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JFSA
WATER RESOURCES AND ENVIRONMENTAL CONSULTANTS

6150 THUNDER ROAD: FLOODPLAIN MAPPING

JULY 2021

Prepared For:

Avenue 31 Capital Inc.
401-222 Somerset Street West
Ottawa, Ontario
K2P 2G3
Tel: 613 903-7331

Prepared By:

J.F. Sabourin and Associates Inc.
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6150 THUNDER ROAD: FLOODPLAIN MAPPING

In Ottawa, Ontario

JULY 2021

Prepared for:
Avenue 31 Capital Inc.

Prepared by:

Jonathon Burnett, P.Eng
(*J.F. Sabourin and Associates Inc.*)

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1 Introduction

The following report documents and assesses the floodplain extents for the property located at 6150 Thunder Road in Ottawa. The site (16.71 ha) under existing conditions is undeveloped vegetated land, with several small drainage channels and a tributary watercourse running northeast to southwest through the site. This watercourse is a tributary to the Bear Brook and is referred to as the Bear Brook Trib in this report. The site at 6150 Thunder Road will ultimately be a 12.0 ha industrial park, surrounded by natural buffers. Figure 1 below outlines the approximate extent and location of the proposed development along with the location of the existing water feature that runs through the development.

As indicated in correspondence with South Nation Conservation (SNC) dated March 2, 2021, there is currently no official floodplain mapping for this area, although the regulatory floodplain located approximately 108 meters to the west of the site depicts a floodplain elevation of 76.60 m. The study also indicates a floodplain cross-section and elevation on the subject site (cross-section 244700, flood plain elevation 77.26 m). Although an initial analysis conducted by SNC found that a floodplain may exist on the site, the extents are uncertain. As directed by SNC “A floodplain analysis must be completed for the subject site, using updated hydraulic analysis, current land use, and available topographic data such as LiDAR”. See Attachment A for full correspondence.

In light of the lack of certainty with regards to the current floodplain extents within this site and with consideration of SNC’s direction, J.F. Sabourin and Associates Inc (JFSA) was commissioned by Avenue 31 Capital Inc. (Avenue 31) to complete a detailed hydrologic and hydraulic analysis to establish the floodplain extents. An accurately defined floodplain for this location is imperative, as it can greatly affect the amount of developable land within the proposed industrial park, and also controls the elevations of the various proposed infrastructure within the park (SWM pond outlet, storm sewer network and finished floor levels).

The following study includes the development of a detailed existing conditions hydrologic model. The results from this hydrologic study are then applied to a hydraulic model of the existing watercourses to quantify the water level throughout this reach of the Bear Brook Trib watercourse. Additional topographic surveys have been completed to assist in the development of both the hydrologic and hydraulic models. The following report outlines the development of hydrologic and hydraulic models and documents the findings of these analyses.

Figure 1: Site Boundary and Existing Watercourses

1.1 Background Data

The following section outlines the background data and information used to support and supplement this study:

1.1.1 Topographic Survey

A topographic survey of the 6150 Thunder Road site and associated watercourse/drains were completed by Annis O'Sullivan Vollebekk Ltd (AOV) in December 2020. This topographic data was used to capture the Bear Brook Trib channel geometry within the site and has been incorporated in the HEC-RAS Hydraulic model. Figures of this survey data have been provided in Attachment A.

1.1.2 LiDAR

LiDAR data flown by the City of Ottawa in 2020 has been acquired for this project. This LiDAR data were merged into a single GIS raster at a resolution of 1.0 m and then used to delineate the drainage areas and topographic condition (Time to Peak – Tp) of the existing lands within the study area, as well as the floodplain topography in the hydraulic model. A figure outlining the extent and elevation data provided by the LiDAR has been presented in Figure B1 in Attachment B.

2 Hydrology

Based on the hydrologic conditions present (primarily undeveloped lands) in conjunction with the information available at the time of the study, SWMHYMO was determined to be the most suitable hydrologic modelling software to assess this area. The following section outlines the input data used to develop the SWMHYMO model.

2.1 Model Development & Parameters

2.1.1 Drainage Areas

As identified above, bare earth LiDAR data was obtained for the study area. This data was imported to GIS software where watershed delineation algorithms were applied. Major known watercourses were taken from the Ontario Integrated Hydrologic data set to ensure any major flow obstructions such as roadways do not affect the delineation of the watersheds. Figure B2 in Attachment B provides a visual overview of the existing drainage areas within the study area, based on this topographic data.

2.1.2 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 B3 in Attachment B provides a visual overview of the respective land use data for each of the subcatchments within the study area. This land use data was also used to approximate the percent imperviousness for existing developed lands.

2.1.3 Soil/Infiltration Data

Soil data within the study area has been taken from Soil Survey Complex Data available on Land Information Ontario (LIO). Figure B4 in Attachment B provides a visual overview of the respective soil type data for each of the subcatchments within the study area, note that this soils data specifies the SCS hydrologic soil conditions (soil type A-D) for all locations. A full breakdown of the soil data for each drainage area has also been provided in Table B1 in Attachment B.

2.1.4 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. It is recommended instead 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.

$$CN^* = \frac{100}{1.879\left[\frac{100}{CN-1}\right]^{1.15} + 1}$$

Note that a substantial portion of the lands within this study area have been identified as “treed swamp” per the land use data from LIO. Based on Design Chart 1.09 of the MTO Drainage Management Manual, Lakes and Wetlands (including swamps) have a CN of 50, regardless of the defined soil type. As such a CN of 50 has been applied to a substantial portion of the study area that has been classified as treed swamp by the LIO data. Table B1 in Appendix B provides a full summary of the CN/CN* calculations for each of the subcatchments.

2.1.5 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 identified; refer to Figure B5 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 (FFA) 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 B2 in Attachment B, along with other time to peak values using alternative T_p calculation methods.

2.1.6 Channel Routing

To account for channel routing throughout the study area, channel topographic data from the survey completed by AOV has been used where possible. In locations where there was no topographic data, the LiDAR has been used to approximate the channel cross-section and associated flow parameters (length & slope). Figure B5 in Attachment B 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.

2.2 Proposed Conditions

As a part of this analysis, it has been assumed that the development at 6150 Thunder Road will meet pre-development release rates from the site via an assortment of stormwater management solutions such as a conventional SWM pond, major system storage and grass swales with check dams. The exact details of these features will be documented in forthcoming site plan control reports supporting the development at 6150 Thunder Road. As the development will match pre-development release rates, the proposed development will have no impacts on peak flows within this watercourse and therefore will not affect the hydrologic results determined under existing conditions.

2.3 Hydrologic Results

The following tables outline the peak flow at key locations within the study area based on the SWMHYMO simulations. Note that both the 3 Hour Chicago and 24 Hour SCS design storms were assessed in this study, with the 24 Hour SCS storm determined to be the critical storm for this study area.

Table 1: Critical Peak Flow (m^3/s) Summary

Location	Description	2-Year SCS 24Hr	5-Year SCS 24Hr	10-Year SCS 24Hr	25-Year SCS 24Hr	50-Year SCS 24Hr	100-Year SCS 24Hr
J2	Upstream extent at 6150 Thunder Road	0.192	0.339	0.451	0.604	0.731	0.874
J3	Downstream extent at 6150 Thunder Road	0.301	0.530	0.705	0.944	1.143	1.368
J4	600 m Upstream of Thunder Road Crossing	0.336	0.597	0.798	1.076	1.309	1.570
J5	150 m Upstream of Thunder Road Crossing	0.352	0.630	0.846	1.146	1.398	1.683
J6	Upstream side of Thunder Road Crossing	0.369	0.664	0.894	1.211	1.480	1.784
Bear Brook	Confluence with the Bear Brook	0.401	0.724	0.977	1.327	1.625	1.962

As a cursory comparative check, the flows determined by the above analysis at the upstream side of the Thunder Road crossing, downstream of the study area were compared with flows derived by OFAT using both the Index Flood Method and the Primary Multiple Regression. Based on this analysis the flows determined by JFSA at this location compare reasonably well with those derived by OFAT, with the flows determined by JFSA filling in between the two OFAT methods for the larger return periods (100-Year event).

Table 2: Peak Flow Comparison – Thunder Road Crossing (J6)

Return Period	JFSA Analysis (July 2021)	Index Flood Method with EPA	Primary Multiple Regression
2-Year Event	0.369	0.670	0.593
5-Year Event	0.664	0.870	0.939
10-Year Event	0.894	1.030	1.206
20-Year Event	-	1.190	1.479
50-Year Event	1.48	1.440	1.753
100-Year Event	1.784	1.630	2.038

3 Hydraulics

The detailed hydraulic analysis of the Bear Brook Tributary was conducted using the US Army Corps of Engineers HEC- RAS software (version 5.0.7). The purpose of this hydraulic analysis is to determine the regulatory floodplain elevation within the subject site at 6150 Thunder Road, based on the results of the hydrologic analysis outlined above.

3.1 Model Development & Parameters

Detailed topographic survey data was used to develop the hydraulic model cross-sections. Some cross-sections were supplemented with LiDAR data, in locations where the topographic survey was difficult to access or did not extend far enough to capture the full channel over banks. Model cross-sections were taken at locations where detailed topographic cross-sections were recorded, approximately every 50 m, to accurately capture the hydraulic characteristics and flow conveyance of the existing watercourse. Existing hydraulic infrastructure (culverts, bridges and weirs) on the respective watercourses were included in the model based on the details outlined in the topographic surveys.

This HEC-RAS model starts at the downstream side of the existing culvert that passes under Thunder Road near the subject site at 6150 Thunder Road and extends approximately 1.5 km downstream to the confluence with the Bear Brook. The downstream boundary condition at this location has been set as a normal depth with a slope of 0.1%. Given that the site is a considerable distance both vertically (5m) and horizontally (1.5km) from this downstream boundary, any adjustments to this boundary would have negligible impacts on the water level results determined in these simulations.

For all reaches in the models, a Manning's roughness value of 0.035 has been applied for the main channel and a Manning's of 0.08 has been applied for the overbanks. Bank markers were applied based on visual inspection of each cross-section geometry and reviewed with aerial photography. The channel flow lengths were determined based on the flow path distance between each cross-section, with the overbank flow lengths approximated based on the anticipated overbanks center of the flow. Ineffective flow areas and modifications to the expansion-contraction coefficients have also been applied to the two cross-sections upstream and downstream of the structure, with the upstream areas expanding at a rate of 1:1 and the downstream sections expanding at a rate of 1:4. Refer to Figure C1 in Attachment C for an overview of the model extents.

3.2 Results

3.2.1 Water Levels

Peak water levels were extracted from the HEC-RAS model at key locations within the study area. Table 3 below is a summary of peak water level values at these key locations for the various periods assessed in this analysis. Full summary tables have been provided in Attachment C; refer to Figure C1 for the location of the respective cross-sections.

Table 3: Peak Water Levels (m) at Key Locations

Model XS	Location	2-Year SCS 24Hr	5-Year SCS 24Hr	10-Year SCS 24Hr	25-Year SCS 24Hr	50-Year SCS 24Hr	100-Year SCS 24Hr
1578.3	Upstream extent at 6150 Thunder Road	76.06	76.14	76.20	76.27	76.33	76.38
1350	Downstream extent at 6150 Thunder Road	75.87	75.99	76.06	76.15	76.21	76.27
300	Upstream side of Thunder Road Crossing	72.19	72.27	72.32	72.37	72.42	72.47
50	Confluence with the Bear Brook	71.00	71.05	71.09	71.12	71.14	71.17

The table above indicates that the 100-year peak water levels within the proposed development range from 76.27 m - 76.38 m.

3.2.2 Result Tables

Complete typical HEC-RAS hydraulic summary tables of the updated floodplain modelling have been provided in Attachment C.

3.2.3 Long Section & Cross Section Plots

Long and cross-section plots have been extracted from the model and have been provided in Attachment C.

3.2.4 Floodplain Extent Maps

A floodplain extent map has been generated for this study area for the 100-Year event to visually quantify the extent of flooding within this watercourse. Note that these figures have been provided for visual purposes only for this report and should not be used for regulatory flood mapping without approval from the appropriate authorities. Refer to Figure C2 in Attachment C.

3.2.5 Flood Depth Maps

A floodplain depth map has been generated for this study area for the 100-Year event to visually quantify the depth of flooding throughout this watercourse. Note that these figures have been provided for visual purposes only for this report and should not be used as regulatory flood mapping without approval from the appropriate authorities. Refer to Figure C3 in Attachment C.

4 CONCLUSION

As documented above, J.F. Sabourin and Associates Inc (JFSA) has completed a detailed hydrologic and hydraulic analysis of the existing watercourse tributary to the Bear Brook from the crossing near 6150 Thunder Road through to the confluence with the Bear Brook. The results of the detailed hydrologic study were documented and compared with flows derived using OFAT, which showed a good correlation.

A hydraulic model of the watercourse was then developed using site-specific topographic survey data and LiDAR data from 2020, with typical model parameters applied to reflect the hydraulic conditions within this study area. The full suite of flows derived in the hydrologic study was applied to the hydraulic model to determine the peak water level elevations and floodplain extent throughout this reach. A complete summary of peak water levels has been provided and from this analysis, it was found that the 100-Year water level within the 6150 Thunder Road development ranges from an elevation of 76.27 m – 76.38 m. Floodplain extent and depth maps have been generated for this study area for the 100-Year event to visually quantify the extents of flooding related to this watercourse.

5 JFSA STATEMENT OF LIMITATIONS

J.F. Sabourin and Associates Inc. (JFSA) has prepared this report and performed the services described in this report, in a manner consistent with the level of care and skill normally exercised by members of the engineering and science professions currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and financial and physical constraints applicable to the services. No other warranty, expressed or implied, is made. This report has been prepared for the exclusive use of the client representative, for the specific site, objective, and purpose described to JFSA by the client. The factual data, interpretations and recommendations pertain to a specific project as described in this report and do not apply to any other project or site location. Any change of site conditions, purpose and/or development plans may alter the validity of the report. The report, which specifically includes all tables, figures and appendices, is based on data and information assembled by JFSA and is based on the conditions at the site and study area at the time of the work and the information provided by others. JFSA has relied in good faith on all information provided and does not accept responsibility for any deficiencies, misstatements, or inaccuracies contained in the report as a result of omissions, misinterpretation, or fraudulent acts of the persons contacted or errors or omissions in the reviewed documentation and data. Any use which a third party makes of this report, or any reliance on, or decisions to be made based on it, are the responsibilities of such third parties. JFSA accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

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Attachment A

Background Data

Conservation Partners
Partenaires en conservation

Mississippi Valley Conservation Authority | Rideau Valley Conservation Authority | South Nation Conservation / Conservation de la Nation Sud

March 2, 2021
File: SNC-1666-2021
ROLL No: 061460023012200
061460023012202

Ms. Anissa McAlpine
Planning, Infrastructure and Economic Development Department
City of Ottawa
110 Laurier Avenue West, 4th Floor
Ottawa, ON K1P 1J1

Subject: **Official Plan Amendment and Zoning Bylaw Amendment**
File No: D01-01-20-0025/D02-02-20-0130
6150 Thunder Road & 5368 Boundary Road
Lot 1, Concession 9 (Gloucester)
Thunder Rd Developments (2019) Inc.

Dear Ms. McAlpine,

The Conservation Partners Planning and Development Review Team has completed a review of the above noted applications, which are to amend the City's Official Plan and Zoning Bylaw to permit industrial, logistics transportation, and warehouse distribution uses on the properties. The proposal would amend the designation from General Rural Area to Rural Employment Area, and the zoning from Rural Countryside (RU) to Rural General Industrial (RG).

The following documents were included in our review:

i. Planning Rationale. Prepared by Avenue31. Dated December 2020.
ii. Environmental Impact Statement 6150 Thunder Road, Ottawa. Prepared by Kilgour and Associates Ltd. Dated December 16, 2020.

We have considered the environmental impacts of the proposed amendments, as outlined under Sections 2.1 (Natural Heritage) and 3.1 (Natural Hazards) of the Provincial Policy Statement (May 1, 2020) issued under Section 3 of the *Planning Act*. We offer the following comments on the applications.

Natural Hazards

A flood plain analysis has been completed for the lands to the west of the subject properties:

i. Bear Brook Floodplain Mapping Study – City of Gloucester. Prepared by SNRCA. Dated December 1997.
ii. Flood Risk Map Bear Brook (Gloucester). Prepared by The Base Mapping Co. Ltd., SNRCA and J.F Sabourin. Signed, stamped and dated November 23, 1999.

The study delineates the regulatory floodplain to a point approximately 108 meters to the west (cross-section 243800, flood plain elevation 76.60 m). The study also depicts a flood plain cross-section and elevation on the subject site (cross-section 244700, flood plain elevation 77.26 m). An initial analysis conducted by SNC has found that flood plain likely exists on the site, but the extents are uncertain.

1. The floodplain analysis must be completed for the subject site, using updated hydraulic analysis, current land use, and available topographic data such as LiDAR. The new floodplain should be compared to historic flood plain reports and data.
2. Multiple drainage ditches direct water to the main creek bisecting the properties. The current drainage patterns within and adjacent to the properties must be maintained.
3. It must be demonstrated that the development of the properties will have no negative upstream or downstream impacts on neighbouring properties.

Natural Heritage Features

The City of Ottawa's Official Plan Schedule L shows the Natural Heritage System on the adjacent lands to the west, and within the site along the south property boundary. The schedule shows mapped watercourses flowing westward through the property, and a tributary flowing from the south. During the pre-consultation for these applications, the Conservation Partners requested an Environmental Impact Statement (EIS) with an assessment of headwater drainage features. We offer the following comments on the submitted EIS.

1. The EIS must acknowledge whether there is adequate information to assess the significance of the adjacent natural heritage features. In the absence of adequate information, the EIS should provide conservative mitigation recommendations that reflect the uncertainty.
2. The findings of the headwater drainage feature assessment are required within the report. This includes the evaluation rationale and the management recommendations. Without this information, it is not possible to determine whether the EIS recommendations are appropriate. For example, what is the rationale for directing a drainage swale through an on-line pond, and how is this appropriate mitigation or compensation for the headwater features being removed.
3. There is an east-west channel at the south end of the site that is connected to the main R2 features. This channel should be evaluated, discussed as part of the headwater drainage feature assessment, and appropriate mitigation provided.
4. Mitigation recommendations should be provided for a stormwater facility to ensure there are no impacts to downstream water quality and the thermal regime.
5. The 2018 ELC mapping and any supporting soils and groundwater information should be provided within the EIS to fully understand the features and impacts of the proposed development.

Conservation Authority Act

South Nation Conservation (SNC) implements Ontario Regulation 170/06, Development Interference with Wetlands and Alterations to Shorelines and Watercourses, developed under Section 28 of the *Conservation Authorities Act*.

Any future development or site alteration within 15 metres inland of a regulatory floodplain boundary will require a permit from SNC, and restrictions may apply. In addition, any interference with a watercourse may require a permit from SNC and restrictions may apply.

Conclusion

The developability of the subject properties for the proposed uses may be constrained by natural hazards on the site, and by mitigation necessary for the protection of natural heritage features on the adjacent lands. It is recommended that these constrains be established before the applications are approved.

To ensure the safety of the future development and the surrounding properties, a Flood Plain Analysis must be completed. The Environmental Impact Statement should also be finalized to determine the appropriate zoning for the property.

I trust this review is to your satisfaction. If there are any questions or concerns, please feel free to contact our office.

Yours truly,

James Holland, MSc RPP
Watershed Planner
South Nation Conservation

SKETCH ILLUSTRATING TOPOGRAPHIC INFORMATION AT

6150 THUNDER ROAD
5336 to 5376 Boundary Road
CITY OF OTTAWA

Prepared by Annis, O'Sullivan, Vollebekk Ltd.

December 15, 2020.

PROPOSED BORE HOLES (Marked on Site)

MTM Nad83 (Original) Zone 9			
POINTNUMBER	NORTHING	EASTING	GROUND ELEVATION
BH No 1	5023306.75	387472.69	77.22
BH No 2	5023193.73	387485.63	76.76
BH No 3	5023212.61	387635.78	76.90
BH No 4	5023122.95	387602.13	77.32

Scale 1 : 1000

40 30 20 10 0 20 40 Metres

Metric

DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

Notes & Legend

Caution

This is NOT a Plan of Survey and shall not be used except for the purpose indicated in the title block.

Boundary information compiled from Survey Records

Elevations are geodetic CGVD28 and are related to NCC control Monument 019680159

CSP " Corrugated Steel Pipe

BH " Borehole

+65.00 " Location of Elevations

" Property Line

PARCEL A
8029 Sq.m.

PARCEL B
8022 Sq.m.

PARCEL C
8037 Sq.m.

PARCEL C
61098 Sq.m.
6.110 HA
15.098 Acres

PARCEL D
92320 Sq.m.
9.232 HA
22.813 Acres

PARCEL E
1308 Sq.m.
pin 04324 – 0156

PARCEL F
19432 Sq.m.
1.943 HA
4.80 Acres

PARCEL G
6 Sq.m.
pin 04324 – 0158
PART 1 PLAN 5R-4316
EASE. INST. N560057

THUNDER ROAD

BOUNDARY ROAD

LIMIT BETWEEN THE NORTH 1/2 AND THE SOUTH 1/2 OF LOT 1 CONCESSION 9 (GEOGRAPHIC TOWNSHIP OF CUMBERLAND) GLOUCESTER (FRONT)

LOT 1 CONCESSION 9 OTTAWA FRONT) GLOUCESTER ((GEOGRAPHIC TOWNSHIP OF CUMBERLAND)

CONCESSION 11 LOT 21

CONCESSION 11 LOT 22

pin 04324 – 0159

GEOGRAPHIC ROAD ALLOWANCE BETWEEN TOWNSHIPS OF CUMBERLAND AND GLOUCESTER

GEOGRAPHIC ROAD ALLOWANCE BETWEEN TOWNSHIPS OF CUMBERLAND AND GLOUCESTER REGIONAL ROAD NO. 41

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Ontario Land Surveyors

Job No. 17933-18 Ave31 Pt Lt 1 C9 OF GL S2 D2 | ST

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Montréal. QC
Québec. QC

Attachment B

Hydrologic Model

Legend

Terrain Elevation (m)

- 70
- 71.5
- 73
- 74.5
- 76
- 77.5
- 79
- 80.5
- 82
- 83.5
- 85
- Contours (0.5m)

N

SCALE: 1:12000

0 100 200 m

J.F. Sabourin and Associates Inc.
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Avenue31

6150 Thunder Road:
Floodplain Mapping

Figure B1: Terrain Overview

PROJECT	2120-21
DRAWN	MP
DATE	06-28-2021

Legend

- Model Nodes
- Watercourse
- Subcatchments:
  Area
  CN - Tp

N

SCALE: 1:8000

0 100 200 m

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6150 Thunder Road:
Floodplain Mapping

Figure B2: Subcatchments

PROJECT	2120-21
DRAWN	MP
DATE	06-28-2021

N

Legend

Landuse Type

- Built Up Area - Impervious
- Built Up Area - Pervious
- Deciduous Forest
- Forest
- Plantation
- Tilled
- Transportation
- Treed Swamp

SCALE: 1:8000

0 200 400 m

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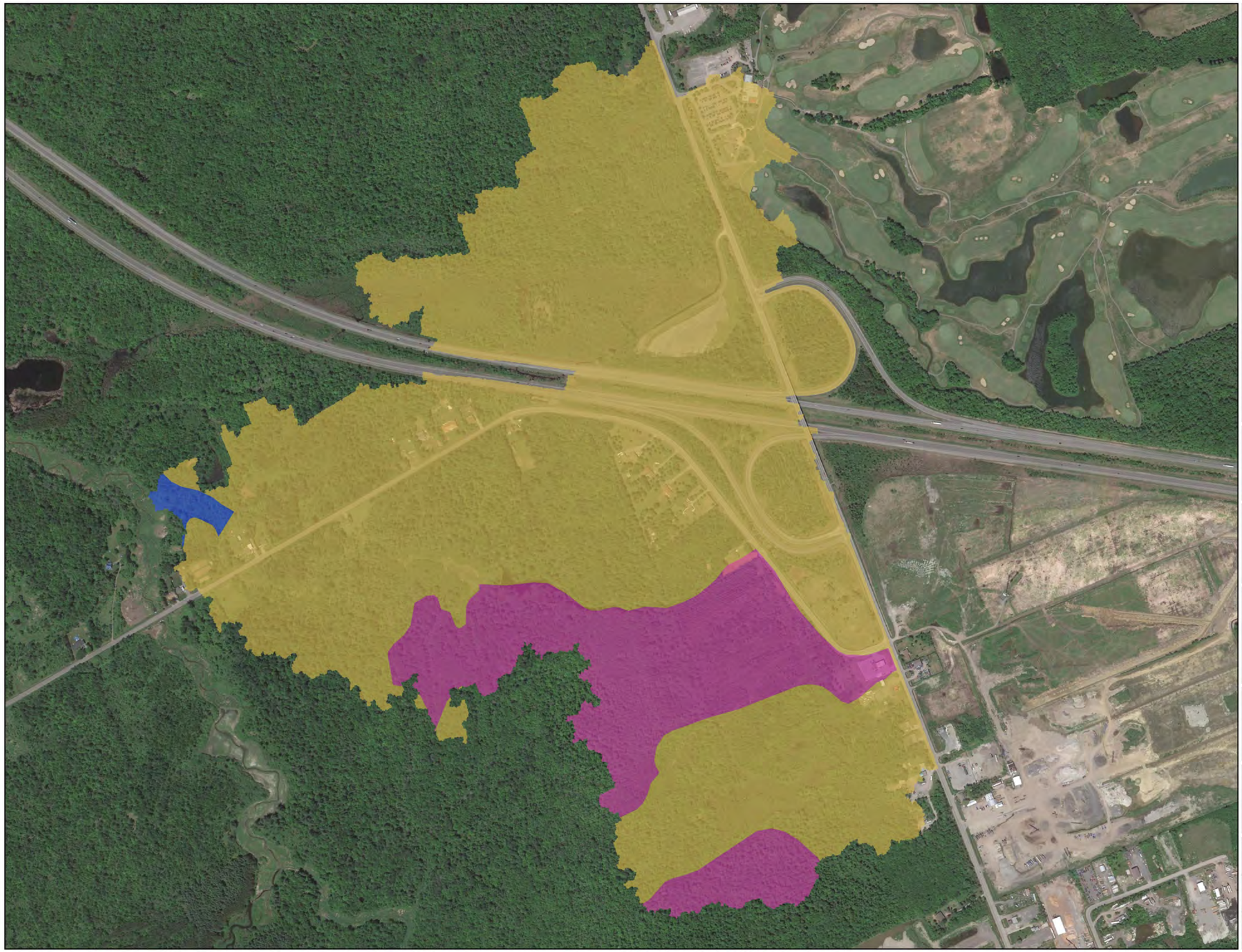
6150 Thunder Road:
Floodplain Mapping

Figure B3: Land Use

PROJECT	2120-21
DRAWN	MP
DATE	06-28-2021



N

Legend

Soil Type

- ALLENDALE (C)
- CHENEY (C)
- ERODED CHANNEL (N)

SCALE: 1:8000

0 200 400 m

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6150 Thunder Road:
Floodplain Mapping

Figure B4: Soil Types

PROJECT	2120-21
DRAWN	MP
DATE	06-28-2021

N

Legend

- Flow Paths
- Model Nodes
- Streams
- Subcatchments

SCALE: 1:8000

0 200 400 m

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6150 Thunder Road:
Floodplain Mapping

Figure B5: Flow Paths

PROJECT	2120-21
DRAWN	MP
DATE	06-28-2021

Table B1: Calculation of SCS Curve Number (CN) and Modified Curve Number (CN*)

A1 (25.946 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
14.158	Treed Swamp	CHENEY	C	Good	50	54.6%	27.3
8.311	Treed Swamp	ALLENDALE	C	Good	50	32.0%	16.0
3.143	Plantation	ALLENDALE	C	Good	70	12.1%	8.5
0.272	Deciduous Forest	CHENEY	C	Good	70	1.0%	0.7
0.051	Plantation	CHENEY	C	Good	70	0.2%	0.1
0.011	Deciduous Forest	ALLENDALE	C	Good	70	0.0%	0.0
						CN	**52.7**
						CN*	**38**

A2 (9.144 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
3.127	Built Up Area - Impervious	CHENEY	C	Good	98	34.2%	33.5
2.850	Treed Swamp	CHENEY	C	Good	50	31.2%	15.6
2.110	Plantation	CHENEY	C	Good	70	23.1%	16.2
1.033	Transportation	CHENEY	C	Good	98	11.3%	11.1
0.127	Treed Swamp	ALLENDALE	C	Good	50	1.4%	0.7
0.013	Plantation	ALLENDALE	C	Good	70	0.1%	0.1
0.010	Transportation	ALLENDALE	C	Good	98	0.1%	0.1
						CN	**77.2**
						CN*	**68**

A3 (10.53 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
4.842	Treed Swamp	CHENEY	C	Good	50	46.0%	23.0
2.096	Treed Swamp	ALLENDALE	C	Good	50	19.9%	10.0
1.928	Plantation	ALLENDALE	C	Good	70	18.3%	12.8
0.548	Transportation	CHENEY	C	Good	98	5.2%	5.1
0.461	Built Up Area - Impervious	ALLENDALE	C	Good	98	4.4%	4.3
0.426	Built Up Area - Impervious	CHENEY	C	Good	98	4.0%	4.0
0.229	Transportation	ALLENDALE	C	Good	98	2.2%	2.1
						CN	**61.2**
						CN*	**47**

HWY-1 (2.364 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
1.225	Transportation	CHENEY	C	Good	98	51.8%	50.8
1.139	Tilled	CHENEY	C	Good	74	48.2%	35.7
						CN	**86.4**
						CN*	**82**

INT-1 (4.388 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
2.410	Treed Swamp	CHENEY	C	Good	50	54.9%	27.5
1.935	Transportation	CHENEY	C	Good	98	44.1%	43.2
0.035	Tilled	CHENEY	C	Good	74	0.8%	0.6
0.008	Forest	CHENEY	C	Good	70	0.2%	0.1
						CN	**71.4**
						CN*	**60**

Table B1: Calculation of SCS Curve Number (CN) and Modified Curve Number (CN*)

INT-2 (3.61 ha)

Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
2.755	Treed Swamp	CHENEY	C	Good	50	76.3%	38.2
0.826	Transportation	CHENEY	C	Good	98	22.9%	22.4
0.016	Transportation	ALLENDALE	C	Good	98	0.4%	0.4
0.013	Tilled	CHENEY	C	Good	74	0.4%	0.3
						CN	**61.3**
						CN*	**47**

INT-3 (5.712 ha)

Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
2.874	Treed Swamp	CHENEY	C	Good	50	50.3%	25.2
1.997	Transportation	CHENEY	C	Good	98	35.0%	34.3
0.465	Forest	CHENEY	C	Good	70	8.1%	5.7
0.376	Tilled	CHENEY	C	Good	74	6.6%	4.9
						CN	**70.0**
						CN*	**58**

NORTH-1 (34.701 ha)

Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
31.601	Treed Swamp	CHENEY	C	Good	50	91.1%	45.5
1.699	Transportation	CHENEY	C	Good	98	4.9%	4.8
1.200	Deciduous Forest	CHENEY	C	Good	70	3.5%	2.4
0.201	Tilled	CHENEY	C	Good	74	0.6%	0.4
						CN	**53.2**
						CN*	**38**

NORTH-2 (12.444 ha)

Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
6.154	Treed Swamp	CHENEY	C	Good	50	49.5%	24.7
4.287	Built Up Area - Pervious	CHENEY	C	Good	74	34.5%	25.5
1.898	Transportation	CHENEY	C	Good	98	15.3%	14.9
0.106	Tilled	CHENEY	C	Good	74	0.9%	0.6
						CN	**65.8**
						CN*	**53**

SOUTH-1 (20.21 ha)

Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
9.970	Treed Swamp	ALLENDALE	C	Good	50	49.3%	24.7
9.459	Treed Swamp	CHENEY	C	Good	50	46.8%	23.4
0.001	Built Up Area - Impervious	CHENEY	C	Good	98	0.0%	0.0
0.780	Deciduous Forest	ALLENDALE	C	Good	70	3.9%	2.7
						CN	**50.8**
						CN*	**36**

SOUTH-2 (11.612 ha)

Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.450	Transportation	CHENEY	C	Good	98	3.9%	3.8
10.759	Treed Swamp	CHENEY	C	Good	50	92.7%	46.3
0.404	Treed Swamp	ALLENDALE	C	Good	50	3.5%	1.7
						CN	**51.9**
						CN*	**37**

Table B1: Calculation of SCS Curve Number (CN) and Modified Curve Number (CN*)

SOUTH-3 (7.982 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.340	Transportation	CHENEY	C	Good	98	4.3%	4.2
0.222	Treed Swamp	ALLENDALE	C	Good	50	2.8%	1.4
5.293	Treed Swamp	CHENEY	C	Good	50	66.3%	33.2
0.005	Built Up Area - Pervious	CHENEY	C	Good	79	0.1%	0.0
2.095	Deciduous Forest	CHENEY	C	Good	70	26.2%	18.4
						CN	**57.1**
						CN*	**43**

SOUTH-4 (14.985 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.129	Tilled	CHENEY	C	Fair	79	0.9%	0.7
0.179	Deciduous Forest	ERODED CHANNEL	N	Fair	73	1.2%	0.9
0.714	Deciduous Forest	CHENEY	C	Fair	73	4.8%	3.5
0.884	Treed Swamp	ERODED CHANNEL	N	Fair	50	5.9%	2.9
0.884	Transportation	CHENEY	C	Fair	98	5.9%	5.8
12.194	Treed Swamp	CHENEY	C	Fair	50	81.4%	40.7
						CN	**54.4**
						CN*	**40**

Table A2: Time to Peak Calculations

Parameter	Units	A1	A2	A3	HWY-1	INT-1	INT-2	INT-3	NORTH-1	NORTH-2	SOUTH-1	SOUTH-2	SOUTH-3	SOUTH-4
Area	ha	25.946	9.144	10.530	2.364	4.388	3.610	5.712	34.701	12.444	20.210	11.612	7.982	14.985
CN*	-	38	68	47	82	60	47	58	38	53	36	37	43	40
C	-	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Length of Channel	m	1078	563	883	572	1052	384	424	2880	939	806	705	658	1144
	ft	3536	1846	2897	1878	3450	1260	1390	9450	3081	2644	2313	2159	3754
Elevation of Head Water	m	77.41	77.74	77.69	77.71	78.56	77.36	78.12	78.82	80.12	76.77	77.23	76.50	77.46
	ft	254	255	255	255	258	254	256	259	263	252	253	251	254
Elevation of Outlet	m	76.19	76.20	76.21	76.43	76.27	76.37	76.61	76.96	76.44	74.81	72.83	71.89	70.46
	ft	250	250	250	251	250	251	251	253	251	245	239	236	231
Average Slope	m/m	0.11%	0.27%	0.17%	0.22%	0.22%	0.26%	0.36%	0.06%	0.39%	0.24%	0.62%	0.70%	0.61%
	ft/ft	0.11%	0.27%	0.17%	0.22%	0.22%	0.26%	0.36%	0.06%	0.39%	0.24%	0.62%	0.70%	0.61%
Kirpich														
Time of Concentration	mins	57	25	42	27	44	19	18	152	32	34	21	19	31
Time to Peak	min	38	17	28	18	29	13	12	101	21	23	14	13	21
Time to Peak	Hours	0.64	0.28	0.47	0.30	0.49	0.21	0.20	1.69	0.36	0.38	0.24	0.22	0.35
FAA														
Time of Concentration	mins	188	101	150	109	149	85	80	371	116	126	86	80	110
Time to Peak	mins	125	67	100	73	100	57	54	247	77	84	57	53	74
Time to Peak	Hours	2.09	1.12	1.66	1.21	1.66	0.95	0.89	4.12	1.29	1.40	0.96	0.89	1.23
Barnsby Williams														
Time of Concentration	mins	69	34	57	41	71	25	25	201	51	46	35	33	55
Time to Peak	mins	46	22	38	27	47	17	17	134	34	30	23	22	37
Time to Peak	Hours	0.77	0.37	0.64	0.45	0.79	0.28	0.28	2.23	0.56	0.51	0.39	0.37	0.62
SCS														
Time of Concentration	mins	805	138	434	105	314	179	125	2302	257	461	250	190	344
Time to Peak	mins	537	92	289	70	209	119	83	1535	172	307	167	127	229
Time to Peak	Hours	8.94	1.53	4.82	1.17	3.49	1.98	1.38	25.58	2.86	5.12	2.78	2.11	3.82
Selected Method														
FAA														
Time to Peak	min	125	67	100	73	100	57	54	247	77	84	57	53	74
Time to Peak	Hours	2.09	1.12	1.66	1.21	1.66	0.95	0.89	4.12	1.29	1.40	0.96	0.89	1.23

Note:

