



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

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)**

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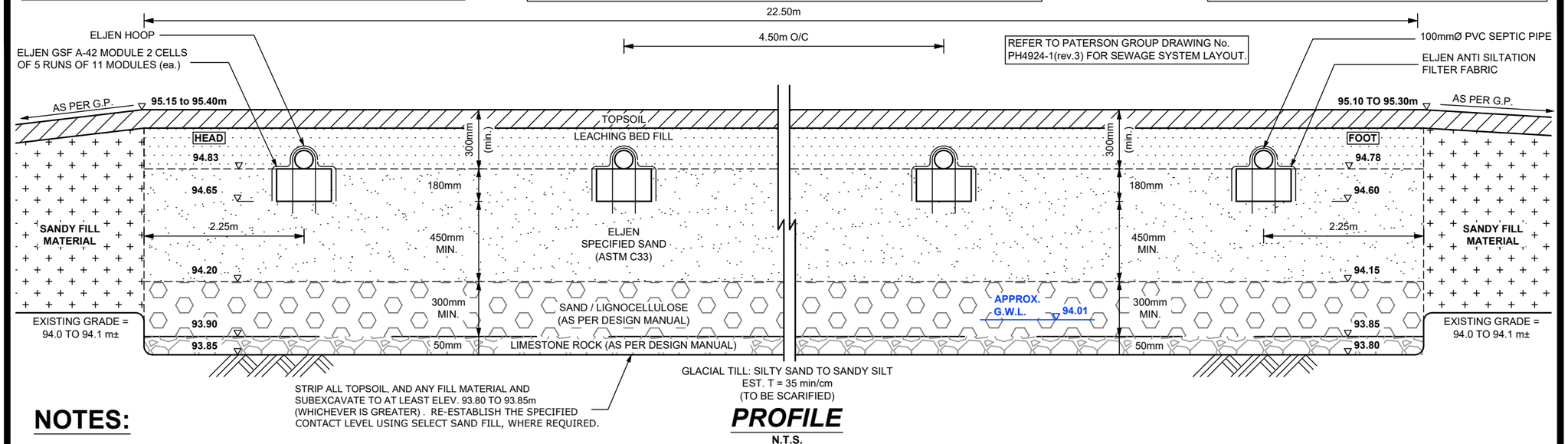
COVER MATERIAL TO CONSIST OF LEACHING BED FILL FOLLOWED BY APPROX. 100mm OF SANDY TOPSOIL. LEACHING BED TO BE VEGETATED AS SOON AS POSSIBLE.

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.

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

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 93.80m 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.

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 'A'

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

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

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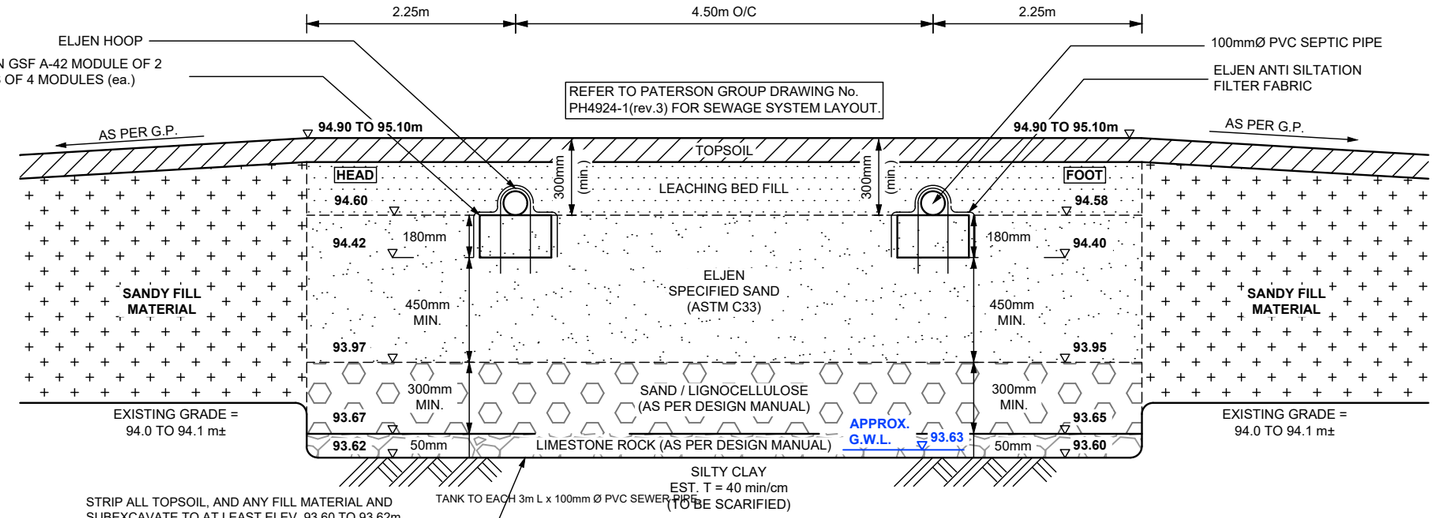
COVER MATERIAL TO CONSIST OF LEACHING BED FILL FOLLOWED BY APPROX. 100mm OF SANDY TOPSOIL. LEACHING BED TO BE VEGETATED AS SOON AS POSSIBLE.

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 JUNE 17, 2024. 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 PRETREATMENT 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
- 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 7S9
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: N.T.S.	Drawn by: HV
Date: 06/2025	Checked by: MK

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

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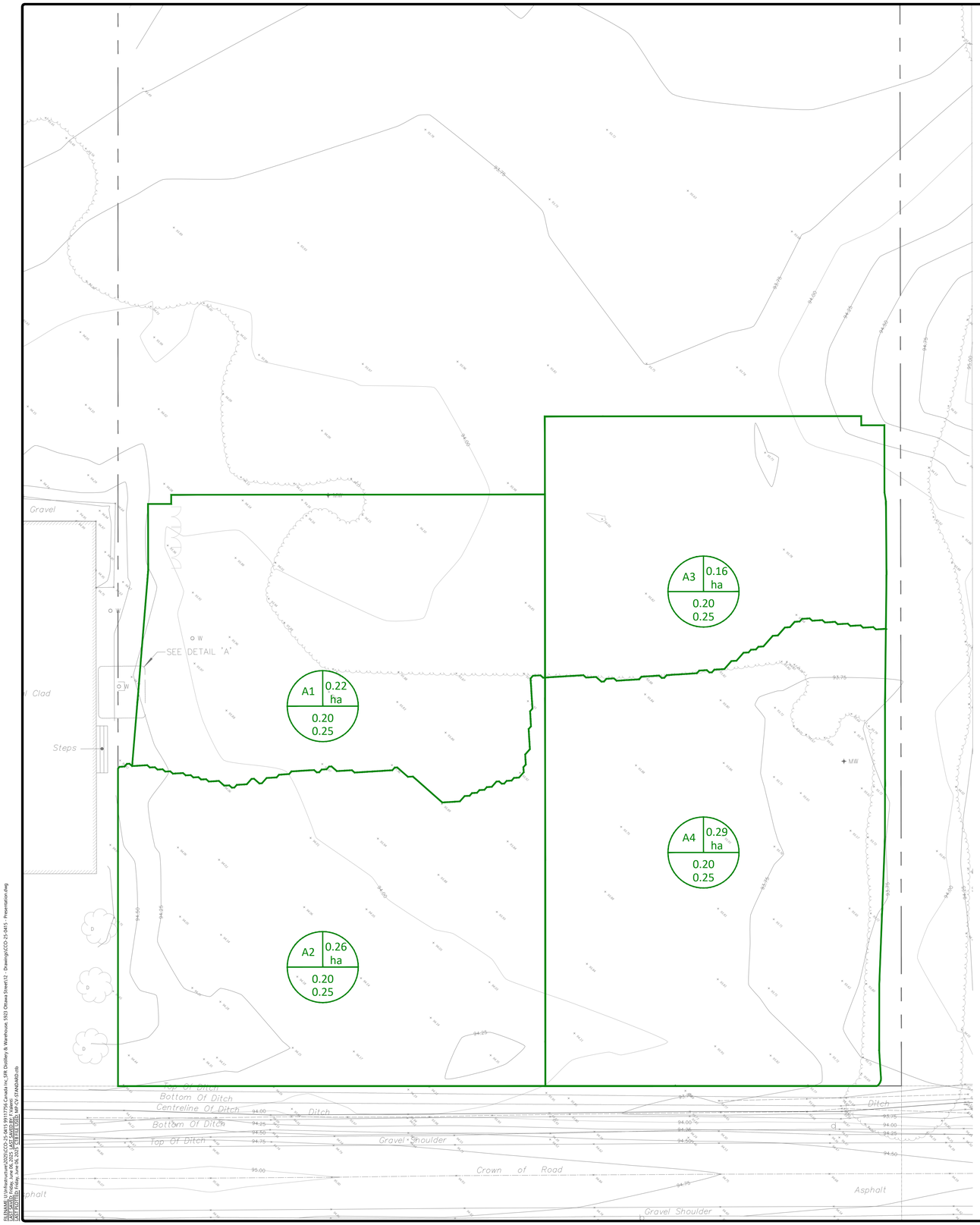
APPENDIX E
PRE-DEVELOPMENT DRAINAGE PLAN



GENERAL NOTES

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12. DO NOT ALTER GRADING OF THE SITE WITHOUT PRIOR APPROVAL OF THE ENGINEER/CITY.
13. 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.
14. 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.
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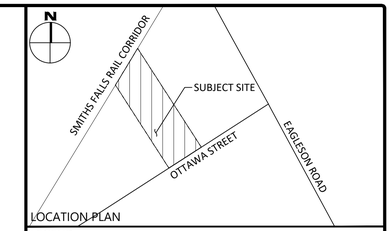
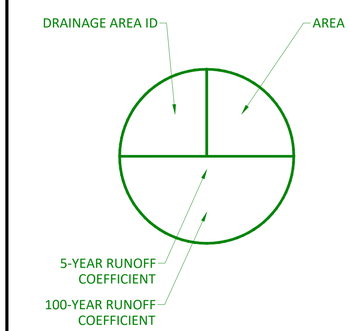
19. THIS PLAN MUST BE READ IN CONJUNCTION WITH THE GEOTECHNICAL INVESTIGATION COMPLETED BY PATERSON GROUP, DATED JULY 25, 2024.



LOCATION PLAN

LEGEND



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No.	Revisions	Date
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
115 Walgreen Road, R.R.3
Carp, ON K0A 1L0
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	

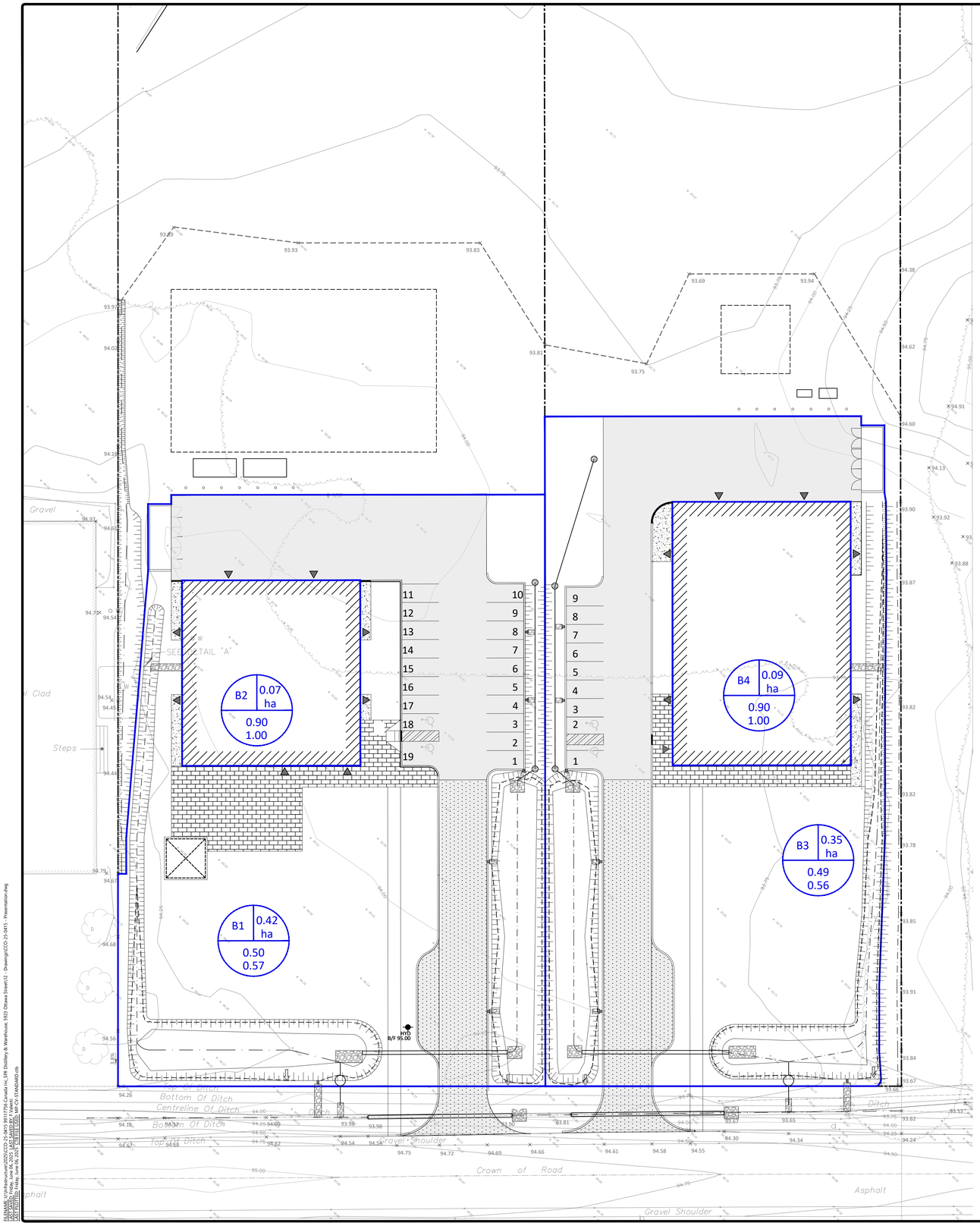
D07-12-XX-XXXX

#XXXXX

FILENAME: U:\Infrastructure\2025\CCO-25-0415 99117756 Canada Inc. SPR Distillery & Warehouse, 5923 Ottawa Street\12 - Drawings\CCO-25-0415 - Presentation.dwg
LAYOUT: PRE-DEVELOPMENT PLAN - 1:300 - 24"x36" - 1 VIEWPORT
LAST EDITED: Friday, June 06, 2025 - 9:18:11 EDDT, MP-CV-STANDARD.ctb

APPENDIX F
POST-DEVELOPMENT DRAINAGE PLAN

egis



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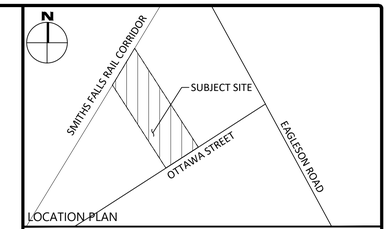
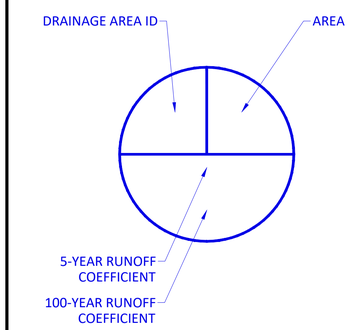


LOCATION PLAN

LEGEND



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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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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:
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-XX-XXXX

#XXXXX

FILENAME: U:\Projects\ACD\CCO-25-0415 99117756 Canada Inc. SPR Distillery & Warehouse, 5923 Ottawa Street\12 - Drawings\CCO-25-0415 - Presentation.dwg
LAYOUT: POST Plotted By: Alex Gilbert
LAST REVISED: Friday, June 06, 2025 - 9:18:11 AM EDT, MP-CV-STANDARD.ctb

APPENDIX G
STORMWATER MANAGEMENT CALCULATIONS

egis

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	2,627	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	0.22	0.20	0.25	Ph.1 Drainage to Rear Yard
A2	0.26	0.20	0.25	Ph.1 Drainage to Ottawa Street
Total	0.48			

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	1,801	0	2,372	0.50	0.57	Ph.1 Surface Restricted
B2	651	0	0	0.90	1.00	Ph.2 Building - Restricted

Post-Development Runoff Calculations

Drainage Area	Area (ha)	C 2-Year	C 100-Year	
B1	0.42	0.50	0.57	Ph.1 Surface Restricted
B2	0.07	0.90	1.00	Ph.2 Building - Restricted
Total	0.48			

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	2,863	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	0.16	0.20	0.25	Ph.2 Drainage to Rear Yard
A4	0.29	0.20	0.25	Ph.2 Drainage to Ottawa Street
Total	0.45			

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	1,469	0	2,072	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	0.35	0.49	0.56	Ph.2 Surface Restricted
B4	0.09	0.90	1.00	Ph.2 Building - Restricted
Total	0.45			

WATTS®	Adjustable Accutrol Weir Tag: _____	Adjustable Flow Control for Roof Drains

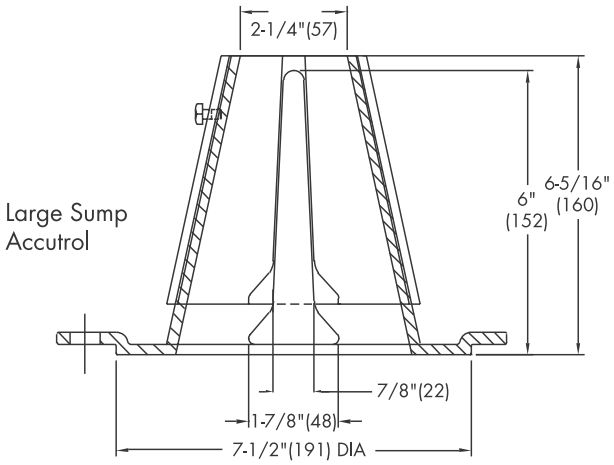
ADJUSTABLE ACCUTROL (for Large Sump Roof Drains only)

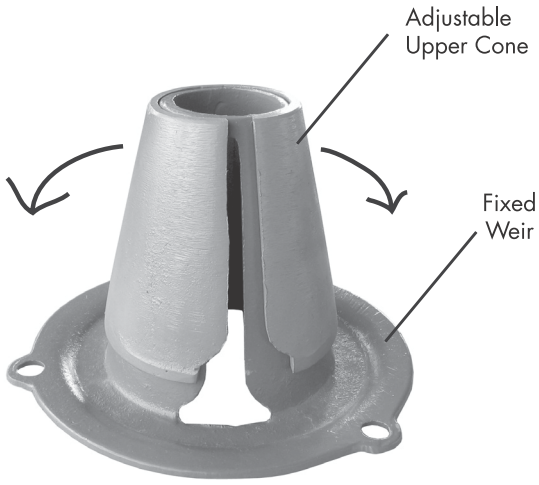
For more flexibility in controlling flow with heads deeper than 2", Watts Drainage offers the Adjustable Accutrol. The Adjustable Accutrol Weir is designed with a single parabolic opening that can be covered to restrict flow above 2" of head to less than 5 gpm per inch, up to 6" of head. To adjust the 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 _____

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Québec. QC

June 05, 2025 Project Number: P2710(e01)

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

Attention: **Joshua Laginski, P.Eng**

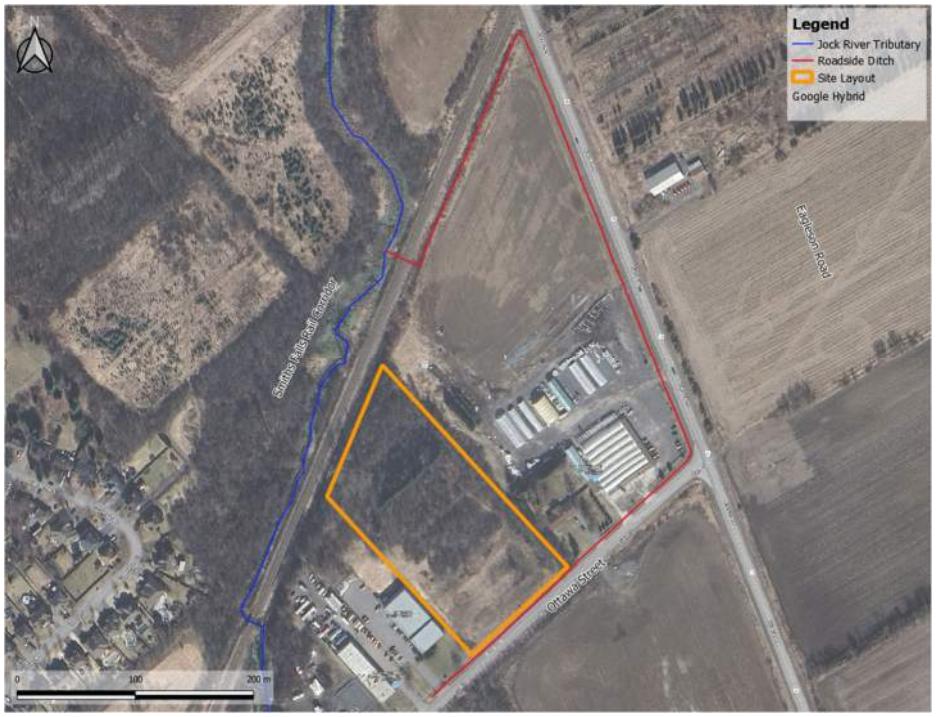
Subject: **Stratford Foxrun Development- 5923 Ottawa Street, Richmond Ditch Hydrologic and Hydraulic Analysis**

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 turns 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

1.1.1 Drainage Areas

Existing drainage areas for the 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. 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. 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.

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.

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 **85 mm** orifice at the bottom of the localized depression area and a small **30cm** overflow weir at an elevation of **94.40m** and **94.35m** for the west and east site respectively.

Results

Onsite Controls Summary

As mentioned, the modelling accurately reflects the site's detailed grading, particularly the localized depressions. **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.

Table 1:Site Release Rates / Required Storage Volume / Ponding Depth

Storm	Site 1 (0.48 ha)			Site 2 (0.45 ha)		
	Peak Outflow (m^3/s)	Required Storage (m^3)	Ponding Depth (m)	Peak Outflow (m^3/s)	Required Storage (m^3)	Ponding Depth (m)
2YRCHI3Hr	0.008	41	0.31	0.009	40	0.40
5YRCHI3Hr	0.009	72	0.39	0.010	68	0.48
10YRCHI3Hr	0.010	93	0.44	0.011	87	0.53
25YRCHI3Hr	0.010	122	0.50	0.012	112	0.59
50YRCHI3Hr	0.011	143	0.54	0.014	127	0.62
100YRCHI3Hr	**0.014**	**163**	**0.58**	**0.018**	**141**	**0.65**
2YrSCS24Hr	0.008	46	0.33	0.009	44	0.41
5YrSCS24Hr	0.009	75	0.40	0.010	70	0.49
10YrSCS24Hr	0.010	95	0.44	0.011	87	0.53
25YrSCS24Hr	0.010	120	0.49	0.011	109	0.58
50YrSCS24Hr	0.011	139	0.53	0.013	124	0.62
100YrSCS24Hr	0.013	158	0.57	0.017	137	0.64

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.

This analysis indicates minor increases in peak flows to the ditch for lower return periods under post-development conditions. However, for larger events (e.g., 100-year), peak flows are either less than or equal to existing conditions. Both sites will utilize an **85 mm** orifice at the outlet to maximize the storage capacity of these depression areas. While this orifice could be further reduced to ensure all post-development peak flows are less than pre-development levels, doing so carries the risk of increased likelihood of blockages due to its small size, increasing the potential for on-site flooding if not regularly inspected.

Table 2: Pre and Post Development Peak Flow Summary

	Node	J1		Node	J2		Node	J3		Node	J4	
Event	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	0.024	0.009	0.057	0.066	0.009	0.061	0.070	0.009	0.067	0.077	0.010
5YRCHI3Hr	0.026	0.032	0.006	0.102	0.107	0.005	0.109	0.114	0.005	0.121	0.127	0.006
10YRCHI3Hr	0.035	0.037	0.002	0.136	0.137	0.001	0.145	0.146	0.001	0.162	0.164	0.002
25YRCHI3Hr	0.047	0.043	-0.004	0.181	0.178	-0.003	0.194	0.190	-0.004	0.218	0.214	-0.004
50YRCHI3Hr	0.057	0.050	-0.007	0.219	0.212	-0.007	0.234	0.228	-0.006	0.263	0.257	-0.006
100YRCHI3Hr	0.067	0.060	-0.007	0.258	0.253	-0.005	0.277	0.271	-0.006	0.311	0.306	-0.005
2YrSCS24Hr	0.024	0.028	0.004	0.090	0.095	0.005	0.096	0.102	0.006	0.107	0.113	0.006
5YrSCS24Hr	0.038	0.037	-0.001	0.148	0.146	-0.002	0.158	0.157	-0.001	0.177	0.176	-0.001
10YrSCS24Hr	0.049	0.042	-0.007	0.189	0.182	-0.007	0.202	0.196	-0.006	0.227	0.221	-0.006
25YrSCS24Hr	0.062	0.049	-0.013	0.242	0.228	-0.014	0.259	0.247	-0.012	0.291	0.279	-0.012
50YrSCS24Hr	0.073	0.055	-0.018	0.284	0.267	-0.017	0.305	0.288	-0.017	0.343	0.326	-0.017
100YrSCS24Hr	0.084	0.063	-0.021	0.329	0.310	-0.019	0.354	0.335	-0.019	0.399	0.380	-0.019

Table 2: Pre and Post Development Peak Flow Summary

	Node	J5		Node	J6		Node	J7		Node	J8	
Event	**Pre**	**Post**	**Diff**	**Pre**	**Post**	**Diff**	**Pre**	**Post**	**Diff**	**Pre**	**Post**	**Diff**
Area (ha)	6.86	7.24	0.38	1.01	1.02	0.01	1.83	1.46	-0.37	13.1	13.1	0
2YRCHI3Hr	0.080	0.091	0.011	0.016	0.021	0.005	0.019	0.018	-0.001	0.141	0.151	0.010
5YRCHI3Hr	0.147	0.154	0.007	0.025	0.031	0.006	0.035	0.034	-0.001	0.264	0.270	0.006
10YRCHI3Hr	0.197	0.201	0.004	0.034	0.037	0.003	0.047	0.047	0.000	0.361	0.363	0.002
25YRCHI3Hr	0.267	0.266	-0.001	0.047	0.047	0.000	0.065	0.064	-0.001	0.493	0.489	-0.004
50YRCHI3Hr	0.323	0.320	-0.003	0.057	0.057	0.000	0.079	0.078	-0.001	0.602	0.594	-0.008
100YRCHI3Hr	0.384	0.381	-0.003	0.069	0.069	0.000	0.095	0.094	-0.001	0.721	0.712	-0.009
2YrSCS24Hr	0.128	0.135	0.007	0.023	0.023	0.000	0.032	0.031	-0.001	0.233	0.239	0.006
5YrSCS24Hr	0.215	0.216	0.001	0.039	0.039	0.000	0.054	0.053	-0.001	0.400	0.399	-0.001
10YrSCS24Hr	0.277	0.273	-0.004	0.051	0.051	0.000	0.070	0.069	-0.001	0.517	0.511	-0.006
25YrSCS24Hr	0.357	0.347	-0.010	0.066	0.066	0.000	0.092	0.090	-0.002	0.675	0.661	-0.014
50YrSCS24Hr	0.421	0.407	-0.014	0.079	0.079	0.000	0.110	0.107	-0.003	0.800	0.782	-0.018
100YrSCS24Hr	0.491	0.474	-0.017	0.093	0.093	0.000	0.129	0.126	-0.003	0.939	0.914	-0.025

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 for establishing cross-sections involved using detailed topographic measurements. These measurements were typically taken at approximately 50-meter intervals along the watercourse and supplemented with LiDAR in the floodplain. This close spacing is crucial for accurately capturing the unique hydraulic characteristics and flow conveyance capacity of the existing watercourse. In addition to the surveyed locations, supplementary cross-sections were added in areas that weren't explicitly surveyed. These were created by sampling the merged LiDAR and topographic Digital Terrain Model (DTM). This was done to ensure that critical cross-sections were included in the model to accurately capture the channel hydraulics. **Figure C1 in Attachment C** outlines the extent and location of model cross sections.

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 significant difference in drainage area between Marlborough Creek and the roadside ditch. This approach was chosen because Marlborough Creek (a tributary of the Jock River) experiences flooding predominantly from spring snowmelt and rainfall, whereas the critical storm for a roadside ditch of this size typically occurs during summer events. Therefore, these two critical events can never coincide.

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 85 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 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 — Subcatchment Name

3.212 ha — 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 A1: Existing Drainage Areas

PROJECT	P2710(e01)
DRAWN	MM
DATE	04-06-2025

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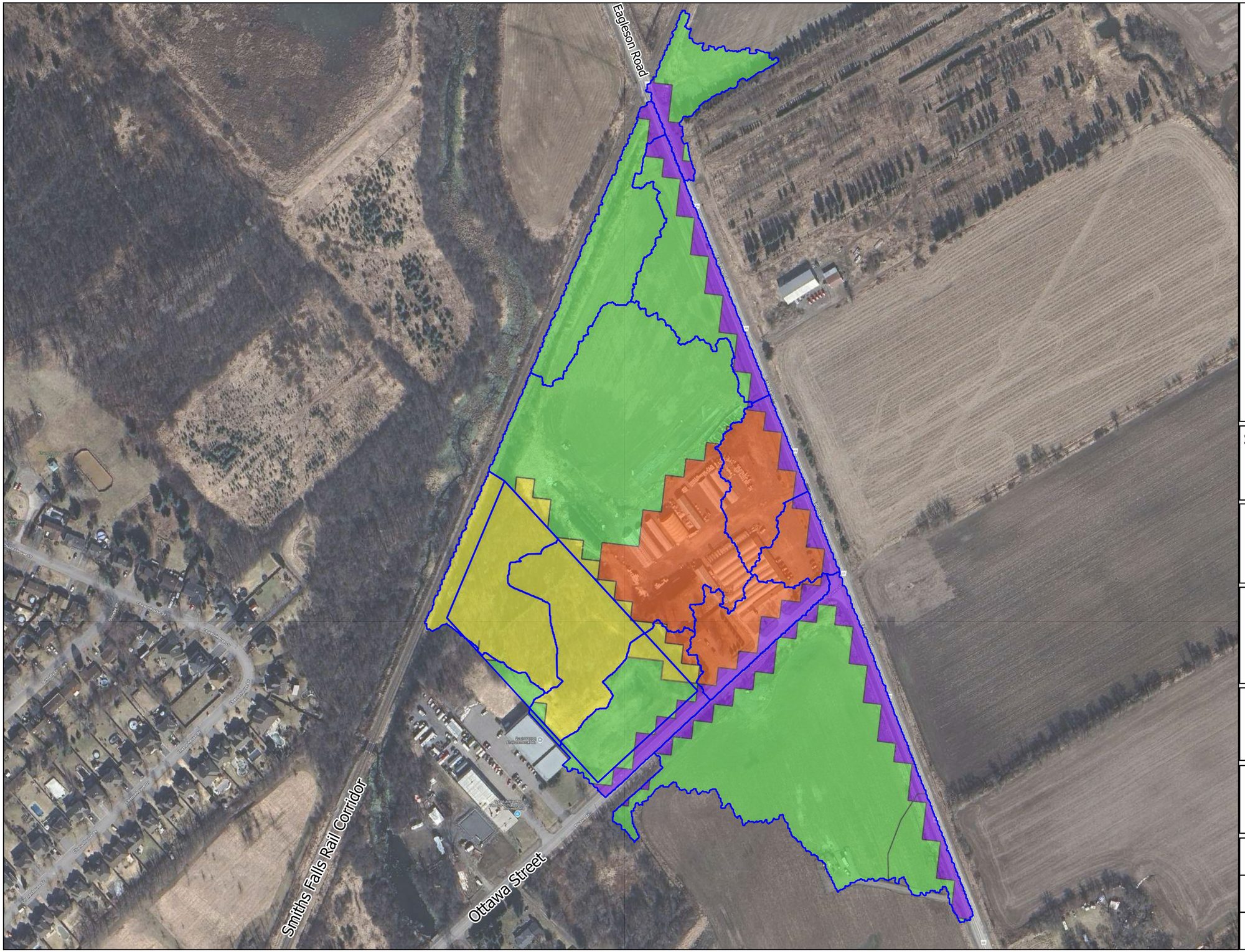

N

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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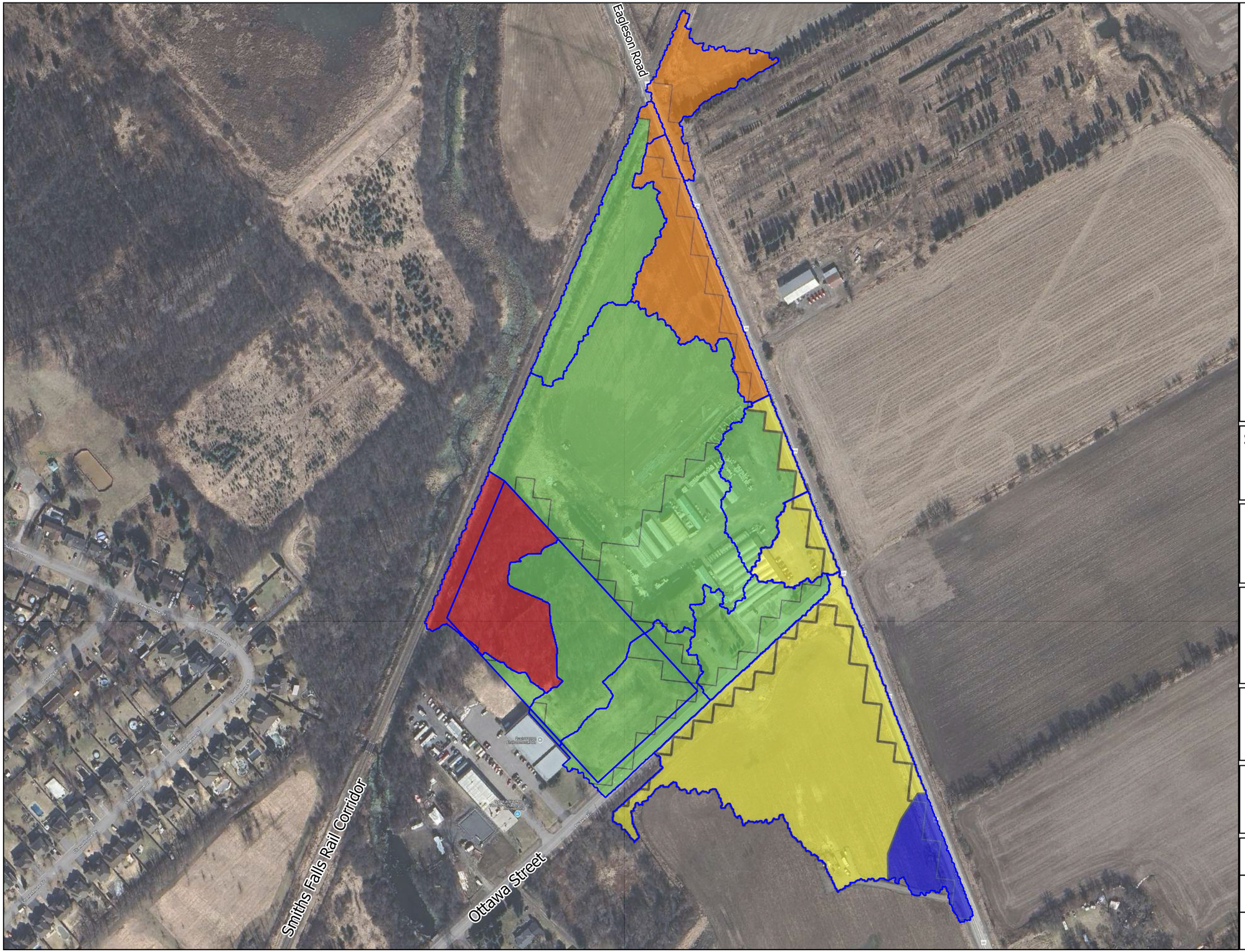
Figure A2: Land Use Data

PROJECT	P2710(e01)
DRAWN	MM
DATE	04-06-2025

C:\Users\MouraMikhaeil\J.F. Sabourin and Associates Inc\JFSA-OTTAWA-SERVER - Documents\PROJ\2710(e01)\Design\GIS\20250603-Attachments



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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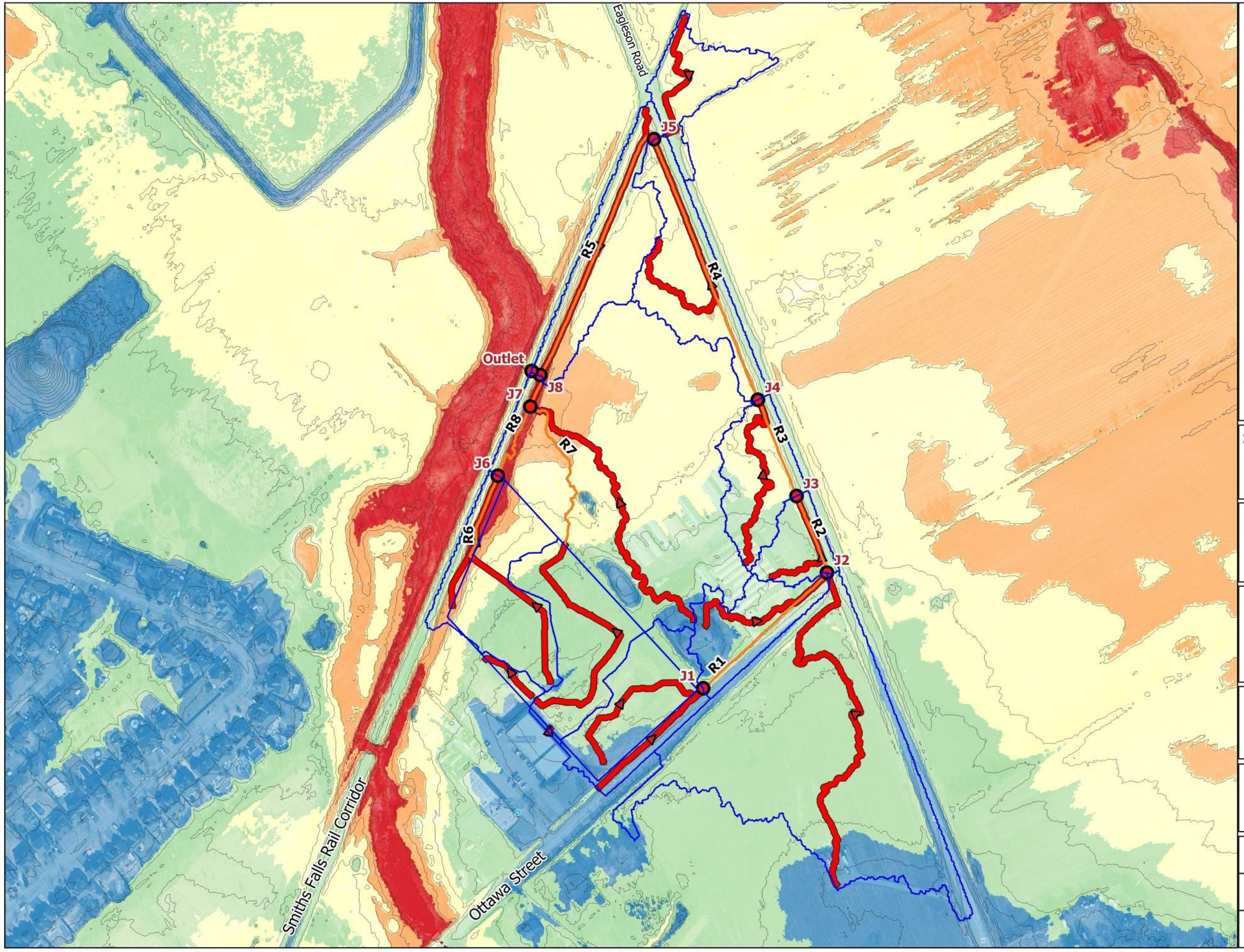

Legend

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
* NOTE: SEGROUGH will be adjusted after completing the 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
* NOTE: SEGROUGH will be adjusted after completing the 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
* NOTE: SEGROUGH will be adjusted after completing the 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
* NOTE: SEGROUGH will be adjusted after completing the 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
* NOTE: SEGROUGH will be adjusted after completing the 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
* NOTE: SEGROUGH will be adjusted after completing the 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
* NOTE: SEGROUGH will be adjusted after completing the 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"]
*%-----------------|-------------------------------------------------------------|
* NOTE: Cross-section number 49 is taken from HEC-RAS Model
* NOTE: SEGROUGH will be adjusted after completing the 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
* NOTE: SEGROUGH will be adjusted after completing the 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
*%-----------------|-------------------------------------------------------------|
*%  100-Year, 24-Hour SCS Storm + 20%
*START                TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[998]
*%                    ["SC24100x+.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=[999]
*                    ["100YRCHI3HR+.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
FINISH
```

```
===================================================================================================
SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO          222     000    11   5555   =========
S        W W W   MM MM   H   H    Y Y    MM MM   O   O           2    0   0   11   5
SSSSS    W W W   M M M   HHHHH     Y     M M M   O   O           2    0   0   11   5      Ver 5.500
    S     W W    M   M   H   H     Y     M   M   O   O         222    0   0   11   555    FEB  2015
SSSSS     W W    M   M   H   H     Y     M   M    OOO          2      0   0   11     5   =========
                                                               2      0   0   11     5   # 2134335
      StormWater Management HYdrologic Model                    222     000    11   555    =========
***************************************************************************************************
*************************************  SWMHYMO Ver 5.500  *****************************************
******************  A single event and continuous hydrologic simulation model  *******************
******************     based on the principles of HYMO and its successors      *******************
******************                 OTTHYMO-83 and OTTHYMO-89.                   *******************
***************************************************************************************************
****************** Distributed by:  J.F. Sabourin and Associates Inc.          *******************
******************                  Ottawa,  Ontario: (613) 836-3884            *******************
******************                  Gatineau, Quebec: (819) 243-6858            *******************
******************                  E-Mail: swmhymo@jfsa.Com                    *******************
***************************************************************************************************

+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++++ Licensed user: JFSA                                           +++++++++++++++++++
+++++++++++++++++                in any City           SERIAL#:2134335          +++++++++++++++++++
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

***************************************************************************************************
******************            ++++++ PROGRAM ARRAY DIMENSIONS ++++++            *******************
******************            Maximum value for ID numbers  :     11            *******************
******************            Max. number of rainfall points: 105408            *******************
******************            Max. number of flow points    : 105408            *******************
***************************************************************************************************

*******************************   S U M M A R Y   O U T P U T   ***********************************
***************************************************************************************************
*                 RUN DATE: 2025-04-15     TIME: 12:55:54     RUN COUNTER: 000657                  *
***************************************************************************************************
* Input   file: T:\PROJ\2710(e01)-24 SHAREPOINT\Design\SWMHYMO\20250205-PreDev\Ott_St-Pre_v04.dat*
* Output  file: T:\PROJ\2710(e01)-24 SHAREPOINT\Design\SWMHYMO\20250205-PreDev\Ott_St-Pre_v04.out*
* Summary file: T:\PROJ\2710(e01)-24 SHAREPOINT\Design\SWMHYMO\20250205-PreDev\Ott_St-Pre_v04.sum*
* User comments:                                                                                  *
* 1:______________________________________________________________________________________________*
* 2:______________________________________________________________________________________________*
* 3:______________________________________________________________________________________________*
***************************************************************************************************

#**************************************************************************************************
#  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
#**************************************************************************************************
  ** END OF RUN :    1

***************************************************************************************************

 RUN#:COMMAND#
R0002:C00001--------------------------------------------------------------------------------------
      START
       [TZERO =    .00 hrs on        0]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   1 ]
       [NRUN  = 0002 ]
#**************************************************************************************************
#  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
#**************************************************************************************************
R0002:C00002--------------------------------------------------------------------------------------
      READ STORM
       Filename = STORM.001
       Comment  = CHICAGO STORM 2 Year, 3 Hours
       [SDT=10.00:SDUR=   3.00:PTOT=  31.86]
#**************************************************************************************************
# EXT1
#**************************************************************************************************
R0002:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT1            3.21     .037 No_date    1:58    8.15 .256     .000
       [CN= 80.0: N= 3.00: Tp=  .72]
#**************************************************************************************************
# EXT2
#**************************************************************************************************
R0002:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT2             .28     .007 No_date    1:25   10.26 .322     .000
       [CN= 85.0: N= 3.00: Tp=  .33]
#**************************************************************************************************
# EXT3
#**************************************************************************************************
R0002:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT3             .56     .011 No_date    1:24    8.15 .256     .000
       [CN= 80.0: N= 3.00: Tp=  .32]
#**************************************************************************************************
# EXT4
#**************************************************************************************************
R0002:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT4             .31     .006 No_date    1:22    7.80 .245     .000
       [CN= 79.0: N= 3.00: Tp=  .29]
#**************************************************************************************************
# EXT5
#**************************************************************************************************
R0002:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT5             .59     .008 No_date    1:36    6.88 .216     .000
       [CN= 76.0: N= 3.00: Tp=  .45]
#**************************************************************************************************
# EXT6
#**************************************************************************************************
R0002:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT6             .86     .015 No_date    1:44   10.27 .322     .000
       [CN= 85.0: N= 3.00: Tp=  .56]
#**************************************************************************************************
# EXT7
#**************************************************************************************************
R0002:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT7             .47     .011 No_date    1:24    9.33 .293     .000
       [CN= 83.0: N= 3.00: Tp=  .32]
#**************************************************************************************************
# EXT8
#**************************************************************************************************
R0002:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT8             .83     .013 No_date    1:33    7.81 .245     .000
       [CN= 79.0: N= 3.00: Tp=  .42]
#**************************************************************************************************
# EXT9
#**************************************************************************************************
R0002:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT9            3.57     .045 No_date    1:38    6.88 .216     .000
       [CN= 76.0: N= 3.00: Tp=  .48]
#**************************************************************************************************
# EXT9a
#**************************************************************************************************
R0002:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT9a            .01     .001 No_date    1:00    7.47 .234     .000
       [CN= 78.0: N= 3.00: Tp=  .04]
#**************************************************************************************************
# EXT10
#**************************************************************************************************
R0002:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT10            .20     .002 No_date    1:34    5.64 .177     .000
       [CN= 71.0: N= 3.00: Tp=  .42]
#**************************************************************************************************
# Pre2
#**************************************************************************************************
R0002:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:Pre2             .57     .008 No_date    1:36    7.48 .235     .000
       [CN= 78.0: N= 3.00: Tp=  .46]
#**************************************************************************************************
# Pre9
#**************************************************************************************************
R0002:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:Pre9             .83     .007 No_date    1:52    5.65 .177     .000
       [CN= 71.0: N= 3.00: Tp=  .64]
#**************************************************************************************************
# Pre10
#**************************************************************************************************
R0002:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:Pre10            .80     .011 No_date    1:22    5.65 .177     .000
       [CN= 71.0: N= 3.00: Tp=  .29]
#**************************************************************************************************
# Pre11
#**************************************************************************************************
R0002:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:Pre11            .07     .002 No_date    1:15    7.47 .235     .000
       [CN= 78.0: N= 3.00: Tp=  .21]
#**************************************************************************************************
R0002:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:EXT2             .28     .007 No_date    1:25   10.26  n/a     .000
                     +     1.0 02:Pre2             .57     .008 No_date    1:36    7.48  n/a     .000
                  SUM=     1.0 01:J1               .85     .015 No_date    1:30    8.41  n/a     .000
R0002:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:J1               .85     .015 No_date    1:30    8.41  n/a     .000
      [RDT= 1.00] out<-    1.0 01:R1               .85     .014 No_date    1:40    8.41  n/a     .000
       [L/S/n=  143./ .394/.035]
       {Vmax=  .240:Dmax=  .082}
R0002:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:R1               .85     .014 No_date    1:40    8.41  n/a     .000
                     +     1.0 02:EXT3             .56     .011 No_date    1:24    8.15  n/a     .000
                     +     1.0 02:EXT1            3.21     .037 No_date    1:58    8.15  n/a     .000
                  SUM=     1.0 01:J2              4.62     .057 No_date    1:46    8.20  n/a     .000
R0002:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:J2              4.62     .057 No_date    1:46    8.20  n/a     .000
      [RDT= 1.00] out<-    1.0 01:R2              4.62     .057 No_date    1:49    8.20  n/a     .000
       [L/S/n=   73./ .425/.035]
       {Vmax=  .350:Dmax=  .155}
R0002:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:R2              4.62     .057 No_date    1:49    8.20  n/a     .000
                     +     1.0 02:EXT4             .31     .006 No_date    1:22    7.80  n/a     .000
                  SUM=     1.0 01:J3              4.93     .061 No_date    1:46    8.17  n/a     .000
R0002:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:J3              4.93     .061 No_date    1:46    8.17  n/a     .000
      [RDT= 1.00] out<-    1.0 01:R3              4.93     .060 No_date    1:52    8.17  n/a     .000
       [L/S/n=   92./ .274/.035]
       {Vmax=  .288:Dmax=  .161}
R0002:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:R3              4.93     .060 No_date    1:52    8.17  n/a     .000
                     +     1.0 02:EXT5             .59     .008 No_date    1:36    6.88  n/a     .000
                  SUM=     1.0 01:J4              5.52     .067 No_date    1:50    8.04  n/a     .000
R0002:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:J4              5.52     .067 No_date    1:50    8.04  n/a     .000
      [RDT= 1.00] out<-    1.0 01:R4              5.52     .061 No_date    2:05    8.04  n/a     .000
       [L/S/n=  251./ .190/.035]
       {Vmax=  .266:Dmax=  .173}
R0002:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:R4              5.52     .061 No_date    2:05    8.04  n/a     .000
                     +     1.0 02:EXT6             .86     .015 No_date    1:44   10.27  n/a     .000
                     +     1.0 02:EXT7             .47     .011 No_date    1:24    9.33  n/a     .000
                  SUM=     1.0 01:J5              6.86     .080 No_date    1:59    8.41  n/a     .000
R0002:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:J5              6.86     .080 No_date    1:59    8.41  n/a     .000
      [RDT= 1.00] out<-    1.0 01:R5              6.86     .078 No_date    2:07    8.41  n/a     .000
       [L/S/n=  237./ .644/.035]
       {Vmax=  .432:Dmax=  .166}
R0002:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:Pre10            .80     .011 No_date    1:22    5.65  n/a     .000
      [RDT= 1.00] out<-    1.0 01:R6               .80     .011 No_date    1:25    5.65  n/a     .000
       [L/S/n=   77./ .776/.035]
       {Vmax=  .492:Dmax=  .008}
R0002:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:Pre9             .83     .007 No_date    1:52    5.65  n/a     .000
      [RDT= 1.00] out<-    1.0 01:R7               .83     .007 No_date    1:56    5.65  n/a     .000
       [L/S/n=  159./1.576/.035]
       {Vmax=  .797:Dmax=  .002}
R0002:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:R6               .80     .016 No_date    4:19    5.76  n/a     .000
                     +     1.0 02:EXT10            .20     .002 No_date    1:34    5.64  n/a     .000
                  SUM=     1.0 01:J6              1.01     .016 No_date    4:19    5.74  n/a     .000
R0002:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:J6              1.01     .016 No_date    4:19    5.74  n/a     .000
      [RDT= 1.00] out<-    1.0 01:R8              1.01     .013 No_date    1:30    5.74  n/a     .000
       [L/S/n=   79./ .522/.035]
       {Vmax=  .423:Dmax=  .011}
R0002:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:R8              1.01     .013 No_date    1:30    5.74  n/a     .000
                     +     1.0 02:R7               .83     .007 No_date    1:56    5.67  n/a     .000
                  SUM=     1.0 01:J7              1.83     .019 No_date    1:35    5.71  n/a     .000
R0002:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:J7              1.83     .019 No_date    1:35    5.71  n/a     .000
      [RDT= 1.00] out<-    1.0 01:R9              1.83     .019 No_date    1:36    5.71  n/a     .000
       [L/S/n=   29./ .887/.035]
       {Vmax=  .543:Dmax=  .013}
R0002:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:EXT9            3.57     .045 No_date    1:38    6.88  n/a     .000
                     +     1.0 02:R9              1.83     .019 No_date    1:36    5.71  n/a     .000
                     +     1.0 02:EXT8             .83     .013 No_date    1:33    7.81  n/a     .000
                     +     1.0 02:R5              6.86     .078 No_date    2:07    8.41  n/a     .000
                  SUM=     1.0 01:J8             13.10     .141 No_date    1:54    7.58  n/a     .000
R0002:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:J8             13.10     .141 No_date    1:54    7.58  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:Outlet         13.10     .141 No_date    1:55    7.58  n/a     .000
       [L/S/n=    8./ .010/.013]
       {Vmax=  .304:Dmax=  .672}
       [Din=  .53:Dused=  .82]
##################################################################################
# STORMS
##################################################################################
  ** END OF RUN :    4

***************************************************************************************************

 RUN#:COMMAND#
R0005:C00001--------------------------------------------------------------------------------------
      START
       [TZERO =    .00 hrs on        0]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   1 ]
       [NRUN  = 0005 ]
#**************************************************************************************************
#  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
#**************************************************************************************************
R0005:C00002--------------------------------------------------------------------------------------
      READ STORM
       Filename = STORM.001
       Comment  = CHICAGO STORM  5 Year, 3 Hours
       [SDT=10.00:SDUR=   3.00:PTOT=  42.51]
#**************************************************************************************************
# EXT1
#**************************************************************************************************
R0005:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT1            3.21     .066 No_date    1:55   14.13 .332     .000
       [CN= 80.0: N= 3.00: Tp=  .72]
#**************************************************************************************************
# EXT2
#**************************************************************************************************
R0005:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT2             .28     .012 No_date    1:23   17.32 .407     .000
       [CN= 85.0: N= 3.00: Tp=  .33]
#**************************************************************************************************
# EXT3
#**************************************************************************************************
R0005:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT3             .56     .020 No_date    1:23   14.13 .332     .000
       [CN= 80.0: N= 3.00: Tp=  .32]
#**************************************************************************************************
# EXT4
#**************************************************************************************************
R0005:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT4             .31     .011 No_date    1:21   13.59 .320     .000
       [CN= 79.0: N= 3.00: Tp=  .29]
#**************************************************************************************************
# EXT5
#**************************************************************************************************
R0005:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT5             .59     .014 No_date    1:34   12.13 .285     .000
       [CN= 76.0: N= 3.00: Tp=  .45]
#**************************************************************************************************
# EXT6
#**************************************************************************************************
R0005:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT6             .86     .026 No_date    1:42   17.32 .407     .000
       [CN= 85.0: N= 3.00: Tp=  .56]
#**************************************************************************************************
# EXT7
#**************************************************************************************************
R0005:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT7             .47     .019 No_date    1:23   15.94 .375     .000
       [CN= 83.0: N= 3.00: Tp=  .32]
#**************************************************************************************************
# EXT8
#**************************************************************************************************
R0005:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT8             .83     .024 No_date    1:31   13.59 .320     .000
       [CN= 79.0: N= 3.00: Tp=  .42]
#**************************************************************************************************
# EXT9
#**************************************************************************************************
R0005:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 01:EXT9            3.57     .083 No_date    1:36   12.13 .285     .000
       [CN= 76.0: N= 3.00: Tp=  .48]
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00361> #*******************************************************************************
00362> # EXT9a
00363> #*******************************************************************************
00364> R0005:C00012-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00365>      CALIB NASHYD           1.0 01:EXT9a           .01     .001 No_date    1:00   13.07 .307     .000
00366>        [CN= 78.0: N= 3.00: Tp=  .04]
00367> #*******************************************************************************
00368> # EXT10
00369> #*******************************************************************************
00370> R0005:C00013-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00371>      CALIB NASHYD           1.0 01:EXT10           .20     .004 No_date    1:32   10.11 .238     .000
00372>        [CN= 71.0: N= 3.00: Tp=  .42]
00373> #*******************************************************************************
00374> # Pre2
00375> #*******************************************************************************
00376> R0005:C00014-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00377>      CALIB NASHYD           1.0 01:Pre2            .57     .015 No_date    1:35   13.08 .308     .000
00378>        [CN= 78.0: N= 3.00: Tp=  .46]
00379> #*******************************************************************************
00380> # Pre9
00381> #*******************************************************************************
00382> R0005:C00015-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00383>      CALIB NASHYD           1.0 01:Pre9            .83     .013 No_date    1:50   10.11 .238     .000
00384>        [CN= 71.0: N= 3.00: Tp=  .64]
00385> #*******************************************************************************
00386> # Pre10
00387> #*******************************************************************************
00388> R0005:C00016-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00389>      CALIB NASHYD           1.0 01:Pre10           .80     .021 No_date    1:21   10.11 .238     .000
00390>        [CN= 71.0: N= 3.00: Tp=  .29]
00391> #*******************************************************************************
00392> # Pre11
00393> #*******************************************************************************
00394> R0005:C00017-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00395>      CALIB NASHYD           1.0 01:Pre11           .07     .003 No_date    1:14   13.07 .308     .000
00396>        [CN= 78.0: N= 3.00: Tp=  .21]
00397> #*******************************************************************************
00398> R0005:C00018-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00399>      ADD HYD                1.0 02:EXT2            .28     .012 No_date    1:23   17.32 n/a      .000
00400>                        +    1.0 02:Pre2            .57     .015 No_date    1:35   13.08 n/a      .000
00401>                       SUM=  1.0 01:J1              .85     .026 No_date    1:29   14.50 n/a      .000
00402> R0005:C00019-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00403>      ROUTE CHANNEL   ->     1.0 02:J1             .85     .026 No_date    1:29   14.50 n/a      .000
00404>       [RDT= 1.00] out<-     1.0 01:R1             .85     .025 No_date    1:36   14.50 n/a      .000
00405>        [L/S/n=  143./ .394/.035]
00406>        [Vmax=  .291:Dmax=  .109]
00407> R0005:C00020-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00408>      ADD HYD                1.0 02:R1             .85     .025 No_date    1:36   14.50 n/a      .000
00409>                        +    1.0 02:EXT3           .56     .020 No_date    1:23   14.13 n/a      .000
00410>                        +    1.0 02:EXT1           3.21    .066 No_date    1:55   14.13 n/a      .000
00411>                       SUM=  1.0 01:J2             4.62    .102 No_date    1:43   14.20 n/a      .000
00412> R0005:C00021-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00413>      ROUTE CHANNEL   ->     1.0 02:J2             4.62    .102 No_date    1:43   14.20 n/a      .000
00414>       [RDT= 1.00] out<-     1.0 01:R2             4.62    .101 No_date    1:45   14.20 n/a      .000
00415>        [L/S/n=   73./ .425/.035]
00416>        [Vmax=  .412:Dmax=  .195]
00417> R0005:C00022-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00418>      ADD HYD                1.0 02:R2             4.62    .101 No_date    1:45   14.20 n/a      .000
00419>                        +    1.0 02:EXT4           .31     .011 No_date    1:21   13.59 n/a      .000
00420>                       SUM=  1.0 01:J3             4.93    .109 No_date    1:43   14.16 n/a      .000
00421> R0005:C00023-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00422>      ROUTE CHANNEL   ->     1.0 02:J3             4.93    .109 No_date    1:43   14.16 n/a      .000
00423>       [RDT= 1.00] out<-     1.0 01:R3             4.93    .108 No_date    1:47   14.16 n/a      .000
00424>        [L/S/n=   92./ .274/.035]
00425>        [Vmax=  .337:Dmax=  .202]
00426> R0005:C00024-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00427>      ADD HYD                1.0 02:R3             4.93    .108 No_date    1:47   14.16 n/a      .000
00428>                        +    1.0 02:EXT5           .59     .014 No_date    1:34   12.13 n/a      .000
00429>                       SUM=  1.0 01:J4             5.52    .121 No_date    1:45   13.94 n/a      .000
00430> R0005:C00025-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00431>      ROUTE CHANNEL   ->     1.0 02:J4             5.52    .121 No_date    1:45   13.94 n/a      .000
00432>       [RDT= 1.00] out<-     1.0 01:R4             5.52    .112 No_date    1:58   13.94 n/a      .000
00433>        [L/S/n=  251./ .190/.035]
00434>        [Vmax=  .323:Dmax=  .221]
00435> R0005:C00026-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00436>      ADD HYD                1.0 02:R4             5.52    .112 No_date    1:58   13.94 n/a      .000
00437>                        +    1.0 02:EXT6           .86     .026 No_date    1:42   17.32 n/a      .000
00438>                        +    1.0 02:EXT7           .47     .019 No_date    1:23   15.94 n/a      .000
00439>                       SUM=  1.0 01:J5             6.86    .147 No_date    1:53   14.51 n/a      .000
00440> R0005:C00027-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00441>      ROUTE CHANNEL   ->     1.0 02:J5             6.86    .147 No_date    1:53   14.51 n/a      .000
00442>       [RDT= 1.00] out<-     1.0 01:R5             6.86    .144 No_date    2:00   14.51 n/a      .000
00443>        [L/S/n=  237./ .644/.035]
00444>        [Vmax=  .519:Dmax=  .210]
00445> R0005:C00028-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00446>      ROUTE CHANNEL   ->     1.0 02:Pre10           .80     .021 No_date    1:21   10.11 n/a      .000
00447>       [RDT= 1.00] out<-     1.0 01:R6             .80     .021 No_date    1:24   10.11 n/a      .000
00448>        [L/S/n=   77./ .776/.035]
00449>        [Vmax=  .492:Dmax=  .015]
00450> R0005:C00029-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00451>      ROUTE CHANNEL   ->     1.0 02:Pre9            .83     .013 No_date    1:50   10.11 n/a      .000
00452>       [RDT= 1.00] out<-     1.0 01:R7             .83     .013 No_date    1:54   10.11 n/a      .000
00453>        [L/S/n=  159./1.576/.035]
00454>        [Vmax=  .797:Dmax=  .004]
00455> R0005:C00030-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00456>      ADD HYD                1.0 02:R6             .80     .021 No_date    1:24   10.26 n/a      .000
00457>                        +    1.0 02:EXT10          .20     .004 No_date    1:32   10.11 n/a      .000
00458>                       SUM=  1.0 01:J6             1.01    .025 No_date    1:25   10.23 n/a      .000
00459> R0005:C00031-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00460>      ROUTE CHANNEL   ->     1.0 02:J6             1.01    .025 No_date    1:25   10.23 n/a      .000
00461>       [RDT= 1.00] out<-     1.0 01:R8             1.01    .025 No_date    1:28   10.23 n/a      .000
00462>        [L/S/n=   79./ .522/.035]
00463>        [Vmax=  .423:Dmax=  .018]
00464> R0005:C00032-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00465>      ADD HYD                1.0 02:R8             1.01    .025 No_date    1:28   10.23 n/a      .000
00466>                        +    1.0 02:R7             .83     .013 No_date    1:54   10.14 n/a      .000
00467>                       SUM=  1.0 01:J7             1.83    .035 No_date    1:34   10.19 n/a      .000
00468> R0005:C00033-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00469>      ROUTE CHANNEL   ->     1.0 02:J7             1.83    .035 No_date    1:34   10.19 n/a      .000
00470>       [RDT= 1.00] out<-     1.0 01:R9             1.83    .035 No_date    1:34   10.19 n/a      .000
00471>        [L/S/n=   29./ .887/.035]
00472>        [Vmax=  .543:Dmax=  .024]
00473> R0005:C00034-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00474>      ADD HYD                1.0 02:EXT9           3.57    .083 No_date    1:36   12.13 n/a      .000
00475>                        +    1.0 02:R9             1.83    .035 No_date    1:34   10.20 n/a      .000
00476>                        +    1.0 02:EXT8           .83     .024 No_date    1:31   13.59 n/a      .000
00477>                        +    1.0 02:R5             6.86    .144 No_date    2:00   14.51 n/a      .000
00478>                       SUM=  1.0 01:J8             13.10   .264 No_date    1:49   13.20 n/a      .000
00479> R0005:C00035-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00480>      ROUTE PIPE      ->     1.0 02:J8             13.10   .264 No_date    1:49   13.20 n/a      .000
00481> *    [RDT= 1.00] out<-     1.0 01:Outlet         13.10   .264 No_date    1:49   13.20 n/a      .000
00482>        [L/S/n=    8./ .010/.013]
00483>        [Vmax=  .356:Dmax=  .851]
00484>        [Din=  .53:Dused= 1.04]
00485> ##############################################################################
00486> # STORMS
00487> ##############################################################################
00488>  ** END OF RUN :   9
00489>
00490> *******************************************************************************
00491>
00492>
00493>
00494>
00495>
00496>  RUN#:COMMAND#
00497> R0010:C00001-------------------------------------------------------------------------------
00498>       START
00499>       [TZERO =    .00 hrs on         0]
00500>       [METOUT=   2    (1=imperial, 2=metric output)]
00501>       [NSTORM=   1 ]
00502>       [NRUN  = 0010 ]
00503> #*******************************************************************************
00504> #  SWMHYMO  / INPUT DATA FILE
00505> #*******************************************************************************
00506> #  Project Name  : [5923 Ottawa St]
00507> #  Project Number: [P2710(e01)]
00508> #  Date          : [2025 FEB 05]
00509> #  Modeller      : [MM]
00510> #  Company       : JFSA Canada Inc.
00511> #  License #     : 2549237
00512> #*******************************************************************************
00513> # Model developed to simulate runoff from subcatchments under pre development conditions
00514> #*******************************************************************************
00515> R0010:C00002-------------------------------------------------------------------------------
00516>       READ STORM
00517>        Filename = STORM.001
00518>        Comment  = CHICAGO STORM 10 Year, 3 Hours
00519>        [SDT=10.00:SDUR=   3.00:PTOT=  49.50]
00520> #*******************************************************************************
00521> # EXT1
00522> #*******************************************************************************
00523> R0010:C00003-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00524>      CALIB NASHYD           1.0 01:EXT1           3.21    .088 No_date    1:54   18.55 .375     .000
00525>        [CN= 80.0: N= 3.00: Tp=  .72]
00526> #*******************************************************************************
00527> # EXT2
00528> #*******************************************************************************
00529> R0010:C00004-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00530>      CALIB NASHYD           1.0 01:EXT2           .28     .016 No_date    1:23   22.42 .453     .000
00531>        [CN= 85.0: N= 3.00: Tp=  .33]
00532> #*******************************************************************************
00533> # EXT3
00534> #*******************************************************************************
00535> R0010:C00005-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00536>      CALIB NASHYD           1.0 01:EXT3           .56     .027 No_date    1:23   18.55 .375     .000
00537>        [CN= 80.0: N= 3.00: Tp=  .32]
00538> #*******************************************************************************
00539> # EXT4
00540> #*******************************************************************************
00541> R0010:C00006-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00542>      CALIB NASHYD           1.0 01:EXT4           .31     .015 No_date    1:20   17.89 .361     .000
00543>        [CN= 79.0: N= 3.00: Tp=  .29]
00544> #*******************************************************************************
00545> # EXT5
00546> #*******************************************************************************
00547> R0010:C00007-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00548>      CALIB NASHYD           1.0 01:EXT5           .59     .019 No_date    1:33   16.07 .325     .000
00549>        [CN= 76.0: N= 3.00: Tp=  .45]
00550> #*******************************************************************************
00551> # EXT6
00552> #*******************************************************************************
00553> R0010:C00008-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00554>      CALIB NASHYD           1.0 01:EXT6           .86     .035 No_date    1:41   22.42 .453     .000
00555>        [CN= 85.0: N= 3.00: Tp=  .56]
00556> #*******************************************************************************
00557> # EXT7
00558> #*******************************************************************************
00559> R0010:C00009-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00560>      CALIB NASHYD           1.0 01:EXT7           .47     .025 No_date    1:22   20.75 .419     .000
00561>        [CN= 83.0: N= 3.00: Tp=  .32]
00562> #*******************************************************************************
00563> # EXT8
00564> #*******************************************************************************
00565> R0010:C00010-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00566>      CALIB NASHYD           1.0 01:EXT8           .83     .032 No_date    1:31   17.89 .361     .000
00567>        [CN= 79.0: N= 3.00: Tp=  .42]
00568> #*******************************************************************************
00569> # EXT9
00570> #*******************************************************************************
00571> R0010:C00011-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00572>      CALIB NASHYD           1.0 01:EXT9           3.57    .111 No_date    1:36   16.08 .325     .000
00573>        [CN= 76.0: N= 3.00: Tp=  .48]
00574> #*******************************************************************************
00575> # EXT9a
00576> #*******************************************************************************
00577> R0010:C00012-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00578>      CALIB NASHYD           1.0 01:EXT9a          .01     .001 No_date    1:00   17.25 .348     .000
00579>        [CN= 78.0: N= 3.00: Tp=  .04]
00580> #*******************************************************************************
00581> # EXT10
00582> #*******************************************************************************
00583> R0010:C00013-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00584>      CALIB NASHYD           1.0 01:EXT10          .20     .006 No_date    1:31   13.53 .273     .000
00585>        [CN= 71.0: N= 3.00: Tp=  .42]
00586> #*******************************************************************************
00587> # Pre2
00588> #*******************************************************************************
00589> R0010:C00014-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00590>      CALIB NASHYD           1.0 01:Pre2           .57     .020 No_date    1:34   17.26 .349     .000
00591>        [CN= 78.0: N= 3.00: Tp=  .46]
00592> #*******************************************************************************
00593> # Pre9
00594> #*******************************************************************************
00595> R0010:C00015-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00596>      CALIB NASHYD           1.0 01:Pre9           .83     .018 No_date    1:49   13.53 .273     .000
00597>        [CN= 71.0: N= 3.00: Tp=  .64]
00598> #*******************************************************************************
00599> # Pre10
00600> #*******************************************************************************
00601> R0010:C00016-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00602>      CALIB NASHYD           1.0 01:Pre10          .80     .029 No_date    1:21   13.53 .273     .000
00603>        [CN= 71.0: N= 3.00: Tp=  .29]
00604> #*******************************************************************************
00605> # Pre11
00606> #*******************************************************************************
00607> R0010:C00017-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00608>      CALIB NASHYD           1.0 01:Pre11          .07     .004 No_date    1:14   17.25 .348     .000
00609>        [CN= 78.0: N= 3.00: Tp=  .21]
00610> #*******************************************************************************
00611> R0010:C00018-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00612>      ADD HYD                1.0 02:EXT2           .28     .016 No_date    1:23   22.42 n/a      .000
00613>                        +    1.0 02:Pre2           .57     .020 No_date    1:34   17.26 n/a      .000
00614>                       SUM=  1.0 01:J1             .85     .035 No_date    1:28   18.99 n/a      .000
00615> R0010:C00019-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00616>      ROUTE CHANNEL   ->     1.0 02:J1             .85     .035 No_date    1:28   18.99 n/a      .000
00617>       [RDT= 1.00] out<-     1.0 01:R1             .85     .033 No_date    1:35   18.99 n/a      .000
00618>        [L/S/n=  143./ .394/.035]
00619>        [Vmax=  .311:Dmax=  .122]
00620> R0010:C00020-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00621>      ADD HYD                1.0 02:R1             .85     .033 No_date    1:35   18.99 n/a      .000
00622>                        +    1.0 02:EXT3           .56     .027 No_date    1:23   18.55 n/a      .000
00623>                        +    1.0 02:EXT1           3.21    .088 No_date    1:54   18.55 n/a      .000
00624>                       SUM=  1.0 01:J2             4.62    .136 No_date    1:42   18.63 n/a      .000
00625> R0010:C00021-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00626>      ROUTE CHANNEL   ->     1.0 02:J2             4.62    .136 No_date    1:42   18.63 n/a      .000
00627>       [RDT= 1.00] out<-     1.0 01:R2             4.62    .135 No_date    1:45   18.63 n/a      .000
00628>        [L/S/n=   73./ .425/.035]
00629>        [Vmax=  .444:Dmax=  .219]
00630> R0010:C00022-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00631>      ADD HYD                1.0 02:R2             4.62    .135 No_date    1:45   18.63 n/a      .000
00632>                        +    1.0 02:EXT4           .31     .015 No_date    1:20   17.89 n/a      .000
00633>                       SUM=  1.0 01:J3             4.93    .145 No_date    1:42   18.59 n/a      .000
00634> R0010:C00023-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00635>      ROUTE CHANNEL   ->     1.0 02:J3             4.93    .145 No_date    1:42   18.59 n/a      .000
00636>       [RDT= 1.00] out<-     1.0 01:R3             4.93    .144 No_date    1:46   18.59 n/a      .000
00637>        [L/S/n=   92./ .274/.035]
00638>        [Vmax=  .364:Dmax=  .227]
00639> R0010:C00024-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00640>      ADD HYD                1.0 02:R3             4.93    .144 No_date    1:46   18.59 n/a      .000
00641>                        +    1.0 02:EXT5           .59     .019 No_date    1:33   16.07 n/a      .000
00642>                       SUM=  1.0 01:J4             5.52    .162 No_date    1:44   18.32 n/a      .000
00643> R0010:C00025-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00644>      ROUTE CHANNEL   ->     1.0 02:J4             5.52    .162 No_date    1:44   18.32 n/a      .000
00645>       [RDT= 1.00] out<-     1.0 01:R4             5.52    .151 No_date    1:56   18.32 n/a      .000
00646>        [L/S/n=  251./ .190/.035]
00647>        [Vmax=  .352:Dmax=  .250]
00648> R0010:C00026-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00649>      ADD HYD                1.0 02:R4             5.52    .151 No_date    1:56   18.32 n/a      .000
00650>                        +    1.0 02:EXT6           .86     .035 No_date    1:41   22.42 n/a      .000
00651>                        +    1.0 02:EXT7           .47     .025 No_date    1:22   20.75 n/a      .000
00652>                       SUM=  1.0 01:J5             6.86    .197 No_date    1:51   19.00 n/a      .000
00653> R0010:C00027-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00654>      ROUTE CHANNEL   ->     1.0 02:J5             6.86    .197 No_date    1:51   19.00 n/a      .000
00655>       [RDT= 1.00] out<-     1.0 01:R5             6.86    .194 No_date    1:56   19.00 n/a      .000
00656>        [L/S/n=  237./ .644/.035]
00657>        [Vmax=  .573:Dmax=  .238]
00658> R0010:C00028-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00659>      ROUTE CHANNEL   ->     1.0 02:Pre10          .80     .029 No_date    1:21   13.53 n/a      .000
00660>       [RDT= 1.00] out<-     1.0 01:R6             .80     .029 No_date    1:24   13.53 n/a      .000
00661>        [L/S/n=   77./ .776/.035]
00662>        [Vmax=  .492:Dmax=  .021]
00663> R0010:C00029-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00664>      ROUTE CHANNEL   ->     1.0 02:Pre9           .83     .018 No_date    1:49   13.53 n/a      .000
00665>       [RDT= 1.00] out<-     1.0 01:R7             .83     .018 No_date    1:53   13.53 n/a      .000
00666>        [L/S/n=  159./1.576/.035]
00667>        [Vmax=  .797:Dmax=  .005]
00668> R0010:C00030-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00669>      ADD HYD                1.0 02:R6             .80     .029 No_date    1:24   13.70 n/a      .000
00670>                        +    1.0 02:EXT10          .20     .006 No_date    1:31   13.53 n/a      .000
00671>                       SUM=  1.0 01:J6             1.01    .034 No_date    1:24   13.66 n/a      .000
00672> R0010:C00031-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00673>      ROUTE CHANNEL   ->     1.0 02:J6             1.01    .034 No_date    1:24   13.66 n/a      .000
00674>       [RDT= 1.00] out<-     1.0 01:R8             1.01    .034 No_date    1:28   13.66 n/a      .000
00675>        [L/S/n=   79./ .522/.035]
00676>        [Vmax=  .423:Dmax=  .025]
00677> R0010:C00032-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00678>      ADD HYD                1.0 02:R8             1.01    .034 No_date    1:28   13.66 n/a      .000
00679>                        +    1.0 02:R7             .83     .018 No_date    1:53   13.55 n/a      .000
00680>                       SUM=  1.0 01:J7             1.83    .047 No_date    1:33   13.61 n/a      .000
00681> R0010:C00033-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00682>      ROUTE CHANNEL   ->     1.0 02:J7             1.83    .047 No_date    1:33   13.61 n/a      .000
00683>       [RDT= 1.00] out<-     1.0 01:R9             1.83    .047 No_date    1:34   13.61 n/a      .000
00684>        [L/S/n=   29./ .887/.035]
00685>        [Vmax=  .543:Dmax=  .032]
00686> R0010:C00034-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00687>      ADD HYD                1.0 02:EXT9           3.57    .111 No_date    1:36   16.08 n/a      .000
00688>                        +    1.0 02:R9             1.83    .047 No_date    1:34   13.62 n/a      .000
00689>                        +    1.0 02:EXT8           .83     .032 No_date    1:31   17.89 n/a      .000
00690>                        +    1.0 02:R5             6.86    .194 No_date    1:56   19.00 n/a      .000
00691>                       SUM=  1.0 01:J8             13.10   .361 No_date    1:47   17.38 n/a      .000
00692> R0010:C00035-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00693>      ROUTE PIPE      ->     1.0 02:J8             13.10   .361 No_date    1:47   17.38 n/a      .000
00694> *    [RDT= 1.00] out<-     1.0 01:Outlet         13.10   .361 No_date    1:47   17.38 n/a      .000
00695>        [L/S/n=    8./ .010/.013]
00696>        [Vmax=  .385:Dmax=  .957]
00697>        [Din=  .53:Dused= 1.17]
00698> ##############################################################################
00699> # STORMS
00700> ##############################################################################
00701>  ** END OF RUN :  24
00702>
00703> *******************************************************************************
00704>
00705>
00706>
00707>
00708>
00709>  RUN#:COMMAND#
00710> R0025:C00001-------------------------------------------------------------------------------
00711>       START
00712>       [TZERO =    .00 hrs on         0]
00713>       [METOUT=   2    (1=imperial, 2=metric output)]
00714>       [NSTORM=   1 ]
00715>       [NRUN  = 0025 ]
00716> #*******************************************************************************
00717> #  SWMHYMO  / INPUT DATA FILE
00718> #*******************************************************************************
00719> #  Project Name  : [5923 Ottawa St]
00720> #  Project Number: [P2710(e01)]
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#  Date          : [2025 FEB 05]
#  Modeller      : [MM]
#  Company       : JFSA Canada Inc.
#  License #     : 2549237
#***********************************************************************************************
# Model developed to simulate runoff from subcatchments under pre development conditions
#***********************************************************************************************
R0025:C00002-----------------------------------------------------------------------------------
      READ STORM
       Filename = STORM.001
       Comment  = CHICAGO STORM   25 Year, 3 Hours
       [SDT=10.00:SDUR=   3.00:PTOT=  58.23]
#***********************************************************************************************
# EXT1
#***********************************************************************************************
R0025:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT1           3.21     .118 No_date    1:53   24.50 .421      .000
       [CN= 80.0: N= 3.00: Tp=  .72]
#***********************************************************************************************
# EXT2
#***********************************************************************************************
R0025:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT2            .28     .022 No_date    1:22   29.15 .501      .000
       [CN= 85.0: N= 3.00: Tp=  .33]
#***********************************************************************************************
# EXT3
#***********************************************************************************************
R0025:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT3            .56     .036 No_date    1:22   24.50 .421      .000
       [CN= 80.0: N= 3.00: Tp=  .32]
#***********************************************************************************************
# EXT4
#***********************************************************************************************
R0025:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT4            .31     .020 No_date    1:20   23.69 .407      .000
       [CN= 79.0: N= 3.00: Tp=  .29]
#***********************************************************************************************
# EXT5
#***********************************************************************************************
R0025:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT5            .59     .026 No_date    1:33   21.44 .368      .000
       [CN= 76.0: N= 3.00: Tp=  .45]
#***********************************************************************************************
# EXT6
#***********************************************************************************************
R0025:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT6            .86     .046 No_date    1:40   29.15 .501      .000
       [CN= 85.0: N= 3.00: Tp=  .56]
#***********************************************************************************************
# EXT7
#***********************************************************************************************
R0025:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT7            .47     .034 No_date    1:22   27.17 .467      .000
       [CN= 83.0: N= 3.00: Tp=  .32]
#***********************************************************************************************
# EXT8
#***********************************************************************************************
R0025:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT8            .83     .043 No_date    1:30   23.69 .407      .000
       [CN= 79.0: N= 3.00: Tp=  .42]
#***********************************************************************************************
# EXT9
#***********************************************************************************************
R0025:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT9           3.57     .151 No_date    1:35   21.44 .368      .000
       [CN= 76.0: N= 3.00: Tp=  .48]
#***********************************************************************************************
# EXT9a
#***********************************************************************************************
R0025:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT9a           .01     .002 No_date    1:00   22.90 .393      .000
       [CN= 78.0: N= 3.00: Tp=  .04]
#***********************************************************************************************
# EXT10
#***********************************************************************************************
R0025:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT10           .20     .008 No_date    1:31   18.23 .313      .000
       [CN= 71.0: N= 3.00: Tp=  .42]
#***********************************************************************************************
# Pre2
#***********************************************************************************************
R0025:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre2            .57     .027 No_date    1:33   22.91 .393      .000
       [CN= 78.0: N= 3.00: Tp=  .46]
#***********************************************************************************************
# Pre9
#***********************************************************************************************
R0025:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre9            .83     .024 No_date    1:48   18.23 .313      .000
       [CN= 71.0: N= 3.00: Tp=  .64]
#***********************************************************************************************
# Pre10
#***********************************************************************************************
R0025:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre10           .80     .040 No_date    1:20   18.23 .313      .000
       [CN= 71.0: N= 3.00: Tp=  .29]
#***********************************************************************************************
# Pre11
#***********************************************************************************************
R0025:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre11           .07     .005 No_date    1:13   22.90 .393      .000
       [CN= 78.0: N= 3.00: Tp=  .21]
#***********************************************************************************************
R0025:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT2            .28     .022 No_date    1:22   29.15  n/a      .000
                     +    1.0 02:Pre2            .57     .027 No_date    1:33   22.91  n/a      .000
                  SUM=    1.0 01:J1              .85     .047 No_date    1:27   25.00  n/a      .000
R0025:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J1              .85     .047 No_date    1:27   25.00  n/a      .000
     [RDT= 1.00] out<-    1.0 01:R1              .85     .045 No_date    1:34   25.00  n/a      .000
      [L/S/n=  143./ .394/.035]
      {Vmax=  .340:Dmax=  .139}
R0025:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R1              .85     .045 No_date    1:34   25.00  n/a      .000
                     +    1.0 02:EXT3            .56     .036 No_date    1:22   24.50  n/a      .000
                     +    1.0 02:EXT1           3.21     .118 No_date    1:53   24.50  n/a      .000
                  SUM=    1.0 01:J2             4.62     .181 No_date    1:41   24.59  n/a      .000
R0025:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J2             4.62     .181 No_date    1:41   24.59  n/a      .000
     [RDT= 1.00] out<-    1.0 01:R2             4.62     .181 No_date    1:43   24.59  n/a      .000
      [L/S/n=   73./ .425/.035]
      {Vmax=  .480:Dmax=  .246}
R0025:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R2             4.62     .181 No_date    1:43   24.59  n/a      .000
                     +    1.0 02:EXT4            .31     .020 No_date    1:20   23.69  n/a      .000
                  SUM=    1.0 01:J3             4.93     .194 No_date    1:40   24.54  n/a      .000
R0025:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J3             4.93     .194 No_date    1:40   24.54  n/a      .000
     [RDT= 1.00] out<-    1.0 01:R3             4.93     .193 No_date    1:44   24.54  n/a      .000
      [L/S/n=   92./ .274/.035]
      {Vmax=  .393:Dmax=  .255}
R0025:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R3             4.93     .193 No_date    1:44   24.54  n/a      .000
                     +    1.0 02:EXT5            .59     .026 No_date    1:33   21.44  n/a      .000
                  SUM=    1.0 01:J4             5.52     .218 No_date    1:42   24.20  n/a      .000
R0025:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J4             5.52     .218 No_date    1:42   24.20  n/a      .000
     [RDT= 1.00] out<-    1.0 01:R4             5.52     .205 No_date    1:53   24.20  n/a      .000
      [L/S/n=  251./ .190/.035]
      {Vmax=  .384:Dmax=  .285}
R0025:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R4             5.52     .205 No_date    1:53   24.20  n/a      .000
                     +    1.0 02:EXT6            .86     .046 No_date    1:40   29.15  n/a      .000
                     +    1.0 02:EXT7            .47     .034 No_date    1:22   27.17  n/a      .000
                  SUM=    1.0 01:J5             6.86     .267 No_date    1:49   25.03  n/a      .000
R0025:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J5             6.86     .267 No_date    1:49   25.03  n/a      .000
     [RDT= 1.00] out<-    1.0 01:R5             6.86     .263 No_date    1:54   25.03  n/a      .000
      [L/S/n=  237./ .644/.035]
      {Vmax=  .623:Dmax=  .267}
R0025:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:Pre10           .80     .040 No_date    1:20   18.23  n/a      .000
     [RDT= 1.00] out<-    1.0 01:R6              .80     .039 No_date    1:23   18.23  n/a      .000
      [L/S/n=   77./ .776/.035]
      {Vmax=  .492:Dmax=  .029}
R0025:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:Pre9            .83     .024 No_date    1:48   18.23  n/a      .000
     [RDT= 1.00] out<-    1.0 01:R7              .83     .024 No_date    1:52   18.23  n/a      .000
      [L/S/n=  159./1.576/.035]
      {Vmax=  .797:Dmax=  .007}
R0025:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R6              .80     .039 No_date    1:23   18.43  n/a      .000
                     +    1.0 02:EXT10           .20     .008 No_date    1:31   18.23  n/a      .000
                  SUM=    1.0 01:J6             1.01     .047 No_date    1:24   18.39  n/a      .000
R0025:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J6             1.01     .047 No_date    1:24   18.39  n/a      .000
     [RDT= 1.00] out<-    1.0 01:R8             1.01     .046 No_date    1:27   18.39  n/a      .000
      [L/S/n=   79./ .522/.035]
      {Vmax=  .423:Dmax=  .034}
R0025:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R8             1.01     .046 No_date    1:27   18.39  n/a      .000
                     +    1.0 02:R7              .83     .024 No_date    1:52   18.26  n/a      .000
                  SUM=    1.0 01:J7             1.83     .065 No_date    1:32   18.33  n/a      .000
R0025:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J7             1.83     .065 No_date    1:32   18.33  n/a      .000
     [RDT= 1.00] out<-    1.0 01:R9             1.83     .065 No_date    1:33   18.33  n/a      .000
      [L/S/n=   29./ .887/.035]
      {Vmax=  .543:Dmax=  .044}
R0025:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT9           3.57     .151 No_date    1:35   21.44  n/a      .000
                     +    1.0 02:R9             1.83     .065 No_date    1:33   18.34  n/a      .000
                     +    1.0 02:EXT8            .83     .043 No_date    1:30   23.69  n/a      .000
                     +    1.0 02:R5             6.86     .263 No_date    1:54   25.03  n/a      .000
                  SUM=    1.0 01:J8            13.10     .493 No_date    1:45   23.03  n/a      .000
R0025:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:J8            13.10     .493 No_date    1:45   23.03  n/a      .000
 *   [RDT= 1.00] out<-    1.0 01:Outlet        13.10     .493 No_date    1:45   23.03  n/a      .000
      [L/S/n=    8./ .010/.013]
      {Vmax=  .417:Dmax= 1.075}
      [Din=  .53:Dused= 1.31}
################################################################################
# STORMS
################################################################################
  ** END OF RUN :   49