All methods calculated as per Appendix A of the SWMHYMO manual

Time to Peak calculated as 2/3 Time of concentration

```
20    Metric units / ID numbers OFF
*#*************************************************************************
*#  SWMHYMO  / INPUT DATA FILE
*#*************************************************************************
*#  Project Name: [THUNDER ROAD]    Project Number: [2128]
*#  Date        : 04-28-2021
*#  Modeller    : [J.B]
*#  Company     : JFSAinc.
*#  License #   :  2549237
*#*************************************************************************
* Model Developed to assess the existing hydrologic conditions on the Bear Brook
* tributary near 6150 Thunder Road
*#*************************************************************************

START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[001]
                   ["25MMC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
READ STORM          STORM_FILENAME=["storm.001"]
*%-----------------|-------------------------------------------------------|
DEFAULT VALUES      ICASEdef=[2],  read values only
                    DEFVAL_FILENAME=["Ottawa.val"]
*%-----------------|-------------------------------------------------------|
* DRAINAGE AREAS NORTH OF HIGHWAY
*%-----------------|-------------------------------------------------------|
CALIB NASHYD        NHYD=["NORTH-1"], DT=[1](min), AREA=[34.701](ha),
                    DWF=[0](cms), CN/C=[38.1], IA=[4.67](mm), N=[3], TP=[4.12](hrs),
                    RAINFALL[ , , -1]
*%-----------------|-------------------------------------------------------|
CALIB NASHYD        NHYD=["NORTH-2"], DT=[1](min), AREA=[12.444](ha),
                    DWF=[0](cms), CN/C=[53.0], IA=[4.67](mm), N=[3], TP=[1.29](hrs),
                    RAINFALL[ , , -1]
*%-----------------|-------------------------------------------------------|
CALIB NASHYD        NHYD=["HWY-1"], DT=[ 1](min), AREA=[2.364](ha),
                    DWF=[0](cms), CN/C=[81.7], IA=[4.67](mm), N=[3], TP=[1.21 ](hrs),
                    RAINFALL[ , , -1]
*%-----------------|-------------------------------------------------------|
*ADD AREAS UPSTREAM OF HIGHWAY
ADD HYD             NHYDsum=["J1"], NHYDs to add=["NORTH-1"+"NORTH-2"+"HWY-1"]
*%-----------------|-------------------------------------------------------|
* ROUTE UPSTREM FLOWS TO THUNDER ROAD
ROUTE CHANNEL       NHYDout=["R1"], NHYDin=["J1"],  RDT=[1](min),
                    CHLGTH=[ 478 ](m),  CHSLOPE=[0.44](%), FPSLOPE=[0.44](%),
                    SECNUM=[ 1 ],       NSEG=[ 3 ]
                    ( SEGROUGH, SEGDIST (m))=[0.05, 2.49, -0.035, 8.73, 0.05, 26.18]
                    NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0,76.83]
                                                   [1.25,76.8]
                                                   [2.49,76.64]
                                                   [3.74,76.45]
                                                   [4.99,76.22]
                                                   [6.23,76.3]
                                                   [7.48,76.52]
                                                   [8.73,76.58]
                                                   [9.97,76.61]
                                                   [22.44,76.62]
                                                   [23.69,76.7]
                                                   [24.93,76.75]
                                                   [26.18,76.85]
*%-----------------|-------------------------------------------------------|
* DRAINAGE AREAS AROUND HIGHWAY INTERCHANGE
*%-----------------|-------------------------------------------------------|
CALIB NASHYD        NHYD=["INT-1"], DT=[ 1](min), AREA=[4.388](ha),
                    DWF=[0](cms), CN/C=[60.4 ], IA=[4.67](mm), N=[3], TP=[1.66 ](hrs),
                    RAINFALL[ , , -1]
*%-----------------|-------------------------------------------------------|
CALIB NASHYD        NHYD=["INT-2"], DT=[ 1](min), AREA=[3.61](ha),
```

```
                    DWF=[0](cms), CN/C=[47.4 ], IA=[4.67](mm), N=[3], TP=[0.95 ](hrs),
                    RAINFALL[ , , -1]
*%-----------------|-------------------------------------------------------------|
CALIB NASHYD        NHYD=["A3"], DT=[ 1](min), AREA=[10.53](ha),
                    DWF=[0](cms), CN/C=[47.4 ], IA=[4.67](mm), N=[3], TP=[1.66 ](hrs),
                    RAINFALL[ , , -1]
*%-----------------|-------------------------------------------------------------|
CALIB NASHYD        NHYD=["INT-3"], DT=[ 1](min), AREA=[5.712](ha),
                    DWF=[0](cms), CN/C=[58.5 ], IA=[4.67](mm), N=[3], TP=[0.89 ](hrs),
                    RAINFALL[ , , -1]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["J2"], NHYDs to add=["R1"+"INT-1"+"INT-2"+"INT-3"+"A3"]
*%-----------------|-------------------------------------------------------------|
ROUTE CHANNEL       NHYDout=["R2"], NHYDin=["J2"],  RDT=[1](min),
                    CHLGTH=[ 359 ](m),  CHSLOPE=[0.56](%), FPSLOPE=[0.56](%),
                    SECNUM=[ 1 ],       NSEG=[ 3 ]
                    ( SEGROUGH, SEGDIST (m))=[0.05, 15.18, -0.035, 25.29, 0.05, 30.35]
                    NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0,77.2]
                                                   [1.26,77.14]
                                                   [2.53,77.09]
                                                   [6.32,77.02]
                                                   [7.59,77.01]
                                                   [8.85,76.99]
                                                   [11.38,76.96]
                                                   [13.91,76.92]
                                                   [15.18,76.86]
                                                   [16.44,76.63]
                                                   [17.71,76.28]
                                                   [18.97,76.24]
                                                   [20.23,76.23]
                                                   [21.5,76.33]
                                                   [22.76,76.62]
                                                   [24.03,76.73]
                                                   [25.29,76.8]
                                                   [27.82,76.8]
                                                   [29.09,76.81]
                                                   [30.35,77]
                                                   [-1,-1]
*%-----------------|-------------------------------------------------------------|
* DRAINAGE AREAS DOPWNSTREAM OF THUNDERROAD
*%-----------------|-------------------------------------------------------------|
CALIB NASHYD        NHYD=["A1"], DT=[ 1](min), AREA=[25.946](ha),
                    DWF=[0](cms), CN/C=[37.6 ], IA=[4.67](mm), N=[3], TP=[2.09 ](hrs),
                    RAINFALL[ , , -1]
*%-----------------|-------------------------------------------------------------|
CALIB NASHYD        NHYD=["A2"], DT=[ 1](min), AREA=[9.144](ha),
                    DWF=[0](cms), CN/C=[68.4 ], IA=[4.67](mm), N=[3], TP=[1.12 ](hrs),
                    RAINFALL[ , , -1]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["J3"], NHYDs to add=["R2"+"A1"+"A2"]
*%-----------------|-------------------------------------------------------------|
ROUTE CHANNEL       NHYDout=["R3"], NHYDin=["J3"],  RDT=[1](min),
                    CHLGTH=[ 396 ](m),  CHSLOPE=[0.305](%), FPSLOPE=[0.305](%),
                    SECNUM=[ 1 ],       NSEG=[ 3 ]
                    ( SEGROUGH, SEGDIST (m))=[0.05, 20.3, -0.035, 25.43, 0.05, 43.65]
                    NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0,75.94]
                                                   [5.08,75.73]
                                                   [10.15,75.63]
                                                   [15.23,75.56]
                                                   [20.3,75.36]
                                                   [21.32,75.15]
                                                   [22.33,75.04]
                                                   [23.35,74.98]
                                                   [24.36,75.13]
```

```
                                                [25.38,75.21]
                                                [30.45,75.36]
                                                [35.53,75.5]
                                                [40.61,75.85]
                                                [43.65,76.04]
                                                [-1,-1]
*%-----------------|-------------------------------------------------------|
CALIB NASHYD        NHYD=["SOUTH-1"], DT=[1](min), AREA=[20.21](ha),
                    DWF=[0](cms), CN/C=[35.5 ], IA=[4.67](mm), N=[3], TP=[1.4 ](hrs),
                    RAINFALL[ , , -1]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J4"], NHYDs to add=["R3"+"SOUTH-1"]
*%-----------------|-------------------------------------------------------|
ROUTE CHANNEL       NHYDout=["R4"], NHYDin=["J4"],  RDT=[1](min),
                    CHLGTH=[ 482 ](m),  CHSLOPE=[0.41](%), FPSLOPE=[0.41](%),
                    SECNUM=[ 1 ],       NSEG=[ 3 ]
                    ( SEGROUGH, SEGDIST (m))=[0.05, 20.48, -0.035, 24.1, 0.05, 40.97]
                    NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 75.19]
                                                [4.82, 75.02]
                                                [10.84, 74.46]
                                                [20.48, 73.88]
                                                [21.69, 73.71]
                                                [22.89, 73.79]
                                                [24.1, 74.07]
                                                [25.3, 74.18]
                                                [30.12, 74.6]
                                                [34.94, 74.69]
                                                [40.97,75.14]
                                                [-1,-1]
*%-----------------|-------------------------------------------------------|
CALIB NASHYD        NHYD=["SOUTH-2"], DT=[1](min), AREA=[11.612](ha),
                    DWF=[0](cms), CN/C=[36.7 ], IA=[4.67](mm), N=[3], TP=[0.96 ](hrs),
                    RAINFALL[ , , -1]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J5"], NHYDs to add=["R4"+"SOUTH-2"]
*%-----------------|-------------------------------------------------------|
ROUTE CHANNEL       NHYDout=["R5"], NHYDin=["J5"],  RDT=[1](min),
                    CHLGTH=[181](m),  CHSLOPE=[0.5](%), FPSLOPE=[0.5](%),
                    SECNUM=[ 1 ],       NSEG=[ 3 ]
                    ( SEGROUGH, SEGDIST (m))=[0.05, 42.50, -0.035, 47.69, 0.05, 65.31]
                    NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0.000, 75.10]
                                                [10.37, 74.34]
                                                [20.73, 73.72]
                                                [30.06, 73.11]
                                                [42.50, 72.86]
                                                [45.61, 72.59]
                                                [47.69, 72.82]
                                                [60.13, 73.68]
                                                [65.31, 74.98]
                                                [-1,-1]
*%-----------------|-------------------------------------------------------|
CALIB NASHYD        NHYD=["SOUTH-3"], DT=[1](min), AREA=[7.982](ha),
                    DWF=[0](cms), CN/C=[42.6 ], IA=[4.67](mm), N=[3], TP=[0.89 ](hrs),
                    RAINFALL[ , , -1]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J6"], NHYDs to add=["R5"+"SOUTH-3"]
*%-----------------|-------------------------------------------------------|
ROUTE CHANNEL       NHYDout=["R6"], NHYDin=["J6"],  RDT=[1](min),
                    CHLGTH=[ 323 ](m),  CHSLOPE=[0.44](%), FPSLOPE=[0.44](%),
                    SECNUM=[ 1 ],       NSEG=[ 3 ]
                    ( SEGROUGH, SEGDIST (m))=[0.05, 20.48, -0.035, 24.1, 0.05, 40.97]
                    NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0,75.19]
                                                [4.82,75.02]
```

```
                                                    [10.84,74.46]
                                                    [20.48,73.88]
                                                    [21.69,73.71]
                                                    [22.89,73.79]
                                                    [24.1,74.07]
                                                    [25.3,74.18]
                                                    [30.12,74.6]
                                                    [34.94,74.69]
                                                    [40.97,75.14]
                                                    [-1,-1]
*%-----------------|-------------------------------------------------------|
CALIB NASHYD        NHYD=["SOUTH-4"], DT=[1](min), AREA=[14.985](ha),
                    DWF=[0](cms), CN/C=[39.5 ], IA=[4.67](mm), N=[3], TP=[1.23 ](hrs),
                    RAINFALL[ , , -1]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["Total"], NHYDs to add=["R6"+"SOUTH-4"]
*%-----------------|-------------------------------------------------------|
*#=======================================================================
*                            DESIGN STORMS
*#=======================================================================
*%  25 mm Storm based on 2-Year, 3-Hour Chicago Storm
*START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[001]
*                   ["25MMC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  2-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[002]
                   ["002YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  5-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[005]
                   ["005YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  10-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[010]
                   ["010YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  25-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[025]
                   ["025YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  50-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[050]
                   ["050YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  100-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[099]
                   ["100YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  2-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[102]
                   ["SC24002x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  5-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[105]
                   ["SC24005x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  10-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[110]
                   ["SC24010x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  25-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[125]
                   ["SC24025x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  50-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[150]
```

```
                    ["SC24050x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  100-Year, 24-Hour SCS Storm
START                TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[199]
                    ["SC24100x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  July 1st, 1979 Storm - Ottawa International Airport
*START                TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[979]
*                    ["19790701.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  August 4th, 1988 Storm - Ottawa International Airport
*START                TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[988]
*                    ["19880804.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  August 8th, 1996 Storm - Ottawa International Airport
*START                TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[996]
*                    ["19960808.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]
*                    ["100YC3H+.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
FINISH
```

```
00001>  ------------------------------------------------------------------------------
00002>
00003>  SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO          222    000    11   5555   ---------
00004>  S       W W W   MM MM   H   H    Y Y    MM MM   O   O          2   2   0   0  11   5
00005>  SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O          2   0   0  11   5       Ver 5.500
00006>      S   WW WW   M   M   H   H     Y     M   M   O   O        222   0   0  11   555     FEB  2015
00007>  SSSSS   W   W   M   M   H   H     Y     M   M    OOO         2     0   0  11     5   ---------
00008>                                                               2     0   0  11     5   # 2549237
00009>          StormWater Management HYdrologic Model               222    000   11   555   ---------
00010>
00011>  ************************************************************************************
00012>  ***********************************************  SWMHYMO Ver 5.500  ********************
00013>  ***************************  A single event and continuous hydrologic simulation model  *
00014>  ***************************       based on the principles of HYMO and its successors    *
00015>  ***************************              OTTHYMO-83 and OTTHYMO-89.                      *
00016>  ************************************************************************************
00017>  ***************** Distributed by:  J.F. Sabourin and Associates Inc.          ********
00018>  *****************                  Ottawa, Ontario: (613) 836-3884           ********
00019>  *****************                  Gatineau, Quebec: (819) 243-6858          ********
00020>  *****************                  E-Mail: swmhymo@jfsa.com                  ********
00021>  ************************************************************************************
00022>
00023>  ************************************************************************************
00024>  ******************* Licensed user: JFSAinc.                                 ********
00025>  ******************                 Ottawa                    SERIAL#:2549237  ********
00026>  ************************************************************************************
00027>
00028>  ************************************************************************************
00029>  ***************************  PROGRAM ARRAY DIMENSIONS  ******************************
00030>  ***************************  Maximum value for ID numbers  :    11                 *
00031>  ***************************  Max. number of rainfall points: 105408                *
00032>  ***************************  Max. number of flow points   : 105408                 *
00033>  ************************************************************************************
00034>
00035>
00036>  ********************************  S U M M A R Y   O U T P U T  ************************
00037>  ************************************************************************************
00038>  *                    RUN DATE: 2021-07-27     TIME: 09:06:17     RUN COUNTER: 004868  *
00039>  ************************************************************************************
00040>  * Input   file: C:\Temp\Design\THUND_v01.dat                                        *
00041>  * Output  file: C:\Temp\Design\THUND_v01.out                                       *
00042>  * Summary file: C:\Temp\Design\THUND_v01.sum                                       *
00043>  * User comments:                                                                  *
00044>  * 1:_____________________________________________________________________________*
00045>  * 2:_____________________________________________________________________________*
00046>  * 3:_____________________________________________________________________________*
00047>  ************************************************************************************
00048>
00049>
00050>  #*************************************************************************
00051>  #  SWMHYMO  / INPUT DATA FILE
00052>  #*************************************************************************
00053>  #  Project Name: [THUNDER ROAD]    Project Number: [2128]
00054>  #  Date        : 04-28-2021
00055>  #  Modeller    : [J.B]
00056>  #  Company     : JFSAinc.
00057>  #  License #   :  2549237
00058>  #*************************************************************************
00059>  #*************************************************************************
00060>   RUN#:COMMAND#
00061>  R0001:C00001------------------------------------------------------------------------
00062>       START
00063>         [TZERO =      .00 hrs on       0]
00064>         [METOUT=   2    (1=imperial, 2=metric output)]
00065>         [NSTORM=   1 ]
00066>         [NRUN   = 0001 ]
00067>  R0001:C00002------------------------------------------------------------------------
00068>       READ STORM
00069>         Filename = storm.001
00070>         Comment  = 25 MM BASED ON CHICAGO STORM 2 Year, 3 Hours
00071>         [SDT=10.00:SDUR=   3.00:PTOT=  25.00]
00072>  R0001:C00003------------------------------------------------------------------------
00073>       DEFAULT VALUES
00074>         Filename = C:\Temp\Design\Ottawa.val
00075>         ICASEdv  = 2 (read values only)
00076>  R0001:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00077>       CALIB NASHYD              1.0 01:NORTH-1       34.70     .012 No_date    5:41     .95 .038     .000
00078>         [CN= 38.1: N= 3.00: Tp= 4.12]
00079>  R0001:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00080>       CALIB NASHYD              1.0 01:NORTH-2       12.44     .020 No_date    2:51    1.68 .067     .000
00081>         [CN= 53.0: N= 3.00: Tp= 1.29]
00082>  R0001:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00083>       CALIB NASHYD              1.0 01:HWY-1          2.36     .013 No_date    2:41    5.35 .214     .000
00084>         [CN= 81.7: N= 3.00: Tp= 1.21]
00085>  R0001:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00086>       ADD HYD                   1.0 02:NORTH-1       34.70     .012 No_date    5:41     .95  n/a     .000
00087>                           +     1.0 02:NORTH-2       12.44     .020 No_date    2:51    1.68  n/a     .000
00088>                           +     1.0 02:HWY-1          2.36     .013 No_date    2:41    5.35  n/a     .000
00089>                         SUM=    1.0 01:J1            49.51     .038 No_date    3:03    1.35  n/a     .000
00090>  R0001:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00091>       ROUTE CHANNEL     ->    1.0 02:J1            49.51     .038 No_date    3:03    1.35  n/a     .000
00092>         [RDT= 1.00] out<-     1.0 01:R1            49.51     .036 No_date    3:25    1.35  n/a     .000
00093>          [L/S/n=  478./ .440/.035]
00094>          {Vmax=  .290:Dmax=  .111}
00095>  R0001:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00096>       CALIB NASHYD              1.0 01:INT-1          4.39     .008 No_date    3:17    2.21 .088     .000
00097>         [CN= 60.4: N= 3.00: Tp= 1.66]
00098>  R0001:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00099>       CALIB NASHYD              1.0 01:INT-2          3.61     .006 No_date    2:22    1.37 .055     .000
00100>         [CN= 47.4: N= 3.00: Tp=  .95]
00101>  R0001:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00102>       CALIB NASHYD              1.0 01:A3            10.53     .011 No_date    3:18    1.37 .055     .000
00103>         [CN= 47.4: N= 3.00: Tp= 1.66]
00104>  R0001:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00105>       CALIB NASHYD              1.0 01:INT-3          5.71     .014 No_date    2:16    2.06 .082     .000
00106>         [CN= 58.5: N= 3.00: Tp=  .89]
00107>  R0001:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00108>       ADD HYD                   1.0 02:R1            49.51     .036 No_date    3:25    1.35  n/a     .000
00109>                           +     1.0 02:INT-1          4.39     .008 No_date    3:17    2.21  n/a     .000
00110>                           +     1.0 02:INT-2          3.61     .006 No_date    2:22    1.37  n/a     .000
00111>                           +     1.0 02:INT-3          5.71     .014 No_date    2:16    2.06  n/a     .000
00112>                           +     1.0 02:A3            10.53     .011 No_date    3:18    1.37  n/a     .000
00113>                         SUM=    1.0 01:J2            73.75     .070 No_date    3:07    1.46  n/a     .000
00114>  R0001:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00115>       ROUTE CHANNEL     ->    1.0 02:J2            73.75     .070 No_date    3:07    1.46  n/a     .000
00116>         [RDT= 1.00] out<-     1.0 01:R2            73.75     .068 No_date    3:22    1.46  n/a     .000
00117>          [L/S/n=  359./ .560/.035]
00118>          {Vmax=  .312:Dmax=  .083}
00119>  R0001:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00120>       CALIB NASHYD              1.0 01:A1            25.95     .016 No_date    3:43     .94 .037     .000
00121>         [CN= 37.6: N= 3.00: Tp= 2.09]
00122>  R0001:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00123>       CALIB NASHYD              1.0 01:A2             9.14     .028 No_date    2:35    3.00 .120     .000
00124>         [CN= 68.4: N= 3.00: Tp= 1.12]
00125>  R0001:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00126>       ADD HYD                   1.0 02:R2            73.75     .068 No_date    3:22    1.46  n/a     .000
00127>                           +     1.0 02:A1            25.95     .016 No_date    3:43     .94  n/a     .000
00128>                           +     1.0 02:A2             9.14     .028 No_date    2:35    3.00  n/a     .000
00129>                         SUM=    1.0 01:J3           108.84     .108 No_date    3:13    1.46  n/a     .000
00130>  R0001:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00131>       ROUTE CHANNEL     ->    1.0 02:J3           108.84     .108 No_date    3:13    1.46  n/a     .000
00132>         [RDT= 1.00] out<-     1.0 01:R3           108.84     .105 No_date    3:30    1.46  n/a     .000
00133>          [L/S/n=  396./ .305/.035]
00134>          {Vmax=  .325:Dmax=  .178}
00135>  R0001:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00136>       CALIB NASHYD              1.0 01:SOUTH-1       20.21     .015 No_date    3:01     .86 .034     .000
00137>         [CN= 35.5: N= 3.00: Tp= 1.40]
00138>  R0001:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00139>       ADD HYD                   1.0 02:R3           108.84     .105 No_date    3:30    1.46  n/a     .000
00140>                           +     1.0 02:SOUTH-1       20.21     .015 No_date    3:01     .86  n/a     .000
00141>                         SUM=    1.0 01:J4           129.05     .120 No_date    3:26    1.37  n/a     .000
00142>  R0001:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00143>       ROUTE CHANNEL     ->    1.0 02:J4           129.05     .120 No_date    3:26    1.37  n/a     .000
00144>         [RDT= 1.00] out<-     1.0 01:R4           129.05     .117 No_date    3:45    1.37  n/a     .000
00145>          [L/S/n=  482./ .410/.035]
00146>          {Vmax=  .395:Dmax=  .176}
00147>  R0001:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00148>       CALIB NASHYD              1.0 01:SOUTH-2       11.61     .012 No_date    2:23     .90 .036     .000
00149>         [CN= 36.7: N= 3.00: Tp=  .96]
00150>  R0001:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00151>       ADD HYD                   1.0 02:R4           129.05     .117 No_date    3:45    1.37  n/a     .000
00152>                           +     1.0 02:SOUTH-2       11.61     .012 No_date    2:23     .90  n/a     .000
00153>                         SUM=    1.0 01:J5           140.66     .124 No_date    3:41    1.33  n/a     .000
00154>  R0001:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00155>       ROUTE CHANNEL     ->    1.0 02:J5           140.66     .124 No_date    3:41    1.33  n/a     .000
00156>         [RDT= 1.00] out<-     1.0 01:R5           140.66     .123 No_date    3:46    1.33  n/a     .000
00157>          [L/S/n=  181./ .500/.035]
00158>          {Vmax=  .349:Dmax=  .159}
00159>  R0001:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00160>       CALIB NASHYD              1.0 01:SOUTH-3        7.98     .011 No_date    2:17    1.14 .046     .000
00161>         [CN= 42.6: N= 3.00: Tp=  .89]
00162>  R0001:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00163>       ADD HYD                   1.0 02:R5           140.66     .123 No_date    3:46    1.33  n/a     .000
00164>                           +     1.0 02:SOUTH-3        7.98     .011 No_date    2:17    1.14  n/a     .000
00165>                         SUM=    1.0 01:J6           148.64     .129 No_date    3:44    1.32  n/a     .000
00166>  R0001:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00167>       ROUTE CHANNEL     ->    1.0 02:J6           148.64     .129 No_date    3:44    1.32  n/a     .000
00168>         [RDT= 1.00] out<-     1.0 01:R6           148.64     .127 No_date    3:53    1.32  n/a     .000
00169>          [L/S/n=  323./ .440/.035]
00170>          {Vmax=  .412:Dmax=  .178}
00171>  R0001:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00172>       CALIB NASHYD              1.0 01:SOUTH-4       14.99     .015 No_date    2:46    1.01 .040     .000
00173>         [CN= 39.5: N= 3.00: Tp= 1.23]
00174>  R0001:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00175>       ADD HYD                   1.0 02:R6           148.64     .127 No_date    3:53    1.32  n/a     .000
00176>                           +     1.0 02:SOUTH-4       14.99     .015 No_date    2:46    1.01  n/a     .000
00177>                         SUM=    1.0 01:Total        163.63     .138 No_date    3:47    1.29  n/a     .000
00178>  #=================================================================
00179>  #=================================================================
00180>   ** END OF RUN :    1
00181>
00182>  ************************************************************************************
00183>
00184>
00185>
00186>
00187>
00188>  RUN#:COMMAND#
00189>  R0002:C00001------------------------------------------------------------------------
00190>       START
00191>         [TZERO =      .00 hrs on       0]
00192>         [METOUT=   2    (1=imperial, 2=metric output)]
00193>         [NSTORM=   1 ]
00194>         [NRUN   = 0002 ]
00195>  #*************************************************************************
00196>  #  SWMHYMO  / INPUT DATA FILE
00197>  #*************************************************************************
00198>  #  Project Name: [THUNDER ROAD]    Project Number: [2128]
00199>  #  Date        : 04-28-2021
00200>  #  Modeller    : [J.B]
00201>  #  Company     : JFSAinc.
00202>  #  License #   :  2549237
00203>  #*************************************************************************
00204>  #*************************************************************************
00205>  R0002:C00002------------------------------------------------------------------------
00206>       READ STORM
00207>         Filename = storm.001
00208>         Comment  = CHICAGO STORM 2 Year, 3 Hours
00209>         [SDT=10.00:SDUR=   3.00:PTOT=  31.86]
00210>  R0002:C00003------------------------------------------------------------------------
00211>       DEFAULT VALUES
00212>         Filename = C:\Temp\Design\Ottawa.val
00213>         ICASEdv  = 2 (read values only)
00214>  R0002:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00215>       CALIB NASHYD              1.0 01:NORTH-1       34.70     .021 No_date    5:39     1.68 .053     .000
00216>         [CN= 38.1: N= 3.00: Tp= 4.12]
00217>  R0002:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00218>       CALIB NASHYD              1.0 01:NORTH-2       12.44     .034 No_date    2:48     2.93 .092     .000
00219>         [CN= 53.0: N= 3.00: Tp= 1.29]
00220>  R0002:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00221>       CALIB NASHYD              1.0 01:HWY-1          2.36     .021 No_date    2:37     8.79 .276     .000
00222>         [CN= 81.7: N= 3.00: Tp= 1.21]
00223>  R0002:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00224>       ADD HYD                   1.0 02:NORTH-1       34.70     .021 No_date    5:39     1.68  n/a     .000
00225>                           +     1.0 02:NORTH-2       12.44     .034 No_date    2:48     2.93  n/a     .000
00226>                           +     1.0 02:HWY-1          2.36     .021 No_date    2:37     8.79  n/a     .000
00227>                         SUM=    1.0 01:J1            49.51     .064 No_date    3:00     2.33  n/a     .000
00228>  R0002:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00229>       ROUTE CHANNEL     ->    1.0 02:J1            49.51     .064 No_date    3:00     2.33  n/a     .000
00230>         [RDT= 1.00] out<-     1.0 01:R1            49.51     .063 No_date    3:19     2.33  n/a     .000
00231>          [L/S/n=  478./ .440/.035]
00232>          {Vmax=  .243:Dmax=  .138}
00233>  R0002:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00234>       CALIB NASHYD              1.0 01:INT-1          4.39     .013 No_date    3:15     3.82 .120     .000
00235>         [CN= 60.4: N= 3.00: Tp= 1.66]
00236>  R0002:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00237>       CALIB NASHYD              1.0 01:INT-2          3.61     .010 No_date    2:20     2.39 .075     .000
00238>         [CN= 47.4: N= 3.00: Tp=  .95]
00239>  R0002:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00240>       CALIB NASHYD              1.0 01:A3            10.53     .020 No_date    3:16     2.39 .075     .000
00241>         [CN= 47.4: N= 3.00: Tp= 1.66]
00242>  R0002:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00243>       CALIB NASHYD              1.0 01:INT-3          5.71     .025 No_date    2:14     3.56 .112     .000
00244>         [CN= 58.5: N= 3.00: Tp=  .89]
00245>  R0002:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00246>       ADD HYD                   1.0 02:R1            49.51     .063 No_date    3:19     2.33  n/a     .000
00247>                           +     1.0 02:INT-1          4.39     .013 No_date    3:15     3.82  n/a     .000
00248>                           +     1.0 02:INT-2          3.61     .010 No_date    2:20     2.39  n/a     .000
00249>                           +     1.0 02:INT-3          5.71     .025 No_date    2:14     3.56  n/a     .000
00250>                           +     1.0 02:A3            10.53     .020 No_date    3:16     2.39  n/a     .000
00251>                         SUM=    1.0 01:J2            73.75     .122 No_date    3:01     2.53  n/a     .000
00252>  R0002:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00253>       ROUTE CHANNEL     ->    1.0 02:J2            73.75     .122 No_date    3:01     2.53  n/a     .000
00254>         [RDT= 1.00] out<-     1.0 01:R2            73.75     .120 No_date    3:12     2.53  n/a     .000
00255>          [L/S/n=  359./ .560/.035]
00256>          {Vmax=  .381:Dmax=  .108}
00257>  R0002:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00258>       CALIB NASHYD              1.0 01:A1            25.95     .028 No_date    3:41     1.65 .052     .000
00259>         [CN= 37.6: N= 3.00: Tp= 2.09]
00260>  R0002:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00261>       CALIB NASHYD              1.0 01:A2             9.14     .049 No_date    2:32     5.11 .161     .000
00262>         [CN= 68.4: N= 3.00: Tp= 1.12]
00263>  R0002:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00264>       ADD HYD                   1.0 02:R2            73.75     .120 No_date    3:12     2.53  n/a     .000
00265>                           +     1.0 02:A1            25.95     .028 No_date    3:41     1.65  n/a     .000
00266>                           +     1.0 02:A2             9.14     .049 No_date    2:32     5.11  n/a     .000
00267>                         SUM=    1.0 01:J3           108.84     .191 No_date    3:05     2.54  n/a     .000
00268>  R0002:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00269>       ROUTE CHANNEL     ->    1.0 02:J3           108.84     .191 No_date    3:05     2.54  n/a     .000
00270>         [RDT= 1.00] out<-     1.0 01:R3           108.84     .186 No_date    3:22     2.54  n/a     .000
00271>          [L/S/n=  396./ .305/.035]
00272>          {Vmax=  .371:Dmax=  .225}
00273>  R0002:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00274>       CALIB NASHYD              1.0 01:SOUTH-1       20.21     .027 No_date    2:58     1.51 .047     .000
00275>         [CN= 35.5: N= 3.00: Tp= 1.40]
00276>  R0002:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00277>       ADD HYD                   1.0 02:R3           108.84     .186 No_date    3:22     2.54  n/a     .000
00278>                           +     1.0 02:SOUTH-1       20.21     .027 No_date    2:58     1.51  n/a     .000
00279>                         SUM=    1.0 01:J4           129.05     .213 No_date    3:19     2.38  n/a     .000
00280>  R0002:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00281>       ROUTE CHANNEL     ->    1.0 02:J4           129.05     .213 No_date    3:19     2.38  n/a     .000
00282>         [RDT= 1.00] out<-     1.0 01:R4           129.05     .208 No_date    3:34     2.38  n/a     .000
00283>          [L/S/n=  482./ .410/.035]
00284>          {Vmax=  .451:Dmax=  .217}
00285>  R0002:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00286>       CALIB NASHYD              1.0 01:SOUTH-2       11.61     .021 No_date    2:21     1.59 .050     .000
00287>         [CN= 36.7: N= 3.00: Tp=  .96]
00288>  R0002:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00289>       ADD HYD                   1.0 02:R4           129.05     .208 No_date    3:34     2.38  n/a     .000
00290>                           +     1.0 02:SOUTH-2       11.61     .021 No_date    2:21     1.59  n/a     .000
00291>                         SUM=    1.0 01:J5           140.66     .222 No_date    3:29     2.31  n/a     .000
00292>  R0002:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00293>       ROUTE CHANNEL     ->    1.0 02:J5           140.66     .222 No_date    3:29     2.31  n/a     .000
00294>         [RDT= 1.00] out<-     1.0 01:R5           140.66     .221 No_date    3:33     2.31  n/a     .000
00295>          [L/S/n=  181./ .500/.035]
00296>          {Vmax=  .433:Dmax=  .210}
00297>  R0002:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00298>       CALIB NASHYD              1.0 01:SOUTH-3        7.98     .019 No_date    2:15     2.00 .063     .000
00299>         [CN= 42.6: N= 3.00: Tp=  .89]
00300>  R0002:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00301>       ADD HYD                   1.0 02:R5           140.66     .221 No_date    3:33     2.31  n/a     .000
00302>                           +     1.0 02:SOUTH-3        7.98     .019 No_date    2:15     2.00  n/a     .000
00303>                         SUM=    1.0 01:J6           148.64     .232 No_date    3:28     2.29  n/a     .000
00304>  R0002:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00305>       ROUTE CHANNEL     ->    1.0 02:J6           148.64     .232 No_date    3:28     2.29  n/a     .000
00306>         [RDT= 1.00] out<-     1.0 01:R6           148.64     .230 No_date    3:38     2.29  n/a     .000
00307>          [L/S/n=  323./ .440/.035]
00308>          {Vmax=  .475:Dmax=  .222}
00309>  R0002:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00310>       CALIB NASHYD              1.0 01:SOUTH-4       14.99     .026 No_date    2:44     1.78 .056     .000
00311>         [CN= 39.5: N= 3.00: Tp= 1.23]
00312>  R0002:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00313>       ADD HYD                   1.0 02:R6           148.64     .230 No_date    3:38     2.29  n/a     .000
00314>                           +     1.0 02:SOUTH-4       14.99     .026 No_date    2:44     1.78  n/a     .000
00315>                         SUM=    1.0 01:Total        163.63     .251 No_date    3:37     2.25  n/a     .000
00316>  #=================================================================
00317>  #=================================================================
00318>   ** END OF RUN :    4
00319>
00320>  ************************************************************************************
00321>
00322>
00323>
00324>
00325>
00326>  RUN#:COMMAND#
00327>  R0005:C00001------------------------------------------------------------------------
00328>       START
00329>         [TZERO =      .00 hrs on       0]
00330>         [METOUT=   2    (1=imperial, 2=metric output)]
00331>         [NSTORM=   1 ]
00332>         [NRUN   = 0005 ]
00333>  #*************************************************************************
00334>  #  SWMHYMO  / INPUT DATA FILE
00335>  #*************************************************************************
00336>  #  Project Name: [THUNDER ROAD]    Project Number: [2128]
00337>  #  Date        : 04-28-2021
00338>  #  Modeller    : [J.B]
00339>  #  Company     : JFSAinc.
00340>  #  License #   :  2549237
00341>  #*************************************************************************
00342>  #*************************************************************************
00343>  R0005:C00002------------------------------------------------------------------------
00344>       READ STORM
00345>         Filename = storm.001
00346>         Comment  = CHICAGO STORM  5 Year, 3 Hours
00347>         [SDT=10.00:SDUR=   3.00:PTOT=  42.51]
00348>  R0005:C00003------------------------------------------------------------------------
00349>       DEFAULT VALUES
00350>         Filename = C:\Temp\Design\Ottawa.val
00351>         ICASEdv  = 2 (read values only)
00352>  R0005:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00353>       CALIB NASHYD              1.0 01:NORTH-1       34.70     .040 No_date    5:37     3.18 .075     .000
00354>         [CN= 38.1: N= 3.00: Tp= 4.12]
00355>  R0005:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00356>       CALIB NASHYD              1.0 01:NORTH-2       12.44     .064 No_date    2:45     5.44 .128     .000
00357>         [CN= 53.0: N= 3.00: Tp= 1.29]
00358>  R0005:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00359>       CALIB NASHYD              1.0 01:HWY-1          2.36     .036 No_date    2:34    15.12 .356     .000
00360>         [CN= 81.7: N= 3.00: Tp= 1.21]
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00361> R0005:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00362>     ADD HYD                1.0 02:NORTH-1      34.70     .040 No_date    5:37    3.18  n/a     .000
00363>                      +     1.0 02:NORTH-2      12.44     .064 No_date    2:45    5.44  n/a     .000
00364>                      +     1.0 02:HWY-1         2.36     .036 No_date    2:34   15.12  n/a     .000
00365>                    SUM=    1.0 01:J1           49.51     .118 No_date    2:56    4.32  n/a     .000
00366> R0005:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00367>     ROUTE CHANNEL    ->     1.0 02:J1           49.51     .118 No_date    2:56    4.32  n/a     .000
00368>       [RDT= 1.00] out<-     1.0 01:R1           49.51     .115 No_date    3:12    4.32  n/a     .000
00369>        [L/S/n=  478./ .440/.035]
00370>        {Vmax=  .413:Dmax=  .178}
00371> R0005:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00372>     CALIB NASHYD           1.0 01:INT-1         4.39     .024 No_date    3:12    7.01 .165     .000
00373>       [CN= 60.4: N= 3.00: Tp= 1.66]
00374> R0005:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00375>     CALIB NASHYD           1.0 01:INT-2         3.61     .019 No_date    2:17    4.48 .105     .000
00376>       [CN= 47.4: N= 3.00: Tp=  .95]
00377> R0005:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00378>     CALIB NASHYD           1.0 01:A3           10.53     .038 No_date    3:13    4.48 .105     .000
00379>       [CN= 47.4: N= 3.00: Tp= 1.66]
00380> R0005:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00381>     CALIB NASHYD           1.0 01:INT-3         5.71     .046 No_date    2:11    6.57 .155     .000
00382>       [CN= 58.5: N= 3.00: Tp=  .89]
00383> R0005:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00384>     ADD HYD                1.0 02:R1           49.51     .115 No_date    3:12    4.32  n/a     .000
00385>                      +     1.0 02:INT-1         4.39     .024 No_date    3:12    7.01  n/a     .000
00386>                      +     1.0 02:INT-2         3.61     .019 No_date    2:17    4.48  n/a     .000
00387>                      +     1.0 02:INT-3         5.71     .046 No_date    2:11    6.57  n/a     .000
00388>                      +     1.0 02:A3           10.53     .038 No_date    3:13    4.48  n/a     .000
00389>                    SUM=    1.0 01:J2           73.75     .227 No_date    2:56    4.68  n/a     .000
00390> R0005:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00391>     ROUTE CHANNEL    ->     1.0 02:J2           73.75     .227 No_date    2:56    4.68  n/a     .000
00392>       [RDT= 1.00] out<-     1.0 01:R2           73.75     .225 No_date    3:04    4.68  n/a     .000
00393>        [L/S/n=  359./ .560/.035]
00394>        {Vmax=  .478:Dmax=  .146}
00395> R0005:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00396>     CALIB NASHYD           1.0 01:A1           25.95     .054 No_date    3:39    3.12 .073     .000
00397>       [CN= 37.6: N= 3.00: Tp= 2.09]
00398> R0005:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00399>     CALIB NASHYD           1.0 01:A2            9.14     .089 No_date    2:29    9.23 .217     .000
00400>       [CN= 68.4: N= 3.00: Tp= 1.12]
00401> R0005:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00402>     ADD HYD                1.0 02:R2           73.75     .225 No_date    3:04    4.68  n/a     .000
00403>                      +     1.0 02:A1           25.95     .054 No_date    3:39    3.12  n/a     .000
00404>                      +     1.0 02:A2            9.14     .089 No_date    2:29    9.23  n/a     .000
00405>                    SUM=    1.0 01:J3          108.84     .356 No_date    2:58    4.69  n/a     .000
00406> R0005:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00407>     ROUTE CHANNEL    ->     1.0 02:J3          108.84     .356 No_date    2:58    4.69  n/a     .000
00408>       [RDT= 1.00] out<-     1.0 01:R3          108.84     .348 No_date    3:17    4.69  n/a     .000
00409>        [L/S/n=  396./ .305/.035]
00410>        {Vmax=  .402:Dmax=  .293}
00411> R0005:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00412>     CALIB NASHYD           1.0 01:SOUTH-1      20.21     .052 No_date    2:55    2.87 .067     .000
00413>       [CN= 35.5: N= 3.00: Tp= 1.40]
00414> R0005:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00415>     ADD HYD                1.0 02:R3          108.84     .348 No_date    3:17    4.69  n/a     .000
00416>                      +     1.0 02:SOUTH-1      20.21     .052 No_date    2:55    2.87  n/a     .000
00417>                    SUM=    1.0 01:J4          129.05     .398 No_date    3:14    4.41  n/a     .000
00418> R0005:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00419>     ROUTE CHANNEL    ->     1.0 02:J4          129.05     .398 No_date    3:14    4.41  n/a     .000
00420>       [RDT= 1.00] out<-     1.0 01:R4          129.05     .391 No_date    3:28    4.41  n/a     .000
00421>        [L/S/n=  482./ .410/.035]
00422>        {Vmax=  .531:Dmax=  .281}
00423> R0005:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00424>     CALIB NASHYD           1.0 01:SOUTH-2      11.61     .040 No_date    2:18    3.01 .071     .000
00425>       [CN= 36.7: N= 3.00: Tp=  .96]
00426> R0005:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00427>     ADD HYD                1.0 02:R4          129.05     .391 No_date    3:28    4.41  n/a     .000
00428>                      +     1.0 02:SOUTH-2      11.61     .040 No_date    2:18    3.01  n/a     .000
00429>                    SUM=    1.0 01:J5          140.66     .418 No_date    3:23    4.29  n/a     .000
00430> R0005:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00431>     ROUTE CHANNEL    ->     1.0 02:J5          140.66     .418 No_date    3:23    4.29  n/a     .000
00432>       [RDT= 1.00] out<-     1.0 01:R5          140.66     .417 No_date    3:28    4.29  n/a     .000
00433>        [L/S/n=  181./ .500/.035]
00434>        {Vmax=  .506:Dmax=  .259}
00435> R0005:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00436>     CALIB NASHYD           1.0 01:SOUTH-3       7.98     .037 No_date    2:12    3.77 .089     .000
00437>       [CN= 42.6: N= 3.00: Tp=  .89]
00438> R0005:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00439>     ADD HYD                1.0 02:R5          140.66     .417 No_date    3:28    4.29  n/a     .000
00440>                      +     1.0 02:SOUTH-3       7.98     .037 No_date    2:12    3.77  n/a     .000
00441>                    SUM=    1.0 01:J6          148.64     .439 No_date    3:24    4.26  n/a     .000
00442> R0005:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00443>     ROUTE CHANNEL    ->     1.0 02:J6          148.64     .439 No_date    3:24    4.26  n/a     .000
00444>       [RDT= 1.00] out<-     1.0 01:R6          148.64     .436 No_date    3:33    4.26  n/a     .000
00445>        [L/S/n=  323./ .440/.035]
00446>        {Vmax=  .557:Dmax=  .289}
00447> R0005:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00448>     CALIB NASHYD           1.0 01:SOUTH-4      14.99     .049 No_date    2:41    3.35 .079     .000
00449>       [CN= 39.5: N= 3.00: Tp= 1.23]
00450> R0005:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00451>     ADD HYD                1.0 02:R6          148.64     .436 No_date    3:33    4.26  n/a     .000
00452>                      +     1.0 02:SOUTH-4      14.99     .049 No_date    2:41    3.35  n/a     .000
00453>                    SUM=    1.0 01:Total       163.63     .477 No_date    3:28    4.18  n/a     .000
00454> #===============================================================
00455> #===============================================================
00456>  ** END OF RUN :    9
00457>
00458> ****************************************************************************************
00459>
00460>
00461>
00462>
00463>
00464>  RUN#:COMMAND#
00465> R0010:C00001------------------------------------------------------------------------------
00466>      START
00467>       [TZERO =    .00 hrs on        0]
00468>       [METOUT=  2   (1=imperial, 2=metric output)]
00469>       [NSTORM=  1 ]
00470>       [NRUN  = 0010 ]
00471> #*************************************************************************
00472> #  SWMHYMO  / INPUT DATA FILE
00473> #*************************************************************************
00474> #  Project Name: [THUNDER ROAD]    Project Number: [2128]
00475> #  Date        : 04-28-2021
00476> #  Modeller    : [J.B]
00477> #  Company     : JFSAinc.
00478> #  License #   : 2549237
00479> #*************************************************************************
00480> #*************************************************************************
00481> R0010:C00002------------------------------------------------------------------------------
00482>      READ STORM
00483>       Filename = storm.001
00484>       Comment  = CHICAGO STORM 10 Year, 3 Hours
00485>       [SDT=10.00:SDUR=   3.00:PTOT=  49.50]
00486> R0010:C00003------------------------------------------------------------------------------
00487>      DEFAULT VALUES
00488>       Filename = C:\Temp\Design\Ottawa.val
00489>       ICASEdv  = 2 (read values only)
00490> R0010:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00491>     CALIB NASHYD           1.0 01:NORTH-1      34.70     .055 No_date    5:36    4.39 .089     .000
00492>       [CN= 38.1: N= 3.00: Tp= 4.12]
00493> R0010:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00494>     CALIB NASHYD           1.0 01:NORTH-2      12.44     .088 No_date    2:43    7.44 .150     .000
00495>       [CN= 53.0: N= 3.00: Tp= 1.29]
00496> R0010:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00497>     CALIB NASHYD           1.0 01:HWY-1         2.36     .047 No_date    2:32   19.76 .399     .000
00498>       [CN= 81.7: N= 3.00: Tp= 1.21]
00499> R0010:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00500>     ADD HYD                1.0 02:NORTH-1      34.70     .055 No_date    5:36    4.39  n/a     .000
00501>                      +     1.0 02:NORTH-2      12.44     .088 No_date    2:43    7.44  n/a     .000
00502>                      +     1.0 02:HWY-1         2.36     .047 No_date    2:32   19.76  n/a     .000
00503>                    SUM=    1.0 01:J1           49.51     .160 No_date    2:55    5.89  n/a     .000
00504> R0010:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00505>     ROUTE CHANNEL    ->     1.0 02:J1           49.51     .160 No_date    2:55    5.89  n/a     .000
00506>       [RDT= 1.00] out<-     1.0 01:R1           49.51     .157 No_date    3:11    5.89  n/a     .000
00507>        [L/S/n=  478./ .440/.035]
00508>        {Vmax=  .448:Dmax=  .202}
00509> R0010:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00510>     CALIB NASHYD           1.0 01:INT-1         4.39     .033 No_date    3:11    9.51 .192     .000
00511>       [CN= 60.4: N= 3.00: Tp= 1.66]
00512> R0010:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00513>     CALIB NASHYD           1.0 01:INT-2         3.61     .026 No_date    2:16    6.15 .124     .000
00514>       [CN= 47.4: N= 3.00: Tp=  .95]
00515> R0010:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00516>     CALIB NASHYD           1.0 01:A3           10.53     .052 No_date    3:12    6.15 .124     .000
00517>       [CN= 47.4: N= 3.00: Tp= 1.66]
00518> R0010:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00519>     CALIB NASHYD           1.0 01:INT-3         5.71     .063 No_date    2:10    8.93 .180     .000
00520>       [CN= 58.5: N= 3.00: Tp=  .89]
00521> R0010:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00522>     ADD HYD                1.0 02:R1           49.51     .157 No_date    3:11    5.89  n/a     .000
00523>                      +     1.0 02:INT-1         4.39     .033 No_date    3:11    9.51  n/a     .000
00524>                      +     1.0 02:INT-2         3.61     .026 No_date    2:16    6.15  n/a     .000
00525>                      +     1.0 02:INT-3         5.71     .063 No_date    2:10    8.93  n/a     .000
00526>                      +     1.0 02:A3           10.53     .052 No_date    3:12    6.15  n/a     .000
00527>                    SUM=    1.0 01:J2           73.75     .309 No_date    2:52    6.39  n/a     .000
00528> R0010:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00529>     ROUTE CHANNEL    ->     1.0 02:J2           73.75     .309 No_date    2:52    6.39  n/a     .000
00530>       [RDT= 1.00] out<-     1.0 01:R2           73.75     .307 No_date    3:03    6.39  n/a     .000
00531>        [L/S/n=  359./ .560/.035]
00532>        {Vmax=  .531:Dmax=  .169}
00533> R0010:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00534>     CALIB NASHYD           1.0 01:A1           25.95     .074 No_date    3:38    4.31 .087     .000
00535>       [CN= 37.6: N= 3.00: Tp= 2.09]
00536> R0010:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00537>     CALIB NASHYD           1.0 01:A2            9.14     .120 No_date    2:28   12.39 .250     .000
00538>       [CN= 68.4: N= 3.00: Tp= 1.12]
00539> R0010:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00540>     ADD HYD                1.0 02:R2           73.75     .307 No_date    3:03    6.39  n/a     .000

00541>                      +     1.0 02:A1           25.95     .074 No_date    3:38    4.31  n/a     .000
00542>                      +     1.0 02:A2            9.14     .120 No_date    2:28   12.39  n/a     .000
00543>                    SUM=    1.0 01:J3          108.84     .485 No_date    2:57    6.40  n/a     .000
00544> R0010:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00545>     ROUTE CHANNEL    ->     1.0 02:J3          108.84     .485 No_date    2:57    6.40  n/a     .000
00546>       [RDT= 1.00] out<-     1.0 01:R3          108.84     .476 No_date    3:13    6.40  n/a     .000
00547>        [L/S/n=  396./ .305/.035]
00548>        {Vmax=  .424:Dmax=  .328}
00549> R0010:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00550>     CALIB NASHYD           1.0 01:SOUTH-1      20.21     .072 No_date    2:54    3.97 .080     .000
00551>       [CN= 35.5: N= 3.00: Tp= 1.40]
00552> R0010:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00553>     ADD HYD                1.0 02:R3          108.84     .476 No_date    3:13    6.40  n/a     .000
00554>                      +     1.0 02:SOUTH-1      20.21     .072 No_date    2:54    3.97  n/a     .000
00555>                    SUM=    1.0 01:J4          129.05     .546 No_date    3:11    6.02  n/a     .000
00556> R0010:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00557>     ROUTE CHANNEL    ->     1.0 02:J4          129.05     .546 No_date    3:11    6.02  n/a     .000
00558>       [RDT= 1.00] out<-     1.0 01:R4          129.05     .538 No_date    3:23    6.02  n/a     .000
00559>        [L/S/n=  482./ .410/.035]
00560>        {Vmax=  .570:Dmax=  .323}
00561> R0010:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00562>     CALIB NASHYD           1.0 01:SOUTH-2      11.61     .056 No_date    2:17    4.16 .084     .000
00563>       [CN= 36.7: N= 3.00: Tp=  .96]
00564> R0010:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00565>     ADD HYD                1.0 02:R4          129.05     .538 No_date    3:23    6.02  n/a     .000
00566>                      +     1.0 02:SOUTH-2      11.61     .056 No_date    2:17    4.16  n/a     .000
00567>                    SUM=    1.0 01:J5          140.66     .577 No_date    3:18    5.87  n/a     .000
00568> R0010:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00569>     ROUTE CHANNEL    ->     1.0 02:J5          140.66     .577 No_date    3:18    5.87  n/a     .000
00570>       [RDT= 1.00] out<-     1.0 01:R5          140.66     .576 No_date    3:23    5.87  n/a     .000
00571>        [L/S/n=  181./ .500/.035]
00572>        {Vmax=  .539:Dmax=  .288}
00573> R0010:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00574>     CALIB NASHYD           1.0 01:SOUTH-3       7.98     .051 No_date    2:11    5.19 .105     .000
00575>       [CN= 42.6: N= 3.00: Tp=  .89]
00576> R0010:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00577>     ADD HYD                1.0 02:R5          140.66     .576 No_date    3:23    5.87  n/a     .000
00578>                      +     1.0 02:SOUTH-3       7.98     .051 No_date    2:11    5.19  n/a     .000
00579>                    SUM=    1.0 01:J6          148.64     .608 No_date    3:18    5.83  n/a     .000
00580> R0010:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00581>     ROUTE CHANNEL    ->     1.0 02:J6          148.64     .608 No_date    3:18    5.83  n/a     .000
00582>       [RDT= 1.00] out<-     1.0 01:R6          148.64     .604 No_date    3:27    5.83  n/a     .000
00583>        [L/S/n=  323./ .440/.035]
00584>        {Vmax=  .598:Dmax=  .332}
00585> R0010:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00586>     CALIB NASHYD           1.0 01:SOUTH-4      14.99     .068 No_date    2:39    4.63 .094     .000
00587>       [CN= 39.5: N= 3.00: Tp= 1.23]
00588> R0010:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00589>     ADD HYD                1.0 02:R6          148.64     .604 No_date    3:27    5.83  n/a     .000
00590>                      +     1.0 02:SOUTH-4      14.99     .068 No_date    2:39    4.63  n/a     .000
00591>                    SUM=    1.0 01:Total       163.63     .662 No_date    3:23    5.72  n/a     .000
00592> #===============================================================
00593> #===============================================================
00594>  ** END OF RUN :   24
00595>
00596> ****************************************************************************************
00597>
00598>
00599>
00600>
00601>
00602>  RUN#:COMMAND#
00603> R0025:C00001------------------------------------------------------------------------------
00604>      START
00605>       [TZERO =    .00 hrs on        0]
00606>       [METOUT=  2   (1=imperial, 2=metric output)]
00607>       [NSTORM=  1 ]
00608>       [NRUN  = 0025 ]
00609> #*************************************************************************
00610> #  SWMHYMO  / INPUT DATA FILE
00611> #*************************************************************************
00612> #  Project Name: [THUNDER ROAD]    Project Number: [2128]
00613> #  Date        : 04-28-2021
00614> #  Modeller    : [J.B]
00615> #  Company     : JFSAinc.
00616> #  License #   : 2549237
00617> #*************************************************************************
00618> #*************************************************************************
00619> R0025:C00002------------------------------------------------------------------------------
00620>      READ STORM
00621>       Filename = storm.001
00622>       Comment  = CHICAGO STORM  25 Year, 3 Hours
00623>       [SDT=10.00:SDUR=   3.00:PTOT=  58.23]
00624> R0025:C00003------------------------------------------------------------------------------
00625>      DEFAULT VALUES
00626>       Filename = C:\Temp\Design\Ottawa.val
00627>       ICASEdv  = 2 (read values only)
00628> R0025:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00629>     CALIB NASHYD           1.0 01:NORTH-1      34.70     .078 No_date    5:35    6.15 .106     .000
00630>       [CN= 38.1: N= 3.00: Tp= 4.12]
00631> R0025:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00632>     CALIB NASHYD           1.0 01:NORTH-2      12.44     .123 No_date    2:42   10.29 .177     .000
00633>       [CN= 53.0: N= 3.00: Tp= 1.29]
00634> R0025:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00635>     CALIB NASHYD           1.0 01:HWY-1         2.36     .063 No_date    2:31   25.97 .446     .000
00636>       [CN= 81.7: N= 3.00: Tp= 1.21]
00637> R0025:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00638>     ADD HYD                1.0 02:NORTH-1      34.70     .078 No_date    5:35    6.15  n/a     .000
00639>                      +     1.0 02:NORTH-2      12.44     .123 No_date    2:42   10.29  n/a     .000
00640>                      +     1.0 02:HWY-1         2.36     .063 No_date    2:31   25.97  n/a     .000
00641>                    SUM=    1.0 01:J1           49.51     .218 No_date    2:53    8.14  n/a     .000
00642> R0025:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00643>     ROUTE CHANNEL    ->     1.0 02:J1           49.51     .218 No_date    2:53    8.14  n/a     .000
00644>       [RDT= 1.00] out<-     1.0 01:R1           49.51     .215 No_date    3:08    8.14  n/a     .000
00645>        [L/S/n=  478./ .440/.035]
00646>        {Vmax=  .488:Dmax=  .230}
00647> R0025:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00648>     CALIB NASHYD           1.0 01:INT-1         4.39     .046 No_date    3:09   13.03 .224     .000
00649>       [CN= 60.4: N= 3.00: Tp= 1.66]
00650> R0025:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00651>     CALIB NASHYD           1.0 01:INT-2         3.61     .037 No_date    2:15    8.55 .147     .000
00652>       [CN= 47.4: N= 3.00: Tp=  .95]
00653> R0025:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00654>     CALIB NASHYD           1.0 01:A3           10.53     .072 No_date    3:10    8.55 .147     .000
00655>       [CN= 47.4: N= 3.00: Tp= 1.66]
00656> R0025:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00657>     CALIB NASHYD           1.0 01:INT-3         5.71     .088 No_date    2:09   12.27 .211     .000
00658>       [CN= 58.5: N= 3.00: Tp=  .89]
00659> R0025:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00660>     ADD HYD                1.0 02:R1           49.51     .215 No_date    3:08    8.14  n/a     .000
00661>                      +     1.0 02:INT-1         4.39     .046 No_date    3:09   13.03  n/a     .000
00662>                      +     1.0 02:INT-2         3.61     .037 No_date    2:15    8.55  n/a     .000
00663>                      +     1.0 02:INT-3         5.71     .088 No_date    2:09   12.27  n/a     .000
00664>                      +     1.0 02:A3           10.53     .072 No_date    3:10    8.55  n/a     .000
00665>                    SUM=    1.0 01:J2           73.75     .427 No_date    2:52    8.83  n/a     .000
00666> R0025:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00667>     ROUTE CHANNEL    ->     1.0 02:J2           73.75     .427 No_date    2:52    8.83  n/a     .000
00668>       [RDT= 1.00] out<-     1.0 01:R2           73.75     .425 No_date    3:00    8.83  n/a     .000
00669>        [L/S/n=  359./ .560/.035]
00670>        {Vmax=  .596:Dmax=  .199}
00671> R0025:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00672>     CALIB NASHYD           1.0 01:A1           25.95     .104 No_date    3:37    6.04 .104     .000
00673>       [CN= 37.6: N= 3.00: Tp= 2.09]
00674> R0025:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00675>     CALIB NASHYD           1.0 01:A2            9.14     .164 No_date    2:26   16.78 .288     .000
00676>       [CN= 68.4: N= 3.00: Tp= 1.12]
00677> R0025:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00678>     ADD HYD                1.0 02:R2           73.75     .425 No_date    3:00    8.83  n/a     .000
00679>                      +     1.0 02:A1           25.95     .104 No_date    3:37    6.04  n/a     .000
00680>                      +     1.0 02:A2            9.14     .164 No_date    2:26   16.78  n/a     .000
00681>                    SUM=    1.0 01:J3          108.84     .669 No_date    2:55    8.83  n/a     .000
00682> R0025:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00683>     ROUTE CHANNEL    ->     1.0 02:J3          108.84     .669 No_date    2:55    8.83  n/a     .000
00684>       [RDT= 1.00] out<-     1.0 01:R3          108.84     .659 No_date    3:09    8.83  n/a     .000
00685>        [L/S/n=  396./ .305/.035]
00686>        {Vmax=  .450:Dmax=  .365}
00687> R0025:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00688>     CALIB NASHYD           1.0 01:SOUTH-1      20.21     .101 No_date    2:52    5.57 .096     .000
00689>       [CN= 35.5: N= 3.00: Tp= 1.40]
00690> R0025:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00691>     ADD HYD                1.0 02:R3          108.84     .659 No_date    3:09    8.83  n/a     .000
00692>                      +     1.0 02:SOUTH-1      20.21     .101 No_date    2:52    5.57  n/a     .000
00693>                    SUM=    1.0 01:J4          129.05     .758 No_date    3:07    8.32  n/a     .000
00694> R0025:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00695>     ROUTE CHANNEL    ->     1.0 02:J4          129.05     .758 No_date    3:07    8.32  n/a     .000
00696>       [RDT= 1.00] out<-     1.0 01:R4          129.05     .748 No_date    3:20    8.32  n/a     .000
00697>        [L/S/n=  482./ .410/.035]
00698>        {Vmax=  .604:Dmax=  .364}
00699> R0025:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00700>     CALIB NASHYD           1.0 01:SOUTH-2      11.61     .079 No_date    2:16    5.83 .100     .000
00701>       [CN= 36.7: N= 3.00: Tp=  .96]
00702> R0025:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00703>     ADD HYD                1.0 02:R4          129.05     .748 No_date    3:20    8.32  n/a     .000
00704>                      +     1.0 02:SOUTH-2      11.61     .079 No_date    2:16    5.83  n/a     .000
00705>                    SUM=    1.0 01:J5          140.66     .804 No_date    3:15    8.12  n/a     .000
00706> R0025:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00707>     ROUTE CHANNEL    ->     1.0 02:J5          140.66     .804 No_date    3:15    8.12  n/a     .000
00708>       [RDT= 1.00] out<-     1.0 01:R5          140.66     .803 No_date    3:18    8.12  n/a     .000
00709>        [L/S/n=  181./ .500/.035]
00710>        {Vmax=  .595:Dmax=  .328}
00711> R0025:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00712>     CALIB NASHYD           1.0 01:SOUTH-3       7.98     .072 No_date    2:10    7.25 .124     .000
00713>       [CN= 42.6: N= 3.00: Tp=  .89]
00714> R0025:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00715>     ADD HYD                1.0 02:R5          140.66     .803 No_date    3:18    8.12  n/a     .000
00716>                      +     1.0 02:SOUTH-3       7.98     .072 No_date    2:10    7.25  n/a     .000
00717>                    SUM=    1.0 01:J6          148.64     .849 No_date    3:14    8.07  n/a     .000
00718> R0025:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00719>     ROUTE CHANNEL    ->     1.0 02:J6          148.64     .849 No_date    3:14    8.07  n/a     .000
00720>       [RDT= 1.00] out<-     1.0 01:R6          148.64     .844 No_date    3:22    8.07  n/a     .000
```

```
00721>       [L/S/n=  323./ .440/.035]
00722>       (Vmax=  .636:Dmax=  .376)
00723> R0025:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00724>     CALIB NASHYD              1.0 01:SOUTH-4       14.99     .096 No_date    2:38    6.48 .111     .000
00725>       [CN= 39.5: N= 3.00: Tp= 1.23]
00726> R0025:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00727>     ADD HYD                   1.0 02:R6        148.64     .844 No_date    3:22    8.07  n/a     .000
00728>                       +     1.0 02:SOUTH-4       14.99     .096 No_date    2:38    6.48  n/a     .000
00729>                     SUM=    1.0 01:Total        163.63     .928 No_date    3:18    7.92  n/a     .000
00730> #================================================================================
00731> #================================================================================
00732>   ** END OF RUN :  49
00733>
00734> ****************************************************************************************************
00735>
00736>
00737>
00738>
00739>
00740>  RUN#:COMMAND#
00741> R0050:C00001------------------------------------------------------------------------------------------
00742>       START
00743>       [TZERO =    .00 hrs on       0]
00744>       [METOUT=  2   (1=imperial, 2=metric output)]
00745>       [NSTORM=  1 ]
00746>       [NRUN  = 0050 ]
00747> #*************************************************************************
00748> #  SWMHYMO  / INPUT DATA FILE
00749> #*************************************************************************
00750> #  Project Name: [THUNDER ROAD]    Project Number: [2128]
00751> #  Date        : 04-28-2021
00752> #  Modeller    : [J.B]
00753> #  Company     : JFSAinc.
00754> #  License #   :  2549237
00755> #*************************************************************************
00756> #*************************************************************************
00757> R0050:C00002------------------------------------------------------------------------------------------
00758>       READ STORM
00759>        Filename = storm.001
00760>        Comment  = CHICAGO STORM  50 Year, 3 Hours
00761>        [SDT=10.00:SDUR=   3.00:PTOT=  64.81]
00762> R0050:C00003------------------------------------------------------------------------------------------
00763>       DEFAULT VALUES
00764>        Filename = C:\Temp\Design\Ottawa.val
00765>        ICASEdv  = 2 (read values only)
00766> R0050:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00767>     CALIB NASHYD              1.0 01:NORTH-1       34.70     .096 No_date    5:35    7.65 .118     .000
00768>       [CN= 38.1: N= 3.00: Tp= 4.12]
00769> R0050:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00770>     CALIB NASHYD              1.0 01:NORTH-2       12.44     .151 No_date    2:41   12.67 .196     .000
00771>       [CN= 53.0: N= 3.00: Tp= 1.29]
00772> R0050:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00773>     CALIB NASHYD              1.0 01:HWY-1          2.36     .075 No_date    2:30   30.90 .477     .000
00774>       [CN= 81.7: N= 3.00: Tp= 1.21]
00775> R0050:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00776>     ADD HYD                   1.0 02:NORTH-1       34.70     .096 No_date    5:35    7.65  n/a     .000
00777>                       +     1.0 02:NORTH-2       12.44     .151 No_date    2:41   12.67  n/a     .000
00778>                       +     1.0 02:HWY-1          2.36     .075 No_date    2:30   30.90  n/a     .000
00779>                     SUM=    1.0 01:J1            49.51     .267 No_date    2:53   10.02  n/a     .000
00780> R0050:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00781>     ROUTE CHANNEL     ->    1.0 02:J1            49.51     .267 No_date    2:53   10.02  n/a     .000
00782>       [RDT= 1.00] out<-     1.0 01:R1            49.51     .264 No_date    3:07   10.02  n/a     .000
00783>       [L/S/n=  478./ .440/.035]
00784>       (Vmax=  .514:Dmax=  .251)
00785> R0050:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00786>     CALIB NASHYD              1.0 01:INT-1          4.39     .056 No_date    3:08   15.95 .246     .000
00787>       [CN= 60.4: N= 3.00: Tp= 1.66]
00788> R0050:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00789>     CALIB NASHYD              1.0 01:INT-2          3.61     .045 No_date    2:14   10.57 .163     .000
00790>       [CN= 47.4: N= 3.00: Tp=  .95]
00791> R0050:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00792>     CALIB NASHYD              1.0 01:IA3           10.53     .089 No_date    3:10   10.57 .163     .000
00793>       [CN= 47.4: N= 3.00: Tp= 1.66]
00794> R0050:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00795>     CALIB NASHYD              1.0 01:INT-3          5.71     .108 No_date    2:09   15.05 .232     .000
00796>       [CN= 58.5: N= 3.00: Tp=  .89]
00797> R0050:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00798>     ADD HYD                   1.0 02:R1            49.51     .264 No_date    3:07   10.02  n/a     .000
00799>                       +     1.0 02:INT-1          4.39     .056 No_date    3:08   15.95  n/a     .000
00800>                       +     1.0 02:INT-2          3.61     .045 No_date    2:14   10.57  n/a     .000
00801>                       +     1.0 02:INT-3          5.71     .108 No_date    2:09   15.05  n/a     .000
00802>                       +     1.0 02:IA3           10.53     .089 No_date    3:10   10.57  n/a     .000
00803>                     SUM=    1.0 01:J2            73.75     .526 No_date    2:51   10.87  n/a     .000
00804> R0050:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00805>     ROUTE CHANNEL     ->    1.0 02:J2            73.75     .526 No_date    2:51   10.87  n/a     .000
00806>       [RDT= 1.00] out<-     1.0 01:R2            73.75     .523 No_date    2:57   10.87  n/a     .000
00807>       [L/S/n=  359./ .560/.035]
00808>       (Vmax=  .639:Dmax=  .221)
00809> R0050:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00810>     CALIB NASHYD              1.0 01:IA1           25.95     .130 No_date    3:36    7.51 .116     .000
00811>       [CN= 37.6: N= 3.00: Tp= 2.09]
00812> R0050:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00813>     CALIB NASHYD              1.0 01:IA2            9.14     .200 No_date    2:26   20.38 .314     .000
00814>       [CN= 68.4: N= 3.00: Tp= 1.12]
00815> R0050:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00816>     ADD HYD                   1.0 02:R2            73.75     .523 No_date    2:57   10.87  n/a     .000
00817>                       +     1.0 02:IA1           25.95     .130 No_date    3:36    7.51  n/a     .000
00818>                       +     1.0 02:IA2            9.14     .200 No_date    2:26   20.38  n/a     .000
00819>                     SUM=    1.0 01:J3           108.84     .823 No_date    2:52   10.87  n/a     .000
00820> R0050:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00821>     ROUTE CHANNEL     ->    1.0 02:J3           108.84     .823 No_date    2:52   10.87  n/a     .000
00822>       [RDT= 1.00] out<-     1.0 01:R3           108.84     .812 No_date    3:06   10.87  n/a     .000
00823>       [L/S/n=  396./ .305/.035]
00824>       (Vmax=  .473:Dmax=  .389)
00825> R0050:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00826>     CALIB NASHYD              1.0 01:SOUTH-1       20.21     .126 No_date    2:51    6.93 .107     .000
00827>       [CN= 35.5: N= 3.00: Tp= 1.40]
00828> R0050:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00829>     ADD HYD                   1.0 02:R3           108.84     .812 No_date    3:06   10.87  n/a     .000
00830>                       +     1.0 02:SOUTH-1       20.21     .126 No_date    2:51    6.93  n/a     .000
00831>                     SUM=    1.0 01:J4           129.05     .936 No_date    3:04   10.25  n/a     .000
00832> R0050:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00833>     ROUTE CHANNEL     ->    1.0 02:J4           129.05     .936 No_date    3:04   10.25  n/a     .000
00834>       [RDT= 1.00] out<-     1.0 01:R4           129.05     .925 No_date    3:16   10.25  n/a     .000
00835>       [L/S/n=  482./ .410/.035]
00836>       (Vmax=  .635:Dmax=  .397)
00837> R0050:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00838>     CALIB NASHYD              1.0 01:SOUTH-2       11.61     .099 No_date    2:16    7.26 .112     .000
00839>       [CN= 36.7: N= 3.00: Tp=  .96]
00840> R0050:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00841>     ADD HYD                   1.0 02:R4           129.05     .925 No_date    3:16   10.25  n/a     .000
00842>                       +     1.0 02:SOUTH-2       11.61     .099 No_date    2:16    7.26  n/a     .000
00843>                     SUM=    1.0 01:J5           140.66     .997 No_date    3:11   10.00  n/a     .000
00844> R0050:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00845>     ROUTE CHANNEL     ->    1.0 02:J5           140.66     .997 No_date    3:11   10.00  n/a     .000
00846>       [RDT= 1.00] out<-     1.0 01:R5           140.66     .995 No_date    3:16   10.00  n/a     .000
00847>       [L/S/n=  181./ .500/.035]
00848>       (Vmax=  .643:Dmax=  .360)
00849> R0050:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00850>     CALIB NASHYD              1.0 01:SOUTH-3        7.98     .089 No_date    2:10    8.99 .139     .000
00851>       [CN= 42.6: N= 3.00: Tp=  .89]
00852> R0050:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00853>     ADD HYD                   1.0 02:R5           140.66     .995 No_date    3:16   10.00  n/a     .000
00854>                       +     1.0 02:SOUTH-3        7.98     .089 No_date    2:10    8.99  n/a     .000
00855>                     SUM=    1.0 01:J6           148.64    1.054 No_date    3:12    9.95  n/a     .000
00856> R0050:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00857>     ROUTE CHANNEL     ->    1.0 02:J6           148.64    1.054 No_date    3:12    9.95  n/a     .000
00858>       [RDT= 1.00] out<-     1.0 01:R6           148.64    1.048 No_date    3:19    9.95  n/a     .000
00859>       [L/S/n=  323./ .440/.035]
00860>       (Vmax=  .669:Dmax=  .411)
00861> R0050:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00862>     CALIB NASHYD              1.0 01:SOUTH-4       14.99     .119 No_date    2:37    8.05 .124     .000
00863>       [CN= 39.5: N= 3.00: Tp= 1.23]
00864> R0050:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00865>     ADD HYD                   1.0 02:R6           148.64    1.048 No_date    3:19    9.95  n/a     .000
00866>                       +     1.0 02:SOUTH-4       14.99     .119 No_date    2:37    8.05  n/a     .000
00867>                     SUM=    1.0 01:Total        163.63    1.154 No_date    3:15    9.78  n/a     .000
00868> #================================================================================
00869> #================================================================================
00870>   ** END OF RUN :  98
00871>
00872> ****************************************************************************************************
00873>
00874>
00875>
00876>
00877>
00878>  RUN#:COMMAND#
00879> R0099:C00001------------------------------------------------------------------------------------------
00880>       START
00881>       [TZERO =    .00 hrs on       0]
00882>       [METOUT=  2   (1=imperial, 2=metric output)]
00883>       [NSTORM=  1 ]
00884>       [NRUN  = 0099 ]
00885> #*************************************************************************
00886> #  SWMHYMO  / INPUT DATA FILE
00887> #*************************************************************************
00888> #  Project Name: [THUNDER ROAD]    Project Number: [2128]
00889> #  Date        : 04-28-2021
00890> #  Modeller    : [J.B]
00891> #  Company     : JFSAinc.
00892> #  License #   :  2549237
00893> #*************************************************************************
00894> #*************************************************************************
00895> R0099:C00002------------------------------------------------------------------------------------------
00896>       READ STORM
00897>        Filename = storm.001
00898>        Comment  = CHICAGO STORM   100 Year, 3 Hours
00899>        [SDT=10.00:SDUR=   3.00:PTOT=  71.66]
00900> R0099:C00003------------------------------------------------------------------------------------------
00901>       DEFAULT VALUES
00902>        Filename = C:\Temp\Design\Ottawa.val
00903>        ICASEdv  = 2 (read values only)
00904> R0099:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00905>     CALIB NASHYD              1.0 01:NORTH-1       34.70     .118 No_date    5:34    9.36 .131     .000
00906>       [CN= 38.1: N= 3.00: Tp= 4.12]
00907> R0099:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00908>     CALIB NASHYD              1.0 01:NORTH-2       12.44     .184 No_date    2:40   15.36 .214     .000
00909>       [CN= 53.0: N= 3.00: Tp= 1.29]
00910> R0099:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00911>     CALIB NASHYD              1.0 01:HWY-1          2.36     .088 No_date    2:29   36.23 .506     .000
00912>       [CN= 81.7: N= 3.00: Tp= 1.21]
00913> R0099:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00914>     ADD HYD                   1.0 02:NORTH-1       34.70     .118 No_date    5:34    9.36  n/a     .000
00915>                       +     1.0 02:NORTH-2       12.44     .184 No_date    2:40   15.36  n/a     .000
00916>                       +     1.0 02:HWY-1          2.36     .088 No_date    2:29   36.23  n/a     .000
00917>                     SUM=    1.0 01:J1            49.51     .322 No_date    2:52   12.15  n/a     .000
00918> R0099:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00919>     ROUTE CHANNEL     ->    1.0 02:J1            49.51     .322 No_date    2:52   12.15  n/a     .000
00920>       [RDT= 1.00] out<-     1.0 01:R1            49.51     .318 No_date    3:06   12.15  n/a     .000
00921>       [L/S/n=  478./ .440/.035]
00922>       (Vmax=  .541:Dmax=  .272)
00923> R0099:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00924>     CALIB NASHYD              1.0 01:INT-1          4.39     .068 No_date    3:08   19.22 .268     .000
00925>       [CN= 60.4: N= 3.00: Tp= 1.66]
00926> R0099:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00927>     CALIB NASHYD              1.0 01:INT-2          3.61     .055 No_date    2:14   12.87 .180     .000
00928>       [CN= 47.4: N= 3.00: Tp=  .95]
00929> R0099:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00930>     CALIB NASHYD              1.0 01:IA3           10.53     .108 No_date    3:09   12.87 .180     .000
00931>       [CN= 47.4: N= 3.00: Tp= 1.66]
00932> R0099:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00933>     CALIB NASHYD              1.0 01:INT-3          5.71     .131 No_date    2:08   18.16 .253     .000
00934>       [CN= 58.5: N= 3.00: Tp=  .89]
00935> R0099:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00936>     ADD HYD                   1.0 02:R1            49.51     .318 No_date    3:06   12.15  n/a     .000
00937>                       +     1.0 02:INT-1          4.39     .068 No_date    3:08   19.22  n/a     .000
00938>                       +     1.0 02:INT-2          3.61     .055 No_date    2:14   12.87  n/a     .000
00939>                       +     1.0 02:INT-3          5.71     .131 No_date    2:08   18.16  n/a     .000
00940>                       +     1.0 02:IA3           10.53     .108 No_date    3:09   12.87  n/a     .000
00941>                     SUM=    1.0 01:J2            73.75     .636 No_date    2:49   13.17  n/a     .000
00942> R0099:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00943>     ROUTE CHANNEL     ->    1.0 02:J2            73.75     .636 No_date    2:49   13.17  n/a     .000
00944>       [RDT= 1.00] out<-     1.0 01:R2            73.75     .633 No_date    2:55   13.17  n/a     .000
00945>       [L/S/n=  359./ .560/.035]
00946>       (Vmax=  .679:Dmax=  .244)
00947> R0099:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00948>     CALIB NASHYD              1.0 01:IA1           25.95     .159 No_date    3:36    9.19 .128     .000
00949>       [CN= 37.6: N= 3.00: Tp= 2.09]
00950> R0099:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00951>     CALIB NASHYD              1.0 01:IA2            9.14     .239 No_date    2:25   24.35 .340     .000
00952>       [CN= 68.4: N= 3.00: Tp= 1.12]
00953> R0099:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00954>     ADD HYD                   1.0 02:R2            73.75     .633 No_date    2:55   13.17  n/a     .000
00955>                       +     1.0 02:IA1           25.95     .159 No_date    3:36    9.19  n/a     .000
00956>                       +     1.0 02:IA2            9.14     .239 No_date    2:25   24.35  n/a     .000
00957>                     SUM=    1.0 01:J3           108.84     .996 No_date    2:52   13.16  n/a     .000
00958> R0099:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00959>     ROUTE CHANNEL     ->    1.0 02:J3           108.84     .996 No_date    2:52   13.16  n/a     .000
00960>       [RDT= 1.00] out<-     1.0 01:R3           108.84     .985 No_date    3:04   13.16  n/a     .000
00961>       [L/S/n=  396./ .305/.035]
00962>       (Vmax=  .502:Dmax=  .408)
00963> R0099:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00964>     CALIB NASHYD              1.0 01:SOUTH-1       20.21     .155 No_date    2:51    8.49 .119     .000
00965>       [CN= 35.5: N= 3.00: Tp= 1.40]
00966> R0099:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00967>     ADD HYD                   1.0 02:R3           108.84     .985 No_date    3:04   13.16  n/a     .000
00968>                       +     1.0 02:SOUTH-1       20.21     .155 No_date    2:51    8.49  n/a     .000
00969>                     SUM=    1.0 01:J4           129.05    1.138 No_date    3:02   12.43  n/a     .000
00970> R0099:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00971>     ROUTE CHANNEL     ->    1.0 02:J4           129.05    1.138 No_date    3:02   12.43  n/a     .000
00972>       [RDT= 1.00] out<-     1.0 01:R4           129.05    1.124 No_date    3:14   12.43  n/a     .000
00973>       [L/S/n=  482./ .410/.035]
00974>       (Vmax=  .657:Dmax=  .427)
00975> R0099:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00976>     CALIB NASHYD              1.0 01:SOUTH-2       11.61     .121 No_date    2:15    8.89 .124     .000
00977>       [CN= 36.7: N= 3.00: Tp=  .96]
00978> R0099:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00979>     ADD HYD                   1.0 02:R4           129.05    1.124 No_date    3:14   12.43  n/a     .000
00980>                       +     1.0 02:SOUTH-2       11.61     .121 No_date    2:15    8.89  n/a     .000
00981>                     SUM=    1.0 01:J5           140.66    1.213 No_date    3:09   12.14  n/a     .000
00982> R0099:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00983>     ROUTE CHANNEL     ->    1.0 02:J5           140.66    1.213 No_date    3:09   12.14  n/a     .000
00984>       [RDT= 1.00] out<-     1.0 01:R5           140.66    1.211 No_date    3:14   12.14  n/a     .000
00985>       [L/S/n=  181./ .500/.035]
00986>       (Vmax=  .651:Dmax=  .379)
00987> R0099:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00988>     CALIB NASHYD              1.0 01:SOUTH-3        7.98     .109 No_date    2:09   10.97 .153     .000
00989>       [CN= 42.6: N= 3.00: Tp=  .89]
00990> R0099:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00991>     ADD HYD                   1.0 02:R5           140.66    1.211 No_date    3:14   12.14  n/a     .000
00992>                       +     1.0 02:SOUTH-3        7.98     .109 No_date    2:09   10.97  n/a     .000
00993>                     SUM=    1.0 01:J6           148.64    1.283 No_date    3:10   12.07  n/a     .000
00994> R0099:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00995>     ROUTE CHANNEL     ->    1.0 02:J6           148.64    1.283 No_date    3:10   12.07  n/a     .000
00996>       [RDT= 1.00] out<-     1.0 01:R6           148.64    1.277 No_date    3:17   12.07  n/a     .000
00997>       [L/S/n=  323./ .440/.035]
00998>       (Vmax=  .691:Dmax=  .440)
00999> R0099:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01000>     CALIB NASHYD              1.0 01:SOUTH-4       14.99     .146 No_date    2:37    9.84 .137     .000
01001>       [CN= 39.5: N= 3.00: Tp= 1.23]
01002> R0099:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01003>     ADD HYD                   1.0 02:R6           148.64    1.277 No_date    3:17   12.07  n/a     .000
01004>                       +     1.0 02:SOUTH-4       14.99     .146 No_date    2:37    9.84  n/a     .000
01005>                     SUM=    1.0 01:Total        163.63    1.407 No_date    3:14   11.87  n/a     .000
01006> #================================================================================
01007> #================================================================================
01008>   ** END OF RUN :  101
01009>
01010> ****************************************************************************************************
01011>
01012>
01013>
01014>
01015>
01016>  RUN#:COMMAND#
01017> R0102:C00001------------------------------------------------------------------------------------------
01018>       START
01019>       [TZERO =    .00 hrs on       0]
01020>       [METOUT=  2   (1=imperial, 2=metric output)]
01021>       [NSTORM=  1 ]
01022>       [NRUN  = 0102 ]
01023> #*************************************************************************
01024> #  SWMHYMO  / INPUT DATA FILE
01025> #*************************************************************************
01026> #  Project Name: [THUNDER ROAD]    Project Number: [2128]
01027> #  Date        : 04-28-2021
01028> #  Modeller    : [J.B]
01029> #  Company     : JFSAinc.
01030> #  License #   :  2549237
01031> #*************************************************************************
01032> #*************************************************************************
01033> R0102:C00002------------------------------------------------------------------------------------------
01034>       READ STORM
01035>        Filename = storm.001
01036>        Comment  = 2 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
01037>        [SDT=10.00:SDUR=  24.00:PTOT=  48.46]
01038> R0102:C00003------------------------------------------------------------------------------------------
01039>       DEFAULT VALUES
01040>        Filename = C:\Temp\Design\Ottawa.val
01041>        ICASEdv  = 2 (read values only)
01042> R0102:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01043>     CALIB NASHYD              1.0 01:NORTH-1       34.70     .037 No_date   17:04    4.20 .087     .000
01044>       [CN= 38.1: N= 3.00: Tp= 4.12]
01045> R0102:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01046>     CALIB NASHYD              1.0 01:NORTH-2       12.44     .055 No_date   13:25    7.13 .147     .000
01047>       [CN= 53.0: N= 3.00: Tp= 1.29]
01048> R0102:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01049>     CALIB NASHYD              1.0 01:HWY-1          2.36     .031 No_date   13:16   19.04 .393     .000
01050>       [CN= 81.7: N= 3.00: Tp= 1.21]
01051> R0102:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01052>     ADD HYD                   1.0 02:NORTH-1       34.70     .037 No_date   17:04    4.20  n/a     .000
01053>                       +     1.0 02:NORTH-2       12.44     .055 No_date   13:25    7.13  n/a     .000
01054>                       +     1.0 02:HWY-1          2.36     .031 No_date   13:16   19.04  n/a     .000
01055>                     SUM=    1.0 01:J1            49.51     .101 No_date   13:34    5.64  n/a     .000
01056> R0102:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01057>     ROUTE CHANNEL     ->    1.0 02:J1            49.51     .101 No_date   13:34    5.64  n/a     .000
01058>       [RDT= 1.00] out<-     1.0 01:R1            49.51     .098 No_date   13:54    5.64  n/a     .000
01059>       [L/S/n=  478./ .440/.035]
01060>       (Vmax=  .392:Dmax=  .166)
01061> R0102:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01062>     CALIB NASHYD              1.0 01:INT-1          4.39     .021 No_date   13:52    9.12 .188     .000
01063>       [CN= 60.4: N= 3.00: Tp= 1.66]
01064> R0102:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01065>     CALIB NASHYD              1.0 01:INT-2          3.61     .016 No_date   13:00    5.89 .121     .000
01066>       [CN= 47.4: N= 3.00: Tp=  .95]
01067> R0102:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01068>     CALIB NASHYD              1.0 01:IA3           10.53     .032 No_date   13:53    5.89 .121     .000
01069>       [CN= 47.4: N= 3.00: Tp= 1.66]
01070> R0102:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01071>     CALIB NASHYD              1.0 01:INT-3          5.71     .040 No_date   12:55    8.56 .177     .000
01072>       [CN= 58.5: N= 3.00: Tp=  .89]
01073> R0102:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01074>     ADD HYD                   1.0 02:R1            49.51     .098 No_date   13:54    5.64  n/a     .000
01075>                       +     1.0 02:INT-1          4.39     .021 No_date   13:52    9.12  n/a     .000
01076>                       +     1.0 02:INT-2          3.61     .016 No_date   13:00    5.89  n/a     .000
01077>                       +     1.0 02:INT-3          5.71     .040 No_date   12:55    8.56  n/a     .000
01078>                       +     1.0 02:IA3           10.53     .032 No_date   13:53    5.89  n/a     .000
01079>                     SUM=    1.0 01:J2            73.75     .192 No_date   13:34    6.12  n/a     .000
01080> R0102:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
```

```
01081>     ROUTE CHANNEL   ->    1.0 02:J2              73.75     .192 No_date   13:34    6.12  n/a     .000
01082>       [RDT= 1.00] out<-    1.0 01:R2              73.75     .190 No_date   13:46    6.12  n/a     .000
01083>        [L/S/n=  359./ .560/.035]
01084>        [Vmax=  .446:Dmax=  .134]
01085> R0102:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01086>     CALIB NASHYD            1.0 01:A1              25.95     .045 No_date   14:26    4.12 .085     .000
01087>       [CN= 37.6: N= 3.00: Tp= 2.09]
01088> R0102:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01089>     CALIB NASHYD            1.0 01:A2               9.14     .077 No_date   13:11   11.90 .246     .000
01090>       [CN= 68.4: N= 3.00: Tp= 1.12]
01091> R0102:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01092>     ADD HYD                 1.0 02:R2              73.75     .190 No_date   13:46    6.12  n/a     .000
01093>                       +     1.0 02:A1              25.95     .045 No_date   14:26    4.12  n/a     .000
01094>                       +     1.0 02:A2               9.14     .077 No_date   13:11   11.90  n/a     .000
01095>                   SUM=      1.0 01:J3             108.84     .301 No_date   13:42    6.13  n/a     .000
01096> R0102:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01097>     ROUTE CHANNEL   ->    1.0 02:J3             108.84     .301 No_date   13:42    6.13  n/a     .000
01098>       [RDT= 1.00] out<-    1.0 01:R3             108.84     .293 No_date   13:59    6.13  n/a     .000
01099>        [L/S/n=  396./ .305/.035]
01100>        [Vmax=  .394:Dmax=  .274]
01101> R0102:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01102>     CALIB NASHYD            1.0 01:SOUTH-1         20.21     .044 No_date   13:34    3.79 .078     .000
01103>       [CN= 35.5: N= 3.00: Tp= 1.40]
01104> R0102:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01105>     ADD HYD                 1.0 02:R3             108.84     .293 No_date   13:59    6.13  n/a     .000
01106>                       +     1.0 02:SOUTH-1         20.21     .044 No_date   13:34    3.79  n/a     .000
01107>                   SUM=      1.0 01:J4             129.05     .336 No_date   13:56    5.76  n/a     .000
01108> R0102:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01109>     ROUTE CHANNEL   ->    1.0 02:J4             129.05     .336 No_date   13:56    5.76  n/a     .000
01110>       [RDT= 1.00] out<-    1.0 01:R4             129.05     .330 No_date   14:11    5.76  n/a     .000
01111>        [L/S/n=  482./ .410/.035]
01112>        [Vmax=  .517:Dmax=  .264]
01113> R0102:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01114>     CALIB NASHYD            1.0 01:SOUTH-2         11.61     .035 No_date   13:01    3.98 .082     .000
01115>       [CN= 36.7: N= 3.00: Tp=  .96]
01116> R0102:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01117>     ADD HYD                 1.0 02:R4             129.05     .330 No_date   14:11    5.76  n/a     .000
01118>                       +     1.0 02:SOUTH-2         11.61     .035 No_date   13:01    3.98  n/a     .000
01119>                   SUM=      1.0 01:J5             140.66     .352 No_date   14:06    5.62  n/a     .000
01120> R0102:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01121>     ROUTE CHANNEL   ->    1.0 02:J5             140.66     .352 No_date   14:06    5.62  n/a     .000
01122>       [RDT= 1.00] out<-    1.0 01:R5             140.66     .351 No_date   14:12    5.62  n/a     .000
01123>        [L/S/n=  181./ .500/.035]
01124>        [Vmax=  .493:Dmax=  .247]
01125> R0102:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01126>     CALIB NASHYD            1.0 01:SOUTH-3          7.98     .032 No_date   12:56    4.97 .102     .000
01127>       [CN= 42.6: N= 3.00: Tp=  .89]
01128> R0102:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01129>     ADD HYD                 1.0 02:R5             140.66     .351 No_date   14:12    5.62  n/a     .000
01130>                       +     1.0 02:SOUTH-3          7.98     .032 No_date   12:56    4.97  n/a     .000
01131>                   SUM=      1.0 01:J6             148.64     .369 No_date   14:07    5.58  n/a     .000
01132> R0102:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01133>     ROUTE CHANNEL   ->    1.0 02:J6             148.64     .369 No_date   14:07    5.58  n/a     .000
01134>       [RDT= 1.00] out<-    1.0 01:R6             148.64     .367 No_date   14:17    5.58  n/a     .000
01135>        [L/S/n=  323./ .440/.035]
01136>        [Vmax=  .540:Dmax=  .269]
01137> R0102:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01138>     CALIB NASHYD            1.0 01:SOUTH-4         14.99     .042 No_date   13:21    4.43 .091     .000
01139>       [CN= 39.5: N= 3.00: Tp= 1.23]
01140> R0102:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01141>     ADD HYD                 1.0 02:R6             148.64     .367 No_date   14:17    5.58  n/a     .000
01142>                       +     1.0 02:SOUTH-4         14.99     .042 No_date   13:21    4.43  n/a     .000
01143>                   SUM=      1.0 01:Total          163.63     .401 No_date   14:12    5.48  n/a     .000
01144> #================================================================
01145> #================================================================
01146>   ** END OF RUN :  104
01147>
01148> ***************************************************************************************************
01149>
01150>
01151>
01152>
01153>
01154>  RUN#:COMMAND#
01155> R0105:C00001------------------------------------------------------------------------------------------
01156>       START
01157>       [TZERO =    .00 hrs on       0]