***********************************************************************************************






 RUN#:COMMAND#
R0050:C00001-----------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0050 ]
#***********************************************************************************************
#  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
#***********************************************************************************************
R0050:C00002-----------------------------------------------------------------------------------
     READ STORM
      Filename = STORM.001
      Comment  = CHICAGO STORM  50 Year, 3 Hours
      [SDT=10.00:SDUR=   3.00:PTOT=  64.81]
#***********************************************************************************************
# EXT1
#***********************************************************************************************
R0050:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT1           3.21     .142 No_date    1:53   29.25 .451      .000
      [CN= 80.0: N= 3.00: Tp=  .72]
#***********************************************************************************************
# EXT2
#***********************************************************************************************
R0050:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT2            .28     .026 No_date    1:22   34.45 .532      .000
      [CN= 85.0: N= 3.00: Tp=  .33]
#***********************************************************************************************
# EXT3
#***********************************************************************************************
R0050:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT3            .56     .044 No_date    1:22   29.25 .451      .000
      [CN= 80.0: N= 3.00: Tp=  .32]
#***********************************************************************************************
# EXT4
#***********************************************************************************************
R0050:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT4            .31     .025 No_date    1:19   28.33 .437      .000
      [CN= 79.0: N= 3.00: Tp=  .29]
#***********************************************************************************************
# EXT5
#***********************************************************************************************
R0050:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT5            .59     .032 No_date    1:32   25.77 .398      .000
      [CN= 76.0: N= 3.00: Tp=  .45]
#***********************************************************************************************
# EXT6
#***********************************************************************************************
R0050:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT6            .86     .055 No_date    1:40   34.45 .532      .000
      [CN= 85.0: N= 3.00: Tp=  .56]
#***********************************************************************************************
# EXT7
#***********************************************************************************************
R0050:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT7            .47     .041 No_date    1:21   32.24 .498      .000
      [CN= 83.0: N= 3.00: Tp=  .32]
#***********************************************************************************************
# EXT8
#***********************************************************************************************
R0050:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT8            .83     .052 No_date    1:30   28.33 .437      .000
      [CN= 79.0: N= 3.00: Tp=  .42]
#***********************************************************************************************
# EXT9
#***********************************************************************************************
R0050:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT9           3.57     .183 No_date    1:35   25.77 .398      .000
      [CN= 76.0: N= 3.00: Tp=  .48]
#***********************************************************************************************
# EXT9a
#***********************************************************************************************
R0050:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT9a           .01     .002 No_date    1:00   27.43 .423      .000
      [CN= 78.0: N= 3.00: Tp=  .04]
#***********************************************************************************************
# EXT10
#***********************************************************************************************
R0050:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT10           .20     .010 No_date    1:30   22.06 .340      .000
      [CN= 71.0: N= 3.00: Tp=  .42]
#***********************************************************************************************
# Pre2
#***********************************************************************************************
R0050:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre2            .57     .032 No_date    1:33   27.44 .423      .000
      [CN= 78.0: N= 3.00: Tp=  .46]
#***********************************************************************************************
# Pre9
#***********************************************************************************************
R0050:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre9            .83     .029 No_date    1:48   22.07 .340      .000
      [CN= 71.0: N= 3.00: Tp=  .64]
#***********************************************************************************************
# Pre10
#***********************************************************************************************
R0050:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre10           .80     .049 No_date    1:20   22.07 .340      .000
      [CN= 71.0: N= 3.00: Tp=  .29]
#***********************************************************************************************
# Pre11
#***********************************************************************************************
R0050:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre11           .07     .007 No_date    1:13   27.44 .423      .000
      [CN= 78.0: N= 3.00: Tp=  .21]
#***********************************************************************************************
R0050:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT2            .28     .026 No_date    1:22   34.45  n/a      .000
                     +    1.0 02:Pre2            .57     .032 No_date    1:33   27.44  n/a      .000
                  SUM=    1.0 01:J1              .85     .057 No_date    1:27   29.79  n/a      .000
R0050:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J1              .85     .057 No_date    1:27   29.79  n/a      .000
     [RDT= 1.00] out<-    1.0 01:R1              .85     .054 No_date    1:33   29.79  n/a      .000
      [L/S/n=  143./ .394/.035]
      {Vmax=  .360:Dmax=  .151}
R0050:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R1              .85     .054 No_date    1:33   29.79  n/a      .000
                     +    1.0 02:EXT3            .56     .044 No_date    1:22   29.25  n/a      .000
                     +    1.0 02:EXT1           3.21     .142 No_date    1:53   29.25  n/a      .000
                  SUM=    1.0 01:J2             4.62     .219 No_date    1:40   29.35  n/a      .000
R0050:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J2             4.62     .219 No_date    1:40   29.35  n/a      .000
     [RDT= 1.00] out<-    1.0 01:R2             4.62     .218 No_date    1:42   29.35  n/a      .000
      [L/S/n=   73./ .425/.035]
      {Vmax=  .505:Dmax=  .266}
R0050:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R2             4.62     .218 No_date    1:42   29.35  n/a      .000
                     +    1.0 02:EXT4            .31     .025 No_date    1:19   28.33  n/a      .000
                  SUM=    1.0 01:J3             4.93     .234 No_date    1:40   29.29  n/a      .000
R0050:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J3             4.93     .234 No_date    1:40   29.29  n/a      .000
     [RDT= 1.00] out<-    1.0 01:R3             4.93     .232 No_date    1:42   29.29  n/a      .000
      [L/S/n=   92./ .274/.035]
      {Vmax=  .412:Dmax=  .274}
R0050:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R3             4.93     .232 No_date    1:42   29.29  n/a      .000
                     +    1.0 02:EXT5            .59     .032 No_date    1:32   25.77  n/a      .000
                  SUM=    1.0 01:J4             5.52     .263 No_date    1:41   28.91  n/a      .000
R0050:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J4             5.52     .263 No_date    1:41   28.91  n/a      .000
     [RDT= 1.00] out<-    1.0 01:R4             5.52     .248 No_date    1:52   28.91  n/a      .000
      [L/S/n=  251./ .190/.035]
      {Vmax=  .406:Dmax=  .309}
R0050:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R4             5.52     .248 No_date    1:52   28.91  n/a      .000
                     +    1.0 02:EXT6            .86     .055 No_date    1:40   34.45  n/a      .000
                     +    1.0 02:EXT7            .47     .041 No_date    1:21   32.24  n/a      .000
                  SUM=    1.0 01:J5             6.86     .323 No_date    1:47   29.83  n/a      .000
R0050:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J5             6.86     .323 No_date    1:47   29.83  n/a      .000
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01081>      [RDT= 1.00] out<-    1.0 01:R5             6.86     .318 No_date    1:52   29.83  n/a     .000
01082>        [L/S/n=  237./ .644/.035]
01083>        {Vmax=  .658:Dmax=  .288}
01084> R0050:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01085>     ROUTE CHANNEL   ->    1.0 02:Pre10           .80     .049 No_date    1:20   22.07  n/a     .000
01086>      [RDT= 1.00] out<-    1.0 01:R6             .80     .048 No_date    1:23   22.07  n/a     .000
01087>        [L/S/n=   77./ .776/.035]
01088>        {Vmax=  .492:Dmax=  .036}
01089> R0050:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01090>     ROUTE CHANNEL   ->    1.0 02:Pre9            .83     .029 No_date    1:48   22.07  n/a     .000
01091>      [RDT= 1.00] out<-    1.0 01:R7             .83     .029 No_date    1:51   22.07  n/a     .000
01092>        [L/S/n=  159./1.576/.035]
01093>        {Vmax=  .797:Dmax=  .009}
01094> R0050:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01095>     ADD HYD                 1.0 02:R6             .80     .048 No_date    1:23   22.28  n/a     .000
01096>                       +    1.0 02:EXT10           .20     .010 No_date    1:30   22.06  n/a     .000
01097>                     SUM=    1.0 01:J6             1.01     .057 No_date    1:24   22.24  n/a     .000
01098> R0050:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01099>     ROUTE CHANNEL   ->    1.0 02:J6             1.01     .057 No_date    1:24   22.24  n/a     .000
01100>      [RDT= 1.00] out<-    1.0 01:R8             1.01     .056 No_date    1:27   22.24  n/a     .000
01101>        [L/S/n=   79./ .522/.035]
01102>        {Vmax=  .423:Dmax=  .042}
01103> R0050:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01104>     ADD HYD                 1.0 02:R8             1.01     .056 No_date    1:27   22.24  n/a     .000
01105>                       +    1.0 02:R7             .83     .029 No_date    1:51   22.09  n/a     .000
01106>                     SUM=    1.0 01:J7             1.83     .079 No_date    1:32   22.17  n/a     .000
01107> R0050:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01108>     ROUTE CHANNEL   ->    1.0 02:J7             1.83     .079 No_date    1:32   22.17  n/a     .000
01109>      [RDT= 1.00] out<-    1.0 01:R9             1.83     .079 No_date    1:33   22.17  n/a     .000
01110>        [L/S/n=   29./ .887/.035]
01111>        {Vmax=  .543:Dmax=  .054}
01112> R0050:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01113>     ADD HYD                 1.0 02:EXT9           3.57     .183 No_date    1:35   25.77  n/a    .000
01114>                       +    1.0 02:R9             1.83     .079 No_date    1:33   22.18  n/a     .000
01115>                       +    1.0 02:EXT8            .83     .052 No_date    1:30   28.33  n/a     .000
01116>                       +    1.0 02:R5             6.86     .318 No_date    1:52   29.83  n/a     .000
01117>                     SUM=    1.0 01:J8            13.10     .602 No_date    1:44   27.56  n/a     .000
01118> R0050:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01119>     ROUTE PIPE      ->    1.0 02:J8            13.10     .602 No_date    1:44   27.56  n/a     .000
01120> *    [RDT= 1.00] out<-    1.0 01:Outlet        13.10     .602 No_date    1:44   27.56  n/a     .000
01121>        [L/S/n=    8./ .010/.013]
01122>        {Vmax=  .438:Dmax= 1.159}
01123>        [Din=  .53:Dused= 1.41]
01124> ##############################################################################
01125> # STORMS
01126> ##############################################################################
01127>   ** END OF RUN :   98
01128>
01129> ******************************************************************************************
01130>
01131>
01132>
01133>
01134>
01135>  RUN#:COMMAND#
01136> R0099:C00001-----------------------------------------------------------------------------------
01137>       START
01138>       [TZERO =    .00 hrs on        0]
01139>       [METOUT=   2    (1=imperial, 2=metric output)]
01140>       [NSTORM=   1 ]
01141>       [NRUN  = 0099 ]
01142> ******************************************************************************************
01143> #  SWMHYMO  / INPUT DATA FILE
01144> ******************************************************************************************
01145> #  Project Name  : [5923 Ottawa St]
01146> #  Project Number: [P2710(e01)]
01147> #  Date           : [2025 FEB 05]
01148> #  Modeller       : [MM]
01149> #  Company        : JFSA Canada Inc.
01150> #  License #      : 2549237
01151> ******************************************************************************************
01152> # Model developed to simulate runoff from subcatchments under pre development conditions
01153> ******************************************************************************************
01154> R0099:C00002-----------------------------------------------------------------------------------
01155>       READ STORM
01156>       Filename = STORM.001
01157>       Comment  = CHICAGO STORM   100 Year, 3 Hours
01158>       [SDT=10.00:SDUR=   3.00:PTOT=  71.66]
01159> ******************************************************************************************
01160> # EXT1
01161> ******************************************************************************************
01162> R0099:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01163>     CALIB NASHYD            1.0 01:EXT1           3.21     .167 No_date    1:52   34.39 .480     .000
01164>       [CN= 80.0: N= 3.00: Tp=  .72]
01165> ******************************************************************************************
01166> # EXT2
01167> ******************************************************************************************
01168> R0099:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01169>     CALIB NASHYD            1.0 01:EXT2            .28     .031 No_date    1:22   40.14 .560     .000
01170>       [CN= 85.0: N= 3.00: Tp=  .33]
01171> ******************************************************************************************
01172> # EXT3
01173> ******************************************************************************************
01174> R0099:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01175>     CALIB NASHYD            1.0 01:EXT3            .56     .052 No_date    1:21   34.39 .480     .000
01176>       [CN= 80.0: N= 3.00: Tp=  .32]
01177> ******************************************************************************************
01178> # EXT4
01179> ******************************************************************************************
01180> R0099:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01181>     CALIB NASHYD            1.0 01:EXT4            .31     .029 No_date    1:19   33.37 .466     .000
01182>       [CN= 79.0: N= 3.00: Tp=  .29]
01183> ******************************************************************************************
01184> # EXT5
01185> ******************************************************************************************
01186> R0099:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01187>     CALIB NASHYD            1.0 01:EXT5            .59     .038 No_date    1:32   30.49 .425     .000
01188>       [CN= 76.0: N= 3.00: Tp=  .45]
01189> ******************************************************************************************
01190> # EXT6
01191> ******************************************************************************************
01192> R0099:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01193>     CALIB NASHYD            1.0 01:EXT6            .86     .064 No_date    1:39   40.14 .560     .000
01194>       [CN= 85.0: N= 3.00: Tp=  .56]
01195> ******************************************************************************************
01196> # EXT7
01197> ******************************************************************************************
01198> R0099:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01199>     CALIB NASHYD            1.0 01:EXT7            .47     .048 No_date    1:21   37.71 .526     .000
01200>       [CN= 83.0: N= 3.00: Tp=  .32]
01201> ******************************************************************************************
01202> # EXT8
01203> ******************************************************************************************
01204> R0099:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01205>     CALIB NASHYD            1.0 01:EXT8            .83     .062 No_date    1:29   33.37 .466     .000
01206>       [CN= 79.0: N= 3.00: Tp=  .42]
01207> ******************************************************************************************
01208> # EXT9
01209> ******************************************************************************************
01210> R0099:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01211>     CALIB NASHYD            1.0 01:EXT9           3.57     .218 No_date    1:34   30.49 .425     .000
01212>       [CN= 76.0: N= 3.00: Tp=  .48]
01213> ******************************************************************************************
01214> # EXT9a
01215> ******************************************************************************************
01216> R0099:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01217>     CALIB NASHYD            1.0 01:EXT9a           .01     .003 No_date    1:00   32.37 .452     .000
01218>       [CN= 78.0: N= 3.00: Tp=  .04]
01219> ******************************************************************************************
01220> # EXT10
01221> ******************************************************************************************
01222> R0099:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01223>     CALIB NASHYD            1.0 01:EXT10           .20     .012 No_date    1:30   26.28 .367     .000
01224>       [CN= 71.0: N= 3.00: Tp=  .42]
01225> ******************************************************************************************
01226> # Pre2
01227> ******************************************************************************************
01228> R0099:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01229>     CALIB NASHYD            1.0 01:Pre2            .57     .038 No_date    1:32   32.37 .452     .000
01230>       [CN= 78.0: N= 3.00: Tp=  .46]
01231> ******************************************************************************************
01232> # Pre9
01233> ******************************************************************************************
01234> R0099:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01235>     CALIB NASHYD            1.0 01:Pre9            .83     .035 No_date    1:47   26.29 .367     .000
01236>       [CN= 71.0: N= 3.00: Tp=  .64]
01237> ******************************************************************************************
01238> # Pre10
01239> ******************************************************************************************
01240> R0099:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01241>     CALIB NASHYD            1.0 01:Pre10           .80     .058 No_date    1:20   26.29 .367     .000
01242>       [CN= 71.0: N= 3.00: Tp=  .29]
01243> ******************************************************************************************
01244> # Pre11
01245> ******************************************************************************************
01246> R0099:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01247>     CALIB NASHYD            1.0 01:Pre11           .07     .008 No_date    1:13   32.37 .452     .000
01248>       [CN= 78.0: N= 3.00: Tp=  .21]
01249> ******************************************************************************************
01250> R0099:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01251>     ADD HYD                 1.0 02:EXT2            .28     .031 No_date    1:22   40.14  n/a     .000
01252>                       +    1.0 02:Pre2            .57     .038 No_date    1:32   32.37  n/a     .000
01253>                     SUM=    1.0 01:J1              .85     .067 No_date    1:27   34.97  n/a     .000
01254> R0099:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01255>     ROUTE CHANNEL   ->    1.0 02:J1              .85     .067 No_date    1:27   34.97  n/a     .000
01256>      [RDT= 1.00] out<-    1.0 01:R1              .85     .064 No_date    1:33   34.97  n/a     .000
01257>        [L/S/n=  143./ .394/.035]
01258>        {Vmax=  .375:Dmax=  .162}
01259> R0099:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01260>     ADD HYD                 1.0 02:R1              .85     .064 No_date    1:33   34.97  n/a     .000
01261>                       +    1.0 02:EXT3            .56     .052 No_date    1:21   34.39  n/a     .000
01262>                       +    1.0 02:EXT1           3.21     .167 No_date    1:52   34.39  n/a     .000
01263>                     SUM=    1.0 01:J2             4.62     .258 No_date    1:40   34.50  n/a     .000
01264> R0099:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01265>     ROUTE CHANNEL   ->    1.0 02:J2             4.62     .258 No_date    1:40   34.50  n/a     .000
01266>      [RDT= 1.00] out<-    1.0 01:R2             4.62     .258 No_date    1:42   34.50  n/a     .000
01267>        [L/S/n=   73./ .425/.035]
01268>        {Vmax=  .526:Dmax=  .284}
01269> R0099:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01270>     ADD HYD                 1.0 02:R2             4.62     .258 No_date    1:42   34.50  n/a     .000
01271>                       +    1.0 02:EXT4            .31     .029 No_date    1:19   33.37  n/a     .000
01272>                     SUM=    1.0 01:J3             4.93     .277 No_date    1:39   34.43  n/a     .000
01273> R0099:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01274>     ROUTE CHANNEL   ->    1.0 02:J3             4.93     .277 No_date    1:39   34.43  n/a     .000
01275>      [RDT= 1.00] out<-    1.0 01:R3             4.93     .275 No_date    1:42   34.43  n/a     .000
01276>        [L/S/n=   92./ .274/.035]
01277>        {Vmax=  .431:Dmax=  .233}
01278> R0099:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01279>     ADD HYD                 1.0 02:R3             4.93     .275 No_date    1:42   34.43  n/a     .000
01280>                       +    1.0 02:EXT5            .59     .038 No_date    1:32   30.49  n/a     .000
01281>                     SUM=    1.0 01:J4             5.52     .311 No_date    1:40   34.01  n/a     .000
01282> R0099:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01283>     ROUTE CHANNEL   ->    1.0 02:J4             5.52     .311 No_date    1:40   34.01  n/a     .000
01284>      [RDT= 1.00] out<-    1.0 01:R4             5.52     .295 No_date    1:51   34.01  n/a     .000
01285>        [L/S/n=  251./ .190/.035]
01286>        {Vmax=  .425:Dmax=  .333}
01287> R0099:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01288>     ADD HYD                 1.0 02:R4             5.52     .295 No_date    1:51   34.01  n/a     .000
01289>                       +    1.0 02:EXT6            .86     .064 No_date    1:39   40.14  n/a     .000
01290>                       +    1.0 02:EXT7            .47     .048 No_date    1:21   37.71  n/a     .000
01291>                     SUM=    1.0 01:J5             6.86     .384 No_date    1:46   35.03  n/a     .000
01292> R0099:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01293>     ROUTE CHANNEL   ->    1.0 02:J5             6.86     .384 No_date    1:46   35.03  n/a     .000
01294>      [RDT= 1.00] out<-    1.0 01:R5             6.86     .380 No_date    1:51   35.03  n/a     .000
01295>        [L/S/n=  237./ .644/.035]
01296>        {Vmax=  .699:Dmax=  .310}
01297> R0099:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01298>     ROUTE CHANNEL   ->    1.0 02:Pre10           .80     .058 No_date    1:20   26.29  n/a     .000
01299>      [RDT= 1.00] out<-    1.0 01:R6              .80     .058 No_date    1:23   26.29  n/a     .000
01300>        [L/S/n=   77./ .776/.035]
01301>        {Vmax=  .492:Dmax=  .043}
01302> R0099:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01303>     ROUTE CHANNEL   ->    1.0 02:Pre9            .83     .035 No_date    1:47   26.29  n/a     .000
01304>      [RDT= 1.00] out<-    1.0 01:R7              .83     .035 No_date    1:51   26.29  n/a     .000
01305>        [L/S/n=  159./1.576/.035]
01306>        {Vmax=  .797:Dmax=  .011}
01307> R0099:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01308>     ADD HYD                 1.0 02:R6              .80     .058 No_date    1:23   26.52  n/a     .000
01309>                       +    1.0 02:EXT10           .20     .012 No_date    1:30   26.28  n/a     .000
01310>                     SUM=    1.0 01:J6             1.01     .069 No_date    1:23   26.47  n/a     .000
01311> R0099:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01312>     ROUTE CHANNEL   ->    1.0 02:J6             1.01     .069 No_date    1:23   26.47  n/a     .000
01313>      [RDT= 1.00] out<-    1.0 01:R8             1.01     .068 No_date    1:27   26.47  n/a     .000
01314>        [L/S/n=   79./ .522/.035]
01315>        {Vmax=  .423:Dmax=  .050}
01316> R0099:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01317>     ADD HYD                 1.0 02:R8             1.01     .068 No_date    1:27   26.48  n/a     .000
01318>                       +    1.0 02:R7              .83     .035 No_date    1:51   26.32  n/a     .000
01319>                     SUM=    1.0 01:J7             1.83     .095 No_date    1:32   26.40  n/a     .000
01320> R0099:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01321>     ROUTE CHANNEL   ->    1.0 02:J7             1.83     .095 No_date    1:32   26.40  n/a     .000
01322>      [RDT= 1.00] out<-    1.0 01:R9             1.83     .095 No_date    1:32   26.40  n/a     .000
01323>        [L/S/n=   29./ .887/.035]
01324>        {Vmax=  .543:Dmax=  .064}
01325> R0099:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01326>     ADD HYD                 1.0 02:EXT9           3.57     .218 No_date    1:34   30.49  n/a     .000
01327>                       +    1.0 02:R9             1.83     .095 No_date    1:32   26.42  n/a     .000
01328>                       +    1.0 02:EXT8            .83     .062 No_date    1:29   33.37  n/a     .000
01329>                       +    1.0 02:R5             6.86     .380 No_date    1:51   35.03  n/a     .000
01330>                     SUM=    1.0 01:J8            13.10     .721 No_date    1:42   32.48  n/a     .000
01331> R0099:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01332>     ROUTE PIPE      ->    1.0 02:J8            13.10     .721 No_date    1:42   32.48  n/a     .000
01333> *    [RDT= 1.00] out<-    1.0 01:Outlet        13.10     .721 No_date    1:43   32.48  n/a     .000
01334>        [L/S/n=    8./ .010/.013]
01335>        {Vmax=  .458:Dmax= 1.240}
01336>        [Din=  .53:Dused= 1.51]
01337> ##############################################################################
01338> # STORMS
01339> ##############################################################################
01340>   ** END OF RUN :  101
01341>
01342> ******************************************************************************************
01343>
01344>
01345>
01346>
01347>
01348>  RUN#:COMMAND#
01349> R0102:C00001-----------------------------------------------------------------------------------
01350>       START
01351>       [TZERO =    .00 hrs on        0]
01352>       [METOUT=   2    (1=imperial, 2=metric output)]
01353>       [NSTORM=   1 ]
01354>       [NRUN  = 0102 ]
01355> ******************************************************************************************
01356> #  SWMHYMO  / INPUT DATA FILE
01357> ******************************************************************************************
01358> #  Project Name  : [5923 Ottawa St]
01359> #  Project Number: [P2710(e01)]
01360> #  Date           : [2025 FEB 05]
01361> #  Modeller       : [MM]
01362> #  Company        : JFSA Canada Inc.
01363> #  License #      : 2549237
01364> ******************************************************************************************
01365> # Model developed to simulate runoff from subcatchments under pre development conditions
01366> ******************************************************************************************
01367> R0102:C00002-----------------------------------------------------------------------------------
01368>       READ STORM
01369>       Filename = STORM.001
01370>       Comment  = 2 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
01371>       [SDT=10.00:SDUR=  24.00:PTOT=  48.46]
01372> ******************************************************************************************
01373> # EXT1
01374> ******************************************************************************************
01375> R0102:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01376>     CALIB NASHYD            1.0 01:EXT1           3.21     .058 No_date   12:42   17.87 .369     .000
01377>       [CN= 80.0: N= 3.00: Tp=  .72]
01378> ******************************************************************************************
01379> # EXT2
01380> ******************************************************************************************
01381> R0102:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01382>     CALIB NASHYD            1.0 01:EXT2            .28     .011 No_date   12:14   21.63 .446     .000
01383>       [CN= 85.0: N= 3.00: Tp=  .33]
01384> ******************************************************************************************
01385> # EXT3
01386> ******************************************************************************************
01387> R0102:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01388>     CALIB NASHYD            1.0 01:EXT3            .56     .018 No_date   12:13   17.87 .369     .000
01389>       [CN= 80.0: N= 3.00: Tp=  .32]
01390> ******************************************************************************************
01391> # EXT4
01392> ******************************************************************************************
01393> R0102:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01394>     CALIB NASHYD            1.0 01:EXT4            .31     .010 No_date   12:12   17.22 .355     .000
01395>       [CN= 79.0: N= 3.00: Tp=  .29]
01396> ******************************************************************************************
01397> # EXT5
01398> ******************************************************************************************
01399> R0102:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01400>     CALIB NASHYD            1.0 01:EXT5            .59     .013 No_date   12:22   15.46 .319     .000
01401>       [CN= 76.0: N= 3.00: Tp=  .45]
01402> ******************************************************************************************
01403> # EXT6
01404> ******************************************************************************************
01405> R0102:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01406>     CALIB NASHYD            1.0 01:EXT6            .86     .023 No_date   12:30   21.64 .446     .000
01407>       [CN= 85.0: N= 3.00: Tp=  .56]
01408> ******************************************************************************************
01409> # EXT7
01410> ******************************************************************************************
01411> R0102:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01412>     CALIB NASHYD            1.0 01:EXT7            .47     .017 No_date   12:13   20.01 .413     .000
01413>       [CN= 83.0: N= 3.00: Tp=  .32]
01414> ******************************************************************************************
01415> # EXT8
01416> ******************************************************************************************
01417> R0102:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01418>     CALIB NASHYD            1.0 01:EXT8            .83     .021 No_date   12:20   17.22 .355     .000
01419>       [CN= 79.0: N= 3.00: Tp=  .42]
01420> ******************************************************************************************
01421> # EXT9
01422> ******************************************************************************************
01423> R0102:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01424>     CALIB NASHYD            1.0 01:EXT9           3.57     .074 No_date   12:25   15.46 .319     .000
01425>       [CN= 76.0: N= 3.00: Tp=  .48]
01426> ******************************************************************************************
01427> # EXT9a
01428> ******************************************************************************************
01429> R0102:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01430>     CALIB NASHYD            1.0 01:EXT9a           .01     .001 No_date   12:00   16.59 .342     .000
01431>       [CN= 78.0: N= 3.00: Tp=  .04]
01432> ******************************************************************************************
01433> # EXT10
01434> ******************************************************************************************
01435> R0102:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01436>     CALIB NASHYD            1.0 01:EXT10           .20     .004 No_date   12:20   12.99 .268     .000
01437>       [CN= 71.0: N= 3.00: Tp=  .42]
01438> ******************************************************************************************
01439> # Pre2
01440> ******************************************************************************************
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01441> R0102:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01442>      CALIB NASHYD           1.0 01:Pre2            .57     .013 No_date   12:23   16.61 .343     .000
01443>        [CN= 78.0: N= 3.00: Tp=  .46]
01444> #*******************************************************************************************************
01445> # Pre9
01446> #*******************************************************************************************************
01447> R0102:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01448>      CALIB NASHYD           1.0 01:Pre9            .83     .012 No_date   12:37   12.99 .268     .000
01449>        [CN= 71.0: N= 3.00: Tp=  .64]
01450> #*******************************************************************************************************
01451> # Pre10
01452> #*******************************************************************************************************
01453> R0102:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01454>      CALIB NASHYD           1.0 01:Pre10           .80     .020 No_date   12:12   12.99 .268     .000
01455>        [CN= 71.0: N= 3.00: Tp=  .29]
01456> #*******************************************************************************************************
01457> # Pre11
01458> #*******************************************************************************************************
01459> R0102:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01460>      CALIB NASHYD           1.0 01:Pre11           .07     .003 No_date   12:07   16.60 .343     .000
01461>        [CN= 78.0: N= 3.00: Tp=  .21]
01462> #*******************************************************************************************************
01463> R0102:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01464>      ADD HYD                1.0 02:EXT2            .28     .011 No_date   12:14   21.63  n/a     .000
01465>                     +       1.0 02:Pre2            .57     .013 No_date   12:23   16.61  n/a     .000
01466>                    SUM=     1.0 01:J1              .85     .024 No_date   12:18   18.29  n/a     .000
01467> R0102:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01468>      ROUTE CHANNEL   ->     1.0 02:J1              .85     .024 No_date   12:18   18.29  n/a     .000
01469>        [RDT= 1.00] out<-    1.0 01:R1              .85     .022 No_date   12:25   18.29  n/a     .000
01470>        [L/S/n=  143./ .394/.035]
01471>        {Vmax=  .278:Dmax=  .103}
01472> R0102:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01473>      ADD HYD                1.0 02:R1              .85     .022 No_date   12:25   18.29  n/a     .000
01474>                     +       1.0 02:EXT3            .56     .018 No_date   12:13   17.87  n/a     .000
01475>                     +       1.0 02:EXT1           3.21     .058 No_date   12:42   17.87  n/a     .000
01476>                    SUM=     1.0 01:J2             4.62     .090 No_date   12:30   17.95  n/a     .000
01477> R0102:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01478>      ROUTE CHANNEL   ->     1.0 02:J2             4.62     .090 No_date   12:30   17.95  n/a     .000
01479>        [RDT= 1.00] out<-    1.0 01:R2             4.62     .090 No_date   12:33   17.95  n/a     .000
01480>        [L/S/n=   73./ .425/.035]
01481>        {Vmax=  .398:Dmax=  .186}
01482> R0102:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01483>      ADD HYD                1.0 02:R2             4.62     .090 No_date   12:33   17.95  n/a     .000
01484>                     +       1.0 02:EXT4            .31     .010 No_date   12:12   17.22  n/a     .000
01485>                    SUM=     1.0 01:J3             4.93     .096 No_date   12:30   17.90  n/a     .000
01486> R0102:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01487>      ROUTE CHANNEL   ->     1.0 02:J3             4.93     .096 No_date   12:30   17.90  n/a     .000
01488>        [RDT= 1.00] out<-    1.0 01:R3             4.93     .095 No_date   12:35   17.90  n/a     .000
01489>        [L/S/n=  92./ .274/.035]
01490>        {Vmax=  .326:Dmax=  .193}
01491> R0102:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01492>      ADD HYD                1.0 02:R3             4.93     .095 No_date   12:35   17.90  n/a     .000
01493>                     +       1.0 02:EXT5            .59     .013 No_date   12:22   15.46  n/a     .000
01494>                    SUM=     1.0 01:J4             5.52     .107 No_date   12:33   17.64  n/a     .000
01495> R0102:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01496>      ROUTE CHANNEL   ->     1.0 02:J4             5.52     .107 No_date   12:33   17.64  n/a     .000
01497>        [RDT= 1.00] out<-    1.0 01:R4             5.52     .098 No_date   12:46   17.64  n/a     .000
01498>        [L/S/n=  251./ .190/.035]
01499>        {Vmax=  .309:Dmax=  .210}
01500> R0102:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01501>      ADD HYD                1.0 02:R4             5.52     .098 No_date   12:46   17.64  n/a     .000
01502>                     +       1.0 02:EXT6            .86     .023 No_date   12:30   21.64  n/a     .000
01503>                     +       1.0 02:EXT7            .47     .017 No_date   12:13   20.01  n/a     .000
01504>                    SUM=     1.0 01:J5             6.86     .128 No_date   12:40   18.31  n/a     .000
01505> R0102:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01506>      ROUTE CHANNEL   ->     1.0 02:J5             6.86     .128 No_date   12:40   18.31  n/a     .000
01507>        [RDT= 1.00] out<-    1.0 01:R5             6.86     .125 No_date   12:47   18.31  n/a     .000
01508>        [L/S/n=  237./ .644/.035]
01509>        {Vmax=  .501:Dmax=  .200}
01510> R0102:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01511>      ROUTE CHANNEL   ->     1.0 02:Pre10           .80     .020 No_date   12:12   12.99  n/a     .000
01512>        [RDT= 1.00] out<-    1.0 01:R6              .80     .019 No_date   12:15   12.99  n/a     .000
01513>        [L/S/n=   77./ .776/.035]
01514>        {Vmax=  .492:Dmax=  .014}
01515> R0102:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01516>      ROUTE CHANNEL   ->     1.0 02:Pre9            .83     .012 No_date   12:37   12.99  n/a     .000
01517>        [RDT= 1.00] out<-    1.0 01:R7              .83     .011 No_date   12:40   12.99  n/a     .000
01518>        [L/S/n=  159./1.576/.035]
01519>        {Vmax=  .797:Dmax=  .003}
01520> R0102:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01521>      ADD HYD                1.0 02:R6              .80     .019 No_date   12:15   13.03  n/a     .000
01522>                     +       1.0 02:EXT10           .20     .004 No_date   12:20   12.99  n/a     .000
01523>                    SUM=     1.0 01:J6             1.01     .023 No_date   12:15   13.02  n/a     .000
01524> R0102:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01525>      ROUTE CHANNEL   ->     1.0 02:J6             1.01     .023 No_date   12:15   13.02  n/a     .000
01526>        [RDT= 1.00] out<-    1.0 01:R8             1.01     .023 No_date   12:19   13.02  n/a     .000
01527>        [L/S/n=   79./ .522/.035]
01528>        {Vmax=  .423:Dmax=  .017}
01529> R0102:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01530>      ADD HYD                1.0 02:R8             1.01     .023 No_date   12:19   13.02  n/a     .000
01531>                     +       1.0 02:R7              .83     .011 No_date   12:40   13.00  n/a     .000
01532>                    SUM=     1.0 01:J7             1.83     .032 No_date   12:22   13.01  n/a     .000
01533> R0102:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01534>      ROUTE CHANNEL   ->     1.0 02:J7             1.83     .032 No_date   12:22   13.01  n/a     .000
01535>        [RDT= 1.00] out<-    1.0 01:R9             1.83     .032 No_date   12:23   13.01  n/a     .000
01536>        [L/S/n=   29./ .887/.035]
01537>        {Vmax=  .543:Dmax=  .022}
01538> R0102:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01539>      ADD HYD                1.0 02:EXT9           3.57     .074 No_date   12:25   15.46  n/a     .000
01540>                     +       1.0 02:R9             1.83     .032 No_date   12:23   13.02  n/a     .000
01541>                     +       1.0 02:EXT8            .83     .021 No_date   12:20   17.22  n/a     .000
01542>                     +       1.0 02:R5             6.86     .125 No_date   12:47   18.31  n/a     .000
01543>                    SUM=     1.0 01:J8            13.10     .233 No_date   12:35   16.72  n/a     .000
01544> R0102:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01545>      ROUTE PIPE      ->     1.0 02:J8            13.10     .233 No_date   12:35   16.72  n/a     .000
01546> *    [RDT= 1.00] out<-    1.0 01:Outlet         13.10     .229 No_date   12:42   16.72  n/a     .000
01547>        [L/S/n=   8./ .010/.013]
01548>        {Vmax=  .345:Dmax=  .812}
01549>        [Din=  .53:Dused=  .99]
01550> ##########################################################################
01551> # STORMS
01552> ##########################################################################
01553>   ** END OF RUN :  104
01554>
01555> *******************************************************************************************************
01556>
01557>
01558>
01559>
01560>
01561>  RUN#:COMMAND#
01562> R0105:C00001------------------------------------------------------------------------------------------
01563>      START
01564>        [TZERO =    .00 hrs on         0]
01565>        [METOUT=   2    (1=imperial, 2=metric output)]
01566>        [NSTORM=   1 ]
01567>        [NRUN   = 0105 ]
01568> #*******************************************************************************************************
01569> #  SWMHYMO  / INPUT DATA FILE
01570> #*******************************************************************************************************
01571> #  Project Name  : [5923 Ottawa St]
01572> #  Project Number: [P2710(e01)]
01573> #  Date           : [2025 FEB 05]
01574> #  Modeller       : [MM]
01575> #  Company        : JFSA Canada Inc.
01576> #  License #      : 2549237
01577> #*******************************************************************************************************
01578> # Model developed to simulate runoff from subcatchments under pre development conditions
01579> #*******************************************************************************************************
01580> R0105:C00002------------------------------------------------------------------------------------------
01581>        READ STORM
01582>         Filename = STORM.001
01583>         Comment  = 5 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
01584>         [SDT=10.00:SDUR=  24.00:PTOT=  64.11]
01585> #*******************************************************************************************************
01586> # EXT1
01587> #*******************************************************************************************************
01588> R0105:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01589>      CALIB NASHYD           1.0 01:EXT1           3.21     .095 No_date   12:41   28.73 .448     .000
01590>        [CN= 80.0: N= 3.00: Tp=  .72]
01591> #*******************************************************************************************************
01592> # EXT2
01593> #*******************************************************************************************************
01594> R0105:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01595>      CALIB NASHYD           1.0 01:EXT2            .28     .018 No_date   12:13   33.88 .529     .000
01596>        [CN= 85.0: N= 3.00: Tp=  .33]
01597> #*******************************************************************************************************
01598> # EXT3
01599> #*******************************************************************************************************
01600> R0105:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01601>      CALIB NASHYD           1.0 01:EXT3            .56     .030 No_date   12:13   28.73 .448     .000
01602>        [CN= 80.0: N= 3.00: Tp=  .32]
01603> #*******************************************************************************************************
01604> # EXT4
01605> #*******************************************************************************************************
01606> R0105:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01607>      CALIB NASHYD           1.0 01:EXT4            .31     .017 No_date   12:11   27.82 .434     .000
01608>        [CN= 79.0: N= 3.00: Tp=  .29]
01609> #*******************************************************************************************************
01610> # EXT5
01611> #*******************************************************************************************************
01612> R0105:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01613>      CALIB NASHYD           1.0 01:EXT5            .59     .021 No_date   12:22   25.29 .395     .000
01614>        [CN= 76.0: N= 3.00: Tp=  .45]
01615> #*******************************************************************************************************
01616> # EXT6
01617> #*******************************************************************************************************
01618> R0105:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01619>      CALIB NASHYD           1.0 01:EXT6            .86     .037 No_date   12:29   33.88 .529     .000
01620>        [CN= 85.0: N= 3.00: Tp=  .56]
01621> #*******************************************************************************************************
01622> # EXT7
01623> #*******************************************************************************************************
01624> R0105:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01625>      CALIB NASHYD           1.0 01:EXT7            .47     .028 No_date   12:13   31.69 .494     .000
01626>        [CN= 83.0: N= 3.00: Tp=  .32]
01627> #*******************************************************************************************************
01628> # EXT8
01629> #*******************************************************************************************************
01630> R0105:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01631>      CALIB NASHYD           1.0 01:EXT8            .83     .035 No_date   12:20   27.82 .434     .000
01632>        [CN= 79.0: N= 3.00: Tp=  .42]
01633> #*******************************************************************************************************
01634> # EXT9
01635> #*******************************************************************************************************
01636> R0105:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01637>      CALIB NASHYD           1.0 01:EXT9           3.57     .123 No_date   12:24   25.30 .395     .000
01638>        [CN= 76.0: N= 3.00: Tp=  .48]
01639> #*******************************************************************************************************
01640> # EXT9a
01641> #*******************************************************************************************************
01642> R0105:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01643>      CALIB NASHYD           1.0 01:EXT9a           .01     .001 No_date   12:00   26.94 .420     .000
01644>        [CN= 78.0: N= 3.00: Tp=  .04]
01645> #*******************************************************************************************************
01646> # EXT10
01647> #*******************************************************************************************************
01648> R0105:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01649>      CALIB NASHYD           1.0 01:EXT10           .20     .006 No_date   12:20   21.64 .338     .000
01650>        [CN= 71.0: N= 3.00: Tp=  .42]
01651> #*******************************************************************************************************
01652> # Pre2
01653> #*******************************************************************************************************
01654> R0105:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01655>      CALIB NASHYD           1.0 01:Pre2            .57     .022 No_date   12:22   26.95 .420     .000
01656>        [CN= 78.0: N= 3.00: Tp=  .46]
01657> #*******************************************************************************************************
01658> # Pre9
01659> #*******************************************************************************************************
01660> R0105:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01661>      CALIB NASHYD           1.0 01:Pre9            .83     .020 No_date   12:36   21.65 .338     .000
01662>        [CN= 71.0: N= 3.00: Tp=  .64]
01663> #*******************************************************************************************************
01664> # Pre10
01665> #*******************************************************************************************************
01666> R0105:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01667>      CALIB NASHYD           1.0 01:Pre10           .80     .033 No_date   12:11   21.65 .338     .000
01668>        [CN= 71.0: N= 3.00: Tp=  .29]
01669> #*******************************************************************************************************
01670> # Pre11
01671> #*******************************************************************************************************
01672> R0105:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01673>      CALIB NASHYD           1.0 01:Pre11           .07     .005 No_date   12:07   26.94 .420     .000
01674>        [CN= 78.0: N= 3.00: Tp=  .21]
01675> #*******************************************************************************************************
01676> R0105:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01677>      ADD HYD                1.0 02:EXT2            .28     .018 No_date   12:13   33.88  n/a     .000
01678>                     +       1.0 02:Pre2            .57     .022 No_date   12:22   26.95  n/a     .000
01679>                    SUM=     1.0 01:J1              .85     .038 No_date   12:17   29.27  n/a     .000
01680> R0105:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01681>      ROUTE CHANNEL   ->     1.0 02:J1              .85     .038 No_date   12:17   29.27  n/a     .000
01682>        [RDT= 1.00] out<-    1.0 01:R1              .85     .036 No_date   12:24   29.27  n/a     .000
01683>        [L/S/n=  143./ .394/.035]
01684>        {Vmax=  .318:Dmax=  .127}
01685> R0105:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01686>      ADD HYD                1.0 02:R1              .85     .036 No_date   12:24   29.27  n/a     .000
01687>                     +       1.0 02:EXT3            .56     .030 No_date   12:13   28.73  n/a     .000
01688>                     +       1.0 02:EXT1           3.21     .095 No_date   12:41   28.73  n/a     .000
01689>                    SUM=     1.0 01:J2             4.62     .148 No_date   12:29   28.83  n/a     .000
01690> R0105:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01691>      ROUTE CHANNEL   ->     1.0 02:J2             4.62     .148 No_date   12:29   28.83  n/a     .000
01692>        [RDT= 1.00] out<-    1.0 01:R2             4.62     .147 No_date   12:32   28.83  n/a     .000
01693>        [L/S/n=   73./ .425/.035]
01694>        {Vmax=  .455:Dmax=  .227}
01695> R0105:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01696>      ADD HYD                1.0 02:R2             4.62     .147 No_date   12:32   28.83  n/a     .000
01697>                     +       1.0 02:EXT4            .31     .017 No_date   12:11   27.82  n/a     .000
01698>                    SUM=     1.0 01:J3             4.93     .158 No_date   12:29   28.77  n/a     .000
01699> R0105:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01700>      ROUTE CHANNEL   ->     1.0 02:J3             4.93     .158 No_date   12:29   28.77  n/a     .000
01701>        [RDT= 1.00] out<-    1.0 01:R3             4.93     .157 No_date   12:32   28.77  n/a     .000
01702>        [L/S/n=  92./ .274/.035]
01703>        {Vmax=  .373:Dmax=  .235}
01704> R0105:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01705>      ADD HYD                1.0 02:R3             4.93     .157 No_date   12:32   28.77  n/a     .000
01706>                     +       1.0 02:EXT5            .59     .021 No_date   12:22   25.29  n/a     .000
01707>                    SUM=     1.0 01:J4             5.52     .177 No_date   12:31   28.40  n/a     .000
01708> R0105:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01709>      ROUTE CHANNEL   ->     1.0 02:J4             5.52     .177 No_date   12:31   28.40  n/a     .000
01710>        [RDT= 1.00] out<-    1.0 01:R4             5.52     .165 No_date   12:42   28.40  n/a     .000
01711>        [L/S/n=  251./ .190/.035]
01712>        {Vmax=  .361:Dmax=  .260}
01713> R0105:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01714>      ADD HYD                1.0 02:R4             5.52     .165 No_date   12:42   28.40  n/a     .000
01715>                     +       1.0 02:EXT6            .86     .037 No_date   12:29   33.88  n/a     .000
01716>                     +       1.0 02:EXT7            .47     .028 No_date   12:13   31.69  n/a     .000
01717>                    SUM=     1.0 01:J5             6.86     .215 No_date   12:37   29.31  n/a     .000
01718> R0105:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01719>      ROUTE CHANNEL   ->     1.0 02:J5             6.86     .215 No_date   12:37   29.31  n/a     .000
01720>        [RDT= 1.00] out<-    1.0 01:R5             6.86     .212 No_date   12:42   29.31  n/a     .000
01721>        [L/S/n=  237./ .644/.035]
01722>        {Vmax=  .593:Dmax=  .247}
01723> R0105:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01724>      ROUTE CHANNEL   ->     1.0 02:Pre10           .80     .033 No_date   12:11   21.65  n/a     .000
01725>        [RDT= 1.00] out<-    1.0 01:R6              .80     .033 No_date   12:14   21.65  n/a     .000
01726>        [L/S/n=   77./ .776/.035]
01727>        {Vmax=  .492:Dmax=  .024}
01728> R0105:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01729>      ROUTE CHANNEL   ->     1.0 02:Pre9            .83     .020 No_date   12:36   21.65  n/a     .000
01730>        [RDT= 1.00] out<-    1.0 01:R7              .83     .019 No_date   12:40   21.65  n/a     .000
01731>        [L/S/n=  159./1.576/.035]
01732>        {Vmax=  .797:Dmax=  .006}
01733> R0105:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01734>      ADD HYD                1.0 02:R6              .80     .033 No_date   12:14   21.70  n/a     .000
01735>                     +       1.0 02:EXT10           .20     .006 No_date   12:20   21.64  n/a     .000
01736>                    SUM=     1.0 01:J6             1.01     .039 No_date   12:15   21.68  n/a     .000
01737> R0105:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01738>      ROUTE CHANNEL   ->     1.0 02:J6             1.01     .039 No_date   12:15   21.68  n/a     .000
01739>        [RDT= 1.00] out<-    1.0 01:R8             1.01     .038 No_date   12:18   21.68  n/a     .000
01740>        [L/S/n=   79./ .522/.035]
01741>        {Vmax=  .423:Dmax=  .029}
01742> R0105:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01743>      ADD HYD                1.0 02:R8             1.01     .038 No_date   12:18   21.69  n/a     .000
01744>                     +       1.0 02:R7              .83     .019 No_date   12:40   21.66  n/a     .000
01745>                    SUM=     1.0 01:J7             1.83     .054 No_date   12:22   21.67  n/a     .000
01746> R0105:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01747>      ROUTE CHANNEL   ->     1.0 02:J7             1.83     .054 No_date   12:22   21.67  n/a     .000
01748>        [RDT= 1.00] out<-    1.0 01:R9             1.83     .054 No_date   12:23   21.67  n/a     .000
01749>        [L/S/n=   29./ .887/.035]
01750>        {Vmax=  .543:Dmax=  .037}
01751> R0105:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01752>      ADD HYD                1.0 02:EXT9           3.57     .123 No_date   12:24   25.30  n/a     .000
01753>                     +       1.0 02:R9             1.83     .054 No_date   12:23   21.68  n/a     .000
01754>                     +       1.0 02:EXT8            .83     .035 No_date   12:20   27.82  n/a     .000
01755>                     +       1.0 02:R5             6.86     .212 No_date   12:42   29.31  n/a     .000
01756>                    SUM=     1.0 01:J8            13.10     .400 No_date   12:33   27.05  n/a     .000
01757> R0105:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01758>      ROUTE PIPE      ->     1.0 02:J8            13.10     .400 No_date   12:33   27.05  n/a     .000
01759> *    [RDT= 1.00] out<-    1.0 01:Outlet         13.10     .398 No_date   12:35   27.05  n/a     .000
01760>        [L/S/n=   8./ .010/.013]
01761>        {Vmax=  .395:Dmax=  .994}
01762>        [Din=  .53:Dused= 1.21)
01763> ##########################################################################
01764> # STORMS
01765> ##########################################################################
01766>   ** END OF RUN :  109
01767>
01768> *******************************************************************************************************
01769>
01770>
01771>
01772>
01773>
01774>  RUN#:COMMAND#
01775> R0110:C00001------------------------------------------------------------------------------------------
01776>      START
01777>        [TZERO =    .00 hrs on         0]
01778>        [METOUT=   2    (1=imperial, 2=metric output)]
01779>        [NSTORM=   1 ]
01780>        [NRUN   = 0110 ]
01781> #*******************************************************************************************************
01782> #  SWMHYMO  / INPUT DATA FILE
01783> #*******************************************************************************************************
01784> #  Project Name  : [5923 Ottawa St]
01785> #  Project Number: [P2710(e01)]
01786> #  Date           : [2025 FEB 05]
01787> #  Modeller       : [MM]
01788> #  Company        : JFSA Canada Inc.
01789> #  License #      : 2549237
01790> #*******************************************************************************************************
01791> # Model developed to simulate runoff from subcatchments under pre development conditions
01792> #*******************************************************************************************************
01793> R0110:C00002------------------------------------------------------------------------------------------
01794>        READ STORM
01795>         Filename = STORM.001
01796>         Comment  = 10 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
01797>         [SDT=10.00:SDUR=  24.00:PTOT=  74.35]
01798> #*******************************************************************************************************
01799> # EXT1
01800> #*******************************************************************************************************
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01801> R0110:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01802>      CALIB NASHYD           1.0 01:EXT1           3.21     .121 No_date   12:40   36.46 .490     .000
01803>        [CN= 80.0: N= 3.00: Tp=  .72]
01804> #*****************************************************************************************
01805> # EXT2
01806> #*****************************************************************************************
01807> R0110:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01808>      CALIB NASHYD           1.0 01:EXT2           .28     .022 No_date   12:13   42.40 .570     .000
01809>        [CN= 85.0: N= 3.00: Tp=  .33]
01810> #*****************************************************************************************
01811> # EXT3
01812> #*****************************************************************************************
01813> R0110:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01814>      CALIB NASHYD           1.0 01:EXT3           .56     .038 No_date   12:13   36.46 .490     .000
01815>        [CN= 80.0: N= 3.00: Tp=  .32]
01816> #*****************************************************************************************
01817> # EXT4
01818> #*****************************************************************************************
01819> R0110:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01820>      CALIB NASHYD           1.0 01:EXT4           .31     .022 No_date   12:11   35.39 .476     .000
01821>        [CN= 79.0: N= 3.00: Tp=  .29]
01822> #*****************************************************************************************
01823> # EXT5
01824> #*****************************************************************************************
01825> R0110:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01826>      CALIB NASHYD           1.0 01:EXT5           .59     .028 No_date   12:22   32.39 .436     .000
01827>        [CN= 76.0: N= 3.00: Tp=  .45]
01828> #*****************************************************************************************
01829> # EXT6
01830> #*****************************************************************************************
01831> R0110:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01832>      CALIB NASHYD           1.0 01:EXT6           .86     .046 No_date   12:29   42.40 .570     .000
01833>        [CN= 85.0: N= 3.00: Tp=  .56]
01834> #*****************************************************************************************
01835> # EXT7
01836> #*****************************************************************************************
01837> R0110:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01838>      CALIB NASHYD           1.0 01:EXT7           .47     .035 No_date   12:13   39.90 .537     .000
01839>        [CN= 83.0: N= 3.00: Tp=  .32]
01840> #*****************************************************************************************
01841> # EXT8
01842> #*****************************************************************************************
01843> R0110:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01844>      CALIB NASHYD           1.0 01:EXT8           .83     .045 No_date   12:19   35.39 .476     .000
01845>        [CN= 79.0: N= 3.00: Tp=  .42]
01846> #*****************************************************************************************
01847> # EXT9
01848> #*****************************************************************************************
01849> R0110:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01850>      CALIB NASHYD           1.0 01:EXT9          3.57     .158 No_date   12:24   32.39 .436     .000
01851>        [CN= 76.0: N= 3.00: Tp=  .48]
01852> #*****************************************************************************************
01853> # EXT9a
01854> #*****************************************************************************************
01855> R0110:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01856>      CALIB NASHYD           1.0 01:EXT9a          .01     .002 No_date   12:00   34.35 .462     .000
01857>        [CN= 78.0: N= 3.00: Tp=  .04]
01858> #*****************************************************************************************
01859> # EXT10
01860> #*****************************************************************************************
01861> R0110:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01862>      CALIB NASHYD           1.0 01:EXT10          .20     .008 No_date   12:20   27.99 .377     .000
01863>        [CN= 71.0: N= 3.00: Tp=  .42]
01864> #*****************************************************************************************
01865> # Pre2
01866> #*****************************************************************************************
01867> R0110:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01868>      CALIB NASHYD           1.0 01:Pre2           .57     .028 No_date   12:22   34.36 .462     .000
01869>        [CN= 78.0: N= 3.00: Tp=  .46]
01870> #*****************************************************************************************
01871> # Pre9
01872> #*****************************************************************************************
01873> R0110:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01874>      CALIB NASHYD           1.0 01:Pre9           .83     .026 No_date   12:36   28.00 .377     .000
01875>        [CN= 71.0: N= 3.00: Tp=  .64]
01876> #*****************************************************************************************
01877> # Pre10
01878> #*****************************************************************************************
01879> R0110:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01880>      CALIB NASHYD           1.0 01:Pre10          .80     .043 No_date   12:11   28.00 .377     .000
01881>        [CN= 71.0: N= 3.00: Tp=  .29]
01882> #*****************************************************************************************
01883> # Pre11
01884> #*****************************************************************************************
01885> R0110:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01886>      CALIB NASHYD           1.0 01:Pre11          .07     .006 No_date   12:07   34.35 .462     .000
01887>        [CN= 78.0: N= 3.00: Tp=  .21]
01888> #*****************************************************************************************
01889> R0110:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01890>      ADD HYD                1.0 02:EXT2           .28     .022 No_date   12:13   42.40  n/a     .000
01891>                       +     1.0 02:Pre2           .57     .028 No_date   12:22   34.36  n/a     .000
01892>                     SUM=    1.0 01:J1             .85     .049 No_date   12:17   37.05  n/a     .000
01893> R0110:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01894>      ROUTE CHANNEL   ->     1.0 02:J1             .85     .049 No_date   12:17   37.05  n/a     .000
01895>        [RDT= 1.00] out<-    1.0 01:R1             .85     .046 No_date   12:23   37.05  n/a     .000
01896>         [L/S/n=  143./ .394/.035]
01897>         (Vmax=  .345:Dmax=  .142]
01898> R0110:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01899>      ADD HYD                1.0 02:R1             .85     .046 No_date   12:23   37.05  n/a     .000
01900>                       +     1.0 02:EXT3           .56     .038 No_date   12:13   36.46  n/a     .000
01901>                       +     1.0 02:EXT1          3.21     .121 No_date   12:40   36.46  n/a     .000
01902>                     SUM=    1.0 01:J2            4.62     .189 No_date   12:29   36.57  n/a     .000
01903> R0110:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01904>      ROUTE CHANNEL   ->     1.0 02:J2            4.62     .189 No_date   12:29   36.57  n/a     .000
01905>        [RDT= 1.00] out<-    1.0 01:R2            4.62     .188 No_date   12:31   36.57  n/a     .000
01906>         [L/S/n=   73./ .425/.035]
01907>         (Vmax=  .485:Dmax=  .250]
01908> R0110:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01909>      ADD HYD                1.0 02:R2            4.62     .188 No_date   12:31   36.57  n/a     .000
01910>                       +     1.0 02:EXT4           .31     .022 No_date   12:11   35.39  n/a     .000
01911>                     SUM=    1.0 01:J3            4.93     .202 No_date   12:28   36.49  n/a     .000
01912> R0110:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01913>      ROUTE CHANNEL   ->     1.0 02:J3            4.93     .202 No_date   12:28   36.49  n/a     .000
01914>        [RDT= 1.00] out<-    1.0 01:R3            4.93     .200 No_date   12:31   36.49  n/a     .000
01915>         [L/S/n=   92./ .274/.035]
01916>         (Vmax=  .398:Dmax=  .259]
01917> R0110:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01918>      ADD HYD                1.0 02:R3            4.93     .200 No_date   12:31   36.49  n/a     .000
01919>                       +     1.0 02:EXT5           .59     .028 No_date   12:22   32.39  n/a     .000
01920>                     SUM=    1.0 01:J4            5.52     .227 No_date   12:30   36.05  n/a     .000
01921> R0110:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01922>      ROUTE CHANNEL   ->     1.0 02:J4            5.52     .227 No_date   12:30   36.05  n/a     .000
01923>        [RDT= 1.00] out<-    1.0 01:R4            5.52     .213 No_date   12:40   36.05  n/a     .000
01924>         [L/S/n=  251./ .190/.035]
01925>         (Vmax=  .388:Dmax=  .290]
01926> R0110:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01927>      ADD HYD                1.0 02:R4            5.52     .213 No_date   12:40   36.05  n/a     .000
01928>                       +     1.0 02:EXT6           .86     .046 No_date   12:29   42.40  n/a     .000
01929>                       +     1.0 02:EXT7           .47     .035 No_date   12:13   39.90  n/a     .000
01930>                     SUM=    1.0 01:J5            6.86     .277 No_date   12:36   37.12  n/a     .000
01931> R0110:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01932>      ROUTE CHANNEL   ->     1.0 02:J5            6.86     .277 No_date   12:36   37.12  n/a     .000
01933>        [RDT= 1.00] out<-    1.0 01:R5            6.86     .272 No_date   12:41   37.12  n/a     .000
01934>         [L/S/n=  237./ .644/.035]
01935>         (Vmax=  .628:Dmax=  .270]
01936> R0110:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01937>      ROUTE CHANNEL   ->     1.0 02:Pre10          .80     .043 No_date   12:11   28.00  n/a     .000
01938>        [RDT= 1.00] out<-    1.0 01:R6             .80     .043 No_date   12:14   28.00  n/a     .000
01939>         [L/S/n=   77./ .776/.035]
01940>         (Vmax=  .492:Dmax=  .032]
01941> R0110:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01942>      ROUTE CHANNEL   ->     1.0 02:Pre9           .83     .026 No_date   12:36   28.00  n/a     .000
01943>        [RDT= 1.00] out<-    1.0 01:R7             .83     .025 No_date   12:39   28.00  n/a     .000
01944>         [L/S/n=  159./1.576/.035]
01945>         (Vmax=  .797:Dmax=  .008]
01946> R0110:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01947>      ADD HYD                1.0 02:R6             .80     .043 No_date   12:14   28.05  n/a     .000
01948>                       +     1.0 02:EXT10          .20     .008 No_date   12:20   27.99  n/a     .000
01949>                     SUM=    1.0 01:J6            1.01     .051 No_date   12:15   28.04  n/a     .000
01950> R0110:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01951>      ROUTE CHANNEL   ->     1.0 02:J6            1.01     .051 No_date   12:15   28.04  n/a     .000
01952>        [RDT= 1.00] out<-    1.0 01:R8            1.01     .050 No_date   12:18   28.04  n/a     .000
01953>         [L/S/n=   79./ .522/.035]
01954>         (Vmax=  .423:Dmax=  .037]
01955> R0110:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01956>      ADD HYD                1.0 02:R8            1.01     .050 No_date   12:18   28.04  n/a     .000
01957>                       +     1.0 02:R7             .83     .025 No_date   12:39   28.01  n/a     .000
01958>                     SUM=    1.0 01:J7            1.83     .070 No_date   12:21   28.03  n/a     .000
01959> R0110:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01960>      ROUTE CHANNEL   ->     1.0 02:J7            1.83     .070 No_date   12:21   28.03  n/a     .000
01961>        [RDT= 1.00] out<-    1.0 01:R9            1.83     .070 No_date   12:22   28.03  n/a     .000
01962>         [L/S/n=   29./ .887/.035]
01963>         (Vmax=  .543:Dmax=  .048]
01964> R0110:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01965>      ADD HYD                1.0 02:EXT9          3.57     .158 No_date   12:24   32.39  n/a     .000
01966>                       +     1.0 02:R9            1.83     .070 No_date   12:22   28.03  n/a     .000
01967>                       +     1.0 02:EXT8           .83     .045 No_date   12:19   35.39  n/a     .000
01968>                       +     1.0 02:R5            6.86     .272 No_date   12:41   37.12  n/a     .000
01969>                     SUM=    1.0 01:J8           13.10     .517 No_date   12:32   34.45  n/a     .000
01970> R0110:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01971>      ROUTE PIPE      ->     1.0 02:J8           13.10     .517 No_date   12:32   34.45  n/a     .000
01972>  *   [RDT= 1.00] out<-    1.0 01:Outlet        13.10     .515 No_date   12:35   34.45  n/a     .000
01973>         [L/S/n=   8./ .010/.013]
01974>         (Vmax=  .422:Dmax= 1.095]
01975>         [Din=  .53:Dused= 1.33]
01976> ##########################################################################
01977> # STORMS
01978> ##########################################################################
01979>  ** END OF RUN :  124
01980>
```

```
01981> *****************************************************************************************
01982>
01983>
01984>
01985>
01986>
01987>  RUN#:COMMAND#
01988> R0125:C00001------------------------------------------------------------------------------
01989>      START
01990>        [TZERO =    .00 hrs on         0]
01991>        [METOUT=   2    (1=imperial, 2=metric output)]
01992>        [NSTORM=   1 ]
01993>        [NRUN  = 0125 ]
01994> *****************************************************************************************
01995> #  SWMHYMO  / INPUT DATA FILE
01996> *****************************************************************************************
01997> #  Project Name  : [5923 Ottawa St]
01998> #  Project Number: [P2710(e01)]
01999> #  Date           : [2025 FEB 05]
02000> #  Modeller       : [MM]
02001> #  Company        : JFSA Canada Inc.
02002> #  License #      : 2549237
02003> *****************************************************************************************
02004> # Model developed to simulate runoff from subcatchments under pre development conditions
02005> *****************************************************************************************
02006> R0125:C00002------------------------------------------------------------------------------
02007>      READ STORM
02008>       Filename = STORM.001
02009>       Comment  = 25 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
02010>       [SDT=10.00:SDUR=  24.00:PTOT=  86.89]
02011> *****************************************************************************************
02012> # EXT1
02013> *****************************************************************************************
02014> R0125:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02015>      CALIB NASHYD           1.0 01:EXT1           3.21     .155 No_date   12:40   46.39 .534     .000
02016>        [CN= 80.0: N= 3.00: Tp=  .72]
02017> *****************************************************************************************
02018> # EXT2
02019> *****************************************************************************************
02020> R0125:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02021>      CALIB NASHYD           1.0 01:EXT2           .28     .028 No_date   12:13   53.21 .612     .000
02022>        [CN= 85.0: N= 3.00: Tp=  .33]
02023> *****************************************************************************************
02024> # EXT3
02025> *****************************************************************************************
02026> R0125:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02027>      CALIB NASHYD           1.0 01:EXT3           .56     .048 No_date   12:13   46.39 .534     .000
02028>        [CN= 80.0: N= 3.00: Tp=  .32]
02029> *****************************************************************************************
02030> # EXT4
02031> *****************************************************************************************
02032> R0125:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02033>      CALIB NASHYD           1.0 01:EXT4           .31     .028 No_date   12:11   45.14 .520     .000
02034>        [CN= 79.0: N= 3.00: Tp=  .29]
02035> *****************************************************************************************
02036> # EXT5
02037> *****************************************************************************************
02038> R0125:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02039>      CALIB NASHYD           1.0 01:EXT5           .59     .036 No_date   12:21   41.61 .479     .000
02040>        [CN= 76.0: N= 3.00: Tp=  .45]
02041> *****************************************************************************************
02042> # EXT6
02043> *****************************************************************************************
02044> R0125:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02045>      CALIB NASHYD           1.0 01:EXT6           .86     .058 No_date   12:28   53.21 .612     .000
02046>        [CN= 85.0: N= 3.00: Tp=  .56]
02047> *****************************************************************************************
02048> # EXT7
02049> *****************************************************************************************
02050> R0125:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02051>      CALIB NASHYD           1.0 01:EXT7           .47     .045 No_date   12:13   50.35 .580     .000
02052>        [CN= 83.0: N= 3.00: Tp=  .32]
02053> *****************************************************************************************
02054> # EXT8
02055> *****************************************************************************************
02056> R0125:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02057>      CALIB NASHYD           1.0 01:EXT8           .83     .058 No_date   12:19   45.14 .520     .000
02058>        [CN= 79.0: N= 3.00: Tp=  .42]
02059> *****************************************************************************************
02060> # EXT9
02061> *****************************************************************************************
02062> R0125:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02063>      CALIB NASHYD           1.0 01:EXT9          3.57     .205 No_date   12:23   41.62 .479     .000
02064>        [CN= 76.0: N= 3.00: Tp=  .48]
02065> *****************************************************************************************
02066> # EXT9a
02067> *****************************************************************************************
02068> R0125:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02069>      CALIB NASHYD           1.0 01:EXT9a          .01     .002 No_date   12:00   43.92 .506     .000
02070>        [CN= 78.0: N= 3.00: Tp=  .04]
02071> *****************************************************************************************
02072> # EXT10
02073> *****************************************************************************************
02074> R0125:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02075>      CALIB NASHYD           1.0 01:EXT10          .20     .011 No_date   12:20   36.34 .418     .000
02076>        [CN= 71.0: N= 3.00: Tp=  .42]
02077> *****************************************************************************************
02078> # Pre2
02079> *****************************************************************************************
02080> R0125:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02081>      CALIB NASHYD           1.0 01:Pre2           .57     .036 No_date   12:22   43.93 .506     .000
02082>        [CN= 78.0: N= 3.00: Tp=  .46]
02083> *****************************************************************************************
02084> # Pre9
02085> *****************************************************************************************
02086> R0125:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02087>      CALIB NASHYD           1.0 01:Pre9           .83     .033 No_date   12:35   36.35 .418     .000
02088>        [CN= 71.0: N= 3.00: Tp=  .64]
02089> *****************************************************************************************
02090> # Pre10
02091> *****************************************************************************************
02092> R0125:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02093>      CALIB NASHYD           1.0 01:Pre10          .80     .057 No_date   12:11   36.35 .418     .000
02094>        [CN= 71.0: N= 3.00: Tp=  .29]
02095> *****************************************************************************************
02096> # Pre11
02097> *****************************************************************************************
02098> R0125:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02099>      CALIB NASHYD           1.0 01:Pre11          .07     .007 No_date   12:06   43.93 .506     .000
02100>        [CN= 78.0: N= 3.00: Tp=  .21]
02101> *****************************************************************************************
02102> R0125:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02103>      ADD HYD                1.0 02:EXT2           .28     .028 No_date   12:13   53.21  n/a     .000
02104>                       +     1.0 02:Pre2           .57     .036 No_date   12:22   43.93  n/a     .000
02105>                     SUM=    1.0 01:J1             .85     .062 No_date   12:17   47.04  n/a     .000
02106> R0125:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02107>      ROUTE CHANNEL   ->     1.0 02:J1             .85     .062 No_date   12:17   47.04  n/a     .000
02108>        [RDT= 1.00] out<-    1.0 01:R1             .85     .060 No_date   12:23   47.04  n/a     .000
02109>         [L/S/n=  143./ .394/.035]
02110>         (Vmax=  .368:Dmax=  .157]
02111> R0125:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02112>      ADD HYD                1.0 02:R1             .85     .060 No_date   12:23   47.04  n/a     .000
02113>                       +     1.0 02:EXT3           .56     .048 No_date   12:13   46.39  n/a     .000
02114>                       +     1.0 02:EXT1          3.21     .155 No_date   12:40   46.39  n/a     .000
02115>                     SUM=    1.0 01:J2            4.62     .242 No_date   12:28   46.51  n/a     .000
02116> R0125:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02117>      ROUTE CHANNEL   ->     1.0 02:J2            4.62     .242 No_date   12:28   46.51  n/a     .000
02118>        [RDT= 1.00] out<-    1.0 01:R2            4.62     .241 No_date   12:30   46.51  n/a     .000
02119>         [L/S/n=   73./ .425/.035]
02120>         (Vmax=  .518:Dmax=  .277]
02121> R0125:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02122>      ADD HYD                1.0 02:R2            4.62     .241 No_date   12:30   46.51  n/a     .000
02123>                       +     1.0 02:EXT4           .31     .028 No_date   12:11   45.14  n/a     .000
02124>                     SUM=    1.0 01:J3            4.93     .259 No_date   12:28   46.42  n/a     .000
02125> R0125:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02126>      ROUTE CHANNEL   ->     1.0 02:J3            4.93     .259 No_date   12:28   46.42  n/a     .000
02127>        [RDT= 1.00] out<-    1.0 01:R3            4.93     .257 No_date   12:31   46.42  n/a     .000
02128>         [L/S/n=   92./ .274/.035]
02129>         (Vmax=  .424:Dmax=  .286]
02130> R0125:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02131>      ADD HYD                1.0 02:R3            4.93     .257 No_date   12:31   46.42  n/a     .000
02132>                       +     1.0 02:EXT5           .59     .036 No_date   12:21   41.61  n/a     .000
02133>                     SUM=    1.0 01:J4            5.52     .291 No_date   12:29   45.90  n/a     .000
02134> R0125:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02135>      ROUTE CHANNEL   ->     1.0 02:J4            5.52     .291 No_date   12:29   45.90  n/a     .000
02136>        [RDT= 1.00] out<-    1.0 01:R4            5.52     .275 No_date   12:39   45.90  n/a     .000
02137>         [L/S/n=  251./ .190/.035]
02138>         (Vmax=  .417:Dmax=  .323]
02139> R0125:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02140>      ADD HYD                1.0 02:R4            5.52     .275 No_date   12:39   45.90  n/a     .000
02141>                       +     1.0 02:EXT6           .86     .058 No_date   12:28   53.21  n/a     .000
02142>                       +     1.0 02:EXT7           .47     .045 No_date   12:13   50.35  n/a     .000
02143>                     SUM=    1.0 01:J5            6.86     .357 No_date   12:35   47.13  n/a     .000
02144> R0125:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02145>      ROUTE CHANNEL   ->     1.0 02:J5            6.86     .357 No_date   12:35   47.13  n/a     .000
02146>        [RDT= 1.00] out<-    1.0 01:R5            6.86     .352 No_date   12:39   47.13  n/a     .000
02147>         [L/S/n=  237./ .644/.035]
02148>         (Vmax=  .681:Dmax=  .301]
02149> R0125:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02150>      ROUTE CHANNEL   ->     1.0 02:Pre10          .80     .057 No_date   12:11   36.35  n/a     .000
02151>        [RDT= 1.00] out<-    1.0 01:R6             .80     .056 No_date   12:14   36.35  n/a     .000
02152>         [L/S/n=   77./ .776/.035]
02153>         (Vmax=  .492:Dmax=  .041]
02154> R0125:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02155>      ROUTE CHANNEL   ->     1.0 02:Pre9           .83     .033 No_date   12:35   36.35  n/a     .000
02156>        [RDT= 1.00] out<-    1.0 01:R7             .83     .033 No_date   12:39   36.35  n/a     .000
02157>         [L/S/n=  159./1.576/.035]
02158>         (Vmax=  .797:Dmax=  .010]
02159> R0125:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02160>      ADD HYD                1.0 02:R6             .80     .056 No_date   12:14   36.41  n/a     .000
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02161>                    +     1.0 02:EXT10          .20     .011 No_date   12:20   36.34  n/a     .000
02162>                 SUM=     1.0 01:J6            1.01     .066 No_date   12:15   36.40  n/a     .000
02163> R0125:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02164>      ROUTE CHANNEL   ->     1.0 02:J6            1.01     .066 No_date   12:15   36.40  n/a     .000
02165>       [RDT= 1.00] out<-     1.0 01:R8            1.01     .065 No_date   12:18   36.40  n/a     .000
02166>        [L/S/n=   79./ .522/.035]
02167>        {Vmax=  .423:Dmax=  .049}
02168> R0125:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02169>      ADD HYD                 1.0 02:R8            1.01     .065 No_date   12:18   36.40  n/a     .000
02170>                    +     1.0 02:R7            1.83     .033 No_date   12:39   36.36  n/a     .000
02171>                 SUM=     1.0 01:J7            1.83     .092 No_date   12:21   36.38  n/a     .000
02172> R0125:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02173>      ROUTE CHANNEL   ->     1.0 02:J7            1.83     .092 No_date   12:21   36.38  n/a     .000
02174>       [RDT= 1.00] out<-     1.0 01:R9            1.83     .092 No_date   12:22   36.38  n/a     .000
02175>        [L/S/n=   29./ .887/.035]
02176>        {Vmax=  .543:Dmax=  .062}
02177> R0125:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02178>      ADD HYD                 1.0 02:EXT9          3.57     .205 No_date   12:23   41.62  n/a     .000
02179>                    +     1.0 02:R9            1.83     .092 No_date   12:22   36.39  n/a     .000
02180>                    +     1.0 02:EXT8           .83     .058 No_date   12:19   45.14  n/a     .000
02181>                    +     1.0 02:R5            6.86     .352 No_date   12:39   47.13  n/a     .000
02182>                 SUM=     1.0 01:J8           13.10     .675 No_date   12:31   44.00  n/a     .000
02183> R0125:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02184>      ROUTE PIPE      ->     1.0 02:J8           13.10     .675 No_date   12:31   44.00  n/a     .000
02185> *     [RDT= 1.00] out<-     1.0 01:Outlet       13.10     .674 No_date   12:33   44.00  n/a     .000
02186>        [L/S/n=    8./ .010/.013]
02187>        {Vmax=  .451:Dmax= 1.210}
02188>        [Din=  .53:Dused= 1.47]
02189> ##############################################################################
02190> # STORMS
02191> ##############################################################################
02192>    ** END OF RUN :  149
02193>
02194> ******************************************************************************************
02195>
02196>
02197>
02198>
02199>
02200>  RUN#:COMMAND#
02201> R0150:C00001------------------------------------------------------------------------------
02202>       START
02203>        [TZERO =    .00 hrs on        0]
02204>        [METOUT=   2   (1=imperial, 2=metric output)]
02205>        [NSTORM=   1 ]
02206>        [NRUN  = 0150 ]
02207> ******************************************************************************************
02208> #  SWMHYMO  / INPUT DATA FILE
02209> ******************************************************************************************
02210> #  Project Name  : [5923 Ottawa St]
02211> #  Project Number: [P2710(e01)]
02212> #  Date         : [2025 FEB 05]
02213> #  Modeller     : [MM]
02214> #  Company      : JFSA Canada Inc.
02215> #  License #    : 2549237]
02216> ******************************************************************************************
02217> # Model developed to simulate runoff from subcatchments under pre development conditions
02218> ******************************************************************************************
02219> R0150:C00002------------------------------------------------------------------------------
02220>       READ STORM
02221>        Filename = STORM.001
02222>        Comment  = 50 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
02223>        [SDT=10.00:SDUR=  24.00:PTOT=  96.53]
02224> ******************************************************************************************
02225> # EXT1
02226> ******************************************************************************************
02227> R0150:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02228>      CALIB NASHYD            1.0 01:EXT1          3.21     .182 No_date   12:40   54.31 .563     .000
02229>        [CN= 80.0: N= 3.00: Tp=  .72]
02230> ******************************************************************************************
02231> # EXT2
02232> ******************************************************************************************
02233> R0150:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02234>      CALIB NASHYD            1.0 01:EXT2           .28     .033 No_date   12:13   61.73 .640     .000
02235>        [CN= 85.0: N= 3.00: Tp=  .33]
02236> ******************************************************************************************
02237> # EXT3
02238> ******************************************************************************************
02239> R0150:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02240>      CALIB NASHYD            1.0 01:EXT3           .56     .057 No_date   12:13   54.31 .563     .000
02241>        [CN= 80.0: N= 3.00: Tp=  .32]
02242> ******************************************************************************************
02243> # EXT4
02244> ******************************************************************************************
02245> R0150:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02246>      CALIB NASHYD            1.0 01:EXT4           .31     .033 No_date   12:11   52.94 .548     .000
02247>        [CN= 79.0: N= 3.00: Tp=  .29]
02248> ******************************************************************************************
02249> # EXT5
02250> ******************************************************************************************
02251> R0150:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02252>      CALIB NASHYD            1.0 01:EXT5           .59     .042 No_date   12:21   49.04 .508     .000
02253>        [CN= 76.0: N= 3.00: Tp=  .45]
02254> ******************************************************************************************
02255> # EXT6
02256> ******************************************************************************************
02257> R0150:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02258>      CALIB NASHYD            1.0 01:EXT6           .86     .068 No_date   12:28   61.73 .640     .000
02259>        [CN= 85.0: N= 3.00: Tp=  .56]
02260> ******************************************************************************************
02261> # EXT7
02262> ******************************************************************************************
02263> R0150:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02264>      CALIB NASHYD            1.0 01:EXT7           .47     .052 No_date   12:12   58.64 .608     .000
02265>        [CN= 83.0: N= 3.00: Tp=  .32]
02266> ******************************************************************************************
02267> # EXT8
02268> ******************************************************************************************
02269> R0150:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02270>      CALIB NASHYD            1.0 01:EXT8           .83     .068 No_date   12:19   52.94 .548     .000
02271>        [CN= 79.0: N= 3.00: Tp=  .42]
02272> ******************************************************************************************
02273> # EXT9
02274> ******************************************************************************************
02275> R0150:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02276>      CALIB NASHYD            1.0 01:EXT9          3.57     .242 No_date   12:23   49.04 .508     .000
02277>        [CN= 76.0: N= 3.00: Tp=  .48]
02278> ******************************************************************************************
02279> # EXT9a
02280> ******************************************************************************************
02281> R0150:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02282>      CALIB NASHYD            1.0 01:EXT9a          .01     .002 No_date   12:00   51.60 .535     .000
02283>        [CN= 78.0: N= 3.00: Tp=  .04]
02284> ******************************************************************************************
02285> # EXT10
02286> ******************************************************************************************
02287> R0150:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02288>      CALIB NASHYD            1.0 01:EXT10          .20     .013 No_date   12:19   43.13 .447     .000
02289>        [CN= 71.0: N= 3.00: Tp=  .42]
02290> ******************************************************************************************
02291> # Pre2
02292> ******************************************************************************************
02293> R0150:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02294>      CALIB NASHYD            1.0 01:Pre2           .57     .042 No_date   12:22   51.61 .535     .000
02295>        [CN= 78.0: N= 3.00: Tp=  .46]
02296> ******************************************************************************************
02297> # Pre9
02298> ******************************************************************************************
02299> R0150:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02300>      CALIB NASHYD            1.0 01:Pre9           .83     .040 No_date   12:35   43.14 .447     .000
02301>        [CN= 71.0: N= 3.00: Tp=  .64]
02302> ******************************************************************************************
02303> # Pre10
02304> ******************************************************************************************
02305> R0150:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02306>      CALIB NASHYD            1.0 01:Pre10          .80     .068 No_date   12:11   43.14 .447     .000
02307>        [CN= 71.0: N= 3.00: Tp=  .29]
02308> ******************************************************************************************
02309> # Pre11
02310> ******************************************************************************************
02311> R0150:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02312>      CALIB NASHYD            1.0 01:Pre11          .07     .009 No_date   12:06   51.60 .535     .000
02313>        [CN= 78.0: N= 3.00: Tp=  .21]
02314> ******************************************************************************************
02315> R0150:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02316>      ADD HYD                 1.0 02:EXT2           .28     .033 No_date   12:13   61.73  n/a     .000
02317>                    +     1.0 02:Pre2           .57     .042 No_date   12:22   51.61  n/a     .000
02318>                 SUM=     1.0 01:J1             .85     .073 No_date   12:17   55.00  n/a     .000
02319> R0150:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02320>      ROUTE CHANNEL   ->     1.0 02:J1             .85     .073 No_date   12:17   55.00  n/a     .000
02321>       [RDT= 1.00] out<-     1.0 01:R1             .85     .070 No_date   12:23   55.00  n/a     .000
02322>        [L/S/n=  143./ .394/.035]
02323>        {Vmax=  .384:Dmax=  .169}
02324> R0150:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02325>      ADD HYD                 1.0 02:R1             .85     .070 No_date   12:23   55.00  n/a     .000
02326>                    +     1.0 02:EXT3           .56     .057 No_date   12:13   54.31  n/a     .000
02327>                    +     1.0 02:EXT1          3.21     .182 No_date   12:40   54.31  n/a     .000
02328>                 SUM=     1.0 01:J2            4.62     .284 No_date   12:28   54.44  n/a     .000
02329> R0150:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02330>      ROUTE CHANNEL   ->     1.0 02:J2            4.62     .284 No_date   12:28   54.44  n/a     .000
02331>       [RDT= 1.00] out<-     1.0 01:R2            4.62     .283 No_date   12:30   54.44  n/a     .000
02332>        [L/S/n=   73./ .425/.035]
02333>        {Vmax=  .540:Dmax=  .295}
02334> R0150:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02335>      ADD HYD                 1.0 02:R2            4.62     .283 No_date   12:30   54.44  n/a     .000
02336>                    +     1.0 02:EXT4           .31     .033 No_date   12:11   52.94  n/a     .000
02337>                 SUM=     1.0 01:J3            4.93     .305 No_date   12:27   54.34  n/a     .000
02338> R0150:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02339>      ROUTE CHANNEL   ->     1.0 02:J3            4.93     .305 No_date   12:27   54.34  n/a     .000
02340>       [RDT= 1.00] out<-     1.0 01:R3            4.93     .302 No_date   12:30   54.34  n/a     .000
02341>        [L/S/n=   92./ .274/.035]
02342>        {Vmax=  .442:Dmax=  .305}
02343> R0150:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02344>      ADD HYD                 1.0 02:R3            4.93     .302 No_date   12:30   54.34  n/a     .000
02345>                    +     1.0 02:EXT5           .59     .042 No_date   12:21   49.04  n/a     .000
02346>                 SUM=     1.0 01:J4            5.52     .343 No_date   12:28   53.77  n/a     .000
02347> R0150:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02348>      ROUTE CHANNEL   ->     1.0 02:J4            5.52     .343 No_date   12:28   53.77  n/a     .000
02349>       [RDT= 1.00] out<-     1.0 01:R4            5.52     .324 No_date   12:38   53.77  n/a     .000
02350>        [L/S/n=  251./ .190/.035]
02351>        {Vmax=  .438:Dmax=  .348}
02352> R0150:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02353>      ADD HYD                 1.0 02:R4            5.52     .324 No_date   12:38   53.77  n/a     .000
02354>                    +     1.0 02:EXT6           .86     .068 No_date   12:28   61.73  n/a     .000
02355>                    +     1.0 02:EXT7           .47     .052 No_date   12:12   58.64  n/a     .000
02356>                 SUM=     1.0 01:J5            6.86     .421 No_date   12:34   55.11  n/a     .000
02357> R0150:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02358>      ROUTE CHANNEL   ->     1.0 02:J5            6.86     .421 No_date   12:34   55.11  n/a     .000
02359>       [RDT= 1.00] out<-     1.0 01:R5            6.86     .416 No_date   12:39   55.11  n/a     .000
02360>        [L/S/n=  237./ .644/.035]
02361>        {Vmax=  .714:Dmax=  .320}
02362> R0150:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02363>      ROUTE CHANNEL   ->     1.0 02:Pre10          .80     .068 No_date   12:11   43.14  n/a     .000
02364>       [RDT= 1.00] out<-     1.0 01:R6             .80     .066 No_date   12:14   43.14  n/a     .000
02365>        [L/S/n=   77./ .776/.035]
02366>        {Vmax=  .492:Dmax=  .049}
02367> R0150:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02368>      ROUTE CHANNEL   ->     1.0 02:Pre9           .83     .040 No_date   12:35   43.14  n/a     .000
02369>       [RDT= 1.00] out<-     1.0 01:R7             .83     .040 No_date   12:39   43.13  n/a     .000
02370>        [L/S/n=  159./1.576/.035]
02371>        {Vmax=  .797:Dmax=  .012}
02372> R0150:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02373>      ADD HYD                 1.0 02:R6             .80     .066 No_date   12:14   43.21  n/a     .000
02374>                    +     1.0 02:EXT10          .20     .013 No_date   12:19   43.13  n/a     .000
02375>                 SUM=     1.0 01:J6            1.01     .079 No_date   12:15   43.19  n/a     .000
02376> R0150:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02377>      ROUTE CHANNEL   ->     1.0 02:J6            1.01     .079 No_date   12:15   43.19  n/a     .000
02378>       [RDT= 1.00] out<-     1.0 01:R8            1.01     .077 No_date   12:18   43.19  n/a     .000
02379>        [L/S/n=   79./ .522/.035]
02380>        {Vmax=  .423:Dmax=  .058}
02381> R0150:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02382>      ADD HYD                 1.0 02:R8            1.01     .077 No_date   12:18   43.19  n/a     .000
02383>                    +     1.0 02:R7             .83     .040 No_date   12:39   43.15  n/a     .000
02384>                 SUM=     1.0 01:J7            1.83     .110 No_date   12:21   43.17  n/a     .000
02385> R0150:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02386>      ROUTE CHANNEL   ->     1.0 02:J7            1.83     .110 No_date   12:21   43.17  n/a     .000
02387>       [RDT= 1.00] out<-     1.0 01:R9            1.83     .110 No_date   12:22   43.17  n/a     .000
02388>        [L/S/n=   29./ .887/.035]
02389>        {Vmax=  .543:Dmax=  .074}
02390> R0150:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02391>      ADD HYD                 1.0 02:EXT9          3.57     .242 No_date   12:23   49.04  n/a     .000
02392>                    +     1.0 02:R9            1.83     .110 No_date   12:22   43.18  n/a     .000
02393>                    +     1.0 02:EXT8           .83     .068 No_date   12:19   52.94  n/a     .000
02394>                    +     1.0 02:R5            6.86     .416 No_date   12:39   55.11  n/a     .000
02395>                 SUM=     1.0 01:J8           13.10     .800 No_date   12:30   51.64  n/a     .000
02396> R0150:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02397>      ROUTE PIPE      ->     1.0 02:J8           13.10     .800 No_date   12:30   51.64  n/a     .000
02398> *     [RDT= 1.00] out<-     1.0 01:Outlet       13.10     .799 No_date   12:32   51.64  n/a     .000
02399>        [L/S/n=    8./ .010/.013]
02400>        {Vmax=  .470:Dmax= 1.290}
02401>        [Din=  .53:Dused= 1.57]
02402> ##############################################################################
02403> # STORMS
02404> ##############################################################################
02405>    ** END OF RUN :  198
02406>
02407> ******************************************************************************************
02408>
02409>
02410>
02411>
02412>
02413>  RUN#:COMMAND#
02414> R0199:C00001------------------------------------------------------------------------------
02415>       START
02416>        [TZERO =    .00 hrs on        0]
02417>        [METOUT=   2   (1=imperial, 2=metric output)]
02418>        [NSTORM=   1 ]
02419>        [NRUN  = 0199 ]
02420> ******************************************************************************************
02421> #  SWMHYMO  / INPUT DATA FILE
02422> ******************************************************************************************
02423> #  Project Name  : [5923 Ottawa St]
02424> #  Project Number: [P2710(e01)]
02425> #  Date         : [2025 FEB 05]
02426> #  Modeller     : [MM]
02427> #  Company      : JFSA Canada Inc.
02428> #  License #    : 2549237]
02429> ******************************************************************************************
02430> # Model developed to simulate runoff from subcatchments under pre development conditions
02431> ******************************************************************************************
02432> R0199:C00002------------------------------------------------------------------------------
02433>       READ STORM
02434>        Filename = STORM.001
02435>        Comment  = 100 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
02436>        [SDT=10.00:SDUR=  24.00:PTOT= 106.73]
02437> ******************************************************************************************
02438> # EXT1
02439> ******************************************************************************************
02440> R0199:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02441>      CALIB NASHYD            1.0 01:EXT1          3.21     .212 No_date   12:39   62.92 .589     .000
02442>        [CN= 80.0: N= 3.00: Tp=  .72]
02443> ******************************************************************************************
02444> # EXT2
02445> ******************************************************************************************
02446> R0199:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02447>      CALIB NASHYD            1.0 01:EXT2           .28     .037 No_date   12:13   70.91 .664     .000
02448>        [CN= 85.0: N= 3.00: Tp=  .33]
02449> ******************************************************************************************
02450> # EXT3
02451> ******************************************************************************************
02452> R0199:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02453>      CALIB NASHYD            1.0 01:EXT3           .56     .066 No_date   12:13   62.92 .589     .000
02454>        [CN= 80.0: N= 3.00: Tp=  .32]
02455> ******************************************************************************************
02456> # EXT4
02457> ******************************************************************************************
02458> R0199:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02459>      CALIB NASHYD            1.0 01:EXT4           .31     .038 No_date   12:11   61.42 .576     .000
02460>        [CN= 79.0: N= 3.00: Tp=  .29]
02461> ******************************************************************************************
02462> # EXT5
02463> ******************************************************************************************
02464> R0199:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02465>      CALIB NASHYD            1.0 01:EXT5           .59     .049 No_date   12:21   57.15 .535     .000
02466>        [CN= 76.0: N= 3.00: Tp=  .45]
02467> ******************************************************************************************
02468> # EXT6
02469> ******************************************************************************************
02470> R0199:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02471>      CALIB NASHYD            1.0 01:EXT6           .86     .078 No_date   12:28   70.92 .664     .000
02472>        [CN= 85.0: N= 3.00: Tp=  .56]
02473> ******************************************************************************************
02474> # EXT7
02475> ******************************************************************************************
02476> R0199:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02477>      CALIB NASHYD            1.0 01:EXT7           .47     .060 No_date   12:12   67.60 .633     .000
02478>        [CN= 83.0: N= 3.00: Tp=  .32]
02479> ******************************************************************************************
02480> # EXT8
02481> ******************************************************************************************
02482> R0199:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02483>      CALIB NASHYD            1.0 01:EXT8           .83     .079 No_date   12:19   61.42 .576     .000
02484>        [CN= 79.0: N= 3.00: Tp=  .42]
02485> ******************************************************************************************
02486> # EXT9
02487> ******************************************************************************************
02488> R0199:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02489>      CALIB NASHYD            1.0 01:EXT9          3.57     .284 No_date   12:23   57.15 .535     .000
02490>        [CN= 76.0: N= 3.00: Tp=  .48]
02491> ******************************************************************************************
02492> # EXT9a
02493> ******************************************************************************************
02494> R0199:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02495>      CALIB NASHYD            1.0 01:EXT9a          .01     .003 No_date   12:00   59.96 .562     .000
02496>        [CN= 78.0: N= 3.00: Tp=  .04]
02497> ******************************************************************************************
02498> # EXT10
02499> ******************************************************************************************
02500> R0199:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02501>      CALIB NASHYD            1.0 01:EXT10          .20     .016 No_date   12:19   50.61 .474     .000
02502>        [CN= 71.0: N= 3.00: Tp=  .42]
02503> ******************************************************************************************
02504> # Pre2
02505> ******************************************************************************************
02506> R0199:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02507>      CALIB NASHYD            1.0 01:Pre2           .57     .049 No_date   12:22   59.97 .562     .000
02508>        [CN= 78.0: N= 3.00: Tp=  .46]
02509> ******************************************************************************************
02510> # Pre9
02511> ******************************************************************************************
02512> R0199:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02513>      CALIB NASHYD            1.0 01:Pre9           .83     .047 No_date   12:35   50.61 .474     .000
02514>        [CN= 71.0: N= 3.00: Tp=  .64]
02515> ******************************************************************************************
02516> # Pre10
02517> ******************************************************************************************
02518> R0199:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02519>      CALIB NASHYD            1.0 01:Pre10          .80     .080 No_date   12:11   50.61 .474     .000
02520>        [CN= 71.0: N= 3.00: Tp=  .29]
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02521> #*****************************************************************************************
02522> # Pre11
02523> #*****************************************************************************************
02524> R0199:C00017------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02525>     CALIB NASHYD          1.0 01:Pre11          .07     .010 No_date   12:06   59.96 .562     .000
02526>       [CN= 78.0: N= 3.00: Tp=  .21]
02527> #*****************************************************************************************
02528> R0199:C00018------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02529>     ADD HYD               1.0 02:EXT2           .28     .037 No_date   12:13   70.91  n/a     .000
02530>                     +     1.0 02:Pre2           .57     .049 No_date   12:22   59.97  n/a     .000
02531>                   SUM=    1.0 01:J1             .85     .084 No_date   12:17   63.63  n/a     .000
02532> R0199:C00019------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02533>     ROUTE CHANNEL   ->    1.0 02:J1             .85     .084 No_date   12:17   63.63  n/a     .000
02534>       [RDT= 1.00] out<-   1.0 01:R1             .85     .081 No_date   12:22   63.63  n/a     .000
02535>       [L/S/n=  143./ .394/.035]
02536>       [Vmax=  .404:Dmax=  .181]
02537> R0199:C00020------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02538>     ADD HYD               1.0 02:R1             .85     .081 No_date   12:22   63.63  n/a     .000
02539>                     +     1.0 02:EXT3           .56     .066 No_date   12:13   62.92  n/a     .000
02540>                     +     1.0 02:EXT1          3.21     .212 No_date   12:39   62.92  n/a     .000
02541>                   SUM=    1.0 01:J2            4.62     .329 No_date   12:27   63.05  n/a     .000
02542> R0199:C00021------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02543>     ROUTE CHANNEL   ->    1.0 02:J2            4.62     .329 No_date   12:27   63.05  n/a     .000
02544>       [RDT= 1.00] out<-   1.0 01:R2            4.62     .329 No_date   12:29   63.05  n/a     .000
02545>       [L/S/n=   73./ .425/.035]
02546>       [Vmax=  .561:Dmax=  .313]
02547> R0199:C00022------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02548>     ADD HYD               1.0 02:R2            4.62     .329 No_date   12:29   63.05  n/a     .000
02549>                     +     1.0 02:EXT4           .31     .038 No_date   12:11   61.42  n/a     .000
02550>                   SUM=    1.0 01:J3            4.93     .354 No_date   12:27   62.95  n/a     .000
02551> R0199:C00023------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02552>     ROUTE CHANNEL   ->    1.0 02:J3            4.93     .354 No_date   12:27   62.95  n/a     .000
02553>       [RDT= 1.00] out<-   1.0 01:R3            4.93     .352 No_date   12:30   62.95  n/a     .000
02554>       [L/S/n=   92./ .274/.035]
02555>       [Vmax=  .459:Dmax=  .323]
02556> R0199:C00024------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02557>     ADD HYD               1.0 02:R3            4.93     .352 No_date   12:30   62.95  n/a     .000
02558>                     +     1.0 02:EXT5           .59     .049 No_date   12:21   57.15  n/a     .000
02559>                   SUM=    1.0 01:J4            5.52     .399 No_date   12:28   62.32  n/a     .000
02560> R0199:C00025------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02561>     ROUTE CHANNEL   ->    1.0 02:J4            5.52     .399 No_date   12:28   62.32  n/a     .000
02562>       [RDT= 1.00] out<-   1.0 01:R4            5.52     .379 No_date   12:37   62.32  n/a     .000
02563>       [L/S/n=  251./ .190/.035]
02564>       [Vmax=  .456:Dmax=  .372]
02565> R0199:C00026------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02566>     ADD HYD               1.0 02:R4            5.52     .379 No_date   12:37   62.32  n/a     .000
02567>                     +     1.0 02:EXT6           .86     .078 No_date   12:28   70.92  n/a     .000
02568>                     +     1.0 02:EXT7           .47     .060 No_date   12:12   67.60  n/a     .000
02569>                   SUM=    1.0 01:J5            6.86     .491 No_date   12:33   63.77  n/a     .000
02570> R0199:C00027------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02571>     ROUTE CHANNEL   ->    1.0 02:J5            6.86     .491 No_date   12:33   63.77  n/a     .000
02572>       [RDT= 1.00] out<-   1.0 01:R5            6.86     .485 No_date   12:38   63.77  n/a     .000
02573>       [L/S/n=  237./ .644/.035]
02574>       [Vmax=  .744:Dmax=  .340]
02575> R0199:C00028------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02576>     ROUTE CHANNEL   ->    1.0 02:Pre10          .80     .080 No_date   12:11   50.61  n/a     .000
02577>       [RDT= 1.00] out<-   1.0 01:R6             .80     .078 No_date   12:14   50.61  n/a     .000
02578>       [L/S/n=   77./ .776/.035]
02579>       [Vmax=  .492:Dmax=  .058]
02580> R0199:C00029------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02581>     ROUTE CHANNEL   ->    1.0 02:Pre9           .83     .047 No_date   12:35   50.61  n/a     .000
02582>       [RDT= 1.00] out<-   1.0 01:R7             .83     .047 No_date   12:38   50.61  n/a     .000
02583>       [L/S/n=  159./1.576/.035]
02584>       [Vmax=  .797:Dmax=  .014]
02585> R0199:C00030------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02586>     ADD HYD               1.0 02:R6             .80     .078 No_date   12:14   50.69  n/a     .000
02587>                     +     1.0 02:EXT10          .20     .016 No_date   12:19   50.61  n/a     .000
02588>                   SUM=    1.0 01:J6            1.01     .093 No_date   12:14   50.67  n/a     .000
02589> R0199:C00031------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02590>     ROUTE CHANNEL   ->    1.0 02:J6            1.01     .093 No_date   12:14   50.67  n/a     .000
02591>       [RDT= 1.00] out<-   1.0 01:R8            1.01     .091 No_date   12:18   50.67  n/a     .000
02592>       [L/S/n=   79./ .522/.035]
02593>       [Vmax=  .423:Dmax=  .068]
02594> R0199:C00032------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02595>     ADD HYD               1.0 02:R8            1.01     .091 No_date   12:18   50.68  n/a     .000
02596>                     +     1.0 02:R7             .83     .047 No_date   12:38   50.63  n/a     .000
02597>                   SUM=    1.0 01:J7            1.83     .129 No_date   12:21   50.65  n/a     .000
02598> R0199:C00033------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02599>     ROUTE CHANNEL   ->    1.0 02:J7            1.83     .129 No_date   12:21   50.65  n/a     .000
02600>       [RDT= 1.00] out<-   1.0 01:R9            1.83     .129 No_date   12:22   50.65  n/a     .000
02601>       [L/S/n=   29./ .887/.035]
02602>       [Vmax=  .543:Dmax=  .088]
02603> R0199:C00034------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02604>     ADD HYD               1.0 02:EXT9           3.57     .284 No_date   12:23   57.15  n/a     .000
02605>                     +     1.0 02:R9            1.83     .129 No_date   12:22   50.66  n/a     .000
02606>                     +     1.0 02:EXT8           .83     .079 No_date   12:19   61.43  n/a     .000
02607>                     +     1.0 02:R5            6.86     .485 No_date   12:38   63.77  n/a     .000
02608>                   SUM=    1.0 01:J8           13.10     .939 No_date   12:30   59.98  n/a     .000
02609> R0199:C00035------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02610>     ROUTE PIPE      ->    1.0 02:J8           13.10     .939 No_date   12:30   59.98  n/a     .000
02611> *   [RDT= 1.00] out<-   1.0 01:Outlet        13.10     .937 No_date   12:31   59.98  n/a     .000
02612>       [L/S/n=    8./ .010/.013]
02613>       [Vmax=  .489:Dmax= 1.369]
02614>       [Din=  .53:Dused= 1.67]
02615> ##########################################################################
02616> # STORMS
02617> ##########################################################################
02618> R0199:C00002-------------------------------------------------------------------------------------
02619>     FINISH
02620> -------------------------------------------------------------------------------------------------
02621> *****************************************************************************************
02622>      WARNINGS / ERRORS / NOTES
02623>      -------------------------
02624> R0002:C00035  ROUTE PIPE      ->
02625> *** WARNING: New pipe size used for routing.
02626> *** WARNING: New pipe size used for routing.
02627> *** WARNING: New pipe size used for routing.
02628> *** WARNING: New pipe size used for routing.
02629> *** WARNING: New pipe size used for routing.
02630> *** WARNING: New pipe size used for routing.
02631> *** WARNING: New pipe size used for routing.
02632> *** WARNING: New pipe size used for routing.
02633> *** WARNING: New pipe size used for routing.
02634> *** WARNING: New pipe size used for routing.
02635> *** WARNING: New pipe size used for routing.
02636> *** WARNING: New pipe size used for routing.
02637>    Simulation ended on 2025-04-15     at 12:56:14
02638> =================================================================================================
02639>
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Attachment B

Post-Development Hydrology

Table B1 - Site 1 - Stage/Storage/Outflow Curves

					Quality Control 1		Overflow			
					Vertical Orifice		Broad Crested Weir			
					Dia (m)	0.085	L (m)	0.300		
					Area (m^2)	0.006				
					Invert (m)	93.86	C_w	1.580		
					C_o	0.61	Invert (m)	94.40		
					Q @ D	0.003	n contr.	2	Total	
Elevation (m)	Storage 1 (m^3)	Storage 2 (m^3)	Total Volume (m^3)	Demarkation Points	Depth (m)	Outflow (m^3/s)	Depth (m)	Outflow (m^3/s)	Outflow (m^3/s)	Storage (ha·m)
93.86		**0.0**	**0.0**	**Pond Bottom**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
93.87		0.0	0.0		0.010	0.000	0.000	0.000	0.000	0.000
93.88		0.1	0.1		0.020	0.001	0.000	0.000	0.001	0.000
93.89		0.3	0.3		0.030	0.001	0.000	0.000	0.001	0.000
93.90		0.5	0.5		0.040	0.001	0.000	0.000	0.001	0.000
93.91		0.8	0.8		0.050	0.002	0.000	0.000	0.002	0.000
93.92		1.2	1.2		0.060	0.002	0.000	0.000	0.002	0.000
93.93		1.7	1.7		0.070	0.003	0.000	0.000	0.003	0.000
93.94		2.2	2.2		0.080	0.003	0.000	0.000	0.003	0.000
93.95		2.7	2.7		0.090	0.003	0.000	0.000	0.003	0.000
93.96		3.3	3.3		0.100	0.004	0.000	0.000	0.004	0.000
93.97		4.0	4.0		0.110	0.004	0.000	0.000	0.004	0.000
93.98		4.8	4.8		0.120	0.004	0.000	0.000	0.004	0.000
93.99		5.6	5.6		0.130	0.005	0.000	0.000	0.005	0.001
94.00		6.5	6.5		0.140	0.005	0.000	0.000	0.005	0.001
94.01		7.4	7.4		0.150	0.005	0.000	0.000	0.005	0.001
94.02		8.4	8.4		0.160	0.005	0.000	0.000	0.005	0.001
94.03	0.0	9.5	9.5		0.170	0.005	0.000	0.000	0.005	0.001
94.04	0.0	10.6	10.7		0.180	0.006	0.000	0.000	0.006	0.001
94.05	0.2	11.8	12.0		0.190	0.006	0.000	0.000	0.006	0.001
94.06	0.4	13.1	13.5		0.200	0.006	0.000	0.000	0.006	0.001
94.07	0.8	14.5	15.2		0.210	0.006	0.000	0.000	0.006	0.002
94.08	1.2	15.9	17.1		0.220	0.006	0.000	0.000	0.006	0.002
94.09	1.8	17.4	19.2		0.230	0.007	0.000	0.000	0.007	0.002
94.10	2.5	19.0	21.5		0.240	0.007	0.000	0.000	0.007	0.002
94.11	3.2	20.7	23.9		0.250	0.007	0.000	0.000	0.007	0.002
94.12	4.1	22.4	26.5		0.260	0.007	0.000	0.000	0.007	0.003
94.13	5.1	24.2	29.3		0.270	0.007	0.000	0.000	0.007	0.003
94.14	6.2	26.1	32.2		0.280	0.007	0.000	0.000	0.007	0.003
94.15	7.4	28.0	35.3		0.290	0.008	0.000	0.000	0.008	0.004
94.16	8.7	29.9	38.6		0.300	0.008	0.000	0.000	0.008	0.004
94.17	10.1	31.9	42.0		0.310	0.008	0.000	0.000	0.008	0.004
94.18	10.7	33.8	44.5		0.320	0.008	0.000	0.000	0.008	0.004
94.19	12.3	35.9	48.2		0.330	0.008	0.000	0.000	0.008	0.005
94.20	14.1	37.9	52.0		0.340	0.008	0.000	0.000	0.008	0.005
94.21	16.0	39.9	56.0		0.350	0.009	0.000	0.000	0.009	0.006
94.22	18.1	42.0	60.1		0.360	0.009	0.000	0.000	0.009	0.006
94.23	20.2	44.1	64.3		0.370	0.009	0.000	0.000	0.009	0.006
94.24	22.4	46.3	68.7		0.380	0.009	0.000	0.000	0.009	0.007
94.25	24.6	48.4	73.0		0.390	0.009	0.000	0.000	0.009	0.007
94.26	26.9	50.6	77.5		0.400	0.009	0.000	0.000	0.009	0.008
94.27	29.1	52.9	82.0		0.410	0.009	0.000	0.000	0.009	0.008
94.28	31.4	55.1	86.6		0.420	0.009	0.000	0.000	0.009	0.009
94.29	33.8	57.4	91.2		0.430	0.010	0.000	0.000	0.010	0.009
94.30	36.1	59.7	95.9		0.440	0.010	0.000	0.000	0.010	0.010
94.31	38.5	62.1	100.6		0.450	0.010	0.000	0.000	0.010	0.010
94.32	40.9	64.5	105.4		0.460	0.010	0.000	0.000	0.010	0.011
94.33	43.4	66.9	110.2		0.470	0.010	0.000	0.000	0.010	0.011
94.34	45.9	69.3	115.2		0.480	0.010	0.000	0.000	0.010	0.012
94.35	48.4	71.8	120.1		0.490	0.010	0.000	0.000	0.010	0.012
94.36	50.9	74.3	125.2		0.500	0.010	0.000	0.000	0.010	0.013
94.37	53.4	76.9	130.3		0.510	0.010	0.000	0.000	0.010	0.013
94.38	56.0	79.4	135.5		0.520	0.011	0.000	0.000	0.011	0.014
94.39	58.6	82.1	140.7		0.530	0.011	0.000	0.000	0.011	0.014
94.40	**61.3**	**84.7**	**146.0**	**Overflow Weir**	**0.540**	**0.011**	**0.000**	**0.000**	**0.011**	**0.015**
94.41	64.0	87.4	151.4		0.550	0.011	0.010	0.000	0.011	0.015
94.42	66.7	90.2	156.8		0.560	0.011	0.020	0.001	0.012	0.016
94.43	69.4	92.9	162.3		0.570	0.011	0.030	0.002	0.014	0.016
94.44	**72.1**	**95.7**	**167.9**	**100-Yr WSE**	**0.580**	**0.011**	**0.040**	**0.004**	**0.015**	**0.017**
94.45	74.9	98.6	173.5		0.590	0.011	0.050	0.005	0.016	0.017
94.46	77.7	101.5	179.2		0.600	0.011	0.060	0.007	0.018	0.018
94.47	80.6	104.4	185.0		0.610	0.012	0.070	0.008	0.020	0.019
94.48	83.5	107.4	190.9		0.620	0.012	0.080	0.010	0.022	0.019
94.49	86.4	110.4	196.8		0.630	0.012	0.090	0.012	0.024	0.020
94.50	**89.3**	**113.5**	**202.8**	**Top of Pond**	**0.640**	**0.012**	**0.100**	**0.014**	**0.026**	**0.020**

Table B2 - Site 2 - Stage/Storage/Outflow Curves

					Quality Control 1		Emergency Overflow			
					Vertical Orifice		Broad Crested Weir			
					Dia (m)	0.085	L (m)	0.300		
					Area (m^2)	0.006				
					Invert (m)	93.76	C_w	1.580		
					C_o	0.61	Invert (m)	94.35		
					Q @ D	0.003	n contr.	2	Total	
Elevation (m)	Storage 3 (m^3)	Storage 4 (m^3)	Total Volume (m^3)	Demarkation Points	Depth (m)	Outflow (m^3/s)	Depth (m)	Outflow (m^3/s)	Outflow (m^3/s)	Storage (ha·m)
93.76		**0.0**	**0.0**	**Pond Bottom**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
93.77		0.1	0.1		0.010	0.000	0.000	0.000	0.000	0.000
93.78		0.2	0.2		0.020	0.001	0.000	0.000	0.001	0.000
93.79		0.4	0.4		0.030	0.001	0.000	0.000	0.001	0.000
93.80		0.6	0.6		0.040	0.001	0.000	0.000	0.001	0.000
93.81		0.9	0.9		0.050	0.002	0.000	0.000	0.002	0.000
93.82		1.3	1.3		0.060	0.002	0.000	0.000	0.002	0.000
93.83		1.8	1.8		0.070	0.003	0.000	0.000	0.003	0.000
93.84		2.4	2.4		0.080	0.003	0.000	0.000	0.003	0.000
93.85		3.0	3.0		0.090	0.003	0.000	0.000	0.003	0.000
93.86		3.7	3.7		0.100	0.004	0.000	0.000	0.004	0.000
93.87		4.5	4.5		0.110	0.004	0.000	0.000	0.004	0.000
93.88		5.2	5.2		0.120	0.004	0.000	0.000	0.004	0.001
93.89		6.0	6.0		0.130	0.005	0.000	0.000	0.005	0.001
93.90		6.8	6.8		0.140	0.005	0.000	0.000	0.005	0.001
93.91		7.6	7.6		0.150	0.005	0.000	0.000	0.005	0.001
93.92		8.4	8.4		0.160	0.005	0.000	0.000	0.005	0.001
93.93		9.3	9.3		0.170	0.005	0.000	0.000	0.005	0.001
93.94		10.1	10.1		0.180	0.006	0.000	0.000	0.006	0.001
93.95		11.0	11.0		0.190	0.006	0.000	0.000	0.006	0.001
93.96		11.9	11.9		0.200	0.006	0.000	0.000	0.006	0.001
93.97		12.8	12.8		0.210	0.006	0.000	0.000	0.006	0.001
93.98		13.7	13.7		0.220	0.006	0.000	0.000	0.006	0.001
93.99		14.6	14.6		0.230	0.007	0.000	0.000	0.007	0.001
94.00		15.6	15.6		0.240	0.007	0.000	0.000	0.007	0.002
94.01		16.6	16.6		0.250	0.007	0.000	0.000	0.007	0.002
94.02		17.6	17.6		0.260	0.007	0.000	0.000	0.007	0.002
94.03		18.6	18.6		0.270	0.007	0.000	0.000	0.007	0.002
94.04	0.0	19.7	19.7		0.280	0.007	0.000	0.000	0.007	0.002
94.05	0.1	20.8	20.9		0.290	0.008	0.000	0.000	0.008	0.002
94.06	0.4	21.8	22.2		0.300	0.008	0.000	0.000	0.008	0.002
94.07	0.8	23.0	23.7		0.310	0.008	0.000	0.000	0.008	0.002
94.08	1.3	24.1	25.4		0.320	0.008	0.000	0.000	0.008	0.003
94.09	1.8	25.3	27.1		0.330	0.008	0.000	0.000	0.008	0.003
94.10	2.5	26.5	29.0		0.340	0.008	0.000	0.000	0.008	0.003
94.11	3.3	27.7	31.0		0.350	0.009	0.000	0.000	0.009	0.003
94.12	4.1	29.0	33.1		0.360	0.009	0.000	0.000	0.009	0.003
94.13	4.5	30.2	34.8		0.370	0.009	0.000	0.000	0.009	0.003
94.14	5.6	31.5	37.2		0.380	0.009	0.000	0.000	0.009	0.004
94.15	6.8	32.9	39.7		0.390	0.009	0.000	0.000	0.009	0.004
94.16	8.1	34.2	42.3		0.400	0.009	0.000	0.000	0.009	0.004
94.17	8.6	35.6	44.2		0.410	0.009	0.000	0.000	0.009	0.004
94.18	10.1	37.1	47.1		0.420	0.009	0.000	0.000	0.009	0.005
94.19	11.7	38.5	50.2		0.430	0.010	0.000	0.000	0.010	0.005
94.20	13.4	40.0	53.5		0.440	0.010	0.000	0.000	0.010	0.005
94.21	15.3	41.6	56.9		0.450	0.010	0.000	0.000	0.010	0.006
94.22	17.2	43.1	60.4		0.460	0.010	0.000	0.000	0.010	0.006
94.23	19.3	44.7	64.0		0.470	0.010	0.000	0.000	0.010	0.006
94.24	21.4	46.4	67.8		0.480	0.010	0.000	0.000	0.010	0.007
94.25	23.5	48.1	71.6		0.490	0.010	0.000	0.000	0.010	0.007
94.26	25.7	49.8	75.5		0.500	0.010	0.000	0.000	0.010	0.008
94.27	27.9	51.5	79.4		0.510	0.010	0.000	0.000	0.010	0.008
94.28	30.1	53.3	83.4		0.520	0.011	0.000	0.000	0.011	0.008
94.29	32.4	55.1	87.5		0.530	0.011	0.000	0.000	0.011	0.009
94.30	34.7	57.0	91.7		0.540	0.011	0.000	0.000	0.011	0.009
94.31	37.0	58.9	95.9		0.550	0.011	0.000	0.000	0.011	0.010
94.32	39.3	60.9	100.2		0.560	0.011	0.000	0.000	0.011	0.010
94.33	41.7	62.9	104.6		0.570	0.011	0.000	0.000	0.011	0.010
94.34	44.1	65.0	109.1		0.580	0.011	0.000	0.000	0.011	0.011
94.35	**46.5**	**67.1**	**113.6**	**Overflow Weir**	**0.590**	**0.011**	**0.000**	**0.000**	**0.011**	**0.011**
94.36	49.0	69.2	118.2		0.600	0.011	0.010	0.000	0.012	0.012
94.37	51.5	71.4	122.9		0.610	0.012	0.020	0.001	0.013	0.012
94.38	54.0	73.7	127.7		0.620	0.012	0.030	0.002	0.014	0.013
94.39	56.5	76.0	132.5		0.630	0.012	0.040	0.004	0.015	0.013
94.40	59.1	78.4	137.5		0.640	0.012	0.050	0.005	0.017	0.014
94.41	61.7	80.8	142.5	**100-Yr WSE**	0.650	0.012	0.060	0.007	0.019	0.014
94.42	64.4	83.3	147.7		0.660	0.012	0.070	0.008	0.020	0.015
94.43	67.0	85.9	152.9		0.670	0.012	0.080	0.010	0.022	0.015
94.44	69.7	88.5	158.2		0.680	0.012	0.090	0.012	0.024	0.016
94.45	**72.4**	**91.2**	**163.6**	**Top of Pond**	**0.690**	**0.012**	**0.100**	**0.014**	**0.026**	**0.016**

N

Legend

- Jock River Tributary
- Post-development Subcatchments
- EGIS AutoCAD layer Design for Post Subcatchments

Google Hybrid

EXT1 — Subcatchment Name
3.212 ha — 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