01158>       [METOUT=  2   (1=imperial, 2=metric output)]
01159>       [NSTORM=  1 ]
01160>       [NRUN  = 0105 ]
01161> #*************************************************************************
01162> #  SWMHYMO  / INPUT DATA FILE
01163> #*************************************************************************
01164> #  Project Name: [THUNDER ROAD]    Project Number: [2128]
01165> #  Date       : 04-28-2021
01166> #  Modeller   : [J.B]
01167> #  Company    : JFSAinc.
01168> #  License #  :  2549237
01169> #*************************************************************************
01170> #*************************************************************************
01171> R0105:C00002------------------------------------------------------------------------------------------
01172>       READ STORM
01173>        Filename = storm.001
01174>        Comment  = 5 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
01175>        [SDT=10.00:SDUR=  24.00:PTOT=  64.11]
01176> R0105:C00003------------------------------------------------------------------------------------------
01177>       DEFAULT VALUES
01178>        Filename = C:\Temp\Design\Ottawa.val
01179>        ICASEDzy  = 2 (read values only)
01180> R0105:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01181>     CALIB NASHYD            1.0 01:NORTH-1         34.70     .067 No_date   17:00    7.48 .117     .000
01182>       [CN= 38.1: N= 3.00: Tp= 4.12]
01183> R0105:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01184>     CALIB NASHYD            1.0 01:NORTH-2         12.44     .097 No_date   13:24   12.41 .194     .000
01185>       [CN= 53.0: N= 3.00: Tp= 1.29]
01186> R0105:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01187>     CALIB NASHYD            1.0 01:HWY-1           2.36     .050 No_date   13:14   30.37 .474     .000
01188>       [CN= 81.7: N= 3.00: Tp= 1.21]
01189> R0105:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01190>     ADD HYD                 1.0 02:NORTH-1         34.70     .067 No_date   17:00    7.48  n/a     .000
01191>                       +     1.0 02:NORTH-2         12.44     .097 No_date   13:24   12.41  n/a     .000
01192>                       +     1.0 02:HWY-1           2.36     .050 No_date   13:14   30.37  n/a     .000
01193>                   SUM=      1.0 01:J1             49.51     .174 No_date   13:34    9.81  n/a     .000
01194> R0105:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01195>     ROUTE CHANNEL   ->    1.0 02:J1             49.51     .174 No_date   13:34    9.81  n/a     .000
01196>       [RDT= 1.00] out<-    1.0 01:R1             49.51     .171 No_date   13:49    9.81  n/a     .000
01197>        [L/S/n=  478./ .440/.035]
01198>        [Vmax=  .461:Dmax=  .210]
01199> R0105:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01200>     CALIB NASHYD            1.0 01:INT-1           4.39     .036 No_date   13:50   15.63 .244     .000
01201>       [CN= 60.4: N= 3.00: Tp= 1.66]
01202> R0105:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01203>     CALIB NASHYD            1.0 01:INT-2           3.61     .029 No_date   12:59   10.35 .161     .000
01204>       [CN= 47.4: N= 3.00: Tp=  .95]
01205> R0105:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01206>     CALIB NASHYD            1.0 01:A3             10.53     .056 No_date   13:51   10.35 .161     .000
01207>       [CN= 47.4: N= 3.00: Tp= 1.66]
01208> R0105:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01209>     CALIB NASHYD            1.0 01:INT-3           5.71     .070 No_date   12:54   14.74 .230     .000
01210>       [CN= 58.5: N= 3.00: Tp=  .89]
01211> R0105:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01212>     ADD HYD                 1.0 02:R1             49.51     .171 No_date   13:49    9.81  n/a     .000
01213>                       +     1.0 02:INT-1           4.39     .036 No_date   13:50   15.63  n/a     .000
01214>                       +     1.0 02:INT-2           3.61     .029 No_date   12:59   10.35  n/a     .000
01215>                       +     1.0 02:INT-3           5.71     .070 No_date   12:54   14.74  n/a     .000
01216>                       +     1.0 02:A3             10.53     .056 No_date   13:51   10.35  n/a     .000
01217>                   SUM=      1.0 01:J2             73.75     .339 No_date   13:33   10.64  n/a     .000
01218> R0105:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01219>     ROUTE CHANNEL   ->    1.0 02:J2             73.75     .339 No_date   13:33   10.64  n/a     .000
01220>       [RDT= 1.00] out<-    1.0 01:R2             73.75     .336 No_date   13:40   10.64  n/a     .000
01221>        [L/S/n=  359./ .560/.035]
01222>        [Vmax=  .549:Dmax=  .177]
01223> R0105:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01224>     CALIB NASHYD            1.0 01:A1             25.95     .082 No_date   14:24    7.34 .115     .000
01225>       [CN= 37.6: N= 3.00: Tp= 2.09]
01226> R0105:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01227>     CALIB NASHYD            1.0 01:A2              9.14     .131 No_date   13:10   19.98 .312     .000
01228>       [CN= 68.4: N= 3.00: Tp= 1.12]
01229> R0105:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01230>     ADD HYD                 1.0 02:R2             73.75     .336 No_date   13:40   10.64  n/a     .000
01231>                       +     1.0 02:A1             25.95     .082 No_date   14:24    7.34  n/a     .000
01232>                       +     1.0 02:A2              9.14     .131 No_date   13:10   19.98  n/a     .000
01233>                   SUM=      1.0 01:J3            108.84     .530 No_date   13:37   10.64  n/a     .000
01234> R0105:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01235>     ROUTE CHANNEL   ->    1.0 02:J3             108.84     .530 No_date   13:37   10.64  n/a     .000
01236>       [RDT= 1.00] out<-    1.0 01:R3             108.84     .519 No_date   13:52   10.64  n/a     .000
01237>        [L/S/n=  396./ .305/.035]
01238>        [Vmax=  .431:Dmax=  .338]
01239> R0105:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01240>     CALIB NASHYD            1.0 01:SOUTH-1         20.21     .079 No_date   13:33    6.78 .106     .000
01241>       [CN= 35.5: N= 3.00: Tp= 1.40]
01242> R0105:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01243>     ADD HYD                 1.0 02:R3             108.84     .519 No_date   13:52   10.64  n/a     .000
01244>                       +     1.0 02:SOUTH-1         20.21     .079 No_date   13:33    6.78  n/a     .000
01245>                   SUM=      1.0 01:J4             129.05     .597 No_date   13:50   10.04  n/a     .000
01246> R0105:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01247>     ROUTE CHANNEL   ->    1.0 02:J4             129.05     .597 No_date   13:50   10.04  n/a     .000
01248>       [RDT= 1.00] out<-    1.0 01:R4             129.05     .588 No_date   14:03   10.04  n/a     .000
01249>        [L/S/n=  482./ .410/.035]
01250>        [Vmax=  .579:Dmax=  .334]
01251> R0105:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01252>     CALIB NASHYD            1.0 01:SOUTH-2         11.61     .063 No_date   13:00    7.10 .111     .000
01253>       [CN= 36.7: N= 3.00: Tp=  .96]
01254> R0105:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01255>     ADD HYD                 1.0 02:R4             129.05     .588 No_date   14:03   10.04  n/a     .000
01256>                       +     1.0 02:SOUTH-2         11.61     .063 No_date   13:00    7.10  n/a     .000
01257>                   SUM=      1.0 01:J5             140.66     .630 No_date   13:58    9.79  n/a     .000
01258> R0105:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01259>     ROUTE CHANNEL   ->    1.0 02:J5             140.66     .630 No_date   13:58    9.79  n/a     .000
01260>       [RDT= 1.00] out<-    1.0 01:R5             140.66     .629 No_date   14:03    9.79  n/a     .000
01261>        [L/S/n=  181./ .500/.035]
01262>        [Vmax=  .551:Dmax=  .297]
01263> R0105:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01264>     CALIB NASHYD            1.0 01:SOUTH-3          7.98     .057 No_date   12:55    8.79 .137     .000
01265>       [CN= 42.6: N= 3.00: Tp=  .89]
01266> R0105:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01267>     ADD HYD                 1.0 02:R5             140.66     .629 No_date   14:03    9.79  n/a     .000
01268>                       +     1.0 02:SOUTH-3          7.98     .057 No_date   12:55    8.79  n/a     .000
01269>                   SUM=      1.0 01:J6             148.64     .664 No_date   13:58    9.74  n/a     .000
01270> R0105:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01271>     ROUTE CHANNEL   ->    1.0 02:J6             148.64     .664 No_date   13:58    9.74  n/a     .000
01272>       [RDT= 1.00] out<-    1.0 01:R6             148.64     .660 No_date   14:07    9.74  n/a     .000
01273>        [L/S/n=  323./ .440/.035]
01274>        [Vmax=  .607:Dmax=  .342]
01275> R0105:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01276>     CALIB NASHYD            1.0 01:SOUTH-4         14.99     .075 No_date   13:20    7.88 .123     .000
01277>       [CN= 39.5: N= 3.00: Tp= 1.23]
01278> R0105:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01279>     ADD HYD                 1.0 02:R6             148.64     .660 No_date   14:07    9.74  n/a     .000
01280>                       +     1.0 02:SOUTH-4         14.99     .075 No_date   13:20    7.88  n/a     .000
01281>                   SUM=      1.0 01:Total          163.63     .724 No_date   14:03    9.57  n/a     .000
01282> #================================================================
01283> #================================================================
01284>   ** END OF RUN :  109
01285>
01286> ***************************************************************************************************
01287>
01288>
01289>
01290>
01291>
01292>  RUN#:COMMAND#
01293> R0110:C00001------------------------------------------------------------------------------------------
01294>       START
01295>       [TZERO =    .00 hrs on       0]
01296>       [METOUT=  2   (1=imperial, 2=metric output)]
01297>       [NSTORM=  1 ]
01298>       [NRUN  = 0110 ]
01299> #*************************************************************************
01300> #  SWMHYMO  / INPUT DATA FILE
01301> #*************************************************************************
01302> #  Project Name: [THUNDER ROAD]    Project Number: [2128]
01303> #  Date       : 04-28-2021
01304> #  Modeller   : [J.B]
01305> #  Company    : JFSAinc.
01306> #  License #  :  2549237
01307> #*************************************************************************
01308> #*************************************************************************
01309> R0110:C00002------------------------------------------------------------------------------------------
01310>       READ STORM
01311>        Filename = storm.001
01312>        Comment  = 10 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
01313>        [SDT=10.00:SDUR=  24.00:PTOT=  74.35]
01314> R0110:C00003------------------------------------------------------------------------------------------
01315>       DEFAULT VALUES
01316>        Filename = C:\Temp\Design\Ottawa.val
01317>        ICASEdv  = 2 (read values only)
01318> R0110:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01319>     CALIB NASHYD            1.0 01:NORTH-1         34.70     .091 No_date   16:59   10.07 .135     .000
01320>       [CN= 38.1: N= 3.00: Tp= 4.12]
01321> R0110:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01322>     CALIB NASHYD            1.0 01:NORTH-2         12.44     .129 No_date   13:23   16.46 .221     .000
01323>       [CN= 53.0: N= 3.00: Tp= 1.29]
01324> R0110:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01325>     CALIB NASHYD            1.0 01:HWY-1           2.36     .064 No_date   13:14   38.36 .516     .000
01326>       [CN= 81.7: N= 3.00: Tp= 1.21]
01327> R0110:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01328>     ADD HYD                 1.0 02:NORTH-1         34.70     .091 No_date   16:59   10.07  n/a     .000
01329>                       +     1.0 02:NORTH-2         12.44     .129 No_date   13:23   16.46  n/a     .000
01330>                       +     1.0 02:HWY-1           2.36     .064 No_date   13:14   38.36  n/a     .000
01331>                   SUM=      1.0 01:J1             49.51     .230 No_date   13:23   13.03  n/a     .000
01332> R0110:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01333>     ROUTE CHANNEL   ->    1.0 02:J1             49.51     .230 No_date   13:33   13.03  n/a     .000
01334>       [RDT= 1.00] out<-    1.0 01:R1             49.51     .226 No_date   13:48   13.03  n/a     .000
01335>        [L/S/n=  478./ .440/.035]
01336>        [Vmax=  .495:Dmax=  .236]
01337> R0110:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01338>     CALIB NASHYD            1.0 01:INT-1           4.39     .048 No_date   13:49   20.56 .276     .000
01339>       [CN= 60.4: N= 3.00: Tp= 1.66]
01340> R0110:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01341>     CALIB NASHYD            1.0 01:INT-2           3.61     .039 No_date   12:59   13.81 .186     .000
01342>       [CN= 47.4: N= 3.00: Tp=  .95]
01343> R0110:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01344>     CALIB NASHYD            1.0 01:A3             10.53     .075 No_date   13:51   13.81 .186     .000
01345>       [CN= 47.4: N= 3.00: Tp= 1.66]
01346> R0110:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01347>     CALIB NASHYD            1.0 01:INT-3           5.71     .093 No_date   12:54   19.43 .261     .000
01348>       [CN= 58.5: N= 3.00: Tp=  .89]
01349> R0110:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01350>     ADD HYD                 1.0 02:R1             49.51     .226 No_date   13:48   13.03  n/a     .000
01351>                       +     1.0 02:INT-1           4.39     .048 No_date   13:49   20.56  n/a     .000
01352>                       +     1.0 02:INT-2           3.61     .039 No_date   12:59   13.81  n/a     .000
01353>                       +     1.0 02:INT-3           5.71     .093 No_date   12:54   19.43  n/a     .000
01354>                       +     1.0 02:A3             10.53     .075 No_date   13:51   13.81  n/a     .000
01355>                   SUM=      1.0 01:J2             73.75     .451 No_date   13:30   14.12  n/a     .000
01356> R0110:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01357>     ROUTE CHANNEL   ->    1.0 02:J2             73.75     .451 No_date   13:30   14.12  n/a     .000
01358>       [RDT= 1.00] out<-    1.0 01:R2             73.75     .448 No_date   13:39   14.12  n/a     .000
01359>        [L/S/n=  359./ .560/.035]
01360>        [Vmax=  .605:Dmax=  .205]
01361> R0110:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01362>     CALIB NASHYD            1.0 01:A1             25.95     .111 No_date   14:23    9.89 .133     .000
01363>       [CN= 37.6: N= 3.00: Tp= 2.09]
01364> R0110:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01365>     CALIB NASHYD            1.0 01:A2              9.14     .171 No_date   13:09   25.96 .349     .000
01366>       [CN= 68.4: N= 3.00: Tp= 1.12]
01367> R0110:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01368>     ADD HYD                 1.0 02:R2             73.75     .448 No_date   13:39   14.12  n/a     .000
01369>                       +     1.0 02:A1             25.95     .111 No_date   14:23    9.89  n/a     .000
01370>                       +     1.0 02:A2              9.14     .171 No_date   13:09   25.96  n/a     .000
01371>                   SUM=      1.0 01:J3            108.84     .705 No_date   13:35   14.11  n/a     .000
01372> R0110:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01373>     ROUTE CHANNEL   ->    1.0 02:J3            108.84     .705 No_date   13:35   14.11  n/a     .000
01374>       [RDT= 1.00] out<-    1.0 01:R3            108.84     .692 No_date   13:49   14.11  n/a     .000
01375>        [L/S/n=  396./ .305/.035]
01376>        [Vmax=  .456:Dmax=  .372]
01377> R0110:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01378>     CALIB NASHYD            1.0 01:SOUTH-1         20.21     .107 No_date   13:32    9.14 .123     .000
01379>       [CN= 35.5: N= 3.00: Tp= 1.40]
01380> R0110:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01381>     ADD HYD                 1.0 02:R3             108.84     .692 No_date   13:49   14.11  n/a     .000
01382>                       +     1.0 02:SOUTH-1         20.21     .107 No_date   13:32    9.14  n/a     .000
01383>                   SUM=      1.0 01:J4             129.05     .798 No_date   13:47   13.33  n/a     .000
01384> R0110:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01385>     ROUTE CHANNEL   ->    1.0 02:J4             129.05     .798 No_date   13:47   13.33  n/a     .000
01386>       [RDT= 1.00] out<-    1.0 01:R4             129.05     .786 No_date   14:00   13.33  n/a     .000
01387>        [L/S/n=  482./ .410/.035]
01388>        [Vmax=  .611:Dmax=  .372]
01389> R0110:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01390>     CALIB NASHYD            1.0 01:SOUTH-2         11.61     .085 No_date   13:00    9.56 .129     .000
01391>       [CN= 36.7: N= 3.00: Tp=  .96]
01392> R0110:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01393>     ADD HYD                 1.0 02:R4             129.05     .786 No_date   14:00   13.33  n/a     .000
01394>                       +     1.0 02:SOUTH-2         11.61     .085 No_date   13:00    9.56  n/a     .000
01395>                   SUM=      1.0 01:J5             140.66     .846 No_date   13:55   13.02  n/a     .000
01396> R0110:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01397>     ROUTE CHANNEL   ->    1.0 02:J5             140.66     .846 No_date   13:55   13.02  n/a     .000
01398>       [RDT= 1.00] out<-    1.0 01:R5             140.66     .845 No_date   13:58   13.02  n/a     .000
01399>        [L/S/n=  181./ .500/.035]
01400>        [Vmax=  .607:Dmax=  .336]
01401> R0110:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01402>     CALIB NASHYD            1.0 01:SOUTH-3          7.98     .077 No_date   12:55   11.79 .159     .000
01403>       [CN= 42.6: N= 3.00: Tp=  .89]
01404> R0110:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01405>     ADD HYD                 1.0 02:R5             140.66     .845 No_date   13:58   13.02  n/a     .000
01406>                       +     1.0 02:SOUTH-3          7.98     .077 No_date   12:55   11.79  n/a     .000
01407>                   SUM=      1.0 01:J6             148.64     .894 No_date   13:53   12.95  n/a     .000
01408> R0110:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01409>     ROUTE CHANNEL   ->    1.0 02:J6             148.64     .894 No_date   13:53   12.95  n/a     .000
01410>       [RDT= 1.00] out<-    1.0 01:R6             148.64     .888 No_date   14:02   12.95  n/a     .000
01411>        [L/S/n=  323./ .440/.035]
01412>        [Vmax=  .644:Dmax=  .384]
01413> R0110:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01414>     CALIB NASHYD            1.0 01:SOUTH-4         14.99     .102 No_date   13:20   10.59 .142     .000
01415>       [CN= 39.5: N= 3.00: Tp= 1.23]
01416> R0110:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01417>     ADD HYD                 1.0 02:R6             148.64     .888 No_date   14:02   12.95  n/a     .000
01418>                       +     1.0 02:SOUTH-4         14.99     .102 No_date   13:20   10.59  n/a     .000
01419>                   SUM=      1.0 01:Total          163.63     .977 No_date   13:58   12.73  n/a     .000
01420> #================================================================
01421> #================================================================
01422>   ** END OF RUN :  124
01423>
01424> ***************************************************************************************************
01425>
01426>
01427>
01428>
01429>
01430>  RUN#:COMMAND#
01431> R0125:C00001------------------------------------------------------------------------------------------
01432>       START
01433>       [TZERO =    .00 hrs on       0]
01434>       [METOUT=  2   (1=imperial, 2=metric output)]
01435>       [NSTORM=  1 ]
01436>       [NRUN  = 0125 ]
01437> #*************************************************************************
01438> #  SWMHYMO  / INPUT DATA FILE
01439> #*************************************************************************
01440> #  Project Name: [THUNDER ROAD]    Project Number: [2128]
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01441> #  Date       : 04-28-2021
01442> #  Modeller   : [J.B]
01443> #  Company    : JFSAinc.
01444> #  License #  :  2549237
01445> #*****************************************************************************
01446> #**************************************************************************
01447> R0125:C00002------------------------------------------------------------------------------
01448>      READ STORM
01449>       Filename = storm.001
01450>       Comment  = 25 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
01451>      [SDT=10.00:SDUR=  24.00:PTOT=  86.89]
01452> R0125:C00003------------------------------------------------------------------------------
01453>      DEFAULT VALUES
01454>       Filename = C:\Temp\Design\Ottawa.val
01455>       ICASEdv  = 2 (read values only)
01456> R0125:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01457>      CALIB NASHYD            1.0 01:NORTH-1      34.70     .124 No_date   16:57   13.66 .157     .000
01458>        [CN= 38.1: N= 3.00: Tp= 4.12]
01459> R0125:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01460>      CALIB NASHYD            1.0 01:NORTH-2      12.44     .174 No_date   13:22   21.98 .253     .000
01461>        [CN= 53.0: N= 3.00: Tp= 1.29]
01462> R0125:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01463>      CALIB NASHYD            1.0 01:HWY-1         2.36     .082 No_date   13:13   48.59 .559     .000
01464>        [CN= 81.7: N= 3.00: Tp= 1.21]
01465> R0125:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01466>      ADD HYD                 1.0 02:NORTH-1      34.70     .124 No_date   16:57   13.66 n/a      .000
01467>                        +     1.0 02:NORTH-2      12.44     .174 No_date   13:22   21.98 n/a      .000
01468>                        +     1.0 02:HWY-1         2.36     .082 No_date   13:13   48.59 n/a      .000
01469>                      SUM=    1.0 01:J1           49.51     .306 No_date   13:33   17.42 n/a      .000
01470> R0125:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01471>      ROUTE CHANNEL   ->    1.0 02:J1           49.51     .306 No_date   13:33   17.42 n/a      .000
01472>        [RDT= 1.00] out<-   1.0 01:R1           49.51     .302 No_date   13:47   17.42 n/a      .000
01473>        [L/S/n=  478./ .440/.035]
01474>        {Vmax=  .533:Dmax=  .266}
01475> R0125:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01476>      CALIB NASHYD            1.0 01:INT-1         4.39     .064 No_date   13:48   27.17 .313     .000
01477>        [CN= 60.4: N= 3.00: Tp= 1.66]
01478> R0125:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01479>      CALIB NASHYD            1.0 01:INT-2         3.61     .053 No_date   12:58   18.57 .214     .000
01480>        [CN= 47.4: N= 3.00: Tp=  .95]
01481> R0125:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01482>      CALIB NASHYD            1.0 01:A3           10.53     .102 No_date   13:50   18.57 .214     .000
01483>        [CN= 47.4: N= 3.00: Tp= 1.66]
01484> R0125:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01485>      CALIB NASHYD            1.0 01:INT-3         5.71     .124 No_date   12:53   25.76 .296     .000
01486>        [CN= 58.5: N= 3.00: Tp=  .89]
01487> R0125:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01488>      ADD HYD                 1.0 02:R1           49.51     .302 No_date   13:47   17.42 n/a      .000
01489>                        +     1.0 02:INT-1         4.39     .064 No_date   13:48   27.17 n/a      .000
01490>                        +     1.0 02:INT-2         3.61     .053 No_date   12:58   18.57 n/a      .000
01491>                        +     1.0 02:INT-3         5.71     .124 No_date   12:53   25.76 n/a      .000
01492>                        +     1.0 02:A3           10.53     .102 No_date   13:50   18.57 n/a      .000
01493>                      SUM=    1.0 01:J2           73.75     .604 No_date   13:29   18.87 n/a      .000
01494> R0125:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01495>      ROUTE CHANNEL   ->    1.0 02:J2           73.75     .604 No_date   13:29   18.87 n/a      .000
01496>        [RDT= 1.00] out<-   1.0 01:R2           73.75     .601 No_date   13:37   18.87 n/a      .000
01497>        [L/S/n=  359./ .560/.035]
01498>        {Vmax=  .668:Dmax=  .237}
01499> R0125:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01500>      CALIB NASHYD            1.0 01:A1           25.95     .151 No_date   14:22   13.42 .154     .000
01501>        [CN= 37.6: N= 3.00: Tp= 2.09]
01502> R0125:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01503>      CALIB NASHYD            1.0 01:A2            9.14     .226 No_date   13:09   33.87 .390     .000
01504>        [CN= 68.4: N= 3.00: Tp= 1.12]
01505> R0125:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01506>      ADD HYD                 1.0 02:R2           73.75     .601 No_date   13:37   18.87 n/a      .000
01507>                        +     1.0 02:A1           25.95     .151 No_date   14:22   13.42 n/a      .000
01508>                        +     1.0 02:A2            9.14     .226 No_date   13:09   33.87 n/a      .000
01509>                      SUM=    1.0 01:J3          108.84     .944 No_date   13:33   18.83 n/a      .000
01510> R0125:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01511>      ROUTE CHANNEL   ->    1.0 02:J3          108.84     .944 No_date   13:33   18.83 n/a      .000
01512>        [RDT= 1.00] out<-   1.0 01:R3          108.84     .931 No_date   13:45   18.83 n/a      .000
01513>        [L/S/n=  396./ .305/.035]
01514>        {Vmax=  .493:Dmax=  .403}
01515> R0125:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01516>      CALIB NASHYD            1.0 01:SOUTH-1      20.21     .147 No_date   13:32   12.43 .143     .000
01517>        [CN= 35.5: N= 3.00: Tp= 1.40]
01518> R0125:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01519>      ADD HYD                 1.0 02:R3          108.84     .931 No_date   13:45   18.83 n/a      .000
01520>                        +     1.0 02:SOUTH-1      20.21     .147 No_date   13:32   12.43 n/a      .000
01521>                      SUM=    1.0 01:J4          129.05    1.076 No_date   13:43   17.83 n/a      .000
01522> R0125:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01523>      ROUTE CHANNEL   ->    1.0 02:J4          129.05    1.076 No_date   13:43   17.83 n/a      .000
01524>        [RDT= 1.00] out<-   1.0 01:R4          129.05    1.062 No_date   13:56   17.83 n/a      .000
01525>        [L/S/n=  482./ .410/.035]
01526>        {Vmax=  .652:Dmax=  .419}
01527> R0125:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01528>      CALIB NASHYD            1.0 01:SOUTH-2      11.61     .117 No_date   13:00   12.99 .150     .000
01529>        [CN= 36.7: N= 3.00: Tp=  .96]
01530> R0125:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01531>      ADD HYD                 1.0 02:R4          129.05    1.062 No_date   13:56   17.83 n/a      .000
01532>                        +     1.0 02:SOUTH-2      11.61     .117 No_date   13:00   12.99 n/a      .000
01533>                      SUM=    1.0 01:J5          140.66    1.146 No_date   13:51   17.48 n/a      .000
01534> R0125:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01535>      ROUTE CHANNEL   ->    1.0 02:J5          140.66    1.146 No_date   13:51   17.43 n/a      .000
01536>        [RDT= 1.00] out<-   1.0 01:R5          140.66    1.144 No_date   13:56   17.43 n/a      .000
01537>        [L/S/n=  181./ .500/.035]
01538>        {Vmax=  .648:Dmax=  .373}
01539> R0125:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01540>      CALIB NASHYD            1.0 01:SOUTH-3       7.98     .105 No_date   12:54   15.92 .183     .000
01541>        [CN= 42.6: N= 3.00: Tp=  .89]
01542> R0125:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01543>      ADD HYD                 1.0 02:R5          140.66    1.144 No_date   13:56   17.43 n/a      .000
01544>                        +     1.0 02:SOUTH-3       7.98     .105 No_date   12:54   15.92 n/a      .000
01545>                      SUM=    1.0 01:J6          148.64    1.211 No_date   13:52   17.35 n/a      .000
01546> R0125:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01547>      ROUTE CHANNEL   ->    1.0 02:J6          148.64    1.211 No_date   13:52   17.35 n/a      .000
01548>        [RDT= 1.00] out<-   1.0 01:R6          148.64    1.205 No_date   13:59   17.35 n/a      .000
01549>        [L/S/n=  323./ .440/.035]
01550>        {Vmax=  .684:Dmax=  .431}
01551> R0125:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01552>      CALIB NASHYD            1.0 01:SOUTH-4      14.99     .139 No_date   13:19   14.34 .165     .000
01553>        [CN= 39.5: N= 3.00: Tp= 1.23]
01554> R0125:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01555>      ADD HYD                 1.0 02:R6          148.64    1.205 No_date   13:59   17.35 n/a      .000
01556>                        +     1.0 02:SOUTH-4      14.99     .139 No_date   13:19   14.34 n/a      .000
01557>                      SUM=    1.0 01:Total       163.63    1.327 No_date   13:56   17.07 n/a      .000
01558> #================================================================
01559> #================================================================
01560>  ** END OF RUN :  149
01561>
01562> ****************************************************************************************************
01563>
01564>
01565>
01566>
01567>
01568>  RUN#:COMMAND#
01569> R0150:C00001------------------------------------------------------------------------------
01570>      START
01571>       [TZERO =    .00 hrs on       0]
01572>       [METOUT=   2   (1=imperial, 2=metric output)]
01573>       [NSTORM=   1 ]
01574>       [NRUN  = 0150 ]
01575> #*****************************************************************************
01576> #  SWMHYMO  / INPUT DATA FILE
01577> #*****************************************************************************
01578> #  Project Name: [THUNDER ROAD]    Project Number: [2128]
01579> #  Date       : 04-28-2021
01580> #  Modeller   : [J.B]
01581> #  Company    : JFSAinc.
01582> #  License #  :  2549237
01583> #*****************************************************************************
01584> #**************************************************************************
01585> R0150:C00002------------------------------------------------------------------------------
01586>      READ STORM
01587>       Filename = storm.001
01588>       Comment  = 50 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
01589>      [SDT=10.00:SDUR=  24.00:PTOT=  96.53]
01590> R0150:C00003------------------------------------------------------------------------------
01591>      DEFAULT VALUES
01592>       Filename = C:\Temp\Design\Ottawa.val
01593>       ICASEdv  = 2 (read values only)
01594> R0150:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01595>      CALIB NASHYD            1.0 01:NORTH-1      34.70     .152 No_date   16:56   16.72 .173     .000
01596>        [CN= 38.1: N= 3.00: Tp= 4.12]
01597> R0150:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01598>      CALIB NASHYD            1.0 01:NORTH-2      12.44     .211 No_date   13:22   26.61 .276     .000
01599>        [CN= 53.0: N= 3.00: Tp= 1.29]
01600> R0150:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01601>      CALIB NASHYD            1.0 01:HWY-1         2.36     .096 No_date   13:13   56.72 .588     .000
01602>        [CN= 81.7: N= 3.00: Tp= 1.21]
01603> R0150:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01604>      ADD HYD                 1.0 02:NORTH-1      34.70     .152 No_date   16:56   16.72 n/a      .000
01605>                        +     1.0 02:NORTH-2      12.44     .211 No_date   13:22   26.61 n/a      .000
01606>                        +     1.0 02:HWY-1         2.36     .096 No_date   13:13   56.72 n/a      .000
01607>                      SUM=    1.0 01:J1           49.51     .369 No_date   13:33   21.12 n/a      .000
01608> R0150:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01609>      ROUTE CHANNEL   ->    1.0 02:J1           49.51     .369 No_date   13:33   21.12 n/a      .000
01610>        [RDT= 1.00] out<-   1.0 01:R1           49.51     .364 No_date   13:47   21.12 n/a      .000
01611>        [L/S/n=  478./ .440/.035]
01612>        {Vmax=  .559:Dmax=  .288}
01613> R0150:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01614>      CALIB NASHYD            1.0 01:INT-1         4.39     .077 No_date   13:48   32.65 .338     .000
01615>        [CN= 60.4: N= 3.00: Tp= 1.66]
01616> R0150:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01617>      CALIB NASHYD            1.0 01:INT-2         3.61     .065 No_date   12:58   22.58 .234     .000
01618>        [CN= 47.4: N= 3.00: Tp=  .95]
01619> R0150:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01620>      CALIB NASHYD            1.0 01:A3           10.53     .124 No_date   13:49   22.58 .234     .000
01621>        [CN= 47.4: N= 3.00: Tp= 1.66]
01622> R0150:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01623>      CALIB NASHYD            1.0 01:INT-3         5.71     .151 No_date   12:53   31.02 .321     .000
01624>        [CN= 58.5: N= 3.00: Tp=  .89]
01625> R0150:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01626>      ADD HYD                 1.0 02:R1           49.51     .364 No_date   13:47   21.12 n/a      .000
01627>                        +     1.0 02:INT-1         4.39     .077 No_date   13:48   32.65 n/a      .000
01628>                        +     1.0 02:INT-2         3.61     .065 No_date   12:58   22.58 n/a      .000
01629>                        +     1.0 02:INT-3         5.71     .151 No_date   12:53   31.02 n/a      .000
01630>                        +     1.0 02:A3           10.53     .124 No_date   13:49   22.58 n/a      .000
01631>                      SUM=    1.0 01:J2           73.75     .731 No_date   13:30   22.85 n/a      .000
01632> R0150:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01633>      ROUTE CHANNEL   ->    1.0 02:J2           73.75     .731 No_date   13:30   22.85 n/a      .000
01634>        [RDT= 1.00] out<-   1.0 01:R2           73.75     .728 No_date   13:35   22.85 n/a      .000
01635>        [L/S/n=  359./ .560/.035]
01636>        {Vmax=  .712:Dmax=  .262}
01637> R0150:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01638>      CALIB NASHYD            1.0 01:A1           25.95     .185 No_date   14:22   16.43 .170     .000
01639>        [CN= 37.6: N= 3.00: Tp= 2.09]
01640> R0150:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01641>      CALIB NASHYD            1.0 01:A2            9.14     .270 No_date   13:08   40.33 .418     .000
01642>        [CN= 68.4: N= 3.00: Tp= 1.12]
01643> R0150:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01644>      ADD HYD                 1.0 02:R2           73.75     .728 No_date   13:35   22.85 n/a      .000
01645>                        +     1.0 02:A1           25.95     .185 No_date   14:22   16.43 n/a      .000
01646>                        +     1.0 02:A2            9.14     .270 No_date   13:08   40.33 n/a      .000
01647>                      SUM=    1.0 01:J3          108.84    1.143 No_date   13:32   22.79 n/a      .000
01648> R0150:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01649>      ROUTE CHANNEL   ->    1.0 02:J3          108.84    1.143 No_date   13:32   22.79 n/a      .000
01650>        [RDT= 1.00] out<-   1.0 01:R3          108.84    1.130 No_date   13:43   22.79 n/a      .000
01651>        [L/S/n=  396./ .305/.035]
01652>        {Vmax=  .528:Dmax=  .425}
01653> R0150:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01654>      CALIB NASHYD            1.0 01:SOUTH-1      20.21     .180 No_date   13:32   15.25 .158     .000
01655>        [CN= 35.5: N= 3.00: Tp= 1.40]
01656> R0150:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01657>      ADD HYD                 1.0 02:R3          108.84    1.130 No_date   13:43   22.79 n/a      .000
01658>                        +     1.0 02:SOUTH-1      20.21     .180 No_date   13:32   15.25 n/a      .000
01659>                      SUM=    1.0 01:J4          129.05    1.309 No_date   13:41   21.61 n/a      .000
01660> R0150:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01661>      ROUTE CHANNEL   ->    1.0 02:J4          129.05    1.309 No_date   13:41   21.61 n/a      .000
01662>        [RDT= 1.00] out<-   1.0 01:R4          129.05    1.293 No_date   13:53   21.61 n/a      .000
01663>        [L/S/n=  482./ .410/.035]
01664>        {Vmax=  .674:Dmax=  .450}
01665> R0150:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01666>      CALIB NASHYD            1.0 01:SOUTH-2      11.61     .143 No_date   12:59   15.92 .165     .000
01667>        [CN= 36.7: N= 3.00: Tp=  .96]
01668> R0150:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01669>      ADD HYD                 1.0 02:R4          129.05    1.293 No_date   13:53   21.61 n/a      .000
01670>                        +     1.0 02:SOUTH-2      11.61     .143 No_date   12:59   15.92 n/a      .000
01671>                      SUM=    1.0 01:J5          140.66    1.398 No_date   13:50   21.14 n/a      .000
01672> R0150:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01673>      ROUTE CHANNEL   ->    1.0 02:J5          140.66    1.398 No_date   13:50   21.14 n/a      .000
01674>        [RDT= 1.00] out<-   1.0 01:R5          140.66    1.395 No_date   13:53   21.14 n/a      .000
01675>        [L/S/n=  181./ .500/.035]
01676>        {Vmax=  .657:Dmax=  .395}
01677> R0150:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01678>      CALIB NASHYD            1.0 01:SOUTH-3       7.98     .128 No_date   12:54   19.44 .201     .000
01679>        [CN= 42.6: N= 3.00: Tp=  .89]
01680> R0150:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01681>      ADD HYD                 1.0 02:R5          140.66    1.395 No_date   13:53   21.14 n/a      .000
01682>                        +     1.0 02:SOUTH-3       7.98     .128 No_date   12:54   19.44 n/a      .000
01683>                      SUM=    1.0 01:J6          148.64    1.480 No_date   13:49   21.05 n/a      .000
01684> R0150:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01685>      ROUTE CHANNEL   ->    1.0 02:J6          148.64    1.480 No_date   13:49   21.05 n/a      .000
01686>        [RDT= 1.00] out<-   1.0 01:R6          148.64    1.473 No_date   13:56   21.05 n/a      .000
01687>        [L/S/n=  323./ .440/.035]
01688>        {Vmax=  .710:Dmax=  .445}
01689> R0150:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01690>      CALIB NASHYD            1.0 01:SOUTH-4      14.99     .170 No_date   13:19   17.55 .182     .000
01691>        [CN= 39.5: N= 3.00: Tp= 1.23]
01692> R0150:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01693>      ADD HYD                 1.0 02:R6          148.64    1.473 No_date   13:56   21.05 n/a      .000
01694>                        +     1.0 02:SOUTH-4      14.99     .170 No_date   13:19   17.55 n/a      .000
01695>                      SUM=    1.0 01:Total       163.63    1.625 No_date   13:53   20.73 n/a      .000
01696> #================================================================
01697> #================================================================
01698>  ** END OF RUN :  198
01699>
01700> ****************************************************************************************************
01701>
01702>
01703>
01704>
01705>
01706>  RUN#:COMMAND#
01707> R0199:C00001------------------------------------------------------------------------------
01708>      START
01709>       [TZERO =    .00 hrs on       0]
01710>       [METOUT=   2   (1=imperial, 2=metric output)]
01711>       [NSTORM=   1 ]
01712>       [NRUN  = 0199 ]
01713> #*****************************************************************************
01714> #  SWMHYMO  / INPUT DATA FILE
01715> #*****************************************************************************
01716> #  Project Name: [THUNDER ROAD]    Project Number: [2128]
01717> #  Date       : 04-28-2021
01718> #  Modeller   : [J.B]
01719> #  Company    : JFSAinc.
01720> #  License #  :  2549237
01721> #*****************************************************************************
01722> #**************************************************************************
01723> R0199:C00002------------------------------------------------------------------------------
01724>      READ STORM
01725>       Filename = storm.001
01726>       Comment  = 100 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
01727>      [SDT=10.00:SDUR=  24.00:PTOT= 106.73]
01728> R0199:C00003------------------------------------------------------------------------------
01729>      DEFAULT VALUES
01730>       Filename = C:\Temp\Design\Ottawa.val
01731>       ICASEdv  = 2 (read values only)
01732> R0199:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01733>      CALIB NASHYD            1.0 01:NORTH-1      34.70     .184 No_date   16:54   20.24 .190     .000
01734>        [CN= 38.1: N= 3.00: Tp= 4.12]
01735> R0199:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01736>      CALIB NASHYD            1.0 01:NORTH-2      12.44     .254 No_date   13:22   31.83 .298     .000
01737>        [CN= 53.0: N= 3.00: Tp= 1.29]
01738> R0199:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01739>      CALIB NASHYD            1.0 01:HWY-1         2.36     .111 No_date   13:12   65.53 .614     .000
01740>        [CN= 81.7: N= 3.00: Tp= 1.21]
01741> R0199:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01742>      ADD HYD                 1.0 02:NORTH-1      34.70     .184 No_date   16:54   20.24 n/a      .000
01743>                        +     1.0 02:NORTH-2      12.44     .254 No_date   13:22   31.83 n/a      .000
01744>                        +     1.0 02:HWY-1         2.36     .111 No_date   13:12   65.53 n/a      .000
01745>                      SUM=    1.0 01:J1           49.51     .441 No_date   13:33   25.31 n/a      .000
01746> R0199:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01747>      ROUTE CHANNEL   ->    1.0 02:J1           49.51     .441 No_date   13:33   25.31 n/a      .000
01748>        [RDT= 1.00] out<-   1.0 01:R1           49.51     .435 No_date   13:49   25.31 n/a      .000
01749>        [L/S/n=  478./ .440/.035]
01750>        {Vmax=  .574:Dmax=  .313}
01751> R0199:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01752>      CALIB NASHYD            1.0 01:INT-1         4.39     .091 No_date   13:47   38.78 .363     .000
01753>        [CN= 60.4: N= 3.00: Tp= 1.66]
01754> R0199:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01755>      CALIB NASHYD            1.0 01:INT-2         3.61     .078 No_date   12:58   27.13 .254     .000
01756>        [CN= 47.4: N= 3.00: Tp=  .95]
01757> R0199:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01758>      CALIB NASHYD            1.0 01:A3           10.53     .150 No_date   13:49   27.13 .254     .000
01759>        [CN= 47.4: N= 3.00: Tp= 1.66]
01760> R0199:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01761>      CALIB NASHYD            1.0 01:INT-3         5.71     .180 No_date   12:53   36.91 .346     .000
01762>        [CN= 58.5: N= 3.00: Tp=  .89]
01763> R0199:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01764>      ADD HYD                 1.0 02:R1           49.51     .435 No_date   13:49   25.31 n/a      .000
01765>                        +     1.0 02:INT-1         4.39     .091 No_date   13:47   38.78 n/a      .000
01766>                        +     1.0 02:INT-2         3.61     .078 No_date   12:58   27.13 n/a      .000
01767>                        +     1.0 02:INT-3         5.71     .180 No_date   12:53   36.91 n/a      .000
01768>                        +     1.0 02:A3           10.53     .150 No_date   13:49   27.13 n/a      .000
01769>                      SUM=    1.0 01:J2           73.75     .874 No_date   13:28   27.36 n/a      .000
01770> R0199:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01771>      ROUTE CHANNEL   ->    1.0 02:J2           73.75     .874 No_date   13:28   27.36 n/a      .000
01772>        [RDT= 1.00] out<-   1.0 01:R2           73.75     .871 No_date   13:34   27.36 n/a      .000
01773>        [L/S/n=  359./ .560/.035]
01774>        {Vmax=  .752:Dmax=  .286}
01775> R0199:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01776>      CALIB NASHYD            1.0 01:A1           25.95     .225 No_date   14:21   19.89 .186     .000
01777>        [CN= 37.6: N= 3.00: Tp= 2.09]
01778> R0199:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01779>      CALIB NASHYD            1.0 01:A2            9.14     .319 No_date   13:08   47.48 .445     .000
01780>        [CN= 68.4: N= 3.00: Tp= 1.12]
01781> R0199:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01782>      ADD HYD                 1.0 02:R2           73.75     .871 No_date   13:34   27.36 n/a      .000
01783>                        +     1.0 02:A1           25.95     .225 No_date   14:21   19.89 n/a      .000
01784>                        +     1.0 02:A2            9.14     .319 No_date   13:08   47.48 n/a      .000
01785>                      SUM=    1.0 01:J3          108.84    1.368 No_date   13:32   27.27 n/a      .000
01786> R0199:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01787>      ROUTE CHANNEL   ->    1.0 02:J3          108.84    1.368 No_date   13:32   27.27 n/a      .000
01788>        [RDT= 1.00] out<-   1.0 01:R3          108.84    1.352 No_date   13:43   27.27 n/a      .000
01789>        [L/S/n=  396./ .305/.035]
01790>        {Vmax=  .554:Dmax=  .447}
01791> R0199:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01792>      CALIB NASHYD            1.0 01:SOUTH-1      20.21     .219 No_date   13:31   18.48 .173     .000
01793>        [CN= 35.5: N= 3.00: Tp= 1.40]
01794> R0199:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01795>      ADD HYD                 1.0 02:R3          108.84    1.352 No_date   13:43   27.27 n/a      .000
01796>                        +     1.0 02:SOUTH-1      20.21     .219 No_date   13:31   18.48 n/a      .000
01797>                      SUM=    1.0 01:J4          129.05    1.570 No_date   13:41   25.89 n/a      .000
01798> R0199:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01799>      ROUTE CHANNEL   ->    1.0 02:J4          129.05    1.570 No_date   13:41   25.89 n/a      .000
01800>        [RDT= 1.00] out<-   1.0 01:R4          129.05    1.554 No_date   13:52   25.89 n/a      .000
```

```
01801>       [L/S/n=  482./ .410/.035]
01802>       (Vmax=  .700:Dmax=  .484)
01803> R0199:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01804>      CALIB NASHYD             1.0 01:SOUTH-2       11.61     .174 No_date   12:59   19.28 .181     .000
01805>        [CN= 36.7: N= 3.00: Tp=  .96]
01806> R0199:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01807>      ADD HYD                  1.0 02:R4           129.05    1.554 No_date   13:52   25.89  n/a     .000
01808>                         +     1.0 02:SOUTH-2       11.61     .174 No_date   12:59   19.28  n/a     .000
01809>                       SUM=    1.0 01:J5           140.66    1.683 No_date   13:47   25.35  n/a     .000
01810> R0199:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01811>      ROUTE CHANNEL   ->       1.0 02:J5           140.66    1.683 No_date   13:47   25.35  n/a     .000
01812>        [RDT= 1.00] out<-      1.0 01:R5           140.66    1.679 No_date   13:52   25.35  n/a     .000
01813>        [L/S/n=  181./ .500/.035]
01814>        (Vmax=  .668:Dmax=  .420]
01815> R0199:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01816>      CALIB NASHYD             1.0 01:SOUTH-3        7.98     .155 No_date   12:54   23.44 .220     .000
01817>        [CN= 42.6: N= 3.00: Tp=  .89]
01818> R0199:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01819>      ADD HYD                  1.0 02:R5           140.66    1.679 No_date   13:52   25.35  n/a     .000
01820>                         +     1.0 02:SOUTH-3        7.98     .155 No_date   12:54   23.44  n/a     .000
01821>                       SUM=    1.0 01:J6           148.64    1.784 No_date   13:47   25.25  n/a     .000
01822> R0199:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01823>      ROUTE CHANNEL   ->       1.0 02:J6           148.64    1.784 No_date   13:47   25.25  n/a     .000
01824>        [RDT= 1.00] out<-      1.0 01:R6           148.64    1.775 No_date   13:54   25.25  n/a     .000
01825>        [L/S/n=  323./ .440/.035]
01826>        (Vmax=  .735:Dmax=  .500]
01827> R0199:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01828>      CALIB NASHYD             1.0 01:SOUTH-4       14.99     .207 No_date   13:18   21.21 .199     .000
01829>        [CN= 39.5: N= 3.00: Tp= 1.23]
01830> R0199:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01831>      ADD HYD                  1.0 02:R6           148.64    1.775 No_date   13:54   25.25  n/a     .000
01832>                         +     1.0 02:SOUTH-4       14.99     .207 No_date   13:18   21.21  n/a     .000
01833>                       SUM=    1.0 01:Total        163.63    1.962 No_date   13:51   24.88  n/a     .000
01834> #===============================================================================
01835> #===============================================================================
01836> R0199:C00002------------------------------------------------------------------------------------------
01837>      FINISH
01838> ------------------------------------------------------------------------------------------------------
01839> ******************************************************************************************************
01840>       WARNINGS / ERRORS / NOTES
01841>       -------------------------
01842>    Simulation ended on 2021-07-27     at 09:06:20
01843> ======================================================================================================
01844>
```