C:\Users\MouraMikhaeil\J.F. Sabourin and Associates Inc\JFSA-OTTAWA-SERVER - Documents\PROJ\2710(e01)\Design\GIS\20250603-Attachments

```
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
```

```
55  *#*********************************************************************************
    ***********
56  CALIB NASHYD        NHYD=["EXT5"], DT[1](min), AREA=[0.594](ha),
57                      DWF=[0](cms), CN=[76],
58                      IA=[4.67](mm), N=[3], TP[0.45](hrs),
59                      RAINFALL[ , , -1]
60  *#*********************************************************************************
    ***********
61  *# EXT6
62  *#*********************************************************************************
    ***********
63  CALIB NASHYD        NHYD=["EXT6"], DT[1](min), AREA=[0.864](ha),
64                      DWF=[0](cms), CN=[85],
65                      IA=[4.67](mm), N=[3], TP[0.56](hrs),
66                      RAINFALL[ , , -1]
67  *#*********************************************************************************
    ***********
68  *# EXT7
69  *#*********************************************************************************
    ***********
70  CALIB NASHYD        NHYD=["EXT7"], DT[1](min), AREA=[0.471](ha),
71                      DWF=[0](cms), CN=[83],
72                      IA=[4.67](mm), N=[3], TP[0.32](hrs),
73                      RAINFALL[ , , -1]
74  *#*********************************************************************************
    ***********
75  *# EXT8
76  *#*********************************************************************************
    ***********
77  CALIB NASHYD        NHYD=["EXT8"], DT[1](min), AREA=[0.834](ha),
78                      DWF=[0](cms), CN=[79],
79                      IA=[4.67](mm), N=[3], TP[0.42](hrs),
80                      RAINFALL[ , , -1]
81  *#*********************************************************************************
    ***********
82  *# EXT9
83  *#*********************************************************************************
    ***********
84  CALIB NASHYD        NHYD=["EXT9"], DT[1](min), AREA=[3.571](ha),
85                      DWF=[0](cms), CN=[76],
86                      IA=[4.67](mm), N=[3], TP[0.48](hrs),
87                      RAINFALL[ , , -1]
88  *#*********************************************************************************
    ***********
89  *# EXT9a
90  *#*********************************************************************************
    ***********
91  CALIB NASHYD        NHYD=["EXT9a"], DT[1](min), AREA=[0.011](ha),
92                      DWF=[0](cms), CN=[78],
93                      IA=[4.67](mm), N=[3], TP[0.04](hrs),
94                      RAINFALL[ , , -1]
95  *#*********************************************************************************
    ***********
96  *# EXT10
97  *#*********************************************************************************
    ***********
98  CALIB NASHYD        NHYD=["EXT10"], DT[1](min), AREA=[0.203](ha),
99                      DWF=[0](cms), CN=[71],
100                     IA=[4.67](mm), N=[3], TP[0.42](hrs),
101                     RAINFALL[ , , -1]
102 *#*********************************************************************************
    ***********
103 *# Pre2_1
104 *#*********************************************************************************
    ***********
105 CALIB NASHYD        NHYD=["Pre2_1"], DT[1](min), AREA=[0.013](ha),
106                     DWF=[0](cms), CN=[72],
107                     IA=[4.67](mm), N=[3], TP[0.03](hrs),
108                     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=[59],
                    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=[0.42](ha),
                    XIMP=[0.47], TIMP=[0.57], DWF=[0](cms),
                    LOSS=[1], SLOPE=[1.0](%), RAINFALL=[ , , -1](mm/hr)
*# Site 1 - Roof
*#*******************************************************************************************
DESIGN STANDHYD     NHYD=["S1-Roof"], DT=[1](min), AREA=[0.07](ha),
                    XIMP=[0.99], TIMP=[0.99], DWF=[0](cms),
                    LOSS=[1], SLOPE=[0.5](%), RAINFALL=[ , , -1](mm/hr)
*%-----------------|-----------------------------------------------------------------------
----|-------------------------|
* Rooftop Storage-Outflow Curve for B3 Facility - From EGIS Report
ROUTE RESERVOIR     NHYDout=["S1-Roof-Out"], NHYDin=["S1-Roof"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                    [ 0 , 0 ]
                                    [ 0.0008 , 0.0007 ]
                                    [ 0.001 , 0.001 ]
                                    [ 0.0015 , 0.0015 ]
```

```
                                    [ 0.0018 , 0.0017 ]
                                    [ 0.0023 , 0.0022 ]
                                    [ 0.0025 , 0.0024 ]
                                    [ 0.0028 , 0.0027 ]
                                    [ 0.003 , 0.0029 ]
                                    [ 0.0033 , 0.0032 ]
                                    [ 0.0038 , 0.0037 ]
                                    [ 0.004 , 0.0039 ]
                                    [ 0.0045 , 0.0044 ]
                                    [ 0.0048 , 0.0046 ]
                                    [ 0.0051 , 0.0049 ]
                                    [ 0.0056 , 0.0054 ]
                                    [ 0.0063 , 0.0061 ]
                                    [ 0.0066 , 0.0064 ]
                                    [ 0.0076 , 0.0073 ]
                                    [ -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 , 0 ]
                                    [ 0.00074 , 0.00001 ]
                                    [ 0.00149 , 0.00005 ]
                                    [ 0.00297 , 0.00022 ]
                                    [ 0.00368 , 0.00033 ]
                                    [ 0.00479 , 0.00065 ]
                                    [ 0.00526 , 0.00084 ]
                                    [ 0.00646 , 0.00171 ]
                                    [ 0.00747 , 0.00322 ]
                                    [ 0.00808 , 0.00445 ]
                                    [ 0.00891 , 0.00687 ]
                                    [ 0.00917 , 0.00775 ]
                                    [ 0.00967 , 0.00959 ]
                                    [ 0.00991 , 0.01054 ]
                                    [ 0.01037 , 0.01252 ]
                                    [ 0.01059 , 0.01355 ]
                                    [ 0.01235 , 0.01568 ]
                                    [ 0.01493 , 0.01679 ]
                                    [ 0.0218 , 0.01909 ]
                                    [ 0.02584 , 0.02028 ]
                                    [ -1 , -1 ]
                                 NHYDovf=["SITE1-Over"],
*%-----------------|-------------------------------------------------------------------------------|-------------------------|
*#*****************************************************************************************************
*# Site 2
*#*****************************************************************************************************
DESIGN STANDHYD      NHYD=["S2-B3"], DT=[1](min), AREA=[0.35](ha),
                     XIMP=[0.46], TIMP=[0.56], DWF=[0](cms),
                     LOSS=[1], SLOPE=[1.0](%), RAINFALL=[ , , -1](mm/hr)

*#*****************************************************************************************************
*# Site 2 - Roof
*#*****************************************************************************************************
DESIGN STANDHYD      NHYD=["S2-Roof"], DT=[1](min), AREA=[0.09](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 - From EGIS Report
ROUTE RESERVOIR     NHYDout=["S2-Roof-Out"], NHYDin=["S2-Roof"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                    [ 0 , 0 ]
                                    [ 0.0007 , 0 ]
                                    [ 0.0015 , 0.0001 ]
                                    [ 0.003 , 0.0002 ]
                                    [ 0.0037 , 0.0004 ]
                                    [ 0.0048 , 0.0007 ]
                                    [ 0.0053 , 0.0008 ]
                                    [ 0.0065 , 0.0014 ]
                                    [ 0.0072 , 0.0018 ]
                                    [ 0.0081 , 0.0025 ]
                                    [ 0.0084 , 0.0029 ]
                                    [ 0.0092 , 0.0042 ]
                                    [ 0.0099 , 0.006 ]
                                    [ 0.0104 , 0.0075 ]
                                    [ 0.0106 , 0.0083 ]
                                    [ 0.0112 , 0.0109 ]
                                    [ 0.0143 , 0.0128 ]
                                    [ 0.0174 , 0.0138 ]
                                    [ 0.0253 , 0.0158 ]
                                    [ 0.0276 , 0.0164 ]
                                    [ -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 ]
                                    [ 0.0007 , 0 ]
                                    [ 0.0015 , 0.0001 ]
                                    [ 0.003 , 0.0002 ]
                                    [ 0.0037 , 0.0004 ]
                                    [ 0.0048 , 0.0007 ]
                                    [ 0.0053 , 0.0008 ]
                                    [ 0.0065 , 0.0014 ]
                                    [ 0.0072 , 0.0018 ]
                                    [ 0.0081 , 0.0025 ]
                                    [ 0.0084 , 0.0029 ]
                                    [ 0.0092 , 0.0042 ]
                                    [ 0.0099 , 0.006 ]
                                    [ 0.0104 , 0.0075 ]
                                    [ 0.0106 , 0.0083 ]
                                    [ 0.0112 , 0.0109 ]
                                    [ 0.0141 , 0.0128 ]
                                    [ 0.017 , 0.0138 ]
                                    [ 0.0243 , 0.0158 ]
                                    [ 0.0263 , 0.0164 ]
                                    [ -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
* NOTE: SEGROUGH will be adjusted after completing the 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
* NOTE: SEGROUGH will be adjusted after completing the 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
* NOTE: SEGROUGH will be adjusted after completing the 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
* NOTE: SEGROUGH will be adjusted after completing the 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
* NOTE: SEGROUGH will be adjusted after completing the 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
* NOTE: SEGROUGH will be adjusted after completing the 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
* NOTE: SEGROUGH will be adjusted after completing the 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"]
*%-----------------|-------------------------------------------------------------|
* NOTE: Cross-section number 49 is taken from HEC-RAS Model
* NOTE: SEGROUGH will be adjusted after completing the 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
* NOTE: SEGROUGH will be adjusted after completing the 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
*%-----------------|-------------------------------------------------------------|
*%  100-Year, 24-Hour SCS Storm + 20%
*START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[998]
*%                   ["SC24100x+.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=[999]
*                   ["100YRCHI3HR+.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
FINISH
```

```
=========================================================================================
SSSSS  W   W   M   M   H   H   Y   Y   M   M    OOO         222     000    11   5555   =========
S      W W W   MM MM   H   H    Y Y    MM MM   O   O          2    0   0   11   5
SSSSS  W W W   M M M   HHHHH     Y     M M M   O   O          2    0   0   11   5      Ver 5.500
    S   W W    M   M   H   H     Y     M   M   O   O        222    0   0   11   555    FEB  2015
SSSSS   W W    M   M   H   H     Y     M   M    OOO         2      0   0   11      5   =========
                                                            2      0   0   11      5   # 2549237
      StormWater Management HYdrologic Model                222     000    11   555    =========
*****************************************************************************************
**************************************  SWMHYMO Ver 5.500  ******************************
******************  A single event and continuous hydrologic simulation model  **********
******************     based on the principles of HYMO and its successors      **********
******************                 OTTHYMO-83 and OTTHYMO-89.                  **********
*****************************************************************************************
****************** Distributed by:  J.F. Sabourin and Associates Inc.         **********
******************                  Ottawa,  Ontario: (613) 836-3884          **********
******************                  Gatineau, Quebec: (819) 243-6858          **********
******************                  E-Mail: swmhymo@jfsa.Com                  **********
*****************************************************************************************
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++++++++++++++++ Licensed user: JFSAinc.                                 ++++++++++++++
++++++++++++++++++                Ottawa                 SERIAL#:2549237   ++++++++++++++
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
*****************************************************************************************
******************            ++++++ PROGRAM ARRAY DIMENSIONS ++++++       **************
******************            Maximum value for ID numbers  :     11       **************
******************            Max. number of rainfall points: 105408       **************
******************            Max. number of flow points    : 105408       **************
*****************************************************************************************
********************************   S U M M A R Y   O U T P U T   ***********************
*****************************************************************************************
*                 RUN DATE: 2025-06-02     TIME: 18:47:18     RUN COUNTER: 006684       *
*****************************************************************************************
* Input   file: C:\Temp\20250428-PostDev\Ott_St-Post_v09.dat                            *
* Output  file: C:\Temp\20250428-PostDev\Ott_St-Post_v09.out                            *
* Summary file: C:\Temp\20250428-PostDev\Ott_St-Post_v09.sum                            *
* User comments:                                                                        *
* 1:____________________________________________________________________________________*
* 2:____________________________________________________________________________________*
* 3:____________________________________________________________________________________*
*****************************************************************************************
#****************************************************************************************
#  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 pre development conditions
#****************************************************************************************
  ** END OF RUN :    1
*****************************************************************************************
 RUN#:COMMAND#
R0002:C00001----------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0002 ]
#****************************************************************************************
#  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 pre development conditions
#****************************************************************************************
R0002:C00002----------------------------------------------------------------------------
     READ STORM
      Filename = STORM.001
      Comment  = CHICAGO STORM 2 Year, 3 Hours
      [SDT=10.00:SDUR=   3.00:PTOT=  31.86]
#****************************************************************************************
R0002:C00003----------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = C:\Temp\20250428-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
#****************************************************************************************
R0002:C00004-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT1           3.21     .037 No_date    1:58    8.15 .256     .000
      [CN= 80.0: N= 3.00: Tp=  .72]
#****************************************************************************************
# EXT2
#****************************************************************************************
R0002:C00005-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT2            .28     .007 No_date    1:25   10.26 .322     .000
      [CN= 85.0: N= 3.00: Tp=  .33]
#****************************************************************************************
# EXT3
#****************************************************************************************
R0002:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT3            .56     .011 No_date    1:24    8.15 .256     .000
      [CN= 80.0: N= 3.00: Tp=  .32]
#****************************************************************************************
# EXT4
#****************************************************************************************
R0002:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT4            .31     .006 No_date    1:22    7.80 .245     .000
      [CN= 79.0: N= 3.00: Tp=  .29]
#****************************************************************************************
# EXT5
#****************************************************************************************
R0002:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT5            .59     .008 No_date    1:36    6.88 .216     .000
      [CN= 76.0: N= 3.00: Tp=  .45]
#****************************************************************************************
# EXT6
#****************************************************************************************
R0002:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT6            .86     .015 No_date    1:44   10.27 .322     .000
      [CN= 85.0: N= 3.00: Tp=  .56]
#****************************************************************************************
# EXT7
#****************************************************************************************
R0002:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT7            .47     .011 No_date    1:24    9.33 .293     .000
      [CN= 83.0: N= 3.00: Tp=  .32]
#****************************************************************************************
# EXT8
#****************************************************************************************
R0002:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT8            .83     .013 No_date    1:33    7.81 .245     .000
      [CN= 79.0: N= 3.00: Tp=  .42]
#****************************************************************************************
# EXT9
#****************************************************************************************
R0002:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT9           3.57     .045 No_date    1:38    6.88 .216     .000
      [CN= 76.0: N= 3.00: Tp=  .48]
#****************************************************************************************
# EXT9a
#****************************************************************************************
R0002:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT9a           .01     .001 No_date    1:00    7.47 .234     .000
      [CN= 78.0: N= 3.00: Tp=  .04]
#****************************************************************************************
# EXT10
#****************************************************************************************
R0002:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:EXT10           .20     .002 No_date    1:34    5.64 .177     .000
      [CN= 71.0: N= 3.00: Tp=  .42]
#****************************************************************************************
# Pre2_1
#****************************************************************************************
R0002:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD          1.0 01:Pre2_1          .01     .001 No_date    1:00    5.86 .184     .000
      [CN= 72.0: N= 3.00: Tp=  .03]
#****************************************************************************************
# Pre2_2
#****************************************************************************************
R0002:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD          1.0 01:Pre2_2          .00     .000 No_date    1:00    7.46 .234     .000
      [CN= 78.0: N= 3.00: Tp=  .02]
#****************************************************************************************
# Pre9_1
#****************************************************************************************
R0002:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre9_1          .44     .005 No_date    1:30    5.64 .177     .000
      [CN= 71.0: N= 3.00: Tp=  .38]
#****************************************************************************************
# Pre9_2
#****************************************************************************************
R0002:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD          1.0 01:Pre9_2          .01     .000 No_date    1:00    3.62 .114     .000
      [CN= 59.0: N= 3.00: Tp=  .03]
#****************************************************************************************
# Pre10_1
#****************************************************************************************
R0002:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre10_1         .80     .011 No_date    1:22    5.65 .177     .000
      [CN= 71.0: N= 3.00: Tp=  .29]
#****************************************************************************************
# Pre11_1
#****************************************************************************************
R0002:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:Pre11_1         .07     .002 No_date    1:15    7.47 .235     .000
      [CN= 78.0: N= 3.00: Tp=  .21]
#****************************************************************************************
# Site 1
#****************************************************************************************
R0002:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD       1.0 01:S1-B1           .42     .044 No_date    1:00   17.32 .544     .000
      [XIMP=.47:TIMP=.57]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
# Site 1 - Roof
#****************************************************************************************
R0002:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD       1.0 01:S1-Roof         .07     .015 No_date    1:00   30.01 .942     .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
R0002:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:S1-Roof         .07     .015 No_date    1:00   30.01  n/a     .000
                out <=    1.0 01:S1-Roof-Ou      .07     .001 No_date    1:31   30.01  n/a     .000
           overflow <=    1.0 03:S1-Roof-Ov      .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1413E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:S1-B1           .42     .044 No_date    1:00   17.32  n/a     .000
                    +     1.0 02:S1-Roof-Ou      .07     .001 No_date    1:31   30.01  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        .49     .045 No_date    1:00   19.13  n/a     .000
R0002:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:SITE1-IN        .49     .045 No_date    1:00   19.13  n/a     .000
                out <=    1.0 01:SITE1-Out       .49     .008 No_date    1:33   19.13  n/a     .000
           overflow <=    1.0 03:SITE1-Over      .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.4120E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#****************************************************************************************
# Site 2
#****************************************************************************************
R0002:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD       1.0 01:S2-B3           .35     .036 No_date    1:00   17.06 .535     .000
      [XIMP=.46:TIMP=.56]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
#****************************************************************************************
# Site 2 - Roof
#****************************************************************************************
R0002:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD       1.0 01:S2-Roof         .09     .019 No_date    1:00   30.02 .942     .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
#****************************************************************************************
R0002:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:S2-Roof         .09     .019 No_date    1:00   30.02  n/a     .000
                out <=    1.0 01:S2-Roof-Ou      .09     .006 No_date    1:10   30.03  n/a     .000
           overflow <=    1.0 03:S2-Roof-Ov      .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1070E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:S2-B3           .35     .036 No_date    1:00   17.06  n/a     .000
                    +     1.0 02:S2-Roof-Ou      .09     .006 No_date    1:10   30.03  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        .44     .042 No_date    1:00   19.71  n/a     .000
R0002:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:SITE2-IN        .44     .042 No_date    1:00   19.71  n/a     .000
                out <=    1.0 01:SITE2-Out       .44     .009 No_date    1:37   19.71  n/a     .000
           overflow <=    1.0 03:SITE2-Over      .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.4040E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:SITE1-Out       .49     .008 No_date    1:33   19.13  n/a     .000
                    +     1.0 02:SITE1-Over      .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:Site1           .49     .008 No_date    1:33   19.13  n/a     .000
R0002:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:SITE2-Out       .44     .009 No_date    1:37   19.71  n/a     .000
                    +     1.0 02:SITE2-Over      .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:Site2           .44     .009 No_date    1:37   19.71  n/a     .000
R0002:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT2            .28     .007 No_date    1:25   10.26  n/a     .000
                    +     1.0 02:Pre2_1          .01     .001 No_date    1:00    5.86  n/a     .000
                    +     1.0 02:Site1           .49     .008 No_date    1:33   19.13  n/a     .000
                    +     1.0 02:Site2           .44     .009 No_date    1:37   19.71  n/a     .000
                 SUM=     1.0 01:J1             1.23     .024 No_date    1:26   17.14  n/a     .000
R0002:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J1             1.23     .024 No_date    1:26   17.14  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R1             1.23     .024 No_date    1:33   17.14  n/a     .000
      [L/S/n=  143./ .394/.035]
      {Vmax=  .280:Dmax=  .104}
R0002:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R1             1.23     .024 No_date    1:33   17.14  n/a     .000
                    +     1.0 02:EXT3            .56     .011 No_date    1:24    8.15  n/a     .000
                    +     1.0 02:EXT1           3.21     .037 No_date    1:58    8.15  n/a     .000
                 SUM=     1.0 01:J2             5.00     .066 No_date    1:45   10.36  n/a     .000
R0002:C00036-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J2             5.00     .066 No_date    1:45   10.36  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R2             5.00     .066 No_date    1:48   10.36  n/a     .000
      [L/S/n=   73./ .425/.035]
      {Vmax=  .368:Dmax=  .165}
R0002:C00037-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R2             5.00     .066 No_date    1:48   10.36  n/a     .000
                    +     1.0 02:EXT4            .31     .006 No_date    1:22    7.80  n/a     .000
                 SUM=     1.0 01:J3             5.31     .070 No_date    1:45   10.21  n/a     .000
R0002:C00038-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J3             5.31     .070 No_date    1:45   10.21  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R3             5.31     .070 No_date    1:50   10.21  n/a     .000
      [L/S/n=   92./ .274/.035]
      {Vmax=  .299:Dmax=  .170}
R0002:C00039-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R3             5.31     .070 No_date    1:50   10.21  n/a     .000
                    +     1.0 02:EXT5            .59     .008 No_date    1:36    6.88  n/a     .000
                 SUM=     1.0 01:J4             5.90     .077 No_date    1:48    9.88  n/a     .000
R0002:C00040-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J4             5.90     .077 No_date    1:48    9.88  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R4             5.90     .071 No_date    2:04    9.88  n/a     .000
      [L/S/n=  251./ .190/.035]
      {Vmax=  .279:Dmax=  .183}
R0002:C00041-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R4             5.90     .071 No_date    2:04    9.88  n/a     .000
                    +     1.0 02:EXT6            .86     .015 No_date    1:44   10.27  n/a     .000
                    +     1.0 02:EXT7            .47     .011 No_date    1:24    9.33  n/a     .000
                 SUM=     1.0 01:J5             7.24     .091 No_date    1:57    9.89  n/a     .000
R0002:C00042-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J5             7.24     .091 No_date    1:57    9.89  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R5             7.24     .089 No_date    2:04    9.89  n/a     .000
      [L/S/n=  237./ .644/.035]
      {Vmax=  .455:Dmax=  .176}
R0002:C00043-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:Pre10_1         .80     .011 No_date    1:22    5.65  n/a     .000
                    +     1.0 02:Pre9_2          .01     .000 No_date    1:00    3.62  n/a     .000
                    +     1.0 02:Pre2_2          .00     .000 No_date    1:00    7.46  n/a     .000
                 SUM=     1.0 01:Pre             .81     .011 No_date    1:22    5.62  n/a     .000
R0002:C00044-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:Pre             .81     .011 No_date    1:22    5.62  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R6              .81     .011 No_date    1:25    5.62  n/a     .000
      [L/S/n=   77./ .776/.035]
      {Vmax=  .492:Dmax=  .008}
R0002:C00045-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:Pre9_1          .44     .005 No_date    1:30    5.64  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R7              .44     .005 No_date    1:34    5.64  n/a     .000
      [L/S/n=  159./1.576/.035]
      {Vmax=  .797:Dmax=  .002}
R0002:C00046-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R6              .81     .021 No_date    4:19    5.77  n/a     .000
                    +     1.0 02:EXT10           .20     .002 No_date    1:34    5.64  n/a     .000
                 SUM=     1.0 01:J6             1.02     .021 No_date    4:19    5.75  n/a     .000
R0002:C00047-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J6             1.02     .021 No_date    4:19    5.75  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R8             1.02     .013 No_date    1:30    5.75  n/a     .000
      [L/S/n=   79./ .522/.035]
      {Vmax=  .423:Dmax=  .016}
R0002:C00048-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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    ADD HYD              1.0 02:R8             1.02      .015 No_date    4:41    5.83  n/a     .000
                  +      1.0 02:R7              .44      .016 No_date    4:37    5.86  n/a     .000
               SUM=      1.0 01:J7             1.46      .018 No_date    1:31    5.84  n/a     .000
R0002:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:J7             1.46      .018 No_date    1:31    5.84  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R9             1.46      .018 No_date    1:32    5.84  n/a     .000
      [L/S/n=   29./ .887/.035]
      {Vmax=  .543:Dmax=  .012}
R0002:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:EXT9           3.57      .045 No_date    1:38    6.88  n/a     .000
                  +      1.0 02:R9             1.46      .018 No_date    1:32    5.89  n/a     .000
                  +      1.0 02:EXT8            .83      .013 No_date    1:33    7.81  n/a     .000
                  +      1.0 02:R5             7.24      .089 No_date    2:04    9.89  n/a     .000
               SUM=      1.0 01:J8            13.10      .151 No_date    1:52    8.49  n/a     .000
R0002:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->   1.0 02:J8            13.10      .151 No_date    1:52    8.49  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:Outlet        13.10      .151 No_date    1:52    8.49  n/a     .000
      [L/S/n=    8./ .010/.013]
      {Vmax=  .310:Dmax=  .691}
      [Din=  .53:Dused=  .84}
################################################################################
# STORMS
################################################################################
  ** END OF RUN :    4

*****************************************************************************************************





 RUN#:COMMAND#
R0005:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0005 ]
#****************************************************************************************************
#  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 pre development conditions
#****************************************************************************************************
R0005:C00002----------------------------------------------------------------------------------------
     READ STORM
      Filename = STORM.001
      Comment  = CHICAGO STORM  5 Year, 3 Hours
      [SDT=10.00:SDUR=   3.00:PTOT=  42.51]
#****************************************************************************************************
R0005:C00003----------------------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = C:\Temp\20250428-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
#****************************************************************************************************
R0005:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT1           3.21      .066 No_date    1:55   14.13 .332     .000
      [CN= 80.0: N= 3.00: Tp=  .72]
#****************************************************************************************************
# EXT2
#****************************************************************************************************
R0005:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT2            .28      .012 No_date    1:23   17.32 .407     .000
      [CN= 85.0: N= 3.00: Tp=  .33]
#****************************************************************************************************
# EXT3
#****************************************************************************************************
R0005:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT3            .56      .020 No_date    1:23   14.13 .332     .000
      [CN= 80.0: N= 3.00: Tp=  .32]
#****************************************************************************************************
# EXT4
#****************************************************************************************************
R0005:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT4            .31      .011 No_date    1:21   13.59 .320     .000
      [CN= 79.0: N= 3.00: Tp=  .29]
#****************************************************************************************************
# EXT5
#****************************************************************************************************
R0005:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT5            .59      .014 No_date    1:34   12.13 .285     .000
      [CN= 76.0: N= 3.00: Tp=  .45]
#****************************************************************************************************
# EXT6
#****************************************************************************************************
R0005:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT6            .86      .026 No_date    1:42   17.32 .407     .000
      [CN= 85.0: N= 3.00: Tp=  .56]
#****************************************************************************************************
# EXT7
#****************************************************************************************************
R0005:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT7            .47      .019 No_date    1:23   15.94 .375     .000
      [CN= 83.0: N= 3.00: Tp=  .32]
#****************************************************************************************************
# EXT8
#****************************************************************************************************
R0005:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT8            .83      .024 No_date    1:31   13.59 .320     .000
      [CN= 79.0: N= 3.00: Tp=  .42]
#****************************************************************************************************
# EXT9
#****************************************************************************************************
R0005:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT9           3.57      .083 No_date    1:36   12.13 .285     .000
      [CN= 76.0: N= 3.00: Tp=  .48]
#****************************************************************************************************
# EXT9a
#****************************************************************************************************
R0005:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT9a           .01      .001 No_date    1:00   13.07 .307     .000
      [CN= 78.0: N= 3.00: Tp=  .04]
#****************************************************************************************************
# EXT10
#****************************************************************************************************
R0005:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:EXT10           .20      .004 No_date    1:32   10.11 .238     .000
      [CN= 71.0: N= 3.00: Tp=  .42]
#****************************************************************************************************
# Pre2_1
#****************************************************************************************************
R0005:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD         1.0 01:Pre2_1          .01      .001 No_date    1:00   10.48 .246     .000
      [CN= 72.0: N= 3.00: Tp=  .03]
#****************************************************************************************************
# Pre2_2
#****************************************************************************************************
R0005:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD         1.0 01:Pre2_2          .00      .000 No_date    1:00   13.06 .307     .000
      [CN= 78.0: N= 3.00: Tp=  .02]
#****************************************************************************************************
# Pre9_1
#****************************************************************************************************
R0005:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:Pre9_1          .44      .010 No_date    1:29   10.11 .238     .000
      [CN= 71.0: N= 3.00: Tp=  .38]
#****************************************************************************************************
# Pre9_2
#****************************************************************************************************
R0005:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD         1.0 01:Pre9_2          .01      .001 No_date    1:00    6.67 .157     .000
      [CN= 59.0: N= 3.00: Tp=  .03]
#****************************************************************************************************
# Pre10_1
#****************************************************************************************************
R0005:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:Pre10_1         .80      .021 No_date    1:21   10.11 .238     .000
      [CN= 71.0: N= 3.00: Tp=  .29]
#****************************************************************************************************
# Pre11_1
#****************************************************************************************************
R0005:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:Pre11_1         .07      .003 No_date    1:14   13.07 .308     .000
      [CN= 78.0: N= 3.00: Tp=  .21]
#****************************************************************************************************
# Site 1
#****************************************************************************************************
R0005:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD      1.0 01:S1-B1           .42      .067 No_date    1:00   25.83 .608     .000
      [XIMP=.47:TIMP=.57]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
# Site 1 - Roof
#****************************************************************************************************
R0005:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD      1.0 01:S1-Roof         .07      .020 No_date    1:00   40.61 .955     .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
R0005:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:S1-Roof         .07      .020 No_date    1:00   40.61  n/a     .000
              out <=     1.0 01:S1-Roof-Ou      .07      .002 No_date    1:30   40.61  n/a     .000
         overflow <=     1.0 03:S1-Roof-Ov      .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1907E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:S1-B1           .42      .067 No_date    1:00   25.83  n/a     .000
                  +      1.0 02:S1-Roof-Ou      .07      .002 No_date    1:30   40.61  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        .49      .069 No_date    1:00   27.94  n/a     .000
R0005:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:SITE1-IN        .49      .069 No_date    1:00   27.94  n/a     .000
              out <=     1.0 01:SITE1-Out       .49      .009 No_date    1:37   27.94  n/a     .000
         overflow <=     1.0 03:SITE1-Over      .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.7169E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#****************************************************************************************************
# Site 2
#****************************************************************************************************
R0005:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD      1.0 01:S2-B3           .35      .055 No_date    1:00   25.51 .600     .000
      [XIMP=.46:TIMP=.56]
      [SLP=1.00:DT= 1.00]
      [LOSS= 1 : HORTONS]
#****************************************************************************************************
# Site 2 - Roof
#****************************************************************************************************
R0005:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    DESIGN STANDHYD      1.0 01:S2-Roof         .09      .026 No_date    1:00   40.62 .955     .000
      [XIMP=.99:TIMP=.99]
      [SLP= .50:DT= 1.00]
      [LOSS= 1 : HORTONS]
#****************************************************************************************************
R0005:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:S2-Roof         .09      .026 No_date    1:00   40.62  n/a     .000
              out <=     1.0 01:S2-Roof-Ou      .09      .007 No_date    1:11   40.62  n/a     .000
         overflow <=     1.0 03:S2-Roof-Ov      .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1586E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:S2-B3           .35      .055 No_date    1:00   25.51  n/a     .000
                  +      1.0 02:S2-Roof-Ou      .09      .007 No_date    1:11   40.62  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        .44      .062 No_date    1:00   28.60  n/a     .000
R0005:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:SITE2-IN        .44      .062 No_date    1:00   28.60  n/a     .000
              out <=     1.0 01:SITE2-Out       .44      .010 No_date    1:42   28.60  n/a     .000
         overflow <=     1.0 03:SITE2-Over      .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.6759E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:SITE1-Out       .49      .009 No_date    1:37   27.94  n/a     .000
                  +      1.0 02:SITE1-Over      .00      .000 No_date    0:00     .00  n/a     .000
               SUM=      1.0 01:Site1           .49      .009 No_date    1:37   27.94  n/a     .000
R0005:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:SITE2-Out       .44      .010 No_date    1:42   28.60  n/a     .000
                  +      1.0 02:SITE2-Over      .00      .000 No_date    0:00     .00  n/a     .000
               SUM=      1.0 01:Site2           .44      .010 No_date    1:42   28.60  n/a     .000
R0005:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:EXT2            .28      .012 No_date    1:23   17.32  n/a     .000
                  +      1.0 02:Pre2_1          .01      .001 No_date    1:00   10.48  n/a     .000
                  +      1.0 02:Site1           .49      .009 No_date    1:37   27.94  n/a     .000
                  +      1.0 02:Site2           .44      .010 No_date    1:42   28.60  n/a     .000
               SUM=      1.0 01:J1             1.23      .032 No_date    1:24   25.53  n/a     .000
R0005:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:J1             1.23      .032 No_date    1:24   25.53  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R1             1.23      .031 No_date    1:32   25.53  n/a     .000
      [L/S/n=  143./ .394/.035]
      {Vmax=  .303:Dmax=  .117}
R0005:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:R1             1.23      .031 No_date    1:32   25.53  n/a     .000
                  +      1.0 02:EXT3            .56      .020 No_date    1:23   14.13  n/a     .000
                  +      1.0 02:EXT1           3.21      .066 No_date    1:55   14.13  n/a     .000
               SUM=      1.0 01:J2             5.00      .107 No_date    1:44   16.93  n/a     .000
R0005:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:J2             5.00      .107 No_date    1:44   16.93  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R2             5.00      .107 No_date    1:46   16.93  n/a     .000
      [L/S/n=   73./ .425/.035]
      {Vmax=  .419:Dmax=  .200}
R0005:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:R2             5.00      .107 No_date    1:46   16.93  n/a     .000
                  +      1.0 02:EXT4            .31      .011 No_date    1:21   13.59  n/a     .000
               SUM=      1.0 01:J3             5.31      .114 No_date    1:42   16.74  n/a     .000
R0005:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:J3             5.31      .114 No_date    1:42   16.74  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R3             5.31      .113 No_date    1:46   16.74  n/a     .000
      [L/S/n=   92./ .274/.035]
      {Vmax=  .342:Dmax=  .206}
R0005:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:R3             5.31      .113 No_date    1:46   16.74  n/a     .000
                  +      1.0 02:EXT5            .59      .014 No_date    1:34   12.13  n/a     .000
               SUM=      1.0 01:J4             5.90      .127 No_date    1:44   16.27  n/a     .000
R0005:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:J4             5.90      .127 No_date    1:44   16.27  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R4             5.90      .119 No_date    1:58   16.27  n/a     .000
      [L/S/n=  251./ .190/.035]
      {Vmax=  .327:Dmax=  .225}
R0005:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:R4             5.90      .119 No_date    1:58   16.27  n/a     .000
                  +      1.0 02:EXT6            .86      .026 No_date    1:42   17.32  n/a     .000
                  +      1.0 02:EXT7            .47      .019 No_date    1:23   15.94  n/a     .000
               SUM=      1.0 01:J5             7.24      .154 No_date    1:52   16.38  n/a     .000
R0005:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:J5             7.24      .154 No_date    1:52   16.38  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R5             7.24      .152 No_date    1:59   16.38  n/a     .000
      [L/S/n=  237./ .644/.035]
      {Vmax=  .526:Dmax=  .214}
R0005:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:Pre10_1         .80      .021 No_date    1:21   10.11  n/a     .000
                  +      1.0 02:Pre9_2          .01      .001 No_date    1:00    6.67  n/a     .000
                  +      1.0 02:Pre2_2          .00      .000 No_date    1:00   13.06  n/a     .000
               SUM=      1.0 01:Pre             .81      .021 No_date    1:21   10.06  n/a     .000
R0005:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:Pre             .81      .021 No_date    1:21   10.06  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R6              .81      .021 No_date    1:24   10.06  n/a     .000
      [L/S/n=   77./ .776/.035]
      {Vmax=  .492:Dmax=  .016}
R0005:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:Pre9_1          .44      .010 No_date    1:29   10.11  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R7              .44      .010 No_date    1:32   10.11  n/a     .000
      [L/S/n=  159./1.576/.035]
      {Vmax=  .797:Dmax=  .003}
R0005:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:R6              .81      .031 No_date    4:24   10.29  n/a     .000
                  +      1.0 02:EXT10           .20      .004 No_date    1:32   10.11  n/a     .000
               SUM=      1.0 01:J6             1.02      .031 No_date    4:24   10.25  n/a     .000
R0005:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:J6             1.02      .031 No_date    4:24   10.25  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R8             1.02      .025 No_date    1:28   10.25  n/a     .000
      [L/S/n=   79./ .522/.035]
      {Vmax=  .423:Dmax=  .023}
R0005:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:R8             1.02      .025 No_date    1:28   10.39  n/a     .000
                  +      1.0 02:R7              .44      .023 No_date    4:43   10.43  n/a     .000
               SUM=      1.0 01:J7             1.46      .034 No_date    1:29   10.40  n/a     .000
R0005:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:J7             1.46      .034 No_date    1:29   10.40  n/a     .000
     [RDT= 1.00] out<-   1.0 01:R9             1.46      .034 No_date    1:30   10.40  n/a     .000
      [L/S/n=   29./ .887/.035]
      {Vmax=  .543:Dmax=  .023}
R0005:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:EXT9           3.57      .083 No_date    1:36   12.13  n/a     .000
                  +      1.0 02:R9             1.46      .034 No_date    1:30   10.48  n/a     .000
                  +      1.0 02:EXT8            .83      .024 No_date    1:31   13.59  n/a     .000
                  +      1.0 02:R5             7.24      .152 No_date    1:59   16.38  n/a     .000
               SUM=      1.0 01:J8            13.10      .270 No_date    1:47   14.39  n/a     .000
R0005:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->   1.0 02:J8            13.10      .270 No_date    1:47   14.39  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:Outlet        13.10      .270 No_date    1:48   14.39  n/a     .000
      [L/S/n=    8./ .010/.013]
      {Vmax=  .358:Dmax=  .858}
      [Din=  .53:Dused= 1.05}
################################################################################
# STORMS
################################################################################
  ** END OF RUN :    9

*****************************************************************************************************





 RUN#:COMMAND#
R0010:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0010 ]
```

```
00721> #*****************************************************************************************
00722> #  SWMHYMO  / INPUT DATA FILE
00723> #*****************************************************************************************
00724> #  Project Name  : [5923 Ottawa St]
00725> #  Project Number: [P2710(e01)]
00726> #  Date          : [2025 April 28]
00727> #  Modeller      : [MM]
00728> #  Company       : JFSA Canada Inc.
00729> #  License #     : 2549237
00730> #*****************************************************************************************
00731> # Model developed to simulate runoff from subcatchments under pre development conditions
00732> #*****************************************************************************************
00733> R0010:C00002-------------------------------------------------------------------------------
00734>      READ STORM
00735>        Filename = STORM.001
00736>        Comment  = CHICAGO STORM 10 Year, 3 Hours
00737>        [SDT=10.00:SDUR=   3.00:PTOT=  58.23]
00738> #*****************************************************************************************
00739> R0010:C00003-------------------------------------------------------------------------------
00740>      DEFAULT VALUES
00741>        Filename = C:\Temp\20250428-PostDev\Ottawa.val
00742>        ICASEdv  = 1 (read and print data)
00743>        FileTitle= File comment: [Parameters for City of Ottawa Projects]
00744>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
00745>        Horton's infiltration equation parameters:
00746>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
00747>        Parameters for PERVIOUS surfaces in STANDHYD:
00748>        [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
00749>        Parameters for IMPERVIOUS surfaces in STANDHYD:
00750>        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
00751>        Parameters used in NASHYD:
00752>        [Ia=   4.67 mm] [N= 3.00]
00753>        Average monthly Pan Evaporation data in    (mm)
00754>    JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC
00755>    .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00
00756>        Average monthly Potential Evapotranspiration in   (mm)
00757>    JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC
00758>    .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00
00759> #*****************************************************************************************
00760> # EXT1
00761> #*****************************************************************************************
00762> R0010:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00763>      CALIB NASHYD          1.0 01:EXT1          3.21     .088 No_date    1:54   18.55 .375     .000
00764>        [CN= 80.0: N= 3.00: Tp=  .72]
00765> #*****************************************************************************************
00766> # EXT2
00767> #*****************************************************************************************
00768> R0010:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00769>      CALIB NASHYD          1.0 01:EXT2           .28     .016 No_date    1:23   22.42 .453     .000
00770>        [CN= 85.0: N= 3.00: Tp=  .33]
00771> #*****************************************************************************************
00772> # EXT3
00773> #*****************************************************************************************
00774> R0010:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00775>      CALIB NASHYD          1.0 01:EXT3           .56     .027 No_date    1:23   18.55 .375     .000
00776>        [CN= 80.0: N= 3.00: Tp=  .32]
00777> #*****************************************************************************************
00778> # EXT4
00779> #*****************************************************************************************
00780> R0010:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00781>      CALIB NASHYD          1.0 01:EXT4           .31     .015 No_date    1:20   17.89 .361     .000
00782>        [CN= 79.0: N= 3.00: Tp=  .29]
00783> #*****************************************************************************************
00784> # EXT5
00785> #*****************************************************************************************
00786> R0010:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00787>      CALIB NASHYD          1.0 01:EXT5           .59     .019 No_date    1:33   16.07 .325     .000
00788>        [CN= 76.0: N= 3.00: Tp=  .45]
00789> #*****************************************************************************************
00790> # EXT6
00791> #*****************************************************************************************
00792> R0010:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00793>      CALIB NASHYD          1.0 01:EXT6           .86     .035 No_date    1:41   22.42 .453     .000
00794>        [CN= 85.0: N= 3.00: Tp=  .56]
00795> #*****************************************************************************************
00796> # EXT7
00797> #*****************************************************************************************
00798> R0010:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00799>      CALIB NASHYD          1.0 01:EXT7           .47     .025 No_date    1:22   20.75 .419     .000
00800>        [CN= 83.0: N= 3.00: Tp=  .32]
00801> #*****************************************************************************************
00802> # EXT8
00803> #*****************************************************************************************
00804> R0010:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00805>      CALIB NASHYD          1.0 01:EXT8           .83     .032 No_date    1:31   17.89 .361     .000
00806>        [CN= 79.0: N= 3.00: Tp=  .42]
00807> #*****************************************************************************************
00808> # EXT9
00809> #*****************************************************************************************
00810> R0010:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00811>      CALIB NASHYD          1.0 01:EXT9          3.57     .111 No_date    1:36   16.08 .325     .000
00812>        [CN= 76.0: N= 3.00: Tp=  .48]
00813> #*****************************************************************************************
00814> # EXT9a
00815> #*****************************************************************************************
00816> R0010:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00817>      CALIB NASHYD          1.0 01:EXT9a          .01     .001 No_date    1:00   17.25 .348     .000
00818>        [CN= 78.0: N= 3.00: Tp=  .04]
00819> #*****************************************************************************************
00820> # EXT10
00821> #*****************************************************************************************
00822> R0010:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00823>      CALIB NASHYD          1.0 01:EXT10          .20     .006 No_date    1:31   13.53 .273     .000
00824>        [CN= 71.0: N= 3.00: Tp=  .42]
00825> #*****************************************************************************************
00826> # Pre2_1
00827> #*****************************************************************************************
00828> R0010:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00829>  *   CALIB NASHYD          1.0 01:Pre2_1         .01     .001 No_date    1:00   13.99 .283     .000
00830>        [CN= 72.0: N= 3.00: Tp=  .03]
00831> #*****************************************************************************************
00832> # Pre2_2
00833> #*****************************************************************************************
00834> R0010:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00835>  *   CALIB NASHYD          1.0 01:Pre2_2         .00     .000 No_date    1:00   17.23 .348     .000
00836>        [CN= 78.0: N= 3.00: Tp=  .02]
00837> #*****************************************************************************************
00838> # Pre9_1
00839> #*****************************************************************************************
00840> R0010:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00841>      CALIB NASHYD          1.0 01:Pre9_1         .44     .013 No_date    1:28   13.53 .273     .000
00842>        [CN= 71.0: N= 3.00: Tp=  .38]
00843> #*****************************************************************************************
00844> # Pre9_2
00845> #*****************************************************************************************
00846> R0010:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00847>  *   CALIB NASHYD          1.0 01:Pre9_2         .01     .001 No_date    1:00    9.08 .183     .000
00848>        [CN= 59.0: N= 3.00: Tp=  .03]
00849> #*****************************************************************************************
00850> # Pre10_1
00851> #*****************************************************************************************
00852> R0010:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00853>      CALIB NASHYD          1.0 01:Pre10_1        .80     .029 No_date    1:21   13.53 .273     .000
00854>        [CN= 71.0: N= 3.00: Tp=  .29]
00855> #*****************************************************************************************
00856> # Pre11_1
00857> #*****************************************************************************************
00858> R0010:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00859>      CALIB NASHYD          1.0 01:Pre11_1        .07     .004 No_date    1:14   17.25 .348     .000
00860>        [CN= 78.0: N= 3.00: Tp=  .21]
00861> #*****************************************************************************************
00862> # Site 1
00863> #*****************************************************************************************
00864> R0010:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00865>      DESIGN STANDHYD       1.0 01:S1-B1          .42     .086 No_date    1:00   31.73 .641     .000
00866>        [XIMP=.47:TIMP=.57]
00867>        [SLP=1.00:DT= 1.00]
00868>        [LOSS= 1 : HORTONS]
00869> # Site 1 - Roof
00870> #*****************************************************************************************
00871> R0010:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00872>      DESIGN STANDHYD       1.0 01:S1-Roof        .07     .024 No_date    1:00   47.58 .961     .000
00873>        [XIMP=.99:TIMP=.99]
00874>        [SLP= .50:DT= 1.00]
00875>        [LOSS= 1 : HORTONS]
00876> R0010:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00877>      ROUTE RESERVOIR ->    1.0 02:S1-Roof        .07     .024 No_date    1:00   47.58  n/a     .000
00878>                    out <=    1.0 01:S1-Roof-Ou     .07     .002 No_date    1:30   47.58  n/a     .000
00879>                 overflow <=  1.0 03:S1-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
00880>       (MxStoUsed=.2239E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00881> R0010:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00882>      ADD HYD               1.0 02:S1-B1          .42     .086 No_date    1:00   31.73  n/a     .000
00883>                        +   1.0 02:S1-Roof-Ou     .07     .002 No_date    1:30   47.58  n/a     .000
00884>                        +   1.0 02:S1-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
00885>                      SUM=  1.0 01:SITE1-IN       .49     .088 No_date    1:00   33.99  n/a     .000
00886> R0010:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00887>      ROUTE RESERVOIR ->    1.0 02:SITE1-IN       .49     .088 No_date    1:00   33.99  n/a     .000
00888>                    out <=    1.0 01:SITE1-Out      .49     .010 No_date    1:39   33.99  n/a     .000
00889>                 overflow <=  1.0 03:SITE1-Over     .00     .000 No_date    0:00     .00  n/a     .000
00890>       (MxStoUsed=.9334E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00891> #*****************************************************************************************
00892> # Site 2
00893> #*****************************************************************************************
00894> R0010:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00895>      DESIGN STANDHYD       1.0 01:S2-B3          .35     .071 No_date    1:00   31.37 .634     .000
00896>        [XIMP=.46:TIMP=.56]
00897>        [SLP=1.00:DT= 1.00]
00898>        [LOSS= 1 : HORTONS]
00899> #*****************************************************************************************
00900> # Site 2 - Roof
00901> #*****************************************************************************************
00902> R0010:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00903>      DESIGN STANDHYD       1.0 01:S2-Roof        .09     .030 No_date    1:00   47.58 .961     .000
00904>        [XIMP=.99:TIMP=.99]
00905>        [SLP= .50:DT= 1.00]
00906>        [LOSS= 1 : HORTONS]
00907> #*****************************************************************************************
00908> R0010:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00909>      ROUTE RESERVOIR ->    1.0 02:S2-Roof        .09     .030 No_date    1:00   47.58  n/a     .000
00910>                    out <=    1.0 02:S2-Roof-Ou     .09     .007 No_date    1:11   47.60  n/a     .000
00911>                 overflow <=  1.0 03:S2-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
00912>       (MxStoUsed=.1940E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00913> R0010:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00914>      ADD HYD               1.0 02:S2-B3          .35     .071 No_date    1:00   31.37  n/a     .000
00915>                        +   1.0 02:S2-Roof-Ou     .09     .007 No_date    1:11   47.60  n/a     .000
00916>                        +   1.0 02:S2-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
00917>                      SUM=  1.0 01:SITE2-IN       .44     .078 No_date    1:00   34.69  n/a     .000
00918> R0010:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00919>      ROUTE RESERVOIR ->    1.0 02:SITE2-IN       .44     .078 No_date    1:00   34.69  n/a     .000
00920>                    out <=    1.0 01:SITE2-Out      .44     .011 No_date    1:44   34.70  n/a     .000
00921>                 overflow <=  1.0 03:SITE2-Over     .00     .000 No_date    0:00     .00  n/a     .000
00922>       (MxStoUsed=.8674E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00923> R0010:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00924>      ADD HYD               1.0 02:SITE1-Out      .49     .010 No_date    1:39   33.99  n/a     .000
00925>                        +   1.0 02:SITE1-Over     .00     .000 No_date    0:00     .00  n/a     .000
00926>                      SUM=  1.0 01:Site1          .49     .010 No_date    1:39   33.99  n/a     .000
00927> R0010:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00928>      ADD HYD               1.0 02:SITE2-Out      .44     .011 No_date    1:44   34.70  n/a     .000
00929>                        +   1.0 02:SITE2-Over     .00     .000 No_date    0:00     .00  n/a     .000
00930>                      SUM=  1.0 01:Site2          .44     .011 No_date    1:44   34.70  n/a     .000
00931> R0010:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00932>      ADD HYD               1.0 02:EXT2           .28     .016 No_date    1:23   22.42  n/a     .000
00933>                        +   1.0 02:Pre2_1         .01     .001 No_date    1:00   13.99  n/a     .000
00934>                        +   1.0 02:Site1          .49     .010 No_date    1:39   33.99  n/a     .000
00935>                        +   1.0 02:Site2          .44     .011 No_date    1:44   34.70  n/a     .000
00936>                      SUM=  1.0 01:J1            1.23     .037 No_date    1:23   31.35  n/a     .000
00937> R0010:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00938>      ROUTE CHANNEL    ->   1.0 02:J1            1.23     .037 No_date    1:23   31.35  n/a     .000
00939>        [RD= 1.00] out<-    1.0 01:R1            1.23     .036 No_date    1:30   31.35  n/a     .000
00940>         [L/S/n=  143./ .394/.035]
00941>         {Vmax=  .315:Dmax=  .124}
00942> R0010:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00943>      ADD HYD               1.0 02:R1            1.23     .036 No_date    1:30   31.35  n/a     .000
00944>                        +   1.0 02:EXT3           .56     .027 No_date    1:23   18.55  n/a     .000
00945>                        +   1.0 02:EXT1          3.21     .088 No_date    1:54   18.55  n/a     .000
00946>                      SUM=  1.0 01:J2            5.00     .137 No_date    1:43   21.70  n/a     .000
00947> R0010:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00948>      ROUTE CHANNEL    ->   1.0 02:J2            5.00     .137 No_date    1:43   21.70  n/a     .000
00949>        [RD= 1.00] out<-    1.0 01:R2            5.00     .137 No_date    1:45   21.70  n/a     .000
00950>         [L/S/n=   73./ .425/.035]
00951>         {Vmax=  .446:Dmax=  .220}
00952> R0010:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00953>      ADD HYD               1.0 02:R2            5.00     .137 No_date    1:45   21.70  n/a     .000
00954>                        +   1.0 02:EXT4           .31     .015 No_date    1:20   17.89  n/a     .000
00955>                      SUM=  1.0 01:J3            5.31     .146 No_date    1:42   21.48  n/a     .000
00956> R0010:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00957>      ROUTE CHANNEL    ->   1.0 02:J3            5.31     .146 No_date    1:42   21.48  n/a     .000
00958>        [RD= 1.00] out<-    1.0 01:R3            5.31     .146 No_date    1:45   21.48  n/a     .000
00959>         [L/S/n=   92./ .274/.035]
00960>         {Vmax=  .365:Dmax=  .228}
00961> R0010:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00962>      ADD HYD               1.0 02:R3            5.31     .146 No_date    1:45   21.48  n/a     .000
00963>                        +   1.0 02:EXT5           .59     .019 No_date    1:33   16.07  n/a     .000
00964>                      SUM=  1.0 01:J4            5.90     .164 No_date    1:43   20.93  n/a     .000
00965> R0010:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00966>      ROUTE CHANNEL    ->   1.0 02:J4            5.90     .164 No_date    1:43   20.93  n/a     .000
00967>        [RD= 1.00] out<-    1.0 01:R4            5.90     .154 No_date    1:55   20.93  n/a     .000
00968>         [L/S/n=  251./ .190/.035]
00969>         {Vmax=  .354:Dmax=  .252}
00970> R0010:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00971>      ADD HYD               1.0 02:R4            5.90     .154 No_date    1:55   20.93  n/a     .000
00972>                        +   1.0 02:EXT6           .86     .035 No_date    1:41   22.42  n/a     .000
00973>                        +   1.0 02:EXT7           .47     .025 No_date    1:22   20.75  n/a     .000
00974>                      SUM=  1.0 01:J5            7.24     .201 No_date    1:49   21.10  n/a     .000
00975> R0010:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00976>      ROUTE CHANNEL    ->   1.0 02:J5            7.24     .201 No_date    1:49   21.10  n/a     .000
00977>        [RD= 1.00] out<-    1.0 01:R5            7.24     .199 No_date    1:55   21.10  n/a     .000
00978>         [L/S/n=  237./ .644/.035]
00979>         {Vmax=  .577:Dmax=  .240}
00980> R0010:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00981>      ADD HYD               1.0 02:Pre10_1        .80     .029 No_date    1:21   13.53  n/a     .000
00982>                        +   1.0 02:Pre9_2         .01     .001 No_date    1:00    9.08  n/a     .000
00983>                        +   1.0 02:Pre2_2         .00     .000 No_date    1:00   17.23  n/a     .000
00984>                      SUM=  1.0 01:Pre           .81     .029 No_date    1:20   13.46  n/a     .000
00985> R0010:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00986>      ROUTE CHANNEL    ->   1.0 02:Pre           .81     .029 No_date    1:20   13.46  n/a     .000
00987>        [RD= 1.00] out<-    1.0 01:R6            .81     .029 No_date    1:23   13.46  n/a     .000
00988>         [L/S/n=   77./ .776/.035]
00989>         {Vmax=  .492:Dmax=  .021}
00990> R0010:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00991>      ROUTE CHANNEL    ->   1.0 02:Pre9_1        .44     .013 No_date    1:28   13.53  n/a     .000
00992>        [RD= 1.00] out<-    1.0 01:R7            .44     .013 No_date    1:32   13.53  n/a     .000
00993>         [L/S/n=  159./1.576/.035]
00994>         {Vmax=  .797:Dmax=  .004}
00995> R0010:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00996>      ADD HYD               1.0 02:R6             .81     .037 No_date    4:26   13.73  n/a     .000
00997>                        +   1.0 02:EXT10          .20     .006 No_date    1:31   13.53  n/a     .000
00998>                      SUM=  1.0 01:J6            1.02     .037 No_date    4:26   13.69  n/a     .000
00999> R0010:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01000>      ROUTE CHANNEL    ->   1.0 02:J6            1.02     .037 No_date    4:26   13.69  n/a     .000
01001>        [RD= 1.00] out<-    1.0 01:R8            1.02     .034 No_date    1:28   13.69  n/a     .000
01002>         [L/S/n=   79./ .522/.035]
01003>         {Vmax=  .423:Dmax=  .027}
01004> R0010:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01005>      ADD HYD               1.0 02:R8            1.02     .034 No_date    1:28   13.84  n/a     .000
01006>                        +   1.0 02:R7             .44     .027 No_date    4:45   13.90  n/a     .000
01007>                      SUM=  1.0 01:J7            1.46     .047 No_date    1:29   13.86  n/a     .000
01008> R0010:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01009>      ROUTE CHANNEL    ->   1.0 02:J7            1.46     .047 No_date    1:29   13.86  n/a     .000
01010>        [RD= 1.00] out<-    1.0 01:R9            1.46     .047 No_date    1:30   13.86  n/a     .000
01011>         [L/S/n=   29./ .887/.035]
01012>         {Vmax=  .543:Dmax=  .032}
01013> R0010:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01014>      ADD HYD               1.0 02:EXT9          3.57     .111 No_date    1:36   16.08  n/a     .000
01015>                        +   1.0 02:R9            1.46     .047 No_date    1:30   13.96  n/a     .000
01016>                        +   1.0 02:EXT8           .83     .032 No_date    1:31   17.89  n/a     .000
01017>                        +   1.0 02:R5            7.24     .199 No_date    1:55   21.10  n/a     .000
01018>                      SUM=  1.0 01:J8           13.10     .363 No_date    1:45   18.73  n/a     .000
01019> R0010:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01020>      ROUTE PIPE       ->   1.0 02:J8           13.10     .363 No_date    1:45   18.73  n/a     .000
01021>  *   [RD= 1.00] out<-    1.0 01:Outlet        13.10     .363 No_date    1:45   18.73  n/a     .000
01022>         [L/S/n=    8./ .010/.013]
01023>         {Vmax=  .386:Dmax=  .959}
01024>         [Din=  .53:Dused= 1.17]
01025> ##########################################################################
01026> # STORMS
01027> ##########################################################################
01028>   ** END OF RUN :  24
01029>
01030> *****************************************************************************************
01031>
01032>
01033>
01034>
01035>
01036>  RUN#:COMMAND#
01037> R0025:C00001-------------------------------------------------------------------------------
01038>      START
01039>        [TZERO =    .00 hrs on        0]
01040>        [METOUT=  2   (1=imperial, 2=metric output)]
01041>        [NSTORM=  1 ]
01042>        [NRUN  = 0025 ]
01043> #*****************************************************************************************
01044> #  SWMHYMO  / INPUT DATA FILE
01045> #*****************************************************************************************
01046> #  Project Name  : [5923 Ottawa St]
01047> #  Project Number: [P2710(e01)]
01048> #  Date          : [2025 April 28]
01049> #  Modeller      : [MM]
01050> #  Company       : JFSA Canada Inc.
01051> #  License #     : 2549237
01052> #*****************************************************************************************
01053> # Model developed to simulate runoff from subcatchments under pre development conditions
01054> #*****************************************************************************************
01055> R0025:C00002-------------------------------------------------------------------------------
01056>      READ STORM
01057>        Filename = STORM.001
01058>        Comment  = CHICAGO STORM   25 Year, 3 Hours
01059>        [SDT=10.00:SDUR=   3.00:PTOT=  58.23]
01060> #*****************************************************************************************
01061> R0025:C00003-------------------------------------------------------------------------------
01062>      DEFAULT VALUES
01063>        Filename = C:\Temp\20250428-PostDev\Ottawa.val
01064>        ICASEdv  = 1 (read and print data)
01065>        FileTitle= File comment: [Parameters for City of Ottawa Projects]
01066>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
01067>        Horton's infiltration equation parameters:
01068>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
01069>        Parameters for PERVIOUS surfaces in STANDHYD:
01070>        [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
01071>        Parameters for IMPERVIOUS surfaces in STANDHYD:
01072>        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
01073>        Parameters used in NASHYD:
01074>        [Ia=   4.67 mm] [N= 3.00]
01075>        Average monthly Pan Evaporation data in    (mm)
01076>    JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC
01077>    .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00
01078>        Average monthly Potential Evapotranspiration in    (mm)
01079>    JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC
01080>    .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00
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01081> #*********************************************************************************************
01082> # EXT1
01083> #*********************************************************************************************
01084> R0025:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01085>     CALIB NASHYD          1.0 01:EXT1          3.21     .118 No_date    1:53   24.50 .421     .000
01086>          [CN= 80.0: N= 3.00: Tp=  .72]
01087> #*********************************************************************************************
01088> # EXT2
01089> #*********************************************************************************************
01090> R0025:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01091>     CALIB NASHYD          1.0 01:EXT2          .28     .022 No_date    1:22   29.15 .501     .000
01092>          [CN= 85.0: N= 3.00: Tp=  .33]
01093> #*********************************************************************************************
01094> # EXT3
01095> #*********************************************************************************************
01096> R0025:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01097>     CALIB NASHYD          1.0 01:EXT3           .56     .036 No_date    1:22   24.50 .421     .000
01098>          [CN= 80.0: N= 3.00: Tp=  .32]
01099> #*********************************************************************************************
01100> # EXT4
01101> #*********************************************************************************************
01102> R0025:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01103>     CALIB NASHYD          1.0 01:EXT4           .31     .020 No_date    1:20   23.69 .407     .000
01104>          [CN= 79.0: N= 3.00: Tp=  .29]
01105> #*********************************************************************************************
01106> # EXT5
01107> #*********************************************************************************************
01108> R0025:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01109>     CALIB NASHYD          1.0 01:EXT5           .59     .026 No_date    1:33   21.44 .368     .000
01110>          [CN= 76.0: N= 3.00: Tp=  .45]
01111> #*********************************************************************************************
01112> # EXT6
01113> #*********************************************************************************************
01114> R0025:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01115>     CALIB NASHYD          1.0 01:EXT6           .86     .046 No_date    1:40   29.15 .501     .000
01116>          [CN= 85.0: N= 3.00: Tp=  .56]
01117> #*********************************************************************************************
01118> # EXT7
01119> #*********************************************************************************************
01120> R0025:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01121>     CALIB NASHYD          1.0 01:EXT7           .47     .034 No_date    1:22   27.17 .467     .000
01122>          [CN= 83.0: N= 3.00: Tp=  .32]
01123> #*********************************************************************************************
01124> # EXT8
01125> #*********************************************************************************************
01126> R0025:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01127>     CALIB NASHYD          1.0 01:EXT8           .83     .043 No_date    1:30   23.69 .407     .000
01128>          [CN= 79.0: N= 3.00: Tp=  .42]
01129> #*********************************************************************************************
01130> # EXT9
01131> #*********************************************************************************************
01132> R0025:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01133>     CALIB NASHYD          1.0 01:EXT9          3.57     .151 No_date    1:35   21.44 .368     .000
01134>          [CN= 76.0: N= 3.00: Tp=  .48]
01135> #*********************************************************************************************
01136> # EXT9a
01137> #*********************************************************************************************
01138> R0025:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01139>     CALIB NASHYD          1.0 01:EXT9a          .01     .002 No_date    1:00   22.90 .393     .000
01140>          [CN= 78.0: N= 3.00: Tp=  .04]
01141> #*********************************************************************************************
01142> # EXT10
01143> #*********************************************************************************************
01144> R0025:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01145>     CALIB NASHYD          1.0 01:EXT10          .20     .008 No_date    1:31   18.23 .313     .000
01146>          [CN= 71.0: N= 3.00: Tp=  .42]
01147> #*********************************************************************************************
01148> # Pre2_1
01149> #*********************************************************************************************
01150> R0025:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01151>  *  CALIB NASHYD          1.0 01:Pre2_1         .01     .002 No_date    1:00   18.82 .323     .000
01152>          [CN= 72.0: N= 3.00: Tp=  .03]
01153> #*********************************************************************************************
01154> # Pre2_2
01155> #*********************************************************************************************
01156> R0025:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01157>  *  CALIB NASHYD          1.0 01:Pre2_2         .00     .000 No_date    1:00   22.87 .393     .000
01158>          [CN= 78.0: N= 3.00: Tp=  .02]
01159> #*********************************************************************************************
01160> # Pre9_1
01161> #*********************************************************************************************
01162> R0025:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01163>     CALIB NASHYD          1.0 01:Pre9_1         .44     .018 No_date    1:27   18.23 .313     .000
01164>          [CN= 71.0: N= 3.00: Tp=  .38]
01165> #*********************************************************************************************
01166> # Pre9_2
01167> #*********************************************************************************************
01168> R0025:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01169>  *  CALIB NASHYD          1.0 01:Pre9_2         .01     .001 No_date    1:00   12.46 .214     .000
01170>          [CN= 59.0: N= 3.00: Tp=  .03]
01171> #*********************************************************************************************
01172> # Pre10_1
01173> #*********************************************************************************************
01174> R0025:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01175>     CALIB NASHYD          1.0 01:Pre10_1        .80     .040 No_date    1:20   18.23 .313     .000
01176>          [CN= 71.0: N= 3.00: Tp=  .29]
01177> #*********************************************************************************************
01178> # Pre11_1
01179> #*********************************************************************************************
01180> R0025:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01181>     CALIB NASHYD          1.0 01:Pre11_1        .07     .005 No_date    1:13   22.90 .393     .000
01182>          [CN= 78.0: N= 3.00: Tp=  .21]
01183> #*********************************************************************************************
01184> # Site 1
01185> #*********************************************************************************************
01186> R0025:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01187>     DESIGN STANDHYD       1.0 01:S1-B1          .42     .109 No_date    1:00   39.40 .677     .000
01188>        [XIMP=.47:TIMP=.57]
01189>        [SLP=1.00:DT= 1.00]
01190>        [LOSS= 1 : HORTONS]
01191> # Site 1 - Roof
01192> #*********************************************************************************************
01193> R0025:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01194>     DESIGN STANDHYD       1.0 01:S1-Roof        .07     .028 No_date    1:00   56.28 .967     .000
01195>        [XIMP=.99:TIMP=.99]
01196>        [SLP= .50:DT= 1.00]
01197>        [LOSS= 1 : HORTONS]
01198> R0025:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01199>     ROUTE RESERVOIR ->    1.0 02:S1-Roof        .07     .028 No_date    1:00   56.28  n/a     .000
01200>                   out <=    1.0 01:S1-Roof-Ou     .07     .003 No_date    1:30   56.28  n/a     .000
01201>               overflow <=    1.0 03:S1-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
01202>       [MxStoUsed=.2657E-02  m3, TotOvrVol=.0000E+00  m3, N-Ovr=    0, TotDurOvf=    0.hrs]
01203> R0025:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01204>     ADD HYD               1.0 02:S1-B1          .42     .109 No_date    1:00   39.40  n/a     .000
01205>                       +    1.0 02:S1-Roof-Ou     .07     .003 No_date    1:30   56.28  n/a     .000
01206>                       +    1.0 02:S1-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
01207>                     SUM=    1.0 01:S1E1-IN        .49     .111 No_date    1:00   41.81  n/a     .000
01208> R0025:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01209>     ROUTE RESERVOIR ->    1.0 02:S1E1-IN        .49     .111 No_date    1:00   41.81  n/a     .000
01210>                   out <=    1.0 01:S1E1-Out       .49     .010 No_date    1:42   41.81  n/a     .000
01211>               overflow <=    1.0 03:S1E1-Over      .00     .000 No_date    0:00     .00  n/a     .000
01212>       [MxStoUsed=.1218E-01  m3, TotOvrVol=.0000E+00  m3, N-Ovr=    0, TotDurOvf=    0.hrs]
01213> #*********************************************************************************************
01214> # Site 2
01215> #*********************************************************************************************
01216> R0025:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01217>     DESIGN STANDHYD       1.0 01:S2-B3          .35     .090 No_date    1:00   39.04 .670     .000
01218>        [XIMP=.46:TIMP=.56]
01219>        [SLP=1.00:DT= 1.00]
01220>        [LOSS= 1 : HORTONS]
01221> #*********************************************************************************************
01222> # Site 2 - Roof
01223> #*********************************************************************************************
01224> R0025:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01225>     DESIGN STANDHYD       1.0 01:S2-Roof        .09     .036 No_date    1:00   56.27 .966     .000
01226>        [XIMP=.99:TIMP=.99]
01227>        [SLP= .50:DT= 1.00]
01228>        [LOSS= 1 : HORTONS]
01229> #*********************************************************************************************
01230> R0025:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01231>     ROUTE RESERVOIR ->    1.0 02:S2-Roof        .09     .036 No_date    1:00   56.27  n/a     .000
01232>                   out <=    1.0 01:S2-Roof-Ou     .09     .008 No_date    1:11   56.28  n/a     .000
01233>               overflow <=    1.0 03:S2-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
01234>       [MxStoUsed=.2398E-02  m3, TotOvrVol=.0000E+00  m3, N-Ovr=    0, TotDurOvf=    0.hrs]
01235> R0025:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01236>     ADD HYD               1.0 02:S2-B3          .35     .090 No_date    1:00   39.04  n/a     .000
01237>                       +    1.0 02:S2-Roof-Ou     .09     .008 No_date    1:11   56.28  n/a     .000
01238>                       +    1.0 02:S2-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
01239>                     SUM=    1.0 01:S2E2-IN        .44     .098 No_date    1:00   42.57  n/a     .000
01240> R0025:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01241>     ROUTE RESERVOIR ->    1.0 02:S2E2-IN        .44     .098 No_date    1:00   42.57  n/a     .000
01242>                   out <=    1.0 01:S2E2-Out       .44     .012 No_date    1:49   42.57  n/a     .000
01243>               overflow <=    1.0 03:S2E2-Over      .00     .000 No_date    0:00     .00  n/a     .000
01244>       [MxStoUsed=.1116E-01  m3, TotOvrVol=.0000E+00  m3, N-Ovr=    0, TotDurOvf=    0.hrs]
01245> R0025:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01246>     ADD HYD               1.0 02:S2E2-Out       .44     .012 No_date    1:42   41.81  n/a     .000
01247>                       +    1.0 02:S2E2-Over      .00     .000 No_date    0:00     .00  n/a     .000
01248>                     SUM=    1.0 01:Site1          .49     .010 No_date    1:42   41.81  n/a     .000
01249> R0025:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01250>     ADD HYD               1.0 02:S2E2-Out       .44     .012 No_date    1:49   42.57  n/a     .000
01251>                       +    1.0 02:S2E2-Over      .00     .000 No_date    0:00     .00  n/a     .000
01252>                     SUM=    1.0 01:Site2          .44     .012 No_date    1:49   42.57  n/a     .000
01253> R0025:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01254>     ADD HYD               1.0 02:EXT2           .28     .022 No_date    1:22   29.15  n/a     .000
01255>                       +    1.0 02:Pre2_1         .01     .002 No_date    1:00   18.82  n/a     .000
01256>                       +    1.0 02:Site1          .49     .010 No_date    1:42   41.81  n/a     .000
01257>                       +    1.0 02:Site2          .44     .012 No_date    1:49   42.57  n/a     .000
01258>                     SUM=    1.0 01:J1            1.23     .043 No_date    1:22   38.90  n/a     .000
01259> R0025:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01260>     ROUTE CHANNEL   ->    1.0 02:J1            1.23     .043 No_date    1:22   38.90  n/a     .000
01261>       [RDT= 1.00] out<-    1.0 01:R1            1.23     .042 No_date    1:29   38.90  n/a     .000
01262>        [L/S/n=  143./ .394/.035]
01263>        [Vmax=  .331:Dmax=  .134]
01264> R0025:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01265>     ADD HYD               1.0 02:R1            1.23     .042 No_date    1:29   38.90  n/a     .000
01266>                       +    1.0 02:EXT3           .56     .036 No_date    1:22   24.50  n/a     .000
01267>                       +    1.0 02:EXT1           .21     .118 No_date    1:53   24.50  n/a     .000
01268>                     SUM=    1.0 01:J2            5.00     .178 No_date    1:42   28.04  n/a     .000
01269> R0025:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01270>     ROUTE CHANNEL   ->    1.0 02:J2            5.00     .178 No_date    1:42   28.04  n/a     .000
01271>       [RDT= 1.00] out<-    1.0 01:R2            5.00     .177 No_date    1:44   28.04  n/a     .000
01272>        [L/S/n=   73./ .425/.035]
01273>        [Vmax=  .478:Dmax=  .245]
01274> R0025:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01275>     ADD HYD               1.0 02:R2            5.00     .177 No_date    1:44   28.04  n/a     .000
01276>                       +    1.0 02:EXT4           .31     .020 No_date    1:20   23.69  n/a     .000
01277>                     SUM=    1.0 01:J3            5.31     .190 No_date    1:41   27.79  n/a     .000
01278> R0025:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01279>     ROUTE CHANNEL   ->    1.0 02:J3            5.31     .190 No_date    1:41   27.79  n/a     .000
01280>       [RDT= 1.00] out<-    1.0 01:R3            5.31     .189 No_date    1:44   27.79  n/a     .000
01281>        [L/S/n=   92./ .274/.035]
01282>        [Vmax=  .391:Dmax=  .253]
01283> R0025:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01284>     ADD HYD               1.0 02:R3            5.31     .189 No_date    1:44   27.79  n/a     .000
01285>                       +    1.0 02:EXT5           .59     .026 No_date    1:33   21.44  n/a     .000
01286>                     SUM=    1.0 01:J4            5.90     .214 No_date    1:42   27.15  n/a     .000
01287> R0025:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01288>     ROUTE CHANNEL   ->    1.0 02:J4            5.90     .214 No_date    1:42   27.15  n/a     .000
01289>       [RDT= 1.00] out<-    1.0 01:R4            5.90     .203 No_date    1:53   27.15  n/a     .000
01290>        [L/S/n=  251./ .190/.035]
01291>        [Vmax=  .383:Dmax=  .283]
01292> R0025:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01293>     ADD HYD               1.0 02:R4            5.90     .203 No_date    1:53   27.15  n/a     .000
01294>                       +    1.0 02:EXT6           .86     .046 No_date    1:40   29.15  n/a     .000
01295>                       +    1.0 02:EXT7           .47     .034 No_date    1:22   27.17  n/a     .000
01296>                     SUM=    1.0 01:J5            7.24     .266 No_date    1:47   27.39  n/a     .000
01297> R0025:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01298>     ROUTE CHANNEL   ->    1.0 02:J5            7.24     .266 No_date    1:47   27.39  n/a     .000
01299>       [RDT= 1.00] out<-    1.0 01:R5            7.24     .262 No_date    1:53   27.39  n/a     .000
01300>        [L/S/n=  237./ .644/.035]
01301>        [Vmax=  .622:Dmax=  .266]
01302> R0025:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01303>     ADD HYD               1.0 02:Pre10_1        .80     .040 No_date    1:20   18.23  n/a     .000
01304>                       +    1.0 02:Pre9_2         .01     .001 No_date    1:00   12.46  n/a     .000
01305>                       +    1.0 02:Pre2_2         .00     .000 No_date    1:00   22.87  n/a     .000
01306>                     SUM=    1.0 01:Pre           .81     .040 No_date    1:20   18.15  n/a     .000
01307> R0025:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01308>     ROUTE CHANNEL   ->    1.0 02:Pre           .81     .040 No_date    1:20   18.15  n/a     .000
01309>       [RDT= 1.00] out<-    1.0 01:R6            .81     .039 No_date    1:23   18.15  n/a     .000
01310>        [L/S/n=   77./ .776/.035]
01311>        [Vmax=  .492:Dmax=  .029]
01312> R0025:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01313>     ROUTE CHANNEL   ->    1.0 02:Pre9_1         .44     .018 No_date    1:27   18.23  n/a     .000
01314>       [RDT= 1.00] out<-    1.0 01:R7            .44     .018 No_date    1:31   18.23  n/a     .000
01315>        [L/S/n=  159./1.576/.035]
01316>        [Vmax=  .797:Dmax=  .005]
01317> R0025:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01318>     ADD HYD               1.0 02:R6            .81     .043 No_date    4:27   18.46  n/a     .000
01319>                       +    1.0 02:EXT10          .20     .008 No_date    1:31   18.23  n/a     .000
01320>                     SUM=    1.0 01:J6            1.02     .047 No_date    1:24   18.41  n/a     .000
01321> R0025:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01322>     ROUTE CHANNEL   ->    1.0 02:J6            1.02     .047 No_date    1:24   18.41  n/a     .000
01323>       [RDT= 1.00] out<-    1.0 01:R8            1.02     .046 No_date    1:27   18.41  n/a     .000
01324>        [L/S/n=   79./ .522/.035]
01325>        [Vmax=  .423:Dmax=  .034]
01326> R0025:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01327>     ADD HYD               1.0 02:R8            1.02     .046 No_date    1:27   18.59  n/a     .000
01328>                       +    1.0 02:R7             .44     .031 No_date    4:48   18.66  n/a     .000
01329>                     SUM=    1.0 01:J7            1.46     .064 No_date    1:28   18.61  n/a     .000
01330> R0025:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01331>     ROUTE CHANNEL   ->    1.0 02:J7            1.46     .064 No_date    1:28   18.61  n/a     .000
01332>       [RDT= 1.00] out<-    1.0 01:R9            1.46     .064 No_date    1:29   18.61  n/a     .000
01333>        [L/S/n=   29./ .887/.035]
01334>        [Vmax=  .543:Dmax=  .043]
01335> R0025:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01336>     ADD HYD               1.0 02:EXT9          3.57     .151 No_date    1:35   21.44  n/a     .000
01337>                       +    1.0 02:R9            1.46     .064 No_date    1:29   18.72  n/a     .000
01338>                       +    1.0 02:EXT8           .83     .043 No_date    1:30   23.69  n/a     .000
01339>                       +    1.0 02:R5            7.24     .262 No_date    1:53   27.39  n/a     .000
01340>                     SUM=    1.0 01:J8           13.10     .489 No_date    1:42   24.57  n/a     .000
01341> R0025:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01342>     ROUTE PIPE      ->    1.0 02:J8           13.10     .489 No_date    1:42   24.57  n/a     .000
01343>  *  [RDT= 1.00] out<-    1.0 01:Outlet        13.10     .489 No_date    1:44   24.57  n/a     .000
01344>        [L/S/n=   8./ .010/.013]
01345>        [Vmax=  .416:Dmax= 1.072]
01346>        [Din=  .53:Dused= 1.31]
01347> ##################################################################################
01348> # STORMS
01349> ##################################################################################
01350>   ** END OF RUN : 49
01351>
01352> ***********************************************************************************************
01353>
01354>
01355>
01356>
01357>
01358> RUN#:COMMAND#
01359> R0050:C00001-----------------------------------------------------------------------------------
01360>      START
01361>       [ZERO =    .00 hrs on        0]
01362>       [METOUT=   2   (1=imperial, 2=metric output)]
01363>       [NSTORM=   1 ]
01364>       [NRUN  = 0050 ]
01365> ***********************************************************************************************
01366> #  SWMHYMO  / INPUT DATA FILE
01367> ***********************************************************************************************
01368> #  Project Name  : [5923 Ottawa St]
01369> #  Project Number: [P2710(e01)]
01370> #  Date          : [2025 April 28]
01371> #  Modeller      : [MM]
01372> #  Company       : JFSA Canada Inc.
01373> #  License #     : 2549237
01374> ***********************************************************************************************
01375> # Model developed to simulate runoff from subcatchments under pre development conditions
01376> ***********************************************************************************************
01377> R0050:C00002-----------------------------------------------------------------------------------
01378>      READ STORM
01379>       Filename = STORM.001
01380>       Comment  = CHICAGO STORM  50 Year, 3 Hours
01381>       [SDT=10.00:SDUR=    3.00:PTOT=  64.81]
01382> ***********************************************************************************************
01383> R0050:C00003-----------------------------------------------------------------------------------
01384>      DEFAULT VALUES
01385>       Filename = C:\Temp\20250428-PostDev\Ottawa.val
01386>       ICASEdv  = 1 (read and print data)
01387>       FileTitle= File comment: [Parameters for City of Ottawa Projects]
01388>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
01389>       Horton's infiltration equation parameters:
01390>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr]  [F=  .00 mm]
01391>       Parameters for PERVIOUS surfaces in STANDHYD:
01392>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
01393>       Parameters for IMPERVIOUS surfaces in STANDHYD:
01394>       [IAimp=   1.57 mm] [CLI= 1.50]    [MNI= .013]
01395>       Parameters used in NASHYD:
01396>       [Ia=   4.67 mm] [N= 3.00]
01397>       Average monthly Pan Evaporation data in    (mm)
01398>    JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC
01399>   .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00
01400>       Average monthly Potential Evapotranspiration in    (mm)
01401>    JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC
01402>   .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00
01403> ***********************************************************************************************
01404> # EXT1
01405> ***********************************************************************************************
01406> R0050:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01407>     CALIB NASHYD          1.0 01:EXT1          3.21     .142 No_date    1:53   29.25 .451     .000
01408>          [CN= 80.0: N= 3.00: Tp=  .72]
01409> ***********************************************************************************************
01410> # EXT2
01411> ***********************************************************************************************
01412> R0050:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01413>     CALIB NASHYD          1.0 01:EXT2           .28     .026 No_date    1:22   34.45 .532     .000
01414>          [CN= 85.0: N= 3.00: Tp=  .33]
01415> ***********************************************************************************************
01416> # EXT3
01417> ***********************************************************************************************
01418> R0050:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01419>     CALIB NASHYD          1.0 01:EXT3           .56     .044 No_date    1:22   29.25 .451     .000
01420>          [CN= 80.0: N= 3.00: Tp=  .32]
01421> ***********************************************************************************************
01422> # EXT4
01423> ***********************************************************************************************
01424> R0050:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01425>     CALIB NASHYD          1.0 01:EXT4           .31     .025 No_date    1:19   28.33 .437     .000
01426>          [CN= 79.0: N= 3.00: Tp=  .29]
01427> ***********************************************************************************************
01428> # EXT5
01429> ***********************************************************************************************
01430> R0050:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01431>     CALIB NASHYD          1.0 01:EXT5           .59     .032 No_date    1:32   25.77 .398     .000
01432>          [CN= 76.0: N= 3.00: Tp=  .45]
01433> ***********************************************************************************************
01434> # EXT6
01435> ***********************************************************************************************
01436> R0050:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01437>     CALIB NASHYD          1.0 01:EXT6           .86     .055 No_date    1:40   34.45 .532     .000
01438>          [CN= 85.0: N= 3.00: Tp=  .56]
01439> ***********************************************************************************************
01440> # EXT7
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01441> #*******************************************************************************
01442> R0050:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01443>      CALIB NASHYD            1.0 01:EXT7             .47     .041 No_date    1:21   32.24 .498    .000
01444>        [CN= 83.0: N= 3.00: Tp=  .32]
01445> #*******************************************************************************
01446> # EXT8
01447> #*******************************************************************************
01448> R0050:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01449>      CALIB NASHYD            1.0 01:EXT8             .83     .052 No_date    1:30   28.33 .437    .000
01450>        [CN= 79.0: N= 3.00: Tp=  .42]
01451> #*******************************************************************************
01452> # EXT9
01453> #*******************************************************************************
01454> R0050:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01455>      CALIB NASHYD            1.0 01:EXT9            3.57     .183 No_date    1:35   25.77 .398    .000
01456>        [CN= 76.0: N= 3.00: Tp=  .48]
01457> #*******************************************************************************
01458> # EXT9a
01459> #*******************************************************************************
01460> R0050:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01461>      CALIB NASHYD            1.0 01:EXT9a            .01     .002 No_date    1:00   27.43 .423    .000
01462>        [CN= 78.0: N= 3.00: Tp=  .04]
01463> #*******************************************************************************
01464> # EXT10
01465> #*******************************************************************************
01466> R0050:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01467>      CALIB NASHYD            1.0 01:EXT10            .20     .010 No_date    1:30   22.06 .340    .000
01468>        [CN= 71.0: N= 3.00: Tp=  .42]
01469> #*******************************************************************************
01470> # Pre2_1
01471> #*******************************************************************************
01472> R0050:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01473> *    CALIB NASHYD            1.0 01:Pre2_1           .01     .002 No_date    1:00   22.75 .351    .000
01474>        [CN= 72.0: N= 3.00: Tp=  .03]
01475> #*******************************************************************************
01476> # Pre2_2
01477> #*******************************************************************************
01478> R0050:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01479> *    CALIB NASHYD            1.0 01:Pre2_2           .00     .000 No_date    1:00   27.40 .423    .000
01480>        [CN= 78.0: N= 3.00: Tp=  .02]
01481> #*******************************************************************************
01482> # Pre9_1
01483> #*******************************************************************************
01484> R0050:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01485>      CALIB NASHYD            1.0 01:Pre9_1           .44     .022 No_date    1:27   22.07 .340    .000
01486>        [CN= 71.0: N= 3.00: Tp=  .38]
01487> #*******************************************************************************
01488> # Pre9_2
01489> #*******************************************************************************
01490> R0050:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01491> *    CALIB NASHYD            1.0 01:Pre9_2           .01     .002 No_date    1:00   15.27 .236    .000
01492>        [CN= 59.0: N= 3.00: Tp=  .03]
01493> #*******************************************************************************
01494> # Pre10_1
01495> #*******************************************************************************
01496> R0050:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01497>      CALIB NASHYD            1.0 01:Pre10_1           .80     .048 No_date    1:20   22.07 .340    .000
01498>        [CN= 71.0: N= 3.00: Tp=  .29]
01499> #*******************************************************************************
01500> # Pre11_1
01501> #*******************************************************************************
01502> R0050:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01503>      CALIB NASHYD            1.0 01:Pre11_1           .07     .006 No_date    1:13   27.44 .423    .000
01504>        [CN= 78.0: N= 3.00: Tp=  .21]
01505> #*******************************************************************************
01506> # Site 1
01507> #*******************************************************************************
01508> R0050:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01509>      DESIGN STANDHYD         1.0 01:S1-B1            .42     .125 No_date    1:00   45.26 .698    .000
01510>        [XIMP=.47:TIMP=.57]
01511>        [SLP=1.00:DT= 1.00]
01512>        [LOSS= 1 : HORTONS]
01513> # Site 1 - Roof
01514> #*******************************************************************************
01515> R0050:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01516>      DESIGN STANDHYD         1.0 01:S1-Roof          .07     .031 No_date    1:00   62.84 .970    .000
01517>        [XIMP=.99:TIMP=.99]
01518>        [SLP= .50:DT= 1.00]
01519>        [LOSS= 1 : HORTONS]
01520> R0050:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01521>      ROUTE RESERVOIR ->      1.0 02:S1-Roof          .07     .031 No_date    1:00   62.84  n/a    .000
01522>                  out <=      1.0 01:S1-Roof-Ou       .07     .003 No_date    1:30   62.84  n/a    .000
01523>              overflow <=     1.0 03:S1-Roof-Ov       .00     .000 No_date    0:00    .00  n/a    .000
01524>      (MxStoUsed=.2971E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01525> R0050:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01526>      ADD HYD                 1.0 02:S1-B1            .42     .125 No_date    1:00   45.26  n/a    .000
01527>                        +     1.0 02:S1-Roof-Ou       .07     .003 No_date    1:30   62.84  n/a    .000
01528>                        +     1.0 02:S1-Roof-Ov       .00     .000 No_date    0:00    .00  n/a    .000
01529>                      SUM=    1.0 01:SITE1-IN         .49     .127 No_date    1:00   47.77  n/a    .000
01530> R0050:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01531>      ROUTE RESERVOIR ->      1.0 02:SITE1-IN         .49     .127 No_date    1:00   47.77  n/a    .000
01532>                  out <=      1.0 01:SITE1-Out        .49     .011 No_date    1:43   47.77  n/a    .000
01533>              overflow <=     1.0 03:SITE1-Over       .00     .000 No_date    0:00    .00  n/a    .000
01534>      (MxStoUsed=.1431E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01535> #*******************************************************************************
01536> # Site 2
01537> #*******************************************************************************
01538> R0050:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01539>      DESIGN STANDHYD         1.0 01:S2-B3            .35     .106 No_date    1:00   44.84 .692    .000
01540>        [XIMP=.46:TIMP=.56]
01541>        [SLP=1.00:DT= 1.00]
01542>        [LOSS= 1 : HORTONS]
01543> #*******************************************************************************
01544> # Site 2 - Roof
01545> #*******************************************************************************
01546> R0050:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01547>      DESIGN STANDHYD         1.0 01:S2-Roof          .09     .040 No_date    1:00   62.84 .970    .000
01548>        [XIMP=.99:TIMP=.99]
01549>        [SLP= .50:DT= 1.00]
01550>        [LOSS= 1 : HORTONS]
01551> #*******************************************************************************
01552> R0050:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01553>      ROUTE RESERVOIR ->      1.0 02:S2-Roof          .09     .040 No_date    1:00   62.84  n/a    .000
01554>                  out <=      1.0 01:S2-Roof-Ou       .09     .008 No_date    1:11   62.85  n/a    .000
01555>              overflow <=     1.0 03:S2-Roof-Ov       .00     .000 No_date    0:00    .00  n/a    .000
01556>      (MxStoUsed=.2749E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01557> R0050:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01558>      ADD HYD                 1.0 02:S2-B3            .35     .106 No_date    1:00   44.84  n/a    .000
01559>                        +     1.0 02:S2-Roof-Ou       .09     .008 No_date    1:11   62.85  n/a    .000
01560>                        +     1.0 02:S2-Roof-Ov       .00     .000 No_date    0:00    .00  n/a    .000
01561>                      SUM=    1.0 01:SITE2-IN         .44     .114 No_date    1:00   48.53  n/a    .000
01562> R0050:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01563>      ROUTE RESERVOIR ->      1.0 02:SITE2-IN         .44     .114 No_date    1:00   48.53  n/a    .000
01564>                  out <=      1.0 01:SITE2-Out        .44     .014 No_date    1:43   48.53  n/a    .000
01565>              overflow <=     1.0 03:SITE2-Over       .00     .000 No_date    0:00    .00  n/a    .000
01566>      (MxStoUsed=.1274E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01567> R0050:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01568>      ADD HYD                 1.0 02:SITE1-Out        .49     .011 No_date    1:43   47.77  n/a    .000
01569>                        +     1.0 02:SITE1-Over       .00     .000 No_date    0:00    .00  n/a    .000
01570>                      SUM=    1.0 01:Site1            .49     .011 No_date    1:43   47.77  n/a    .000
01571> R0050:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01572>      ADD HYD                 1.0 02:SITE2-Out        .44     .014 No_date    1:43   48.53  n/a    .000
01573>                        +     1.0 02:SITE2-Over       .00     .000 No_date    0:00    .00  n/a    .000
01574>                      SUM=    1.0 01:Site2            .44     .014 No_date    1:43   48.53  n/a    .000
01575> R0050:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01576>      ADD HYD                 1.0 02:EXT2             .28     .026 No_date    1:22   34.45  n/a    .000
01577>                        +     1.0 02:Pre2_1           .01     .002 No_date    1:00   22.75  n/a    .000
01578>                        +     1.0 02:Site1            .49     .011 No_date    1:43   47.77  n/a    .000
01579>                        +     1.0 02:Site2            .44     .014 No_date    1:43   48.53  n/a    .000
01580>                      SUM=    1.0 01:J1              1.23     .050 No_date    1:25   44.69  n/a    .000
01581> R0050:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01582>      ROUTE CHANNEL   ->      1.0 02:J1              1.23     .050 No_date    1:25   44.69  n/a    .000
01583>        [RD= 1.00] out<-      1.0 01:R1              1.23     .049 No_date    1:30   44.69  n/a    .000
01584>        [L/S/n=  143./ .394/.035]
01585>        (Vmax=  .348:Dmax=  .144)
01586> R0050:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01587>      ADD HYD                 1.0 02:R1              1.23     .049 No_date    1:30   44.69  n/a    .000
01588>                        +     1.0 02:EXT3             .56     .044 No_date    1:22   29.25  n/a    .000
01589>                        +     1.0 02:EXT1             3.21     .142 No_date    1:53   29.25  n/a    .000
01590>                      SUM=    1.0 01:J2              5.00     .212 No_date    1:41   33.04  n/a    .000
01591> R0050:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01592>      ROUTE CHANNEL   ->      1.0 02:J2              5.00     .212 No_date    1:41   33.04  n/a    .000
01593>        [RD= 1.00] out<-      1.0 01:R2              5.00     .212 No_date    1:43   33.04  n/a    .000
01594>        [L/S/n=   73./ .425/.035]
01595>        (Vmax=  .501:Dmax=  .263)
01596> R0050:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01597>      ADD HYD                 1.0 02:R2              5.00     .212 No_date    1:43   33.04  n/a    .000
01598>                        +     1.0 02:EXT4             .31     .025 No_date    1:19   28.33  n/a    .000
01599>                      SUM=    1.0 01:J3              5.31     .228 No_date    1:40   32.77  n/a    .000
01600> R0050:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01601>      ROUTE CHANNEL   ->      1.0 02:J3              5.31     .228 No_date    1:40   32.77  n/a    .000
01602>        [RD= 1.00] out<-      1.0 01:R3              5.31     .226 No_date    1:43   32.77  n/a    .000
01603>        [L/S/n=   92./ .274/.035]
01604>        (Vmax=  .409:Dmax=  .271)
01605> R0050:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01606>      ADD HYD                 1.0 02:R3              5.31     .226 No_date    1:43   32.77  n/a    .000
01607>                        +     1.0 02:EXT5             .59     .032 No_date    1:32   25.77  n/a    .000
01608>                      SUM=    1.0 01:J4              5.90     .257 No_date    1:41   32.06  n/a    .000
01609> R0050:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01610>      ROUTE CHANNEL   ->      1.0 02:J4              5.90     .257 No_date    1:41   32.06  n/a    .000
01611>        [RD= 1.00] out<-      1.0 01:R4              5.90     .244 No_date    1:52   32.06  n/a    .000
01612>        [L/S/n=  251./ .190/.035]
01613>        (Vmax=  .402:Dmax=  .306)
01614> R0050:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01615>      ADD HYD                 1.0 02:R4              5.90     .244 No_date    1:52   32.06  n/a    .000
01616>                        +     1.0 02:EXT6             .86     .055 No_date    1:40   34.44  n/a    .000
01617>                        +     1.0 02:EXT7             .47     .041 No_date    1:21   32.24  n/a    .000
01618>                      SUM=    1.0 01:J5              7.24     .320 No_date    1:46   32.36  n/a    .000
01619> R0050:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01620>      ROUTE CHANNEL   ->      1.0 02:J5              7.24     .320 No_date    1:46   32.36  n/a    .000
01621>      [RD= 1.00] out<-      1.0 01:R5              7.24     .316 No_date    1:52   32.36  n/a    .000
01622>        [L/S/n=  237./ .644/.035]
01623>        (Vmax=  .655:Dmax=  .286)
01624> R0050:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01625>      ADD HYD                 1.0 02:Pre10_1          .80     .048 No_date    1:20   22.07  n/a    .000
01626>                        +     1.0 02:Pre9_2           .01     .002 No_date    1:00   15.27  n/a    .000
01627>                        +     1.0 02:Pre2_2           .00     .000 No_date    1:00   27.40  n/a    .000
01628>                      SUM=    1.0 01:Pre              .81     .049 No_date    1:20   21.96  n/a    .000
01629> R0050:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01630>      ROUTE CHANNEL   ->      1.0 02:Pre              .81     .049 No_date    1:20   21.96  n/a    .000
01631>      [RD= 1.00] out<-      1.0 01:R6               .81     .048 No_date    1:23   21.96  n/a    .000
01632>        [L/S/n=   77./ .776/.035]
01633>        (Vmax=  .492:Dmax=  .036)
01634> R0050:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01635>      ROUTE CHANNEL   ->      1.0 02:Pre9_1           .44     .022 No_date    1:27   22.07  n/a    .000
01636>      [RD= 1.00] out<-      1.0 01:R7               .44     .022 No_date    1:31   22.07  n/a    .000
01637>        [L/S/n=  159./1.576/.035]
01638>        (Vmax=  .797:Dmax=  .007)
01639> R0050:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01640>      ADD HYD                 1.0 02:R6               .81     .048 No_date    1:23   22.30  n/a    .000
01641>                        +     1.0 02:EXT10            .20     .010 No_date    1:30   22.06  n/a    .000
01642>                      SUM=    1.0 01:J6              1.02     .057 No_date    1:24   22.25  n/a    .000
01643> R0050:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01644>      ROUTE CHANNEL   ->      1.0 02:J6              1.02     .057 No_date    1:24   22.25  n/a    .000
01645>      [RD= 1.00] out<-      1.0 01:R8              1.02     .057 No_date    1:27   22.25  n/a    .000
01646>        [L/S/n=   79./ .522/.035]
01647>        (Vmax=  .423:Dmax=  .042)
01648> R0050:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01649>      ADD HYD                 1.0 02:R8              1.02     .057 No_date    1:27   22.44  n/a    .000
01650>                        +     1.0 02:R7               .44     .034 No_date    4:50   22.53  n/a    .000
01651>                      SUM=    1.0 01:J7              1.46     .078 No_date    1:28   22.47  n/a    .000
01652> R0050:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01653>      ROUTE CHANNEL   ->      1.0 02:J7              1.46     .078 No_date    1:28   22.47  n/a    .000
01654>      [RD= 1.00] out<-      1.0 01:R9              1.46     .078 No_date    1:29   22.47  n/a    .000
01655>        [L/S/n=   29./ .887/.035]
01656>        (Vmax=  .543:Dmax=  .053)
01657> R0050:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01658>      ADD HYD                 1.0 02:EXT9            3.57     .183 No_date    1:35   25.77  n/a    .000
01659>                        +     1.0 02:R9               1.46     .078 No_date    1:29   22.58  n/a    .000
01660>                        +     1.0 02:EXT8             .83     .052 No_date    1:30   28.33  n/a    .000
01661>                        +     1.0 02:R5               7.24     .316 No_date    1:52   32.36  n/a    .000
01662>                      SUM=    1.0 01:J8              13.10     .594 No_date    1:42   29.22  n/a    .000
01663> R0050:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01664>      ROUTE PIPE      ->      1.0 02:J8              13.10     .594 No_date    1:42   29.22  n/a    .000
01665> *    [RD= 1.00] out<-      1.0 01:Outlet          13.10     .594 No_date    1:43   29.22  n/a    .000
01666>        [L/S/n=   8./ .010/.013]
01667>        (Vmax=  .436:Dmax= 1.153)
01668>        [Din=  .53:Dused= 1.41]
01669> ################################################################################
01670> # STORMS
01671> ################################################################################
01672>    ** END OF RUN :  98
01673>
01674> ********************************************************************************
01675>
01676>
01677>
01678>
01679>
01680>  RUN#:COMMAND#
01681> R0099:C00001------------------------------------------------------------------
01682>      START
01683>       [TZERO =    .00 hrs on        0]
01684>       [METOUT=   2    (1=imperial, 2=metric output)]
01685>       [NSTORM=   1 ]
01686>       [NRUN  = 0099 ]
01687> ********************************************************************************
01688> #  SWMHYMO  / INPUT DATA FILE
01689> ********************************************************************************
01690> #  Project Name  : [5923 Ottawa St]
01691> #  Project Number: [P2710(e01)]
01692> #  Date          : [2025 April 28]
01693> #  Modellier     : [MM]
01694> #  Company       : JFSA Canada Inc.
01695> #  License #     : 2549237
01696> ********************************************************************************
01697> # Model developed to simulate runoff from subcatchments under pre development conditions
01698> ********************************************************************************
01699> R0099:C00002------------------------------------------------------------------
01700>      READ STORM
01701>       Filename = STORM.001
01702>       Comment  = CHICAGO STORM   100 Year, 3 Hours
01703>       [SDT=10.00:SDUR=    3.00:PTOT=  71.66]
01704> ********************************************************************************
01705> R0099:C00003------------------------------------------------------------------
01706>      DEFAULT VALUES
01707>       Filename = C:\Temp\20250428-PostDev\Ottawa.val
01708>       ICASEdv  = 1 (read and print data)
01709>       FileTitle= File comment: [Parameters for City of Ottawa Projects]
01710>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
01711>       Horton's infiltration equation parameters:
01712>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
01713>       Parameters for PERVIOUS surfaces in STANDHYD:
01714>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
01715>       Parameters for IMPERVIOUS surfaces in STANDHYD:
01716>       [IAimp=   1.57 mm] [CLI= 1.50]    [MNI= .013]
01717>       Parameters used in NASHYD:
01718>       [Ia=   4.67 mm] [N= 3.00]
01719>       Average monthly Fan Evaporation data in    (mm)
01720>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01721>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01722>       Average monthly Potential Evapotranspiration in    (mm)
01723>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01724>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01725> ********************************************************************************
01726> # EXT1
01727> ********************************************************************************
01728> R0099:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01729>      CALIB NASHYD            1.0 01:EXT1             3.21     .167 No_date    1:52   34.39 .480    .000
01730>        [CN= 80.0: N= 3.00: Tp=  .72]
01731> ********************************************************************************
01732> # EXT2
01733> ********************************************************************************
01734> R0099:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01735>      CALIB NASHYD            1.0 01:EXT2             .28     .031 No_date    1:22   40.14 .560    .000
01736>        [CN= 85.0: N= 3.00: Tp=  .33]
01737> ********************************************************************************
01738> # EXT3
01739> ********************************************************************************
01740> R0099:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01741>      CALIB NASHYD            1.0 01:EXT3             .56     .052 No_date    1:21   34.39 .480    .000
01742>        [CN= 80.0: N= 3.00: Tp=  .32]
01743> ********************************************************************************
01744> # EXT4
01745> ********************************************************************************
01746> R0099:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01747>      CALIB NASHYD            1.0 01:EXT4             .31     .029 No_date    1:19   33.37 .466    .000
01748>        [CN= 79.0: N= 3.00: Tp=  .29]
01749> ********************************************************************************
01750> # EXT5
01751> ********************************************************************************
01752> R0099:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01753>      CALIB NASHYD            1.0 01:EXT5             .59     .038 No_date    1:32   30.49 .425    .000
01754>        [CN= 76.0: N= 3.00: Tp=  .45]
01755> ********************************************************************************
01756> # EXT6
01757> ********************************************************************************
01758> R0099:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01759>      CALIB NASHYD            1.0 01:EXT6             .86     .064 No_date    1:39   40.14 .560    .000
01760>        [CN= 85.0: N= 3.00: Tp=  .56]
01761> ********************************************************************************
01762> # EXT7
01763> ********************************************************************************
01764> R0099:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01765>      CALIB NASHYD            1.0 01:EXT7             .47     .048 No_date    1:21   37.71 .526    .000
01766>        [CN= 83.0: N= 3.00: Tp=  .32]
01767> ********************************************************************************
01768> # EXT8
01769> ********************************************************************************
01770> R0099:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01771>      CALIB NASHYD            1.0 01:EXT8             .83     .062 No_date    1:29   33.37 .466    .000
01772>        [CN= 79.0: N= 3.00: Tp=  .42]
01773> ********************************************************************************
01774> # EXT9
01775> ********************************************************************************
01776> R0099:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01777>      CALIB NASHYD            1.0 01:EXT9            3.57     .218 No_date    1:34   30.49 .425    .000
01778>        [CN= 76.0: N= 3.00: Tp=  .48]
01779> ********************************************************************************
01780> # EXT9a
01781> ********************************************************************************
01782> R0099:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01783>      CALIB NASHYD            1.0 01:EXT9a            .01     .003 No_date    1:00   32.37 .452    .000
01784>        [CN= 78.0: N= 3.00: Tp=  .04]
01785> ********************************************************************************
01786> # EXT10
01787> ********************************************************************************
01788> R0099:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01789>      CALIB NASHYD            1.0 01:EXT10            .20     .012 No_date    1:30   26.28 .367    .000
01790>        [CN= 71.0: N= 3.00: Tp=  .42]
01791> ********************************************************************************
01792> # Pre2_1
01793> ********************************************************************************
01794> R0099:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01795> *    CALIB NASHYD            1.0 01:Pre2_1           .01     .003 No_date    1:00   27.07 .378    .000
01796>        [CN= 72.0: N= 3.00: Tp=  .03]
01797> ********************************************************************************
01798> # Pre2_2
01799> ********************************************************************************
01800> R0099:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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01801>  *  CALIB NASHYD          1.0 01:Pre2_2          .00     .001 No_date    1:00   32.36 .451    .000
01802>       [CN= 78.0: N= 3.00: Tp=  .02]
01803> #*****************************************************************************************
01804> # Pre9_1
01805> #*****************************************************************************************
01806> R0099:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01807>      CALIB NASHYD          1.0 01:Pre9_1          .44     .027 No_date    1:27   26.29 .367    .000
01808>       [CN= 71.0: N= 3.00: Tp=  .38]
01809> #*****************************************************************************************
01810> # Pre9_2
01811> #*****************************************************************************************
01812> R0099:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01813>  *  CALIB NASHYD          1.0 01:Pre9_2          .01     .002 No_date    1:00   18.43 .257    .000
01814>       [CN= 59.0: N= 3.00: Tp=  .03]
01815> #*****************************************************************************************
01816> # Pre10_1
01817> #*****************************************************************************************
01818> R0099:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01819>      CALIB NASHYD          1.0 01:Pre10_1         .80     .058 No_date    1:20   26.29 .367    .000
01820>       [CN= 71.0: N= 3.00: Tp=  .29]
01821> #*****************************************************************************************
01822> # Pre11_1
01823> #*****************************************************************************************
01824> R0099:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01825>      CALIB NASHYD          1.0 01:Pre11_1         .07     .008 No_date    1:13   32.37 .452    .000
01826>       [CN= 78.0: N= 3.00: Tp=  .21]
01827> #*****************************************************************************************
01828> # Site 1
01829> #*****************************************************************************************
01830> R0099:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01831>      DESIGN STANDHYD       1.0 01:S1-B1           .42     .146 No_date    1:00   51.46 .718    .000
01832>        [XIMP=.47:TIMP=.57]
01833>        [SLP=1.00:DT= 1.00]
01834>        [LOSS= 1 : HORTONS]
01835> # Site 1 - Roof
01836> #*****************************************************************************************
01837> R0099:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01838>      DESIGN STANDHYD       1.0 01:S1-Roof         .07     .035 No_date    1:00   69.68 .972    .000
01839>        [XIMP=.99:TIMP=.99]
01840>        [SLP= .50:DT= 1.00]
01841>        [LOSS= 1 : HORTONS]
01842> R0099:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01843>      ROUTE RESERVOIR ->    1.0 02:S1-Roof         .07     .035 No_date    1:00   69.68  n/a    .000
01844>                  out <=    1.0 01:S1-Roof-Ou      .07     .003 No_date    1:30   69.68  n/a    .000
01845>              overflow <=   1.0 01:S1-Roof-Ov      .00     .000 No_date    0:00    .00  n/a    .000
01846>      (MxStoUsed=.3296E-02  m3, TotOvFVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01847> R0099:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01848>      ADD HYD               1.0 02:S1-B1           .42     .146 No_date    1:00   51.46  n/a    .000
01849>                      +     1.0 02:S1-Roof-Ou      .07     .003 No_date    1:30   69.68  n/a    .000
01850>                      +     1.0 02:S1-Roof-Ov      .00     .000 No_date    0:00    .00  n/a    .000
01851>                    SUM=    1.0 01:S1TE1-IN        .49     .148 No_date    1:00   54.06  n/a    .000
01852> R0099:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01853>      ROUTE RESERVOIR ->    1.0 02:S1TE1-IN        .49     .148 No_date    1:00   54.06  n/a    .000
01854>                  out <=    1.0 01:S1TE1-Out       .49     .014 No_date    1:41   54.06  n/a    .000
01855>              overflow <=   1.0 01:S1TE1-Over      .00     .000 No_date    0:00    .00  n/a    .000
01856>      (MxStoUsed=.1634E-01  m3, TotOvFVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01857> #*****************************************************************************************
01858> # Site 2
01859> #*****************************************************************************************
01860> R0099:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01861>      DESIGN STANDHYD       1.0 01:S2-B3           .35     .121 No_date    1:00   51.06 .712    .000
01862>        [XIMP=.46:TIMP=.56]
01863>        [SLP=1.00:DT= 1.00]
01864>        [LOSS= 1 : HORTONS]
01865> #*****************************************************************************************
01866> # Site 2 - Roof
01867> #*****************************************************************************************
01868> R0099:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01869>      DESIGN STANDHYD       1.0 01:S2-Roof         .09     .044 No_date    1:00   69.68 .972    .000
01870>        [XIMP=.99:TIMP=.99]
01871>        [SLP= .50:DT= 1.00]
01872>        [LOSS= 1 : HORTONS]
01873> #*****************************************************************************************
01874> R0099:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01875>      ROUTE RESERVOIR ->    1.0 02:S2-Roof         .09     .044 No_date    1:00   69.68  n/a    .000
01876>                  out <=    1.0 01:S2-Roof-Ou      .09     .009 No_date    1:12   69.70  n/a    .000
01877>              overflow <=   1.0 01:S2-Roof-Ov      .00     .000 No_date    0:00    .00  n/a    .000
01878>      (MxStoUsed=.3119E-02  m3, TotOvFVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01879> R0099:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01880>      ADD HYD               1.0 02:S2-B3           .35     .121 No_date    1:00   51.06  n/a    .000
01881>                      +     1.0 02:S2-Roof-Ou      .09     .009 No_date    1:12   69.70  n/a    .000
01882>                      +     1.0 02:S2-Roof-Ov      .00     .000 No_date    0:00    .00  n/a    .000
01883>                    SUM=    1.0 01:S1TE2-IN        .44     .129 No_date    1:00   54.87  n/a    .000
01884> R0099:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01885>      ROUTE RESERVOIR ->    1.0 02:S1TE2-IN        .44     .129 No_date    1:00   54.87  n/a    .000
01886>                  out <=    1.0 01:S1TE2-Out       .44     .018 No_date    1:39   54.87  n/a    .000
01887>              overflow <=   1.0 01:S1TE2-Over      .00     .000 No_date    0:00    .00  n/a    .000
01888>      (MxStoUsed=.1413E-01  m3, TotOvFVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01889> R0099:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01890>      ADD HYD               1.0 02:S1TE1-Out       .49     .014 No_date    1:41   54.06  n/a    .000
01891>                      +     1.0 02:S1TE1-Over      .00     .000 No_date    0:00    .00  n/a    .000
01892>                    SUM=    1.0 01:Site1           .49     .014 No_date    1:41   54.06  n/a    .000
01893> R0099:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01894>      ADD HYD               1.0 02:S1TE2-Out       .44     .018 No_date    1:39   54.87  n/a    .000
01895>                      +     1.0 02:S1TE2-Over      .00     .000 No_date    0:00    .00  n/a    .000
01896>                    SUM=    1.0 01:Site2           .44     .018 No_date    1:39   54.87  n/a    .000
01897> R0099:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01898>      ADD HYD               1.0 02:EXT2            .28     .031 No_date    1:22   40.14  n/a    .000
01899>                      +     1.0 02:Pre2_1          .01     .003 No_date    1:00   27.07  n/a    .000
01900>                      +     1.0 02:Site1           .49     .014 No_date    1:41   54.06  n/a    .000
01901>                      +     1.0 02:Site2           .44     .018 No_date    1:39   54.87  n/a    .000
01902>                    SUM=    1.0 01:J1             1.23     .060 No_date    1:27   50.84  n/a    .000
01903> R0099:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01904>      ROUTE CHANNEL   ->    1.0 02:J1             1.23     .060 No_date    1:27   50.84  n/a    .000
01905>        [RDT= 1.00] out<-     1.0 01:R1             1.23     .059 No_date    1:32   50.84  n/a    .000
01906>         [L/S/n=  143./ .394/.035]
01907>         [Vmax=  .365:Dmax=  .155]
01908> R0099:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01909>      ADD HYD               1.0 02:R1             1.23     .059 No_date    1:32   50.84  n/a    .000
01910>                      +     1.0 02:EXT3            .56     .052 No_date    1:21   34.39  n/a    .000
01911>                      +     1.0 02:EXT1           3.21     .167 No_date    1:52   34.39  n/a    .000
01912>                    SUM=    1.0 01:J2             5.00     .253 No_date    1:41   38.43  n/a    .000
01913> R0099:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01914>      ROUTE CHANNEL   ->    1.0 02:J2             5.00     .253 No_date    1:41   38.43  n/a    .000
01915>        [RDT= 1.00] out<-     1.0 01:R2             5.00     .253 No_date    1:43   38.43  n/a    .000
01916>         [L/S/n=   73./ .425/.035]
01917>         [Vmax=  .524:Dmax=  .282]
01918> R0099:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01919>      ADD HYD               1.0 02:R2             5.00     .253 No_date    1:43   38.43  n/a    .000
01920>                      +     1.0 02:EXT4            .31     .029 No_date    1:19   33.37  n/a    .000
01921>                    SUM=    1.0 01:J3             5.31     .271 No_date    1:39   38.14  n/a    .000
01922> R0099:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01923>      ROUTE CHANNEL   ->    1.0 02:J3             5.31     .271 No_date    1:39   38.14  n/a    .000
01924>        [RDT= 1.00] out<-     1.0 01:R3             5.31     .270 No_date    1:43   38.14  n/a    .000
01925>         [L/S/n=   92./ .274/.035]
01926>         [Vmax=  .429:Dmax=  .291]
01927> R0099:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01928>      ADD HYD               1.0 02:R3             5.31     .270 No_date    1:43   38.14  n/a    .000
01929>                      +     1.0 02:EXT5            .59     .038 No_date    1:32   30.49  n/a    .000
01930>                    SUM=    1.0 01:J4             5.90     .306 No_date    1:41   37.37  n/a    .000
01931> R0099:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01932>      ROUTE CHANNEL   ->    1.0 02:J4             5.90     .306 No_date    1:41   37.37  n/a    .000
01933>        [RDT= 1.00] out<-     1.0 01:R4             5.90     .291 No_date    1:51   37.37  n/a    .000
01934>         [L/S/n=  251./ .190/.035]
01935>         [Vmax=  .423:Dmax=  .330]
01936> R0099:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01937>      ADD HYD               1.0 02:R4             5.90     .291 No_date    1:51   37.37  n/a    .000
01938>                      +     1.0 02:EXT6            .86     .064 No_date    1:39   40.14  n/a    .000
01939>                      +     1.0 02:EXT7            .47     .048 No_date    1:21   37.71  n/a    .000
01940>                    SUM=    1.0 01:J5             7.24     .381 No_date    1:46   37.72  n/a    .000
01941> R0099:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01942>      ROUTE CHANNEL   ->    1.0 02:J5             7.24     .381 No_date    1:46   37.72  n/a    .000
01943>        [RDT= 1.00] out<-     1.0 01:R5             7.24     .377 No_date    1:50   37.72  n/a    .000
01944>         [L/S/n=  237./ .644/.035]
01945>         [Vmax=  .697:Dmax=  .309]
01946> R0099:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01947>      ADD HYD               1.0 02:Pre10_1         .80     .058 No_date    1:20   26.29  n/a    .000
01948>                      +     1.0 02:Pre9_2          .01     .002 No_date    1:00   18.43  n/a    .000
01949>                      +     1.0 02:Pre2_2          .00     .001 No_date    1:00   32.36  n/a    .000
01950>                    SUM=    1.0 01:Pre            .81     .059 No_date    1:20   26.17  n/a    .000
01951> R0099:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01952>      ROUTE CHANNEL   ->    1.0 02:Pre            .81     .059 No_date    1:20   26.17  n/a    .000
01953>        [RDT= 1.00] out<-     1.0 01:R6             .81     .058 No_date    1:22   26.17  n/a    .000
01954>         [L/S/n=   77./ .776/.035]
01955>         [Vmax=  .492:Dmax=  .043]
01956> R0099:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01957>      ROUTE CHANNEL   ->    1.0 02:Pre9_1          .44     .027 No_date    1:27   26.29  n/a    .000
01958>        [RDT= 1.00] out<-     1.0 01:R7             .44     .026 No_date    1:30   26.29  n/a    .000
01959>         [L/S/n=  159./1.576/.035]
01960>         [Vmax=  .797:Dmax=  .008]
01961> R0099:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01962>      ADD HYD               1.0 02:R6             .81     .058 No_date    1:22   26.52  n/a    .000
01963>                      +     1.0 02:EXT10           .20     .012 No_date    1:30   26.28  n/a    .000
01964>                    SUM=    1.0 01:J6             1.02     .069 No_date    1:23   26.48  n/a    .000
01965> R0099:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01966>      ROUTE CHANNEL   ->    1.0 02:J6             1.02     .069 No_date    1:23   26.48  n/a    .000
01967>        [RDT= 1.00] out<-     1.0 01:R8             1.02     .068 No_date    1:27   26.47  n/a    .000
01968>         [L/S/n=   79./ .522/.035]
01969>         [Vmax=  .423:Dmax=  .051]
01970> R0099:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01971>      ADD HYD               1.0 02:R8             1.02     .068 No_date    1:27   26.67  n/a    .000
01972>                      +     1.0 02:R7              .44     .036 No_date    4:51   26.78  n/a    .000
01973>                    SUM=    1.0 01:J7             1.46     .094 No_date    1:28   26.71  n/a    .000
01974> R0099:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01975>      ROUTE CHANNEL   ->    1.0 02:J7             1.46     .094 No_date    1:28   26.71  n/a    .000
01976>        [RDT= 1.00] out<-     1.0 01:R9             1.46     .094 No_date    1:29   26.71  n/a    .000
01977>         [L/S/n=   29./ .887/.035]
01978>         [Vmax=  .543:Dmax=  .064]
01979> R0099:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01980>      ADD HYD               1.0 02:EXT9           3.57     .218 No_date    1:34   30.49  n/a    .000
01981>                      +     1.0 02:R9             1.46     .094 No_date    1:29   26.83  n/a    .000
01982>                      +     1.0 02:EXT8            .83     .062 No_date    1:29   33.37  n/a    .000
01983>                      +     1.0 02:R5             7.24     .377 No_date    1:50   37.72  n/a    .000
01984>                    SUM=    1.0 01:J8            13.10     .712 No_date    1:41   34.26  n/a    .000
01985> R0099:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01986>      ROUTE PIPE      ->    1.0 02:J8            13.10     .712 No_date    1:41   34.26  n/a    .000
01987>  *   [RDT= 1.00] out<-     1.0 01:Outlet        13.10     .712 No_date    1:42   34.26  n/a    .000
01988>         [L/S/n=   8./ .010/.013]
01989>         [Vmax=  .457:Dmax= 1.234]
01990>         [Dim=  .53:Dusad= 1.50]
01991> ##############################################################################
01992> # STORMS
01993> ##############################################################################
01994>  ** END OF RUN :  101
01995>
01996> ******************************************************************************************
01997>
01998>
01999>
02000>
02001>
02002>  RUN#:COMMAND#
02003> R0102:C00001----------------------------------------------------------------------------------
02004>      START
02005>       [TZERO =    .00 hrs on        0]
02006>       [METOUT=   2  (1=imperial, 2=metric output)]
02007>       [NSTORM=   1 ]
02008>       [NRUN  = 0102 ]
02009> #*****************************************************************************************
02010> #  SWMHYMO  / INPUT DATA FILE
02011> #*****************************************************************************************
02012> #  Project Name  : [5923 Ottawa St]
02013> #  Project Number: [P2710(e01)]
02014> #  Date          : [2025 April 28]
02015> #  Modeller      : [MM]
02016> #  Company       : JFSA Canada Inc.
02017> #  License #     : 2549237
02018> #*****************************************************************************************
02019> # Model developed to simulate runoff from subcatchments under pre development conditions
02020> #*****************************************************************************************
02021> R0102:C00002----------------------------------------------------------------------------------
02022>      READ STORM
02023>       Filename = STORM.001
02024>       Comment  = 2 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
02025>       [SDT=10.00:SDUR=  24.00:PTOT=  48.46]
02026> #*****************************************************************************************
02027> R0102:C00003----------------------------------------------------------------------------------
02028>      DEFAULT VALUES
02029>       Filename = C:\Temp\20250428-PostDev\Ottawa.val
02030>       ICASEdv  = 1 (read and print data)
02031>       FileTitle= File comment: [Parameters for City of Ottawa Projects]
02032>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
02033>       Horton's infiltration equation parameters:
02034>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
02035>       Parameters for PERVIOUS surfaces in STANDHYD:
02036>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
02037>       Parameters for IMPERVIOUS surfaces in STANDHYD:
02038>       [IAimp=   1.57 mm] [CLI= 1.50]    [MNI= .013]
02039>       Parameters used in NASHYD:
02040>       [Ia=   4.67 mm] [N= 3.00]
02041>       Average monthly Pan Evaporation data in    (mm)
02042>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02043>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02044>       Average monthly Potential Evapotranspiration in    (mm)
02045>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02046>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02047> #*****************************************************************************************
02048> # EXT1
02049> #*****************************************************************************************
02050> R0102:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02051>      CALIB NASHYD          1.0 01:EXT1            3.21     .058 No_date   12:42   17.87 .369    .000
02052>       [CN= 80.0: N= 3.00: Tp=  .72]
02053> #*****************************************************************************************
02054> # EXT2
02055> #*****************************************************************************************
02056> R0102:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02057>      CALIB NASHYD          1.0 01:EXT2             .28     .011 No_date   12:14   21.63 .446    .000
02058>       [CN= 85.0: N= 3.00: Tp=  .33]
02059> #*****************************************************************************************
02060> # EXT3
02061> #*****************************************************************************************
02062> R0102:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02063>      CALIB NASHYD          1.0 01:EXT3             .56     .018 No_date   12:13   17.87 .369    .000
02064>       [CN= 80.0: N= 3.00: Tp=  .32]
02065> #*****************************************************************************************
02066> # EXT4
02067> #*****************************************************************************************
02068> R0102:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02069>      CALIB NASHYD          1.0 01:EXT4             .31     .010 No_date   12:12   17.22 .355    .000
02070>       [CN= 79.0: N= 3.00: Tp=  .29]
02071> #*****************************************************************************************
02072> # EXT5
02073> #*****************************************************************************************
02074> R0102:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02075>      CALIB NASHYD          1.0 01:EXT5             .59     .013 No_date   12:22   15.46 .319    .000
02076>       [CN= 76.0: N= 3.00: Tp=  .45]
02077> #*****************************************************************************************
02078> # EXT6
02079> #*****************************************************************************************
02080> R0102:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02081>      CALIB NASHYD          1.0 01:EXT6             .86     .023 No_date   12:30   21.64 .446    .000
02082>       [CN= 85.0: N= 3.00: Tp=  .56]
02083> #*****************************************************************************************
02084> # EXT7
02085> #*****************************************************************************************
02086> R0102:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02087>      CALIB NASHYD          1.0 01:EXT7             .47     .017 No_date   12:13   20.01 .413    .000
02088>       [CN= 83.0: N= 3.00: Tp=  .32]
02089> #*****************************************************************************************
02090> # EXT8
02091> #*****************************************************************************************
02092> R0102:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02093>      CALIB NASHYD          1.0 01:EXT8             .83     .021 No_date   12:20   17.22 .355    .000
02094>       [CN= 79.0: N= 3.00: Tp=  .42]
02095> #*****************************************************************************************
02096> # EXT9
02097> #*****************************************************************************************
02098> R0102:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02099>      CALIB NASHYD          1.0 01:EXT9            3.57     .074 No_date   12:25   15.46 .319    .000
02100>       [CN= 76.0: N= 3.00: Tp=  .48]
02101> #*****************************************************************************************
02102> # EXT9a
02103> #*****************************************************************************************
02104> R0102:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02105>      CALIB NASHYD          1.0 01:EXT9a            .01     .001 No_date   12:00   16.59 .342    .000
02106>       [CN= 78.0: N= 3.00: Tp=  .04]
02107> #*****************************************************************************************
02108> # EXT10
02109> #*****************************************************************************************
02110> R0102:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02111>      CALIB NASHYD          1.0 01:EXT10            .20     .004 No_date   12:20   12.99 .268    .000
02112>       [CN= 71.0: N= 3.00: Tp=  .42]
02113> #*****************************************************************************************
02114> # Pre2_1
02115> #*****************************************************************************************
02116> R0102:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02117>  *  CALIB NASHYD          1.0 01:Pre2_1           .01     .001 No_date   12:00   13.44 .277    .000
02118>       [CN= 72.0: N= 3.00: Tp=  .03]
02119> #*****************************************************************************************
02120> # Pre2_2
02121> #*****************************************************************************************
02122> R0102:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02123>  *  CALIB NASHYD          1.0 01:Pre2_2           .00     .000 No_date   12:00   16.60 .343    .000
02124>       [CN= 78.0: N= 3.00: Tp=  .02]
02125> #*****************************************************************************************
02126> # Pre9_1
02127> #*****************************************************************************************
02128> R0102:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02129>      CALIB NASHYD          1.0 01:Pre9_1           .44     .009 No_date   12:18   12.99 .268    .000
02130>       [CN= 71.0: N= 3.00: Tp=  .28]
02131> #*****************************************************************************************
02132> # Pre9_2
02133> #*****************************************************************************************
02134> R0102:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02135>  *  CALIB NASHYD          1.0 01:Pre9_2           .01     .001 No_date   12:00    8.70 .179    .000
02136>       [CN= 59.0: N= 3.00: Tp=  .03]
02137> #*****************************************************************************************
02138> # Pre10_1
02139> #*****************************************************************************************
02140> R0102:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02141>      CALIB NASHYD          1.0 01:Pre10_1          .80     .020 No_date   12:12   12.99 .268    .000
02142>       [CN= 71.0: N= 3.00: Tp=  .29]
02143> #*****************************************************************************************
02144> # Pre11_1
02145> #*****************************************************************************************
02146> R0102:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02147>      CALIB NASHYD          1.0 01:Pre11_1          .07     .003 No_date   12:07   16.60 .343    .000
02148>       [CN= 78.0: N= 3.00: Tp=  .21]
02149> #*****************************************************************************************
02150> # Site 1
02151> #*****************************************************************************************
02152> R0102:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02153>      DESIGN STANDHYD       1.0 01:S1-B1           .42     .042 No_date   12:00   27.57 .569    .000
02154>        [XIMP=.47:TIMP=.57]
02155>        [SLP=1.00:DT= 1.00]
02156>        [LOSS= 1 : HORTONS]
02157> # Site 1 - Roof
02158> #*****************************************************************************************
02159> R0102:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02160>      DESIGN STANDHYD       1.0 01:S1-Roof         .07     .011 No_date   12:00   46.49 .959    .000
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02161>       [XIMP=.99:TIMP=.99]
02162>       [SLP= .50:DT= 1.00]
02163>       [LOSS= 1 : HORTONS]
02164> R0102:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02165>     ROUTE RESERVOIR ->    1.0 02:S1-Roof          .07     .011 No_date   12:00   46.49  n/a     .000
02166>                 out <=    1.0 01:S1-Roof-Ou       .07     .002 No_date   12:08   46.49  n/a     .000
02167>             overflow <=   1.0 03:S1-Roof-Ov       .00     .000 No_date    0:00     .00  n/a     .000
02168>      (MxStOused=.1501E-02  m3, TotOvrVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
02169> R0102:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02170>     ADD HYD               1.0 02:S1-B1            .42     .042 No_date   12:00   27.57  n/a     .000
02171>                   +       1.0 02:S1-Roof-Ou       .07     .002 No_date   12:08   46.49  n/a     .000
02172>                   +       1.0 02:S1-Roof-Ov       .00     .000 No_date    0:00     .00  n/a     .000
02173>                  SUM=     1.0 01:SITE1-IN         .49     .043 No_date   12:00   30.27  n/a     .000
02174> R0102:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02175>     ROUTE RESERVOIR ->    1.0 02:SITE1-IN         .49     .043 No_date   12:00   30.27  n/a     .000
02176>                 out <=    1.0 01:SITE1-Out        .49     .008 No_date   12:31   30.27  n/a     .000
02177>             overflow <=   1.0 03:SITE1-Over       .00     .000 No_date    0:00     .00  n/a     .000
02178>      (MxStOused=.4631E-02  m3, TotOvrVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
02179> #*****************************************************************************************
02180> # Site 2
02181> #*****************************************************************************************
02182> R0102:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02183>     DESIGN STANDHYD       1.0 01:S2-B3            .35     .035 No_date   12:00   27.18 .561     .000
02184>       [XIMP=.46:TIMP=.56]
02185>       [SLP=1.00:DT= 1.00]
02186>       [LOSS= 1 : HORTONS]
02187> #*****************************************************************************************
02188> # Site 2 - Roof
02189> #*****************************************************************************************
02190> R0102:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02191>     DESIGN STANDHYD       1.0 01:S2-Roof          .09     .015 No_date   12:00   46.49 .959     .000
02192>       [XIMP=.99:TIMP=.99]
02193>       [SLP= .50:DT= 1.00]
02194>       [LOSS= 1 : HORTONS]
02195> #*****************************************************************************************
02196> R0102:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02197>     ROUTE RESERVOIR ->    1.0 02:S2-Roof          .09     .015 No_date   12:00   46.49  n/a     .000
02198>                 out <=    1.0 01:S2-Roof-Ou       .09     .006 No_date   12:03   46.49  n/a     .000
02199>             overflow <=   1.0 03:S2-Roof-Ov       .00     .000 No_date    0:00     .00  n/a     .000
02200>      (MxStOused=.1023E-02  m3, TotOvrVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
02201> R0102:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02202>     ADD HYD               1.0 02:S2-B3            .35     .035 No_date   12:00   27.18  n/a     .000
02203>                   +       1.0 02:S2-Roof-Ou       .09     .006 No_date   12:03   46.49  n/a     .000
02204>                   +       1.0 02:S2-Roof-Ov       .00     .000 No_date    0:00     .00  n/a     .000
02205>                  SUM=     1.0 01:SITE2-IN         .44     .040 No_date   12:00   31.13  n/a     .000
02206> R0102:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02207>     ROUTE RESERVOIR ->    1.0 02:SITE2-IN         .44     .040 No_date   12:00   31.13  n/a     .000
02208>                 out <=    1.0 01:SITE2-Out        .44     .009 No_date   12:32   31.13  n/a     .000
02209>             overflow <=   1.0 03:SITE2-Over       .00     .000 No_date    0:00     .00  n/a     .000
02210>      (MxStOused=.4378E-02  m3, TotOvrVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
02211> R0102:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02212>     ADD HYD               1.0 02:SITE1-Out        .49     .008 No_date   12:31   30.27  n/a     .000
02213>                   +       1.0 02:SITE1-Over       .00     .000 No_date    0:00     .00  n/a     .000
02214>                  SUM=     1.0 01:Site1            .49     .008 No_date   12:31   30.27  n/a     .000
02215> R0102:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02216>     ADD HYD               1.0 02:SITE2-Out        .44     .009 No_date   12:32   31.13  n/a     .000
02217>                   +       1.0 02:SITE2-Over       .00     .000 No_date    0:00     .00  n/a     .000
02218>                  SUM=     1.0 01:Site2            .44     .009 No_date   12:32   31.13  n/a     .000
02219> R0102:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02220>     ADD HYD               1.0 02:EXT2             .28     .011 No_date   12:14   21.63  n/a     .000
02221>                   +       1.0 02:Pre2_1           .01     .001 No_date   12:00   13.44  n/a     .000
02222>                   +       1.0 02:Site1            .49     .008 No_date   12:31   30.27  n/a     .000
02223>                   +       1.0 02:Site2            .44     .009 No_date   12:32   31.13  n/a     .000
02224>                  SUM=     1.0 01:J1              1.23     .028 No_date   12:15   28.40  n/a     .000
02225> R0102:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02226>     ROUTE CHANNEL   ->    1.0 02:J1              1.23     .028 No_date   12:15   28.40  n/a     .000
02227>       [RD= 1.00] out<-    1.0 01:R1              1.23     .027 No_date   12:22   28.40  n/a     .000
02228>       [L/S/n=  143./ .394/.035]
02229>       [Vmax=  .296:Dmax=  .112]
02230> R0102:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02231>     ADD HYD               1.0 02:R1              1.23     .027 No_date   12:22   28.40  n/a     .000
02232>                   +       1.0 02:EXT3             .56     .018 No_date   12:13   17.87  n/a     .000
02233>                   +       1.0 02:EXT1            3.21     .058 No_date   12:42   17.87  n/a     .000
02234>                  SUM=     1.0 01:J2              5.00     .095 No_date   12:30   20.46  n/a     .000
02235> R0102:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02236>     ROUTE CHANNEL   ->    1.0 02:J2              5.00     .095 No_date   12:30   20.46  n/a     .000
02237>       [RD= 1.00] out<-    1.0 01:R2              5.00     .095 No_date   12:33   20.46  n/a     .000
02238>       [L/S/n=   73./ .425/.035]
02239>       [Vmax=  .404:Dmax=  .190]
02240> R0102:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02241>     ADD HYD               1.0 02:R2              5.00     .095 No_date   12:33   20.46  n/a     .000
02242>                   +       1.0 02:EXT4             .31     .010 No_date   12:12   17.22  n/a     .000
02243>                  SUM=     1.0 01:J3              5.31     .102 No_date   12:30   20.27  n/a     .000
02244> R0102:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02245>     ROUTE CHANNEL   ->    1.0 02:J3              5.31     .102 No_date   12:30   20.27  n/a     .000
02246>       [RD= 1.00] out<-    1.0 01:R3              5.31     .101 No_date   12:34   20.27  n/a     .000
02247>       [L/S/n=   92./ .274/.035]
02248>       [Vmax=  .331:Dmax=  .197]
02249> R0102:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02250>     ADD HYD               1.0 02:R3              5.31     .101 No_date   12:34   20.27  n/a     .000
02251>                   +       1.0 02:EXT5             .59     .013 No_date   12:22   15.46  n/a     .000
02252>                  SUM=     1.0 01:J4              5.90     .113 No_date   12:32   19.78  n/a     .000
02253> R0102:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02254>     ROUTE CHANNEL   ->    1.0 02:J4              5.90     .113 No_date   12:32   19.78  n/a     .000
02255>       [RD= 1.00] out<-    1.0 01:R4              5.90     .105 No_date   12:45   19.78  n/a     .000
02256>       [L/S/n=  251./ .190/.035]
02257>       [Vmax=  .315:Dmax=  .214]
02258> R0102:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02259>     ADD HYD               1.0 02:R4              5.90     .105 No_date   12:45   19.78  n/a     .000
02260>                   +       1.0 02:EXT6             .86     .023 No_date   12:30   21.64  n/a     .000
02261>                   +       1.0 02:EXT7             .47     .017 No_date   12:13   20.01  n/a     .000
02262>                  SUM=     1.0 01:J5              7.24     .135 No_date   12:39   20.02  n/a     .000
02263> R0102:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02264>     ROUTE CHANNEL   ->    1.0 02:J5              7.24     .135 No_date   12:39   20.02  n/a     .000
02265>       [RD= 1.00] out<-    1.0 01:R5              7.24     .132 No_date   12:46   20.02  n/a     .000
02266>       [L/S/n=  237./ .644/.035]
02267>       [Vmax=  .508:Dmax=  .204]
02268> R0102:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02269>     ADD HYD               1.0 02:Pre10_1          .80     .020 No_date   12:12   12.99  n/a     .000
02270>                   +       1.0 02:Pre9_2           .01     .001 No_date   12:00    8.70  n/a     .000
02271>                   +       1.0 02:Pre2_2           .00     .000 No_date   12:00   16.60  n/a     .000
02272>                  SUM=     1.0 01:Pre              .81     .020 No_date   12:12   12.93  n/a     .000
02273> R0102:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02274>     ROUTE CHANNEL   ->    1.0 02:Pre              .81     .020 No_date   12:12   12.93  n/a     .000
02275>       [RD= 1.00] out<-    1.0 01:R6               .81     .019 No_date   12:15   12.93  n/a     .000
02276>       [L/S/n=   77./ .776/.035]
02277>       [Vmax=  .492:Dmax=  .014]
02278> R0102:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02279>     ROUTE CHANNEL   ->    1.0 02:Pre9_1           .44     .009 No_date   12:18   12.99  n/a     .000
02280>       [RD= 1.00] out<-    1.0 01:R7               .44     .009 No_date   12:21   12.99  n/a     .000
02281>       [L/S/n=  159./1.576/.035]
02282>       [Vmax=  .797:Dmax=  .003]
02283> R0102:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02284>     ADD HYD               1.0 02:R6               .81     .019 No_date   12:15   12.96  n/a     .000
02285>                   +       1.0 02:EXT10            .20     .004 No_date   12:20   12.99  n/a     .000
02286>                  SUM=     1.0 01:J6              1.02     .023 No_date   12:15   12.97  n/a     .000
02287> R0102:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02288>     ROUTE CHANNEL   ->    1.0 02:J6              1.02     .023 No_date   12:15   12.97  n/a     .000
02289>       [RD= 1.00] out<-    1.0 01:R8              1.02     .023 No_date   12:19   12.97  n/a     .000
02290>       [L/S/n=   79./ .522/.035]
02291>       [Vmax=  .423:Dmax=  .017]
02292> R0102:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02293>     ADD HYD               1.0 02:R8              1.02     .023 No_date   12:19   12.99  n/a     .000
02294>                   +       1.0 02:R7               .44     .009 No_date   12:21   13.05  n/a     .000
02295>                  SUM=     1.0 01:J7              1.46     .031 No_date   12:19   13.01  n/a     .000
02296> R0102:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02297>     ROUTE CHANNEL   ->    1.0 02:J7              1.46     .031 No_date   12:19   13.01  n/a     .000
02298>       [RD= 1.00] out<-    1.0 01:R9              1.46     .031 No_date   12:20   13.01  n/a     .000
02299>       [L/S/n=   29./ .887/.035]
02300>       [Vmax=  .543:Dmax=  .021]
02301> R0102:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02302>     ADD HYD               1.0 02:EXT9             3.57     .074 No_date   12:25   15.46  n/a     .000
02303>                   +       1.0 02:R9               1.46     .031 No_date   12:20   13.02  n/a     .000
02304>                   +       1.0 02:EXT8             .83     .021 No_date   12:20   17.22  n/a     .000
02305>                   +       1.0 02:R5               7.24     .132 No_date   12:46   20.02  n/a     .000
02306>                  SUM=     1.0 01:J8              13.10     .239 No_date   12:33   17.82  n/a     .000
02307> R0102:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02308>     ROUTE PIPE      ->    1.0 02:J8              13.10     .239 No_date   12:33   17.82  n/a     .000
02309> *   [RD= 1.00] out<-    1.0 01:Outlet          13.10     .238 No_date   12:36   17.82  n/a     .000
02310>       [L/S/n=    8./ .010/.013]
02311>       [Vmax=  .347:Dmax=  .819]
02312>       [Din=  .53:Dused= 1.00]
02313> ##########################################################################
02314> # STORMS
02315> ##########################################################################
02316>  ** END OF RUN :  104
02317> ****************************************************************************
02318> ****************************************************************************
02319>
02320>
02321>
02322>
02323>
02324>  RUN#:COMMAND#
02325> R0105:C00001------------------------------------------------------------------------
02326>       START
02327>       [TZERO =    .00 hrs on         0]
02328>       [METOUT=  2    (1=imperial, 2=metric output)]
02329>       [NSTORM=  1 ]
02330>       [NRUN  = 0105 ]
02331> #*****************************************************************************
02332> #  SWMM5MO  / INPUT DATA FILE
02333> #*****************************************************************************
02334> #  Project Name  : [5923 Ottawa St]
02335> #  Project Number: [P2710(e01)]
02336> #  Date          : [2025 April 28]
02337> #  Modeller      : [MM]
02338> #  Company       : JFSA Canada Inc.
02339> #  License #     : 2549237
02340> #*****************************************************************************
02341> # Model developed to simulate runoff from subcatchments under pre development conditions
02342> #*****************************************************************************
02343> R0105:C00002------------------------------------------------------------------------
02344>       READ STORM
02345>         Filename = STORM.001
02346>         Comment  = 5 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
02347>         [SDT=10.00:SDUR=  24.00:FTOT=  64.11]
02348> #*****************************************************************************
02349> R0105:C00003------------------------------------------------------------------------
02350>       DEFAULT VALUES
02351>         Filename = C:\Temp\20250428-PostDev\Ottawa.val
02352>         ICASEdv  = 1 (read and print data)
02353>         FileTitle= File comment: [Parameters for City of Ottawa Projects]
02354>                    THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
02355>         Horton's infiltration equation parameters:
02356>         [F0= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
02357>         Parameters for PERVIOUS surfaces in STANDHYD:
02358>         [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
02359>         Parameters for IMPERVIOUS surfaces in STANDHYD:
02360>         [IAimp=   1.57 mm] [CLI= 1.50]     [MNI= .013]
02361>         Parameters used in NASHYD:
02362>         [Ia=   4.67 mm] [N= 3.00]
02363>         Average monthly Pan Evaporation data in     (mm)
02364>    JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC
02365>   .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00
02366>         Average monthly Potential Evapotranspiration in     (mm)
02367>    JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC
02368>   .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00
02369> #*****************************************************************************
02370> # EXT1
02371> #*****************************************************************************
02372> R0105:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02373>     CALIB NASHYD          1.0 01:EXT1             3.21     .095 No_date   12:41  28.73 .448     .000
02374>       [CN= 80.0: N= 3.00: Tp=  .72]
02375> #*****************************************************************************
02376> # EXT2
02377> #*****************************************************************************
02378> R0105:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02379>     CALIB NASHYD          1.0 01:EXT2             .28     .018 No_date   12:13  33.88 .529     .000
02380>       [CN= 85.0: N= 3.00: Tp=  .33]
02381> #*****************************************************************************
02382> # EXT3
02383> #*****************************************************************************
02384> R0105:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02385>     CALIB NASHYD          1.0 01:EXT3             .56     .030 No_date   12:13  28.73 .448     .000
02386>       [CN= 80.0: N= 3.00: Tp=  .32]
02387> #*****************************************************************************
02388> # EXT4
02389> #*****************************************************************************
02390> R0105:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02391>     CALIB NASHYD          1.0 01:EXT4             .31     .017 No_date   12:11  27.82 .434     .000
02392>       [CN= 79.0: N= 3.00: Tp=  .29]
02393> #*****************************************************************************
02394> # EXT5
02395> #*****************************************************************************
02396> R0105:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02397>     CALIB NASHYD          1.0 01:EXT5             .59     .021 No_date   12:22  25.29 .395     .000
02398>       [CN= 76.0: N= 3.00: Tp=  .45]
02399> #*****************************************************************************
02400> # EXT6
02401> #*****************************************************************************
02402> R0105:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02403>     CALIB NASHYD          1.0 01:EXT6             .86     .037 No_date   12:29  33.88 .529     .000
02404>       [CN= 85.0: N= 3.00: Tp=  .56]
02405> #*****************************************************************************
02406> # EXT7
02407> #*****************************************************************************
02408> R0105:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02409>     CALIB NASHYD          1.0 01:EXT7             .47     .028 No_date   12:13  31.69 .494     .000
02410>       [CN= 83.0: N= 3.00: Tp=  .32]
02411> #*****************************************************************************
02412> # EXT8
02413> #*****************************************************************************
02414> R0105:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02415>     CALIB NASHYD          1.0 01:EXT8             .83     .035 No_date   12:20  27.82 .434     .000
02416>       [CN= 79.0: N= 3.00: Tp=  .42]
02417> #*****************************************************************************
02418> # EXT9
02419> #*****************************************************************************
02420> R0105:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02421>     CALIB NASHYD          1.0 01:EXT9            3.57     .123 No_date   12:24  25.30 .395     .000
02422>       [CN= 76.0: N= 3.00: Tp=  .48]
02423> #*****************************************************************************
02424> # EXT9a
02425> #*****************************************************************************
02426> R0105:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02427>     CALIB NASHYD          1.0 01:EXT9a            .01     .001 No_date   12:00  26.94 .420     .000
02428>       [CN= 78.0: N= 3.00: Tp=  .04]
02429> #*****************************************************************************
02430> # EXT10
02431> #*****************************************************************************
02432> R0105:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02433>     CALIB NASHYD          1.0 01:EXT10            .20     .006 No_date   12:20  21.64 .338     .000
02434>       [CN= 71.0: N= 3.00: Tp=  .42]
02435> #*****************************************************************************
02436> # Pre2_1
02437> #*****************************************************************************
02438> R0105:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02439> *   CALIB NASHYD          1.0 01:Pre2_1           .01     .001 No_date   12:00  22.32 .348     .000
02440>       [CN= 72.0: N= 3.00: Tp=  .03]
02441> #*****************************************************************************
02442> # Pre2_2
02443> #*****************************************************************************
02444> R0105:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02445> *   CALIB NASHYD          1.0 01:Pre2_2           .00     .000 No_date   12:00  26.94 .420     .000
02446>       [CN= 78.0: N= 3.00: Tp=  .02]
02447> #*****************************************************************************
02448> # Pre9_1
02449> #*****************************************************************************
02450> R0105:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02451>     CALIB NASHYD          1.0 01:Pre9_1           .44     .015 No_date   12:17  21.65 .338     .000
02452>       [CN= 71.0: N= 3.00: Tp=  .38]
02453> #*****************************************************************************
02454> # Pre9_2
02455> #*****************************************************************************
02456> R0105:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02457> *   CALIB NASHYD          1.0 01:Pre9_2           .01     .001 No_date   12:00  14.97 .233     .000
02458>       [CN= 59.0: N= 3.00: Tp=  .03]
02459> #*****************************************************************************
02460> # Pre10_1
02461> #*****************************************************************************
02462> R0105:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02463>     CALIB NASHYD          1.0 01:Pre10_1          .80     .033 No_date   12:11  21.65 .338     .000
02464>       [CN= 71.0: N= 3.00: Tp=  .29]
02465> #*****************************************************************************
02466> # Pre11_1
02467> #*****************************************************************************
02468> R0105:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02469>     CALIB NASHYD          1.0 01:Pre11_1          .07     .004 No_date   12:07  26.94 .420     .000
02470>       [CN= 78.0: N= 3.00: Tp=  .21]
02471> #*****************************************************************************
02472> # Site 1
02473> #*****************************************************************************
02474> R0105:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02475>     DESIGN STANDHYD       1.0 01:S1-B1            .42     .063 No_date   12:00  38.55 .601     .000
02476>       [XIMP=.47:TIMP=.57]
02477>       [SLP=1.00:DT= 1.00]
02478>       [LOSS= 1 : HORTONS]
02479> # Site 1 - Roof
02480> #*****************************************************************************
02481> R0105:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02482>     DESIGN STANDHYD       1.0 01:S1-Roof          .07     .015 No_date   12:00  62.04 .968     .000
02483>       [XIMP=.99:TIMP=.99]
02484>       [SLP= .50:DT= 1.00]
02485>       [LOSS= 1 : HORTONS]
02486> R0105:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02487>     ROUTE RESERVOIR ->    1.0 02:S1-Roof          .07     .015 No_date   12:00  62.03  n/a     .000
02488>                 out <=    1.0 01:S1-Roof-Ou       .07     .002 No_date   12:06  62.03  n/a     .000
02489>             overflow <=   1.0 03:S1-Roof-Ov       .00     .000 No_date    0:00     .00  n/a     .000
02490>      (MxStOused=.1988E-02  m3, TotOvrVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
02491> R0105:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02492>     ADD HYD               1.0 02:S1-B1            .42     .063 No_date   12:00  38.55  n/a     .000
02493>                   +       1.0 02:S1-Roof-Ou       .07     .002 No_date   12:06  62.03  n/a     .000
02494>                   +       1.0 02:S1-Roof-Ov       .00     .000 No_date    0:00     .00  n/a     .000
02495>                  SUM=     1.0 01:SITE1-IN         .49     .065 No_date   12:00  41.91  n/a     .000
02496> R0105:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02497>     ROUTE RESERVOIR ->    1.0 02:SITE1-IN         .49     .065 No_date   12:00  41.91  n/a     .000
02498>                 out <=    1.0 01:SITE1-Out        .49     .009 No_date   12:32  41.91  n/a     .000
02499>             overflow <=   1.0 03:SITE1-Over       .00     .000 No_date    0:00     .00  n/a     .000
02500>      (MxStOused=.7538E-02  m3, TotOvrVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
02501> #*****************************************************************************
02502> # Site 2
02503> #*****************************************************************************
02504> R0105:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02505>     DESIGN STANDHYD       1.0 01:S2-B3            .35     .053 No_date   12:00  38.06 .594     .000
02506>       [XIMP=.46:TIMP=.56]
02507>       [SLP=1.00:DT= 1.00]
02508>       [LOSS= 1 : HORTONS]
02509> #*****************************************************************************
02510> # Site 2 - Roof
02511> #*****************************************************************************
02512> R0105:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02513>     DESIGN STANDHYD       1.0 01:S2-Roof          .09     .020 No_date   12:00  62.04 .968     .000
02514>       [XIMP=.99:TIMP=.99]
02515>       [SLP= .50:DT= 1.00]
02516>       [LOSS= 1 : HORTONS]
02517> #*****************************************************************************
02518> R0105:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02519>     ROUTE RESERVOIR ->    1.0 02:S2-Roof          .09     .020 No_date   12:00  62.04  n/a     .000
02520>                 out <=    1.0 01:S2-Roof-Ou       .09     .007 No_date   12:02  62.04  n/a     .000
```

```
              overflow <=     1.0 03:S2-Roof-Ov       .00      .000 No_date    0:00      .00  n/a      .000
        {MxStoUsed=.1468E-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            .35      .053 No_date   12:00   38.06  n/a      .000
                          +   1.0 02:S2-Roof-Ou       .09      .007 No_date   12:02   62.04  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         .44      .060 No_date   12:00   42.96  n/a      .000
R0105:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->      1.0 02:SITE2-IN         .44      .060 No_date   12:00   42.96  n/a      .000
                 out <=       1.0 01:SITE2-Out        .44      .010 No_date   12:33   42.96  n/a      .000
            overflow <=       1.0 03:SITE2-Over       .00      .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.6956E-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        .49      .009 No_date   12:32   41.91  n/a      .000
                          +   1.0 02:SITE1-Over       .00      .000 No_date    0:00     .00  n/a      .000
                       SUM=   1.0 01:Site1            .49      .009 No_date   12:32   41.91  n/a      .000
R0105:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:SITE2-Out        .44      .010 No_date   12:33   42.96  n/a      .000
                          +   1.0 02:SITE2-Over       .00      .000 No_date    0:00     .00  n/a      .000
                       SUM=   1.0 01:Site2            .44      .010 No_date   12:33   42.96  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            .49      .009 No_date   12:32   41.91  n/a      .000
                          +   1.0 02:Site2            .44      .010 No_date   12:33   42.96  n/a      .000
                       SUM=   1.0 01:J1              1.23      .037 No_date   12:14   40.22  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      .037 No_date   12:14   40.22  n/a      .000
        [RDT= 1.00] out<-     1.0 01:R1              1.23      .035 No_date   12:21   40.22  n/a      .000
         [L/S/n=  143./ .394/.035]
         {Vmax=  .315:Dmax=  .124}
R0105:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:R1              1.23      .035 No_date   12:21   40.22  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      .146 No_date   12:30   31.55  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      .146 No_date   12:30   31.55  n/a      .000
        [RDT= 1.00] out<-     1.0 01:R2              5.00      .146 No_date   12:32   31.55  n/a      .000
         [L/S/n=   73./ .425/.035]
         {Vmax=  .454:Dmax=  .226}
R0105:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:R2              5.00      .146 No_date   12:32   31.55  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      .157 No_date   12:28   31.34  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      .157 No_date   12:28   31.34  n/a      .000
        [RDT= 1.00] out<-     1.0 01:R3              5.31      .156 No_date   12:32   31.34  n/a      .000
         [L/S/n=   92./ .274/.035]
         {Vmax=  .372:Dmax=  .234}
R0105:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:R3              5.31      .156 No_date   12:32   31.34  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      .176 No_date   12:30   30.73  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      .176 No_date   12:30   30.73  n/a      .000
        [RDT= 1.00] out<-     1.0 01:R4              5.90      .165 No_date   12:42   30.73  n/a      .000
         [L/S/n=  251./ .190/.035]
         {Vmax=  .360:Dmax=  .259}
R0105:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:R4              5.90      .165 No_date   12:42   30.73  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      .216 No_date   12:36   31.17  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      .216 No_date   12:36   31.17  n/a      .000
        [RDT= 1.00] out<-     1.0 01:R5              7.24      .213 No_date   12:41   31.17  n/a      .000
         [L/S/n=  237./ .644/.035]
         {Vmax=  .594:Dmax=  .247}
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      .001 No_date   12:00   14.97  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   21.55  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   21.55  n/a      .000
        [RDT= 1.00] out<-     1.0 01:R6               .81      .033 No_date   12:14   21.55  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   21.59  n/a      .000
                          +   1.0 02:EXT10            .20      .006 No_date   12:20   21.64  n/a      .000
                       SUM=   1.0 01:J6              1.02      .039 No_date   12:15   21.60  n/a      .000
R0105:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->      1.0 02:J6              1.02      .039 No_date   12:15   21.60  n/a      .000
        [RDT= 1.00] out<-     1.0 01:R8              1.02      .038 No_date   12:18   21.60  n/a      .000
         [L/S/n=   79./ .522/.035]
         {Vmax=  .423:Dmax=  .029}
R0105:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:R8              1.02      .038 No_date   12:18   21.63  n/a      .000
                          +   1.0 02:R7               .44      .015 No_date   12:21   21.72  n/a      .000
                       SUM=   1.0 01:J7              1.46      .053 No_date   12:19   21.66  n/a      .000
R0105:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->      1.0 02:J7              1.46      .053 No_date   12:19   21.66  n/a      .000
        [RDT= 1.00] out<-     1.0 01:R9              1.46      .053 No_date   12:20   21.66  n/a      .000
         [L/S/n=   29./ .887/.035]
         {Vmax=  .543:Dmax=  .036}
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              1.46      .053 No_date   12:20   21.67  n/a      .000
                          +   1.0 02:EXT8             .83      .035 No_date   12:20   27.82  n/a      .000
                          +   1.0 02:R5              7.24      .213 No_date   12:41   31.17  n/a      .000
                       SUM=   1.0 01:J8             13.10      .399 No_date   12:31   28.30  n/a      .000
R0105:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE PIPE      ->      1.0 02:J8             13.10      .399 No_date   12:31   28.30  n/a      .000
 *      [RDT= 1.00] out<-     1.0 01:Outlet         13.10      .398 No_date   12:33   28.30  n/a      .000
         [L/S/n=    8./ .010/.013]
         {Vmax=  .395:Dmax=  .993}
         [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 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]
#***************************************************************************************
R0110:C00003----------------------------------------------------------------------------------------
       DEFAULT VALUES
        Filename = C:\Temp\20250428-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      .001 No_date   12:00   19.72 .265      .000
        [CN= 59.0: 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      .077 No_date   12:00   45.90 .617      .000
        [XIMP=.47:TIMP=.57]
        [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          .07      .018 No_date   12:00   72.21 .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          .07      .018 No_date   12:00   72.21  n/a      .000
                 out <=       1.0 01:S1-Roof-Ou       .07      .002 No_date   12:06   72.21  n/a      .000
            overflow <=       1.0 03:S1-Roof-Ov       .00      .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.2309E-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      .077 No_date   12:00   45.90  n/a      .000
                          +   1.0 02:S1-Roof-Ou       .07      .002 No_date   12:06   72.21  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         .49      .080 No_date   12:00   49.66  n/a      .000
R0110:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->      1.0 02:SITE1-IN         .49      .080 No_date   12:00   49.66  n/a      .000
                 out <=       1.0 01:SITE1-Out        .49      .010 No_date   12:32   49.66  n/a      .000
            overflow <=       1.0 03:SITE1-Over       .00      .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.9530E-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            .35      .064 No_date   12:00   45.35 .610      .000
        [XIMP=.46:TIMP=.56]
        [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   72.22 .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   72.22  n/a      .000
                 out <=       1.0 01:S2-Roof-Ou       .09      .007 No_date   12:02   72.22  n/a      .000
            overflow <=       1.0 03:S2-Roof-Ov       .00      .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.1769E-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            .35      .064 No_date   12:00   45.35  n/a      .000
                          +   1.0 02:S2-Roof-Ou       .09      .007 No_date   12:02   72.22  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         .44      .071 No_date   12:00   50.85  n/a      .000
R0110:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->      1.0 02:SITE2-IN         .44      .071 No_date   12:00   50.85  n/a      .000
                 out <=       1.0 01:SITE2-Out        .44      .011 No_date   12:34   50.85  n/a      .000
            overflow <=       1.0 03:SITE2-Over       .00      .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.8694E-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
      ADD HYD                 1.0 02:SITE1-Out        .49      .010 No_date   12:32   49.66  n/a      .000
                          +   1.0 02:SITE1-Over       .00      .000 No_date    0:00     .00  n/a      .000
                       SUM=   1.0 01:Site1            .49      .010 No_date   12:32   49.66  n/a      .000
R0110:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:SITE2-Out        .44      .011 No_date   12:34   50.85  n/a      .000
                          +   1.0 02:SITE2-Over       .00      .000 No_date    0:00     .00  n/a      .000
                       SUM=   1.0 01:Site2            .44      .011 No_date   12:34   50.85  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            .49      .010 No_date   12:32   49.66  n/a      .000
                          +   1.0 02:Site2            .44      .011 No_date   12:34   50.85  n/a      .000
                       SUM=   1.0 01:J1              1.23      .042 No_date   12:14   48.18  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      .042 No_date   12:14   48.18  n/a      .000
        [RDT= 1.00] out<-     1.0 01:R1              1.23      .041 No_date   12:20   48.18  n/a      .000
         [L/S/n=  143./ .394/.035]
         {Vmax=  .328:Dmax=  .133}
R0110:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:R1              1.23      .041 No_date   12:20   48.18  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      .182 No_date   12:29   39.34  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      .182 No_date   12:29   39.34  n/a      .000
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     [RDT= 1.00] out<-    1.0 01:R2             5.00     .182 No_date   12:31   39.34  n/a     .000
      [L/S/n=   73./ .425/.035]
      {Vmax=  .481:Dmax=  .247}
R0110:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R2             5.00     .182 No_date   12:31   39.34  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     .196 No_date   12:27   39.11  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     .196 No_date   12:27   39.11  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R3             5.31     .195 No_date   12:31   39.11  n/a     .000
      [L/S/n=   92./ .274/.035]
      {Vmax=  .394:Dmax=  .256}
R0110:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R3             5.31     .195 No_date   12:31   39.11  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     .221 No_date   12:29   38.43  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     .221 No_date   12:29   38.43  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R4             5.90     .209 No_date   12:40   38.43  n/a     .000
      [L/S/n=  251./ .190/.035]
      {Vmax=  .386:Dmax=  .287}
R0110:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R4             5.90     .209 No_date   12:40   38.43  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     .273 No_date   12:35   39.00  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     .273 No_date   12:35   39.00  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R5             7.24     .269 No_date   12:41   39.00  n/a     .000
      [L/S/n=  237./ .644/.035]
      {Vmax=  .626:Dmax=  .269}
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     .001 No_date   12:00   19.72  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   27.87  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   27.87  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R6              .81     .043 No_date   12:14   27.87  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   27.92  n/a     .000
                     +    1.0 02:EXT10           .20     .008 No_date   12:20   27.99  n/a     .000
                  SUM=    1.0 01:J6             1.02     .051 No_date   12:15   27.94  n/a     .000
R0110:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J6             1.02     .051 No_date   12:15   27.94  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R8             1.02     .050 No_date   12:18   27.94  n/a     .000
      [L/S/n=   79./ .522/.035]
      {Vmax=  .423:Dmax=  .037}
R0110:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R8             1.02     .050 No_date   12:18   27.97  n/a     .000
                     +    1.0 02:R7              .44     .019 No_date   12:21   28.07  n/a     .000
                  SUM=    1.0 01:J7             1.46     .069 No_date   12:19   28.00  n/a     .000
R0110:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J7             1.46     .069 No_date   12:19   28.00  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R9             1.46     .069 No_date   12:20   28.00  n/a     .000
      [L/S/n=   29./ .887/.035]
      {Vmax=  .543:Dmax=  .047}
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             1.46     .069 No_date   12:20   28.02  n/a     .000
                     +    1.0 02:EXT8            .83     .045 No_date   12:19   35.39  n/a     .000
                     +    1.0 02:R5             7.24     .269 No_date   12:41   39.00  n/a     .000
                  SUM=    1.0 01:J8            13.10     .511 No_date   12:30   35.75  n/a     .000
R0110:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:J8            13.10     .511 No_date   12:30   35.75  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:Outlet        13.10     .504 No_date   12:35   35.75  n/a     .000
      [L/S/n=    8./ .010/.013]
      {Vmax=  .420:Dmax= 1.090}
      [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 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]
#******************************************************************************************
R0125:C00003-------------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = C:\Temp\20250428-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   26.12 .301     .000
      [CN= 59.0: 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     .095 No_date   12:00   55.02 .633     .000
      [XIMP=.47:TIMP=.57]
      [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         .07     .021 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         .07     .021 No_date   12:00   84.69  n/a     .000
                out <=    1.0 01:S1-Roof-Ou      .07     .003 No_date   12:05   84.68  n/a     .000
           overflow <=    1.0 03:S1-Roof-Ov      .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2704E-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     .095 No_date   12:00   55.02  n/a     .000
                     +    1.0 02:S1-Roof-Ou      .07     .003 No_date   12:05   84.68  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        .49     .098 No_date   12:00   59.25  n/a     .000
R0125:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:SITE1-IN        .49     .098 No_date   12:00   59.25  n/a     .000
                out <=    1.0 01:SITE1-Out       .49     .010 No_date   12:34   59.25  n/a     .000
           overflow <=    1.0 03:SITE1-Over      .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1201E-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           .35     .079 No_date   12:00   54.41 .626     .000
      [XIMP=.46:TIMP=.56]
      [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     .008 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=.2150E-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           .35     .079 No_date   12:00   54.41  n/a     .000
                     +    1.0 02:S2-Roof-Ou      .09     .008 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        .44     .086 No_date   12:00   60.61  n/a     .000
R0125:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:SITE2-IN        .44     .086 No_date   12:00   60.61  n/a     .000
                out <=    1.0 01:SITE2-Out       .44     .011 No_date   12:38   60.61  n/a     .000
           overflow <=    1.0 03:SITE2-Over      .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1089E-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       .49     .010 No_date   12:34   59.25  n/a     .000
                     +    1.0 02:SITE1-Over      .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=    1.0 01:Site1           .49     .010 No_date   12:34   59.25  n/a     .000
R0125:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:SITE2-Out       .44     .011 No_date   12:38   60.61  n/a     .000
                     +    1.0 02:SITE2-Over      .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=    1.0 01:Site2           .44     .011 No_date   12:38   60.61  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           .49     .010 No_date   12:34   59.25  n/a     .000
                     +    1.0 02:Site2           .44     .011 No_date   12:38   60.61  n/a     .000
                  SUM=    1.0 01:J1             1.23     .049 No_date   12:14   58.10  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     .049 No_date   12:14   58.10  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R1             1.23     .047 No_date   12:19   58.10  n/a     .000
      [L/S/n=  143./ .394/.035]
      {Vmax=  .346:Dmax=  .143}
R0125: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   58.10  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     .228 No_date   12:29   49.27  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     .228 No_date   12:29   49.27  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R2             5.00     .228 No_date   12:31   49.27  n/a     .000
      [L/S/n=   73./ .425/.035]
      {Vmax=  .512:Dmax=  .271}
R0125:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R2             5.00     .228 No_date   12:31   49.27  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     .247 No_date   12:27   49.03  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     .247 No_date   12:27   49.03  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R3             5.31     .245 No_date   12:30   49.03  n/a     .000
      [L/S/n=   92./ .274/.035]
      {Vmax=  .418:Dmax=  .280}
R0125:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R3             5.31     .245 No_date   12:30   49.03  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     .279 No_date   12:29   48.28  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     .279 No_date   12:29   48.28  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R4             5.90     .265 No_date   12:38   48.28  n/a     .000
      [L/S/n=  251./ .190/.035]
      {Vmax=  .413:Dmax=  .317}
R0125:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R4             5.90     .265 No_date   12:38   48.28  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     .347 No_date   12:34   49.00  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     .347 No_date   12:34   49.00  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R5             7.24     .343 No_date   12:39   49.00  n/a     .000
      [L/S/n=  237./ .644/.035]
      {Vmax=  .674:Dmax=  .297}
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   26.12  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   36.19  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   36.19  n/a     .000
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03241>      [RDT= 1.00] out<-    1.0 01:R6              .81     .056 No_date   12:14   36.19  n/a     .000
03242>      [L/S/n=  77./ .776/.035]
03243>      [Vmax=  .492:Dmax=  .041]
03244> R0125:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03245>     ROUTE CHANNEL   ->    1.0 02:Pre9_1          .44     .026 No_date   12:17   36.35  n/a     .000
03246>      [RDT= 1.00] out<-    1.0 01:R7              .44     .025 No_date   12:21   36.35  n/a     .000
03247>      [L/S/n=  159./1.576/.035]
03248>      [Vmax=  .797:Dmax=  .008]
03249> R0125:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03250>     ADD HYD              1.0 02:R6              .81     .056 No_date   12:14   36.25  n/a     .000
03251>                    +     1.0 02:EXT10           .20     .011 No_date   12:20   36.34  n/a     .000
03252>                   SUM=   1.0 01:J6              1.02    .066 No_date   12:15   36.27  n/a     .000
03253> R0125:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03254>     ROUTE CHANNEL   ->    1.0 02:J6              1.02    .066 No_date   12:15   36.27  n/a     .000
03255>      [RDT= 1.00] out<-    1.0 01:R8              1.02    .065 No_date   12:18   36.27  n/a     .000
03256>      [L/S/n=  79./ .522/.035]
03257>      [Vmax=  .423:Dmax=  .049]
03258> R0125:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03259>     ADD HYD              1.0 02:R8              1.02    .065 No_date   12:18   36.31  n/a     .000
03260>                    +     1.0 02:R7              .44     .025 No_date   12:21   36.31  n/a     .000
03261>                   SUM=   1.0 01:J7              1.46    .090 No_date   12:19   36.34  n/a     .000
03262> R0125:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03263>     ROUTE CHANNEL   ->    1.0 02:J7              1.46    .090 No_date   12:19   36.34  n/a     .000
03264>      [RDT= 1.00] out<-    1.0 01:R9              1.46    .090 No_date   12:19   36.34  n/a     .000
03265>      [L/S/n=  29./ .887/.035]
03266>      [Vmax=  .543:Dmax=  .061]
03267> R0125:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03268>     ADD HYD              1.0 02:EXT9            3.57    .205 No_date   12:23   41.62  n/a     .000
03269>                    +     1.0 02:R9              1.46    .090 No_date   12:19   36.37  n/a     .000
03270>                    +     1.0 02:EXT8            .83     .058 No_date   12:19   45.14  n/a     .000
03271>                    +     1.0 02:R5              7.24    .343 No_date   12:39   49.00  n/a     .000
03272>                   SUM=   1.0 01:J8              13.10   .661 No_date   12:29   45.34  n/a     .000
03273> R0125:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03274>     ROUTE PIPE      ->    1.0 02:J8              13.10   .661 No_date   12:29   45.34  n/a     .000
03275> *   [RDT= 1.00] out<-    1.0 01:Outlet          13.10   .651 No_date   12:35   45.34  n/a     .000
03276>      [L/S/n=   8./ .010/.013]
03277>      [Vmax=  .448:Dmax= 1.201]
03278>      [Din=  .53:Dused= 1.46]
03279> ##########################################################################################
03280> # STORMS
03281> ##########################################################################################
03282>    ** END OF RUN :  149
03283>
03284> ******************************************************************************************
03285>
03286>
03287>
03288>
03289>
03290>  RUN#:COMMAND#
03291> R0150:C00001-----------------------------------------------------------------------------
03292>        START
03293>        [TZERO =    .00 hrs on        0]
03294>        [METOUT=   2    (1=imperial, 2=metric output)]
03295>        [NTORM=   1 ]
03296>        [NRUN  = 0150 ]
03297> ******************************************************************************************
03298> #  SMMHYMO  / INPUT DATA FILE
03299> ******************************************************************************************
03300> #  Project Name  : [5923 Ottawa St]
03301> #  Project Number: [P2710(e01)]
03302> #  Date          : [2025 April 28]
03303> #  Modeller      : [MM]
03304> #  Company       : JFSA Canada Inc.
03305> #  License #     : 2549237
03306> ******************************************************************************************
03307> # Model developed to simulate runoff from subcatchments under pre development conditions
03308> ******************************************************************************************
03309> R0150:C00002-----------------------------------------------------------------------------
03310>      READ STORM
03311>       Filename = STORM.001
03312>       Comment  = 50 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
03313>       [SDT=10.00:SDUR=  24.00:PTOT=  96.53]
03314> ******************************************************************************************
03315> R0150:C00003-----------------------------------------------------------------------------
03316>      DEFAULT VALUES
03317>       Filename = C:\Temp\20250428-PostDev\Ottawa.val
03318>       ICASEdv  = 1 (read and print data)
03319>       FileTitle= File comment: [Parameters for City of Ottawa Projects]
03320>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
03321>       Horton's infiltration equation parameters:
03322>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
03323>       Parameters for PERVIOUS surfaces in STANDHYD:
03324>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
03325>       Parameters for IMPERVIOUS surfaces in STANDHYD:
03326>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
03327>       Parameters used in NASHYD:
03328>       [Ia=   4.67 mm] [N= 3.00]
03329>       Average monthly Pan Evaporation data in     (mm)
03330>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03331>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03332>       Average monthly Potential Evapotranspiration in     (mm)
03333>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03334>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03335> ******************************************************************************************
03336> # EXT1
03337> ******************************************************************************************
03338> R0150:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03339>     CALIB NASHYD         1.0 01:EXT1            3.21    .182 No_date   12:40   54.31 .563     .000
03340>      [CN= 80.0: N= 3.00: Tp=  .72]
03341> ******************************************************************************************
03342> # EXT2
03343> ******************************************************************************************
03344> R0150:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03345>     CALIB NASHYD         1.0 01:EXT2            .28     .033 No_date   12:13   61.73 .640     .000
03346>      [CN= 85.0: N= 3.00: Tp=  .33]
03347> ******************************************************************************************
03348> # EXT3
03349> ******************************************************************************************
03350> R0150:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03351>     CALIB NASHYD         1.0 01:EXT3            .56     .057 No_date   12:13   54.31 .563     .000
03352>      [CN= 80.0: N= 3.00: Tp=  .32]
03353> ******************************************************************************************
03354> # EXT4
03355> ******************************************************************************************
03356> R0150:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03357>     CALIB NASHYD         1.0 01:EXT4            .31     .033 No_date   12:11   52.94 .548     .000
03358>      [CN= 79.0: N= 3.00: Tp=  .29]
03359> ******************************************************************************************
03360> # EXT5
03361> ******************************************************************************************
03362> R0150:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03363>     CALIB NASHYD         1.0 01:EXT5            .59     .042 No_date   12:21   49.04 .508     .000
03364>      [CN= 76.0: N= 3.00: Tp=  .45]
03365> ******************************************************************************************
03366> # EXT6
03367> ******************************************************************************************
03368> R0150:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03369>     CALIB NASHYD         1.0 01:EXT6            .86     .068 No_date   12:28   61.73 .640     .000
03370>      [CN= 85.0: N= 3.00: Tp=  .56]
03371> ******************************************************************************************
03372> # EXT7
03373> ******************************************************************************************
03374> R0150:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03375>     CALIB NASHYD         1.0 01:EXT7            .47     .052 No_date   12:12   58.64 .608     .000
03376>      [CN= 83.0: N= 3.00: Tp=  .32]
03377> ******************************************************************************************
03378> # EXT8
03379> ******************************************************************************************
03380> R0150:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03381>     CALIB NASHYD         1.0 01:EXT8            .83     .068 No_date   12:19   52.94 .548     .000
03382>      [CN= 79.0: N= 3.00: Tp=  .42]
03383> ******************************************************************************************
03384> # EXT9
03385> ******************************************************************************************
03386> R0150:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03387>     CALIB NASHYD         1.0 01:EXT9            3.57    .242 No_date   12:23   49.04 .508     .000
03388>      [CN= 76.0: N= 3.00: Tp=  .48]
03389> ******************************************************************************************
03390> # EXT9a
03391> ******************************************************************************************
03392> R0150:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03393>     CALIB NASHYD         1.0 01:EXT9a           .01     .002 No_date   12:00   51.60 .535     .000
03394>      [CN= 78.0: N= 3.00: Tp=  .04]
03395> ******************************************************************************************
03396> # EXT10
03397> ******************************************************************************************
03398> R0150:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03399>     CALIB NASHYD         1.0 01:EXT10           .20     .013 No_date   12:19   43.13 .447     .000
03400>      [CN= 71.0: N= 3.00: Tp=  .42]
03401> ******************************************************************************************
03402> # Pre2_1
03403> ******************************************************************************************
03404> R0150:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03405> *   CALIB NASHYD         1.0 01:Pre2_1          .01     .003 No_date   12:00   44.25 .458     .000
03406>      [CN= 72.0: N= 3.00: Tp=  .03]
03407> ******************************************************************************************
03408> # Pre2_2
03409> ******************************************************************************************
03410> R0150:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03411> *   CALIB NASHYD         1.0 01:Pre2_2          .00     .000 No_date   12:00   51.59 .535     .000
03412>      [CN= 78.0: N= 3.00: Tp=  .02]
03413> ******************************************************************************************
03414> # Pre9_1
03415> ******************************************************************************************
03416> R0150:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03417>     CALIB NASHYD         1.0 01:Pre9_1          .44     .030 No_date   12:17   43.13 .447     .000
03418>      [CN= 71.0: N= 3.00: Tp=  .38]
03419> ******************************************************************************************
03420> # Pre9_2
03421> ******************************************************************************************
03422> R0150:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03423> *   CALIB NASHYD         1.0 01:Pre9_2          .01     .002 No_date   12:00   31.44 .326     .000
03424>      [CN= 59.0: N= 3.00: Tp=  .03]
03425> ******************************************************************************************
03426> # Pre10_1
03427> ******************************************************************************************
03428> R0150:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03429>     CALIB NASHYD         1.0 01:Pre10_1         .80     .067 No_date   12:11   43.14 .447     .000
03430>      [CN= 71.0: N= 3.00: Tp=  .39]
03431> ******************************************************************************************
03432> # Pre11_1
03433> ******************************************************************************************
03434> R0150:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03435>     CALIB NASHYD         1.0 01:Pre11_1         .07     .008 No_date   12:06   51.60 .535     .000
03436>      [CN= 78.0: N= 3.00: Tp=  .21]
03437> ******************************************************************************************
03438> # Site 1
03439> ******************************************************************************************
03440> R0150:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03441>     DESIGN STANDHYD      1.0 01:S1-B1           .42     .109 No_date   12:00   61.99 .642     .000
03442>      [XIMP=.47:TIMP=.57]
03443>      [SLP=1.00:DT= 1.00]
03444>      [LOSS= 1 : HORTONS]
03445> # Site 1 - Roof
03446> ******************************************************************************************
03447> R0150:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03448>     DESIGN STANDHYD      1.0 01:S1-Roof         .07     .023 No_date   12:00   94.28 .977     .000
03449>      [XIMP=.99:TIMP=.99]
03450>      [SLP= .50:DT= 1.00]
03451>      [LOSS= 1 : HORTONS]
03452> R0150:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03453>     ROUTE RESERVOIR ->    1.0 02:S1-Roof         .07     .023 No_date   12:00   94.28  n/a     .000
03454>                   out <=    1.0 01:S1-Roof-Ou      .07     .003 No_date   12:05   94.28  n/a     .000
03455>                overflow <=    1.0 03:S1-Roof-Ov      .00     .000 No_date   0:00    .00  n/a     .000
03456>      (MxStOSed=.3008E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs)
03457> R0150:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03458>     ADD HYD              1.0 02:S1-B1           .42     .109 No_date   12:00   61.99  n/a     .000
03459>                    +     1.0 02:S1-Roof-Ou      .07     .003 No_date   12:05   94.28  n/a     .000
03460>                    +     1.0 02:S1-Roof-Ov      .00     .000 No_date   0:00    .00  n/a     .000
03461>                   SUM=   1.0 01:SITE1-IN        .49     .112 No_date   12:00   66.60  n/a     .000
03462> R0150:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03463>     ROUTE RESERVOIR ->    1.0 02:SITE1-IN        .49     .112 No_date   12:00   66.60  n/a     .000
03464>                   out <=    1.0 01:SITE1-Out       .49     .011 No_date   12:35   66.60  n/a     .000
03465>                overflow <=    1.0 03:SITE1-Over      .00     .000 No_date   0:00    .00  n/a     .000
03466>      (MxStOSed=.1392E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs)
03467> ******************************************************************************************
03468> # Site 2
03469> ******************************************************************************************
03470> R0150:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03471>     DESIGN STANDHYD      1.0 01:S2-B3           .35     .090 No_date   12:00   61.34 .635     .000
03472>      [XIMP=.46:TIMP=.56]
03473>      [SLP=1.00:DT= 1.00]
03474>      [LOSS= 1 : HORTONS]
03475> ******************************************************************************************
03476> # Site 2 - Roof
03477> ******************************************************************************************
03478> R0150:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03479>     DESIGN STANDHYD      1.0 01:S2-Roof         .09     .029 No_date   12:00   94.29 .977     .000
03480>      [XIMP=.99:TIMP=.99]
03481>      [SLP= .50:DT= 1.00]
03482>      [LOSS= 1 : HORTONS]
03483> ******************************************************************************************
03484> R0150:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03485>     ROUTE RESERVOIR ->    1.0 02:S2-Roof         .09     .029 No_date   12:00   94.29  n/a     .000
03486>                   out <=    1.0 01:S2-Roof-Ou      .09     .008 No_date   12:02   94.29  n/a     .000
03487>                overflow <=    1.0 03:S2-Roof-Ov      .00     .000 No_date   0:00    .00  n/a     .000
03488>      (MxStOSed=.2446E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs)
03489> R0150:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03490>     ADD HYD              1.0 02:S2-B3           .35     .090 No_date   12:00   61.34  n/a     .000
03491>                    +     1.0 02:S2-Roof-Ou      .09     .008 No_date   12:02   94.29  n/a     .000
03492>                    +     1.0 02:S2-Roof-Ov      .00     .000 No_date   0:00    .00  n/a     .000
03493>                   SUM=   1.0 01:SITE2-IN        .44     .098 No_date   12:00   68.08  n/a     .000
03494> R0150:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03495>     ROUTE RESERVOIR ->    1.0 02:SITE2-IN        .44     .098 No_date   12:00   68.08  n/a     .000
03496>                   out <=    1.0 01:SITE2-Out       .44     .013 No_date   12:35   68.08  n/a     .000
03497>                overflow <=    1.0 03:SITE2-Over      .00     .000 No_date   0:00    .00  n/a     .000
03498>      (MxStOSed=.1236E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs)
03499> R0150:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03500>     ADD HYD              1.0 02:SITE1-Out       .49     .011 No_date   12:35   66.60  n/a     .000
03501>                    +     1.0 02:SITE1-Over      .00     .000 No_date   0:00    .00  n/a     .000
03502>                   SUM=   1.0 01:Site1           .49     .011 No_date   12:35   66.60  n/a     .000
03503> R0150:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03504>     ADD HYD              1.0 02:SITE2-Out       .44     .013 No_date   12:35   68.08  n/a     .000
03505>                    +     1.0 02:SITE2-Over      .00     .000 No_date   0:00    .00  n/a     .000
03506>                   SUM=   1.0 01:Site2           .44     .013 No_date   12:35   68.08  n/a     .000
03507> R0150:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03508>     ADD HYD              1.0 02:EXT2            .28     .033 No_date   12:13   61.73  n/a     .000
03509>                    +     1.0 02:Pre2_1          .01     .003 No_date   12:00   44.25  n/a     .000
03510>                    +     1.0 02:Site1           .49     .011 No_date   12:35   66.60  n/a     .000
03511>                    +     1.0 02:Site2           .44     .013 No_date   12:35   68.08  n/a     .000
03512>                   SUM=   1.0 01:J1              1.23    .055 No_date   12:15   65.76  n/a     .000
03513> R0150:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03514>     ROUTE CHANNEL   ->    1.0 02:J1              1.23    .055 No_date   12:15   65.76  n/a     .000
03515>      [RDT= 1.00] out<-    1.0 01:R1              1.23    .053 No_date   12:20   65.76  n/a     .000
03516>      [L/S/n=  143./ .394/.035]
03517>      [Vmax=  .358:Dmax=  .150]
03518> R0150:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03519>     ADD HYD              1.0 02:R1              1.23    .053 No_date   12:20   65.76  n/a     .000
03520>                    +     1.0 02:EXT3            .56     .057 No_date   12:13   54.31  n/a     .000
03521>                    +     1.0 02:EXT1            3.21    .182 No_date   12:40   54.31  n/a     .000
03522>                   SUM=   1.0 01:J2              5.00    .267 No_date   12:28   57.12  n/a     .000
03523> R0150:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03524>     ROUTE CHANNEL   ->    1.0 02:J2              5.00    .267 No_date   12:28   57.12  n/a     .000
03525>      [RDT= 1.00] out<-    1.0 01:R2              5.00    .266 No_date   12:30   57.12  n/a     .000
03526>      [L/S/n=   73./ .425/.035]
03527>      [Vmax=  .531:Dmax=  .288]
03528> R0150:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03529>     ADD HYD              1.0 02:R2              5.00    .266 No_date   12:30   57.12  n/a     .000
03530>                    +     1.0 02:EXT4            .31     .033 No_date   12:11   52.94  n/a     .000
03531>                   SUM=   1.0 01:J3              5.31    .288 No_date   12:27   56.88  n/a     .000
03532> R0150:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03533>     ROUTE CHANNEL   ->    1.0 02:J3              5.31    .288 No_date   12:27   56.88  n/a     .000
03534>      [RDT= 1.00] out<-    1.0 01:R3              5.31    .286 No_date   12:30   56.88  n/a     .000
03535>      [L/S/n=   92./ .274/.035]
03536>      [Vmax=  .435:Dmax=  .298]
03537> R0150:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03538>     ADD HYD              1.0 02:R3              5.31    .286 No_date   12:30   56.88  n/a     .000
03539>                    +     1.0 02:EXT5            .59     .042 No_date   12:21   49.04  n/a     .000
03540>                   SUM=   1.0 01:J4              5.90    .326 No_date   12:29   56.09  n/a     .000
03541> R0150:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03542>     ROUTE CHANNEL   ->    1.0 02:J4              5.90    .326 No_date   12:29   56.09  n/a     .000
03543>      [RDT= 1.00] out<-    1.0 01:R4              5.90    .310 No_date   12:38   56.09  n/a     .000
03544>      [L/S/n=  251./ .190/.035]
03545>      [Vmax=  .431:Dmax=  .340]
03546> R0150:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03547>     ADD HYD              1.0 02:R4              5.90    .310 No_date   12:38   56.09  n/a     .000
03548>                    +     1.0 02:EXT6            .86     .068 No_date   12:28   61.73  n/a     .000
03549>                    +     1.0 02:EXT7            .47     .052 No_date   12:12   58.64  n/a     .000
03550>                   SUM=   1.0 01:J5              7.24    .407 No_date   12:33   56.93  n/a     .000
03551> R0150:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03552>     ROUTE CHANNEL   ->    1.0 02:J5              7.24    .407 No_date   12:33   56.93  n/a     .000
03553>      [RDT= 1.00] out<-    1.0 01:R5              7.24    .402 No_date   12:38   56.93  n/a     .000
03554>      [L/S/n=  237./ .644/.035]
03555>      [Vmax=  .708:Dmax=  .316]
03556> R0150:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03557>     ADD HYD              1.0 02:Pre10_1         .80     .067 No_date   12:11   43.14  n/a     .000
03558>                    +     1.0 02:Pre9_2          .01     .002 No_date   12:00   31.44  n/a     .000
03559>                    +     1.0 02:Pre2_2          .00     .000 No_date   12:00   51.59  n/a     .000
03560>                   SUM=   1.0 01:Pre             .81     .068 No_date   12:11   42.96  n/a     .000
03561> R0150:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03562>     ROUTE CHANNEL   ->    1.0 02:Pre             .81     .068 No_date   12:11   42.96  n/a     .000
03563>      [RDT= 1.00] out<-    1.0 01:R6              .81     .066 No_date   12:14   42.95  n/a     .000
03564>      [L/S/n=   77./ .776/.035]
03565>      [Vmax=  .492:Dmax=  .049]
03566> R0150:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03567>     ROUTE CHANNEL   ->    1.0 02:Pre9_1          .44     .030 No_date   12:17   43.13  n/a     .000
03568>      [RDT= 1.00] out<-    1.0 01:R7              .44     .030 No_date   12:20   43.13  n/a     .000
03569>      [L/S/n=  159./1.576/.035]
03570>      [Vmax=  .797:Dmax=  .009]
03571> R0150:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03572>     ADD HYD              1.0 02:R6              .81     .066 No_date   12:14   43.02  n/a     .000
03573>                    +     1.0 02:EXT10           .20     .013 No_date   12:19   43.13  n/a     .000
03574>                   SUM=   1.0 01:J6              1.02    .079 No_date   12:14   43.04  n/a     .000
03575> R0150:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03576>     ROUTE CHANNEL   ->    1.0 02:J6              1.02    .079 No_date   12:14   43.04  n/a     .000
03577>      [RDT= 1.00] out<-    1.0 01:R8              1.02    .078 No_date   12:18   43.04  n/a     .000
03578>      [L/S/n=   79./ .522/.035]
03579>      [Vmax=  .423:Dmax=  .058]
03580> R0150:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03581>     ADD HYD              1.0 02:R8              1.02    .078 No_date   12:18   43.08  n/a     .000
03582>                    +     1.0 02:R7              .44     .030 No_date   12:20   43.23  n/a     .000
03583>                   SUM=   1.0 01:J7              1.46    .107 No_date   12:18   43.13  n/a     .000
03584> R0150:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03585>     ROUTE CHANNEL   ->    1.0 02:J7              1.46    .107 No_date   12:18   43.13  n/a     .000
03586>      [RDT= 1.00] out<-    1.0 01:R9              1.46    .107 No_date   12:19   43.13  n/a     .000
03587>      [L/S/n=   29./ .887/.035]
03588>      [Vmax=  .543:Dmax=  .073]
03589> R0150:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03590>     ADD HYD              1.0 02:EXT9            3.57    .242 No_date   12:23   49.04  n/a     .000
03591>                    +     1.0 02:R9              1.46    .107 No_date   12:19   43.15  n/a     .000
03592>                    +     1.0 02:EXT8            .83     .068 No_date   12:19   52.94  n/a     .000
03593>                    +     1.0 02:R5              7.24    .402 No_date   12:38   56.93  n/a     .000
03594>                   SUM=   1.0 01:J8              13.10   .782 No_date   12:28   52.99  n/a     .000
03595> R0150:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03596>     ROUTE PIPE      ->    1.0 02:J8              13.10   .782 No_date   12:28   52.99  n/a     .000
03597> *   [RDT= 1.00] out<-    1.0 01:Outlet          13.10   .781 No_date   12:30   52.99  n/a     .000
03598>      [L/S/n=   8./ .010/.013]
03599>      [Vmax=  .468:Dmax= 1.279]
03600>      [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 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]
#********************************************************************************************
R0199:C00003--------------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = C:\Temp\20250428-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     .002 No_date   12:00   37.39 .350     .000
      [CN= 59.0: 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     .122 No_date   12:00   69.27 .649     .000
      [XIMP=.47:TIMP=.57]
      [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        .07     .025 No_date   12:00  104.44 .979     .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        .07     .025 No_date   12:00  104.44  n/a     .000
                out <=    1.0 01:S1-Roof-Ou     .07     .003 No_date   12:05  104.44  n/a     .000
           overflow <=    1.0 03:S1-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3331E-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     .122 No_date   12:00   69.27  n/a     .000
                    +     1.0 02:S1-Roof-Ou     .07     .003 No_date   12:05  104.44  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       .49     .125 No_date   12:00   74.30  n/a     .000
R0199:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:SITE1-IN       .49     .125 No_date   12:00   74.30  n/a     .000
                out <=    1.0 01:SITE1-Out      .49     .013 No_date   12:35   74.30  n/a     .000
           overflow <=    1.0 03:SITE1-Over     .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1578E-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          .35     .101 No_date   12:00   68.56 .642     .000
      [XIMP=.46:TIMP=.56]
      [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     .033 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     .033 No_date   12:00  104.44  n/a     .000
                out <=    1.0 01:S2-Roof-Ou     .09     .008 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=.2765E-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          .35     .101 No_date   12:00   68.56  n/a     .000
                    +     1.0 02:S2-Roof-Ou     .09     .008 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       .44     .110 No_date   12:00   75.90  n/a     .000
R0199:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:SITE2-IN       .44     .110 No_date   12:00   75.90  n/a     .000
                out <=    1.0 01:SITE2-Out      .44     .017 No_date   12:32   75.90  n/a     .000
           overflow <=    1.0 03:SITE2-Over     .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1369E-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      .49     .013 No_date   12:35   74.30  n/a     .000
                    +     1.0 02:SITE1-Over     .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:Site1          .49     .013 No_date   12:35   74.30  n/a     .000
R0199:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:SITE2-Out      .44     .017 No_date   12:32   75.90  n/a     .000
                    +     1.0 02:SITE2-Over     .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:Site2          .44     .017 No_date   12:32   75.90  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          .49     .013 No_date   12:35   74.30  n/a     .000
                    +     1.0 02:Site2          .44     .017 No_date   12:32   75.90  n/a     .000
                 SUM=     1.0 01:J1            1.23     .063 No_date   12:16   73.85  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     .063 No_date   12:16   73.85  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R1            1.23     .061 No_date   12:22   73.85  n/a     .000
      [L/S/n=  143./ .394/.035]
      {Vmax=  .370:Dmax=  .159}
R0199:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R1            1.23     .061 No_date   12:22   73.85  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     .310 No_date   12:29   65.60  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     .310 No_date   12:29   65.60  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R2            5.00     .310 No_date   12:31   65.60  n/a     .000
      [L/S/n=   73./ .425/.035]
      {Vmax=  .553:Dmax=  .306}
R0199:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R2            5.00     .310 No_date   12:31   65.60  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     .335 No_date   12:27   65.36  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     .335 No_date   12:27   65.36  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R3            5.31     .333 No_date   12:30   65.36  n/a     .000
      [L/S/n=   92./ .274/.035]
      {Vmax=  .453:Dmax=  .316}
R0199:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R3            5.31     .333 No_date   12:30   65.36  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     .380 No_date   12:29   64.53  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     .380 No_date   12:29   64.53  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R4            5.90     .362 No_date   12:38   64.53  n/a     .000
      [L/S/n=  251./ .190/.035]
      {Vmax=  .450:Dmax=  .363}
R0199:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R4            5.90     .362 No_date   12:38   64.53  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     .474 No_date   12:33   65.49  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     .474 No_date   12:33   65.49  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R5            7.24     .468 No_date   12:38   65.49  n/a     .000
      [L/S/n=  237./ .644/.035]
      {Vmax=  .737:Dmax=  .335}
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     .002 No_date   12:00   37.39  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   50.41  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   50.41  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R6             .81     .078 No_date   12:14   50.41  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   50.48  n/a     .000
                    +     1.0 02:EXT10          .20     .016 No_date   12:19   50.61  n/a     .000
                 SUM=     1.0 01:J6            1.02     .093 No_date   12:14   50.51  n/a     .000
R0199:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J6            1.02     .093 No_date   12:14   50.51  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R8            1.02     .091 No_date   12:18   50.51  n/a     .000
      [L/S/n=   79./ .522/.035]
      {Vmax=  .423:Dmax=  .068}
R0199:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R8            1.02     .091 No_date   12:18   50.55  n/a     .000
                    +     1.0 02:R7             .44     .035 No_date   12:20   50.71  n/a     .000
                 SUM=     1.0 01:J7            1.46     .126 No_date   12:18   50.60  n/a     .000
R0199:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:J7            1.46     .126 No_date   12:18   50.60  n/a     .000
     [RDT= 1.00] out<-    1.0 01:R9            1.46     .126 No_date   12:19   50.60  n/a     .000
      [L/S/n=   29./ .887/.035]
      {Vmax=  .543:Dmax=  .086}
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            1.46     .126 No_date   12:19   50.62  n/a     .000
                    +     1.0 02:EXT8           .83     .079 No_date   12:19   61.43  n/a     .000
                    +     1.0 02:R5            7.24     .468 No_date   12:38   65.49  n/a     .000
                 SUM=     1.0 01:J8           13.10     .914 No_date   12:28   61.31  n/a     .000
R0199:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:J8           13.10     .914 No_date   12:28   61.31  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:Outlet       13.10     .900 No_date   12:34   61.31  n/a     .000
      [L/S/n=    8./ .010/.013]
      {Vmax=  .486:Dmax= 1.356}
      [Din=  .53:Dused= 1.65}
###############################################################################
# STORMS
###############################################################################
R0199: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
```

```
03961> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03962> R0025:C00051  ROUTE PIPE      ->
03963> *** WARNING: New pipe size used for routing.
03964> R0050:C00015  CALIB NASHYD
03965> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03966> R0050:C00016  CALIB NASHYD
03967> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03968> R0050:C00018  CALIB NASHYD
03969> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03970> R0050:C00051  ROUTE PIPE      ->
03971> *** WARNING: New pipe size used for routing.
03972> R0099:C00015  CALIB NASHYD
03973> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03974> R0099:C00016  CALIB NASHYD
03975> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03976> R0099:C00018  CALIB NASHYD
03977> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03978> R0099:C00051  ROUTE PIPE      ->
03979> *** WARNING: New pipe size used for routing.
03980> R0102:C00015  CALIB NASHYD
03981> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03982> R0102:C00016  CALIB NASHYD
03983> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03984> R0102:C00018  CALIB NASHYD
03985> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03986> R0102:C00051  ROUTE PIPE      ->
03987> *** WARNING: New pipe size used for routing.
03988> R0105:C00015  CALIB NASHYD
03989> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03990> R0105:C00016  CALIB NASHYD
03991> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03992> R0105:C00018  CALIB NASHYD
03993> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03994> R0105:C00051  ROUTE PIPE      ->
03995> *** WARNING: New pipe size used for routing.
03996> R0110:C00015  CALIB NASHYD
03997> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03998> R0110:C00016  CALIB NASHYD
03999> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
04000> R0110:C00018  CALIB NASHYD
04001> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
04002> R0110:C00051  ROUTE PIPE      ->
04003> *** WARNING: New pipe size used for routing.
04004> R0125:C00015  CALIB NASHYD
04005> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
04006> R0125:C00016  CALIB NASHYD
04007> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
04008> R0125:C00018  CALIB NASHYD
04009> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
04010> R0125:C00051  ROUTE PIPE      ->
04011> *** WARNING: New pipe size used for routing.
04012> R0150:C00015  CALIB NASHYD
04013> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
04014> R0150:C00016  CALIB NASHYD
04015> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
04016> R0150:C00018  CALIB NASHYD
04017> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
04018> R0150:C00051  ROUTE PIPE      ->
04019> *** WARNING: New pipe size used for routing.
04020> R0199:C00015  CALIB NASHYD
04021> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
04022> R0199:C00016  CALIB NASHYD
04023> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
04024> R0199:C00018  CALIB NASHYD
04025> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
04026> R0199:C00051  ROUTE PIPE      ->
04027> *** WARNING: New pipe size used for routing.
04028>    Simulation ended on 2025-06-02     at 18:47:34
04029> ==============================================================================================
04030>
```

Attachment C

Hydraulic Analysis

N

Legend

- Site Boundary
- Jock River Tributary
- HEC-RAS Cross Sections
- Centerline

SCALE: 1:3000

0 50 100 150 m

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Figure C1: HEC-RAS Cross Sections

PROJECT	P2710(e01)
DRAWN	MM
DATE	5 June 2025

C:\Users\BrennanThomas\J.F. Sabourin and Associates Inc\JFSA-OTTAWA-SERVER - Documents\PROJ\2710(e01)\Design\GIS\20250603-Attachments

N

Legend

- Site Boundary

Pre-Development Flood Extents

- 2YrSCS24Hr
- 5YrSCS24Hr
- 10YrSCS24Hr
- 25YrSCS24Hr
- 50YrSCS24Hr
- 100YrSCS24Hr
- Spill Line

SCALE: 1:2500

0 50 100 m

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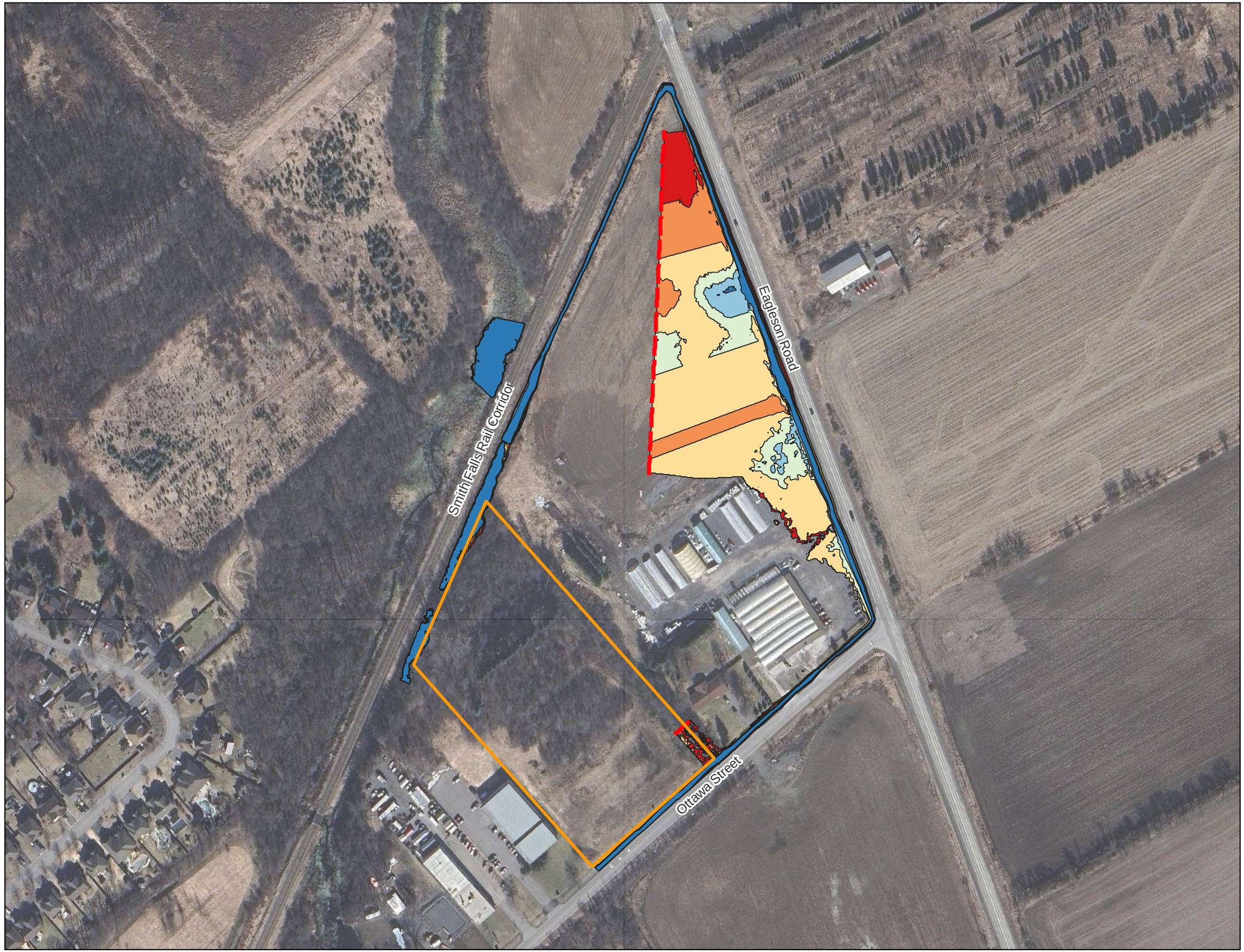
Figure C2: Pre-Development Flood Extents

PROJECT	P2719(e01)
DRAWN	BT
DATE	5 June 2025

C:\Users\BrennanThomas\J.F. Sabourin and Associates Inc\JFSA-OTTAWA-SERVER - Documents\PROJ\2710(e01)\Design\GIS\20250605-Flood Extent Figures



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Legend

- Site Boundary
- Post-Development Flood Extents
  - 2YrSCS24Hr
  - 5YrSCS24Hr
  - 10YrSCS24Hr
  - 25YrSCS24Hr
  - 50YrSCS24Hr
  - 100YrSCS24Hr
  - Spill Line

SCALE: 1:2500

0 50 100 m

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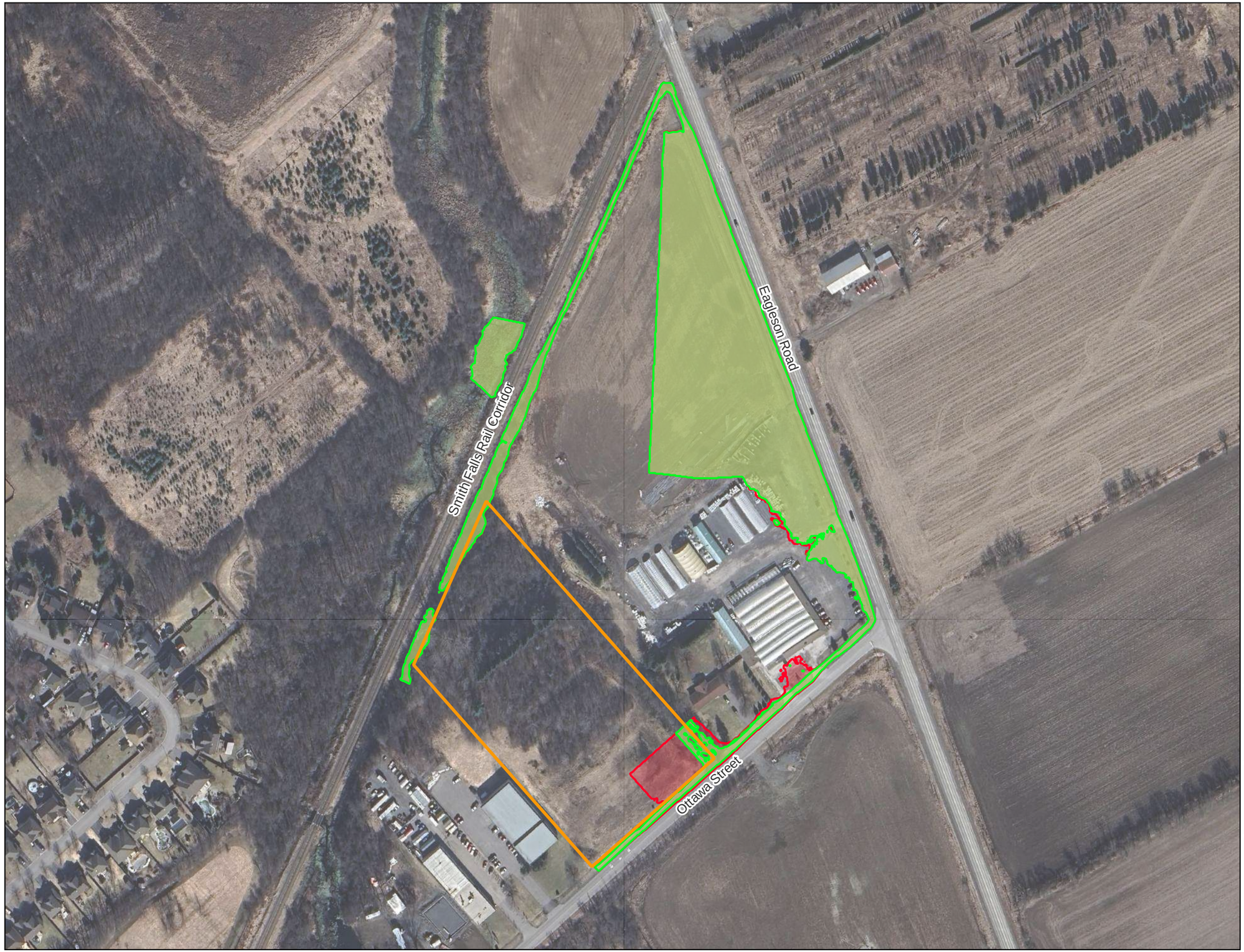
Figure C3: Post-Development Flood Extents

PROJECT	P2719(e01)
DRAWN	BT
DATE	5 June 2025

C:\Users\BrennanThomas\J.F. Sabourin and Associates Inc\JFSA-OTTAWA-SERVER - Documents\PROJ\2710(e01)\Design\GIS\20250605-Flood Extent Figures