JFSA
WATER RESOURCES AND ENVIRONMENTAL CONSULTANTS

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Paris. ON
Gatineau. QC
Montréal. QC
Québec. QC

Attachment C

Hydraulic Model

Legend

- Cross Section
- Watercourse
- Bank Markers

N

SCALE: 1:5000

0 100 200 m

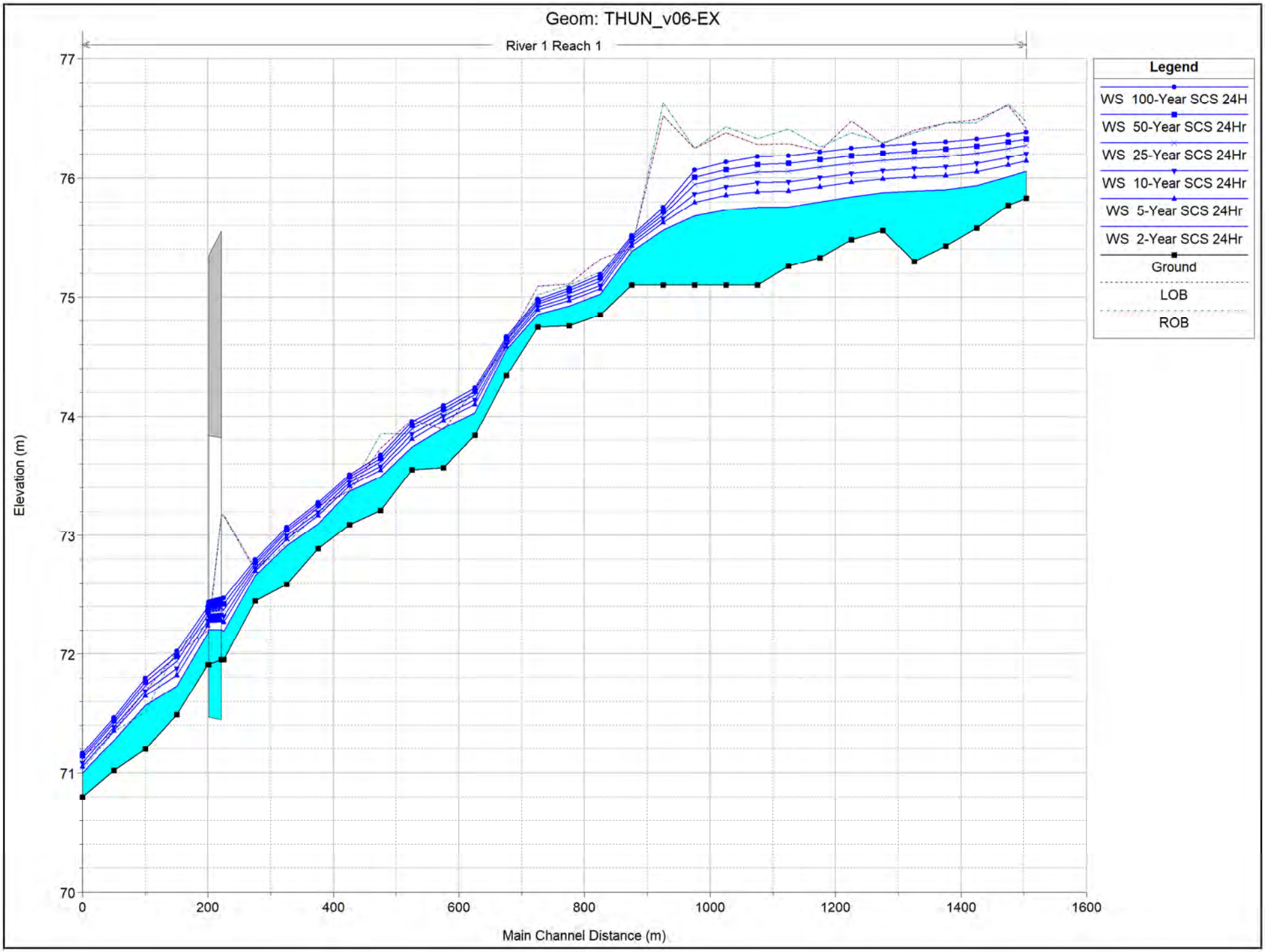
J.F. Sabourin and Associates Inc.
WATER RESOURCES AND ENVIRONMENTAL CONSULTANTS
52 Springbrook Drive
Ottawa, ON, K2S 1B9
(613) 836-3884
www.jfsa.com

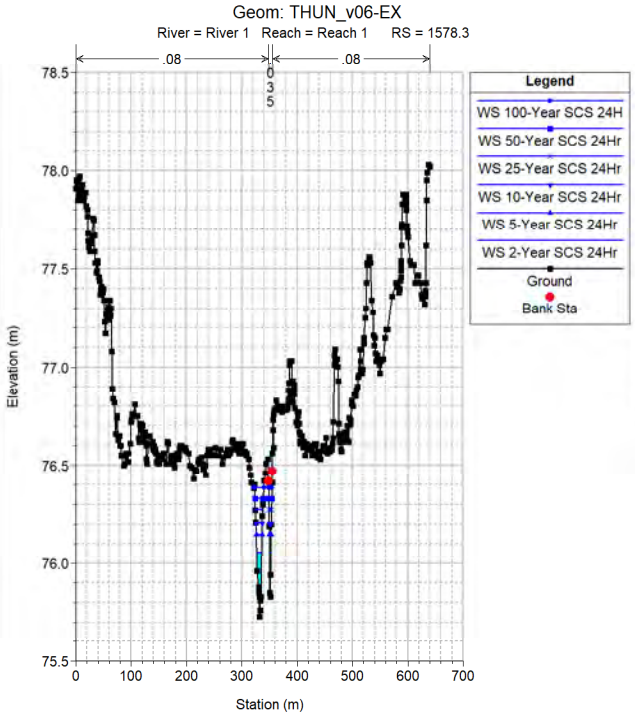
Avenue31

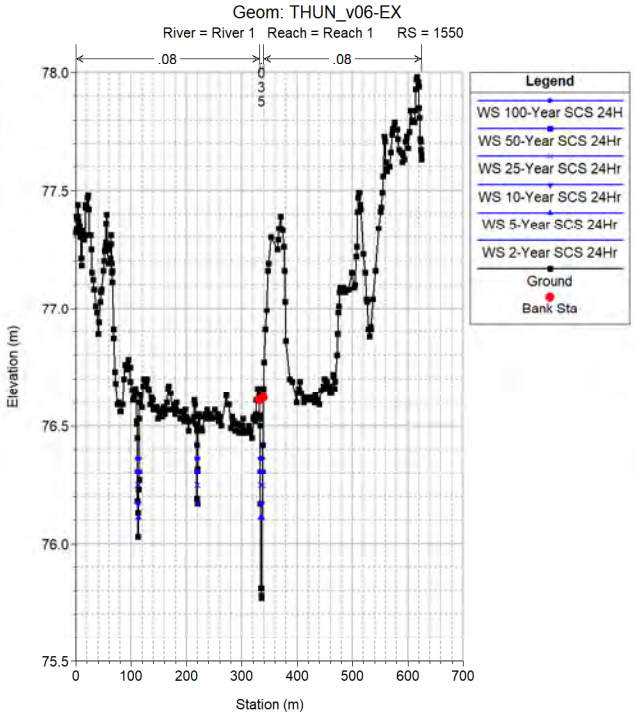
6150 Thunder Road:
Floodplain Mapping

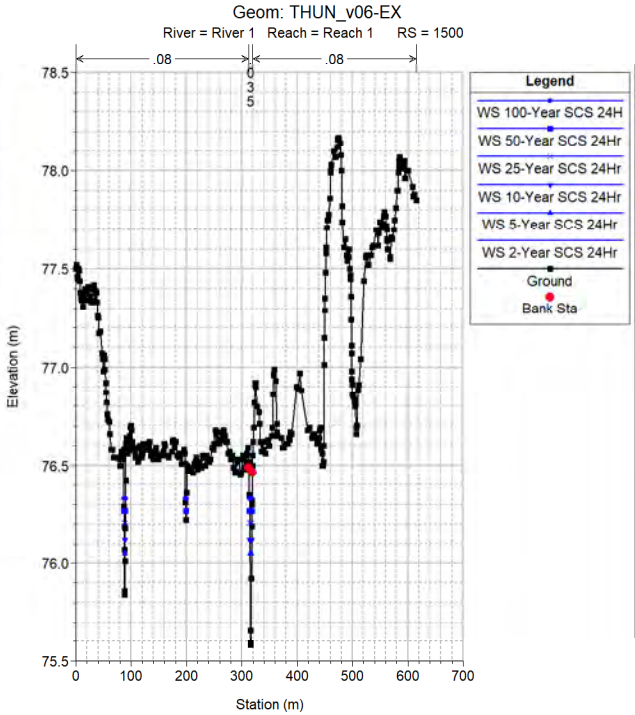
Figure C1: HEC-RAS Model Overview

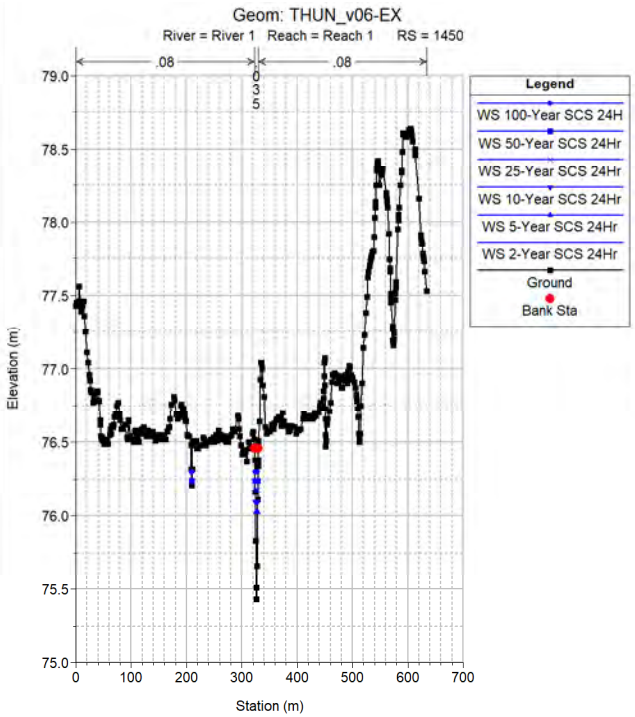
PROJECT	2120-21
DRAWN	MP
DATE	06-28-2021

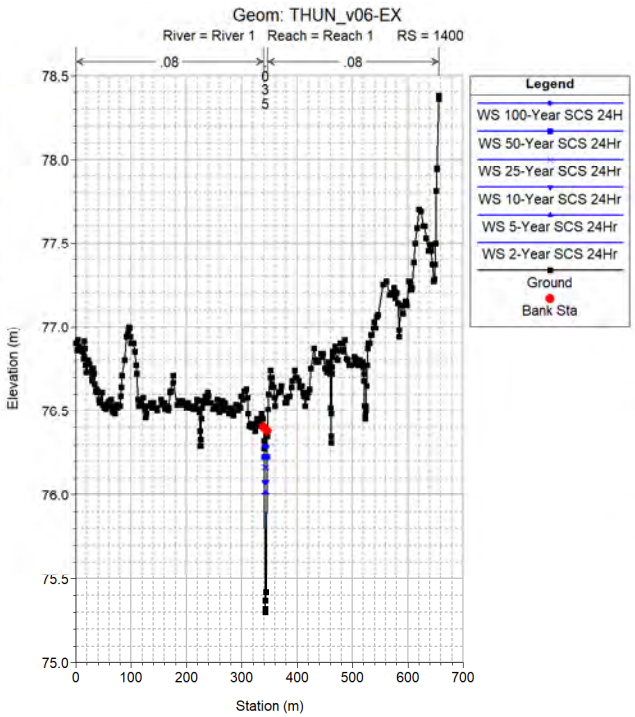

Geom: THUN_v06-EX
River 1 Reach 1
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
LOB
ROB
Elevation (m)
77
76
75
74
73
72
71
70
0
200
400
600
800
1000
1200
1400
1600
Main Channel Distance (m)

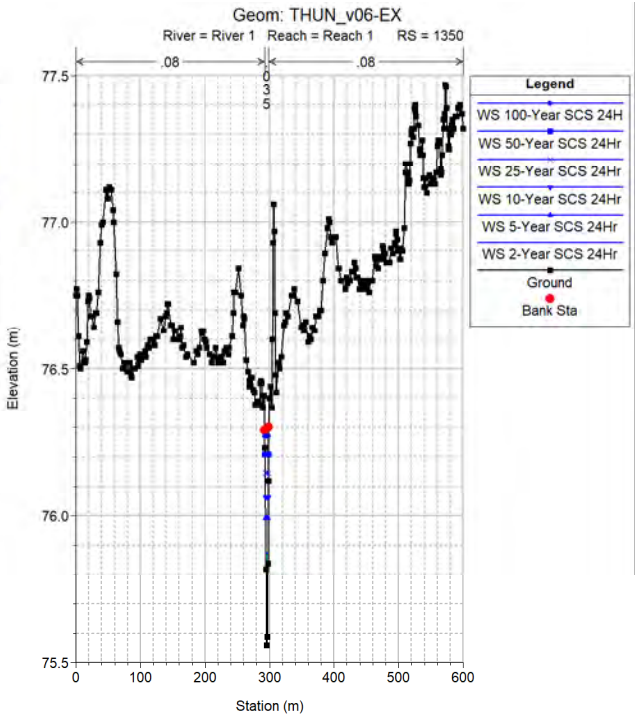

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 1578.3
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