N

Legend

- Site Boundary
- Pre-Development 100yr
- Post-Development 100yr

SCALE: 1:2500

0 50 100 m

JFSA CANADA INC.
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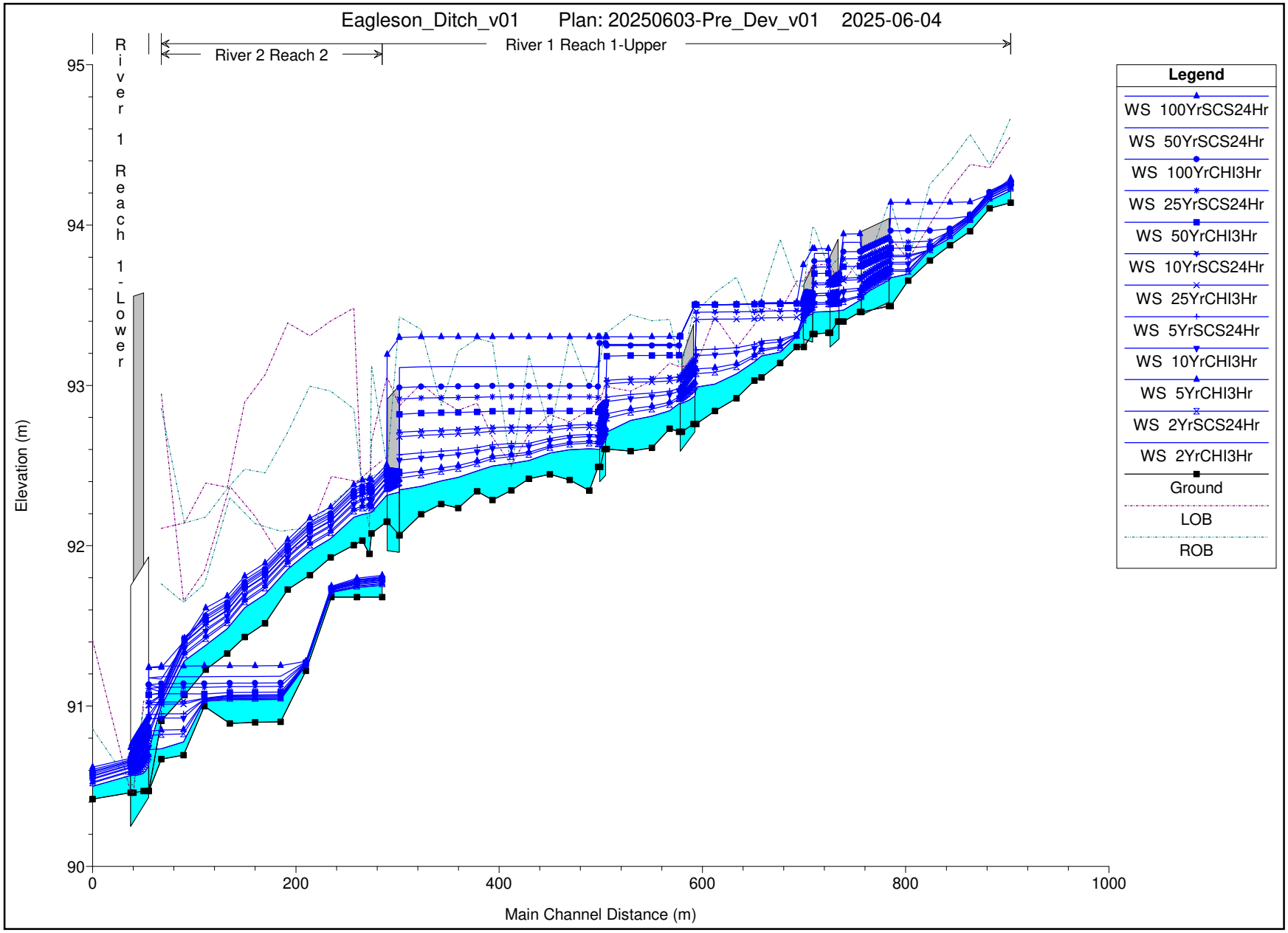
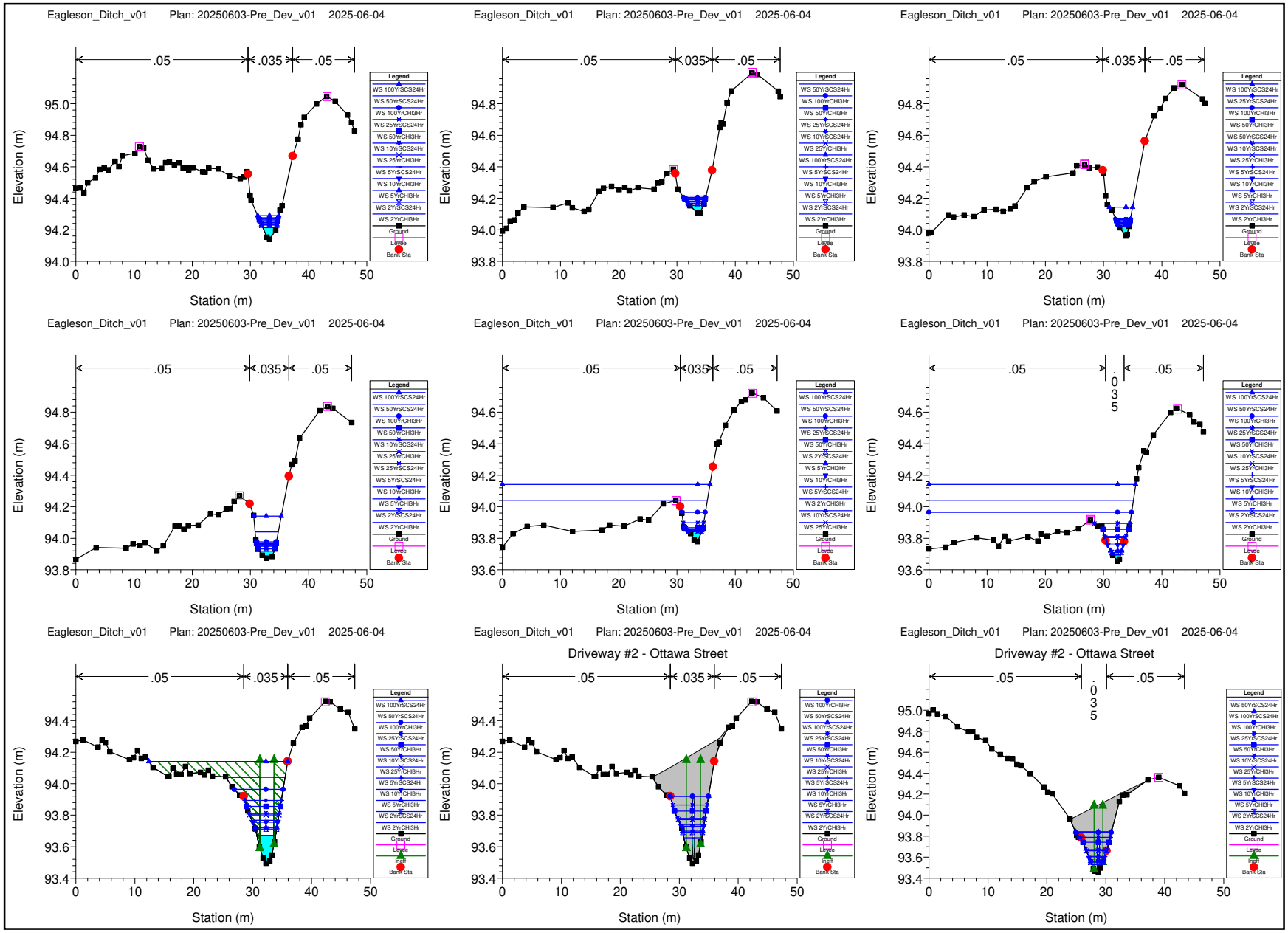
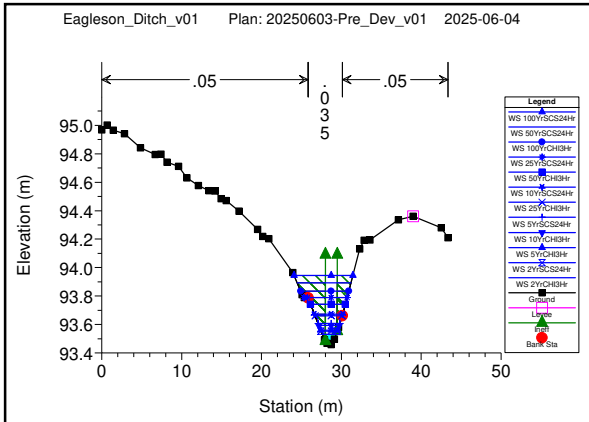
Figure C4: 100-yr Floodplain Extents Comparison

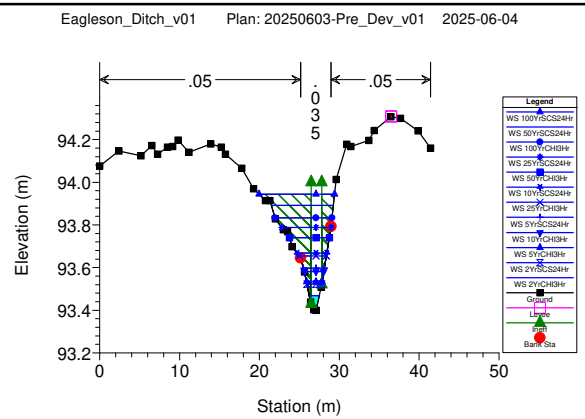
PROJECT	P2719(e01)
DRAWN	BT
DATE	5 June 2025

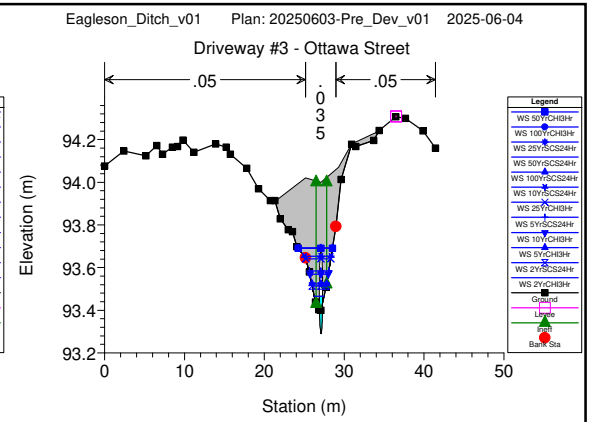
C:\Users\BrennanThomas\J.F. Sabourin and Associates Inc\JFSA-OTTAWA-SERVER - Documents\PROJ\2710(e01)\Design\GIS\20250605-Flood Extent Figures

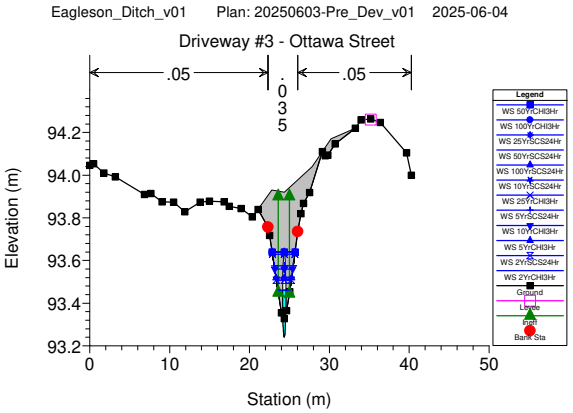

Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
River 2 Reach 2
River 1 Reach 1-Upper
River 1 Reach 1-Lower
Elevation (m)
Main Channel Distance (m)
95
94
93
92
91
90
0
200
400
600
800
1000
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
LOB
ROB

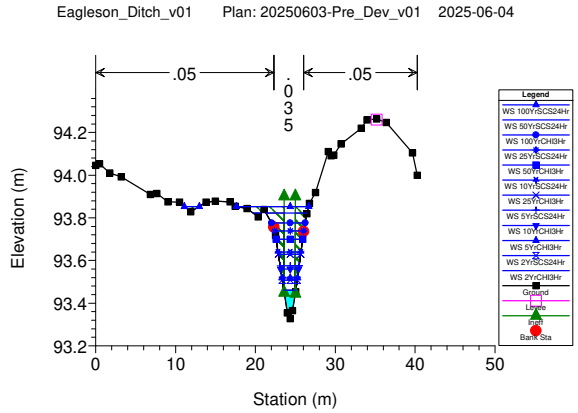

Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
Driveway #2 - Ottawa Street
.05
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Path
Bank Sta

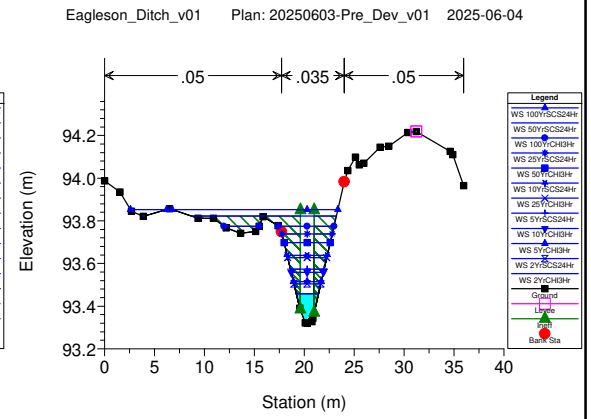

Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
.05
.035
.05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Path
Bank Sta


Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
.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
Path
Bank Sta


Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
Driveway #3 - Ottawa Street
.05
.035
.05
Elevation (m)
Station (m)
Legend
WS 50YrCHI3Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrSCS24Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Path
Bank Sta


Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
Driveway #3 - Ottawa Street
.05
.035
.05
Elevation (m)
Station (m)
Legend
WS 50YrCHI3Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrSCS24Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Path
Bank Sta


Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
.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
Path
Bank Sta


Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
.05
.035
.05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
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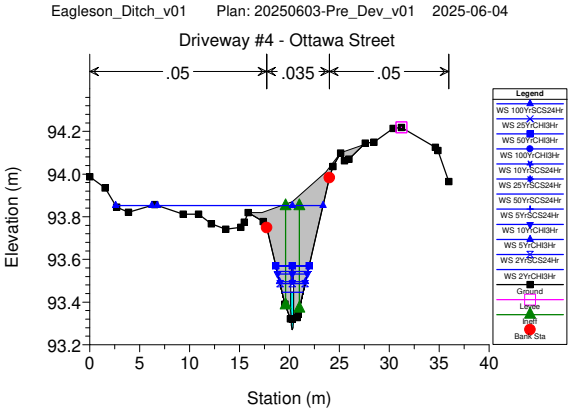
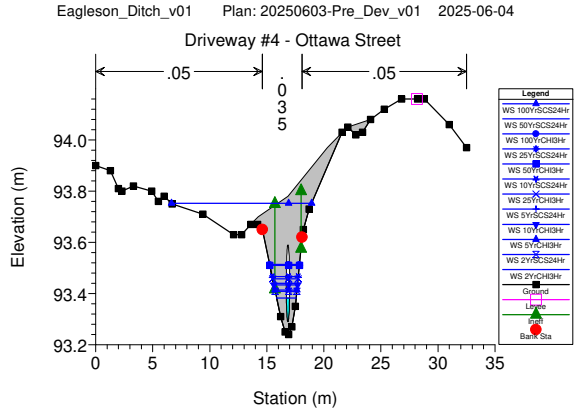
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Path
Bank Sta


Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
Driveway #4 - Ottawa Street
.05
.035
.05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 25YrCHI3Hr
WS 50YrCHI3Hr
WS 100YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrSCS24Hr
WS 50YrSCS24Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Path
Bank Sta


Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
Driveway #4 - Ottawa Street
.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
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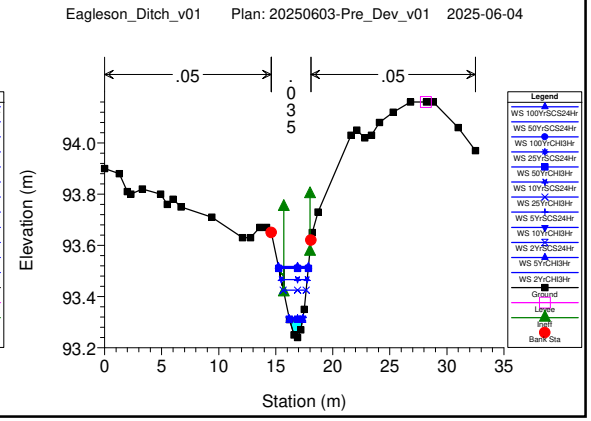
WS 2YrCHI3Hr
Ground
Levee
Path
Bank Sta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.05
.035
.05
Elevation (m)
Station (m)
Legend
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WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Path
Bank Sta

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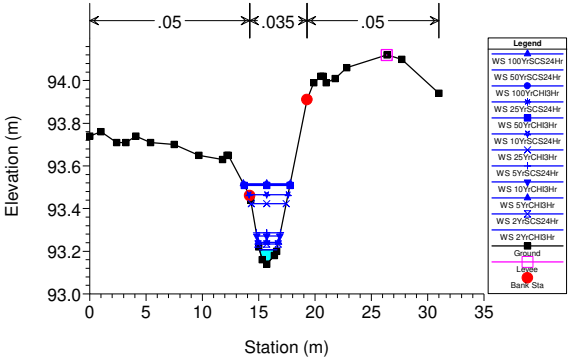

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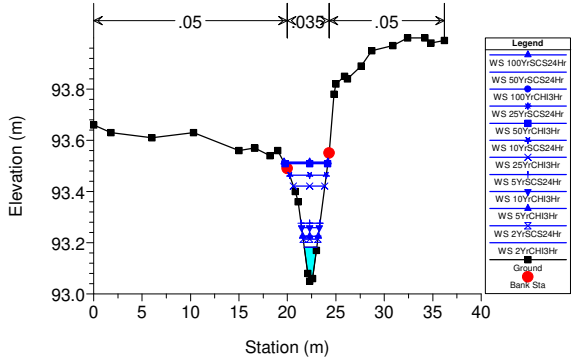

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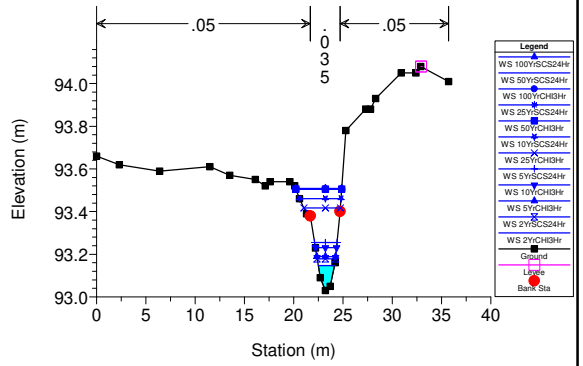

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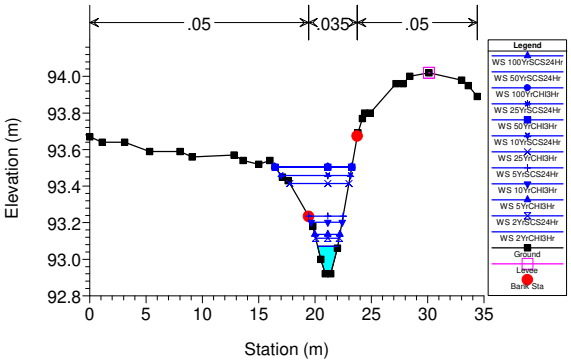

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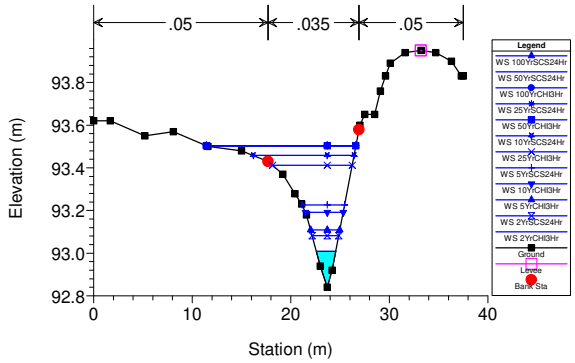

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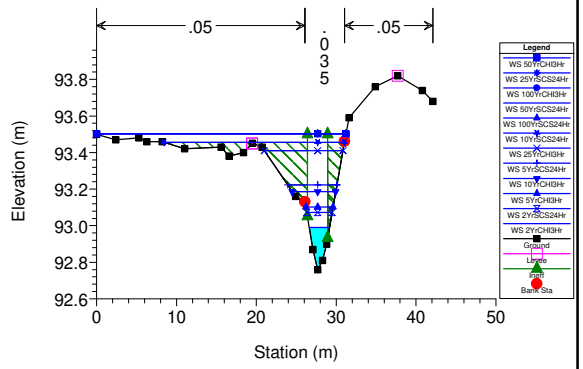
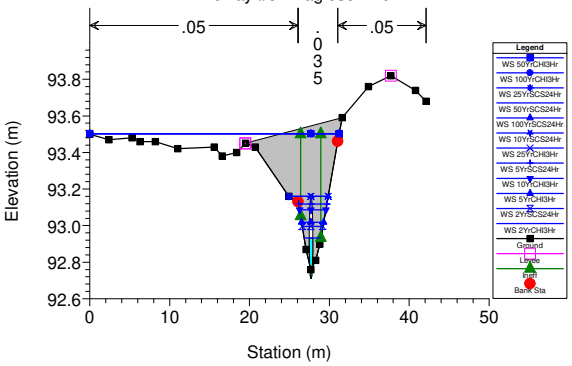


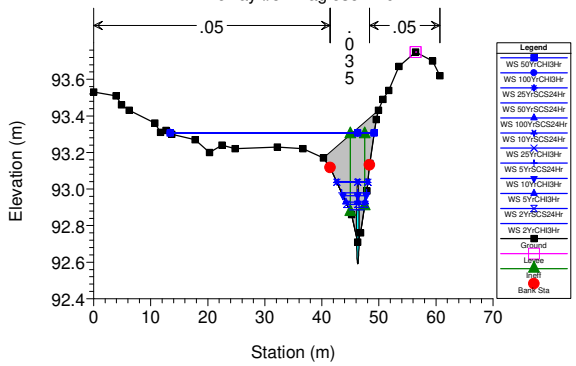
Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

Driveway #5 - Eagleson Rd

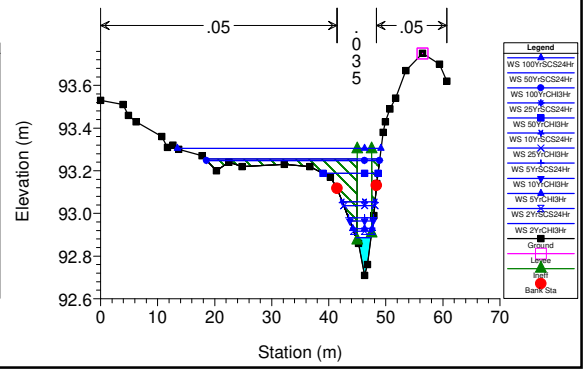


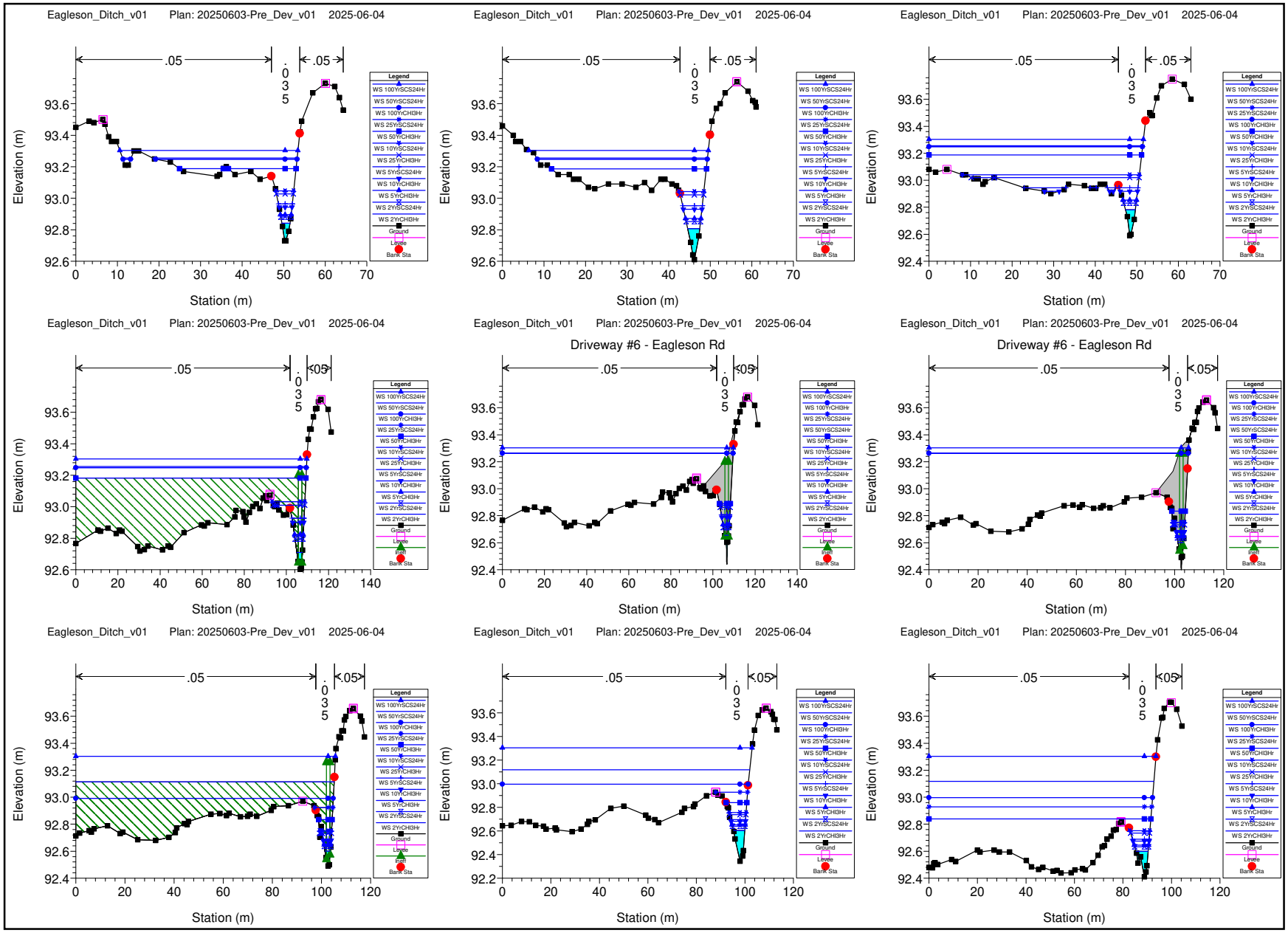
Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

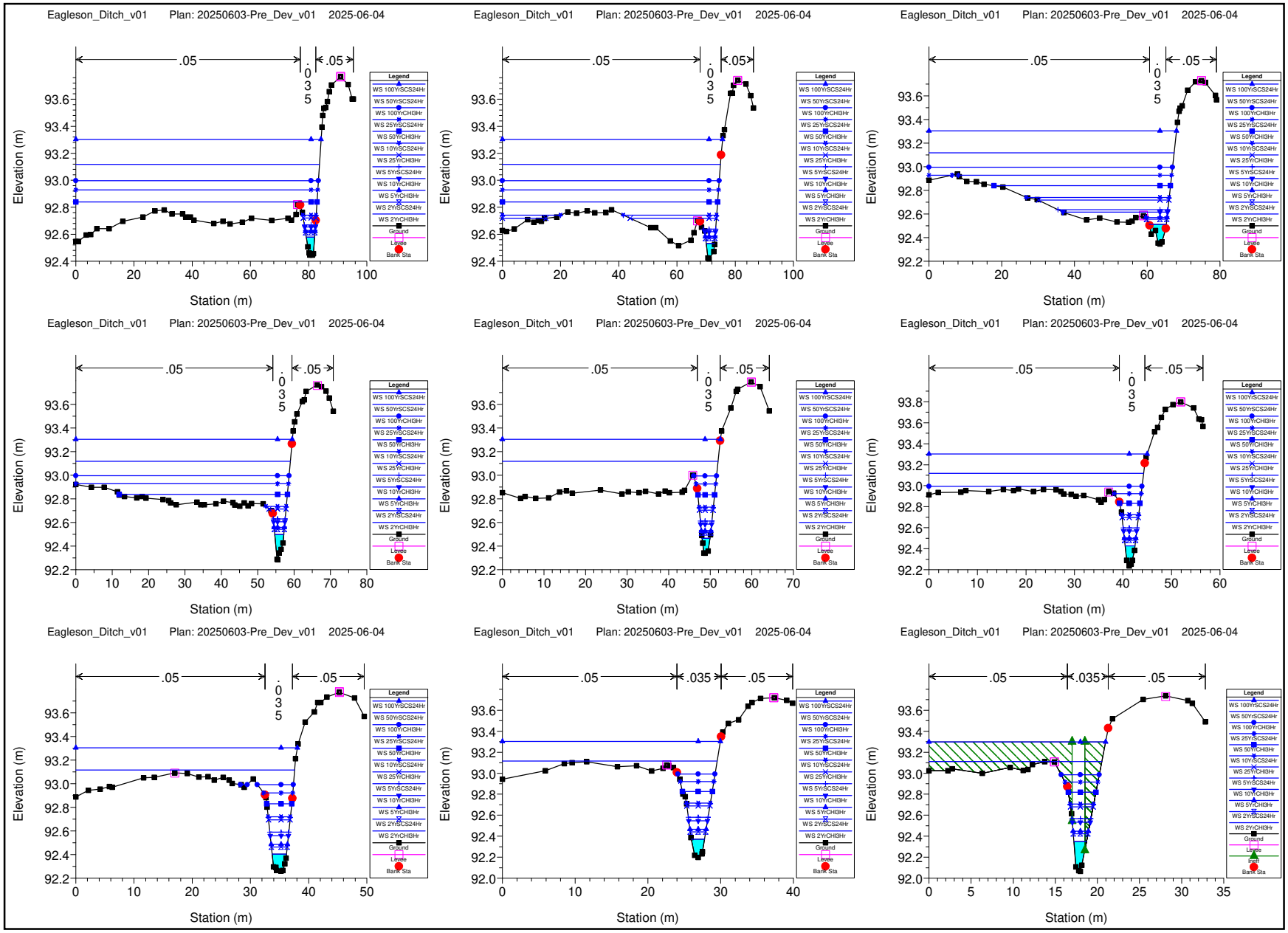
Driveway #5 - Eagleson Rd

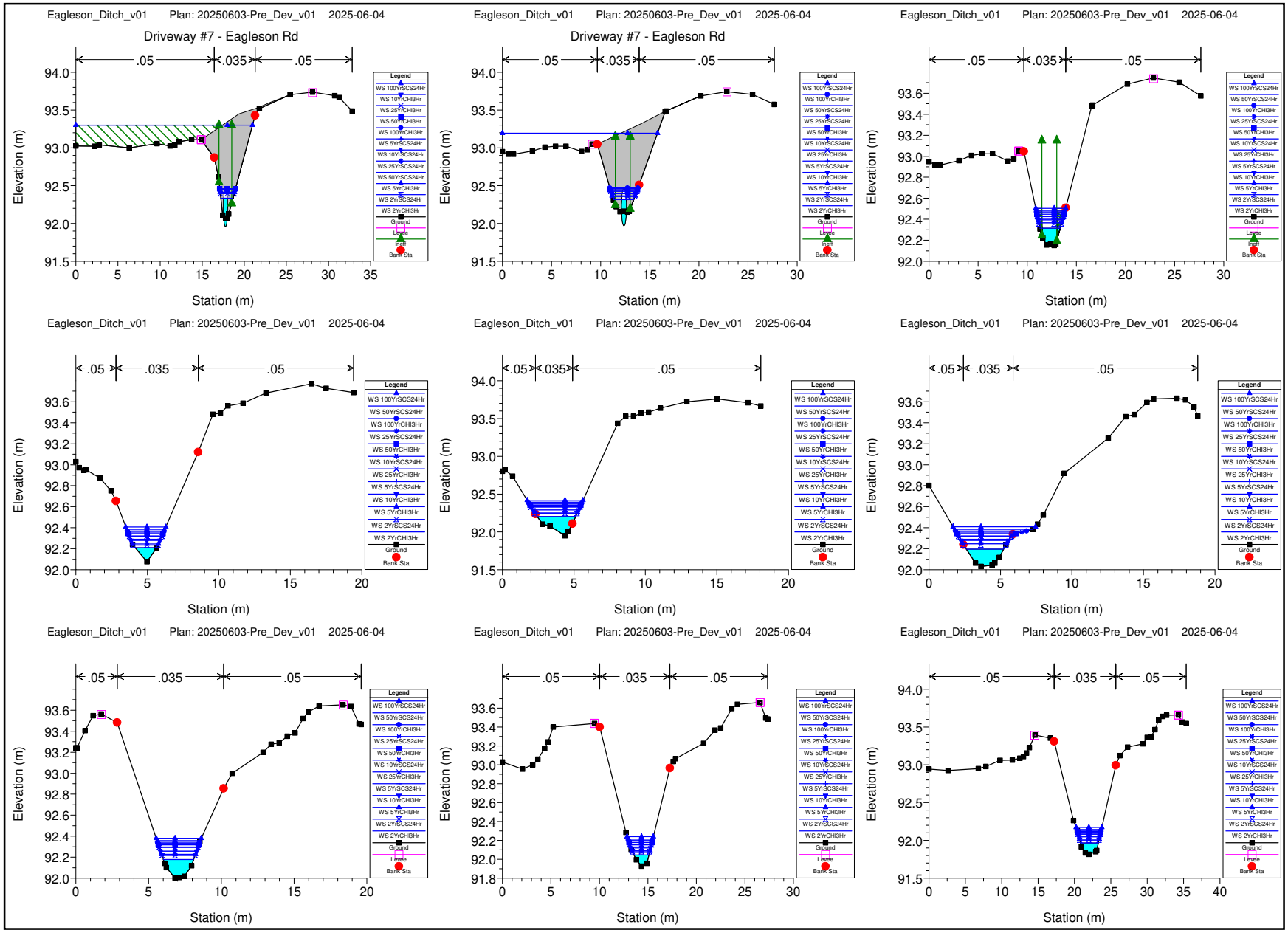


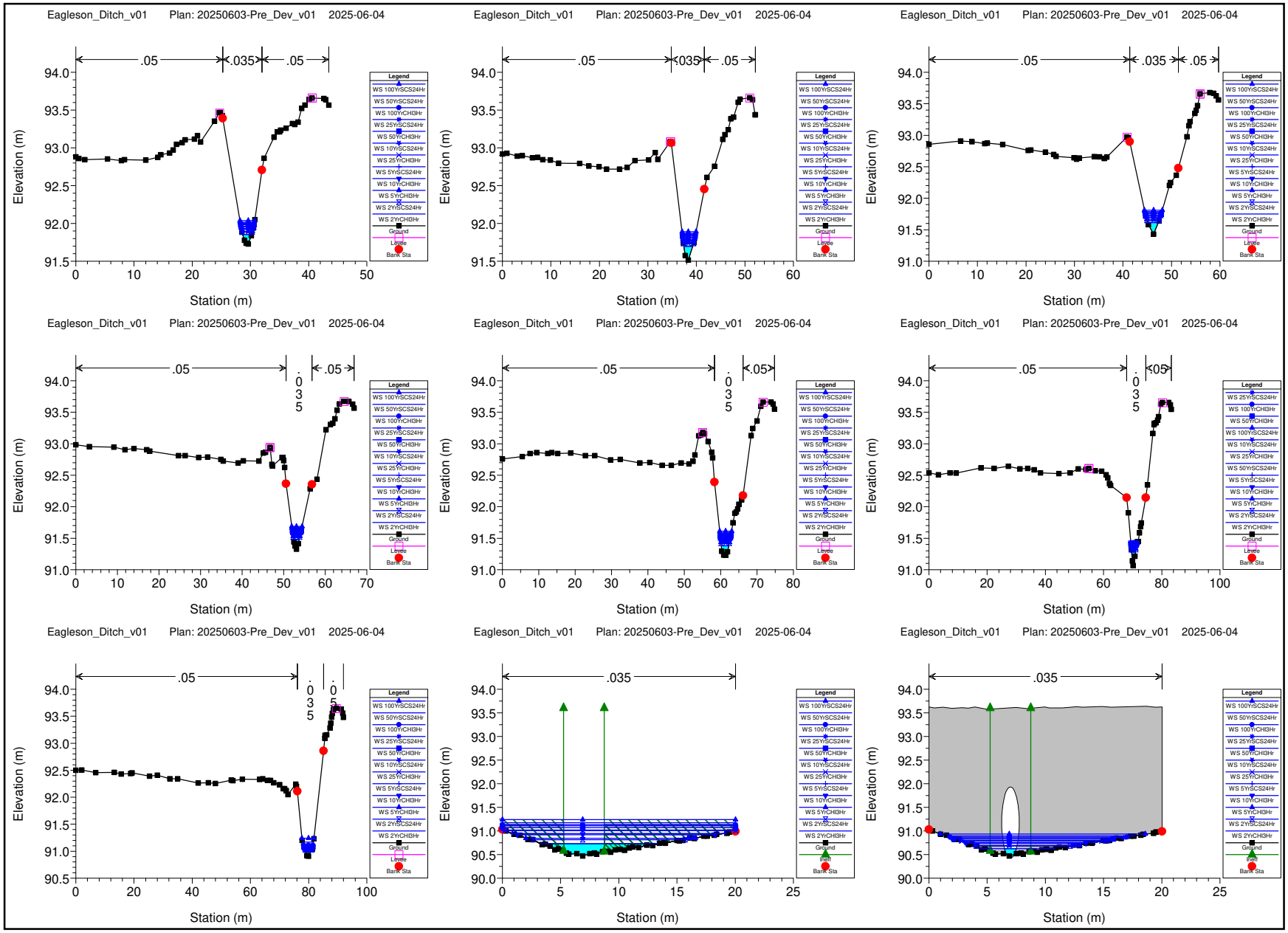
Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

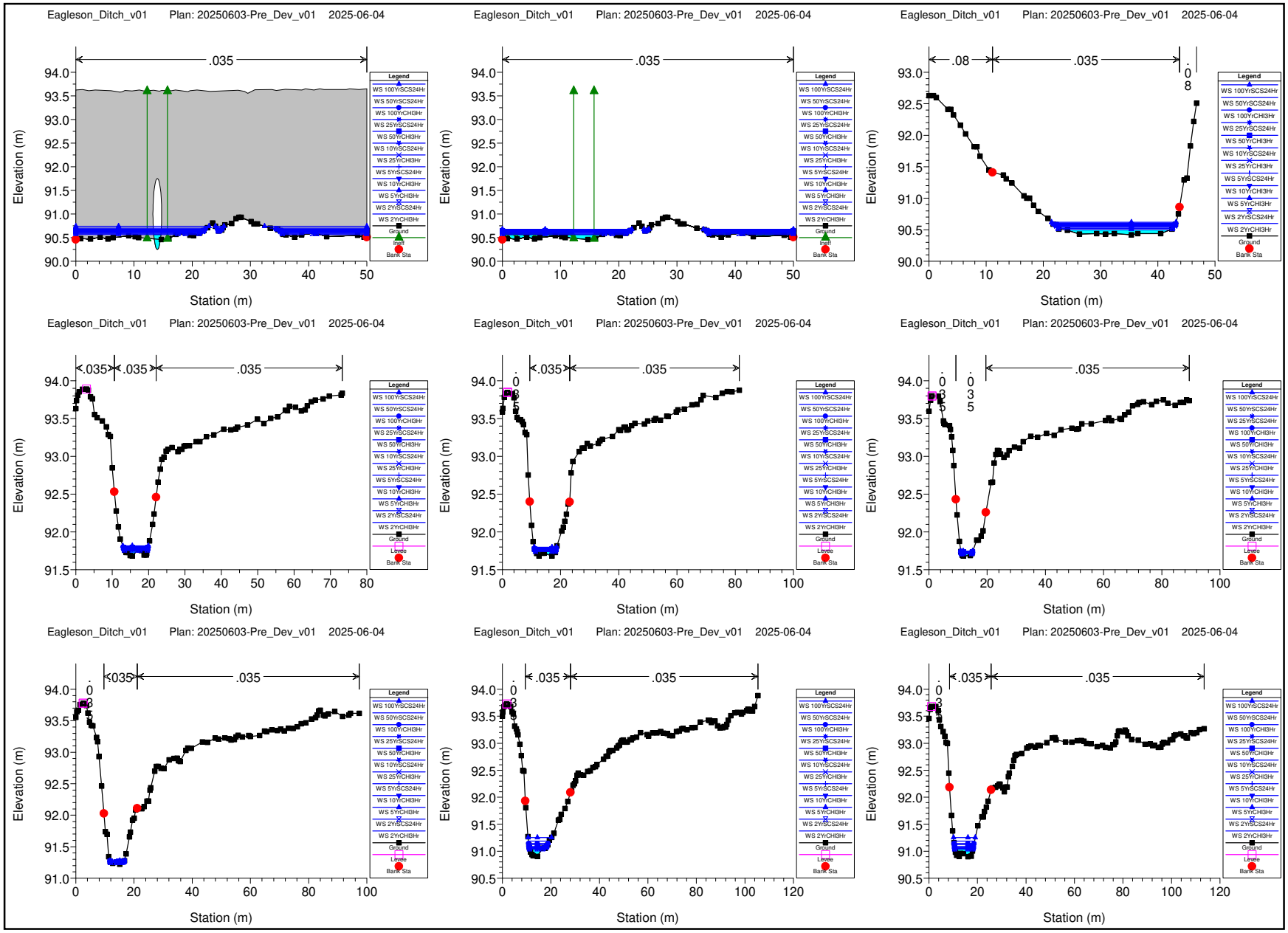



Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
Driveway #6 - Eagleson Rd
.05
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta

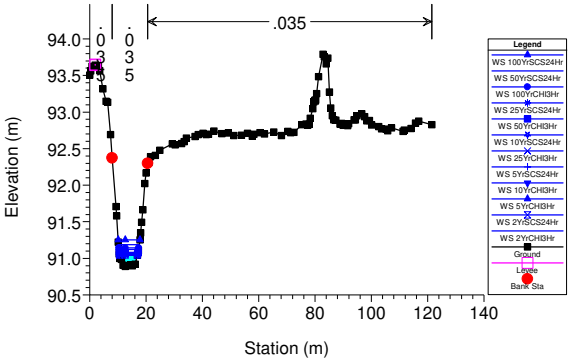

Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
Elevation (m)
Station (m)
.05
.035
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta


Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
Driveway #7 - Eagleson Rd
.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

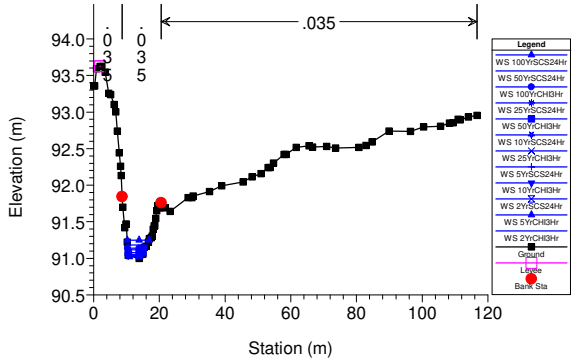

Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
.05
.035
.05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Inefl


Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
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

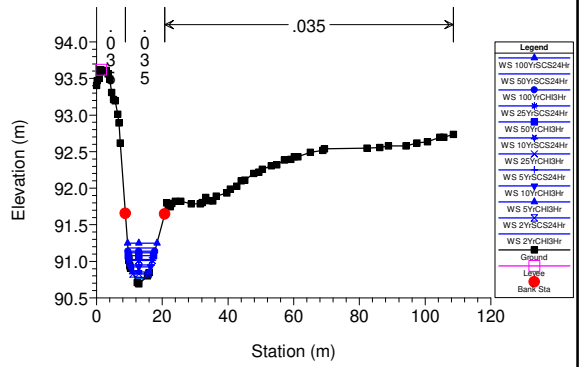
Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04



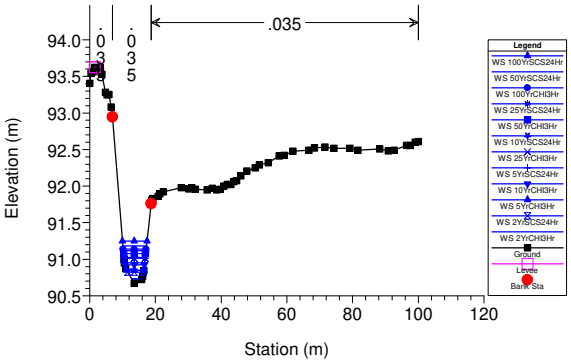
Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04



Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04



Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04



HEC-RAS Plan: 20250603-Pre_Dev_v01

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	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.03	91.68	91.77	91.72	91.77	0.000742	0.11	0.32	6.48	0.15
River 2	Reach 2	224	25YrCHI3Hr	0.05	91.68	91.78	91.73	91.79	0.000756	0.12	0.39	6.61	0.16
River 2	Reach 2	224	50YrCHI3Hr	0.06	91.68	91.79	91.73	91.79	0.000763	0.13	0.44	6.71	0.16
River 2	Reach 2	224	100YrCHI3Hr	0.07	91.68	91.80	91.74	91.80	0.000773	0.14	0.50	6.81	0.16
River 2	Reach 2	224	2YrSCS24Hr	0.02	91.68	91.76	91.72	91.76	0.000717	0.09	0.25	5.79	0.14
River 2	Reach 2	224	5YrSCS24Hr	0.04	91.68	91.78	91.73	91.78	0.000753	0.11	0.35	6.53	0.15
River 2	Reach 2	224	10YrSCS24Hr	0.05	91.68	91.79	91.73	91.79	0.000757	0.12	0.41	6.65	0.16
River 2	Reach 2	224	25YrSCS24Hr	0.07	91.68	91.80	91.74	91.80	0.000769	0.14	0.48	6.78	0.16
River 2	Reach 2	224	50YrSCS24Hr	0.08	91.68	91.81	91.74	91.81	0.000794	0.15	0.54	6.88	0.17
River 2	Reach 2	224	100YrSCS24Hr	0.09	91.68	91.81	91.75	91.82	0.000800	0.16	0.60	6.99	0.17
River 2	Reach 2	199	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.03	91.68	91.76	91.71	91.76	0.000481	0.09	0.38	7.14	0.12
River 2	Reach 2	199	25YrCHI3Hr	0.05	91.68	91.77	91.72	91.77	0.000549	0.10	0.45	7.32	0.13
River 2	Reach 2	199	50YrCHI3Hr	0.06	91.68	91.78	91.72	91.78	0.000569	0.11	0.50	7.42	0.14
River 2	Reach 2	199	100YrCHI3Hr	0.07	91.68	91.78	91.73	91.78	0.000591	0.12	0.56	7.51	0.14
River 2	Reach 2	199	2YrSCS24Hr	0.02	91.68	91.75	91.71	91.75	0.000474	0.08	0.30	6.91	0.12
River 2	Reach 2	199	5YrSCS24Hr	0.04	91.68	91.76	91.72	91.76	0.000522	0.10	0.41	7.20	0.13
River 2	Reach 2	199	10YrSCS24Hr	0.05	91.68	91.77	91.72	91.77	0.000558	0.11	0.47	7.37	0.14
River 2	Reach 2	199	25YrSCS24Hr	0.07	91.68	91.78	91.72	91.78	0.000582	0.12	0.55	7.49	0.14
River 2	Reach 2	199	50YrSCS24Hr	0.08	91.68	91.79	91.73	91.79	0.000628	0.13	0.60	7.57	0.15
River 2	Reach 2	199	100YrSCS24Hr	0.09	91.68	91.80	91.73	91.80	0.000634	0.14	0.66	7.67	0.15
River 2	Reach 2	174	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.03	91.68	91.72	91.71	91.73	0.009147	0.28	0.12	3.68	0.49
River 2	Reach 2	174	25YrCHI3Hr	0.05	91.68	91.73	91.72	91.73	0.010482	0.33	0.14	3.80	0.54
River 2	Reach 2	174	50YrCHI3Hr	0.06	91.68	91.73	91.72	91.74	0.010789	0.35	0.16	3.90	0.56
River 2	Reach 2	174	100YrCHI3Hr	0.07	91.68	91.74	91.72	91.75	0.011338	0.38	0.18	3.99	0.58
River 2	Reach 2	174	2YrSCS24Hr	0.02	91.68	91.71	91.70	91.72	0.009099	0.24	0.09	3.51	0.48
River 2	Reach 2	174	5YrSCS24Hr	0.04	91.68	91.73	91.71	91.73	0.009102	0.29	0.13	3.75	0.50
River 2	Reach 2	174	10YrSCS24Hr	0.05	91.68	91.73	91.72	91.74	0.010830	0.34	0.15	3.84	0.55
River 2	Reach 2	174	25YrSCS24Hr	0.07	91.68	91.74	91.72	91.74	0.010024	0.36	0.18	4.01	0.55
River 2	Reach 2	174	50YrSCS24Hr	0.08	91.68	91.74	91.73	91.75	0.010794	0.40	0.20	4.08	0.57
River 2	Reach 2	174	100YrSCS24Hr	0.09	91.68	91.75	91.73	91.76	0.010716	0.42	0.22	4.15	0.58
River 2	Reach 2	149	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.03	91.22	91.26	91.26	91.27	0.052915	0.44	0.08	4.47	1.07
River 2	Reach 2	149	25YrCHI3Hr	0.05	91.22	91.27	91.27	91.28	0.039832	0.45	0.10	4.68	0.97
River 2	Reach 2	149	50YrCHI3Hr	0.06	91.22	91.27	91.27	91.28	0.037244	0.47	0.12	4.80	0.95
River 2	Reach 2	149	100YrCHI3Hr	0.07	91.22	91.27	91.27	91.29	0.034157	0.49	0.14	4.94	0.93
River 2	Reach 2	149	2YrSCS24Hr	0.02	91.22	91.26	91.26	91.26	0.052399	0.39	0.06	3.96	1.03
River 2	Reach 2	149	5YrSCS24Hr	0.04	91.22	91.26	91.26	91.27	0.052134	0.46	0.08	4.53	1.07
River 2	Reach 2	149	10YrSCS24Hr	0.05	91.22	91.27	91.27	91.28	0.037535	0.46	0.11	4.74	0.95
River 2	Reach 2	149	25YrSCS24Hr	0.07	91.22	91.27	91.27	91.29	0.044620	0.53	0.13	4.83	1.05
River 2	Reach 2	149	50YrSCS24Hr	0.08	91.22	91.28	91.28	91.29	0.037650	0.53	0.15	5.00	0.98
River 2	Reach 2	149	100YrSCS24Hr	0.09	91.22	91.28	91.28	91.30	0.038788	0.57	0.16	5.05	1.01
River 2	Reach 2	124	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.03	90.90	91.06	90.94	91.06	0.000112	0.06	0.57	6.50	0.06
River 2	Reach 2	124	25YrCHI3Hr	0.05	90.90	91.07	90.95	91.07	0.000154	0.07	0.64	6.76	0.08
River 2	Reach 2	124	50YrCHI3Hr	0.06	90.90	91.09	90.95	91.09	0.000135	0.07	0.76	7.17	0.07
River 2	Reach 2	124	100YrCHI3Hr	0.07	90.90	91.14	90.95	91.14	0.000050	0.06	1.21	8.10	0.05
River 2	Reach 2	124	2YrSCS24Hr	0.02	90.90	91.05	90.93	91.05	0.000054	0.04	0.51	5.22	0.05
River 2	Reach 2	124	5YrSCS24Hr	0.04	90.90	91.06	90.94	91.06	0.000129	0.07	0.60	6.60	0.07
River 2	Reach 2	124	10YrSCS24Hr	0.05	90.90	91.07	90.95	91.07	0.000166	0.08	0.66	6.83	0.08
River 2	Reach 2	124	25YrSCS24Hr	0.07	90.90	91.12	90.95	91.12	0.000074	0.06	1.04	7.89	0.06
River 2	Reach 2	124	50YrSCS24Hr	0.08	90.90	91.19	90.96	91.19	0.000031	0.05	1.55	8.50	0.04
River 2	Reach 2	124	100YrSCS24Hr	0.09	90.90	91.25	90.96	91.25	0.000017	0.04	2.15	9.67	0.03
River 2	Reach 2	99	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.03	90.90	91.06	90.93	91.06	0.000027	0.04	0.93	7.57	0.03
River 2	Reach 2	99	25YrCHI3Hr	0.05	90.90	91.07	90.93	91.07	0.000041	0.05	1.00	7.64	0.04
River 2	Reach 2	99	50YrCHI3Hr	0.06	90.90	91.09	90.94	91.09	0.000040	0.05	1.14	7.79	0.04
River 2	Reach 2	99	100YrCHI3Hr	0.07	90.90	91.14	90.94	91.14	0.000020	0.04	1.61	8.25	0.03
River 2	Reach 2	99	2YrSCS24Hr	0.02	90.90	91.05	90.92	91.05	0.000016	0.03	0.86	7.49	0.03
River 2	Reach 2	99	5YrSCS24Hr	0.04	90.90	91.06	90.93	91.06	0.000032	0.04	0.96	7.60	0.04
River 2	Reach 2	99	10YrSCS24Hr	0.05	90.90	91.07	90.94	91.07	0.000045	0.05	1.02	7.67	0.04
River 2	Reach 2	99	25YrSCS24Hr	0.07	90.90	91.12	90.94	91.12	0.000026	0.05	1.43	8.07	0.03
River 2	Reach 2	99	50YrSCS24Hr	0.08	90.90	91.19	90.94	91.19	0.000014	0.04	1.96	8.55	0.03
River 2	Reach 2	99	100YrSCS24Hr	0.09	90.90	91.25	90.95	91.25	0.000009	0.04	2.54	9.03	0.02
River 2	Reach 2	74	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.03	90.89	91.06	90.92	91.06	0.000033	0.04	0.83	6.50	0.04
River 2	Reach 2	74	25YrCHI3Hr	0.05	90.89	91.07	90.93	91.07	0.000050	0.05	0.89	6.57	0.05
River 2	Reach 2	74	50YrCHI3Hr	0.06	90.89	91.08	90.93	91.08	0.000049	0.06	1.01	6.70	0.05
River 2	Reach 2	74	100YrCHI3Hr	0.07	90.89	91.14	90.93	91.14	0.000025	0.05	1.42	7.09	0.03
River 2	Reach 2	74	2YrSCS24Hr	0.02	90.89	91.05	90.92	91.05	0.000019	0.03	0.77	6.42	0.03
River 2	Reach 2	74	5YrSCS24Hr	0.04	90.89	91.06	90.92	91.06	0.000039	0.05	0.85	6.53	0.04
River 2	Reach 2	74	10YrSCS24Hr	0.05	90.89	91.07	90.93	91.07	0.000055	0.06	0.91	6.59	0.05
River 2	Reach 2	74	25YrSCS24Hr	0.07	90.89	91.12	90.93	91.12	0.000033	0.05	1.26	6.96	0.04
River 2	Reach 2	74	50YrSCS24Hr	0.08	90.89	91.18	90.93	91.18	0.000018	0.05	1.72	7.34	0.03
River 2	Reach 2	74	100YrSCS24Hr	0.09	90.89	91.25	90.94	91.25	0.000012	0.04	2.22	7.71	0.03

HEC-RAS Plan: 20250603-Pre_Dev_v01 (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	91.03	91.03	91.04	0.048683	0.40	0.04	2.56	1.01
River 2	Reach 2	49	5YrCHI3Hr	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	10YrCHI3Hr	0.03	91.00	91.04	91.04	91.05	0.036151	0.43	0.08	3.50	0.92
River 2	Reach 2	49	25YrCHI3Hr	0.05	91.00	91.05	91.05	91.06	0.042954	0.52	0.09	3.52	1.03
River 2	Reach 2	49	50YrCHI3Hr	0.06	91.00	91.08	91.05	91.08	0.005537	0.28	0.20	4.07	0.41
River 2	Reach 2	49	100YrCHI3Hr	0.07	91.00	91.14	91.05	91.14	0.000508	0.14	0.50	4.96	0.14
River 2	Reach 2	49	2YrSCS24Hr	0.02	91.00	91.04	91.04	91.04	0.038802	0.40	0.06	3.06	0.93
River 2	Reach 2	49	5YrSCS24Hr	0.04	91.00	91.04	91.04	91.06	0.043713	0.48	0.08	3.50	1.02
River 2	Reach 2	49	10YrSCS24Hr	0.05	91.00	91.05	91.05	91.06	0.037160	0.51	0.10	3.53	0.97
River 2	Reach 2	49	25YrSCS24Hr	0.07	91.00	91.12	91.05	91.12	0.001066	0.17	0.38	4.82	0.19
River 2	Reach 2	49	50YrSCS24Hr	0.08	91.00	91.18	91.06	91.18	0.000237	0.11	0.73	5.93	0.10
River 2	Reach 2	49	100YrSCS24Hr	0.09	91.00	91.25	91.06	91.25	0.000083	0.08	1.15	6.63	0.06
River 2	Reach 2	28	2YrCHI3Hr	0.02	90.69	90.78	90.74	90.78	0.001301	0.13	0.15	3.26	0.20
River 2	Reach 2	28	5YrCHI3Hr	0.03	90.69	90.85	90.75	90.85	0.000163	0.07	0.47	5.17	0.08
River 2	Reach 2	28	10YrCHI3Hr	0.05	90.69	90.93	90.75	90.93	0.000046	0.05	0.89	6.29	0.04
River 2	Reach 2	28	25YrCHI3Hr	0.06	90.69	91.01	90.76	91.01	0.000019	0.04	1.48	7.14	0.03
River 2	Reach 2	28	50YrCHI3Hr	0.08	90.69	91.08	90.77	91.08	0.000012	0.04	1.96	7.68	0.03
River 2	Reach 2	28	100YrCHI3Hr	0.09	90.69	91.14	90.78	91.14	0.000009	0.04	2.47	8.16	0.02
River 2	Reach 2	28	2YrSCS24Hr	0.03	90.69	90.83	90.74	90.83	0.000330	0.09	0.35	4.66	0.11
River 2	Reach 2	28	5YrSCS24Hr	0.05	90.69	90.95	90.76	90.95	0.000036	0.05	1.07	6.57	0.04
River 2	Reach 2	28	10YrSCS24Hr	0.07	90.69	91.03	90.76	91.03	0.000019	0.04	1.58	7.26	0.03
River 2	Reach 2	28	25YrSCS24Hr	0.09	90.69	91.12	90.78	91.12	0.000011	0.04	2.28	7.99	0.02
River 2	Reach 2	28	50YrSCS24Hr	0.11	90.69	91.18	90.78	91.18	0.000008	0.04	2.82	8.48	0.02
River 2	Reach 2	28	100YrSCS24Hr	0.13	90.69	91.25	90.79	91.25	0.000007	0.04	3.40	8.98	0.02
River 2	Reach 2	7	2YrCHI3Hr	0.02	90.67	90.73	90.71	90.74	0.003117	0.17	0.11	3.14	0.29
River 2	Reach 2	7	5YrCHI3Hr	0.03	90.67	90.85	90.72	90.85	0.000075	0.06	0.60	5.18	0.05
River 2	Reach 2	7	10YrCHI3Hr	0.05	90.67	90.92	90.73	90.92	0.000028	0.05	1.02	5.92	0.04
River 2	Reach 2	7	25YrCHI3Hr	0.06	90.67	91.01	90.73	91.01	0.000014	0.04	1.56	6.43	0.03
River 2	Reach 2	7	50YrCHI3Hr	0.08	90.67	91.08	90.74	91.08	0.000010	0.04	1.99	6.71	0.02
River 2	Reach 2	7	100YrCHI3Hr	0.09	90.67	91.14	90.74	91.14	0.000008	0.04	2.42	6.98	0.02
River 2	Reach 2	7	2YrSCS24Hr	0.03	90.67	90.82	90.72	90.82	0.000130	0.07	0.46	4.72	0.07
River 2	Reach 2	7	5YrSCS24Hr	0.05	90.67	90.95	90.73	90.95	0.000023	0.05	1.18	6.12	0.03
River 2	Reach 2	7	10YrSCS24Hr	0.07	90.67	91.03	90.73	91.03	0.000014	0.04	1.65	6.49	0.03
River 2	Reach 2	7	25YrSCS24Hr	0.09	90.67	91.12	90.74	91.12	0.000009	0.04	2.26	6.88	0.02
River 2	Reach 2	7	50YrSCS24Hr	0.11	90.67	91.18	90.75	91.18	0.000007	0.04	2.72	7.15	0.02
River 2	Reach 2	7	100YrSCS24Hr	0.13	90.67	91.25	90.75	91.25	0.000006	0.04	3.21	7.44	0.02
River 1	Reach 1-Upper	908	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	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	0.04	94.14	94.25	94.20	94.25	0.002058	0.21	0.18	2.87	0.26
River 1	Reach 1-Upper	908	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	908	100YrSCS24Hr	0.08	94.14	94.29	94.22	94.29	0.002029	0.26	0.33	3.64	0.27
River 1	Reach 1-Upper	887	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	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	0.04	94.10	94.18	94.15	94.19	0.004885	0.26	0.15	3.16	0.38
River 1	Reach 1-Upper	887	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	887	100YrSCS24Hr	0.08	94.10	94.19	94.18	94.20	0.014690	0.48	0.18	3.39	0.67
River 1	Reach 1-Upper	868	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	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	0.04	93.96	94.04	94.02	94.05	0.011359	0.39	0.10	2.08	0.58
River 1	Reach 1-Upper	868	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	868	100YrSCS24Hr	0.08	93.96	94.14	94.05	94.15	0.001168	0.21	0.40	3.98	0.21
River 1	Reach 1-Upper	848	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	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	0.04	93.87	93.95	93.92	93.96	0.002536	0.21	0.18	3.19	0.28
River 1	Reach 1-Upper	848	10YrSCS24Hr	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	25YrSCS24Hr	0.06	93.87	93.96	93.93	93.97	0.004423	0.30	0.21	3.29	0.38
River 1	Reach 1-Upper	848	50YrSCS24Hr	0.07	93.87	94.04	93.93	94.04	0.000430	0.15	0.50	3.98	0.13

HEC-RAS Plan: 20250603-Pre_Dev_v01 (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	0.08	93.87	94.14	93.94	94.14	0.000088	0.09	0.94	4.75	0.06
River 1	Reach 1-Upper	828	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	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	0.04	93.78	93.85	93.84	93.86	0.014294	0.39	0.10	2.58	0.63
River 1	Reach 1-Upper	828	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	828	100YrSCS24Hr	0.08	93.78	94.14	93.86	94.14	0.000001	0.01	9.06	35.66	0.01
River 1	Reach 1-Upper	807	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	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	0.04	93.65	93.77	93.71	93.77	0.001862	0.20	0.19	2.86	0.25
River 1	Reach 1-Upper	807	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	807	100YrSCS24Hr	0.08	93.65	94.14	93.74	94.14	0.000000	0.01	11.92	35.53	0.01
River 1	Reach 1-Upper	789	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	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	0.04	93.49	93.77	93.55	93.77	0.000038	0.07	0.56	4.42	0.04
River 1	Reach 1-Upper	789	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	789	100YrSCS24Hr	0.08	93.49	94.14	93.58	94.14	0.000008	0.06	1.46	23.56	0.02
River 1	Reach 1-Upper	764		Culvert									
River 1	Reach 1-Upper	759	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	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	0.04	93.46	93.61	93.52	93.61	0.000864	0.21	0.18	2.73	0.19
River 1	Reach 1-Upper	759	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	759	100YrSCS24Hr	0.08	93.46	93.95	93.55	93.95	0.000051	0.12	0.69	7.38	0.06
River 1	Reach 1-Upper	743	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	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	0.04	93.40	93.60	93.47	93.60	0.000466	0.18	0.21	2.59	0.14
River 1	Reach 1-Upper	743	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	743	100YrSCS24Hr	0.08	93.40	93.94	93.51	93.95	0.000049	0.13	0.66	9.45	0.06
River 1	Reach 1-Upper	733		Culvert									
River 1	Reach 1-Upper	728	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	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	0.04	93.33	93.58	93.41	93.58	0.000196	0.14	0.28	2.37	0.10
River 1	Reach 1-Upper	728	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	728	100YrSCS24Hr	0.08	93.33	93.85	93.45	93.85	0.000053	0.13	0.67	10.91	0.06
River 1	Reach 1-Upper	715	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	0.06	93.32	93.70	93.39	93.70	0.000061	0.11	0.51	4.63	0.06
River 1	Reach 1-Upper	715	100YrCHI3Hr	0.07	93.32	93.77	93.40	93.78	0.000044	0.11	0.61	9.10	0.05

HEC-RAS Plan: 20250603-Pre_Dev_v01 (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	0.04	93.32	93.57	93.38	93.57	0.000112	0.11	0.33	3.38	0.08
River 1	Reach 1-Upper	715	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	715	100YrSCS24Hr	0.08	93.32	93.85	93.41	93.85	0.000010	0.04	2.56	20.21	0.02
River 1	Reach 1-Upper	705		Culvert									
River 1	Reach 1-Upper	698	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	698	100YrSCS24Hr	0.08	93.24	93.52	93.35	93.52	0.000432	0.20	0.43	2.65	0.14
River 1	Reach 1-Upper	681	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	681	100YrSCS24Hr	0.08	93.14	93.52	93.23	93.52	0.000073	0.09	0.90	4.16	0.06
River 1	Reach 1-Upper	663	2YrCHI3Hr	0.02	93.05	93.18		93.18	0.000677	0.14	0.11	1.31	0.15
River 1	Reach 1-Upper	663	5YrCHI3Hr	0.03	93.05	93.22		93.23	0.000607	0.15	0.17	1.60	0.15
River 1	Reach 1-Upper	663	10YrCHI3Hr	0.03	93.05	93.26		93.26	0.000492	0.15	0.23	1.84	0.14
River 1	Reach 1-Upper	663	25YrCHI3Hr	0.05	93.05	93.42		93.42	0.000064	0.07	0.63	3.25	0.05
River 1	Reach 1-Upper	663	50YrCHI3Hr	0.06	93.05	93.51		93.51	0.000032	0.06	0.96	4.42	0.04
River 1	Reach 1-Upper	663	100YrCHI3Hr	0.07	93.05	93.51		93.51	0.000043	0.07	0.97	4.46	0.05
River 1	Reach 1-Upper	663	2YrSCS24Hr	0.02	93.05	93.21		93.22	0.000676	0.16	0.15	1.53	0.16
River 1	Reach 1-Upper	663	5YrSCS24Hr	0.04	93.05	93.28		93.28	0.000393	0.14	0.26	1.97	0.13
River 1	Reach 1-Upper	663	10YrSCS24Hr	0.05	93.05	93.46		93.46	0.000042	0.06	0.78	3.77	0.04
River 1	Reach 1-Upper	663	25YrSCS24Hr	0.06	93.05	93.51		93.51	0.000037	0.06	0.96	4.44	0.04
River 1	Reach 1-Upper	663	50YrSCS24Hr	0.07	93.05	93.51		93.51	0.000050	0.08	0.97	4.48	0.05
River 1	Reach 1-Upper	663	100YrSCS24Hr	0.08	93.05	93.51		93.52	0.000064	0.09	0.99	4.53	0.06
River 1	Reach 1-Upper	656	2YrCHI3Hr	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	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	0.14	93.03	93.23	93.16	93.24	0.004212	0.48	0.29	2.15	0.42
River 1	Reach 1-Upper	656	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	656	100YrSCS24Hr	0.33	93.03	93.51	93.23	93.51	0.000481	0.30	1.18	4.68	0.16
River 1	Reach 1-Upper	638	2YrCHI3Hr	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	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	0.14	92.92	93.20	93.05	93.21	0.001072	0.29	0.48	2.76	0.22
River 1	Reach 1-Upper	638	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	638	100YrSCS24Hr	0.33	92.92	93.51	93.13	93.51	0.000184	0.20	1.87	6.85	0.10
River 1	Reach 1-Upper	617	2YrCHI3Hr	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	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	0.14	92.84	93.19	93.00	93.19	0.000453	0.19	0.70	3.82	0.14
River 1	Reach 1-Upper	617	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	617	100YrSCS24Hr	0.33	92.84	93.50	93.06	93.50	0.000083	0.12	2.93	15.18	0.07
River 1	Reach 1-Upper	598	2YrCHI3Hr	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	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	0.15	92.76	93.19	92.91	93.19	0.000175	0.18	0.82	5.45	0.10

HEC-RAS Plan: 20250603-Pre_Dev_v01 (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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	598	100YrSCS24Hr	0.35	92.76	93.50	92.98	93.50	0.000046	0.12	4.93	31.21	0.05
River 1	Reach 1-Upper	589		Culvert									
River 1	Reach 1-Upper	581	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	581	100YrSCS24Hr	0.35	92.71	93.30	92.92	93.30	0.000057	0.11	4.83	35.67	0.06
River 1	Reach 1-Upper	572	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	572	100YrSCS24Hr	0.35	92.73	93.30	92.92	93.30	0.000050	0.10	6.26	42.85	0.05
River 1	Reach 1-Upper	555	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	555	100YrSCS24Hr	0.35	92.61	93.30	92.82	93.30	0.000015	0.06	9.71	43.21	0.03
River 1	Reach 1-Upper	534	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	534	100YrSCS24Hr	0.35	92.59	93.30	92.81	93.30	0.000004	0.03	17.46	51.60	0.02
River 1	Reach 1-Upper	510	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	510	100YrSCS24Hr	0.35	92.60	93.30	92.79	93.30	0.000000	0.01	48.45	109.72	0.00
River 1	Reach 1-Upper	505		Culvert									
River 1	Reach 1-Upper	502	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	0.29	92.49	92.92	92.67	92.94	0.000902	0.47	0.62	7.34	0.24
River 1	Reach 1-Upper	502	50YrSCS24Hr	0.34	92.49	93.11	92.69	93.12	0.000353	0.38	0.90	105.15	0.16

HEC-RAS Plan: 20250603-Pre_Dev_v01 (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	0.40	92.49	93.30	92.71	93.30	0.000000	0.01	51.89	105.65	0.00
River 1	Reach 1-Upper	493	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	493	100YrSCS24Hr	0.40	92.34	93.30	92.52	93.30	0.000000	0.01	60.16	102.98	0.00
River 1	Reach 1-Upper	474	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	474	100YrSCS24Hr	0.40	92.41	93.30	92.59	93.30	0.000000	0.01	68.65	93.59	0.00
River 1	Reach 1-Upper	454	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	454	100YrSCS24Hr	0.40	92.44	93.30	92.61	93.30	0.000000	0.01	51.02	84.29	0.00
River 1	Reach 1-Upper	434	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	434	100YrSCS24Hr	0.40	92.42	93.30	92.58	93.30	0.000000	0.01	46.84	75.66	0.00
River 1	Reach 1-Upper	416	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	416	100YrSCS24Hr	0.40	92.34	93.30	92.51	93.30	0.000000	0.02	41.01	68.07	0.01
River 1	Reach 1-Upper	398	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	398	100YrSCS24Hr	0.40	92.28	93.30	92.51	93.30	0.000001	0.02	30.94	59.51	0.01
River 1	Reach 1-Upper	383	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	0.23	92.34	92.73	92.49	92.73	0.000520	0.26	0.88	3.42	0.16
River 1	Reach 1-Upper	383	25YrSCS24Hr	0.29	92.34	92.93	92.51	92.93	0.000147	0.18	1.66	4.73	0.09

HEC-RAS Plan: 20250603-Pre_Dev_v01 (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	0.34	92.34	93.12	92.53	93.12	0.000005	0.04	15.00	51.87	0.02
River 1	Reach 1-Upper	383	100YrSCS24Hr	0.40	92.34	93.30	92.54	93.30	0.000002	0.03	24.70	52.43	0.01
River 1	Reach 1-Upper	364	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	364	100YrSCS24Hr	0.40	92.23	93.30	92.46	93.30	0.000003	0.04	18.26	45.01	0.01
River 1	Reach 1-Upper	347	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	347	100YrSCS24Hr	0.40	92.26	93.30	92.43	93.30	0.000005	0.06	13.35	38.07	0.02
River 1	Reach 1-Upper	328	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	328	100YrSCS24Hr	0.40	92.20	93.30	92.42	93.30	0.000009	0.06	10.13	29.96	0.02
River 1	Reach 1-Upper	306	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	306	100YrSCS24Hr	0.40	92.07	93.30	92.36	93.30	0.000072	0.24	1.67	20.98	0.07
River 1	Reach 1-Upper	300		Culvert									
River 1	Reach 1-Upper	294	2YrCHI3Hr	0.07	92.15	92.32	92.23	92.32	0.001567	0.31	0.22	2.08	0.26
River 1	Reach 1-Upper	294	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	294	100YrSCS24Hr	0.40	92.15	92.50	92.36	92.54	0.003396	0.80	0.50	3.05	0.44
River 1	Reach 1-Upper	279	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.20	92.08	92.28		92.32	0.017826	0.87	0.23	2.04	0.83
River 1	Reach 1-Upper	279	25YrCHI3Hr	0.27	92.08	92.32		92.36	0.013314	0.86	0.31	2.27	0.74
River 1	Reach 1-Upper	279	50YrCHI3Hr	0.32	92.08	92.34		92.38	0.011695	0.87	0.37	2.42	0.71
River 1	Reach 1-Upper	279	100YrCHI3Hr	0.38	92.08	92.37		92.41	0.010643	0.88	0.43	2.57	0.69
River 1	Reach 1-Upper	279	2YrSCS24Hr	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	5YrSCS24Hr	0.22	92.08	92.29		92.33	0.015917	0.86	0.25	2.10	0.80
River 1	Reach 1-Upper	279	10YrSCS24Hr	0.28	92.08	92.32		92.36	0.012955	0.86	0.32	2.30	0.74
River 1	Reach 1-Upper	279	25YrSCS24Hr	0.36	92.08	92.36		92.40	0.011055	0.88	0.41	2.51	0.70
River 1	Reach 1-Upper	279	50YrSCS24Hr	0.42	92.08	92.38		92.42	0.010063	0.89	0.47	2.66	0.67
River 1	Reach 1-Upper	279	100YrSCS24Hr	0.49	92.08	92.41		92.45	0.009502	0.91	0.54	2.81	0.66
River 1	Reach 1-Upper	277	2YrCHI3Hr	0.08	91.95	92.20		92.21	0.000695	0.21	0.39	2.70	0.17
River 1	Reach 1-Upper	277	5YrCHI3Hr	0.15	91.95	92.26		92.26	0.000856	0.28	0.54	3.02	0.20
River 1	Reach 1-Upper	277	10YrCHI3Hr	0.20	91.95	92.29		92.30	0.000927	0.32	0.64	3.19	0.21
River 1	Reach 1-Upper	277	25YrCHI3Hr	0.27	91.95	92.33		92.33	0.001006	0.37	0.76	3.41	0.23
River 1	Reach 1-Upper	277	50YrCHI3Hr	0.32	91.95	92.35		92.36	0.001068	0.41	0.85	3.55	0.24
River 1	Reach 1-Upper	277	100YrCHI3Hr	0.38	91.95	92.38		92.39	0.001131	0.44	0.95	3.69	0.25
River 1	Reach 1-Upper	277	2YrSCS24Hr	0.13	91.95	92.25		92.25	0.000826	0.26	0.50	2.94	0.20

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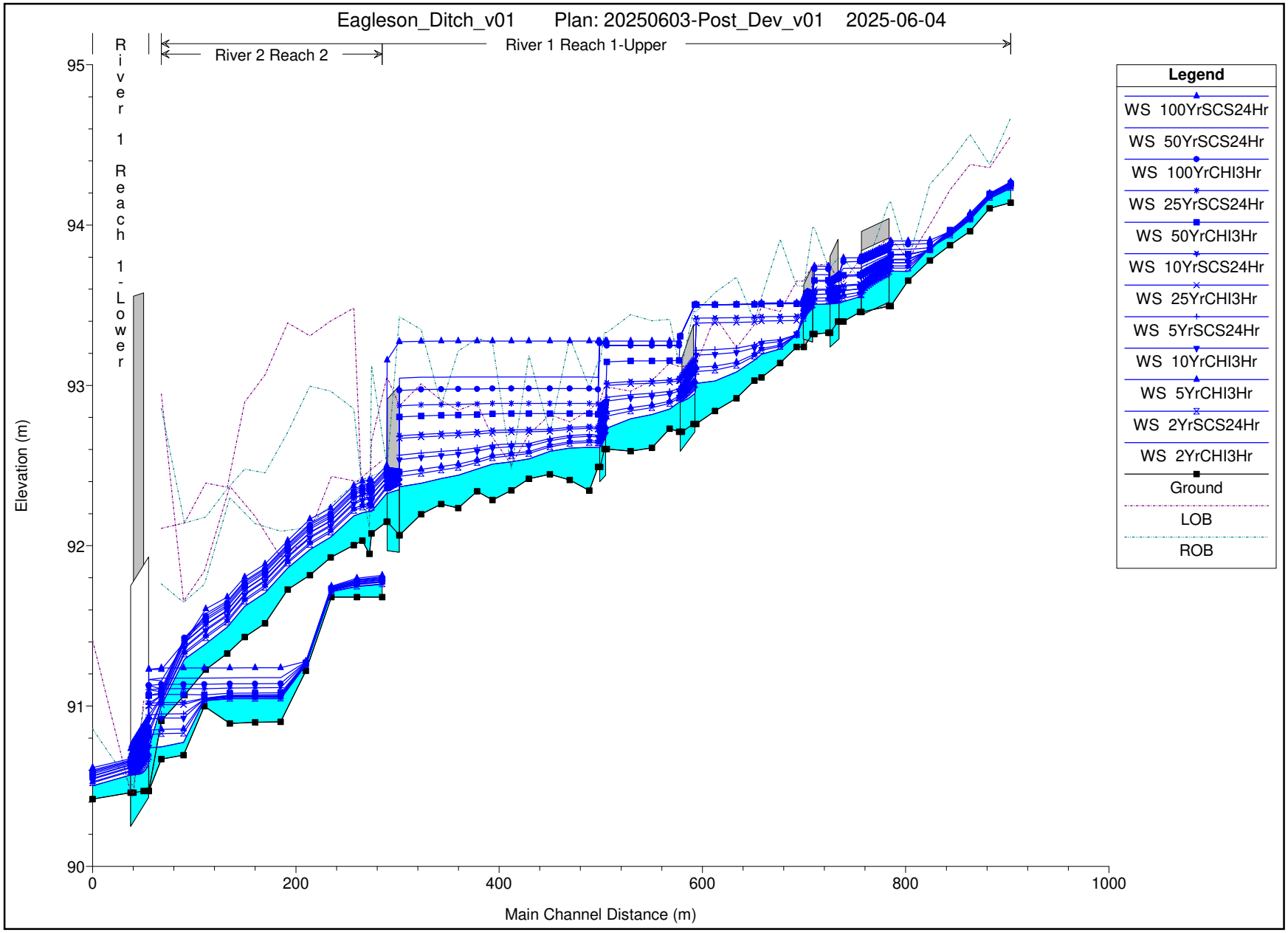
River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	277	5YrSCS24Hr	0.22	91.95	92.30		92.31	0.000941	0.33	0.68	3.25	0.22
River 1	Reach 1-Upper	277	10YrSCS24Hr	0.28	91.95	92.33		92.34	0.001018	0.38	0.78	3.43	0.23
River 1	Reach 1-Upper	277	25YrSCS24Hr	0.36	91.95	92.37		92.38	0.001104	0.43	0.91	3.63	0.25
River 1	Reach 1-Upper	277	50YrSCS24Hr	0.42	91.95	92.39		92.40	0.001159	0.46	1.00	3.77	0.26
River 1	Reach 1-Upper	277	100YrSCS24Hr	0.49	91.95	92.42		92.43	0.001229	0.50	1.09	3.91	0.27
River 1	Reach 1-Upper	270	2YrCHI3Hr	0.08	92.03	92.20		92.20	0.001692	0.27	0.29	2.60	0.26
River 1	Reach 1-Upper	270	5YrCHI3Hr	0.15	92.03	92.25		92.25	0.001753	0.33	0.45	3.07	0.27
River 1	Reach 1-Upper	270	10YrCHI3Hr	0.20	92.03	92.28		92.29	0.001743	0.36	0.55	3.36	0.28
River 1	Reach 1-Upper	270	25YrCHI3Hr	0.27	92.03	92.32		92.33	0.001732	0.40	0.68	3.72	0.29
River 1	Reach 1-Upper	270	50YrCHI3Hr	0.32	92.03	92.34		92.35	0.001721	0.42	0.78	4.13	0.29
River 1	Reach 1-Upper	270	100YrCHI3Hr	0.38	92.03	92.37		92.38	0.001663	0.45	0.90	5.00	0.29
River 1	Reach 1-Upper	270	2YrSCS24Hr	0.13	92.03	92.24		92.24	0.001760	0.32	0.40	2.95	0.27
River 1	Reach 1-Upper	270	5YrSCS24Hr	0.22	92.03	92.29		92.30	0.001717	0.37	0.58	3.47	0.28
River 1	Reach 1-Upper	270	10YrSCS24Hr	0.28	92.03	92.32		92.33	0.001734	0.40	0.70	3.76	0.29
River 1	Reach 1-Upper	270	25YrSCS24Hr	0.36	92.03	92.36		92.37	0.001687	0.44	0.84	4.62	0.29
River 1	Reach 1-Upper	270	50YrSCS24Hr	0.42	92.03	92.38		92.39	0.001617	0.46	0.97	5.51	0.29
River 1	Reach 1-Upper	270	100YrSCS24Hr	0.49	92.03	92.41		92.42	0.001578	0.48	1.11	5.76	0.29
River 1	Reach 1-Upper	261	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	261	100YrSCS24Hr	0.49	92.00	92.38	92.24	92.40	0.003314	0.63	0.77	3.10	0.41
River 1	Reach 1-Upper	239	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	239	100YrSCS24Hr	0.49	91.93	92.24	92.18	92.28	0.009080	0.91	0.54	2.69	0.65
River 1	Reach 1-Upper	218	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	218	100YrSCS24Hr	0.49	91.82	92.17	92.02	92.19	0.002504	0.56	0.88	3.53	0.35
River 1	Reach 1-Upper	197	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	0.42	91.73	92.02	91.97	92.06	0.010407	0.93	0.45	2.44	0.69
River 1	Reach 1-Upper	197	100YrSCS24Hr	0.49	91.73	92.04	91.99	92.08	0.010221	0.96	0.51	2.55	0.69
River 1	Reach 1-Upper	174	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	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	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	0.42	91.52	91.87	91.77	91.89	0.005141	0.71	0.59	2.76	0.49
River 1	Reach 1-Upper	174	100YrSCS24Hr	0.49	91.52	91.89	91.79	91.92	0.005179	0.75	0.66	2.87	0.50
River 1	Reach 1-Upper	154	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	0.32	91.43	91.75	91.65	91.76	0.003985	0.56	0.58	3.28	0.43
River 1	Reach 1-Upper	154	100YrCHI3Hr	0.38	91.43	91.77	91.67	91.79	0.003882	0.58	0.66	3.44	0.43

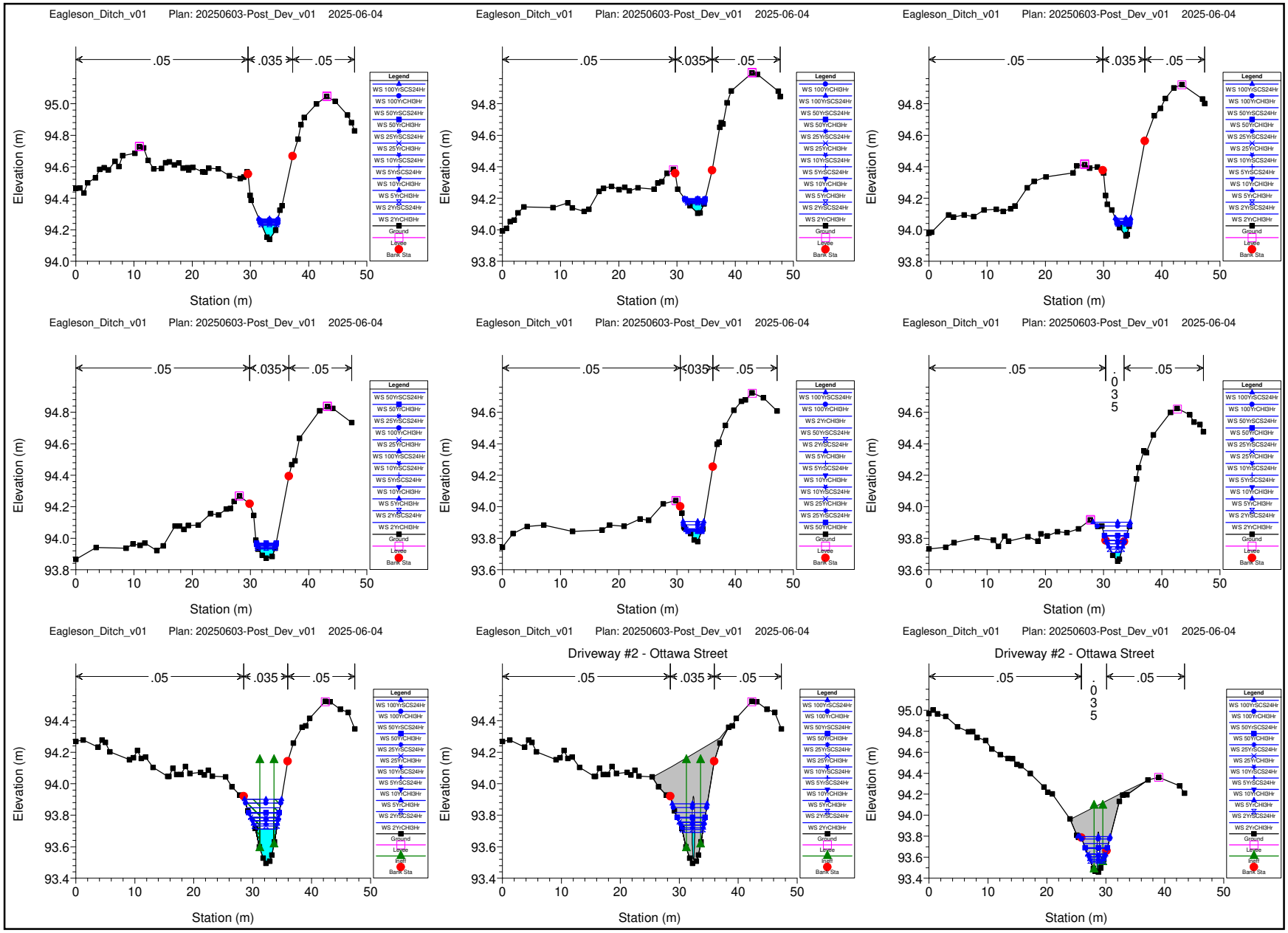
HEC-RAS Plan: 20250603-Pre_Dev_v01 (Continued)

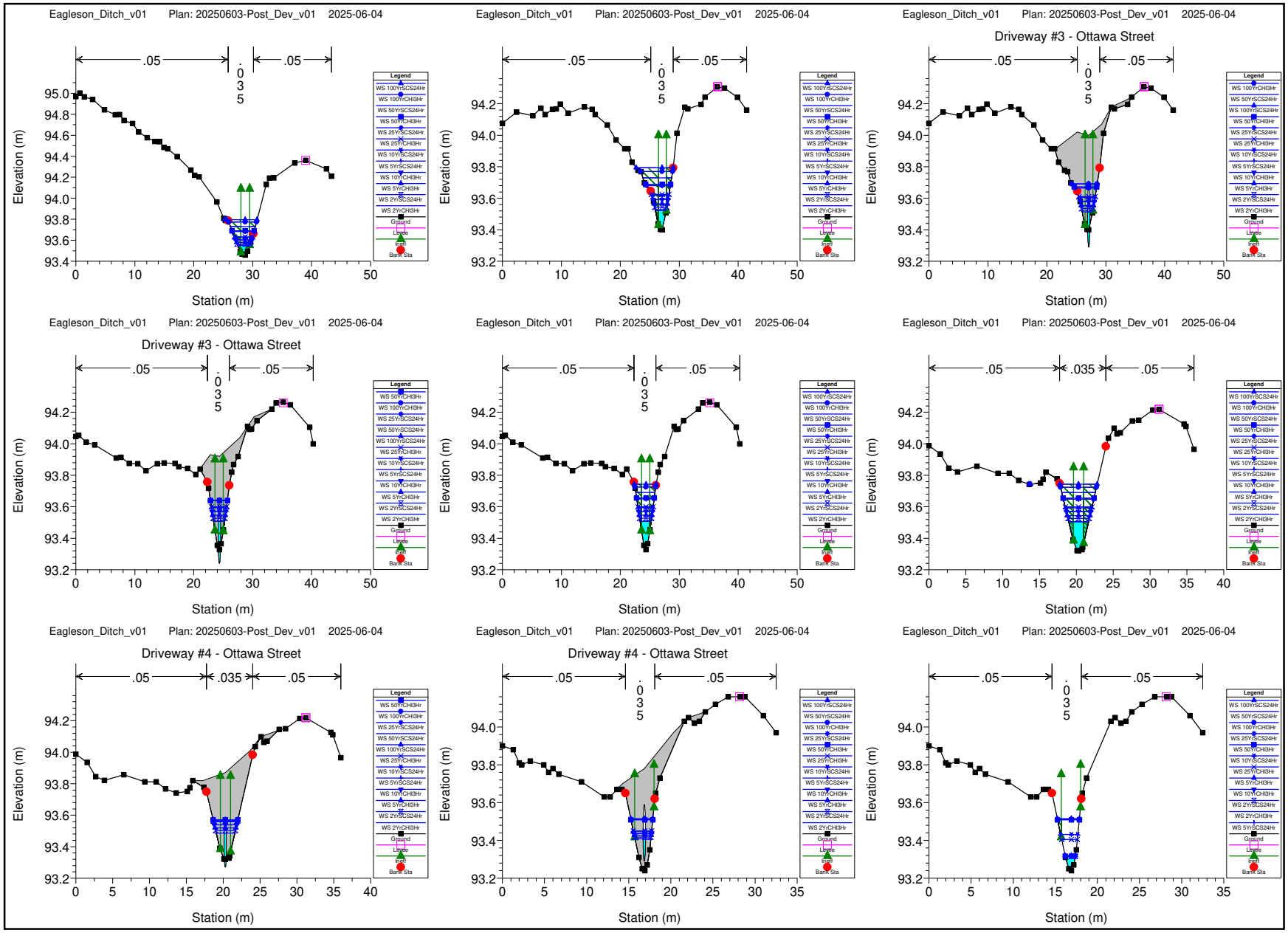
River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	154	2YrSCS24Hr	0.13	91.43	91.65	91.58	91.66	0.004251	0.44	0.29	2.49	0.41
River 1	Reach 1-Upper	154	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	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	154	100YrSCS24Hr	0.49	91.43	91.81	91.70	91.83	0.003747	0.62	0.79	3.69	0.43
River 1	Reach 1-Upper	137	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	0.38	91.33	91.65	91.59	91.69	0.009820	0.90	0.42	2.25	0.66
River 1	Reach 1-Upper	137	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	0.42	91.33	91.66	91.60	91.70	0.009574	0.92	0.46	2.33	0.66
River 1	Reach 1-Upper	137	100YrSCS24Hr	0.49	91.33	91.69	91.62	91.73	0.009283	0.95	0.52	2.46	0.66
River 1	Reach 1-Upper	116	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	0.38	91.23	91.56	91.42	91.58	0.002814	0.55	0.70	3.06	0.37
River 1	Reach 1-Upper	116	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	0.42	91.23	91.58	91.43	91.60	0.002600	0.55	0.76	3.16	0.36
River 1	Reach 1-Upper	116	100YrSCS24Hr	0.49	91.23	91.61	91.45	91.63	0.002607	0.58	0.85	3.28	0.36
River 1	Reach 1-Upper	95	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	0.38	91.07	91.42	91.37	91.47	0.011364	0.98	0.39	2.01	0.71
River 1	Reach 1-Upper	95	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	0.42	91.07	91.39	91.38	91.47	0.022828	1.30	0.32	1.85	0.99
River 1	Reach 1-Upper	95	100YrSCS24Hr	0.49	91.07	91.41	91.41	91.50	0.022422	1.34	0.37	1.95	0.99
River 1	Reach 1-Upper	72	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	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	25YrCHI3Hr	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	50YrCHI3Hr	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	100YrCHI3Hr	0.38	90.91	91.11	91.10	91.16	0.016324	0.92	0.42	3.23	0.82
River 1	Reach 1-Upper	72	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	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	25YrSCS24Hr	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	50YrSCS24Hr	0.42	90.91	91.17	91.11	91.19	0.006772	0.70	0.60	3.69	0.55
River 1	Reach 1-Upper	72	100YrSCS24Hr	0.49	90.91	91.24	91.12	91.26	0.002972	0.55	0.89	4.14	0.38
River 1	Reach 1-Lower	56	2YrCHI3Hr	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	5YrCHI3Hr	0.26	90.47	90.84	90.60	90.85	0.000293	0.23	1.14	14.27	0.13
River 1	Reach 1-Lower	56	10YrCHI3Hr	0.36	90.47	90.92	90.62	90.92	0.000277	0.26	1.40	17.00	0.13
River 1	Reach 1-Lower	56	25YrCHI3Hr	0.49	90.47	91.01	90.64	91.01	0.000267	0.29	1.71	19.79	0.13
River 1	Reach 1-Lower	56	50YrCHI3Hr	0.60	90.47	91.07	90.66	91.08	0.000264	0.31	1.93	20.02	0.13
River 1	Reach 1-Lower	56	100YrCHI3Hr	0.72	90.47	91.13	90.68	91.14	0.000264	0.34	2.15	20.02	0.14
River 1	Reach 1-Lower	56	2YrSCS24Hr	0.23	90.47	90.82	90.59	90.82	0.000307	0.22	1.05	13.08	0.13
River 1	Reach 1-Lower	56	5YrSCS24Hr	0.40	90.47	90.95	90.63	90.95	0.000273	0.27	1.50	18.26	0.13
River 1	Reach 1-Lower	56	10YrSCS24Hr	0.52	90.47	91.02	90.65	91.02	0.000269	0.29	1.75	19.92	0.13
River 1	Reach 1-Lower	56	25YrSCS24Hr	0.68	90.47	91.11	90.67	91.12	0.000263	0.33	2.07	20.02	0.14
River 1	Reach 1-Lower	56	50YrSCS24Hr	0.80	90.47	91.17	90.70	91.18	0.000261	0.35	2.30	20.02	0.14
River 1	Reach 1-Lower	56	100YrSCS24Hr	0.94	90.47	91.24	90.71	91.25	0.000262	0.37	2.53	20.02	0.14
River 1	Reach 1-Lower	50		Culvert									
River 1	Reach 1-Lower	38	2YrCHI3Hr	0.14	90.46	90.57	90.53	90.58	0.004969	0.42	0.33	30.00	0.43
River 1	Reach 1-Lower	38	5YrCHI3Hr	0.26	90.46	90.60	90.55	90.62	0.006999	0.60	0.44	34.38	0.54
River 1	Reach 1-Lower	38	10YrCHI3Hr	0.36	90.46	90.61	90.57	90.64	0.008612	0.72	0.50	35.69	0.61
River 1	Reach 1-Lower	38	25YrCHI3Hr	0.49	90.46	90.63	90.60	90.67	0.010692	0.87	0.56	36.54	0.70
River 1	Reach 1-Lower	38	50YrCHI3Hr	0.60	90.46	90.64	90.62	90.69	0.012409	0.99	0.61	36.97	0.76
River 1	Reach 1-Lower	38	100YrCHI3Hr	0.72	90.46	90.66	90.64	90.72	0.014104	1.11	0.65	37.73	0.82
River 1	Reach 1-Lower	38	2YrSCS24Hr	0.23	90.46	90.59	90.55	90.61	0.006395	0.56	0.42	33.55	0.51
River 1	Reach 1-Lower	38	5YrSCS24Hr	0.40	90.46	90.62	90.58	90.65	0.009230	0.77	0.52	36.26	0.64
River 1	Reach 1-Lower	38	10YrSCS24Hr	0.52	90.46	90.64	90.60	90.68	0.011069	0.90	0.57	36.60	0.71
River 1	Reach 1-Lower	38	25YrSCS24Hr	0.68	90.46	90.65	90.63	90.71	0.013373	1.06	0.64	37.45	0.79
River 1	Reach 1-Lower	38	50YrSCS24Hr	0.80	90.46	90.66	90.64	90.74	0.015442	1.19	0.68	38.06	0.86
River 1	Reach 1-Lower	38	100YrSCS24Hr	0.94	90.46	90.67	90.66	90.76	0.018005	1.32	0.71	38.54	0.94
River 1	Reach 1-Lower	0	2YrCHI3Hr	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	5YrCHI3Hr	0.26	90.42	90.53	90.47	90.53	0.001000	0.17	1.59	20.04	0.19
River 1	Reach 1-Lower	0	10YrCHI3Hr	0.36	90.42	90.54	90.48	90.55	0.001000	0.19	1.92	20.29	0.19

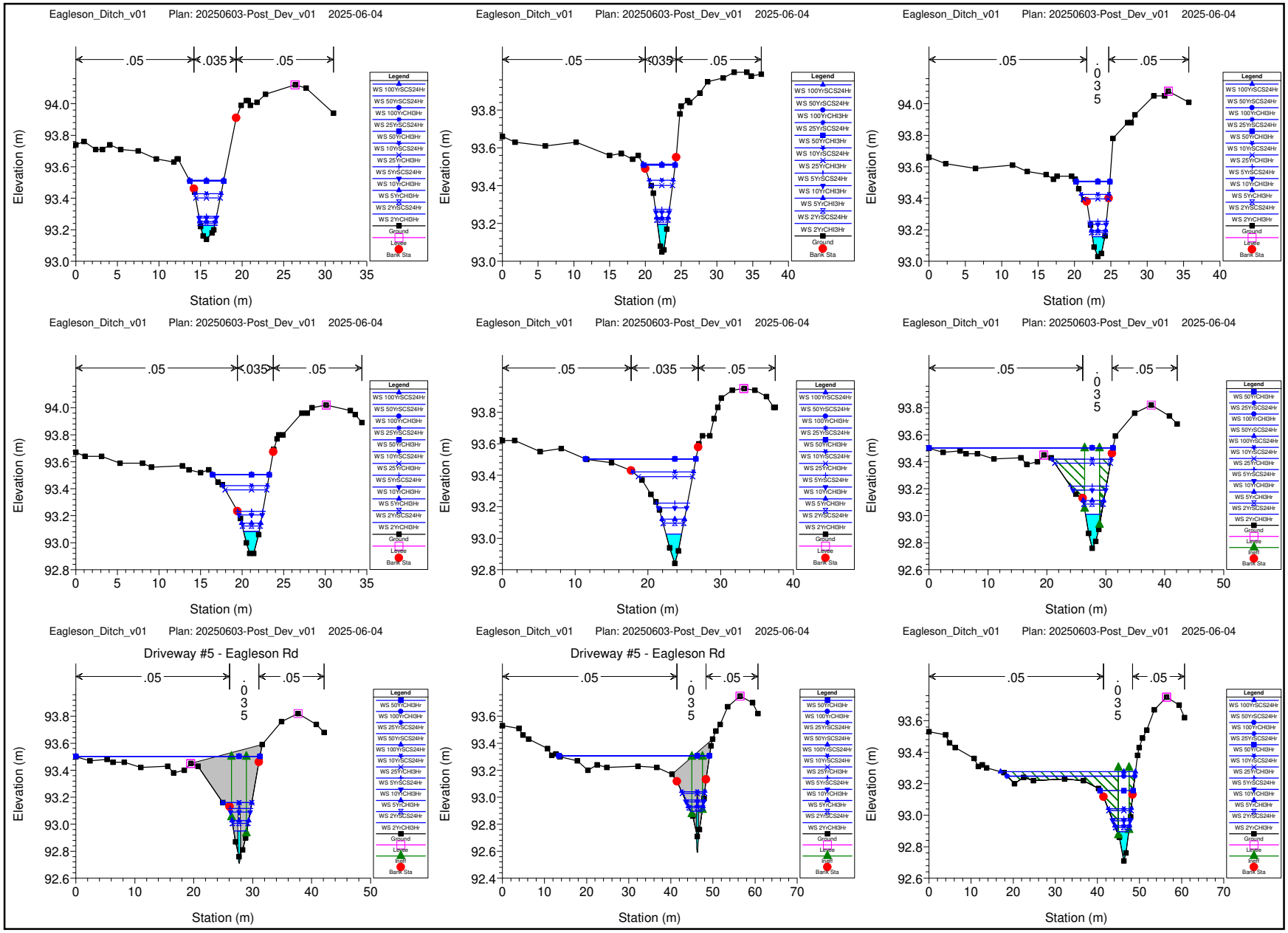
HEC-RAS Plan: 20250603-Pre_Dev_v01 (Continued)

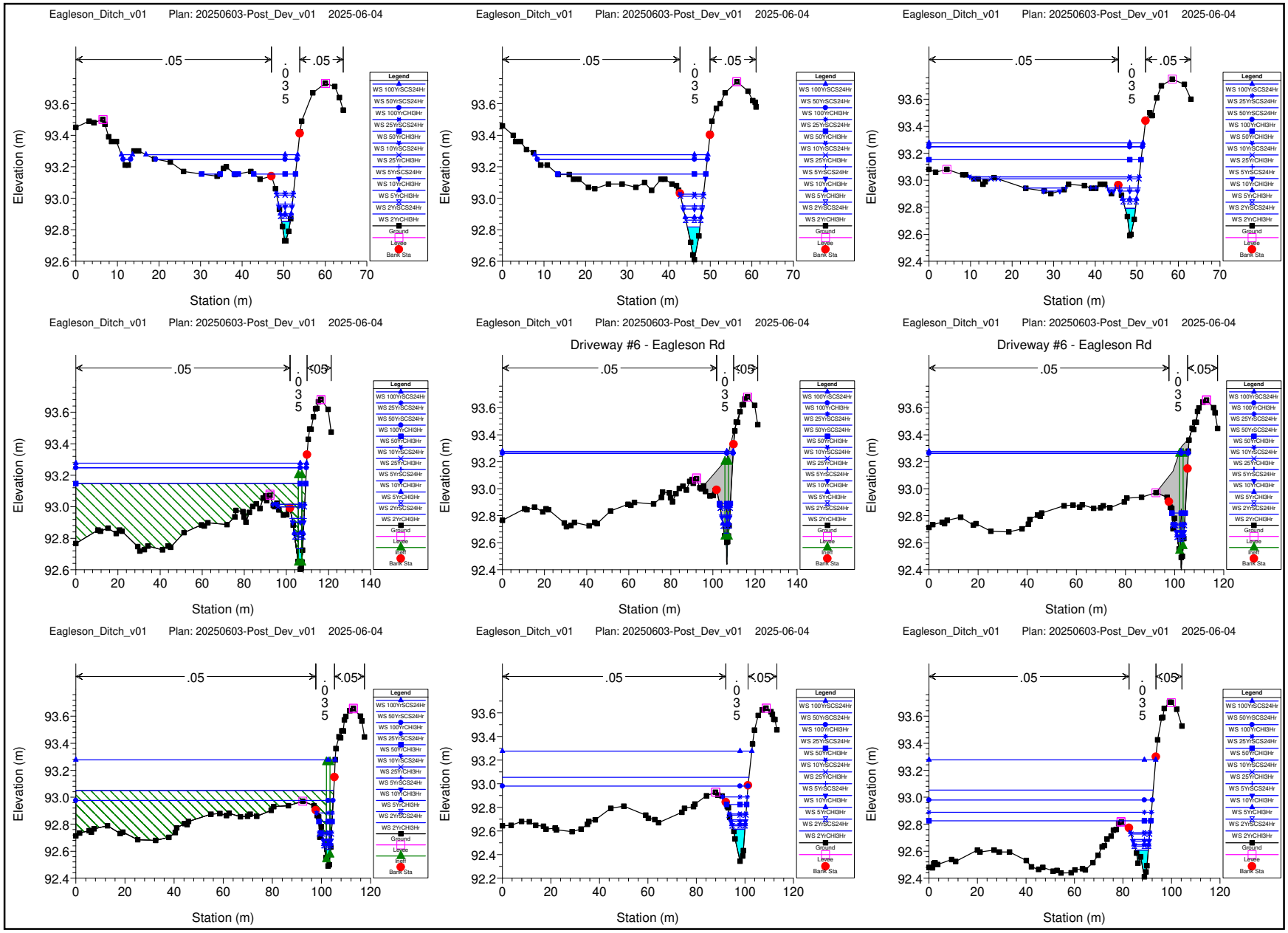
River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Lower	0	25YrCHI3Hr	0.49	90.42	90.56	90.49	90.57	0.001001	0.21	2.33	20.58	0.20
River 1	Reach 1-Lower	0	50YrCHI3Hr	0.60	90.42	90.58	90.49	90.58	0.001000	0.23	2.64	20.80	0.20
River 1	Reach 1-Lower	0	100YrCHI3Hr	0.72	90.42	90.59	90.50	90.60	0.001000	0.24	2.98	21.46	0.21
River 1	Reach 1-Lower	0	2YrSCS24Hr	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	5YrSCS24Hr	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	10YrSCS24Hr	0.52	90.42	90.57	90.48	90.57	0.001001	0.22	2.40	20.63	0.20
River 1	Reach 1-Lower	0	25YrSCS24Hr	0.68	90.42	90.59	90.49	90.59	0.001000	0.24	2.85	21.31	0.21
River 1	Reach 1-Lower	0	50YrSCS24Hr	0.80	90.42	90.60	90.50	90.61	0.001001	0.25	3.18	21.58	0.21
River 1	Reach 1-Lower	0	100YrSCS24Hr	0.94	90.42	90.62	90.51	90.62	0.001000	0.27	3.51	21.78	0.21

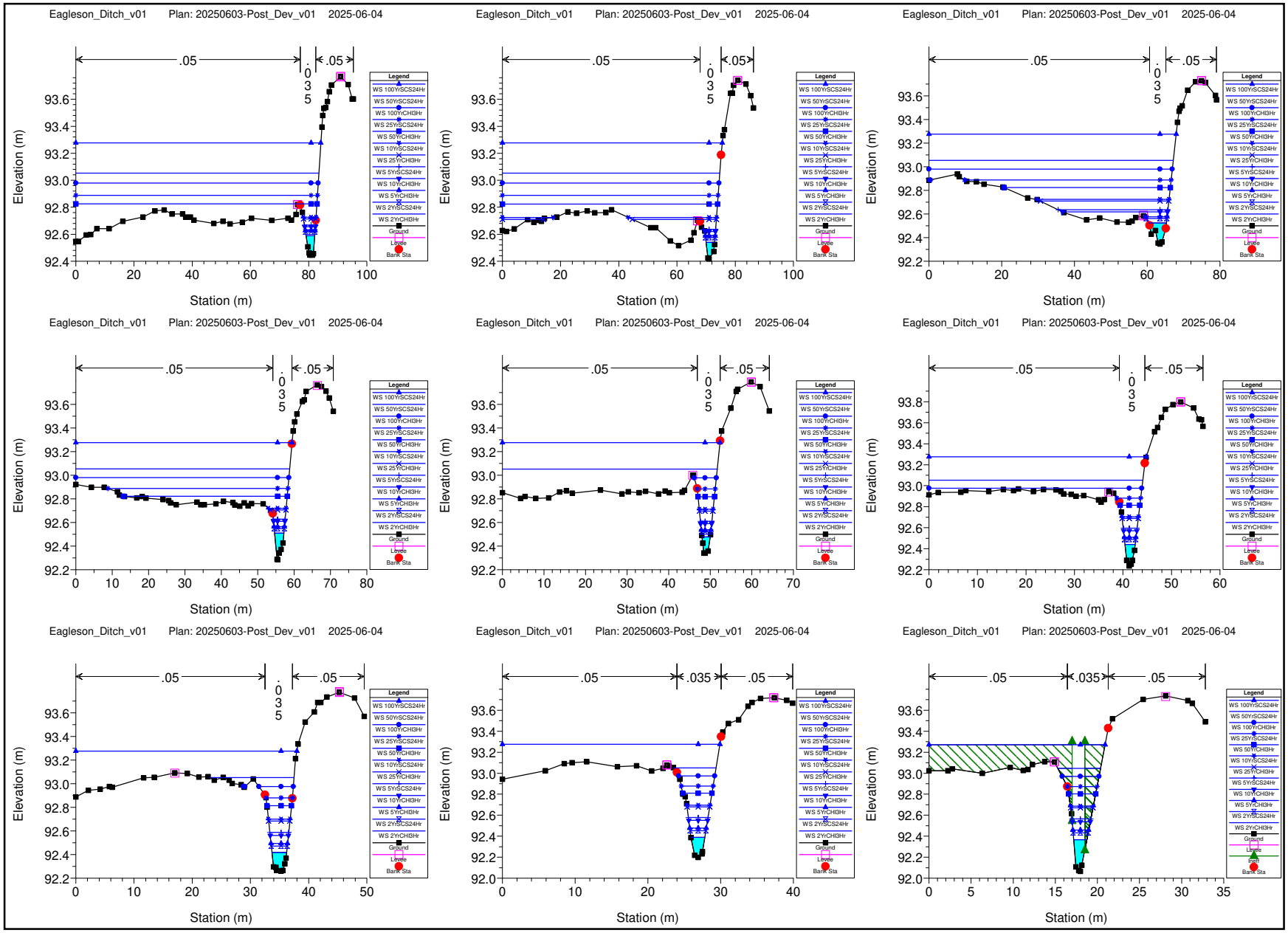

Eagleson_Ditch_v01 Plan: 20250603-Post_Dev_v01 2025-06-04
River 2 Reach 2
River 1 Reach 1-Upper
River 1 Reach 1-Lower
Elevation (m)
Main Channel Distance (m)
95
94
93
92
91
90
0
200
400
600
800
1000
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
LOB
ROB

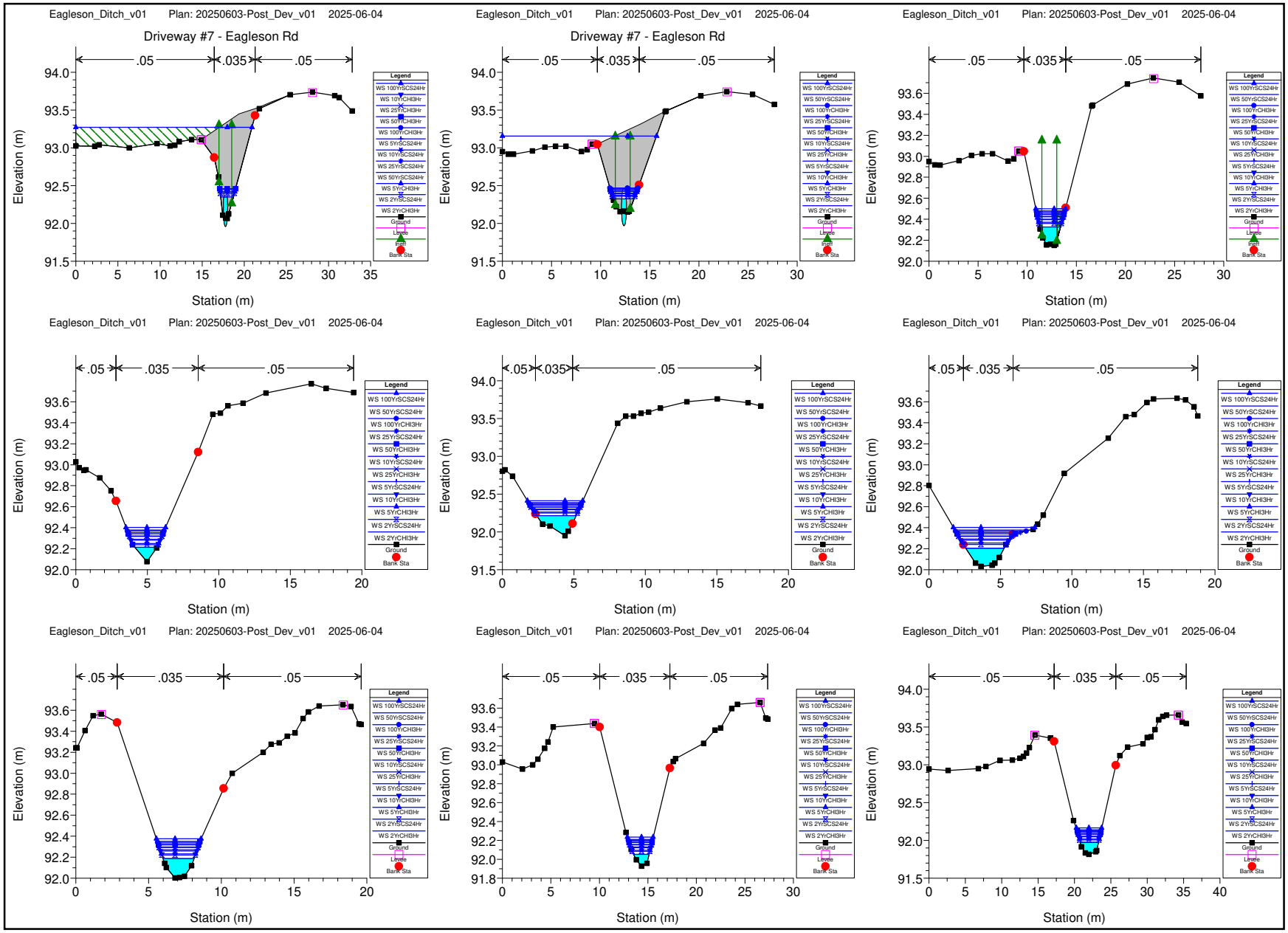

Eagleson_Ditch_v01 Plan: 20250603-Post_Dev_v01 2025-06-04
.05
.035
.05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 100YrCHI3Hr
WS 50YrSCS24Hr
WS 50YrCHI3Hr
WS 25YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrSCS24Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Driveway #2 - Ottawa Street
Path

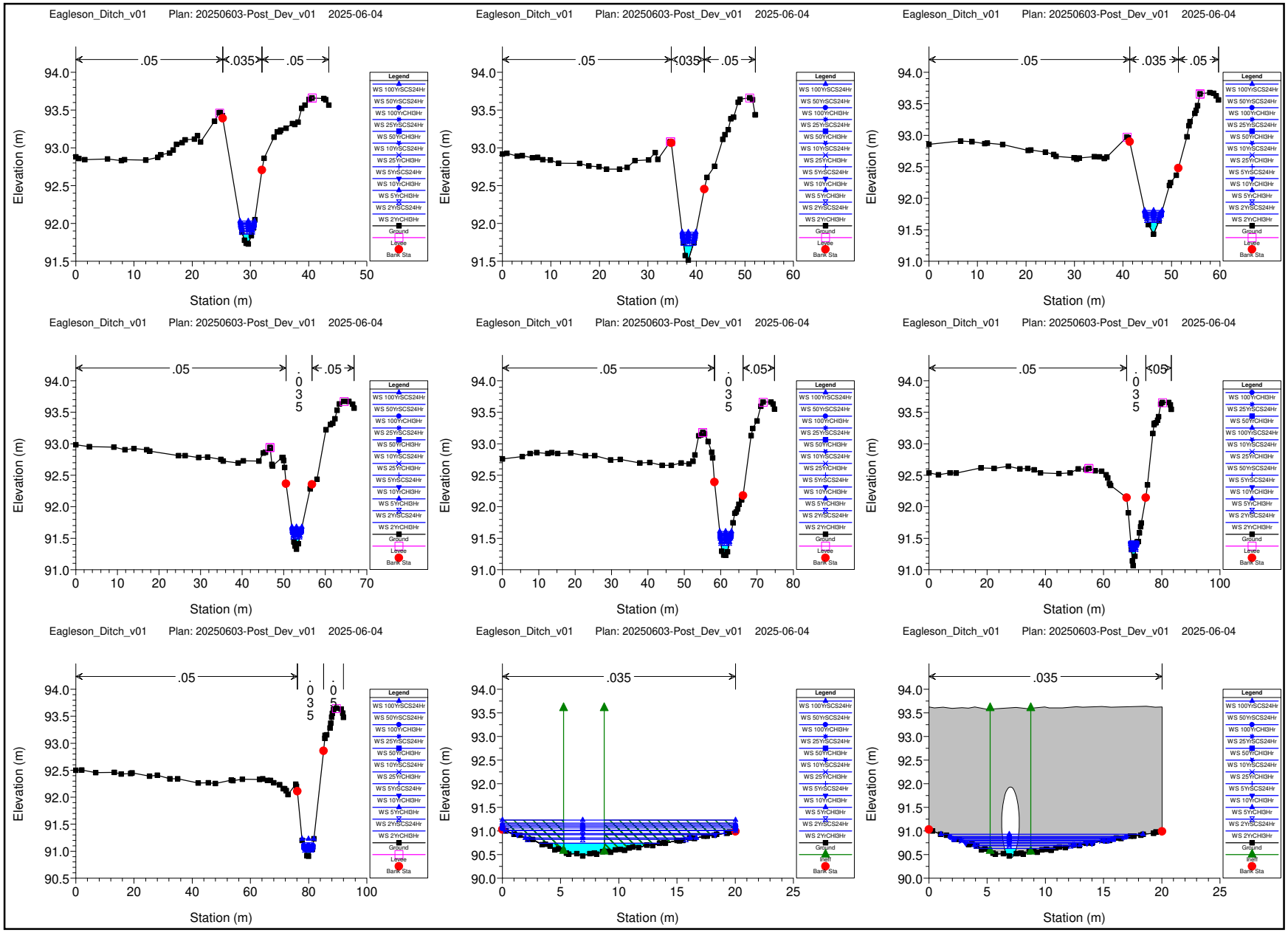

Eagleson_Ditch_v01 Plan: 20250603-Post_Dev_v01 2025-06-04
Driveway #3 - Ottawa Street
Driveway #4 - Ottawa Street
.05
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 100YrCHI3Hr
WS 50YrSCS24Hr
WS 50YrCHI3Hr
WS 25YrSCS24Hr
WS 25YrCHI3Hr
WS 10YrSCS24Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Path
Bank Sta

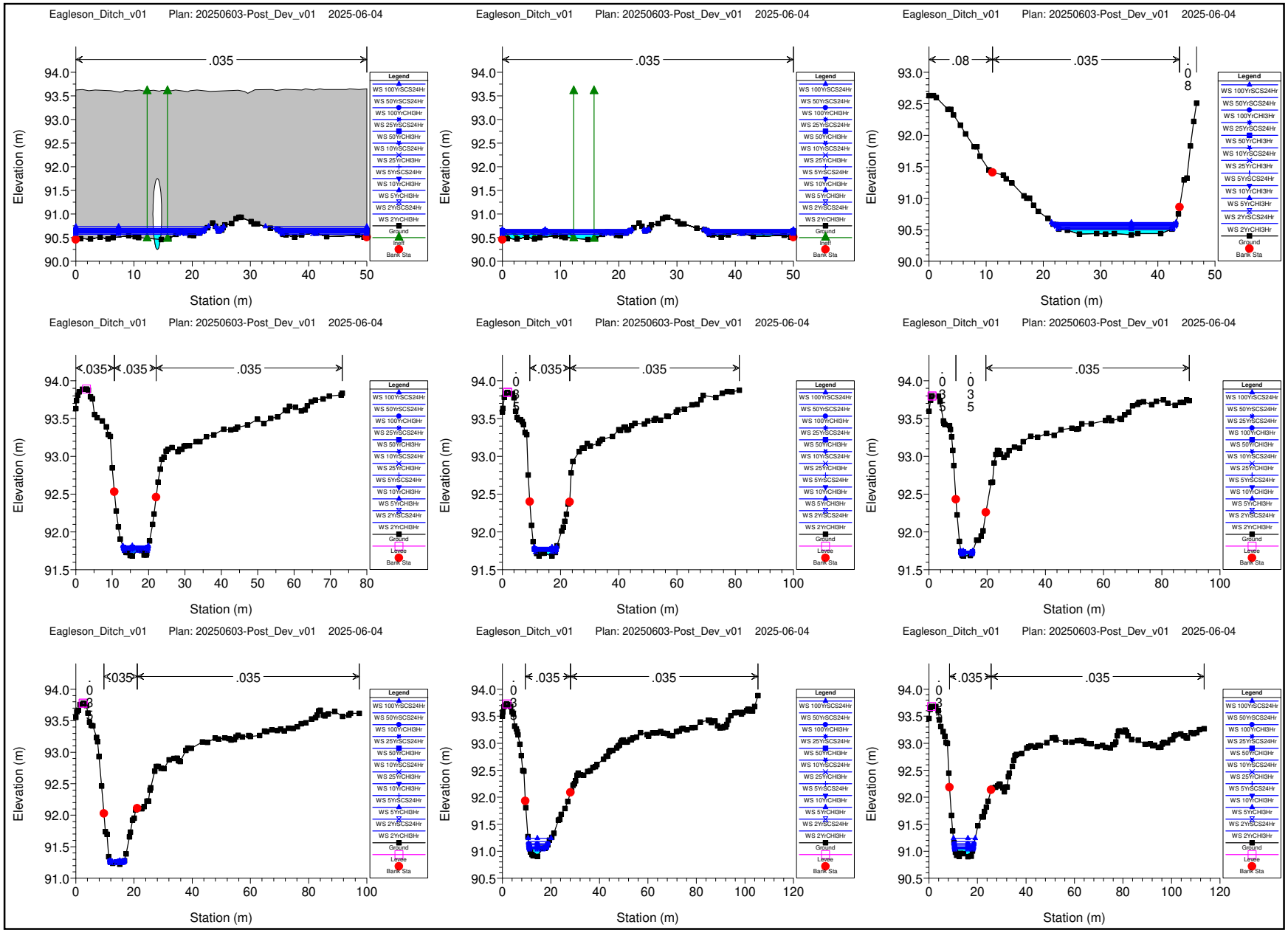

Eagleson_Ditch_v01 Plan: 20250603-Post_Dev_v01 2025-06-04
Driveway #5 - Eagleson Rd
Elevation (m)
Station (m)
.05
.035
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Path
Bank Sta


Eagleson_Ditch_v01 Plan: 20250603-Post_Dev_v01 2025-06-04
Driveway #6 - Eagleson Rd
.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
Bank Sta

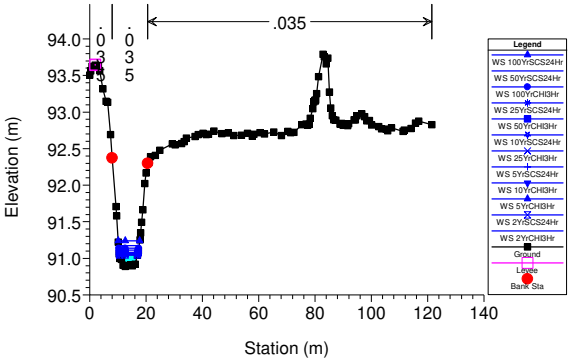

Eagleson_Ditch_v01 Plan: 20250603-Post_Dev_v01 2025-06-04
Elevation (m)
Station (m)
.05
.035
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta


Eagleson_Ditch_v01 Plan: 20250603-Post_Dev_v01 2025-06-04
Driveway #7 - Eagleson Rd
.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

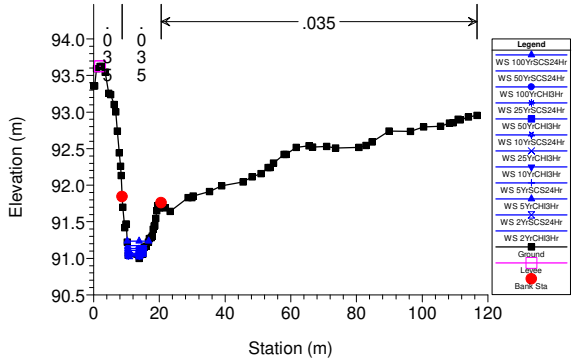

Eagleson_Ditch_v01 Plan: 20250603-Post_Dev_v01 2025-06-04
.05
.035
.05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Ineff


Eagleson_Ditch_v01 Plan: 20250603-Post_Dev_v01 2025-06-04
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

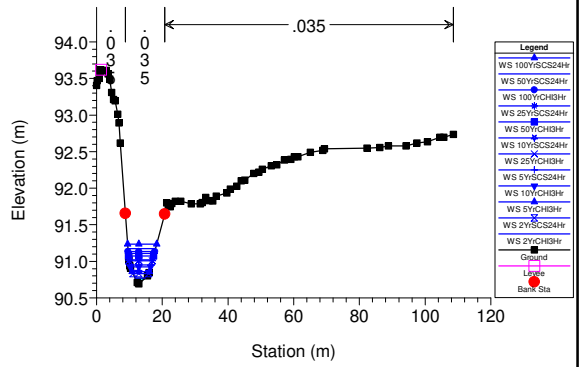
Eagleson_Ditch_v01 Plan: 20250603-Post_Dev_v01 2025-06-04



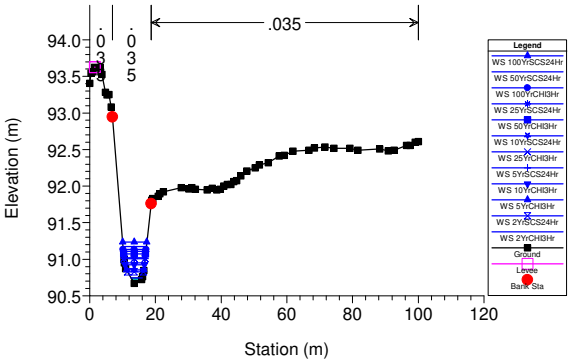
Eagleson_Ditch_v01 Plan: 20250603-Post_Dev_v01 2025-06-04



Eagleson_Ditch_v01 Plan: 20250603-Post_Dev_v01 2025-06-04



Eagleson_Ditch_v01 Plan: 20250603-Post_Dev_v01 2025-06-04



HEC-RAS Plan: 20250603-Post_Dev_v01

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	2YrCHI3Hr	0.02	91.68	91.76	91.71	91.76	0.000697	0.09	0.23	5.59	0.14
River 2	Reach 2	224	5YrCHI3Hr	0.03	91.68	91.77	91.72	91.77	0.000738	0.10	0.31	6.45	0.15
River 2	Reach 2	224	10YrCHI3Hr	0.04	91.68	91.78	91.72	91.78	0.000754	0.11	0.34	6.51	0.15
River 2	Reach 2	224	25YrCHI3Hr	0.05	91.68	91.78	91.73	91.79	0.000756	0.12	0.39	6.61	0.16
River 2	Reach 2	224	50YrCHI3Hr	0.06	91.68	91.79	91.73	91.79	0.000763	0.13	0.44	6.71	0.16
River 2	Reach 2	224	100YrCHI3Hr	0.07	91.68	91.80	91.74	91.80	0.000773	0.14	0.50	6.81	0.16
River 2	Reach 2	224	2YrSCS24Hr	0.02	91.68	91.76	91.72	91.76	0.000717	0.09	0.25	5.79	0.14
River 2	Reach 2	224	5YrSCS24Hr	0.04	91.68	91.78	91.73	91.78	0.000753	0.11	0.35	6.53	0.15
River 2	Reach 2	224	10YrSCS24Hr	0.05	91.68	91.79	91.73	91.79	0.000757	0.12	0.41	6.65	0.16
River 2	Reach 2	224	25YrSCS24Hr	0.07	91.68	91.80	91.74	91.80	0.000769	0.14	0.48	6.78	0.16
River 2	Reach 2	224	50YrSCS24Hr	0.08	91.68	91.81	91.74	91.81	0.000794	0.15	0.54	6.88	0.17
River 2	Reach 2	224	100YrSCS24Hr	0.09	91.68	91.81	91.75	91.82	0.000800	0.16	0.60	6.99	0.17
River 2	Reach 2	199	2YrCHI3Hr	0.02	91.68	91.75	91.71	91.75	0.000471	0.07	0.28	6.87	0.12
River 2	Reach 2	199	5YrCHI3Hr	0.03	91.68	91.76	91.71	91.76	0.000460	0.08	0.37	7.09	0.12
River 2	Reach 2	199	10YrCHI3Hr	0.04	91.68	91.76	91.72	91.76	0.000521	0.09	0.39	7.17	0.13
River 2	Reach 2	199	25YrCHI3Hr	0.05	91.68	91.77	91.72	91.77	0.000549	0.10	0.45	7.32	0.13
River 2	Reach 2	199	50YrCHI3Hr	0.06	91.68	91.78	91.72	91.78	0.000569	0.11	0.50	7.42	0.14
River 2	Reach 2	199	100YrCHI3Hr	0.07	91.68	91.78	91.73	91.78	0.000591	0.12	0.56	7.51	0.14
River 2	Reach 2	199	2YrSCS24Hr	0.02	91.68	91.75	91.71	91.75	0.000474	0.08	0.30	6.91	0.12
River 2	Reach 2	199	5YrSCS24Hr	0.04	91.68	91.76	91.72	91.76	0.000522	0.10	0.41	7.20	0.13
River 2	Reach 2	199	10YrSCS24Hr	0.05	91.68	91.77	91.72	91.77	0.000558	0.11	0.47	7.37	0.14
River 2	Reach 2	199	25YrSCS24Hr	0.07	91.68	91.78	91.72	91.78	0.000582	0.12	0.55	7.49	0.14
River 2	Reach 2	199	50YrSCS24Hr	0.08	91.68	91.79	91.73	91.79	0.000628	0.13	0.60	7.57	0.15
River 2	Reach 2	199	100YrSCS24Hr	0.09	91.68	91.80	91.73	91.80	0.000634	0.14	0.66	7.67	0.15
River 2	Reach 2	174	2YrCHI3Hr	0.02	91.68	91.71	91.70	91.72	0.008871	0.23	0.09	3.47	0.47
River 2	Reach 2	174	5YrCHI3Hr	0.03	91.68	91.72	91.71	91.72	0.009858	0.28	0.11	3.63	0.51
River 2	Reach 2	174	10YrCHI3Hr	0.04	91.68	91.72	91.71	91.73	0.009862	0.30	0.12	3.70	0.51
River 2	Reach 2	174	25YrCHI3Hr	0.05	91.68	91.73	91.72	91.73	0.010482	0.33	0.14	3.80	0.54
River 2	Reach 2	174	50YrCHI3Hr	0.06	91.68	91.73	91.72	91.74	0.010789	0.35	0.16	3.90	0.56
River 2	Reach 2	174	100YrCHI3Hr	0.07	91.68	91.74	91.72	91.75	0.011338	0.38	0.18	3.99	0.58
River 2	Reach 2	174	2YrSCS24Hr	0.02	91.68	91.71	91.70	91.72	0.009099	0.24	0.09	3.51	0.48
River 2	Reach 2	174	5YrSCS24Hr	0.04	91.68	91.73	91.71	91.73	0.009102	0.29	0.13	3.75	0.50
River 2	Reach 2	174	10YrSCS24Hr	0.05	91.68	91.73	91.72	91.74	0.010830	0.34	0.15	3.84	0.55
River 2	Reach 2	174	25YrSCS24Hr	0.07	91.68	91.74	91.72	91.74	0.010024	0.36	0.18	4.01	0.55
River 2	Reach 2	174	50YrSCS24Hr	0.08	91.68	91.74	91.73	91.75	0.010794	0.40	0.20	4.08	0.57
River 2	Reach 2	174	100YrSCS24Hr	0.09	91.68	91.75	91.73	91.76	0.010716	0.42	0.22	4.15	0.58
River 2	Reach 2	149	2YrCHI3Hr	0.02	91.22	91.26	91.26	91.26	0.055689	0.39	0.05	3.77	1.06
River 2	Reach 2	149	5YrCHI3Hr	0.03	91.22	91.26	91.26	91.27	0.043989	0.40	0.08	4.47	0.97
River 2	Reach 2	149	10YrCHI3Hr	0.04	91.22	91.26	91.26	91.27	0.044110	0.43	0.09	4.54	0.99
River 2	Reach 2	149	25YrCHI3Hr	0.05	91.22	91.27	91.27	91.28	0.039832	0.45	0.10	4.68	0.97
River 2	Reach 2	149	50YrCHI3Hr	0.06	91.22	91.27	91.27	91.28	0.037244	0.47	0.12	4.80	0.95
River 2	Reach 2	149	100YrCHI3Hr	0.07	91.22	91.27	91.27	91.29	0.034157	0.49	0.14	4.94	0.93
River 2	Reach 2	149	2YrSCS24Hr	0.02	91.22	91.26	91.26	91.26	0.052399	0.39	0.06	3.96	1.03
River 2	Reach 2	149	5YrSCS24Hr	0.04	91.22	91.26	91.26	91.27	0.052134	0.46	0.08	4.53	1.07
River 2	Reach 2	149	10YrSCS24Hr	0.05	91.22	91.27	91.27	91.28	0.037535	0.46	0.11	4.74	0.95
River 2	Reach 2	149	25YrSCS24Hr	0.07	91.22	91.27	91.27	91.29	0.044620	0.53	0.13	4.83	1.05
River 2	Reach 2	149	50YrSCS24Hr	0.08	91.22	91.28	91.28	91.29	0.037650	0.53	0.15	5.00	0.98
River 2	Reach 2	149	100YrSCS24Hr	0.09	91.22	91.28	91.28	91.30	0.038788	0.57	0.16	5.05	1.01
River 2	Reach 2	124	2YrCHI3Hr	0.02	90.90	91.05	90.93	91.05	0.000047	0.04	0.51	5.19	0.04
River 2	Reach 2	124	5YrCHI3Hr	0.03	90.90	91.06	90.94	91.06	0.000089	0.06	0.55	5.84	0.06
River 2	Reach 2	124	10YrCHI3Hr	0.04	90.90	91.06	90.94	91.06	0.000122	0.06	0.59	6.56	0.07
River 2	Reach 2	124	25YrCHI3Hr	0.05	90.90	91.07	90.95	91.07	0.000154	0.07	0.64	6.76	0.08
River 2	Reach 2	124	50YrCHI3Hr	0.06	90.90	91.08	90.95	91.08	0.000148	0.08	0.74	7.10	0.08
River 2	Reach 2	124	100YrCHI3Hr	0.07	90.90	91.14	90.95	91.14	0.000055	0.06	1.18	8.05	0.05
River 2	Reach 2	124	2YrSCS24Hr	0.02	90.90	91.05	90.93	91.05	0.000054	0.04	0.51	5.22	0.05
River 2	Reach 2	124	5YrSCS24Hr	0.04	90.90	91.06	90.94	91.06	0.000129	0.07	0.60	6.60	0.07
River 2	Reach 2	124	10YrSCS24Hr	0.05	90.90	91.07	90.95	91.07	0.000166	0.08	0.66	6.83	0.08
River 2	Reach 2	124	25YrSCS24Hr	0.07	90.90	91.11	90.95	91.12	0.000090	0.07	0.98	7.81	0.06
River 2	Reach 2	124	50YrSCS24Hr	0.08	90.90	91.18	90.96	91.18	0.000036	0.05	1.48	8.41	0.04
River 2	Reach 2	124	100YrSCS24Hr	0.09	90.90	91.24	90.96	91.24	0.000020	0.05	2.03	9.41	0.03
River 2	Reach 2	99	2YrCHI3Hr	0.02	90.90	91.05	90.93	91.05	0.000014	0.02	0.84	7.48	0.02
River 2	Reach 2	99	5YrCHI3Hr	0.03	90.90	91.05	90.93	91.05	0.000024	0.03	0.91	7.55	0.03
River 2	Reach 2	99	10YrCHI3Hr	0.04	90.90	91.06	90.93	91.06	0.000030	0.04	0.94	7.58	0.04
River 2	Reach 2	99	25YrCHI3Hr	0.05	90.90	91.07	90.93	91.07	0.000041	0.05	1.00	7.64	0.04
River 2	Reach 2	99	50YrCHI3Hr	0.06	90.90	91.08	90.94	91.08	0.000043	0.05	1.11	7.76	0.04
River 2	Reach 2	99	100YrCHI3Hr	0.07	90.90	91.14	90.94	91.14	0.000021	0.04	1.57	8.21	0.03
River 2	Reach 2	99	2YrSCS24Hr	0.02	90.90	91.05	90.92	91.05	0.000016	0.03	0.86	7.49	0.03
River 2	Reach 2	99	5YrSCS24Hr	0.04	90.90	91.06	90.93	91.06	0.000032	0.04	0.96	7.60	0.04
River 2	Reach 2	99	10YrSCS24Hr	0.05	90.90	91.07	90.94	91.07	0.000045	0.05	1.02	7.67	0.04
River 2	Reach 2	99	25YrSCS24Hr	0.07	90.90	91.11	90.94	91.11	0.000030	0.05	1.37	8.01	0.04
River 2	Reach 2	99	50YrSCS24Hr	0.08	90.90	91.18	90.94	91.18	0.000016	0.04	1.88	8.49	0.03
River 2	Reach 2	99	100YrSCS24Hr	0.09	90.90	91.24	90.95	91.24	0.000010	0.04	2.43	8.94	0.02
River 2	Reach 2	74	2YrCHI3Hr	0.02	90.89	91.05	90.92	91.05	0.000016	0.03	0.76	6.41	0.03
River 2	Reach 2	74	5YrCHI3Hr	0.03	90.89	91.05	90.92	91.05	0.000029	0.04	0.81	6.48	0.03
River 2	Reach 2	74	10YrCHI3Hr	0.04	90.89	91.06	90.92	91.06	0.000037	0.04	0.84	6.52	0.04
River 2	Reach 2	74	25YrCHI3Hr	0.05	90.89	91.07	90.93	91.07	0.000050	0.05	0.89	6.57	0.05
River 2	Reach 2	74	50YrCHI3Hr	0.06	90.89	91.08	90.93	91.08	0.000053	0.06	0.98	6.68	0.05
River 2	Reach 2	74	100YrCHI3Hr	0.07	90.89	91.14	90.93	91.14	0.000027	0.05	1.39	7.06	0.04
River 2	Reach 2	74	2YrSCS24Hr	0.02	90.89	91.05	90.92	91.05	0.000019	0.03	0.77	6.42	0.03
River 2	Reach 2	74	5YrSCS24Hr	0.04	90.89	91.06	90.92	91.06	0.000039	0.05	0.85	6.53	0.04
River 2	Reach 2	74	10YrSCS24Hr	0.05	90.89	91.07	90.93	91.07	0.000055	0.06	0.91	6.59	0.05
River 2	Reach 2	74	25YrSCS24Hr	0.07	90.89	91.11	90.93	91.11	0.000038	0.05	1.21	6.91	0.04
River 2	Reach 2	74	50YrSCS24Hr	0.08	90.89	91.18	90.93	91.18	0.000020	0.05	1.65	7.28	0.03
River 2	Reach 2	74	100YrSCS24Hr	0.09	90.89	91.24	90.94	91.24	0.000013	0.04	2.12	7.64	0.03

HEC-RAS Plan: 20250603-Post_Dev_v01 (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	91.03	91.03	91.04	0.054210	0.44	0.05	2.78	1.08
River 2	Reach 2	49	5YrCHI3Hr	0.03	91.00	91.04	91.04	91.05	0.044076	0.45	0.07	3.35	1.00
River 2	Reach 2	49	10YrCHI3Hr	0.04	91.00	91.04	91.04	91.05	0.038624	0.46	0.08	3.50	0.96
River 2	Reach 2	49	25YrCHI3Hr	0.05	91.00	91.05	91.05	91.06	0.042954	0.52	0.09	3.52	1.03
River 2	Reach 2	49	50YrCHI3Hr	0.06	91.00	91.07	91.05	91.08	0.007772	0.32	0.18	3.99	0.48
River 2	Reach 2	49	100YrCHI3Hr	0.07	91.00	91.14	91.05	91.14	0.000594	0.15	0.48	4.93	0.15
River 2	Reach 2	49	2YrSCS24Hr	0.02	91.00	91.04	91.04	91.04	0.038802	0.40	0.06	3.06	0.93
River 2	Reach 2	49	5YrSCS24Hr	0.04	91.00	91.04	91.04	91.06	0.043713	0.48	0.08	3.50	1.02
River 2	Reach 2	49	10YrSCS24Hr	0.05	91.00	91.05	91.05	91.06	0.037160	0.51	0.10	3.53	0.97
River 2	Reach 2	49	25YrSCS24Hr	0.07	91.00	91.11	91.05	91.11	0.001479	0.19	0.34	4.59	0.23
River 2	Reach 2	49	50YrSCS24Hr	0.08	91.00	91.17	91.06	91.17	0.000297	0.12	0.68	5.81	0.11
River 2	Reach 2	49	100YrSCS24Hr	0.09	91.00	91.24	91.06	91.24	0.000105	0.09	1.07	6.54	0.07
River 2	Reach 2	28	2YrCHI3Hr	0.02	90.69	90.77	90.73	90.77	0.001515	0.14	0.13	3.11	0.21
River 2	Reach 2	28	5YrCHI3Hr	0.03	90.69	90.86	90.75	90.86	0.000133	0.07	0.50	5.25	0.07
River 2	Reach 2	28	10YrCHI3Hr	0.05	90.69	90.93	90.75	90.93	0.000046	0.05	0.90	6.29	0.04
River 2	Reach 2	28	25YrCHI3Hr	0.06	90.69	91.01	90.76	91.01	0.000020	0.04	1.46	7.11	0.03
River 2	Reach 2	28	50YrCHI3Hr	0.08	90.69	91.07	90.77	91.07	0.000013	0.04	1.93	7.65	0.03
River 2	Reach 2	28	100YrCHI3Hr	0.09	90.69	91.14	90.78	91.14	0.000009	0.04	2.43	8.13	0.02
River 2	Reach 2	28	2YrSCS24Hr	0.03	90.69	90.83	90.74	90.83	0.000261	0.08	0.37	4.76	0.10
River 2	Reach 2	28	5YrSCS24Hr	0.05	90.69	90.95	90.76	90.95	0.000035	0.05	1.06	6.56	0.04
River 2	Reach 2	28	10YrSCS24Hr	0.07	90.69	91.02	90.76	91.02	0.000019	0.04	1.55	7.24	0.03
River 2	Reach 2	28	25YrSCS24Hr	0.09	90.69	91.11	90.77	91.11	0.000011	0.04	2.21	7.92	0.02
River 2	Reach 2	28	50YrSCS24Hr	0.11	90.69	91.17	90.78	91.17	0.000008	0.04	2.74	8.41	0.02
River 2	Reach 2	28	100YrSCS24Hr	0.13	90.69	91.24	90.79	91.24	0.000007	0.04	3.29	8.89	0.02
River 2	Reach 2	7	2YrCHI3Hr	0.02	90.67	90.75	90.71	90.75	0.001146	0.12	0.15	3.37	0.18
River 2	Reach 2	7	5YrCHI3Hr	0.03	90.67	90.86	90.72	90.86	0.000063	0.05	0.62	5.26	0.05
River 2	Reach 2	7	10YrCHI3Hr	0.05	90.67	90.92	90.73	90.92	0.000028	0.05	1.02	5.92	0.04
River 2	Reach 2	7	25YrCHI3Hr	0.06	90.67	91.01	90.73	91.01	0.000014	0.04	1.54	6.42	0.03
River 2	Reach 2	7	50YrCHI3Hr	0.08	90.67	91.07	90.74	91.07	0.000010	0.04	1.96	6.69	0.02
River 2	Reach 2	7	100YrCHI3Hr	0.09	90.67	91.14	90.74	91.14	0.000008	0.04	2.39	6.96	0.02
River 2	Reach 2	7	2YrSCS24Hr	0.03	90.67	90.83	90.72	90.83	0.000105	0.06	0.49	4.81	0.06
River 2	Reach 2	7	5YrSCS24Hr	0.05	90.67	90.95	90.73	90.95	0.000023	0.05	1.17	6.11	0.03
River 2	Reach 2	7	10YrSCS24Hr	0.07	90.67	91.02	90.73	91.02	0.000014	0.04	1.63	6.48	0.03
River 2	Reach 2	7	25YrSCS24Hr	0.09	90.67	91.11	90.74	91.11	0.000010	0.04	2.20	6.84	0.02
River 2	Reach 2	7	50YrSCS24Hr	0.11	90.67	91.17	90.75	91.17	0.000008	0.04	2.66	7.12	0.02
River 2	Reach 2	7	100YrSCS24Hr	0.13	90.67	91.24	90.76	91.24	0.000007	0.04	3.11	7.38	0.02
River 1	Reach 1-Upper	908	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.04	94.14	94.24	94.20	94.25	0.002043	0.20	0.18	2.85	0.26
River 1	Reach 1-Upper	908	25YrCHI3Hr	0.04	94.14	94.25	94.20	94.25	0.002127	0.22	0.20	2.96	0.27
River 1	Reach 1-Upper	908	50YrCHI3Hr	0.05	94.14	94.26	94.20	94.26	0.002210	0.23	0.22	3.07	0.28
River 1	Reach 1-Upper	908	100YrCHI3Hr	0.06	94.14	94.27	94.21	94.27	0.002252	0.24	0.25	3.23	0.28
River 1	Reach 1-Upper	908	2YrSCS24Hr	0.03	94.14	94.23	94.19	94.24	0.001856	0.18	0.15	2.68	0.24
River 1	Reach 1-Upper	908	5YrSCS24Hr	0.04	94.14	94.24	94.20	94.25	0.002043	0.20	0.18	2.85	0.26
River 1	Reach 1-Upper	908	10YrSCS24Hr	0.04	94.14	94.25	94.20	94.25	0.002124	0.22	0.19	2.94	0.27
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	94.26	94.21	94.26	0.002260	0.24	0.23	3.15	0.28
River 1	Reach 1-Upper	908	100YrSCS24Hr	0.06	94.14	94.27	94.21	94.27	0.002214	0.25	0.26	3.28	0.28
River 1	Reach 1-Upper	887	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.04	94.10	94.18	94.15	94.19	0.004912	0.26	0.14	3.14	0.38
River 1	Reach 1-Upper	887	25YrCHI3Hr	0.04	94.10	94.19	94.16	94.19	0.004656	0.26	0.16	3.30	0.38
River 1	Reach 1-Upper	887	50YrCHI3Hr	0.05	94.10	94.19	94.16	94.20	0.004554	0.27	0.18	3.46	0.38
River 1	Reach 1-Upper	887	100YrCHI3Hr	0.06	94.10	94.20	94.17	94.20	0.005462	0.31	0.20	3.56	0.42
River 1	Reach 1-Upper	887	2YrSCS24Hr	0.03	94.10	94.17	94.15	94.17	0.005714	0.25	0.11	2.85	0.40
River 1	Reach 1-Upper	887	5YrSCS24Hr	0.04	94.10	94.18	94.15	94.19	0.004912	0.26	0.14	3.14	0.38
River 1	Reach 1-Upper	887	10YrSCS24Hr	0.04	94.10	94.19	94.16	94.19	0.004513	0.26	0.16	3.29	0.37
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	94.16	94.20	0.004954	0.29	0.19	3.52	0.39
River 1	Reach 1-Upper	887	100YrSCS24Hr	0.06	94.10	94.20	94.17	94.20	0.006457	0.33	0.19	3.52	0.45
River 1	Reach 1-Upper	868	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.04	93.96	94.04	94.02	94.05	0.011232	0.39	0.10	2.07	0.58
River 1	Reach 1-Upper	868	25YrCHI3Hr	0.04	93.96	94.04	94.03	94.05	0.012506	0.42	0.10	2.12	0.61
River 1	Reach 1-Upper	868	50YrCHI3Hr	0.05	93.96	94.05	94.03	94.06	0.013181	0.45	0.11	2.20	0.64
River 1	Reach 1-Upper	868	100YrCHI3Hr	0.06	93.96	94.06	94.04	94.07	0.008320	0.40	0.15	2.47	0.52
River 1	Reach 1-Upper	868	2YrSCS24Hr	0.03	93.96	94.04	94.02	94.04	0.008571	0.33	0.09	1.99	0.50
River 1	Reach 1-Upper	868	5YrSCS24Hr	0.04	93.96	94.04	94.02	94.05	0.011232	0.39	0.10	2.07	0.58
River 1	Reach 1-Upper	868	10YrSCS24Hr	0.04	93.96	94.04	94.03	94.05	0.012446	0.42	0.10	2.11	0.61
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	94.06	94.04	94.06	0.011152	0.43	0.13	2.31	0.59
River 1	Reach 1-Upper	868	100YrSCS24Hr	0.06	93.96	94.07	94.04	94.08	0.006475	0.37	0.17	2.61	0.46
River 1	Reach 1-Upper	848	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.04	93.87	93.95	93.92	93.95	0.002574	0.21	0.18	3.18	0.29
River 1	Reach 1-Upper	848	25YrCHI3Hr	0.04	93.87	93.96	93.92	93.96	0.002211	0.21	0.20	3.28	0.27
River 1	Reach 1-Upper	848	50YrCHI3Hr	0.05	93.87	93.97	93.92	93.97	0.002070	0.22	0.23	3.37	0.26
River 1	Reach 1-Upper	848	100YrCHI3Hr	0.06	93.87	93.96	93.93	93.97	0.003639	0.28	0.22	3.32	0.35
River 1	Reach 1-Upper	848	2YrSCS24Hr	0.03	93.87	93.94	93.91	93.94	0.003360	0.21	0.13	3.03	0.31
River 1	Reach 1-Upper	848	5YrSCS24Hr	0.04	93.87	93.95	93.92	93.95	0.002574	0.21	0.18	3.18	0.29
River 1	Reach 1-Upper	848	10YrSCS24Hr	0.04	93.87	93.96	93.92	93.96	0.002254	0.21	0.20	3.26	0.27
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	93.97	93.92	93.97	0.002494	0.24	0.23	3.37	0.29

HEC-RAS Plan: 20250603-Post_Dev_v01 (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	93.96	93.93	93.96	0.005013	0.31	0.20	3.26	0.41
River 1	Reach 1-Upper	828	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.04	93.78	93.85	93.84	93.86	0.012962	0.37	0.10	2.61	0.60
River 1	Reach 1-Upper	828	25YrCHI3Hr	0.04	93.78	93.84	93.84	93.86	0.027482	0.51	0.08	2.34	0.87
River 1	Reach 1-Upper	828	50YrCHI3Hr	0.05	93.78	93.84	93.84	93.86	0.037796	0.60	0.08	2.33	1.02
River 1	Reach 1-Upper	828	100YrCHI3Hr	0.06	93.78	93.88	93.85	93.89	0.004443	0.29	0.20	3.38	0.38
River 1	Reach 1-Upper	828	2YrSCS24Hr	0.03	93.78	93.86	93.83	93.86	0.005209	0.24	0.12	2.83	0.39
River 1	Reach 1-Upper	828	5YrSCS24Hr	0.04	93.78	93.85	93.84	93.86	0.012962	0.37	0.10	2.61	0.60
River 1	Reach 1-Upper	828	10YrSCS24Hr	0.04	93.78	93.85	93.84	93.86	0.023615	0.48	0.09	2.40	0.81
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	93.86	93.85	93.87	0.017759	0.46	0.12	2.91	0.71
River 1	Reach 1-Upper	828	100YrSCS24Hr	0.06	93.78	93.91	93.85	93.91	0.001940	0.23	0.28	3.55	0.26
River 1	Reach 1-Upper	807	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.04	93.65	93.77	93.71	93.77	0.002057	0.21	0.18	2.79	0.26
River 1	Reach 1-Upper	807	25YrCHI3Hr	0.04	93.65	93.79	93.72	93.79	0.001125	0.17	0.25	3.25	0.20
River 1	Reach 1-Upper	807	50YrCHI3Hr	0.05	93.65	93.82	93.72	93.82	0.000498	0.14	0.35	3.78	0.14
River 1	Reach 1-Upper	807	100YrCHI3Hr	0.06	93.65	93.88	93.73	93.88	0.000155	0.11	0.61	5.55	0.08
River 1	Reach 1-Upper	807	2YrSCS24Hr	0.03	93.65	93.73	93.71	93.74	0.006535	0.29	0.10	2.12	0.44
River 1	Reach 1-Upper	807	5YrSCS24Hr	0.04	93.65	93.77	93.71	93.77	0.002057	0.21	0.18	2.79	0.26
River 1	Reach 1-Upper	807	10YrSCS24Hr	0.04	93.65	93.78	93.72	93.79	0.001247	0.18	0.23	3.18	0.21
River 1	Reach 1-Upper	807	25YrSCS24Hr	0.05	93.65	93.81	93.72	93.81	0.000553	0.15	0.34	3.70	0.15
River 1	Reach 1-Upper	807	50YrSCS24Hr	0.06	93.65	93.85	93.73	93.85	0.000265	0.12	0.47	4.27	0.11
River 1	Reach 1-Upper	807	100YrSCS24Hr	0.06	93.65	93.90	93.73	93.90	0.000106	0.10	0.75	6.37	0.07
River 1	Reach 1-Upper	789	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.04	93.49	93.76	93.55	93.76	0.000038	0.07	0.56	4.37	0.04
River 1	Reach 1-Upper	789	25YrCHI3Hr	0.04	93.49	93.79	93.55	93.79	0.000038	0.07	0.61	4.73	0.04
River 1	Reach 1-Upper	789	50YrCHI3Hr	0.05	93.49	93.82	93.56	93.82	0.000035	0.07	0.68	5.23	0.04
River 1	Reach 1-Upper	789	100YrCHI3Hr	0.06	93.49	93.88	93.57	93.88	0.000027	0.07	0.83	5.99	0.04
River 1	Reach 1-Upper	789	2YrSCS24Hr	0.03	93.49	93.73	93.54	93.73	0.000037	0.06	0.48	3.83	0.04
River 1	Reach 1-Upper	789	5YrSCS24Hr	0.04	93.49	93.76	93.55	93.76	0.000038	0.07	0.56	4.37	0.04
River 1	Reach 1-Upper	789	10YrSCS24Hr	0.04	93.49	93.78	93.55	93.78	0.000038	0.07	0.60	4.67	0.04
River 1	Reach 1-Upper	789	25YrSCS24Hr	0.05	93.49	93.81	93.56	93.81	0.000036	0.07	0.67	5.15	0.04
River 1	Reach 1-Upper	789	50YrSCS24Hr	0.06	93.49	93.85	93.56	93.85	0.000031	0.07	0.75	5.62	0.04
River 1	Reach 1-Upper	789	100YrSCS24Hr	0.06	93.49	93.90	93.57	93.90	0.000024	0.07	0.88	6.26	0.04
River 1	Reach 1-Upper	764		Culvert									
River 1	Reach 1-Upper	759	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.04	93.46	93.60	93.52	93.60	0.000932	0.21	0.18	2.67	0.19
River 1	Reach 1-Upper	759	25YrCHI3Hr	0.04	93.46	93.63	93.52	93.63	0.000592	0.19	0.22	3.05	0.16
River 1	Reach 1-Upper	759	50YrCHI3Hr	0.05	93.46	93.69	93.53	93.69	0.000264	0.16	0.31	3.75	0.11
River 1	Reach 1-Upper	759	100YrCHI3Hr	0.06	93.46	93.77	93.54	93.77	0.000125	0.14	0.43	4.71	0.08
River 1	Reach 1-Upper	759	2YrSCS24Hr	0.03	93.46	93.57	93.51	93.57	0.001859	0.23	0.12	2.20	0.26
River 1	Reach 1-Upper	759	5YrSCS24Hr	0.04	93.46	93.60	93.52	93.60	0.000932	0.21	0.18	2.67	0.19
River 1	Reach 1-Upper	759	10YrSCS24Hr	0.04	93.46	93.63	93.52	93.63	0.000639	0.20	0.21	2.98	0.17
River 1	Reach 1-Upper	759	25YrSCS24Hr	0.05	93.46	93.68	93.53	93.68	0.000285	0.16	0.30	3.67	0.12
River 1	Reach 1-Upper	759	50YrSCS24Hr	0.06	93.46	93.73	93.53	93.73	0.000174	0.15	0.37	4.24	0.09
River 1	Reach 1-Upper	759	100YrSCS24Hr	0.06	93.46	93.80	93.54	93.80	0.000105	0.13	0.47	5.36	0.08
River 1	Reach 1-Upper	743	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.04	93.40	93.59	93.47	93.59	0.000494	0.18	0.20	2.53	0.15
River 1	Reach 1-Upper	743	25YrCHI3Hr	0.04	93.40	93.62	93.48	93.63	0.000350	0.17	0.25	2.92	0.13
River 1	Reach 1-Upper	743	50YrCHI3Hr	0.05	93.40	93.69	93.48	93.69	0.000183	0.15	0.33	4.20	0.10
River 1	Reach 1-Upper	743	100YrCHI3Hr	0.06	93.40	93.77	93.49	93.77	0.000101	0.14	0.44	5.44	0.08
River 1	Reach 1-Upper	743	2YrSCS24Hr	0.03	93.40	93.54	93.46	93.55	0.000951	0.20	0.14	2.05	0.19
River 1	Reach 1-Upper	743	5YrSCS24Hr	0.04	93.40	93.59	93.47	93.59	0.000494	0.18	0.20	2.53	0.15
River 1	Reach 1-Upper	743	10YrSCS24Hr	0.04	93.40	93.62	93.48	93.62	0.000370	0.18	0.24	2.85	0.13
River 1	Reach 1-Upper	743	25YrSCS24Hr	0.05	93.40	93.68	93.48	93.68	0.000195	0.15	0.32	4.01	0.10
River 1	Reach 1-Upper	743	50YrSCS24Hr	0.06	93.40	93.73	93.49	93.73	0.000132	0.14	0.38	4.86	0.08
River 1	Reach 1-Upper	743	100YrSCS24Hr	0.06	93.40	93.79	93.49	93.80	0.000089	0.14	0.47	6.32	0.07
River 1	Reach 1-Upper	733		Culvert									
River 1	Reach 1-Upper	728	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.04	93.33	93.57	93.41	93.57	0.000202	0.14	0.27	2.34	0.10
River 1	Reach 1-Upper	728	25YrCHI3Hr	0.04	93.33	93.60	93.41	93.60	0.000169	0.14	0.32	2.57	0.09
River 1	Reach 1-Upper	728	50YrCHI3Hr	0.05	93.33	93.66	93.42	93.66	0.000110	0.13	0.39	2.99	0.08
River 1	Reach 1-Upper	728	100YrCHI3Hr	0.06	93.33	93.72	93.43	93.73	0.000076	0.12	0.49	3.52	0.07
River 1	Reach 1-Upper	728	2YrSCS24Hr	0.03	93.33	93.53	93.40	93.53	0.000264	0.13	0.21	2.01	0.11
River 1	Reach 1-Upper	728	5YrSCS24Hr	0.04	93.33	93.57	93.41	93.57	0.000202	0.14	0.27	2.34	0.10
River 1	Reach 1-Upper	728	10YrSCS24Hr	0.04	93.33	93.60	93.41	93.60	0.000174	0.14	0.31	2.53	0.09
River 1	Reach 1-Upper	728	25YrSCS24Hr	0.05	93.33	93.65	93.42	93.65	0.000113	0.13	0.39	2.94	0.08
River 1	Reach 1-Upper	728	50YrSCS24Hr	0.06	93.33	93.69	93.42	93.69	0.000090	0.12	0.44	3.25	0.07
River 1	Reach 1-Upper	728	100YrSCS24Hr	0.06	93.33	93.74	93.43	93.74	0.000070	0.12	0.52	3.70	0.06
River 1	Reach 1-Upper	715	2YrCHI3Hr	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	5YrCHI3Hr	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	10YrCHI3Hr	0.04	93.32	93.57	93.38	93.57	0.000114	0.11	0.32	3.33	0.08
River 1	Reach 1-Upper	715	25YrCHI3Hr	0.04	93.32	93.60	93.38	93.60	0.000102	0.12	0.37	3.63	0.07
River 1	Reach 1-Upper	715	50YrCHI3Hr	0.05	93.32	93.65	93.39	93.66	0.000072	0.11	0.44	4.19	0.06
River 1	Reach 1-Upper	715	100YrCHI3Hr	0.06	93.32	93.72	93.39	93.72	0.000054	0.11	0.54	4.88	0.06

HEC-RAS Plan: 20250603-Post_Dev_v01 (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	0.03	93.32	93.52	93.37	93.53	0.000130	0.11	0.26	2.89	0.08
River 1	Reach 1-Upper	715	5YrSCS24Hr	0.04	93.32	93.57	93.38	93.57	0.000114	0.11	0.32	3.33	0.08
River 1	Reach 1-Upper	715	10YrSCS24Hr	0.04	93.32	93.59	93.38	93.59	0.000104	0.12	0.36	3.58	0.07
River 1	Reach 1-Upper	715	25YrSCS24Hr	0.05	93.32	93.65	93.39	93.65	0.000074	0.11	0.44	4.13	0.06
River 1	Reach 1-Upper	715	50YrSCS24Hr	0.06	93.32	93.69	93.39	93.69	0.000061	0.11	0.49	4.54	0.06
River 1	Reach 1-Upper	715	100YrSCS24Hr	0.06	93.32	93.74	93.40	93.74	0.000051	0.11	0.57	5.33	0.06
River 1	Reach 1-Upper	705		Culvert									
River 1	Reach 1-Upper	698	2YrCHI3Hr	0.02	93.24	93.32	93.30	93.33	0.011619	0.41	0.06	1.21	0.59
River 1	Reach 1-Upper	698	5YrCHI3Hr	0.03	93.24	93.32	93.31	93.33	0.017273	0.51	0.06	1.23	0.72
River 1	Reach 1-Upper	698	10YrCHI3Hr	0.04	93.24	93.32	93.31	93.34	0.025269	0.61	0.06	1.22	0.87
River 1	Reach 1-Upper	698	25YrCHI3Hr	0.04	93.24	93.41	93.32	93.41	0.001221	0.22	0.20	1.87	0.22
River 1	Reach 1-Upper	698	50YrCHI3Hr	0.05	93.24	93.51	93.33	93.51	0.000175	0.12	0.41	2.59	0.09
River 1	Reach 1-Upper	698	100YrCHI3Hr	0.06	93.24	93.51	93.33	93.51	0.000242	0.15	0.41	2.61	0.11
River 1	Reach 1-Upper	698	2YrSCS24Hr	0.03	93.24	93.32	93.30	93.33	0.015763	0.48	0.06	1.21	0.69
River 1	Reach 1-Upper	698	5YrSCS24Hr	0.04	93.24	93.32	93.31	93.34	0.028385	0.64	0.06	1.20	0.92
River 1	Reach 1-Upper	698	10YrSCS24Hr	0.04	93.24	93.43	93.32	93.43	0.000585	0.17	0.25	2.05	0.15
River 1	Reach 1-Upper	698	25YrSCS24Hr	0.05	93.24	93.51	93.32	93.51	0.000166	0.12	0.41	2.60	0.09
River 1	Reach 1-Upper	698	50YrSCS24Hr	0.06	93.24	93.51	93.33	93.51	0.000202	0.13	0.41	2.61	0.10
River 1	Reach 1-Upper	698	100YrSCS24Hr	0.06	93.24	93.52	93.33	93.52	0.000253	0.15	0.42	2.63	0.11
River 1	Reach 1-Upper	681	2YrCHI3Hr	0.02	93.14	93.23	93.19	93.23	0.003325	0.24	0.10	1.73	0.32
River 1	Reach 1-Upper	681	5YrCHI3Hr	0.03	93.14	93.25	93.20	93.25	0.002014	0.23	0.14	1.89	0.26
River 1	Reach 1-Upper	681	10YrCHI3Hr	0.04	93.14	93.27	93.20	93.28	0.001201	0.20	0.19	2.05	0.21
River 1	Reach 1-Upper	681	25YrCHI3Hr	0.04	93.14	93.40	93.21	93.40	0.000094	0.08	0.51	2.95	0.07
River 1	Reach 1-Upper	681	50YrCHI3Hr	0.05	93.14	93.51	93.21	93.51	0.000029	0.06	0.87	4.06	0.04
River 1	Reach 1-Upper	681	100YrCHI3Hr	0.06	93.14	93.51	93.22	93.51	0.000040	0.07	0.88	4.09	0.04
River 1	Reach 1-Upper	681	2YrSCS24Hr	0.03	93.14	93.24	93.20	93.24	0.002280	0.23	0.12	1.83	0.28
River 1	Reach 1-Upper	681	5YrSCS24Hr	0.04	93.14	93.28	93.20	93.29	0.000864	0.18	0.21	2.13	0.18
River 1	Reach 1-Upper	681	10YrSCS24Hr	0.04	93.14	93.43	93.21	93.43	0.000059	0.07	0.59	3.14	0.05
River 1	Reach 1-Upper	681	25YrSCS24Hr	0.05	93.14	93.51	93.21	93.51	0.000027	0.06	0.87	4.07	0.04
River 1	Reach 1-Upper	681	50YrSCS24Hr	0.06	93.14	93.51	93.22	93.51	0.000033	0.06	0.88	4.10	0.04
River 1	Reach 1-Upper	681	100YrSCS24Hr	0.06	93.14	93.51	93.22	93.51	0.000042	0.07	0.89	4.14	0.05
River 1	Reach 1-Upper	663	2YrCHI3Hr	0.02	93.05	93.19		93.20	0.001200	0.19	0.12	1.39	0.21
River 1	Reach 1-Upper	663	5YrCHI3Hr	0.03	93.05	93.23		93.23	0.000807	0.18	0.18	1.64	0.18
River 1	Reach 1-Upper	663	10YrCHI3Hr	0.04	93.05	93.26		93.26	0.000532	0.16	0.23	1.85	0.15
River 1	Reach 1-Upper	663	25YrCHI3Hr	0.04	93.05	93.40		93.40	0.000069	0.08	0.56	3.00	0.06
River 1	Reach 1-Upper	663	50YrCHI3Hr	0.05	93.05	93.51		93.51	0.000025	0.05	0.96	4.41	0.03
River 1	Reach 1-Upper	663	100YrCHI3Hr	0.06	93.05	93.51		93.51	0.000035	0.06	0.97	4.45	0.04
River 1	Reach 1-Upper	663	2YrSCS24Hr	0.03	93.05	93.22		93.22	0.000807	0.17	0.16	1.56	0.17
River 1	Reach 1-Upper	663	5YrSCS24Hr	0.04	93.05	93.27		93.28	0.000390	0.14	0.26	1.95	0.13
River 1	Reach 1-Upper	663	10YrSCS24Hr	0.04	93.05	93.43		93.43	0.000047	0.06	0.65	3.34	0.05
River 1	Reach 1-Upper	663	25YrSCS24Hr	0.05	93.05	93.51		93.51	0.000024	0.05	0.96	4.43	0.03
River 1	Reach 1-Upper	663	50YrSCS24Hr	0.06	93.05	93.51		93.51	0.000029	0.06	0.97	4.47	0.04
River 1	Reach 1-Upper	663	100YrSCS24Hr	0.06	93.05	93.51		93.51	0.000037	0.06	0.98	4.51	0.04
River 1	Reach 1-Upper	656	2YrCHI3Hr	0.07	93.03	93.16	93.12	93.17	0.007808	0.47	0.14	1.72	0.53
River 1	Reach 1-Upper	656	5YrCHI3Hr	0.11	93.03	93.19	93.15	93.21	0.006501	0.51	0.21	1.94	0.50
River 1	Reach 1-Upper	656	10YrCHI3Hr	0.14	93.03	93.23	93.16	93.24	0.004115	0.47	0.29	2.16	0.41
River 1	Reach 1-Upper	656	25YrCHI3Hr	0.18	93.03	93.40	93.18	93.40	0.000544	0.25	0.72	3.45	0.16
River 1	Reach 1-Upper	656	50YrCHI3Hr	0.21	93.03	93.51	93.19	93.51	0.000206	0.20	1.16	4.65	0.11
River 1	Reach 1-Upper	656	100YrCHI3Hr	0.25	93.03	93.51	93.21	93.51	0.000291	0.24	1.17	4.65	0.13
River 1	Reach 1-Upper	656	2YrSCS24Hr	0.09	93.03	93.18	93.14	93.20	0.007027	0.51	0.19	1.88	0.51
River 1	Reach 1-Upper	656	5YrSCS24Hr	0.15	93.03	93.25	93.16	93.26	0.003125	0.44	0.33	2.27	0.36
River 1	Reach 1-Upper	656	10YrSCS24Hr	0.18	93.03	93.42	93.18	93.43	0.000386	0.23	0.82	3.78	0.14
River 1	Reach 1-Upper	656	25YrSCS24Hr	0.23	93.03	93.51	93.20	93.51	0.000238	0.21	1.16	4.65	0.12
River 1	Reach 1-Upper	656	50YrSCS24Hr	0.27	93.03	93.51	93.21	93.51	0.000323	0.25	1.17	4.66	0.13
River 1	Reach 1-Upper	656	100YrSCS24Hr	0.31	93.03	93.51	93.23	93.51	0.000430	0.29	1.17	4.67	0.15
River 1	Reach 1-Upper	638	2YrCHI3Hr	0.07	92.92	93.08	93.01	93.09	0.002729	0.33	0.20	1.89	0.32
River 1	Reach 1-Upper	638	5YrCHI3Hr	0.11	92.92	93.14	93.04	93.15	0.001802	0.33	0.33	2.30	0.28
River 1	Reach 1-Upper	638	10YrCHI3Hr	0.14	92.92	93.21	93.05	93.21	0.001049	0.28	0.48	2.79	0.22
River 1	Reach 1-Upper	638	25YrCHI3Hr	0.18	92.92	93.39	93.07	93.39	0.000154	0.16	1.20	4.99	0.09
River 1	Reach 1-Upper	638	50YrCHI3Hr	0.21	92.92	93.50	93.09	93.50	0.000077	0.13	1.86	6.83	0.07
River 1	Reach 1-Upper	638	100YrCHI3Hr	0.25	92.92	93.50	93.10	93.51	0.000109	0.16	1.86	6.84	0.08
River 1	Reach 1-Upper	638	2YrSCS24Hr	0.09	92.92	93.12	93.03	93.13	0.002117	0.33	0.28	2.17	0.29
River 1	Reach 1-Upper	638	5YrSCS24Hr	0.15	92.92	93.23	93.06	93.24	0.000815	0.26	0.56	3.04	0.19
River 1	Reach 1-Upper	638	10YrSCS24Hr	0.18	92.92	93.42	93.07	93.42	0.000119	0.15	1.36	5.36	0.08
River 1	Reach 1-Upper	638	25YrSCS24Hr	0.23	92.92	93.50	93.09	93.51	0.000089	0.14	1.86	6.83	0.07
River 1	Reach 1-Upper	638	50YrSCS24Hr	0.27	92.92	93.50	93.11	93.51	0.000122	0.16	1.86	6.84	0.08
River 1	Reach 1-Upper	638	100YrSCS24Hr	0.31	92.92	93.51	93.12	93.51	0.000163	0.19	1.87	6.84	0.10
River 1	Reach 1-Upper	617	2YrCHI3Hr	0.07	92.84	93.03	92.95	93.03	0.002518	0.31	0.22	2.15	0.31
River 1	Reach 1-Upper	617	5YrCHI3Hr	0.11	92.84	93.12	92.98	93.12	0.000858	0.23	0.46	3.08	0.19
River 1	Reach 1-Upper	617	10YrCHI3Hr	0.14	92.84	93.19	93.00	93.20	0.000444	0.19	0.71	3.86	0.14
River 1	Reach 1-Upper	617	25YrCHI3Hr	0.18	92.84	93.39	93.01	93.39	0.000082	0.10	1.79	7.45	0.06
River 1	Reach 1-Upper	617	50YrCHI3Hr	0.21	92.84	93.50	93.03	93.50	0.000035	0.08	2.93	15.17	0.04
River 1	Reach 1-Upper	617	100YrCHI3Hr	0.25	92.84	93.50	93.04	93.50	0.000049	0.09	2.93	15.17	0.05
River 1	Reach 1-Upper	617	2YrSCS24Hr	0.09	92.84	93.09	92.97	93.10	0.001101	0.25	0.38	2.82	0.21
River 1	Reach 1-Upper	617	5YrSCS24Hr	0.15	92.84	93.22	93.00	93.22	0.000343	0.18	0.83	4.28	0.13
River 1	Reach 1-Upper	617	10YrSCS24Hr	0.18	92.84	93.42	93.01	93.42	0.000065	0.09	2.03	8.33	0.06
River 1	Reach 1-Upper	617	25YrSCS24Hr	0.23	92.84	93.50	93.03	93.50	0.000040	0.08	2.93	15.17	0.05
River 1	Reach 1-Upper	617	50YrSCS24Hr	0.27	92.84	93.50	93.04	93.50	0.000055	0.10	2.93	15.17	0.06
River 1	Reach 1-Upper	617	100YrSCS24Hr	0.31	92.84	93.50	93.06	93.50	0.000074	0.11	2.93	15.18	0.06
River 1	Reach 1-Upper	598	2YrCHI3Hr	0.07	92.76	93.01	92.87	93.01	0.000473	0.18	0.38	2.69	0.14
River 1	Reach 1-Upper	598	5YrCHI3Hr	0.11	92.76	93.11	92.89	93.12	0.000252	0.18	0.64	3.49	0.11
River 1	Reach 1-Upper	598	10YrCHI3Hr	0.15	92.76	93.19	92.91	93.19	0.000173	0.18	0.83	5.51	0.10