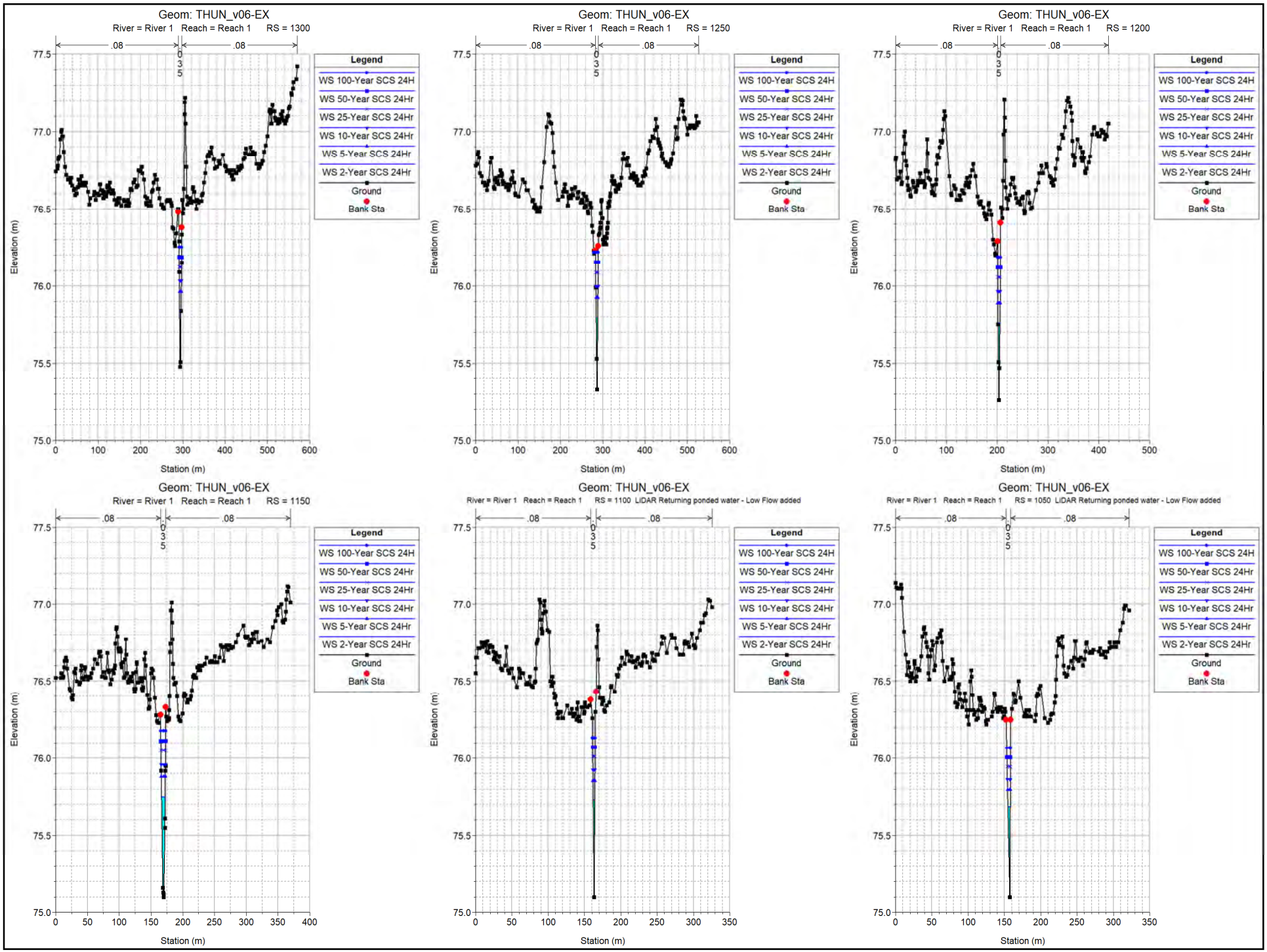

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 1550
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

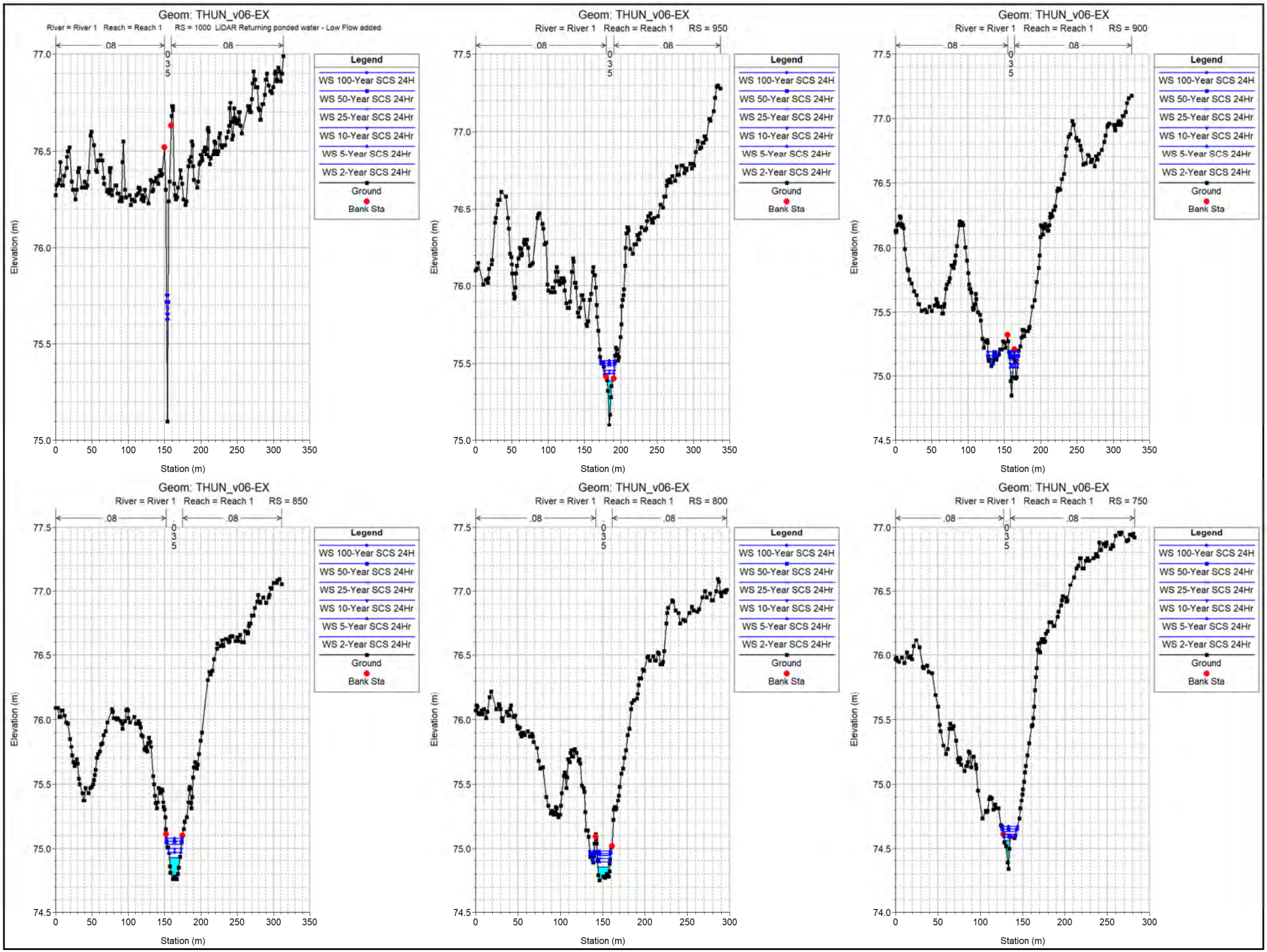

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 1500
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

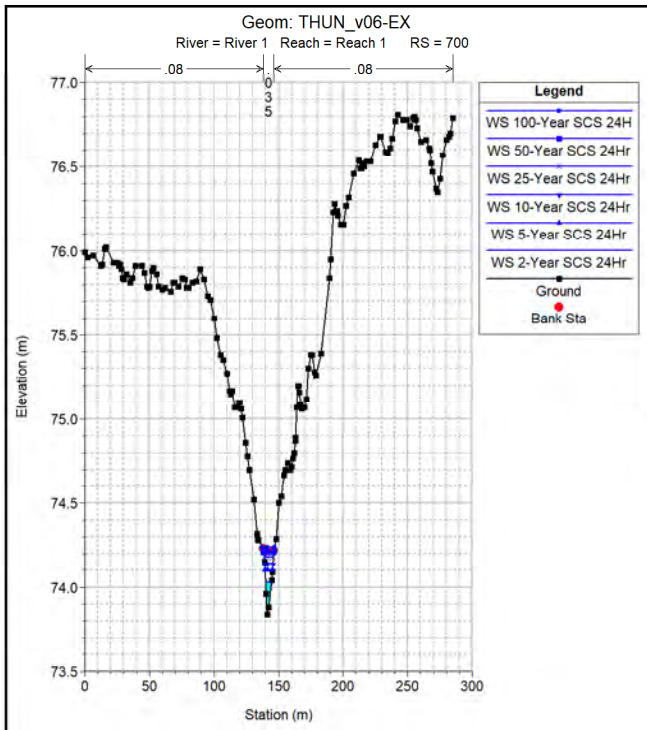

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 1450
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

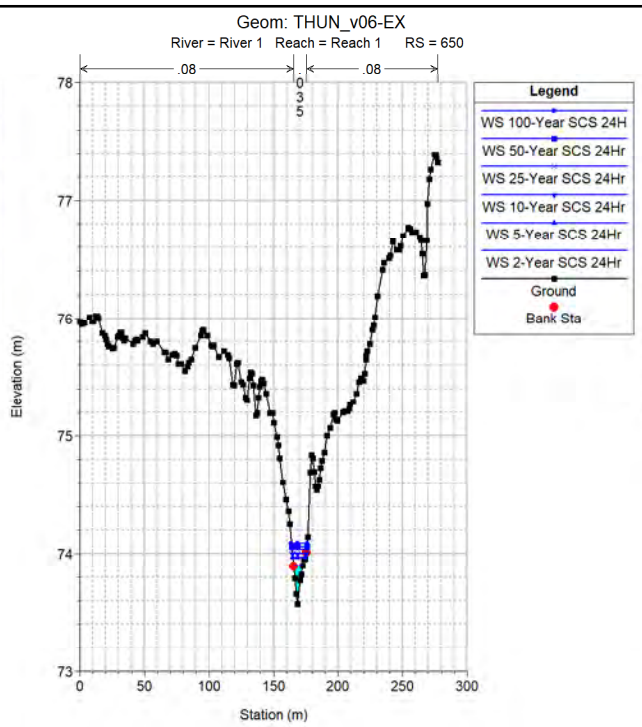

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 1400
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

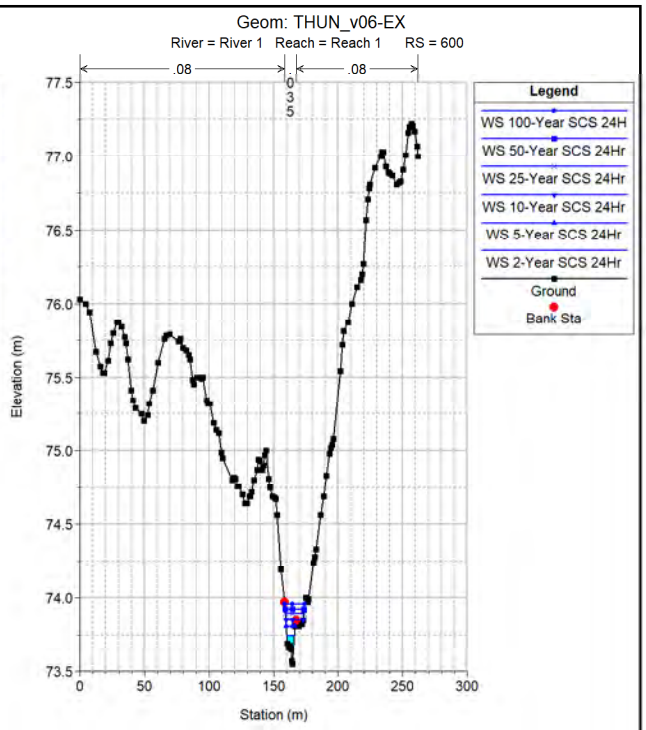

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 1350
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

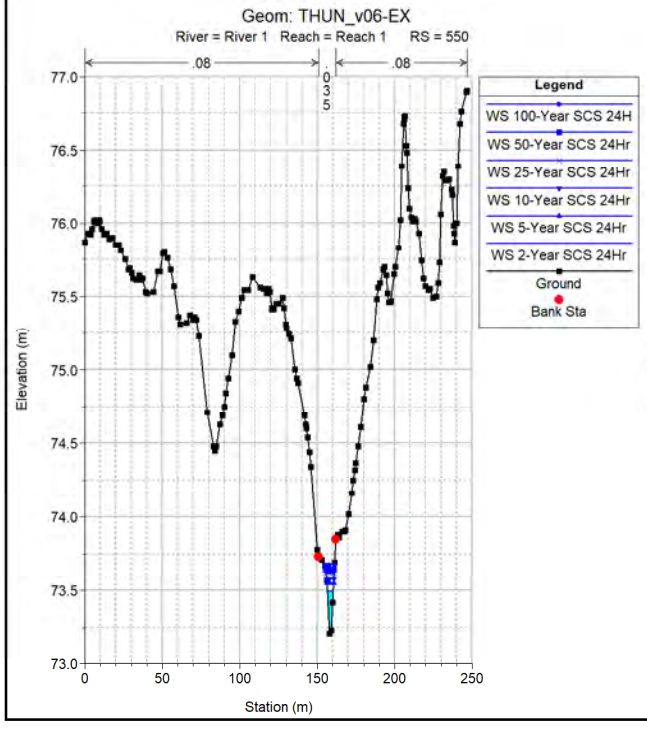

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 1300
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)
Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 1250
Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 1200
Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 1150
Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 1100 LIDAR Returning ponded water - Low Flow added
Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 1050 LIDAR Returning ponded water - Low Flow added

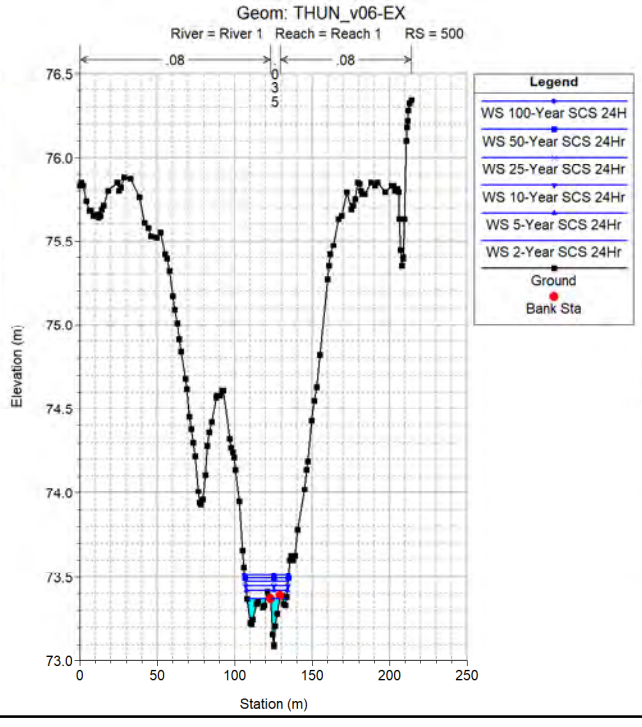

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 1000 LIDAR Returning ponded water - Low Flow added
Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 950
Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 900
Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 850
Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 800
Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 750
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

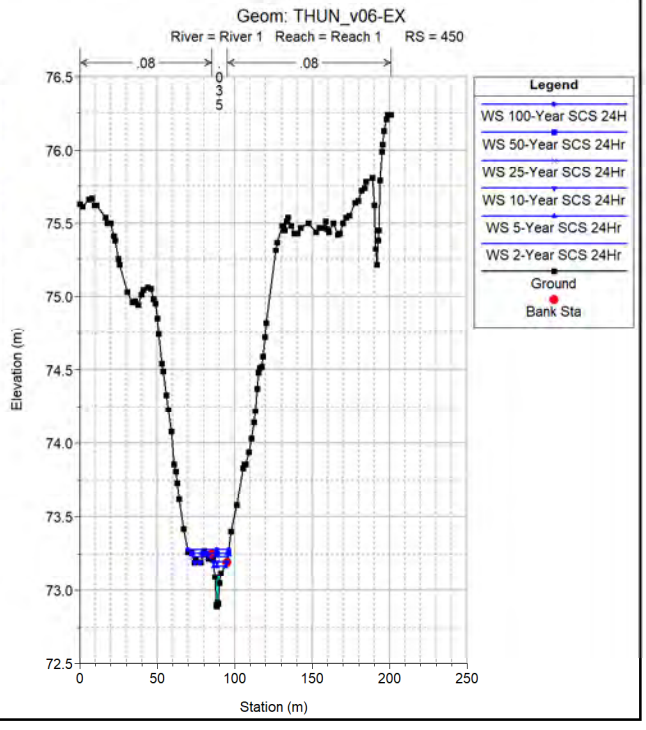

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 700
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

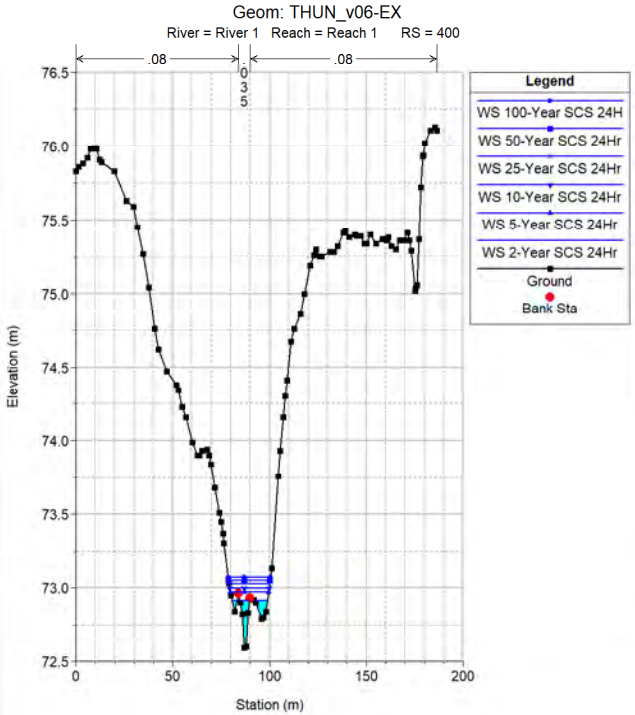

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 650
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

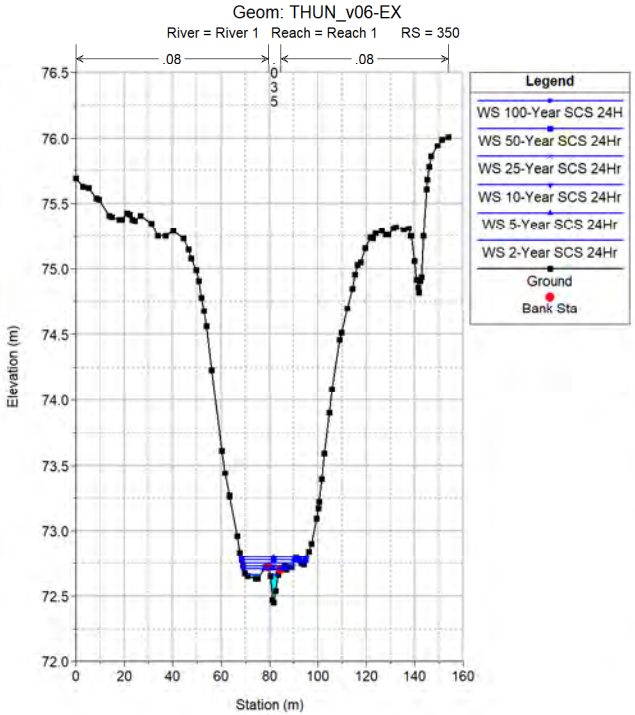

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 600
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

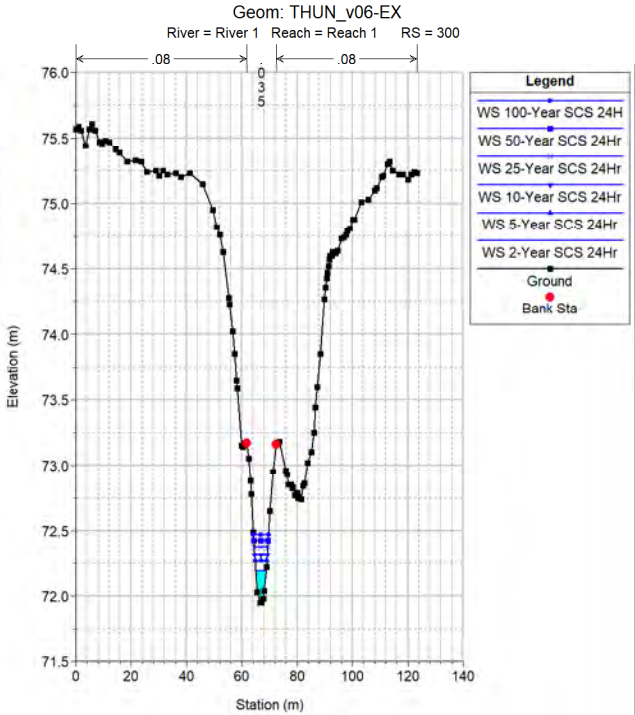

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 550
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

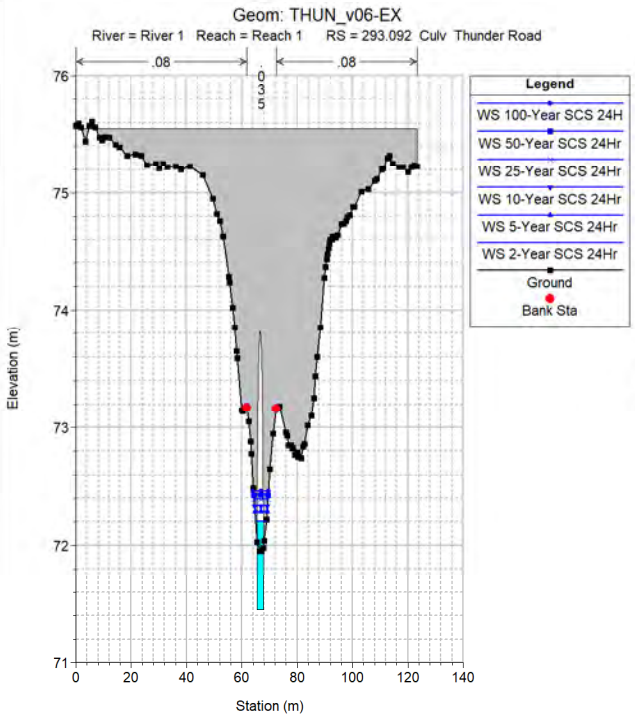

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 500
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

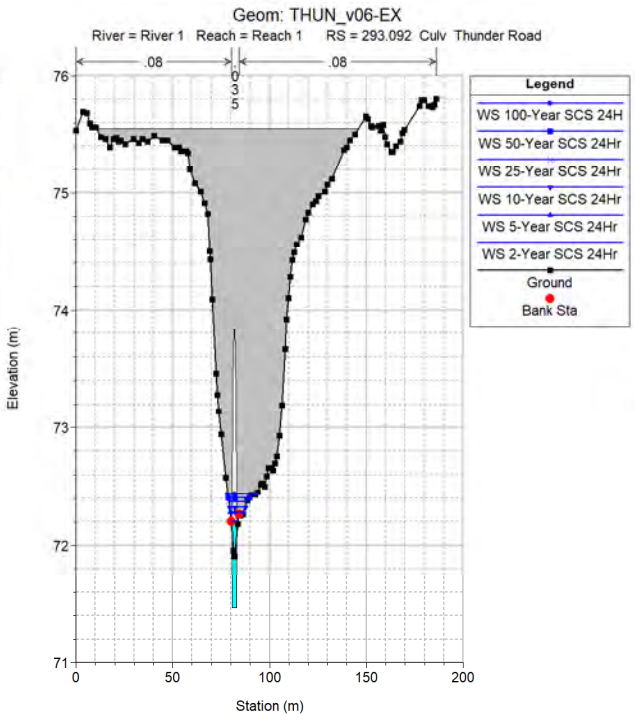

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 450
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

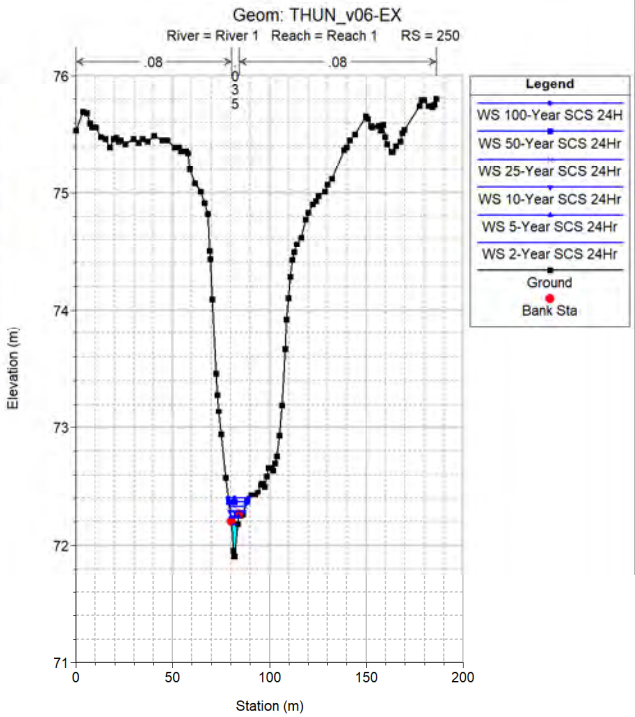

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 400
.08
.035
.08
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

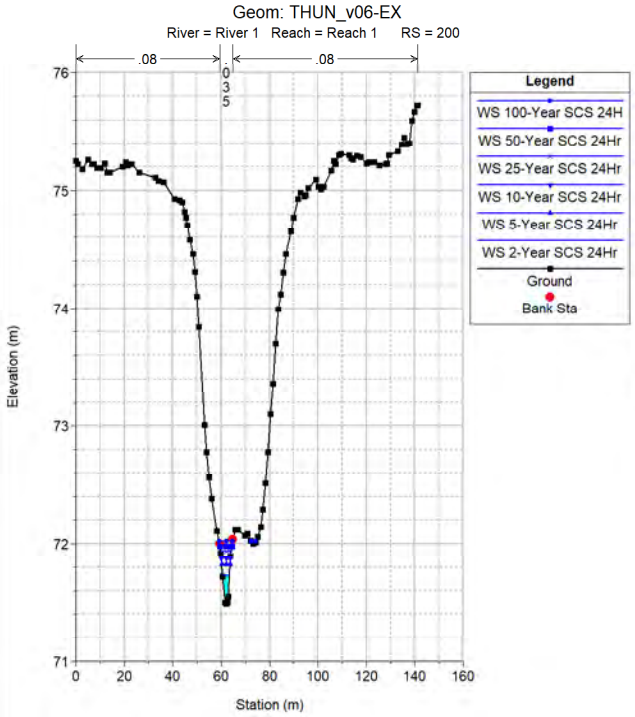

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 350
.08
.035
.08
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

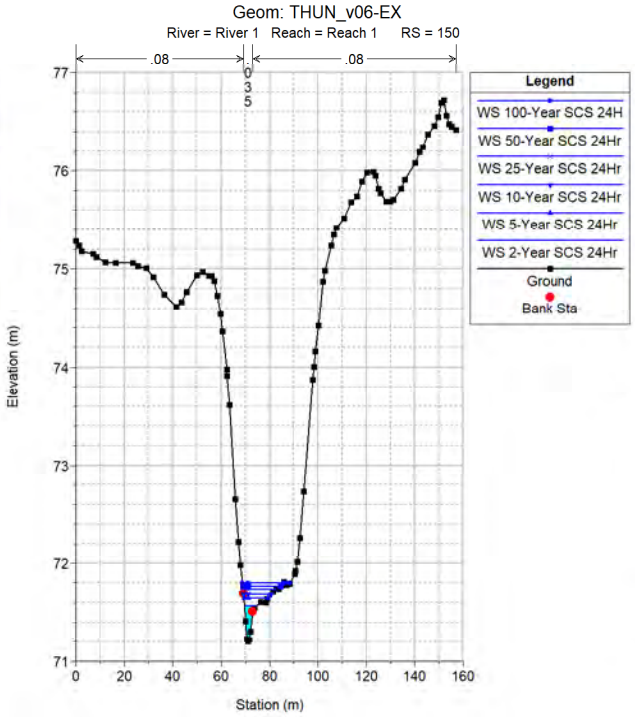

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 300
.08
.035
.08
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

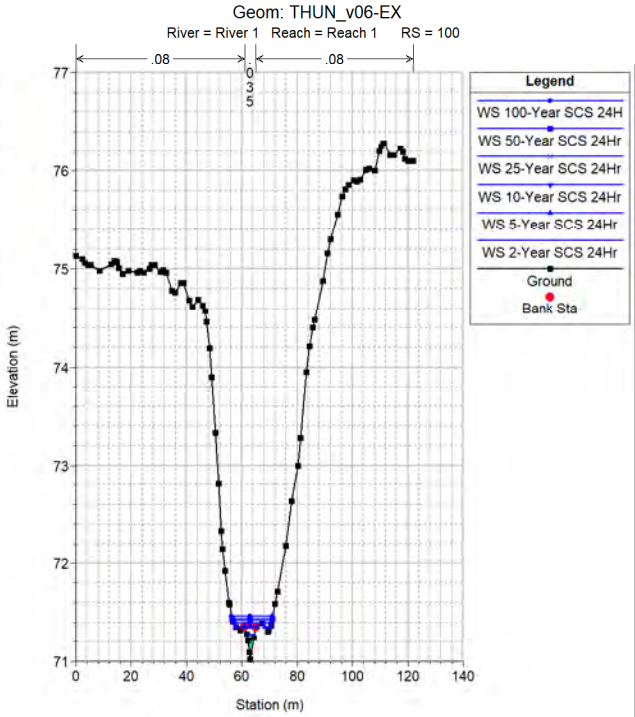

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 293.092 Culv Thunder Road
.08
.035
.08
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

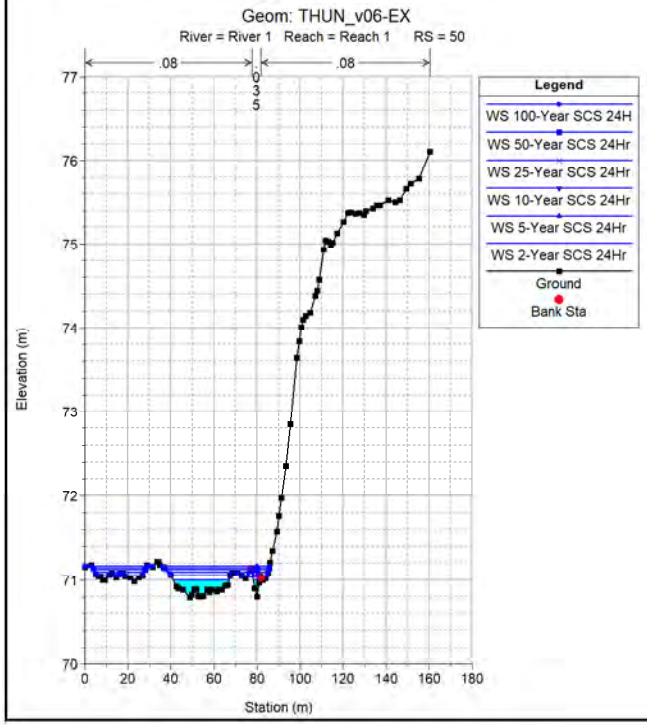

Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 293.092 Culv Thunder Road
.08
.035
.08
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)


Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 250
.08
.035
.08
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)


Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 200
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)


Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 150
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)


Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 100
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)


Geom: THUN_v06-EX
River = River 1 Reach = Reach 1 RS = 50
.08
.08
0
3
5
Legend
WS 100-Year SCS 24H
WS 50-Year SCS 24Hr
WS 25-Year SCS 24Hr
WS 10-Year SCS 24Hr
WS 5-Year SCS 24Hr
WS 2-Year SCS 24Hr
Ground
Bank Sta
Elevation (m)
Station (m)

HEC-RAS Plan: THUN_v06-EX-Normal River: River 1 Reach: Reach 1

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)	
Reach 1	1578.3	2-Year SCS 24Hr	0.19	75.83	76.06		76.06	0.000501	0.16	1.89	11.79	0.14
Reach 1	1578.3	5-Year SCS 24Hr	0.34	75.83	76.14		76.15	0.000390	0.18	3.06	14.26	0.13
Reach 1	1578.3	10-Year SCS 24Hr	0.45	75.83	76.20		76.20	0.000334	0.18	3.95	15.91	0.13
Reach 1	1578.3	25-Year SCS 24Hr	0.60	75.83	76.27		76.28	0.000290	0.19	5.17	18.32	0.12
Reach 1	1578.3	50-Year SCS 24Hr	0.73	75.83	76.33		76.33	0.000264	0.19	6.20	20.47	0.12
Reach 1	1578.3	100-Year SCS 24H	0.87	75.83	76.38		76.39	0.000240	0.19	7.43	23.59	0.11
Reach 1	1550	2-Year SCS 24Hr	0.19	75.77	76.01		76.02	0.003996	0.51	0.38	2.49	0.41
Reach 1	1550	5-Year SCS 24Hr	0.34	75.77	76.11		76.12	0.002633	0.50	0.73	4.56	0.35
Reach 1	1550	10-Year SCS 24Hr	0.45	75.77	76.17		76.18	0.002038	0.49	1.06	5.72	0.32
Reach 1	1550	25-Year SCS 24Hr	0.60	75.77	76.25		76.26	0.001520	0.47	1.57	7.52	0.28
Reach 1	1550	50-Year SCS 24Hr	0.73	75.77	76.30		76.31	0.001253	0.46	2.02	8.47	0.26
Reach 1	1550	100-Year SCS 24H	0.87	75.77	76.36		76.37	0.001049	0.45	2.55	9.40	0.24
Reach 1	1500	2-Year SCS 24Hr	0.19	75.58	75.94		75.94	0.000838	0.30	0.68	3.64	0.20
Reach 1	1500	5-Year SCS 24Hr	0.34	75.58	76.05		76.06	0.000689	0.32	1.18	4.85	0.19
Reach 1	1500	10-Year SCS 24Hr	0.45	75.58	76.12		76.13	0.000629	0.34	1.55	5.51	0.18
Reach 1	1500	25-Year SCS 24Hr	0.60	75.58	76.21		76.21	0.000580	0.35	2.03	6.20	0.18
Reach 1	1500	50-Year SCS 24Hr	0.73	75.58	76.27		76.27	0.000550	0.36	2.45	7.75	0.18
Reach 1	1500	100-Year SCS 24H	0.87	75.58	76.33		76.33	0.000529	0.37	2.98	9.25	0.18
Reach 1	1450	2-Year SCS 24Hr	0.19	75.43	75.90		75.91	0.000567	0.26	0.74	3.03	0.17
Reach 1	1450	5-Year SCS 24Hr	0.34	75.43	76.02		76.03	0.000553	0.29	1.15	3.79	0.17
Reach 1	1450	10-Year SCS 24Hr	0.45	75.43	76.10		76.10	0.000536	0.31	1.45	4.25	0.17
Reach 1	1450	25-Year SCS 24Hr	0.60	75.43	76.18		76.19	0.000508	0.33	1.82	4.70	0.17
Reach 1	1450	50-Year SCS 24Hr	0.73	75.43	76.24		76.25	0.000489	0.34	2.13	5.62	0.17
Reach 1	1450	100-Year SCS 24H	0.87	75.43	76.30		76.31	0.000470	0.36	2.53	7.18	0.17
Reach 1	1400	2-Year SCS 24Hr	0.19	75.30	75.89		75.89	0.000135	0.15	1.24	3.68	0.08
Reach 1	1400	5-Year SCS 24Hr	0.34	75.30	76.01		76.01	0.000177	0.20	1.71	4.30	0.10
Reach 1	1400	10-Year SCS 24Hr	0.45	75.30	76.08		76.08	0.000197	0.22	2.04	4.67	0.11
Reach 1	1400	25-Year SCS 24Hr	0.60	75.30	76.17		76.17	0.000217	0.25	2.45	5.11	0.11
Reach 1	1400	50-Year SCS 24Hr	0.73	75.30	76.23		76.23	0.000228	0.26	2.77	5.43	0.12
Reach 1	1400	100-Year SCS 24H	0.87	75.30	76.29		76.29	0.000237	0.28	3.12	5.75	0.12
Reach 1	1350	2-Year SCS 24Hr	0.19	75.56	75.87		75.88	0.000872	0.28	0.69	3.52	0.20
Reach 1	1350	5-Year SCS 24Hr	0.34	75.56	75.99		76.00	0.000658	0.30	1.15	4.38	0.18
Reach 1	1350	10-Year SCS 24Hr	0.45	75.56	76.06		76.07	0.000578	0.30	1.48	4.91	0.18
Reach 1	1350	25-Year SCS 24Hr	0.60	75.56	76.15		76.15	0.000511	0.31	1.92	5.49	0.17
Reach 1	1350	50-Year SCS 24Hr	0.73	75.56	76.21		76.21	0.000470	0.32	2.27	5.87	0.17
Reach 1	1350	100-Year SCS 24H	0.87	75.56	76.27		76.28	0.000437	0.33	2.65	6.26	0.16
Reach 1	1300	2-Year SCS 24Hr	0.19	75.48	75.84		75.84	0.000582	0.25	0.76	3.28	0.17
Reach 1	1300	5-Year SCS 24Hr	0.34	75.48	75.96		75.97	0.000513	0.28	1.21	4.12	0.16
Reach 1	1300	10-Year SCS 24Hr	0.45	75.48	76.04		76.04	0.000479	0.29	1.54	4.63	0.16
Reach 1	1300	25-Year SCS 24Hr	0.60	75.48	76.12		76.13	0.000447	0.31	1.96	5.21	0.16
Reach 1	1300	50-Year SCS 24Hr	0.73	75.48	76.19		76.19	0.000421	0.32	2.30	5.57	0.16
Reach 1	1300	100-Year SCS 24H	0.87	75.48	76.25		76.26	0.000399	0.33	2.67	5.90	0.16
Reach 1	1250	2-Year SCS 24Hr	0.30	75.33	75.80		75.80	0.001001	0.34	0.89	3.72	0.22
Reach 1	1250	5-Year SCS 24Hr	0.53	75.33	75.92		75.93	0.000874	0.37	1.42	4.70	0.22
Reach 1	1250	10-Year SCS 24Hr	0.71	75.33	76.00		76.01	0.000811	0.39	1.81	5.26	0.21
Reach 1	1250	25-Year SCS 24Hr	0.94	75.33	76.09		76.10	0.000743	0.41	2.29	5.74	0.21
Reach 1	1250	50-Year SCS 24Hr	1.14	75.33	76.15		76.16	0.000709	0.43	2.67	6.09	0.21
Reach 1	1250	100-Year SCS 24H	1.37	75.33	76.22		76.23	0.000684	0.44	3.08	7.68	0.21
Reach 1	1200	2-Year SCS 24Hr	0.30	75.26	75.76		75.76	0.000657	0.29	1.03	3.94	0.18
Reach 1	1200	5-Year SCS 24Hr	0.53	75.26	75.89		75.90	0.000583	0.33	1.58	4.49	0.18
Reach 1	1200	10-Year SCS 24Hr	0.71	75.26	75.97		75.98	0.000573	0.36	1.95	4.81	0.18
Reach 1	1200	25-Year SCS 24Hr	0.94	75.26	76.06		76.07	0.000576	0.39	2.39	5.18	0.19
Reach 1	1200	50-Year SCS 24Hr	1.14	75.26	76.12		76.13	0.000581	0.42	2.74	5.45	0.19
Reach 1	1200	100-Year SCS 24H	1.37	75.26	76.19		76.20	0.000577	0.44	3.10	5.60	0.19
Reach 1	1150	2-Year SCS 24Hr	0.30	75.10	75.75		75.75	0.000083	0.13	2.23	5.80	0.07
Reach 1	1150	5-Year SCS 24Hr	0.53	75.10	75.88		75.88	0.000110	0.17	3.05	6.66	0.08
Reach 1	1150	10-Year SCS 24Hr	0.71	75.10	75.96		75.96	0.000127	0.20	3.59	7.25	0.09
Reach 1	1150	25-Year SCS 24Hr	0.94	75.10	76.05		76.05	0.000136	0.22	4.24	7.41	0.09
Reach 1	1150	50-Year SCS 24Hr	1.14	75.10	76.11		76.12	0.000144	0.24	4.72	7.53	0.10
Reach 1	1150	100-Year SCS 24H	1.37	75.10	76.18		76.18	0.000153	0.26	5.22	7.70	0.10
Reach 1	1100	2-Year SCS 24Hr	0.30	75.10	75.73		75.74	0.001304	0.43	0.69	2.19	0.25
Reach 1	1100	5-Year SCS 24Hr	0.53	75.10	75.85		75.87	0.001563	0.54	0.99	2.62	0.28
Reach 1	1100	10-Year SCS 24Hr	0.71	75.10	75.93		75.94	0.001695	0.59	1.19	2.87	0.29
Reach 1	1100	25-Year SCS 24Hr	0.94	75.10	76.01		76.03	0.001814	0.65	1.44	3.17	0.31
Reach 1	1100	50-Year SCS 24Hr	1.14	75.10	76.07		76.10	0.001883	0.70	1.64	3.38	0.32
Reach 1	1100	100-Year SCS 24H	1.37	75.10	76.13		76.16	0.001947	0.74	1.85	3.59	0.33

HEC-RAS Plan: THUN_v06-EX-Normal River: River 1 Reach: Reach 1 (Continued)

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)	
Reach 1	1050	2-Year SCS 24Hr	0.30	75.10	75.68		75.69	0.000849	0.34	0.88	3.03	0.20
Reach 1	1050	5-Year SCS 24Hr	0.53	75.10	75.80		75.81	0.001010	0.42	1.26	3.63	0.23
Reach 1	1050	10-Year SCS 24Hr	0.71	75.10	75.86		75.88	0.001082	0.46	1.53	3.99	0.24
Reach 1	1050	25-Year SCS 24Hr	0.94	75.10	75.95		75.96	0.001130	0.51	1.87	4.42	0.25
Reach 1	1050	50-Year SCS 24Hr	1.14	75.10	76.01		76.02	0.001150	0.53	2.14	4.73	0.25
Reach 1	1050	100-Year SCS 24H	1.37	75.10	76.07		76.08	0.001166	0.56	2.44	5.04	0.26
Reach 1	1000	2-Year SCS 24Hr	0.30	75.10	75.56		75.59	0.006456	0.79	0.38	1.66	0.52
Reach 1	1000	5-Year SCS 24Hr	0.53	75.10	75.63		75.68	0.009734	1.06	0.50	1.90	0.66
Reach 1	1000	10-Year SCS 24Hr	0.71	75.10	75.66		75.74	0.012751	1.26	0.56	2.01	0.76
Reach 1	1000	25-Year SCS 24Hr	0.94	75.10	75.69	75.66	75.81	0.016905	1.51	0.63	2.12	0.88
Reach 1	1000	50-Year SCS 24Hr	1.14	75.10	75.72	75.70	75.86	0.019355	1.66	0.69	2.22	0.95
Reach 1	1000	100-Year SCS 24H	1.37	75.10	75.75	75.75	75.92	0.020954	1.79	0.76	2.34	1.00
Reach 1	950	2-Year SCS 24Hr	0.30	75.10	75.38		75.39	0.002647	0.34	0.89	8.11	0.32
Reach 1	950	5-Year SCS 24Hr	0.53	75.10	75.43	75.32	75.44	0.002665	0.38	1.42	12.89	0.34
Reach 1	950	10-Year SCS 24Hr	0.71	75.10	75.46	75.34	75.46	0.002704	0.43	1.73	13.69	0.35
Reach 1	950	25-Year SCS 24Hr	0.94	75.10	75.48	75.38	75.50	0.002768	0.49	2.12	14.67	0.36
Reach 1	950	50-Year SCS 24Hr	1.14	75.10	75.50	75.40	75.51	0.002982	0.54	2.38	15.61	0.38
Reach 1	950	100-Year SCS 24H	1.37	75.10	75.52		75.53	0.003310	0.59	2.66	19.37	0.41
Reach 1	900	2-Year SCS 24Hr	0.34	74.85	75.03	75.03	75.07	0.024526	0.93	0.41	5.56	0.96
Reach 1	900	5-Year SCS 24Hr	0.60	74.85	75.07	75.07	75.12	0.022290	1.05	0.69	7.05	0.96
Reach 1	900	10-Year SCS 24Hr	0.80	74.85	75.10	75.10	75.15	0.020424	1.10	0.93	11.16	0.94
Reach 1	900	25-Year SCS 24Hr	1.08	74.85	75.13	75.13	75.19	0.018154	1.13	1.38	16.59	0.90
Reach 1	900	50-Year SCS 24Hr	1.31	74.85	75.16	75.16	75.21	0.015717	1.08	1.93	21.33	0.85
Reach 1	900	100-Year SCS 24H	1.57	74.85	75.19	75.18	75.23	0.013463	1.00	2.66	27.61	0.78
Reach 1	850	2-Year SCS 24Hr	0.34	74.76	74.93		74.93	0.000687	0.18	1.82	14.90	0.17
Reach 1	850	5-Year SCS 24Hr	0.60	74.76	74.97		74.97	0.000833	0.24	2.52	16.35	0.19
Reach 1	850	10-Year SCS 24Hr	0.80	74.76	75.00		75.00	0.000917	0.27	2.99	17.48	0.21
Reach 1	850	25-Year SCS 24Hr	1.08	74.76	75.03		75.04	0.001043	0.30	3.63	19.86	0.22
Reach 1	850	50-Year SCS 24Hr	1.31	74.76	75.05		75.06	0.001102	0.32	4.09	20.84	0.23
Reach 1	850	100-Year SCS 24H	1.57	74.76	75.08		75.08	0.001143	0.34	4.58	21.60	0.24
Reach 1	800	2-Year SCS 24Hr	0.34	74.75	74.85		74.86	0.003912	0.32	1.06	14.05	0.37
Reach 1	800	5-Year SCS 24Hr	0.60	74.75	74.89		74.90	0.003188	0.37	1.61	14.86	0.36
Reach 1	800	10-Year SCS 24Hr	0.80	74.75	74.92		74.93	0.003012	0.40	2.00	17.26	0.36
Reach 1	800	25-Year SCS 24Hr	1.08	74.75	74.94		74.95	0.003150	0.45	2.46	19.71	0.37
Reach 1	800	50-Year SCS 24Hr	1.31	74.75	74.96		74.97	0.003158	0.49	2.84	20.42	0.38
Reach 1	800	100-Year SCS 24H	1.57	74.75	74.98		74.99	0.003193	0.52	3.25	21.25	0.39
Reach 1	750	2-Year SCS 24Hr	0.34	74.34	74.56		74.58	0.009113	0.55	0.61	6.83	0.58
Reach 1	750	5-Year SCS 24Hr	0.60	74.34	74.59	74.56	74.61	0.012899	0.73	0.83	11.85	0.71
Reach 1	750	10-Year SCS 24Hr	0.80	74.34	74.61	74.59	74.64	0.013823	0.82	1.08	14.17	0.75
Reach 1	750	25-Year SCS 24Hr	1.08	74.34	74.63	74.61	74.67	0.012654	0.89	1.46	15.95	0.74
Reach 1	750	50-Year SCS 24Hr	1.31	74.34	74.65	74.63	74.69	0.011955	0.93	1.77	17.32	0.74
Reach 1	750	100-Year SCS 24H	1.57	74.34	74.67	74.65	74.71	0.011632	0.99	2.09	18.64	0.74
Reach 1	700	2-Year SCS 24Hr	0.34	73.84	74.03		74.06	0.011968	0.69	0.49	4.63	0.68
Reach 1	700	5-Year SCS 24Hr	0.60	73.84	74.10		74.13	0.007675	0.70	0.86	5.84	0.58
Reach 1	700	10-Year SCS 24Hr	0.80	73.84	74.14		74.17	0.006825	0.73	1.09	6.34	0.56
Reach 1	700	25-Year SCS 24Hr	1.08	73.84	74.18		74.21	0.006863	0.79	1.37	7.09	0.57
Reach 1	700	50-Year SCS 24Hr	1.31	73.84	74.21		74.25	0.006912	0.83	1.58	7.68	0.58
Reach 1	700	100-Year SCS 24H	1.57	73.84	74.24		74.28	0.006844	0.87	1.81	9.14	0.59
Reach 1	650	2-Year SCS 24Hr	0.34	73.57	73.90		73.90	0.001266	0.30	1.12	7.08	0.24
Reach 1	650	5-Year SCS 24Hr	0.60	73.57	73.97		73.97	0.001559	0.36	1.67	9.59	0.27
Reach 1	650	10-Year SCS 24Hr	0.80	73.57	74.00		74.01	0.001694	0.40	2.02	10.73	0.29
Reach 1	650	25-Year SCS 24Hr	1.08	73.57	74.04		74.05	0.001824	0.46	2.41	11.43	0.30
Reach 1	650	50-Year SCS 24Hr	1.31	73.57	74.06		74.07	0.001918	0.50	2.70	11.83	0.32
Reach 1	650	100-Year SCS 24H	1.57	73.57	74.09		74.10	0.001954	0.54	3.03	12.27	0.33
Reach 1	600	2-Year SCS 24Hr	0.34	73.55	73.74		73.76	0.011563	0.62	0.54	5.95	0.66
Reach 1	600	5-Year SCS 24Hr	0.60	73.55	73.81		73.83	0.006732	0.62	0.96	6.96	0.54
Reach 1	600	10-Year SCS 24Hr	0.80	73.55	73.85		73.87	0.005389	0.61	1.42	13.43	0.49
Reach 1	600	25-Year SCS 24Hr	1.08	73.55	73.89		73.91	0.004411	0.63	1.99	14.20	0.46
Reach 1	600	50-Year SCS 24Hr	1.31	73.55	73.92		73.94	0.003903	0.64	2.44	14.80	0.44
Reach 1	600	100-Year SCS 24H	1.57	73.55	73.96		73.98	0.003520	0.66	2.93	15.52	0.43
Reach 1	550	2-Year SCS 24Hr	0.34	73.21	73.49		73.50	0.002883	0.48	0.70	3.94	0.36
Reach 1	550	5-Year SCS 24Hr	0.60	73.21	73.55		73.57	0.004145	0.64	0.93	4.45	0.45
Reach 1	550	10-Year SCS 24Hr	0.80	73.21	73.58		73.61	0.005036	0.74	1.08	4.78	0.50
Reach 1	550	25-Year SCS 24Hr	1.08	73.21	73.62		73.65	0.006029	0.85	1.27	5.31	0.55
Reach 1	550	50-Year SCS 24Hr	1.31	73.21	73.65		73.69	0.006738	0.92	1.42	5.69	0.59

HEC-RAS Plan: THUN_v06-EX-Normal River: River 1 Reach: Reach 1 (Continued)

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)	
Reach 1	550	100-Year SCS 24H	1.57	73.21	73.67		73.72	0.007525	0.98	1.59	6.28	0.62
Reach 1	500	2-Year SCS 24Hr	0.34	73.09	73.37		73.37	0.002287	0.35	1.58	20.54	0.31
Reach 1	500	5-Year SCS 24Hr	0.60	73.09	73.42		73.42	0.002040	0.39	2.74	26.50	0.31
Reach 1	500	10-Year SCS 24Hr	0.80	73.09	73.44		73.45	0.002009	0.43	3.42	27.02	0.31
Reach 1	500	25-Year SCS 24Hr	1.08	73.09	73.47		73.48	0.002112	0.48	4.17	27.59	0.32
Reach 1	500	50-Year SCS 24Hr	1.31	73.09	73.49		73.50	0.002236	0.52	4.70	27.98	0.34
Reach 1	500	100-Year SCS 24H	1.57	73.09	73.51		73.52	0.002353	0.56	5.24	28.38	0.35
Reach 1	450	2-Year SCS 24Hr	0.35	72.89	73.10		73.13	0.015107	0.83	0.42	3.65	0.78
Reach 1	450	5-Year SCS 24Hr	0.63	72.89	73.17		73.20	0.015754	0.81	0.78	7.25	0.79
Reach 1	450	10-Year SCS 24Hr	0.85	72.89	73.20		73.23	0.014907	0.82	1.03	10.53	0.78
Reach 1	450	25-Year SCS 24Hr	1.15	72.89	73.23	73.20	73.27	0.012266	0.85	1.50	16.87	0.73
Reach 1	450	50-Year SCS 24Hr	1.40	72.89	73.25	73.22	73.29	0.010661	0.85	1.97	21.50	0.69
Reach 1	450	100-Year SCS 24H	1.68	72.89	73.28	73.24	73.31	0.009243	0.87	2.55	26.52	0.66
Reach 1	400	2-Year SCS 24Hr	0.35	72.59	72.91		72.92	0.001877	0.37	1.37	14.05	0.29
Reach 1	400	5-Year SCS 24Hr	0.63	72.59	72.97		72.98	0.002010	0.42	2.39	19.65	0.31
Reach 1	400	10-Year SCS 24Hr	0.85	72.59	73.00		73.01	0.002095	0.47	2.95	20.28	0.32
Reach 1	400	25-Year SCS 24Hr	1.15	72.59	73.03		73.04	0.002299	0.54	3.57	20.96	0.34
Reach 1	400	50-Year SCS 24Hr	1.40	72.59	73.05		73.06	0.002502	0.59	4.01	21.36	0.36
Reach 1	400	100-Year SCS 24H	1.68	72.59	73.07		73.08	0.002727	0.65	4.45	21.75	0.39
Reach 1	350	2-Year SCS 24Hr	0.35	72.45	72.66	72.66	72.70	0.018168	0.88	0.51	9.43	0.85
Reach 1	350	5-Year SCS 24Hr	0.63	72.45	72.70	72.70	72.74	0.021074	0.95	0.97	13.55	0.91
Reach 1	350	10-Year SCS 24Hr	0.85	72.45	72.73	72.73	72.77	0.018929	1.00	1.36	19.98	0.89
Reach 1	350	25-Year SCS 24Hr	1.15	72.45	72.75	72.75	72.79	0.016479	1.05	1.88	22.47	0.85
Reach 1	350	50-Year SCS 24Hr	1.40	72.45	72.77	72.76	72.81	0.014039	1.06	2.39	24.63	0.81
Reach 1	350	100-Year SCS 24H	1.68	72.45	72.80	72.78	72.84	0.011854	1.06	3.00	27.00	0.76
Reach 1	300	2-Year SCS 24Hr	0.37	71.95	72.19	72.10	72.21	0.004232	0.57	0.65	3.82	0.44
Reach 1	300	5-Year SCS 24Hr	0.66	71.95	72.27	72.16	72.29	0.004257	0.68	0.97	4.31	0.46
Reach 1	300	10-Year SCS 24Hr	0.89	71.95	72.32	72.20	72.35	0.004315	0.75	1.19	4.58	0.47
Reach 1	300	25-Year SCS 24Hr	1.21	71.95	72.37	72.24	72.41	0.004368	0.83	1.46	4.91	0.49
Reach 1	300	50-Year SCS 24Hr	1.48	71.95	72.42	72.27	72.46	0.004197	0.87	1.71	5.18	0.48
Reach 1	300	100-Year SCS 24H	1.78	71.95	72.47	72.30	72.51	0.004096	0.91	1.96	5.45	0.48
Reach 1	293.092		Culvert									
Reach 1	250	2-Year SCS 24Hr	0.37	71.91	72.17		72.20	0.008738	0.76	0.49	3.16	0.62
Reach 1	250	5-Year SCS 24Hr	0.66	71.91	72.24		72.28	0.009565	0.92	0.73	4.06	0.67
Reach 1	250	10-Year SCS 24Hr	0.89	71.91	72.28	72.23	72.33	0.009542	1.01	0.97	7.15	0.69
Reach 1	250	25-Year SCS 24Hr	1.21	71.91	72.33	72.28	72.39	0.008535	1.09	1.34	8.41	0.67
Reach 1	250	50-Year SCS 24Hr	1.48	71.91	72.37	72.31	72.43	0.008052	1.14	1.65	9.33	0.66
Reach 1	250	100-Year SCS 24H	1.78	71.91	72.40	72.34	72.47	0.007812	1.21	1.99	10.74	0.67
Reach 1	200	2-Year SCS 24Hr	0.37	71.49	71.73		71.76	0.008870	0.80	0.46	2.82	0.63
Reach 1	200	5-Year SCS 24Hr	0.66	71.49	71.82		71.86	0.007551	0.89	0.75	3.43	0.60
Reach 1	200	10-Year SCS 24Hr	0.89	71.49	71.88		71.92	0.007181	0.94	0.95	3.79	0.60
Reach 1	200	25-Year SCS 24Hr	1.21	71.49	71.94		71.99	0.007495	1.02	1.19	4.39	0.62
Reach 1	200	50-Year SCS 24Hr	1.48	71.49	71.98		72.04	0.007628	1.06	1.40	4.91	0.64
Reach 1	200	100-Year SCS 24H	1.78	71.49	72.02		72.08	0.007655	1.11	1.63	7.47	0.64
Reach 1	150	2-Year SCS 24Hr	0.37	71.20	71.57		71.58	0.001901	0.47	0.82	4.85	0.31
Reach 1	150	5-Year SCS 24Hr	0.66	71.20	71.65		71.67	0.002230	0.59	1.44	9.95	0.35
Reach 1	150	10-Year SCS 24Hr	0.89	71.20	71.69		71.71	0.002542	0.67	1.86	11.37	0.37
Reach 1	150	25-Year SCS 24Hr	1.21	71.20	71.73	71.58	71.76	0.002764	0.76	2.42	13.33	0.40
Reach 1	150	50-Year SCS 24Hr	1.48	71.20	71.77	71.63	71.80	0.002924	0.83	2.91	15.67	0.42
Reach 1	150	100-Year SCS 24H	1.78	71.20	71.80	71.66	71.83	0.003124	0.90	3.41	18.50	0.44
Reach 1	100	2-Year SCS 24Hr	0.37	71.02	71.27	71.27	71.34	0.025388	1.12	0.33	2.62	1.02
Reach 1	100	5-Year SCS 24Hr	0.66	71.02	71.36	71.36	71.41	0.018432	1.09	0.71	9.48	0.89
Reach 1	100	10-Year SCS 24Hr	0.89	71.02	71.39	71.39	71.45	0.015307	1.13	1.10	13.49	0.84
Reach 1	100	25-Year SCS 24Hr	1.21	71.02	71.42	71.42	71.49	0.015066	1.24	1.51	14.19	0.86
Reach 1	100	50-Year SCS 24Hr	1.48	71.02	71.44	71.44	71.51	0.015071	1.31	1.80	14.48	0.87
Reach 1	100	100-Year SCS 24H	1.78	71.02	71.46	71.46	71.54	0.014170	1.36	2.17	14.83	0.86
Reach 1	50	2-Year SCS 24Hr	0.40	70.80	71.00	70.87	71.00	0.001000	0.20	3.69	30.53	0.20
Reach 1	50	5-Year SCS 24Hr	0.72	70.80	71.05	70.91	71.05	0.001001	0.23	5.84	52.18	0.20
Reach 1	50	10-Year SCS 24Hr	0.98	70.80	71.09	70.92	71.09	0.001002	0.26	7.77	65.12	0.21
Reach 1	50	25-Year SCS 24Hr	1.33	70.80	71.12	70.93	71.12	0.001001	0.30	10.29	70.92	0.22
Reach 1	50	50-Year SCS 24Hr	1.63	70.80	71.14	70.94	71.15	0.001001	0.32	11.88	73.08	0.22
Reach 1	50	100-Year SCS 24H	1.96	70.80	71.17	70.96	71.17	0.001002	0.34	13.56	77.60	0.22

Legend

100-Year Flood Extents

N

SCALE: 1:5000

0 100 200 m

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6150 Thunder Road:
Floodplain Mapping

Figure C2: 100 Year Flood Extents

PROJECT	2120-21
DRAWN	MP
DATE	06-28-2021

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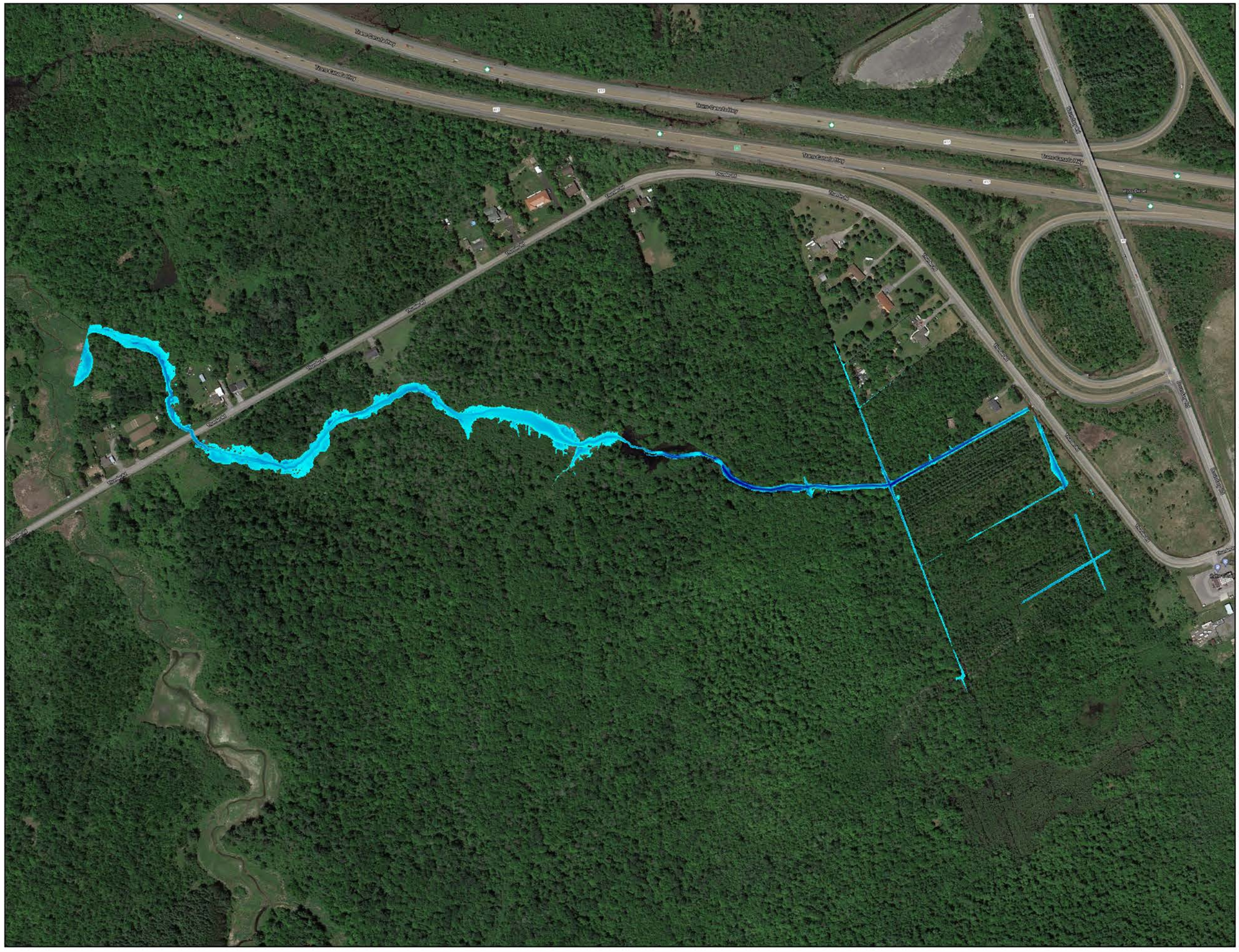

Legend

100 Year Flood Depth (m)

- 0
- 0.25
- 0.5
- 0.75
- 1>

N

SCALE: 1:5000

0 100 200 m

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6150 Thunder Road:
Floodplain Mapping

Figure C3: 100 Year Flood Depth

PROJECT	2120-21
DRAWN	MP
DATE	06-28-2021