HEC-RAS Plan: 20250603-Post_Dev_v01 (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	25YrCHI3Hr	0.19	92.76	93.39	92.93	93.39	0.000060	0.14	1.33	9.41	0.06
River 1	Reach 1-Upper	598	50YrCHI3Hr	0.23	92.76	93.50	92.94	93.50	0.000019	0.08	4.94	31.21	0.03
River 1	Reach 1-Upper	598	100YrCHI3Hr	0.27	92.76	93.50	92.95	93.50	0.000027	0.09	4.93	31.21	0.04
River 1	Reach 1-Upper	598	2YrSCS24Hr	0.10	92.76	93.09	92.89	93.09	0.000296	0.18	0.57	3.28	0.12
River 1	Reach 1-Upper	598	5YrSCS24Hr	0.16	92.76	93.22	92.91	93.22	0.000149	0.17	0.90	6.10	0.09
River 1	Reach 1-Upper	598	10YrSCS24Hr	0.20	92.76	93.42	92.93	93.42	0.000053	0.14	1.41	10.00	0.06
River 1	Reach 1-Upper	598	25YrSCS24Hr	0.25	92.76	93.50	92.95	93.50	0.000022	0.08	4.94	31.21	0.04
River 1	Reach 1-Upper	598	50YrSCS24Hr	0.29	92.76	93.50	92.96	93.50	0.000030	0.10	4.93	31.21	0.04
River 1	Reach 1-Upper	598	100YrSCS24Hr	0.33	92.76	93.50	92.97	93.50	0.000041	0.11	4.93	31.21	0.05
River 1	Reach 1-Upper	589		Culvert									
River 1	Reach 1-Upper	581	2YrCHI3Hr	0.07	92.71	92.89	92.82	92.90	0.002047	0.28	0.25	2.75	0.28
River 1	Reach 1-Upper	581	5YrCHI3Hr	0.11	92.71	92.93	92.84	92.94	0.001929	0.33	0.34	3.49	0.29
River 1	Reach 1-Upper	581	10YrCHI3Hr	0.15	92.71	92.97	92.86	92.97	0.001556	0.34	0.43	4.12	0.27
River 1	Reach 1-Upper	581	25YrCHI3Hr	0.19	92.71	93.03	92.88	93.03	0.000917	0.33	0.58	5.30	0.22
River 1	Reach 1-Upper	581	50YrCHI3Hr	0.23	92.71	93.16	92.89	93.16	0.000310	0.25	0.90	7.86	0.13
River 1	Reach 1-Upper	581	100YrCHI3Hr	0.27	92.71	93.25	92.90	93.25	0.000204	0.24	1.13	30.32	0.11
River 1	Reach 1-Upper	581	2YrSCS24Hr	0.10	92.71	92.92	92.84	92.93	0.002022	0.32	0.32	3.28	0.29
River 1	Reach 1-Upper	581	5YrSCS24Hr	0.16	92.71	92.98	92.87	92.98	0.001396	0.34	0.46	4.38	0.26
River 1	Reach 1-Upper	581	10YrSCS24Hr	0.20	92.71	93.04	92.88	93.05	0.000827	0.32	0.61	5.51	0.21
River 1	Reach 1-Upper	581	25YrSCS24Hr	0.25	92.71	93.25	92.89	93.25	0.000170	0.22	1.13	30.32	0.10
River 1	Reach 1-Upper	581	50YrSCS24Hr	0.29	92.71	93.25	92.91	93.25	0.000231	0.25	1.13	30.33	0.12
River 1	Reach 1-Upper	581	100YrSCS24Hr	0.33	92.71	93.28	92.92	93.28	0.000256	0.28	1.20	32.04	0.13
River 1	Reach 1-Upper	572	2YrCHI3Hr	0.07	92.73	92.85	92.82	92.86	0.008247	0.45	0.15	2.09	0.53
River 1	Reach 1-Upper	572	5YrCHI3Hr	0.11	92.73	92.90	92.84	92.91	0.004531	0.42	0.27	2.64	0.42
River 1	Reach 1-Upper	572	10YrCHI3Hr	0.15	92.73	92.95	92.86	92.95	0.002601	0.37	0.40	3.12	0.33
River 1	Reach 1-Upper	572	25YrCHI3Hr	0.19	92.73	93.02	92.87	93.02	0.001121	0.29	0.66	3.99	0.22
River 1	Reach 1-Upper	572	50YrCHI3Hr	0.23	92.73	93.15	92.89	93.16	0.000259	0.17	1.45	15.47	0.11
River 1	Reach 1-Upper	572	100YrCHI3Hr	0.27	92.73	93.25	92.90	93.25	0.000071	0.11	4.09	35.89	0.06
River 1	Reach 1-Upper	572	2YrSCS24Hr	0.10	92.73	92.89	92.84	92.90	0.005425	0.43	0.24	2.49	0.45
River 1	Reach 1-Upper	572	5YrSCS24Hr	0.16	92.73	92.96	92.86	92.97	0.002123	0.35	0.45	3.32	0.30
River 1	Reach 1-Upper	572	10YrSCS24Hr	0.20	92.73	93.03	92.88	93.04	0.000971	0.27	0.72	4.14	0.21
River 1	Reach 1-Upper	572	25YrSCS24Hr	0.25	92.73	93.25	92.89	93.25	0.000059	0.10	4.09	35.88	0.06
River 1	Reach 1-Upper	572	50YrSCS24Hr	0.29	92.73	93.25	92.91	93.25	0.000080	0.12	4.10	35.91	0.07
River 1	Reach 1-Upper	572	100YrSCS24Hr	0.33	92.73	93.28	92.92	93.28	0.000068	0.11	5.15	39.12	0.06
River 1	Reach 1-Upper	555	2YrCHI3Hr	0.07	92.61	92.82	92.72	92.82	0.001001	0.21	0.34	3.06	0.20
River 1	Reach 1-Upper	555	5YrCHI3Hr	0.11	92.61	92.88	92.74	92.88	0.000708	0.21	0.55	3.83	0.17
River 1	Reach 1-Upper	555	10YrCHI3Hr	0.15	92.61	92.93	92.76	92.93	0.000472	0.19	0.77	4.49	0.15
River 1	Reach 1-Upper	555	25YrCHI3Hr	0.19	92.61	93.01	92.77	93.01	0.000255	0.16	1.17	5.51	0.11
River 1	Reach 1-Upper	555	50YrCHI3Hr	0.23	92.61	93.15	92.78	93.15	0.000051	0.10	3.73	35.66	0.05
River 1	Reach 1-Upper	555	100YrCHI3Hr	0.27	92.61	93.25	92.80	93.25	0.000017	0.06	7.39	40.94	0.03
River 1	Reach 1-Upper	555	2YrSCS24Hr	0.10	92.61	92.86	92.73	92.86	0.000804	0.21	0.48	3.60	0.18
River 1	Reach 1-Upper	555	5YrSCS24Hr	0.16	92.61	92.95	92.76	92.95	0.000407	0.18	0.86	4.73	0.14
River 1	Reach 1-Upper	555	10YrSCS24Hr	0.20	92.61	93.03	92.77	93.03	0.000229	0.16	1.25	5.68	0.11
River 1	Reach 1-Upper	555	25YrSCS24Hr	0.25	92.61	93.25	92.79	93.25	0.000014	0.06	7.39	40.94	0.03
River 1	Reach 1-Upper	555	50YrSCS24Hr	0.29	92.61	93.25	92.80	93.25	0.000019	0.07	7.39	40.94	0.03
River 1	Reach 1-Upper	555	100YrSCS24Hr	0.33	92.61	93.28	92.81	93.28	0.000018	0.07	8.55	41.65	0.03
River 1	Reach 1-Upper	534	2YrCHI3Hr	0.07	92.59	92.79	92.70	92.79	0.001558	0.25	0.28	2.54	0.25
River 1	Reach 1-Upper	534	5YrCHI3Hr	0.11	92.59	92.86	92.72	92.86	0.000934	0.24	0.48	3.41	0.20
River 1	Reach 1-Upper	534	10YrCHI3Hr	0.15	92.59	92.92	92.74	92.92	0.000559	0.20	0.76	9.05	0.16
River 1	Reach 1-Upper	534	25YrCHI3Hr	0.19	92.59	93.01	92.76	93.01	0.000116	0.11	2.99	37.02	0.08
River 1	Reach 1-Upper	534	50YrCHI3Hr	0.23	92.59	93.15	92.77	93.15	0.000009	0.04	9.72	51.04	0.02
River 1	Reach 1-Upper	534	100YrCHI3Hr	0.27	92.59	93.25	92.79	93.25	0.000004	0.03	14.61	51.39	0.02
River 1	Reach 1-Upper	534	2YrSCS24Hr	0.10	92.59	92.84	92.72	92.84	0.001116	0.24	0.42	3.15	0.22
River 1	Reach 1-Upper	534	5YrSCS24Hr	0.16	92.59	92.94	92.75	92.94	0.000434	0.19	1.04	17.37	0.14
River 1	Reach 1-Upper	534	10YrSCS24Hr	0.20	92.59	93.02	92.76	93.02	0.000089	0.10	3.56	40.73	0.07
River 1	Reach 1-Upper	534	25YrSCS24Hr	0.25	92.59	93.25	92.78	93.25	0.000003	0.03	14.61	51.39	0.01
River 1	Reach 1-Upper	534	50YrSCS24Hr	0.29	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	93.28	92.81	93.28	0.000004	0.03	16.05	51.49	0.02
River 1	Reach 1-Upper	510	2YrCHI3Hr	0.07	92.60	92.73	92.68	92.74	0.003415	0.39	0.18	2.95	0.37
River 1	Reach 1-Upper	510	5YrCHI3Hr	0.11	92.60	92.83	92.70	92.84	0.001076	0.33	0.34	4.33	0.23
River 1	Reach 1-Upper	510	10YrCHI3Hr	0.15	92.60	92.90	92.72	92.91	0.000704	0.32	0.45	5.33	0.20
River 1	Reach 1-Upper	510	25YrCHI3Hr	0.19	92.60	93.00	92.73	93.00	0.000440	0.31	0.61	12.66	0.16
River 1	Reach 1-Upper	510	50YrCHI3Hr	0.23	92.60	93.15	92.75	93.15	0.000211	0.27	0.84	109.17	0.12
River 1	Reach 1-Upper	510	100YrCHI3Hr	0.27	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	92.81	92.69	92.81	0.001328	0.34	0.30	3.97	0.25
River 1	Reach 1-Upper	510	5YrSCS24Hr	0.16	92.60	92.93	92.72	92.93	0.000623	0.32	0.49	5.74	0.19
River 1	Reach 1-Upper	510	10YrSCS24Hr	0.20	92.60	93.01	92.74	93.02	0.000410	0.31	0.63	14.62	0.16
River 1	Reach 1-Upper	510	25YrSCS24Hr	0.25	92.60	93.25	92.75	93.25	0.000000	0.01	42.37	109.53	0.00
River 1	Reach 1-Upper	510	50YrSCS24Hr	0.29	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	93.28	92.78	93.28	0.000000	0.01	45.44	109.63	0.01
River 1	Reach 1-Upper	505		Culvert									
River 1	Reach 1-Upper	502	2YrCHI3Hr	0.08	92.49	92.61	92.58	92.63	0.007402	0.52	0.15	2.32	0.53
River 1	Reach 1-Upper	502	5YrCHI3Hr	0.13	92.49	92.65	92.60	92.67	0.006455	0.61	0.21	2.78	0.52
River 1	Reach 1-Upper	502	10YrCHI3Hr	0.16	92.49	92.68	92.62	92.70	0.006009	0.66	0.25	3.08	0.52
River 1	Reach 1-Upper	502	25YrCHI3Hr	0.21	92.49	92.73	92.64	92.75	0.004266	0.67	0.32	3.89	0.46
River 1	Reach 1-Upper	502	50YrCHI3Hr	0.26	92.49	92.82	92.66	92.84	0.001871	0.56	0.46	5.35	0.32
River 1	Reach 1-Upper	502	100YrCHI3Hr	0.31	92.49	92.97	92.67	92.98	0.000675	0.44	0.69	104.74	0.21
River 1	Reach 1-Upper	502	2YrSCS24Hr	0.11	92.49	92.64	92.60	92.66	0.006605	0.59	0.19	2.67	0.52
River 1	Reach 1-Upper	502	5YrSCS24Hr	0.18	92.49	92.69	92.62	92.71	0.005579	0.67	0.26	3.20	0.51
River 1	Reach 1-Upper	502	10YrSCS24Hr	0.22	92.49	92.74	92.64	92.76	0.003886	0.66	0.34	4.12	0.44
River 1	Reach 1-Upper	502	25YrSCS24Hr	0.28	92.49	92.88	92.66	92.90	0.001173	0.50	0.56	6.47	0.26
River 1	Reach 1-Upper	502	50YrSCS24Hr	0.33	92.49	93.05	92.68	93.06	0.000467	0.41	0.80	104.96	0.18

HEC-RAS Plan: 20250603-Post_Dev_v01 (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	0.38	92.49	93.28	92.70	93.28	0.000000	0.01	48.99	105.56	0.01
River 1	Reach 1-Upper	493	2YrCHI3Hr	0.08	92.34	92.61	92.43	92.61	0.000140	0.10	0.77	4.77	0.08
River 1	Reach 1-Upper	493	5YrCHI3Hr	0.13	92.34	92.66	92.45	92.66	0.000206	0.13	0.98	5.52	0.10
River 1	Reach 1-Upper	493	10YrCHI3Hr	0.16	92.34	92.68	92.46	92.68	0.000234	0.14	1.14	6.01	0.11
River 1	Reach 1-Upper	493	25YrCHI3Hr	0.21	92.34	92.73	92.48	92.73	0.000204	0.15	1.47	6.78	0.10
River 1	Reach 1-Upper	493	50YrCHI3Hr	0.26	92.34	92.82	92.49	92.83	0.000109	0.12	2.14	8.33	0.08
River 1	Reach 1-Upper	493	100YrCHI3Hr	0.31	92.34	92.98	92.50	92.98	0.000002	0.02	27.11	101.30	0.01
River 1	Reach 1-Upper	493	2YrSCS24Hr	0.11	92.34	92.64	92.44	92.65	0.000190	0.12	0.93	5.32	0.09
River 1	Reach 1-Upper	493	5YrSCS24Hr	0.18	92.34	92.69	92.46	92.70	0.000232	0.15	1.21	6.21	0.11
River 1	Reach 1-Upper	493	10YrSCS24Hr	0.22	92.34	92.74	92.48	92.74	0.000189	0.14	1.54	6.89	0.10
River 1	Reach 1-Upper	493	25YrSCS24Hr	0.28	92.34	92.89	92.50	92.89	0.000065	0.10	2.72	10.17	0.06
River 1	Reach 1-Upper	493	50YrSCS24Hr	0.33	92.34	93.05	92.51	93.05	0.000001	0.02	34.55	101.67	0.01
River 1	Reach 1-Upper	493	100YrSCS24Hr	0.38	92.34	93.28	92.52	93.28	0.000000	0.01	57.34	102.84	0.00
River 1	Reach 1-Upper	474	2YrCHI3Hr	0.08	92.41	92.61	92.50	92.61	0.000593	0.15	0.52	5.18	0.15
River 1	Reach 1-Upper	474	5YrCHI3Hr	0.13	92.41	92.65	92.53	92.65	0.000598	0.17	0.74	6.03	0.16
River 1	Reach 1-Upper	474	10YrCHI3Hr	0.16	92.41	92.68	92.54	92.68	0.000560	0.18	0.91	6.62	0.15
River 1	Reach 1-Upper	474	25YrCHI3Hr	0.21	92.41	92.73	92.56	92.73	0.000375	0.17	1.29	7.74	0.13
River 1	Reach 1-Upper	474	50YrCHI3Hr	0.26	92.41	92.82	92.57	92.82	0.000002	0.01	24.36	91.42	0.01
River 1	Reach 1-Upper	474	100YrCHI3Hr	0.31	92.41	92.98	92.57	92.98	0.000000	0.01	38.60	92.12	0.01
River 1	Reach 1-Upper	474	2YrSCS24Hr	0.11	92.41	92.64	92.52	92.64	0.000601	0.17	0.68	5.81	0.16
River 1	Reach 1-Upper	474	5YrSCS24Hr	0.18	92.41	92.69	92.55	92.69	0.000516	0.18	0.99	6.87	0.15
River 1	Reach 1-Upper	474	10YrSCS24Hr	0.22	92.41	92.74	92.56	92.74	0.000335	0.16	1.37	7.98	0.12
River 1	Reach 1-Upper	474	25YrSCS24Hr	0.28	92.41	92.89	92.57	92.89	0.000001	0.01	30.17	91.71	0.01
River 1	Reach 1-Upper	474	50YrSCS24Hr	0.33	92.41	93.05	92.58	93.05	0.000000	0.01	45.36	92.45	0.00
River 1	Reach 1-Upper	474	100YrSCS24Hr	0.38	92.41	93.28	92.59	93.28	0.000000	0.01	66.08	93.46	0.00
River 1	Reach 1-Upper	454	2YrCHI3Hr	0.08	92.44	92.59	92.51	92.59	0.001595	0.25	0.31	2.95	0.25
River 1	Reach 1-Upper	454	5YrCHI3Hr	0.13	92.44	92.63	92.53	92.63	0.001681	0.30	0.43	3.36	0.26
River 1	Reach 1-Upper	454	10YrCHI3Hr	0.16	92.44	92.66	92.55	92.66	0.001585	0.31	0.53	3.66	0.26
River 1	Reach 1-Upper	454	25YrCHI3Hr	0.21	92.44	92.71	92.56	92.72	0.000986	0.28	0.76	4.27	0.21
River 1	Reach 1-Upper	454	50YrCHI3Hr	0.26	92.44	92.82	92.57	92.82	0.000017	0.04	11.00	82.83	0.03
River 1	Reach 1-Upper	454	100YrCHI3Hr	0.31	92.44	92.98	92.59	92.98	0.000002	0.02	23.90	83.31	0.01
River 1	Reach 1-Upper	454	2YrSCS24Hr	0.11	92.44	92.62	92.53	92.62	0.001702	0.29	0.39	3.25	0.26
River 1	Reach 1-Upper	454	5YrSCS24Hr	0.18	92.44	92.67	92.55	92.67	0.001428	0.31	0.58	3.79	0.25
River 1	Reach 1-Upper	454	10YrSCS24Hr	0.22	92.44	92.73	92.56	92.73	0.000862	0.27	0.81	4.39	0.20
River 1	Reach 1-Upper	454	25YrSCS24Hr	0.28	92.44	92.89	92.58	92.89	0.000006	0.03	16.27	83.03	0.02
River 1	Reach 1-Upper	454	50YrSCS24Hr	0.33	92.44	93.05	92.59	93.05	0.000001	0.02	30.02	83.53	0.01
River 1	Reach 1-Upper	454	100YrSCS24Hr	0.38	92.44	93.28	92.61	93.28	0.000000	0.01	48.71	84.20	0.00
River 1	Reach 1-Upper	434	2YrCHI3Hr	0.08	92.42	92.54	92.49	92.55	0.003018	0.30	0.25	2.97	0.33
River 1	Reach 1-Upper	434	5YrCHI3Hr	0.13	92.42	92.59	92.51	92.59	0.002121	0.32	0.40	3.39	0.29
River 1	Reach 1-Upper	434	10YrCHI3Hr	0.16	92.42	92.62	92.52	92.63	0.001672	0.31	0.52	3.69	0.27
River 1	Reach 1-Upper	434	25YrCHI3Hr	0.21	92.42	92.71	92.54	92.71	0.000117	0.10	3.85	43.01	0.07
River 1	Reach 1-Upper	434	50YrCHI3Hr	0.26	92.42	92.82	92.55	92.82	0.000014	0.04	11.01	73.93	0.03
River 1	Reach 1-Upper	434	100YrCHI3Hr	0.31	92.42	92.98	92.56	92.98	0.000002	0.02	22.55	74.47	0.01
River 1	Reach 1-Upper	434	2YrSCS24Hr	0.11	92.42	92.57	92.50	92.58	0.002333	0.31	0.36	3.27	0.30
River 1	Reach 1-Upper	434	5YrSCS24Hr	0.18	92.42	92.64	92.53	92.64	0.001598	0.30	0.58	4.26	0.26
River 1	Reach 1-Upper	434	10YrSCS24Hr	0.22	92.42	92.72	92.54	92.72	0.000089	0.09	4.45	47.65	0.06
River 1	Reach 1-Upper	434	25YrSCS24Hr	0.28	92.42	92.89	92.55	92.89	0.000005	0.03	15.73	74.15	0.02
River 1	Reach 1-Upper	434	50YrSCS24Hr	0.33	92.42	93.05	92.57	93.05	0.000001	0.02	28.02	74.72	0.01
River 1	Reach 1-Upper	434	100YrSCS24Hr	0.38	92.42	93.28	92.58	93.28	0.000000	0.01	44.76	75.55	0.00
River 1	Reach 1-Upper	416	2YrCHI3Hr	0.08	92.34	92.52	92.42	92.53	0.000570	0.16	0.50	4.92	0.15
River 1	Reach 1-Upper	416	5YrCHI3Hr	0.13	92.34	92.58	92.45	92.58	0.000411	0.17	0.78	5.95	0.14
River 1	Reach 1-Upper	416	10YrCHI3Hr	0.16	92.34	92.62	92.46	92.62	0.000153	0.12	2.34	28.94	0.09
River 1	Reach 1-Upper	416	25YrCHI3Hr	0.21	92.34	92.71	92.47	92.71	0.000034	0.07	5.28	35.31	0.04
River 1	Reach 1-Upper	416	50YrCHI3Hr	0.26	92.34	92.82	92.48	92.82	0.000009	0.05	9.98	45.71	0.02
River 1	Reach 1-Upper	416	100YrCHI3Hr	0.31	92.34	92.98	92.49	92.98	0.000003	0.03	19.16	66.90	0.01
River 1	Reach 1-Upper	416	2YrSCS24Hr	0.11	92.34	92.56	92.44	92.56	0.000446	0.17	0.70	5.67	0.14
River 1	Reach 1-Upper	416	5YrSCS24Hr	0.18	92.34	92.64	92.47	92.64	0.000111	0.11	2.84	30.13	0.07
River 1	Reach 1-Upper	416	10YrSCS24Hr	0.22	92.34	92.72	92.48	92.72	0.000029	0.07	5.77	36.29	0.04
River 1	Reach 1-Upper	416	25YrSCS24Hr	0.28	92.34	92.89	92.49	92.89	0.000006	0.04	13.26	57.17	0.02
River 1	Reach 1-Upper	416	50YrSCS24Hr	0.33	92.34	93.05	92.50	93.05	0.000002	0.03	24.08	67.16	0.01
River 1	Reach 1-Upper	416	100YrSCS24Hr	0.38	92.34	93.28	92.50	93.28	0.000000	0.02	39.14	67.97	0.01
River 1	Reach 1-Upper	398	2YrCHI3Hr	0.08	92.28	92.51	92.40	92.51	0.000941	0.23	0.34	2.57	0.20
River 1	Reach 1-Upper	398	5YrCHI3Hr	0.13	92.28	92.56	92.43	92.57	0.000911	0.26	0.49	2.89	0.20
River 1	Reach 1-Upper	398	10YrCHI3Hr	0.16	92.28	92.61	92.44	92.61	0.000744	0.26	0.63	3.17	0.19
River 1	Reach 1-Upper	398	25YrCHI3Hr	0.21	92.28	92.71	92.46	92.71	0.000375	0.22	0.97	4.34	0.14
River 1	Reach 1-Upper	398	50YrCHI3Hr	0.26	92.28	92.82	92.47	92.82	0.000101	0.14	3.54	45.04	0.08
River 1	Reach 1-Upper	398	100YrCHI3Hr	0.31	92.28	92.98	92.49	92.98	0.000010	0.05	11.83	58.56	0.02
River 1	Reach 1-Upper	398	2YrSCS24Hr	0.11	92.28	92.55	92.42	92.55	0.000929	0.25	0.45	2.81	0.20
River 1	Reach 1-Upper	398	5YrSCS24Hr	0.18	92.28	92.63	92.44	92.63	0.000665	0.26	0.69	3.28	0.18
River 1	Reach 1-Upper	398	10YrSCS24Hr	0.22	92.28	92.72	92.46	92.72	0.000340	0.22	1.03	4.90	0.13
River 1	Reach 1-Upper	398	25YrSCS24Hr	0.28	92.28	92.89	92.48	92.89	0.000034	0.09	6.58	49.48	0.04
River 1	Reach 1-Upper	398	50YrSCS24Hr	0.33	92.28	93.05	92.49	93.05	0.000005	0.04	16.13	58.78	0.02
River 1	Reach 1-Upper	398	100YrSCS24Hr	0.38	92.28	93.28	92.51	93.28	0.000001	0.02	29.31	59.42	0.01
River 1	Reach 1-Upper	383	2YrCHI3Hr	0.08	92.34	92.48	92.42	92.49	0.004195	0.39	0.20	1.99	0.40
River 1	Reach 1-Upper	383	5YrCHI3Hr	0.13	92.34	92.54	92.45	92.54	0.002725	0.39	0.32	2.34	0.34
River 1	Reach 1-Upper	383	10YrCHI3Hr	0.16	92.34	92.59	92.46	92.60	0.001702	0.36	0.46	2.64	0.28
River 1	Reach 1-Upper	383	25YrCHI3Hr	0.21	92.34	92.70	92.49	92.70	0.000669	0.28	0.77	3.24	0.18
River 1	Reach 1-Upper	383	50YrCHI3Hr	0.26	92.34	92.82	92.50	92.82	0.000280	0.21	1.21	3.92	0.12
River 1	Reach 1-Upper	383	100YrCHI3Hr	0.31	92.34	92.98	92.52	92.98	0.000109	0.16	1.93	5.32	0.08
River 1	Reach 1-Upper	383	2YrSCS24Hr	0.11	92.34	92.52	92.44	92.53	0.003103	0.40	0.28	2.24	0.36
River 1	Reach 1-Upper	383	5YrSCS24Hr	0.18	92.34	92.61	92.47	92.62	0.001407	0.34	0.51	2.76	0.25
River 1	Reach 1-Upper	383	10YrSCS24Hr	0.22	92.34	92.71	92.49	92.71	0.000603	0.27	0.82	3.32	0.17
River 1	Reach 1-Upper	383	25YrSCS24Hr	0.28	92.34	92.88	92.51	92.89	0.000190	0.19	1.48	4.29	0.10

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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	383	50YrSCS24Hr	0.33	92.34	93.05	92.52	93.05	0.000010	0.05	11.65	51.68	0.03
River 1	Reach 1-Upper	383	100YrSCS24Hr	0.38	92.34	93.28	92.54	93.28	0.000002	0.03	23.26	52.34	0.01
River 1	Reach 1-Upper	364	2YrCHI3Hr	0.08	92.23	92.44	92.34	92.44	0.001335	0.27	0.28	2.08	0.23
River 1	Reach 1-Upper	364	5YrCHI3Hr	0.13	92.23	92.51	92.36	92.51	0.001059	0.29	0.44	2.41	0.22
River 1	Reach 1-Upper	364	10YrCHI3Hr	0.16	92.23	92.57	92.38	92.58	0.000730	0.27	0.60	2.72	0.19
River 1	Reach 1-Upper	364	25YrCHI3Hr	0.21	92.23	92.69	92.40	92.69	0.000346	0.23	0.95	3.30	0.13
River 1	Reach 1-Upper	364	50YrCHI3Hr	0.26	92.23	92.82	92.42	92.82	0.000178	0.18	1.41	4.08	0.10
River 1	Reach 1-Upper	364	100YrCHI3Hr	0.31	92.23	92.98	92.43	92.98	0.000062	0.13	3.78	43.88	0.06
River 1	Reach 1-Upper	364	2YrSCS24Hr	0.11	92.23	92.49	92.36	92.49	0.001160	0.29	0.39	2.31	0.23
River 1	Reach 1-Upper	364	5YrSCS24Hr	0.18	92.23	92.60	92.39	92.60	0.000628	0.26	0.66	2.84	0.17
River 1	Reach 1-Upper	364	10YrSCS24Hr	0.22	92.23	92.70	92.40	92.71	0.000320	0.22	1.00	3.37	0.13
River 1	Reach 1-Upper	364	25YrSCS24Hr	0.28	92.23	92.88	92.42	92.88	0.000125	0.16	1.71	4.91	0.08
River 1	Reach 1-Upper	364	50YrSCS24Hr	0.33	92.23	93.05	92.44	93.05	0.000024	0.09	7.11	44.08	0.04
River 1	Reach 1-Upper	364	100YrSCS24Hr	0.38	92.23	93.28	92.46	93.28	0.000003	0.04	17.03	44.82	0.02
River 1	Reach 1-Upper	347	2YrCHI3Hr	0.08	92.26	92.42	92.33	92.42	0.001247	0.25	0.31	2.52	0.22
River 1	Reach 1-Upper	347	5YrCHI3Hr	0.13	92.26	92.49	92.35	92.50	0.000764	0.25	0.51	2.84	0.19
River 1	Reach 1-Upper	347	10YrCHI3Hr	0.16	92.26	92.56	92.37	92.57	0.000481	0.23	0.72	3.13	0.15
River 1	Reach 1-Upper	347	25YrCHI3Hr	0.21	92.26	92.68	92.38	92.69	0.000223	0.19	1.13	3.65	0.11
River 1	Reach 1-Upper	347	50YrCHI3Hr	0.26	92.26	92.81	92.40	92.81	0.000114	0.16	1.64	4.21	0.08
River 1	Reach 1-Upper	347	100YrCHI3Hr	0.31	92.26	92.98	92.41	92.98	0.000054	0.13	2.42	6.23	0.06
River 1	Reach 1-Upper	347	2YrSCS24Hr	0.11	92.26	92.47	92.35	92.48	0.000881	0.25	0.45	2.74	0.20
River 1	Reach 1-Upper	347	5YrSCS24Hr	0.18	92.26	92.59	92.37	92.59	0.000407	0.22	0.80	3.24	0.14
River 1	Reach 1-Upper	347	10YrSCS24Hr	0.22	92.26	92.70	92.38	92.70	0.000206	0.19	1.19	3.72	0.11
River 1	Reach 1-Upper	347	25YrSCS24Hr	0.28	92.26	92.88	92.40	92.88	0.000085	0.14	1.93	4.52	0.07
River 1	Reach 1-Upper	347	50YrSCS24Hr	0.33	92.26	93.05	92.41	93.05	0.000037	0.12	3.16	14.13	0.05
River 1	Reach 1-Upper	347	100YrSCS24Hr	0.38	92.26	93.28	92.43	93.28	0.000006	0.06	12.31	37.97	0.02
River 1	Reach 1-Upper	328	2YrCHI3Hr	0.08	92.20	92.39	92.29	92.39	0.001651	0.30	0.26	1.92	0.26
River 1	Reach 1-Upper	328	5YrCHI3Hr	0.13	92.20	92.48	92.32	92.48	0.000966	0.29	0.44	2.28	0.21
River 1	Reach 1-Upper	328	10YrCHI3Hr	0.16	92.20	92.55	92.34	92.55	0.000609	0.26	0.62	2.59	0.17
River 1	Reach 1-Upper	328	25YrCHI3Hr	0.21	92.20	92.68	92.36	92.68	0.000289	0.22	0.99	3.12	0.12
River 1	Reach 1-Upper	328	50YrCHI3Hr	0.26	92.20	92.81	92.38	92.81	0.000165	0.18	1.44	4.02	0.09
River 1	Reach 1-Upper	328	100YrCHI3Hr	0.31	92.20	92.97	92.39	92.98	0.000079	0.14	2.18	4.99	0.07
River 1	Reach 1-Upper	328	2YrSCS24Hr	0.11	92.20	92.45	92.31	92.46	0.001116	0.29	0.39	2.18	0.22
River 1	Reach 1-Upper	328	5YrSCS24Hr	0.18	92.20	92.58	92.34	92.58	0.000518	0.25	0.69	2.70	0.16
River 1	Reach 1-Upper	328	10YrSCS24Hr	0.22	92.20	92.70	92.36	92.70	0.000268	0.21	1.04	3.19	0.12
River 1	Reach 1-Upper	328	25YrSCS24Hr	0.28	92.20	92.88	92.38	92.88	0.000119	0.16	1.73	4.39	0.08
River 1	Reach 1-Upper	328	50YrSCS24Hr	0.33	92.20	93.05	92.40	93.05	0.000056	0.13	2.59	5.81	0.06
River 1	Reach 1-Upper	328	100YrSCS24Hr	0.38	92.20	93.28	92.42	93.28	0.000010	0.07	9.31	29.89	0.03
River 1	Reach 1-Upper	306	2YrCHI3Hr	0.08	92.07	92.37	92.19	92.37	0.000732	0.26	0.29	1.56	0.18
River 1	Reach 1-Upper	306	5YrCHI3Hr	0.13	92.07	92.46	92.23	92.46	0.000682	0.31	0.42	1.87	0.18
River 1	Reach 1-Upper	306	10YrCHI3Hr	0.16	92.07	92.54	92.25	92.54	0.000557	0.31	0.53	2.14	0.17
River 1	Reach 1-Upper	306	25YrCHI3Hr	0.21	92.07	92.67	92.28	92.67	0.000330	0.29	0.73	2.65	0.13
River 1	Reach 1-Upper	306	50YrCHI3Hr	0.26	92.07	92.80	92.30	92.81	0.000212	0.28	0.93	3.22	0.11
River 1	Reach 1-Upper	306	100YrCHI3Hr	0.31	92.07	92.97	92.32	92.97	0.000136	0.26	1.18	4.39	0.09
River 1	Reach 1-Upper	306	2YrSCS24Hr	0.11	92.07	92.43	92.22	92.44	0.000706	0.30	0.38	1.78	0.18
River 1	Reach 1-Upper	306	5YrSCS24Hr	0.18	92.07	92.57	92.26	92.57	0.000500	0.31	0.57	2.24	0.16
River 1	Reach 1-Upper	306	10YrSCS24Hr	0.22	92.07	92.69	92.28	92.69	0.000315	0.29	0.75	2.72	0.13
River 1	Reach 1-Upper	306	25YrSCS24Hr	0.28	92.07	92.87	92.31	92.88	0.000176	0.27	1.03	3.52	0.10
River 1	Reach 1-Upper	306	50YrSCS24Hr	0.33	92.07	93.05	92.33	93.05	0.000113	0.25	1.29	5.08	0.09
River 1	Reach 1-Upper	306	100YrSCS24Hr	0.38	92.07	93.27	92.35	93.27	0.000071	0.23	1.63	20.92	0.07
River 1	Reach 1-Upper	300		Culvert									
River 1	Reach 1-Upper	294	2YrCHI3Hr	0.08	92.15	92.33	92.24	92.33	0.001623	0.33	0.23	2.13	0.27
River 1	Reach 1-Upper	294	5YrCHI3Hr	0.13	92.15	92.37	92.26	92.38	0.001907	0.42	0.30	2.36	0.30
River 1	Reach 1-Upper	294	10YrCHI3Hr	0.16	92.15	92.39	92.28	92.41	0.002165	0.49	0.34	2.49	0.33
River 1	Reach 1-Upper	294	25YrCHI3Hr	0.21	92.15	92.42	92.30	92.44	0.002461	0.56	0.38	2.64	0.36
River 1	Reach 1-Upper	294	50YrCHI3Hr	0.26	92.15	92.45	92.32	92.47	0.002689	0.62	0.41	2.75	0.38
River 1	Reach 1-Upper	294	100YrCHI3Hr	0.31	92.15	92.47	92.33	92.49	0.002898	0.68	0.45	2.87	0.40
River 1	Reach 1-Upper	294	2YrSCS24Hr	0.11	92.15	92.36	92.25	92.37	0.001813	0.40	0.28	2.31	0.29
River 1	Reach 1-Upper	294	5YrSCS24Hr	0.18	92.15	92.40	92.28	92.41	0.002263	0.51	0.35	2.52	0.34
River 1	Reach 1-Upper	294	10YrSCS24Hr	0.22	92.15	92.43	92.30	92.44	0.002532	0.58	0.38	2.65	0.36
River 1	Reach 1-Upper	294	25YrSCS24Hr	0.28	92.15	92.46	92.32	92.48	0.002786	0.65	0.43	2.80	0.39
River 1	Reach 1-Upper	294	50YrSCS24Hr	0.33	92.15	92.48	92.34	92.50	0.002974	0.71	0.46	2.92	0.41
River 1	Reach 1-Upper	294	100YrSCS24Hr	0.38	92.15	92.50	92.36	92.53	0.003240	0.77	0.49	3.02	0.43
River 1	Reach 1-Upper	279	2YrCHI3Hr	0.09	92.08	92.21	92.21	92.25	0.030677	0.84	0.11	1.56	1.01
River 1	Reach 1-Upper	279	5YrCHI3Hr	0.15	92.08	92.25	92.25	92.29	0.024457	0.90	0.17	1.87	0.95
River 1	Reach 1-Upper	279	10YrCHI3Hr	0.20	92.08	92.28		92.32	0.017438	0.87	0.23	2.05	0.83
River 1	Reach 1-Upper	279	25YrCHI3Hr	0.27	92.08	92.32		92.36	0.013351	0.86	0.31	2.26	0.74
River 1	Reach 1-Upper	279	50YrCHI3Hr	0.32	92.08	92.34		92.38	0.011757	0.87	0.37	2.42	0.71
River 1	Reach 1-Upper	279	100YrCHI3Hr	0.38	92.08	92.37		92.41	0.010680	0.88	0.43	2.57	0.69
River 1	Reach 1-Upper	279	2YrSCS24Hr	0.14	92.08	92.24	92.24	92.28	0.027916	0.90	0.15	1.79	1.00
River 1	Reach 1-Upper	279	5YrSCS24Hr	0.22	92.08	92.29		92.33	0.015850	0.86	0.25	2.11	0.79
River 1	Reach 1-Upper	279	10YrSCS24Hr	0.27	92.08	92.32		92.36	0.013094	0.86	0.32	2.29	0.74
River 1	Reach 1-Upper	279	25YrSCS24Hr	0.35	92.08	92.35		92.39	0.011229	0.87	0.40	2.49	0.70
River 1	Reach 1-Upper	279	50YrSCS24Hr	0.41	92.08	92.38		92.42	0.010330	0.89	0.46	2.63	0.68
River 1	Reach 1-Upper	279	100YrSCS24Hr	0.47	92.08	92.40		92.44	0.009621	0.90	0.52	2.77	0.66
River 1	Reach 1-Upper	277	2YrCHI3Hr	0.09	91.95	92.21		92.22	0.000731	0.22	0.41	2.76	0.18
River 1	Reach 1-Upper	277	5YrCHI3Hr	0.15	91.95	92.26		92.27	0.000866	0.29	0.56	3.04	0.20
River 1	Reach 1-Upper	277	10YrCHI3Hr	0.20	91.95	92.29		92.30	0.000933	0.33	0.65	3.21	0.22
River 1	Reach 1-Upper	277	25YrCHI3Hr	0.27	91.95	92.33		92.33	0.001005	0.37	0.76	3.40	0.23
River 1	Reach 1-Upper	277	50YrCHI3Hr	0.32	91.95	92.35		92.36	0.001064	0.41	0.85	3.54	0.24
River 1	Reach 1-Upper	277	100YrCHI3Hr	0.38	91.95	92.38		92.39	0.001128	0.44	0.94	3.68	0.25
River 1	Reach 1-Upper	277	2YrSCS24Hr	0.14	91.95	92.25		92.25	0.000837	0.27	0.52	2.97	0.20

HEC-RAS Plan: 20250603-Post_Dev_v01 (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	0.22	91.95	92.30		92.31	0.000942	0.34	0.68	3.26	0.22
River 1	Reach 1-Upper	277	10YrSCS24Hr	0.27	91.95	92.33		92.34	0.001013	0.38	0.77	3.42	0.23
River 1	Reach 1-Upper	277	25YrSCS24Hr	0.35	91.95	92.36		92.37	0.001094	0.42	0.89	3.61	0.24
River 1	Reach 1-Upper	277	50YrSCS24Hr	0.41	91.95	92.39		92.40	0.001153	0.46	0.98	3.74	0.25
River 1	Reach 1-Upper	277	100YrSCS24Hr	0.47	91.95	92.41		92.42	0.001212	0.49	1.07	3.88	0.26
River 1	Reach 1-Upper	270	2YrCHI3Hr	0.09	92.03	92.21		92.21	0.001711	0.28	0.32	2.69	0.26
River 1	Reach 1-Upper	270	5YrCHI3Hr	0.15	92.03	92.25		92.26	0.001749	0.34	0.46	3.12	0.28
River 1	Reach 1-Upper	270	10YrCHI3Hr	0.20	92.03	92.28		92.29	0.001743	0.37	0.55	3.39	0.28
River 1	Reach 1-Upper	270	25YrCHI3Hr	0.27	92.03	92.32		92.33	0.001732	0.40	0.68	3.71	0.29
River 1	Reach 1-Upper	270	50YrCHI3Hr	0.32	92.03	92.34		92.35	0.001724	0.42	0.77	4.08	0.29
River 1	Reach 1-Upper	270	100YrCHI3Hr	0.38	92.03	92.37		92.38	0.001666	0.45	0.89	4.95	0.29
River 1	Reach 1-Upper	270	2YrSCS24Hr	0.14	92.03	92.24		92.25	0.001760	0.32	0.42	2.99	0.27
River 1	Reach 1-Upper	270	5YrSCS24Hr	0.22	92.03	92.29		92.30	0.001718	0.37	0.59	3.47	0.28
River 1	Reach 1-Upper	270	10YrSCS24Hr	0.27	92.03	92.32		92.33	0.001733	0.40	0.69	3.75	0.29
River 1	Reach 1-Upper	270	25YrSCS24Hr	0.35	92.03	92.35		92.36	0.001697	0.43	0.82	4.48	0.29
River 1	Reach 1-Upper	270	50YrSCS24Hr	0.41	92.03	92.38		92.39	0.001643	0.46	0.94	5.31	0.29
River 1	Reach 1-Upper	270	100YrSCS24Hr	0.47	92.03	92.40		92.41	0.001586	0.48	1.08	5.71	0.29
River 1	Reach 1-Upper	261	2YrCHI3Hr	0.09	92.00	92.19	92.11	92.19	0.002280	0.34	0.27	2.14	0.30
River 1	Reach 1-Upper	261	5YrCHI3Hr	0.15	92.00	92.23	92.14	92.24	0.002570	0.41	0.37	2.36	0.33
River 1	Reach 1-Upper	261	10YrCHI3Hr	0.20	92.00	92.26	92.15	92.27	0.002733	0.46	0.44	2.49	0.35
River 1	Reach 1-Upper	261	25YrCHI3Hr	0.27	92.00	92.29	92.18	92.31	0.002879	0.51	0.52	2.65	0.37
River 1	Reach 1-Upper	261	50YrCHI3Hr	0.32	92.00	92.32	92.19	92.33	0.003006	0.54	0.59	2.77	0.38
River 1	Reach 1-Upper	261	100YrCHI3Hr	0.38	92.00	92.34	92.21	92.36	0.003119	0.58	0.66	2.89	0.39
River 1	Reach 1-Upper	261	2YrSCS24Hr	0.14	92.00	92.22	92.13	92.23	0.002496	0.39	0.34	2.30	0.33
River 1	Reach 1-Upper	261	5YrSCS24Hr	0.22	92.00	92.27	92.16	92.28	0.002723	0.47	0.46	2.54	0.35
River 1	Reach 1-Upper	261	10YrSCS24Hr	0.27	92.00	92.30	92.18	92.31	0.002897	0.51	0.53	2.67	0.37
River 1	Reach 1-Upper	261	25YrSCS24Hr	0.35	92.00	92.33	92.20	92.34	0.003059	0.56	0.62	2.82	0.38
River 1	Reach 1-Upper	261	50YrSCS24Hr	0.41	92.00	92.35	92.22	92.37	0.003161	0.59	0.69	2.94	0.39
River 1	Reach 1-Upper	261	100YrSCS24Hr	0.47	92.00	92.37	92.24	92.39	0.003275	0.63	0.76	3.07	0.40
River 1	Reach 1-Upper	239	2YrCHI3Hr	0.09	91.93	92.05	92.04	92.08	0.017237	0.70	0.13	1.61	0.78
River 1	Reach 1-Upper	239	5YrCHI3Hr	0.15	91.93	92.10	92.07	92.12	0.013911	0.75	0.21	1.91	0.73
River 1	Reach 1-Upper	239	10YrCHI3Hr	0.20	91.93	92.12	92.09	92.15	0.012488	0.78	0.26	2.07	0.71
River 1	Reach 1-Upper	239	25YrCHI3Hr	0.27	91.93	92.15	92.12	92.19	0.011193	0.82	0.32	2.23	0.69
River 1	Reach 1-Upper	239	50YrCHI3Hr	0.32	91.93	92.18	92.13	92.21	0.010512	0.85	0.38	2.35	0.68
River 1	Reach 1-Upper	239	100YrCHI3Hr	0.38	91.93	92.20	92.15	92.24	0.009943	0.87	0.44	2.48	0.67
River 1	Reach 1-Upper	239	2YrSCS24Hr	0.14	91.93	92.08	92.06	92.11	0.014638	0.74	0.18	1.83	0.74
River 1	Reach 1-Upper	239	5YrSCS24Hr	0.22	91.93	92.13	92.10	92.16	0.012117	0.79	0.27	2.11	0.70
River 1	Reach 1-Upper	239	10YrSCS24Hr	0.27	91.93	92.16	92.12	92.19	0.011093	0.82	0.33	2.25	0.69
River 1	Reach 1-Upper	239	25YrSCS24Hr	0.35	91.93	92.19	92.14	92.23	0.010240	0.86	0.40	2.41	0.67
River 1	Reach 1-Upper	239	50YrSCS24Hr	0.41	91.93	92.21	92.16	92.25	0.009700	0.88	0.46	2.53	0.66
River 1	Reach 1-Upper	239	100YrSCS24Hr	0.47	91.93	92.23	92.18	92.28	0.009178	0.90	0.52	2.66	0.65
River 1	Reach 1-Upper	218	2YrCHI3Hr	0.09	91.82	91.98	91.90	91.98	0.002022	0.31	0.30	2.52	0.28
River 1	Reach 1-Upper	218	5YrCHI3Hr	0.15	91.82	92.02	91.93	92.03	0.002161	0.37	0.41	2.74	0.31
River 1	Reach 1-Upper	218	10YrCHI3Hr	0.20	91.82	92.05	91.94	92.06	0.002207	0.41	0.49	2.87	0.31
River 1	Reach 1-Upper	218	25YrCHI3Hr	0.27	91.82	92.08	91.96	92.09	0.002325	0.45	0.59	3.03	0.33
River 1	Reach 1-Upper	218	50YrCHI3Hr	0.32	91.82	92.10	91.97	92.12	0.002387	0.48	0.66	3.14	0.34
River 1	Reach 1-Upper	218	100YrCHI3Hr	0.38	91.82	92.13	91.99	92.14	0.002436	0.51	0.74	3.27	0.34
River 1	Reach 1-Upper	218	2YrSCS24Hr	0.14	91.82	92.01	91.92	92.01	0.002130	0.35	0.38	2.68	0.30
River 1	Reach 1-Upper	218	5YrSCS24Hr	0.22	91.82	92.06	91.95	92.06	0.002240	0.42	0.52	2.91	0.32
River 1	Reach 1-Upper	218	10YrSCS24Hr	0.27	91.82	92.08	91.96	92.09	0.002335	0.46	0.60	3.04	0.33
River 1	Reach 1-Upper	218	25YrSCS24Hr	0.35	91.82	92.12	91.98	92.13	0.002410	0.50	0.70	3.20	0.34
River 1	Reach 1-Upper	218	50YrSCS24Hr	0.41	91.82	92.14	92.00	92.15	0.002460	0.53	0.78	3.33	0.35
River 1	Reach 1-Upper	218	100YrSCS24Hr	0.47	91.82	92.17	92.01	92.18	0.002488	0.55	0.86	3.49	0.35
River 1	Reach 1-Upper	197	2YrCHI3Hr	0.09	91.73	91.86	91.84	91.88	0.015440	0.67	0.14	1.62	0.74
River 1	Reach 1-Upper	197	5YrCHI3Hr	0.15	91.73	91.90	91.88	91.93	0.013158	0.74	0.21	1.89	0.71
River 1	Reach 1-Upper	197	10YrCHI3Hr	0.20	91.73	91.93	91.90	91.96	0.012270	0.78	0.26	2.03	0.70
River 1	Reach 1-Upper	197	25YrCHI3Hr	0.27	91.73	91.96	91.92	91.99	0.011534	0.84	0.32	2.17	0.70
River 1	Reach 1-Upper	197	50YrCHI3Hr	0.32	91.73	91.98	91.94	92.02	0.010821	0.87	0.37	2.28	0.69
River 1	Reach 1-Upper	197	100YrCHI3Hr	0.38	91.73	92.00	91.96	92.04	0.010553	0.90	0.42	2.38	0.69
River 1	Reach 1-Upper	197	2YrSCS24Hr	0.14	91.73	91.89	91.87	91.92	0.013722	0.72	0.19	1.83	0.72
River 1	Reach 1-Upper	197	5YrSCS24Hr	0.22	91.73	91.93	91.90	91.97	0.012069	0.80	0.27	2.07	0.70
River 1	Reach 1-Upper	197	10YrSCS24Hr	0.27	91.73	91.96	91.92	92.00	0.011461	0.84	0.32	2.19	0.70
River 1	Reach 1-Upper	197	25YrSCS24Hr	0.35	91.73	91.99	91.95	92.03	0.010693	0.88	0.39	2.33	0.69
River 1	Reach 1-Upper	197	50YrSCS24Hr	0.41	91.73	92.01	91.96	92.05	0.010457	0.92	0.44	2.42	0.69
River 1	Reach 1-Upper	197	100YrSCS24Hr	0.47	91.73	92.03	91.98	92.08	0.010270	0.96	0.50	2.52	0.69
River 1	Reach 1-Upper	174	2YrCHI3Hr	0.09	91.52	91.71	91.64	91.72	0.004267	0.43	0.21	1.87	0.41
River 1	Reach 1-Upper	174	5YrCHI3Hr	0.15	91.52	91.75	91.68	91.77	0.004475	0.50	0.31	2.19	0.43
River 1	Reach 1-Upper	174	10YrCHI3Hr	0.20	91.52	91.78	91.70	91.79	0.004646	0.55	0.36	2.32	0.45
River 1	Reach 1-Upper	174	25YrCHI3Hr	0.27	91.52	91.81	91.72	91.83	0.004785	0.61	0.44	2.47	0.46
River 1	Reach 1-Upper	174	50YrCHI3Hr	0.32	91.52	91.83	91.74	91.85	0.004939	0.65	0.49	2.58	0.47
River 1	Reach 1-Upper	174	100YrCHI3Hr	0.38	91.52	91.85	91.76	91.88	0.005072	0.69	0.55	2.69	0.49
River 1	Reach 1-Upper	174	2YrSCS24Hr	0.14	91.52	91.74	91.67	91.75	0.004398	0.48	0.28	2.12	0.42
River 1	Reach 1-Upper	174	5YrSCS24Hr	0.22	91.52	91.79	91.70	91.80	0.004687	0.57	0.38	2.35	0.45
River 1	Reach 1-Upper	174	10YrSCS24Hr	0.27	91.52	91.81	91.72	91.83	0.004808	0.61	0.44	2.48	0.46
River 1	Reach 1-Upper	174	25YrSCS24Hr	0.35	91.52	91.84	91.75	91.86	0.005003	0.67	0.52	2.63	0.48
River 1	Reach 1-Upper	174	50YrSCS24Hr	0.41	91.52	91.86	91.77	91.89	0.005118	0.71	0.58	2.73	0.49
River 1	Reach 1-Upper	174	100YrSCS24Hr	0.47	91.52	91.89	91.78	91.91	0.005160	0.74	0.64	2.85	0.50
River 1	Reach 1-Upper	154	2YrCHI3Hr	0.09	91.43	91.62	91.56	91.63	0.004368	0.40	0.23	2.24	0.41
River 1	Reach 1-Upper	154	5YrCHI3Hr	0.15	91.43	91.67	91.60	91.68	0.004241	0.46	0.33	2.63	0.42
River 1	Reach 1-Upper	154	10YrCHI3Hr	0.20	91.43	91.69	91.61	91.70	0.004186	0.50	0.40	2.85	0.42
River 1	Reach 1-Upper	154	25YrCHI3Hr	0.27	91.43	91.72	91.64	91.74	0.004089	0.53	0.50	3.10	0.42
River 1	Reach 1-Upper	154	50YrCHI3Hr	0.32	91.43	91.75	91.65	91.76	0.003991	0.56	0.57	3.27	0.43
River 1	Reach 1-Upper	154	100YrCHI3Hr	0.38	91.43	91.77	91.67	91.79	0.003887	0.58	0.65	3.43	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	0.14	91.43	91.65	91.59	91.66	0.004250	0.45	0.30	2.53	0.41
River 1	Reach 1-Upper	154	5YrSCS24Hr	0.22	91.43	91.70	91.62	91.71	0.004166	0.51	0.43	2.91	0.42
River 1	Reach 1-Upper	154	10YrSCS24Hr	0.27	91.43	91.73	91.64	91.74	0.004078	0.54	0.51	3.13	0.43
River 1	Reach 1-Upper	154	25YrSCS24Hr	0.35	91.43	91.76	91.66	91.77	0.003941	0.57	0.61	3.34	0.43
River 1	Reach 1-Upper	154	50YrSCS24Hr	0.41	91.43	91.78	91.67	91.80	0.003849	0.59	0.69	3.49	0.43
River 1	Reach 1-Upper	154	100YrSCS24Hr	0.47	91.43	91.80	91.69	91.82	0.003765	0.61	0.77	3.65	0.43
River 1	Reach 1-Upper	137	2YrCHI3Hr	0.09	91.33	91.49	91.46	91.51	0.011873	0.65	0.14	1.44	0.66
River 1	Reach 1-Upper	137	5YrCHI3Hr	0.15	91.33	91.54	91.50	91.56	0.011294	0.74	0.21	1.67	0.67
River 1	Reach 1-Upper	137	10YrCHI3Hr	0.20	91.33	91.56	91.52	91.59	0.010987	0.79	0.25	1.81	0.67
River 1	Reach 1-Upper	137	25YrCHI3Hr	0.27	91.33	91.59	91.55	91.63	0.010557	0.84	0.32	1.98	0.67
River 1	Reach 1-Upper	137	50YrCHI3Hr	0.32	91.33	91.62	91.57	91.66	0.010224	0.87	0.37	2.11	0.67
River 1	Reach 1-Upper	137	100YrCHI3Hr	0.38	91.33	91.64	91.59	91.69	0.009831	0.90	0.42	2.25	0.66
River 1	Reach 1-Upper	137	2YrSCS24Hr	0.14	91.33	91.52	91.49	91.55	0.011421	0.72	0.19	1.61	0.67
River 1	Reach 1-Upper	137	5YrSCS24Hr	0.22	91.33	91.57	91.53	91.60	0.010887	0.80	0.27	1.85	0.67
River 1	Reach 1-Upper	137	10YrSCS24Hr	0.27	91.33	91.60	91.55	91.63	0.010513	0.85	0.32	2.00	0.67
River 1	Reach 1-Upper	137	25YrSCS24Hr	0.35	91.33	91.63	91.58	91.67	0.010071	0.89	0.39	2.17	0.67
River 1	Reach 1-Upper	137	50YrSCS24Hr	0.41	91.33	91.65	91.60	91.70	0.009667	0.91	0.45	2.30	0.66
River 1	Reach 1-Upper	137	100YrSCS24Hr	0.47	91.33	91.68	91.62	91.72	0.009323	0.94	0.51	2.43	0.66
River 1	Reach 1-Upper	116	2YrCHI3Hr	0.09	91.23	91.39	91.32	91.40	0.003087	0.37	0.24	2.11	0.35
River 1	Reach 1-Upper	116	5YrCHI3Hr	0.15	91.23	91.44	91.35	91.45	0.002919	0.43	0.36	2.39	0.35
River 1	Reach 1-Upper	116	10YrCHI3Hr	0.20	91.23	91.47	91.37	91.48	0.002861	0.46	0.44	2.56	0.36
River 1	Reach 1-Upper	116	25YrCHI3Hr	0.27	91.23	91.51	91.39	91.52	0.002819	0.50	0.54	2.76	0.36
River 1	Reach 1-Upper	116	50YrCHI3Hr	0.32	91.23	91.53	91.41	91.55	0.002809	0.52	0.61	2.91	0.36
River 1	Reach 1-Upper	116	100YrCHI3Hr	0.38	91.23	91.56	91.43	91.58	0.002814	0.55	0.69	3.05	0.37
River 1	Reach 1-Upper	116	2YrSCS24Hr	0.14	91.23	91.43	91.34	91.43	0.002948	0.41	0.33	2.32	0.35
River 1	Reach 1-Upper	116	5YrSCS24Hr	0.22	91.23	91.48	91.37	91.49	0.002848	0.47	0.46	2.61	0.36
River 1	Reach 1-Upper	116	10YrSCS24Hr	0.27	91.23	91.51	91.39	91.52	0.002816	0.50	0.55	2.78	0.36
River 1	Reach 1-Upper	116	25YrSCS24Hr	0.35	91.23	91.55	91.41	91.56	0.002808	0.54	0.65	2.98	0.37
River 1	Reach 1-Upper	116	50YrSCS24Hr	0.41	91.23	91.58	91.43	91.59	0.002653	0.55	0.74	3.12	0.36
River 1	Reach 1-Upper	116	100YrSCS24Hr	0.47	91.23	91.61	91.45	91.62	0.002570	0.57	0.83	3.26	0.36
River 1	Reach 1-Upper	95	2YrCHI3Hr	0.09	91.07	91.29	91.24	91.31	0.006025	0.53	0.17	1.41	0.48
River 1	Reach 1-Upper	95	5YrCHI3Hr	0.15	91.07	91.34	91.27	91.36	0.007024	0.64	0.24	1.62	0.54
River 1	Reach 1-Upper	95	10YrCHI3Hr	0.20	91.07	91.36	91.30	91.39	0.007632	0.71	0.28	1.74	0.57
River 1	Reach 1-Upper	95	25YrCHI3Hr	0.27	91.07	91.39	91.33	91.42	0.008133	0.79	0.34	1.88	0.59
River 1	Reach 1-Upper	95	50YrCHI3Hr	0.32	91.07	91.41	91.35	91.45	0.008601	0.84	0.38	1.98	0.62
River 1	Reach 1-Upper	95	100YrCHI3Hr	0.38	91.07	91.43	91.37	91.47	0.010479	0.95	0.40	2.04	0.68
River 1	Reach 1-Upper	95	2YrSCS24Hr	0.14	91.07	91.32	91.26	91.34	0.006791	0.61	0.22	1.56	0.52
River 1	Reach 1-Upper	95	5YrSCS24Hr	0.22	91.07	91.37	91.30	91.40	0.007803	0.73	0.29	1.77	0.57
River 1	Reach 1-Upper	95	10YrSCS24Hr	0.27	91.07	91.40	91.33	91.43	0.008086	0.79	0.35	1.90	0.59
River 1	Reach 1-Upper	95	25YrSCS24Hr	0.35	91.07	91.42	91.36	91.46	0.008817	0.87	0.40	2.03	0.63
River 1	Reach 1-Upper	95	50YrSCS24Hr	0.41	91.07	91.39	91.38	91.47	0.020127	1.23	0.33	1.86	0.93
River 1	Reach 1-Upper	95	100YrSCS24Hr	0.47	91.07	91.40	91.40	91.49	0.023204	1.35	0.35	1.91	1.01
River 1	Reach 1-Upper	72	2YrCHI3Hr	0.09	90.91	91.00	91.00	91.03	0.032221	0.77	0.12	2.00	1.02
River 1	Reach 1-Upper	72	5YrCHI3Hr	0.15	90.91	91.03	91.03	91.07	0.028410	0.85	0.18	2.44	0.99
River 1	Reach 1-Upper	72	10YrCHI3Hr	0.20	90.91	91.05	91.05	91.09	0.026746	0.90	0.22	2.65	0.98
River 1	Reach 1-Upper	72	25YrCHI3Hr	0.27	90.91	91.07	91.07	91.12	0.026304	0.97	0.27	2.83	1.00
River 1	Reach 1-Upper	72	50YrCHI3Hr	0.32	90.91	91.08	91.08	91.13	0.025112	1.01	0.32	2.96	0.99
River 1	Reach 1-Upper	72	100YrCHI3Hr	0.38	90.91	91.11	91.10	91.15	0.019074	0.97	0.39	3.17	0.88
River 1	Reach 1-Upper	72	2YrSCS24Hr	0.14	90.91	91.03	91.03	91.06	0.028884	0.82	0.16	2.32	0.99
River 1	Reach 1-Upper	72	5YrSCS24Hr	0.22	90.91	91.05	91.05	91.10	0.026334	0.91	0.24	2.69	0.98
River 1	Reach 1-Upper	72	10YrSCS24Hr	0.27	90.91	91.07	91.07	91.12	0.026938	0.99	0.28	2.83	1.01
River 1	Reach 1-Upper	72	25YrSCS24Hr	0.35	90.91	91.09	91.09	91.14	0.024807	1.03	0.34	3.02	0.99
River 1	Reach 1-Upper	72	50YrSCS24Hr	0.41	90.91	91.16	91.10	91.18	0.007645	0.72	0.57	3.60	0.58
River 1	Reach 1-Upper	72	100YrSCS24Hr	0.47	90.91	91.23	91.12	91.24	0.003374	0.57	0.83	4.09	0.40
River 1	Reach 1-Lower	56	2YrCHI3Hr	0.15	90.47	90.74	90.58	90.74	0.000351	0.20	0.77	10.31	0.13
River 1	Reach 1-Lower	56	5YrCHI3Hr	0.27	90.47	90.85	90.60	90.85	0.000292	0.23	1.16	14.65	0.13
River 1	Reach 1-Lower	56	10YrCHI3Hr	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	25YrCHI3Hr	0.49	90.47	91.00	90.64	91.01	0.000270	0.29	1.70	19.75	0.13
River 1	Reach 1-Lower	56	50YrCHI3Hr	0.59	90.47	91.07	90.66	91.07	0.000264	0.31	1.92	20.02	0.13
River 1	Reach 1-Lower	56	100YrCHI3Hr	0.71	90.47	91.13	90.68	91.13	0.000265	0.33	2.14	20.02	0.14
River 1	Reach 1-Lower	56	2YrSCS24Hr	0.24	90.47	90.82	90.60	90.82	0.000304	0.22	1.06	13.59	0.13
River 1	Reach 1-Lower	56	5YrSCS24Hr	0.40	90.47	90.94	90.63	90.95	0.000274	0.27	1.49	18.21	0.13
River 1	Reach 1-Lower	56	10YrSCS24Hr	0.51	90.47	91.02	90.64	91.02	0.000269	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	0.000265	0.32	2.04	20.02	0.14
River 1	Reach 1-Lower	56	50YrSCS24Hr	0.78	90.47	91.17	90.69	91.17	0.000261	0.34	2.27	20.02	0.14
River 1	Reach 1-Lower	56	100YrSCS24Hr	0.91	90.47	91.23	90.71	91.24	0.000263	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	0.005136	0.44	0.35	30.55	0.44
River 1	Reach 1-Lower	38	5YrCHI3Hr	0.27	90.46	90.60	90.55	90.62	0.007100	0.61	0.44	34.54	0.54
River 1	Reach 1-Lower	38	10YrCHI3Hr	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	25YrCHI3Hr	0.49	90.46	90.63	90.60	90.67	0.010630	0.87	0.56	36.53	0.69
River 1	Reach 1-Lower	38	50YrCHI3Hr	0.59	90.46	90.64	90.61	90.69	0.012282	0.98	0.60	36.92	0.75
River 1	Reach 1-Lower	38	100YrCHI3Hr	0.71	90.46	90.66	90.63	90.72	0.013950	1.10	0.65	37.68	0.81
River 1	Reach 1-Lower	38	2YrSCS24Hr	0.24	90.46	90.59	90.55	90.61	0.006473	0.56	0.42	33.74	0.52
River 1	Reach 1-Lower	38	5YrSCS24Hr	0.40	90.46	90.62	90.58	90.65	0.009216	0.77	0.52	36.25	0.64
River 1	Reach 1-Lower	38	10YrSCS24Hr	0.51	90.46	90.63	90.60	90.68	0.010974	0.89	0.57	36.59	0.71
River 1	Reach 1-Lower	38	25YrSCS24Hr	0.66	90.46	90.65	90.63	90.71	0.013194	1.05	0.63	37.35	0.79
River 1	Reach 1-Lower	38	50YrSCS24Hr	0.78	90.46	90.66	90.64	90.73	0.015131	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	0.017508	1.30	0.70	38.44	0.92
River 1	Reach 1-Lower	0	2YrCHI3Hr	0.15	90.42	90.50	90.46	90.50	0.001001	0.14	1.11	19.02	0.18
River 1	Reach 1-Lower	0	5YrCHI3Hr	0.27	90.42	90.53	90.47	90.53	0.001000	0.17	1.61	20.06	0.19
River 1	Reach 1-Lower	0	10YrCHI3Hr	0.36	90.42	90.54	90.48	90.55	0.001000	0.19	1.93	20.29	0.19

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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-Lower	0	25YrCHI3Hr	0.49	90.42	90.56	90.49	90.56	0.001001	0.21	2.32	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	2.62	20.78	0.20
River 1	Reach 1-Lower	0	100YrCHI3Hr	0.71	90.42	90.59	90.50	90.60	0.001000	0.24	2.95	21.44	0.21
River 1	Reach 1-Lower	0	2YrSCS24Hr	0.24	90.42	90.52	90.46	90.52	0.001000	0.16	1.49	19.97	0.19
River 1	Reach 1-Lower	0	5YrSCS24Hr	0.40	90.42	90.55	90.48	90.55	0.001000	0.20	2.04	20.38	0.20
River 1	Reach 1-Lower	0	10YrSCS24Hr	0.51	90.42	90.57	90.49	90.57	0.001001	0.21	2.38	20.62	0.20
River 1	Reach 1-Lower	0	25YrSCS24Hr	0.66	90.42	90.59	90.49	90.59	0.001001	0.24	2.81	21.20	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

APPENDIX H
CITY OF OTTAWA DESIGN CHECKLIST

City of Ottawa

4. Development Servicing Study Checklist

The following section describes the checklist of the required content of servicing studies. It is expected that the proponent will address each one of the following items for the study to be deemed complete and ready for review by City of Ottawa Infrastructure Approvals staff.

The level of required detail in the Servicing Study will increase depending on the type of application. For example, for Official Plan amendments and re-zoning applications, the main issues will be to determine the capacity requirements for the proposed change in land use and confirm this against the existing capacity constraint, and to define the solutions, phasing of works and the financing of works to address the capacity constraint. For subdivisions and site plans, the above will be required with additional detailed information supporting the servicing within the development boundary.

4.1 General Content

Criteria	Location (if applicable)
☐ Executive Summary (for larger reports only).	N/A
☐ Date and revision number of the report.	On Cover
☐ Location map and plan showing municipal address, boundary, and layout of proposed development.	Appendix A
☐ Plan showing the site and location of all existing services.	Site Servicing Plan (C102)
☐ Development statistics, land use, density, adherence to zoning and official plan, and reference to applicable subwatershed and watershed plans that provide context to which individual developments must adhere.	1.1 Purpose 1.2 Site Description 6.0 Proposed Stormwater Management
☐ Summary of pre-consultation meetings with City and other approval agencies.	Appendix B
☐ Reference and confirm conformance to higher level studies and reports (Master Servicing Studies, Environmental Assessments, Community Design Plans), or in the case where it is not in conformance, the proponent must provide justification and develop a defendable design criteria.	1.1 Purpose 1.2 Site Description 6.0 Proposed Stormwater Management
☐ Statement of objectives and servicing criteria.	3.0 Pre-Consultation Summary

☐ Identification of existing and proposed infrastructure available in the immediate area.	N/A
☐ Identification of Environmentally Significant Areas, watercourses and Municipal Drains potentially impacted by the proposed development (Reference can be made to the Natural Heritage Studies, if available).	Site Grading Plan (C101)
☐ Concept level master grading plan to confirm existing and proposed grades in the development. This is required to confirm the feasibility of proposed stormwater management and drainage, soil removal and fill constraints, and potential impacts to neighbouring properties. This is also required to confirm that the proposed grading will not impede existing major system flow paths.	Site Grading Plan (C101)
☐ Identification of potential impacts of proposed piped services on private services (such as wells and septic fields on adjacent lands) and mitigation required to address potential impacts.	N/A
☐ Proposed phasing of the development, if applicable.	N/A
☐ Reference to geotechnical studies and recommendations concerning servicing.	Section 2.0 Background Studies, Standards and References
☐ All preliminary and formal site plan submissions should have the following information: o Metric scale o North arrow (including construction North) o Key plan o Name and contact information of applicant and property owner o Property limits including bearings and dimensions o Existing and proposed structures and parking areas o Easements, road widening and rights-of-way o Adjacent street names	Site Grading Plan (C101)

4.2 Development Servicing Report: Water

Criteria	Location (if applicable)
☐ Confirm consistency with Master Servicing Study, if available	N/A
☐ Availability of public infrastructure to service proposed development	N/A
☐ Identification of system constraints	N/A
☐ Identify boundary conditions	Appendix C
☐ Confirmation of adequate domestic supply and pressure	N/A
☐ Confirmation of adequate fire flow protection and confirmation that fire flow is calculated as per the Fire Underwriter's Survey. Output should show available fire flow at locations throughout the development.	Appendix C
☐ Provide a check of high pressures. If pressure is found to be high, an assessment is required to confirm the application of pressure reducing valves.	N/A
☐ Definition of phasing constraints. Hydraulic modeling is required to confirm servicing for all defined phases of the project including the ultimate design	N/A
☐ Address reliability requirements such as appropriate location of shut-off valves	N/A
☐ Check on the necessity of a pressure zone boundary modification.	N/A
☐ Reference to water supply analysis to show that major infrastructure is capable of delivering sufficient water for the proposed land use. This includes data that shows that the expected demands under average day, peak hour and fire flow conditions provide water within the required pressure range	Appendix C, Section 4.2 Proposed Water Servicing

☐ Description of the proposed water distribution network, including locations of proposed connections to the existing system, provisions for necessary looping, and appurtenances (valves, pressure reducing valves, valve chambers, and fire hydrants) including special metering provisions.	Site Servicing Plan (C101)
☐ Description of off-site required feedermains, booster pumping stations, and other water infrastructure that will be ultimately required to service proposed development, including financing, interim facilities, and timing of implementation.	N/A
☐ Confirmation that water demands are calculated based on the City of Ottawa Design Guidelines.	Appendix C
☐ Provision of a model schematic showing the boundary conditions locations, streets, parcels, and building locations for reference.	N/A

4.3 Development Servicing Report: Wastewater

Criteria	Location (if applicable)
☐ Summary of proposed design criteria (Note: Wet-weather flow criteria should not deviate from the City of Ottawa Sewer Design Guidelines. Monitored flow data from relatively new infrastructure cannot be used to justify capacity requirements for proposed infrastructure).	N/A
☐ Confirm consistency with Master Servicing Study and/or justifications for deviations.	N/A
☐ Consideration of local conditions that may contribute to extraneous flows that are higher than the recommended flows in the guidelines. This includes groundwater and soil conditions, and age and condition of sewers.	N/A
☐ Description of existing sanitary sewer available for discharge of wastewater from proposed development.	Section 5.2 Proposed Sanitary Servicing

☐ Verify available capacity in downstream sanitary sewer and/or identification of upgrades necessary to service the proposed development. (Reference can be made to previously completed Master Servicing Study if applicable)	Section 5.2 Proposed Sanitary Servicing
☐ Calculations related to dry-weather and wet-weather flow rates from the development in standard MOE sanitary sewer design table (Appendix 'C') format.	N/A
☐ Description of proposed sewer network including sewers, pumping stations, and forcemains.	Section 5.2 Proposed Sanitary Servicing
☐ Discussion of previously identified environmental constraints and impact on servicing (environmental constraints are related to limitations imposed on the development in order to preserve the physical condition of watercourses, vegetation, soil cover, as well as protecting against water quantity and quality).	N/A
☐ Pumping stations: impacts of proposed development on existing pumping stations or requirements for new pumping station to service development.	N/A
☐ Forcemain capacity in terms of operational redundancy, surge pressure and maximum flow velocity.	N/A
☐ Identification and implementation of the emergency overflow from sanitary pumping stations in relation to the hydraulic grade line to protect against basement flooding.	N/A
☐ Special considerations such as contamination, corrosive environment etc.	N/A

4.4 Development Servicing Report: Stormwater Checklist

Criteria	Location (if applicable)
☐ Description of drainage outlets and downstream constraints including legality of outlets (i.e. municipal drain, right-of-way, watercourse, or private property)	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ Analysis of available capacity in existing public infrastructure.	N/A
☐ A drawing showing the subject lands, its surroundings, the receiving watercourse, existing drainage patterns, and proposed drainage pattern.	Pre & Post-Development Plans
☐ Water quantity control objective (e.g. controlling post-development peak flows to pre-development level for storm events ranging from the 2 or 5-year event (dependent on the receiving sewer design) to 100-year return period); if other objectives are being applied, a rationale must be included with reference to hydrologic analyses of the potentially affected subwatersheds, taking into account long-term cumulative effects.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ Water Quality control objective (basic, normal or enhanced level of protection based on the sensitivities of the receiving watercourse) and storage requirements.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ Description of the stormwater management concept with facility locations and descriptions with references and supporting information.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ Set-back from private sewage disposal systems.	N/A
☐ Watercourse and hazard lands setbacks.	N/A
☐ Record of pre-consultation with the Ontario Ministry of Environment and the Conservation Authority that has jurisdiction on the affected watershed.	N/A
☐ Confirm consistency with sub-watershed and Master Servicing Study, if applicable study exists.	N/A
☐ Storage requirements (complete with calculations) and conveyance capacity for minor events (1:5-year return period) and major events (1:100-year return period).	Appendix G

☐ Identification of watercourses within the proposed development and how watercourses will be protected, or, if necessary, altered by the proposed development with applicable approvals.	Site Grading Plan (C101)
☐ Calculate pre-and post development peak flow rates including a description of existing site conditions and proposed impervious areas and drainage catchments in comparison to existing conditions.	Appendix G, Section 7.0 Proposed Stormwater Management
☐ Any proposed diversion of drainage catchment areas from one outlet to another.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ Proposed minor and major systems including locations and sizes of stormwater trunk sewers, and stormwater management facilities.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ If quantity control is not proposed, demonstration that downstream system has adequate capacity for the post-development flows up to and including the 100-year return period storm event.	N/A
☐ Identification of potential impacts to receiving watercourses	N/A
☐ Identification of municipal drains and related approval requirements.	N/A
☐ Descriptions of how the conveyance and storage capacity will be achieved for the development.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ 100-year flood levels and major flow routing to protect proposed development from flooding for establishing minimum building elevations (MBE) and overall grading.	Site Grading Plan (C101)
☐ Inclusion of hydraulic analysis including hydraulic grade line elevations.	N/A

☐ Description of approach to erosion and sediment control during construction for the protection of receiving watercourse or drainage corridors.	Section 8.0 Sediment & Erosion Control
☐ Identification of floodplains – proponent to obtain relevant floodplain information from the appropriate Conservation Authority. The proponent may be required to delineate floodplain elevations to the satisfaction of the Conservation Authority if such information is not available or if information does not match current conditions.	N/A
☐ Identification of fill constraints related to floodplain and geotechnical investigation.	N/A

4.5 Approval and Permit Requirements: Checklist

The Servicing Study shall provide a list of applicable permits and regulatory approvals necessary for the proposed development as well as the relevant issues affecting each approval. The approval and permitting shall include but not be limited to the following:

Criteria	Location (if applicable)
☐ Conservation Authority as the designated approval agency for modification of floodplain, potential impact on fish habitat, proposed works in or adjacent to a watercourse, cut/fill permits and Approval under Lakes and Rivers Improvement Act. The Conservation Authority is not the approval authority for the Lakes and Rivers Improvement Act. Where there are Conservation Authority regulations in place, approval under the Lakes and Rivers Improvement Act is not required, except in cases of dams as defined in the Act.	N/A
☐ Application for Certificate of Approval (CofA) under the Ontario Water Resources Act.	N/A
☐ Changes to Municipal Drains.	N/A
☐ Other permits (National Capital Commission, Parks Canada, Public Works and Government Services Canada, Ministry of Transportation etc.)	N/A

4.6 Conclusion Checklist

Criteria	Location (if applicable)
☐ Clearly stated conclusions and recommendations	Section 9.0 Summary Section 10.0 Recommendations
☐ Comments received from review agencies including the City of Ottawa and information on how the comments were addressed. Final sign-off from the responsible reviewing agency.	All are stamped
☐ All draft and final reports shall be signed and stamped by a professional Engineer registered in Ontario	All are stamped